# OECD Factbook

ECONOMIC, ENVIRONMENTAL AND SOCIAL STATISTICS

2015-2016




OECD

# OECD Factbook 2015-2016

## ECONOMIC, ENVIRONMENTAL AND SOCIAL STATISTICS



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# OECD Factbook 2015-2016

# FOREWORD

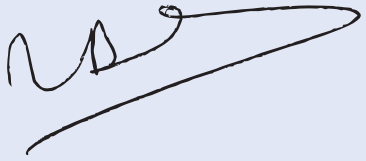
For over 10 years now, the *OECD Factbook* has been one of the most comprehensive OECD publications on statistics. The 2015-2016 edition continues this tradition. The *OECD Factbook* now contains close to 100 internationally comparable indicators, allowing users to assess and compare the performance of countries over time in a wide range of topics that match the interests of policy-makers and citizens alike.

To give just a few examples, the 2015-2016 *OECD Factbook* shows that: $CO_2$ emissions from fuel combustion in the OECD as whole during 2014 were below the levels seen between 2003 and 2008; that the contribution of renewables to the energy supply remains just under 10% on average in the OECD; that expenditure on health has risen steadily, accounting for more than 9% of GDP on average; and, that the elderly population as a percentage of the total population continues to increase in most OECD countries, with an average ratio of 16% across the OECD in 2014. This latest edition of the *Factbook* also includes new indicators in the fields of education on the connection between students, computers and learning, as well as early childhood education and care, and for regional statistics on GDP by metropolitan area.

Written in a non-technical language, the *OECD Factbook* provides data and indicators for all 34 OECD member countries and, when available and considered internationally comparable, for Brazil, India, Indonesia, the People's Republic of China, Russia and South Africa.

As part of an on-going effort to make OECD data more readily available, virtually all the indicators presented in the *OECD Factbook 2015-2016* are also available online through *OECD.Stat*, the OECD platform for data dissemination, and through the new *OECD Data* portal.

I trust that the *OECD Factbook*, in its various formats, will continue to be a first-stop, easy tool for all those who are looking for reliable, trustworthy and internationally comparable statistics, providing the evidence which ultimately helps to deliver better policies for better lives.



**Martine Durand**

OECD Chief Statistician and Director of Statistics

# ACKNOWLEDGEMENTS

The *OECD Factbook*, comprising the paper and e-publications, as well as the online rolling dataset is the result of ongoing statistical co-operation among virtually all OECD directorates, more specifically: the *Centre for Tax Policy and Administration*; the *Directorate for Financial and Enterprise Affairs*; the *Development Co-operation Directorate*; the *Directorate for Education and Skills*; the *Directorate for Employment, Labour and Social Affairs*; the *Environment Directorate*; *Public Governance and Territorial Development*; the *Statistics Directorate*; and the *Directorate for Science, Technology and Innovation*. A number of OECD agencies are also included, namely: the *International Energy Agency* (IEA), the *Nuclear Energy Agency* (NEA) and the *International Transport Forum* (ITF). It also reflects the continuous and effective collaboration with OECD and partner countries' statistical authorities.

The OECD *Statistics Directorate* is responsible for the overall co-ordination of the *OECD Factbook*, led by David Brackfield (Editor) and Ingrid Herrbach (technical production). The OECD *Public Affairs and Communications Directorate* provides editorial guidance, led by Eileen Capponi with Damian Garnys and Margaret Simmons. The *Knowledge and Information Services* section of the *Digital, Knowledge and Information Service* in the OECD *Executive Directorate* provides the IT support.

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# READER'S GUIDE

## Main features

- Tables and charts are preceded by short texts that explain how the statistics are defined (**Definition**) and that identify any problems there may be in comparing the performance of one country with another (**Comparability**). To avoid misunderstandings, the tables and charts must be viewed in conjunction with the texts that accompany them.
- Tables and charts can be downloaded as Excel files.
- While media comment on statistics usually focuses on the short term – what has happened to employment, prices, GDP and so on in the last few months – the *OECD Factbook* takes a longer view; the text and charts mostly describe developments during at least the last ten years. This long-term perspective provides a good basis for comparing the successes and failures of policies in raising living standards and improving social conditions in countries.
- To facilitate cross-country comparisons, many indicators in the *OECD Factbook* have been standardised by relating them to each country's gross domestic product (GDP). In cases where GDP needs to be converted to a common currency, purchasing power parities (PPPs) have been used rather than exchange rates. When PPPs are used, differences in GDP levels across countries reflect only differences in the volume of goods and services, that is, differences in price levels are eliminated.

## Conventions

Unless otherwise specified:

- *OECD* refers to all 34 OECD countries; the indicator is presented either as the weighted average of country values or an unweighted arithmetic average.
- For each country, the average value in different periods takes into account only the years for which data are available. The *average annual growth rate* of an indicator over a period of time is the geometric average of the growth rates of that indicator across the period (that is, the annual compound growth rate).
- Each table and chart specifies the period covered. The mention, XXXX *or latest available year* (where XXXX is a year or a period) means that data for later years are not taken into account..

## Signs, abbreviations and acronyms

| | |
|---|---|
| **..** | Missing value, not applicable or not available |
| **0** | Less than half of the unit precision level of the observation |
| **-** | Absolute zero |
| **USD** | US dollars |
| **DAC** | OECD Development Assistance Committee |
| **ILO** | International Labour Organization |
| **IMF** | International Monetary Fund |
| **ITF** | International Transport Forum |
| **UN** | United Nations |
| **UNECE** | United Nations Economic Commission for Europe |
| **WTO** | World Trade Organization |

## The OECD Factbook uses ISO codes for countries

| | | | | | |
|---|---|---|---|---|---|
| **AUS** | Australia | **JPN** | Japan | **DAC** | DAC total |
| **AUT** | Austria | **KOR** | Korea | **EA19** | Euro area |
| **BEL** | Belgium | **LUX** | Luxembourg | **EU28** | European Union |
| **CAN** | Canada | **MEX** | Mexico | **OECD** | OECD area |
| **CHL** | Chile | **NLD** | Netherlands | **WLD** | World |
| **CZE** | Czech Republic | **NZL** | New Zealand | | |
| **DNK** | Denmark | **NOR** | Norway | **BRA** | Brazil |
| **EST** | Estonia | **POL** | Poland | **CHN** | China |
| **FIN** | Finland | **PRT** | Portugal | **IND** | India |
| **FRA** | France | **SVK** | Slovak Republic | **IDN** | Indonesia |
| **GRC** | Greece | **SVN** | Slovenia | **RUS** | Russian Federation |
| **DEU** | Germany | **ESP** | Spain | **ZAF** | South Africa |
| **HUN** | Hungary | **SWE** | Sweden | | |
| **ISL** | Iceland | **CHE** | Switzerland | | |
| **IRL** | Ireland | **TUR** | Turkey | | |
| **ISR** | Israel | **GBR** | United Kingdom | | |
| **ITA** | Italy | **USA** | United States | | |

## StatLinks

This publication includes the OECD ***StatLink*** service, which enables users to download Excel versions of tables and figures. ***StatLinks*** are provided at the bottom of each table and figure. ***StatLinks*** behave like Internet addresses: simply type the ***StatLink*** into your Internet browser to obtain the corresponding data in Excel format.

For more information about OECD ***StatLinks***, please visit: *www.oecd.org/statistics/statlink*.

## Accessing OECD publications

- OECD publications cited in the *OECD Factbook* are available through OECD iLibrary (*www.oecd-ilibrary.org*).
- All the OECD working papers can be downloaded from OECD iLibrary.
- All OECD databases mentioned can be accessed through OECD iLibrary.
- Print editions of all OECD books can be purchased via the OECD online bookshop (*www.oecd.org/bookshop*).





# POPULATION AND MIGRATION

## POPULATION

TOTAL POPULATION
FERTILITY
POPULATION BY REGION
ELDERLY POPULATION BY REGION

## INTERNATIONAL MIGRATION

IMMIGRANT AND FOREIGN POPULATION
TRENDS IN MIGRATION
MIGRATION AND EMPLOYMENT
MIGRATION AND UNEMPLOYMENT

# TOTAL POPULATION

The size and growth of a country's population provides important contextual information to help understand other social and economic outcomes.

## Definition

Data refer to the resident population, which for most countries is defined as all nationals present in, or temporarily absent from the country, and aliens permanently settled in the country. It includes the following categories: national armed forces stationed abroad; merchant seamen at sea; diplomatic personnel located abroad; civilian aliens resident in the country; and displaced persons resident in the country. Excluded are the following categories: foreign armed forces stationed in the country; foreign diplomatic personnel located in the country; and civilian aliens temporarily in the country.

For countries with overseas colonies, protectorates or other territorial possessions, their populations are generally excluded. Growth rates are the annual changes resulting from births, deaths and net migration during the year.

Data for total population may be compiled following two basic concepts: "Present-in-area population" or *de facto*, i.e. persons actually present in the country on the date of the census; or, "Resident population" or *de jure*, i.e. persons regularly domiciled in the country on the date of the census.

## Comparability

For most OECD countries, population data are based on regular, ten-yearly censuses, with estimates for intercensal years derived from administrative data. In several European countries, population estimates are based entirely on administrative records. Population data are fairly comparable. Some nations are capable of generating population statistics from administrative records or through a combination of data sources. The vast majority of countries, however, produce these data on population and housing by conducting a traditional census, which in principle entails canvassing the entire country, reaching every single household and collecting information on all individuals within a brief stipulated period.

For some countries, the population figures shown here differ from those used for calculating GDP and other economic statistics on a per capita basis, although differences are normally small.

### *Overview*

Within the OECD, in 2013, the United States accounted for 25% of the OECD total, followed by Japan (10%), Mexico (9%), Germany and Turkey (6%), France, Italy and the United Kingdom (5%), Korea and Spain (4%), Canada and Poland (3%). In the same year, the population of China was 10% higher than that of the whole OECD while the population of India was equal to that of the whole OECD.

In the three years to 2014 (or latest available period), population annual growth rates above 1% were recorded in Chile, Israel, Mexico and Turkey (high birth rate countries) and in Luxembourg, Australia, Canada, Norway, and Switzerland (high net immigration).

Over the same period, the highest population annual declines were observed in Portugal (due to a low birth rate and a negative net migration rate) and Hungary (for which birth and net migration rates are low). Growth rates were also negative in Estonia, Greece, Japan and Spain, while the population was stable in Poland.

Among emerging economies, in the three years to 2013, population annual growth rates were above 1% in South Africa, Brazil, India and Indonesia. By contrast, Russian population rose more slowly.

## *Sources*

- For OECD member countries: national sources, United Nations and Eurostat.
- For Brazil, China, India, Indonesia, the Russian Federation and South Africa: United Nations, *World Population Prospects: The 2012 Revision*.

## *Further information*

### *Analytical publications*

- OECD (2011), *Doing Better for Families*, OECD Publishing.
- OECD (2011), *The Future of Families to 2030*, OECD Publishing.

### *Statistical publications*

- OECD (2014), *Society at a Glance: OECD Social Indicators*, OECD Publishing.

### *Methodological publications*

- OECD (2014), *OECD Labour Force Statistics*, OECD Publishing.

### *Online databases*

- *OECD Employment and Labour Market Statistics*.
- *OECD Social and Welfare Statistics, Family indicators*.
- *United Nations World Population Prospects*.

### *Websites*

- OECD Family Database, *www.oecd.org/social/family/database*.

## Population levels

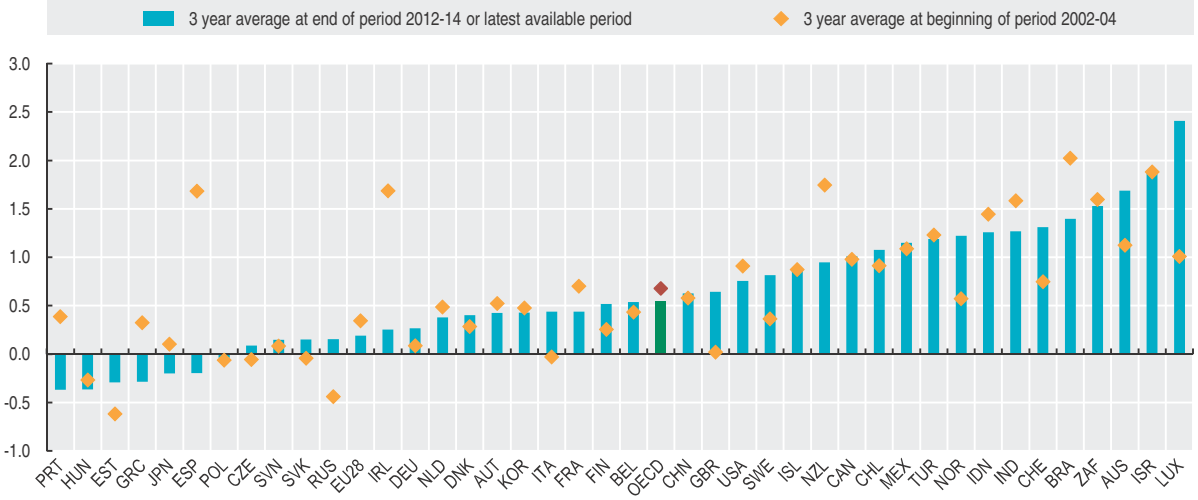
*Thousands*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 19 495 | 19 721 | 19 933 | 20 177 | 20 451 | 20 828 | 21 249 | 21 692 | 22 032 | 22 340 | 22 728 | 23 126 | 23 491 |
| Austria | 8 082 | 8 118 | 8 169 | 8 225 | 8 268 | 8 295 | 8 322 | 8 341 | 8 361 | 8 389 | 8 426 | 8 469 | .. |
| Belgium | 10 333 | 10 376 | 10 421 | 10 479 | 10 548 | 10 626 | 10 710 | 10 796 | 10 920 | 11 048 | 11 128 | 11 178 | 11 227 |
| Canada | 31 354 | 31 640 | 31 941 | 32 245 | 32 576 | 32 928 | 33 318 | 33 727 | 34 127 | 34 484 | 34 880 | 35 154 | 35 540 |
| Chile | 15 668 | 15 838 | 16 002 | 16 165 | 16 332 | 16 505 | 16 687 | 16 877 | 17 066 | 17 256 | 17 445 | 17 632 | 17 819 |
| Czech Republic | 10 201 | 10 202 | 10 207 | 10 234 | 10 267 | 10 323 | 10 430 | 10 491 | 10 517 | 10 497 | 10 509 | 10 511 | 10 525 |
| Denmark | 5 376 | 5 391 | 5 405 | 5 419 | 5 437 | 5 461 | 5 494 | 5 523 | 5 548 | 5 571 | 5 592 | 5 615 | .. |
| Estonia | 1 379 | 1 371 | 1 363 | 1 355 | 1 347 | 1 341 | 1 337 | 1 335 | 1 331 | 1 327 | 1 323 | 1 318 | 1 316 |
| Finland | 5 201 | 5 213 | 5 228 | 5 246 | 5 267 | 5 289 | 5 313 | 5 339 | 5 363 | 5 388 | 5 414 | 5 439 | 5 472 |
| France | 59 894 | 60 304 | 60 734 | 61 182 | 61 597 | 61 965 | 62 300 | 62 615 | 62 918 | 63 223 | 63 514 | 63 786 | 64 062 |
| Germany | 82 456 | 82 502 | 82 491 | 82 465 | 82 369 | 82 257 | 82 135 | 81 904 | 81 715 | 80 249 | 80 413 | 80 611 | 80 896 |
| Greece | 10 983 | 11 016 | 11 057 | 11 093 | 11 131 | 11 163 | 11 186 | 11 185 | 11 153 | 11 124 | 11 090 | .. | .. |
| Hungary | 10 159 | 10 130 | 10 107 | 10 087 | 10 071 | 10 056 | 10 038 | 10 023 | 10 000 | 9 972 | 9 920 | 9 893 | 9 863 |
| Iceland | 288 | 289 | 293 | 296 | 304 | 311 | 319 | 319 | 318 | 319 | 321 | 324 | 327 |
| Ireland | 3 917 | 3 980 | 4 045 | 4 134 | 4 233 | 4 376 | 4 485 | 4 533 | 4 555 | 4 575 | 4 585 | 4 593 | 4 610 |
| Israel | 6 570 | 6 690 | 6 809 | 6 930 | 7 054 | 7 180 | 7 309 | 7 486 | 7 624 | 7 766 | 7 911 | 8 059 | .. |
| Italy | 57 474 | 57 478 | 57 297 | 57 716 | 57 984 | 58 272 | 58 740 | 59 140 | 59 420 | 59 660 | 59 898 | 60 225 | 60 448 |
| Japan | 127 435 | 127 619 | 127 687 | 127 768 | 127 770 | 127 771 | 127 692 | 127 510 | 128 057 | 127 799 | 127 515 | 127 298 | .. |
| Korea | 47 622 | 47 859 | 48 039 | 48 138 | 48 372 | 48 598 | 48 949 | 49 182 | 49 410 | 49 779 | 50 004 | 50 220 | 50 424 |
| Luxembourg | 446 | 450 | 455 | 461 | 469 | 476 | 484 | 494 | 502 | 512 | 525 | 537 | 550 |
| Mexico | 100 909 | 102 000 | 103 002 | 107 151 | 108 409 | 109 787 | 111 299 | 112 853 | 114 256 | 115 683 | 117 054 | 118 395 | 119 713 |
| Netherlands | 16 149 | 16 225 | 16 282 | 16 320 | 16 346 | 16 382 | 16 446 | 16 530 | 16 615 | 16 693 | 16 755 | 16 804 | .. |
| New Zealand | 3 949 | 4 027 | 4 088 | 4 134 | 4 185 | 4 224 | 4 260 | 4 303 | 4 351 | 4 384 | 4 408 | 4 442 | 4 510 |
| Norway | 4 538 | 4 564 | 4 592 | 4 623 | 4 661 | 4 709 | 4 768 | 4 829 | 4 889 | 4 953 | 5 019 | 5 080 | 5 137 |
| Poland | 38 232 | 38 195 | 38 180 | 38 161 | 38 132 | 38 116 | 38 116 | 38 153 | 38 517 | 38 526 | 38 534 | 38 502 | 38 484 |
| Portugal | 10 420 | 10 459 | 10 484 | 10 503 | 10 522 | 10 543 | 10 558 | 10 568 | 10 573 | 10 558 | 10 515 | 10 457 | .. |
| Slovak Republic | 5 377 | 5 373 | 5 372 | 5 373 | 5 373 | 5 375 | 5 379 | 5 386 | 5 391 | 5 398 | 5 408 | 5 416 | .. |
| Slovenia | 1 996 | 1 997 | 1 997 | 2 001 | 2 009 | 2 019 | 2 023 | 2 042 | 2 049 | 2 052 | 2 056 | 2 059 | 2 062 |
| Spain | 41 424 | 42 196 | 42 859 | 43 663 | 44 361 | 45 236 | 45 983 | 46 368 | 46 562 | 46 736 | 46 766 | 46 593 | 46 464 |
| Sweden | 8 925 | 8 958 | 8 994 | 9 030 | 9 081 | 9 148 | 9 220 | 9 299 | 9 378 | 9 449 | 9 519 | 9 609 | .. |
| Switzerland | 7 285 | 7 339 | 7 390 | 7 437 | 7 484 | 7 551 | 7 648 | 7 744 | 7 828 | 7 912 | 7 997 | 8 140 | .. |
| Turkey | 66 003 | 66 795 | 67 599 | 68 435 | 69 295 | 70 158 | 71 052 | 72 039 | 73 142 | 74 224 | 75 176 | 76 055 | 76 903 |
| United Kingdom | 58 570 | 58 839 | 59 149 | 59 591 | 60 003 | 60 482 | 60 982 | 61 424 | 61 915 | 62 435 | 62 859 | 63 238 | 63 650 |
| United States | 287 625 | 290 108 | 292 805 | 295 517 | 298 380 | 301 231 | 304 094 | 306 772 | 309 347 | 311 722 | 314 112 | 316 498 | 318 857 |
| EU 28 | 489 827 | 491 624 | 493 577 | 495 518 | 497 369 | 499 299 | 501 194 | 502 630 | 503 833 | 505 035 | 506 100 | 506 736 | .. |
| OECD | 1 168 022 | 1 176 212 | 1 184 415 | 1 192 754 | 1 201 155 | 1 210 194 | 1 219 475 | 1 227 932 | 1 236 914 | 1 243 751 | 1 250 277 | 1 257 114 | .. |
| Brazil | 175 077 | 177 360 | 183 439 | 185 651 | 187 852 | 189 954 | 192 000 | 193 995 | 193 253 | 197 825 | 199 689 | 201 467 | .. |
| China | 1 295 322 | 1 302 810 | 1 310 414 | 1 318 177 | 1 326 146 | 1 334 344 | 1 342 733 | 1 351 248 | 1 359 822 | 1 368 440 | 1 377 065 | 1 385 567 | .. |
| India | 1 076 706 | 1 093 787 | 1 110 626 | 1 127 144 | 1 143 289 | 1 159 095 | 1 174 662 | 1 190 138 | 1 205 625 | 1 221 156 | 1 236 687 | 1 252 140 | .. |
| Indonesia | 215 038 | 218 146 | 221 294 | 224 481 | 227 710 | 230 973 | 234 244 | 237 487 | 240 677 | 243 802 | 246 864 | 249 866 | .. |
| Russian Federation | 145 306 | 144 649 | 144 067 | 143 519 | 143 050 | 142 805 | 142 742 | 142 785 | 142 849 | 142 961 | 143 207 | 143 507 | .. |
| South Africa | 45 545 | 46 127 | 46 727 | 47 350 | 47 991 | 48 658 | 49 345 | 50 055 | 50 792 | 51 554 | 52 341 | 53 158 | 54 002 |

1 2 *http://dx.doi.org/10.1787/888933336107*

## Population growth rates

*Annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933334925*

# FERTILITY

Together with mortality and migration, fertility is a core driver of population growth, which reflects both the causes and effects of economic and social developments.

Total fertility rates in OECD countries have declined dramatically over the past few decades, falling from an average of 2.8 children per woman of childbearing age in 1970 to 1.7 in the early 2000s. The decline has been especially pronounced – by around or greater than three children per woman on average – in Korea, Mexico and Turkey, but a number of other OECD countries have also seen the total fertility rate fall by at least one child per woman on average since 1970. There are many reasons behind the decline in fertility, but the postponement of family formation and a decrease in desired family size – themselves driven by rising female education and employment, insufficient support for families juggling work and children, the need to generate a secure job and income, and growing housing problems – have played a central role.

## *Overview*

Prior to the start of the economic crisis in 2008, fertility rates in many – although not all – OECD countries were recovering slightly from the record lows observed in the early 2000s. Fertility rates continued to decline or remained stable in Austria, Japan, Korea and Switzerland – all low fertility countries. Fertility rebounded in countries with higher initial fertility rates, and even exceeded the replacement level in New Zealand and Iceland.

This fertility rebound stalled in many OECD countries in 2008, possibly as a consequence of the economic crisis. Since 2008, fertility rates have fallen in more than two-thirds of OECD countries, with the decline greater than two decimal points in three European OECD countries (Denmark, Estonia and Iceland) and the United States (a relatively high fertility country). Israel and Japan have seen the largest increases since the start of the economic crisis, but no OECD country has seen the total fertility rate increase by more than 1 decimal point since 2008.

In 2013, the highest fertility rate was recorded in Israel, where women had almost one child more than in the second country, Mexico. Israel and Mexico were in fact the only two OECD countries with a total fertility rate above the replacement fertility rate (2.1 children per woman). Anglophone and Nordic countries were typically at the higher end, while continental Europe (France being the one major exception) generally reported low fertility, along with even lower fertility rates in the East Asian and Southern Europe OECD countries. Fertility rates were particularly low in Portugal and Korea, with two parents replacing themselves in the next generation by little more than one child, on average.

Fertility rates were generally higher but have declined sharply in the emerging economies; with current rates only above replacement levels in India, Indonesia and South Africa.

## Definition

The total fertility rate in a specific year is the total number of children that would be born to each woman if she were to live to the end of her child-bearing years and give birth to children in agreement with the prevailing age-specific fertility rates.

## Comparability

The total fertility rate is generally computed by summing up the age-specific fertility rates defined over a five-year interval. Assuming there are no migration flows and that mortality rates remain unchanged, a total fertility rate of 2.1 children per woman generates broad stability of population: it is also referred to as the "replacement fertility rate", as it ensures replacement of the woman and her partner with another 0.1 children per woman to counteract infant mortality.

Data are collected every year from national statistical institutes.

## *Sources*

- For OECD member countries and Brazil, Russia and South Africa: National statistical offices.
- For China, India and Indonesia: World Bank *World Development indicators*.
- Fertility rates: OECD (2015), "Family Indicators", *OECD Social and Welfare Statistics* (database).

## *Further information*

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- World Bank – World Development Indicators, *http://data.worldbank.org/indicator*.

## Total fertility rates

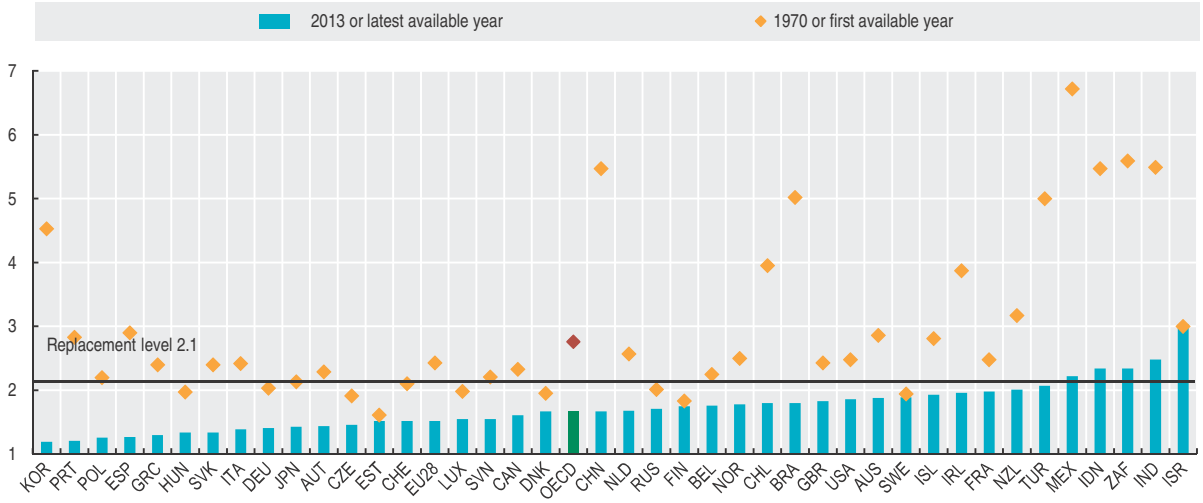
*Number of children born to women aged 15 to 49*

| | 1970 | 1980 | 1990 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 2.86 | 1.89 | 1.90 | 1.76 | 1.85 | 1.88 | 1.99 | 2.02 | 1.97 | 1.95 | 1.92 | 1.93 | 1.88 |
| Austria | 2.29 | 1.65 | 1.46 | 1.36 | 1.41 | 1.41 | 1.39 | 1.42 | 1.40 | 1.44 | 1.43 | 1.44 | 1.44 |
| Belgium | 2.25 | 1.68 | 1.62 | 1.64 | 1.74 | 1.78 | 1.80 | 1.86 | 1.83 | 1.84 | 1.81 | 1.79 | 1.76 |
| Canada | 2.33 | 1.68 | 1.71 | 1.49 | 1.54 | 1.59 | 1.66 | 1.68 | 1.67 | 1.63 | 1.61 | .. | .. |
| Chile | 3.95 | 2.72 | 2.59 | 2.05 | 1.84 | 1.83 | 1.88 | 1.92 | 1.92 | 1.89 | 1.85 | 1.80 | .. |
| Czech Republic | 1.91 | 2.10 | 1.89 | 1.14 | 1.28 | 1.33 | 1.44 | 1.50 | 1.49 | 1.49 | 1.43 | 1.45 | 1.46 |
| Denmark | 1.95 | 1.55 | 1.67 | 1.77 | 1.80 | 1.85 | 1.84 | 1.89 | 1.84 | 1.87 | 1.75 | 1.73 | 1.67 |
| Estonia | .. | 2.02 | 2.05 | 1.36 | 1.52 | 1.58 | 1.69 | 1.72 | 1.70 | 1.72 | 1.61 | 1.56 | 1.52 |
| Finland | 1.83 | 1.63 | 1.79 | 1.73 | 1.80 | 1.84 | 1.83 | 1.85 | 1.86 | 1.87 | 1.83 | 1.80 | 1.75 |
| France | 2.48 | 1.95 | 1.78 | 1.87 | 1.92 | 1.98 | 1.95 | 1.99 | 1.99 | 2.02 | 2.00 | 1.99 | 1.98 |
| Germany | 2.03 | 1.56 | 1.45 | 1.38 | 1.34 | 1.33 | 1.37 | 1.38 | 1.36 | 1.39 | 1.39 | 1.40 | 1.41 |
| Greece | 2.40 | 2.23 | 1.40 | 1.27 | 1.32 | 1.38 | 1.38 | 1.47 | 1.49 | 1.47 | 1.40 | 1.35 | 1.30 |
| Hungary | 1.97 | 1.92 | 1.84 | 1.33 | 1.32 | 1.35 | 1.32 | 1.35 | 1.33 | 1.26 | 1.24 | 1.34 | 1.34 |
| Iceland | 2.81 | 2.48 | 2.31 | 2.08 | 2.05 | 2.07 | 2.09 | 2.14 | 2.22 | 2.20 | 2.02 | 2.04 | 1.93 |
| Ireland | 3.87 | 3.23 | 2.12 | 1.90 | 1.88 | 1.94 | 2.03 | 2.07 | 2.07 | 2.06 | 2.04 | 2.01 | 1.96 |
| Israel | .. | 3.14 | 3.02 | 2.95 | 2.84 | 2.88 | 2.90 | 2.96 | 2.96 | 3.03 | 3.00 | 3.05 | 3.03 |
| Italy | 2.42 | 1.68 | 1.36 | 1.26 | 1.32 | 1.35 | 1.37 | 1.42 | 1.41 | 1.41 | 1.39 | 1.42 | 1.39 |
| Japan | 2.13 | 1.75 | 1.54 | 1.36 | 1.26 | 1.32 | 1.34 | 1.37 | 1.37 | 1.39 | 1.39 | 1.41 | 1.43 |
| Korea | 4.53 | 2.82 | 1.57 | 1.47 | 1.08 | 1.12 | 1.25 | 1.19 | 1.15 | 1.23 | 1.24 | 1.30 | 1.19 |
| Luxembourg | 1.98 | 1.50 | 1.62 | 1.78 | 1.62 | 1.64 | 1.61 | 1.60 | 1.59 | 1.63 | 1.51 | 1.57 | 1.55 |
| Mexico | 6.72 | 4.71 | 3.36 | 2.65 | 2.45 | 2.42 | 2.38 | 2.35 | 2.32 | 2.28 | 2.26 | 2.24 | 2.22 |
| Netherlands | 2.57 | 1.60 | 1.62 | 1.72 | 1.71 | 1.72 | 1.72 | 1.77 | 1.79 | 1.80 | 1.76 | 1.72 | 1.68 |
| New Zealand | 3.17 | 2.03 | 2.18 | 1.98 | 1.97 | 2.01 | 2.18 | 2.19 | 2.13 | 2.17 | 2.09 | 2.10 | 2.01 |
| Norway | 2.50 | 1.72 | 1.93 | 1.85 | 1.84 | 1.90 | 1.90 | 1.96 | 1.98 | 1.95 | 1.88 | 1.85 | 1.78 |
| Poland | 2.20 | 2.28 | 1.99 | 1.37 | 1.24 | 1.27 | 1.31 | 1.39 | 1.40 | 1.38 | 1.30 | 1.30 | 1.26 |
| Portugal | 2.83 | 2.18 | 1.56 | 1.56 | 1.42 | 1.38 | 1.35 | 1.40 | 1.35 | 1.39 | 1.35 | 1.28 | 1.21 |
| Slovak Republic | 2.40 | 2.31 | 2.09 | 1.29 | 1.25 | 1.24 | 1.25 | 1.32 | 1.41 | 1.40 | 1.45 | 1.34 | 1.34 |
| Slovenia | 2.21 | 2.11 | 1.46 | 1.26 | 1.26 | 1.31 | 1.38 | 1.53 | 1.53 | 1.57 | 1.56 | 1.58 | 1.55 |
| Spain | 2.90 | 2.22 | 1.36 | 1.23 | 1.33 | 1.36 | 1.38 | 1.45 | 1.38 | 1.37 | 1.34 | 1.32 | 1.27 |
| Sweden | 1.94 | 1.68 | 2.14 | 1.55 | 1.77 | 1.85 | 1.88 | 1.91 | 1.94 | 1.98 | 1.90 | 1.91 | 1.89 |
| Switzerland | 2.10 | 1.55 | 1.59 | 1.50 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.54 | 1.52 | 1.53 | 1.52 |
| Turkey | 5.00 | 4.63 | 3.07 | 2.27 | 2.12 | 2.12 | 2.16 | 2.15 | 2.08 | 2.06 | 2.03 | 2.09 | 2.07 |
| United Kingdom | 2.43 | 1.90 | 1.83 | 1.64 | 1.76 | 1.82 | 1.86 | 1.91 | 1.89 | 1.92 | 1.91 | 1.92 | 1.83 |
| United States | 2.48 | 1.84 | 2.08 | 2.06 | 2.06 | 2.11 | 2.12 | 2.07 | 2.00 | 1.93 | 1.89 | 1.88 | 1.86 |
| EU 28 | 2.43 | 2.01 | 1.78 | 1.48 | 1.49 | 1.52 | 1.54 | 1.60 | 1.60 | 1.59 | 1.55 | 1.56 | 1.52 |
| OECD | 2.76 | 2.17 | 1.91 | 1.67 | 1.66 | 1.69 | 1.72 | 1.76 | 1.74 | 1.75 | 1.71 | 1.71 | 1.67 |
| Brazil | 5.02 | 4.07 | 2.81 | 2.36 | 2.07 | 2.00 | 1.94 | 1.90 | 1.86 | 1.84 | 1.82 | 1.81 | 1.80 |
| China | 5.47 | 2.71 | 2.51 | 1.51 | 1.59 | 1.60 | 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.66 | 1.67 |
| India | 5.49 | 4.68 | 3.88 | 3.15 | 2.82 | 2.75 | 2.69 | 2.64 | 2.60 | 2.56 | 2.53 | 2.51 | 2.48 |
| Indonesia | 5.47 | 4.43 | 3.12 | 2.48 | 2.49 | 2.50 | 2.49 | 2.48 | 2.46 | 2.43 | 2.40 | 2.37 | 2.34 |
| Russian Federation | 2.01 | 1.90 | 1.89 | 1.20 | 1.29 | 1.31 | 1.42 | 1.50 | 1.54 | 1.57 | 1.58 | 1.69 | 1.71 |
| South Africa | 5.59 | 4.79 | 3.66 | 2.87 | 2.56 | 2.53 | 2.53 | 2.52 | 2.51 | 2.50 | 2.44 | 2.39 | 2.34 |

1 2 *http://dx.doi.org/10.1787/888933336165*

## Total fertility rates

*Number of children born to women aged 15 to 49*




1 2 *http://dx.doi.org/10.1787/888933334982*

# POPULATION BY REGION

Population is unevenly distributed among regions within countries. Differences in climatic and environmental conditions discourage human settlement in some areas and favour concentration of the population around a few urban centres. This pattern is reinforced by higher economic opportunities and wider availability of services stemming from urbanisation itself.

## Definition

The number of inhabitants of a given region, i.e. its total population, can be measured as either its average annual population or as the population at a specific date during the year considered. The average population during a calendar year is generally calculated as the arithmetic mean of the population on 1 January of two consecutive years, although some countries estimate it on a date close to 1 July.

## Comparability

The main problem with economic analysis at the sub-national level is the unit of analysis, i.e. the region. The word "region" can mean very different things both within and among countries, with significant differences in area and population.

The population across OECD regions ranges from about 600 inhabitants in Stikine, British Columbia (Canada) to 39 million in California (the United States).

To address this issue, the OECD has classified regions within each member country to facilitate comparability at the same territorial level. The classification is based on two territorial levels: the higher level (TL2) consists of 362 large regions and the lower level (TL3) consists of 1 802 small regions. These two levels are used as a framework for implementing regional policies in most countries. In Brazil, China, India, Russia and South Africa only TL2 large regions have been identified. This classification (which, for European Union countries, is largely consistent with the Eurostat NUTS classification) facilitates comparability of regions at the same territorial level.

All the regional data refer to small regions with the exception of Brazil, China, India, Russia and South Africa.

In addition, the OECD has established a regional typology to take into account geographical differences and enable meaningful comparisons between regions belonging to the same type. Regions have been classified as predominantly rural, intermediate and predominantly urban on the basis of the percentage of population living in local rural units.

The metropolitan database identifies about 1 200 urban areas (with a population of 50 000 or more) in 30 OECD countries. Urban areas are defined on the basis of population density and commuting patterns to better reflect the economic function of cities in addition to their administrative boundaries. Functional urban areas can extend across administrative boundaries, reflecting the economic geography of where people actually live and work.

Urban areas in Turkey refer to the 144 cities classified according the national definition and refer to the year 2012. Comparability with other countries is, therefore, limited.

### *Overview*

In 2014, 10% of regions accounted for approximately 40% of the total population in OECD countries. The concentration of population was highest in Canada and Australia where differences in climatic and environmental conditions discourage human settlement in some areas.

In 2014, two-thirds of the OECD urban population live in cities (above 50 000 inhabitants). However the urban experience is very different from country to country. In Korea, 90% of the national population is concentrated in cities (more than 45 million people), while only 40% in the Slovak Republic live in cities (more than 2 million people).

In 2014, almost half of the total OECD population (48%) lived in predominantly urban regions, which accounted for around 6% of the total area.

Predominantly, rural regions accounted for one-fourth of the total population and 83% of land area. In Ireland, Finland and Slovenia the share of national population in rural regions was twice as high as the OECD average.

### *Sources*

- OECD (2013), *OECD Regions at a Glance*, OECD Publishing.

### *Further information*

#### *Analytical publications*

- OECD (2014), *OECD Regional Outlook*, OECD Publishing.
- OECD (2014), *OECD Territorial Reviews*, OECD Publishing.

#### *Statistical publications*

- OECD (2014), *OECD Labour Force Statistics*, OECD Publishing.

#### *Online databases*

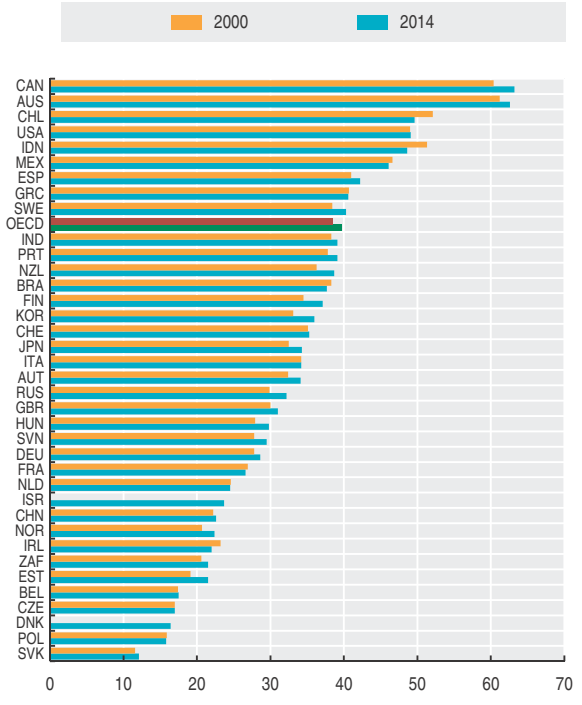
- *OECD Regional Statistics*.

#### *Websites*

- Regions at a Glance interactive, *rag.oecd.org*.
- Regional statistics and indicators, *www.oecd.org/gov/regional/statisticsindicators*.

## Share of national population in the ten per cent of regions with the largest population

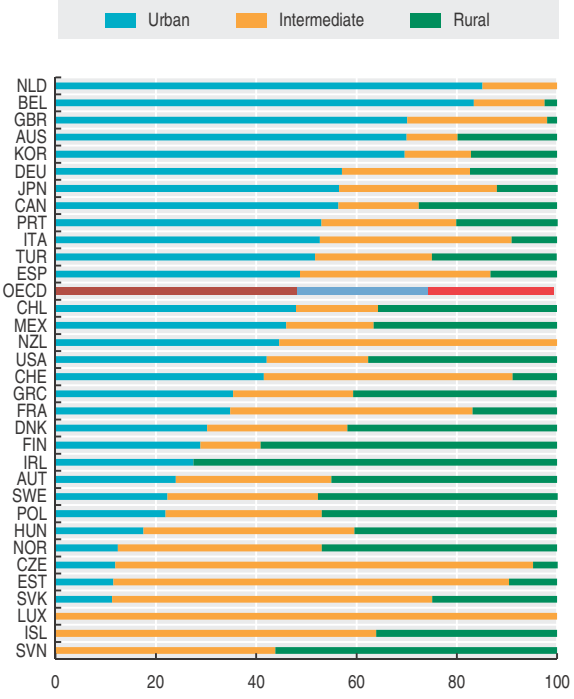
*Percentage, 2000 and 2014*




1 2 *http://dx.doi.org/10.1787/888933335362*

## Distribution of the national population into urban, intermediate and rural regions

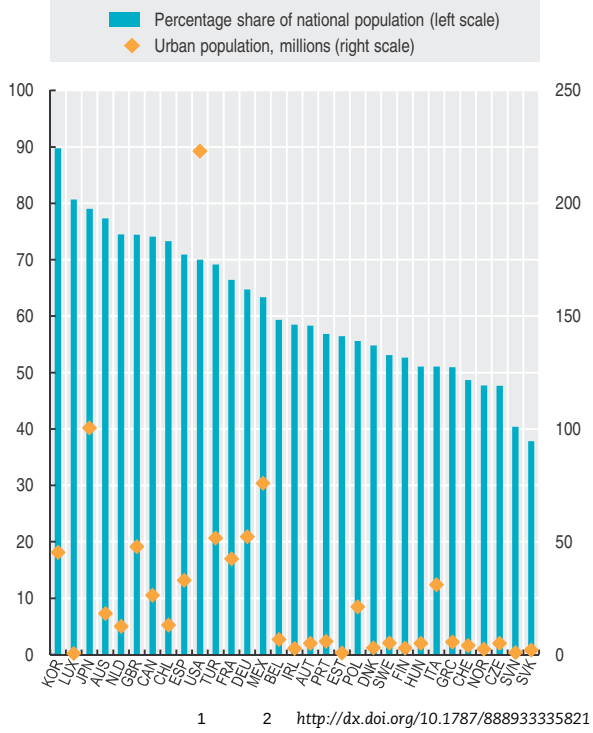
*Percentage, 2014*




1 2 *http://dx.doi.org/10.1787/888933335957*

## Urban population by city size

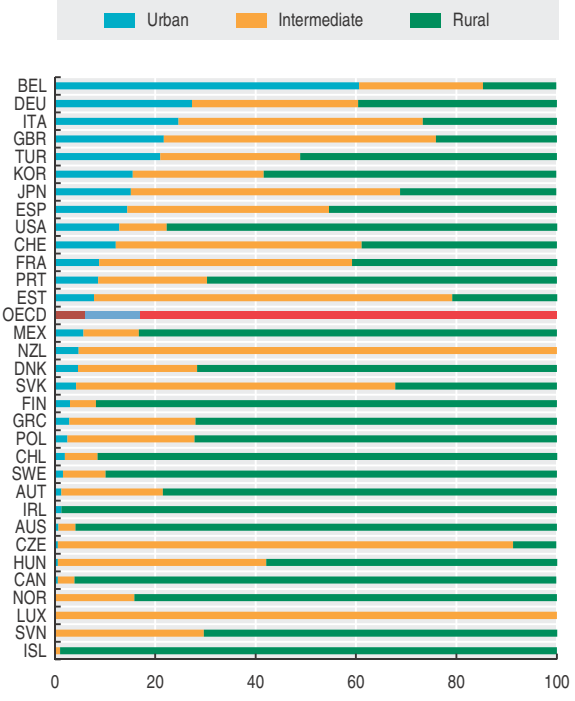
*2014*




1 2 *http://dx.doi.org/10.1787/888933335821*

## Distribution of the national area into urban, intermediate and rural regions

*Percentage, 2014*




1 2 *http://dx.doi.org/10.1787/888933336019*

# ELDERLY POPULATION BY REGION

In all OECD countries, populations aged 65 years and over have dramatically increased over the last decades, both in size and as a percentage of total population. Elderly people, it turns out, tend to be concentrated in few areas within each country, which means that a small number of regions will have to face a number of specific social and economic challenges raised by ageing population.

## Definition

The elderly population is the number of inhabitants of a given region aged 65 or older. The population can be either the average annual population or the population at a specific date during the year considered.

The elderly dependency rate is defined as the ratio between the elderly population and the working age (15-64 years) population.

## Comparability

As for the other regional statistics, the comparability of elderly population data is affected by differences in the definition of the regions and the different geography of rural and urban communities, both within and among countries. In order to better show the rural/urban divide, elderly dependency rates are presented for rural and urban regions, but not for intermediary regions, which explains that for some countries, the country average can be outside the rural/urban range.

All the regional data shown here refer to small regions with the exception of Brazil, China, India, Russia and South Africa.

## *Overview*

In most OECD countries the population is ageing. Due to higher life expectancy and low fertility rates, the elderly population (those aged 65 years and over) accounts for almost 16% of the OECD population in 2014, up from just over 13% 14 years earlier. The proportion of elderly population is remarkably lower in the emerging economies (South Africa, Brazil and China) and Mexico, Turkey, Chile and Israel.

The elderly population in OECD countries has increased more than three times faster than the total population between 2000 and 2014. The rate of ageing between different parts of a country can be quite different, as an increase in the geographic concentration of the elderly may arise from inward migration of the elderly or by ageing "in place" because the younger generations have moved out of the regions.

The ratio of the elderly to the working age population, the elderly dependency rate, is steadily growing in OECD countries. The elderly dependency rate gives an indication of the balance between the retired and the economically active population. In 2014 this ratio was 24% in OECD countries, with substantial differences between countries (42% in Japan versus 11% in Turkey). Differences among regions within the same countries are also large. The higher the regional elderly dependency rate, the higher the challenges faced by regions in generating wealth and sufficient resources to provide for the needs of the population. Concerns may arise about the financial self-sufficiency of these regions to generate taxes to pay for the services for the elderly.

## *Sources*

- OECD (2013), *OECD Regions at a Glance*, OECD Publishing.

## *Further information*

### *Analytical publications*

- OECD (2015), *Ageing and Employment Policies*, OECD Publishing.
- OECD (2014), *OECD Regional Outlook*, OECD Publishing.
- OECD (2011), *The Future of Families to 2030*, OECD Publishing.
- Oliveira Martins J., *et al.* (2005), "The Impact of Ageing on Demand, Factor Markets and Growth", *OECD Economics Department Working Papers*, No. 420.

### *Statistical publication*

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### *Online databases*

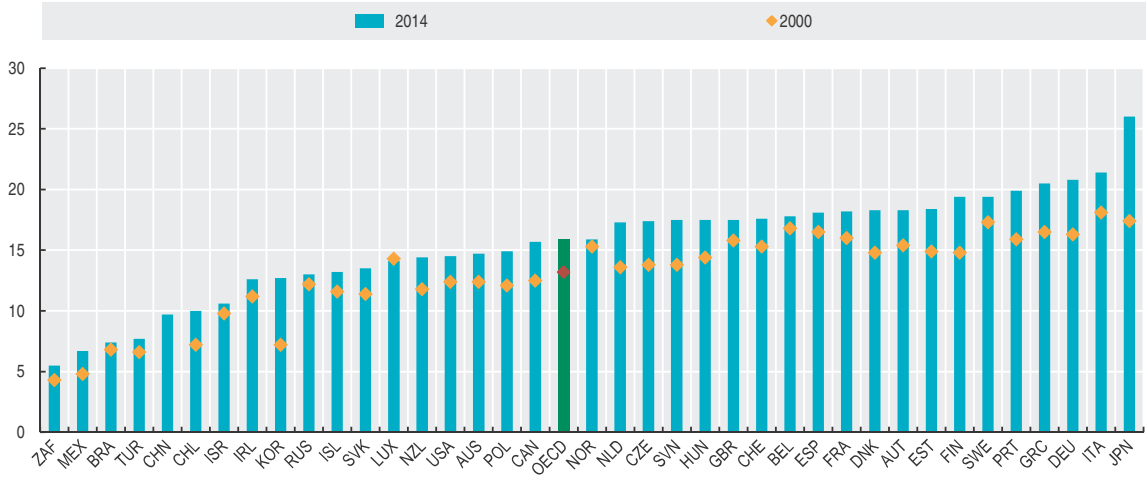
- *OECD Regional Database*.

### *Websites*

- Regions at a Glance Interactive, *rag.oecd.org*.
- Regional statistics and indicators, *www.oecd.org/gov/regional/statisticsindicators*.

## Elderly population

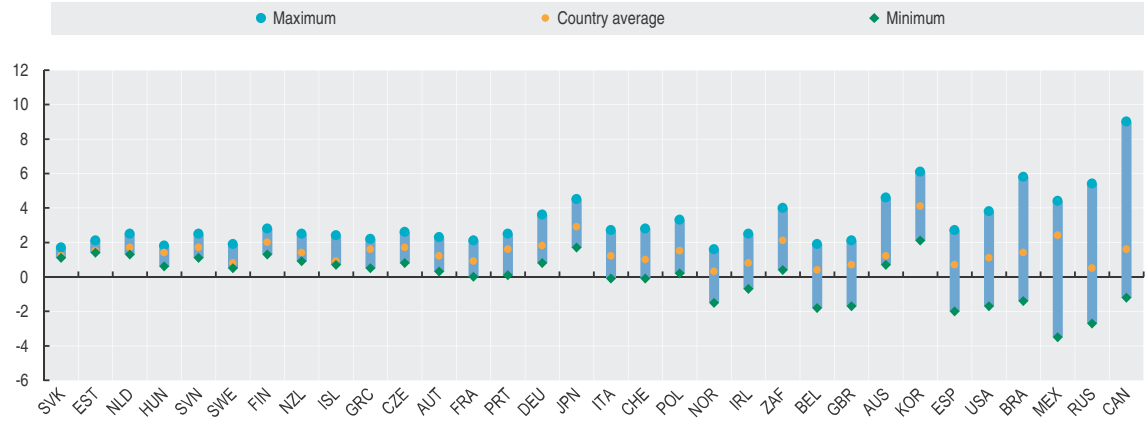
*As a percentage of total population, 2000 and 2014*




1 2 *http://dx.doi.org/10.1787/888933334816*

## Regional elderly population

*Average annual growth in percentage, 2000-14*




1 2 *http://dx.doi.org/10.1787/888933335744*

## Elderly dependency rate in urban and rural regions

*Percentage, 2014*




1 2 *http://dx.doi.org/10.1787/888933335890*

# IMMIGRANT AND FOREIGN POPULATION

As a result of successive waves of migration flows from varying destinations, countries differ in the share and composition of immigrants and foreign population. The definition of these populations is key for international comparisons.

## Definition

Nationality and place of birth are the two criteria most commonly used to define the "immigrant" population. The foreign-born population covers all persons who have ever migrated from their country of birth to their current country of residence. The foreign population consists of persons who still have the nationality of their home country. It may include persons born in the host country.

## Comparability

The difference across countries between the size of the foreign-born population and that of the foreign population depends on the rules governing the acquisition of citizenship in each country. In some countries, children born in the country automatically acquire the citizenship of their country of birth while in other countries, they retain the nationality of their parents. In some others, they retain the nationality of their parents at birth but receive that of the host country at their majority. Differences in the ease with which immigrants may acquire the citizenship of the host country explain part of the gap between the two. For example, residency requirements vary from as little as four years in Canada to as much as ten years in some other countries.

In general, the foreign-born criterion gives substantially higher percentages for the immigrant population than the definition based on nationality because of naturalisations. The place of birth changes only if country borders change.

### *Overview*

The share of the foreign-born population in the total population is especially high in Luxembourg, Switzerland, New Zealand, Australia, Israel and Canada where it ranges from 20% to 44%. In a number of other countries e.g. Austria, Ireland, Slovenia, Sweden, Belgium, Norway, Spain and the United States the share is above 13%. It has increased in the past decade in all countries for which data are available with the exception of Israel and Estonia.

The proportion of foreign-born in the population as a whole roughly doubled over the past 13 years in Ireland, Norway and Spain. By contrast, the foreign population tends to increase more slowly, because inflows of foreign nationals tend to be counterbalanced by persons acquiring the nationality of the host country.

Most data are taken from the contributions of national correspondents who are part of the *OECD Expert Group on International Migration*.

The foreign-born population data shown here include persons born abroad as nationals of their current country of residence. The prevalence of such persons among the foreign-born can be significant in some countries, in particular France and Portugal who received large inflows of repatriates from former colonies.

The EU28 aggregate is a weighted average and does not include Croatia or Malta.

### *Sources*

- OECD (2015), *International Migration Outlook*, OECD Publishing.

### *Further information*

#### *Analytical publications*

- Arslan C. et al. (2014), "A New Profile of Migrants in the Aftermath of the Recent Economic Crisis", *OECD Social, Employment and Migration Working Papers*, No. 160, OECD Publishing.
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- OECD (2015), *Connecting with Emigrants, A Global Profile of Diasporas 2015*, OECD Publishing.
- OECD (2015), *OECD Indicators of Immigrant Integration 2015*, OECD Publishing.

#### *Methodological publications*

- Lemaître, G. and C. Thoreau, (2006), *Estimating the foreign-born population on a current basis*, OECD, Paris.

#### *Online databases*

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#### *Websites*

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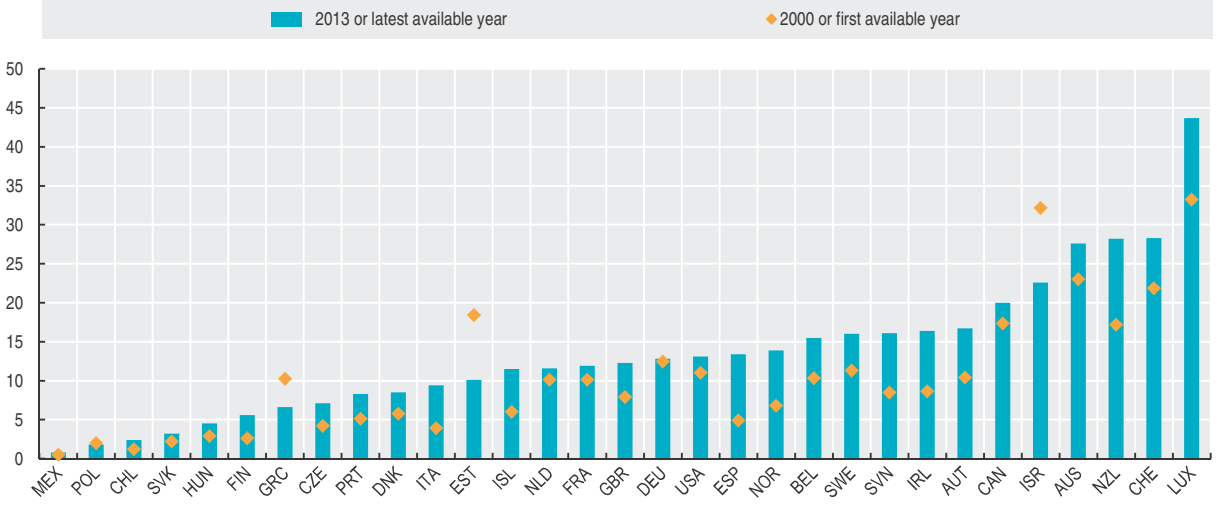
## Foreign-born and foreign populations

| | As a percentage of total population | | | | | | | | As a percentage of all foreign-born |
|---|---|---|---|---|---|---|---|---|---|
| | Foreign-born population | | | | Foreign population | | | | Foreign-born nationals |
| | 2000 | 2005 | 2010 | 2013 | 2000 | 2005 | 2010 | 2013 | 2011 or latest available year |
| Australia | 23.0 | 24.1 | 26.6 | 27.6 | .. | .. | .. | .. | .. |
| Austria | 10.4 | 14.5 | 15.7 | 16.7 | 8.8 | 9.7 | 10.9 | 12.6 | 36.5 |
| Belgium | 10.3 | 12.1 | 14.9 | 15.5 | 8.4 | 8.6 | 10.2 | 10.9 | 44.2 |
| Canada | 17.4 | 18.7 | 19.9 | 20.0 | .. | .. | .. | .. | .. |
| Chile | .. | 1.5 | 2.2 | .. | .. | .. | .. | .. | .. |
| Czech Republic | 4.2 | 5.1 | 6.3 | 7.1 | 1.9 | 2.7 | 4.0 | 4.2 | 59.1 |
| Denmark | 5.8 | 6.5 | 7.7 | 8.5 | 4.8 | 5.0 | 6.2 | 7.1 | 40.8 |
| Estonia | 18.4 | 16.9 | 16.0 | 10.1 | .. | 19.0 | 16.3 | 16.1 | 37.4 |
| Finland | 2.6 | 3.4 | 4.6 | 5.6 | 1.8 | 2.2 | 3.1 | 3.8 | 46.3 |
| France | 10.1 | 11.3 | 11.7 | .. | .. | 5.8 | 6.1 | .. | 53.2 |
| Germany | 12.5 | 12.6 | 13.0 | 12.8 | 8.9 | 8.2 | 8.3 | 9.3 | 52.6 |
| Greece | .. | .. | 7.4 | .. | 2.9 | 5.0 | 7.3 | 6.2 | 20.0 |
| Hungary | 2.9 | 3.3 | 4.5 | 4.5 | 1.1 | 1.5 | 2.1 | 1.4 | 71.9 |
| Iceland | 6.0 | 8.3 | 10.9 | 11.5 | .. | 4.7 | 6.6 | 7.0 | 47.5 |
| Ireland | 8.7 | 12.6 | 17.0 | 16.4 | .. | .. | 12.3 | .. | 29.0 |
| Israel | 32.2 | 28.1 | 24.5 | 22.6 | .. | .. | .. | .. | .. |
| Italy | .. | .. | 8.9 | .. | 2.4 | 4.6 | 7.6 | 8.1 | 25.0 |
| Japan | 1.0 | .. | .. | .. | 1.3 | 1.6 | 1.7 | 1.6 | .. |
| Korea | 0.3 | .. | .. | .. | 0.4 | 1.1 | 2.0 | 2.0 | .. |
| Luxembourg | 33.2 | 36.2 | 40.5 | 43.7 | 37.3 | 41.1 | 43.5 | 45.8 | 13.9 |
| Mexico | 0.5 | 0.5 | 0.8 | 0.8 | .. | .. | 0.2 | .. | .. |
| Netherlands | 10.1 | 10.6 | 11.2 | 11.6 | 4.2 | 4.2 | 4.6 | 4.9 | 67.3 |
| New Zealand | 17.2 | 20.3 | 27.3 | 28.2 | .. | .. | .. | .. | .. |
| Norway | 6.8 | 8.2 | 11.6 | 13.9 | 4.0 | 48 | 7.6 | 9.5 | 46.2 |
| Poland | .. | .. | - | .. | .. | .. | .. | .. | 84.8 |
| Portugal | 5.1 | 7.1 | 8.1 | .. | 2.1 | 4.0 | 4.2 | 3.7 | 67.3 |
| Slovak Republic | .. | 4.6 | .. | 3.2 | 0.5 | 0.5 | 1.3 | 1.1 | 79.9 |
| Slovenia | .. | .. | 11.2 | 16.1 | .. | .. | 4.7 | 5.4 | 74.5 |
| Spain | 4.9 | 11.1 | 14.3 | 13.4 | .. | 9.5 | 12.4 | 10.7 | 22.1 |
| Sweden | 11.3 | 12.5 | 14.8 | 16.0 | 5.4 | 5.3 | 6.8 | 7.2 | 66.6 |
| Switzerland | 21.9 | 23.8 | 26.5 | 28.3 | 19.3 | 20.3 | 22.0 | 23.3 | 31.9 |
| Turkey | 1.9 | .. | - | .. | .. | .. | .. | .. | .. |
| United Kingdom | 7.9 | 9.2 | 11.2 | 12.3 | 4.0 | 5.0 | 7.2 | 7.7 | 41.6 |
| United States | 11.0 | 12.1 | 12.9 | 13.1 | .. | 7.2 | 7.3 | 7.0 | 49.1 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336396*

## Foreign-born population

*As a percentage of total population*




1 2 *http://dx.doi.org/10.1787/888933335230*

# TRENDS IN MIGRATION

Permanent immigrant inflows are presented by category of entry which is a key determinant of immigrant results on the labour market. They cover regulated movements of foreigners as well as free movement migration.

## Definition

Permanent immigrant inflows cover regulated movements of foreigners considered to be settling in the country from the perspective of the destination country. In countries such as Australia, Canada, New Zealand and the United States, this consists of immigrants who receive the right of "permanent" residence. In other countries, it generally refers to immigrants who are granted a residence permit which is indefinitely renewable, although the renewability is sometimes subject to conditions, such as the holding of a job. Excluded are international students, trainees, persons on exchange programmes, seasonal or contract workers, service providers, installers, artists entering the country to perform or persons engaging in sporting events, etc. Permits for persons in this latter group may be renewable as well, but not indefinitely.

Migrants are defined as "free movement" when they have some kind of basic rights, usually accorded through international agreements, to enter and leave a country that result in few restrictions being placed on their movements or durations of stay, such as citizens of EU countries within the EU. Their movements are not always formally recorded and sometimes have to be estimated.

## Comparability

This standardisation according to the concept of "permanent immigrant inflows" represents a considerable improvement compared with compilations of national statistics, whose coverage can vary by a factor of one to three. However, the extent to which changes in status are identified and the coverage of "permanent" free movement may vary somewhat across countries. Overall, the standardisation is applied to 23 OECD countries.

The year of reference for these statistics is often the year when the permit was granted rather than the year of entry. Some persons admitted on a temporary basis are sometimes allowed to change to a permanent status. They are counted in the year the change of status occurred. For example, asylum seekers are not considered migrants but are candidates for humanitarian migrant status. Only those who are recognised as refugees – or who obtain another permanent-type residence title – will be included in the permanent immigrant inflows statistics, in the year they are granted refugee or another permanent-type status. As a consequence, the unprecedented inflows of asylum seekers observed in the EU in 2015 (1.3 million requests filed) will appear in the permanent immigrant inflows in the subsequent years only, and only a part of these will figure there.

### *Overview*

Total permanent immigration increased by about 1.6% overall in OECD countries in 2013 relative to 2012, with the migration picture being a mixed one at the country level. More than half of OECD countries showed increases, with Germany, Korea and Denmark being among the countries which progressed the most. Permanent migration flows diminished markedly in 2013 in Spain, Italy and the United States.

Migration to European countries continues to be characterised by free circulation within the European Economic Area (EEA). In Austria, Switzerland, Germany and Norway, it represents 78%, 78%, 76% and 63%, respectively, of permanent international migration.

Family reunification accounted for over one third of all permanent migration to OECD countries in 2013 (minus 1% compared to 2012) and free movement for 30% (up 4% compared to 2012).

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## Permanent inflows by category of entry

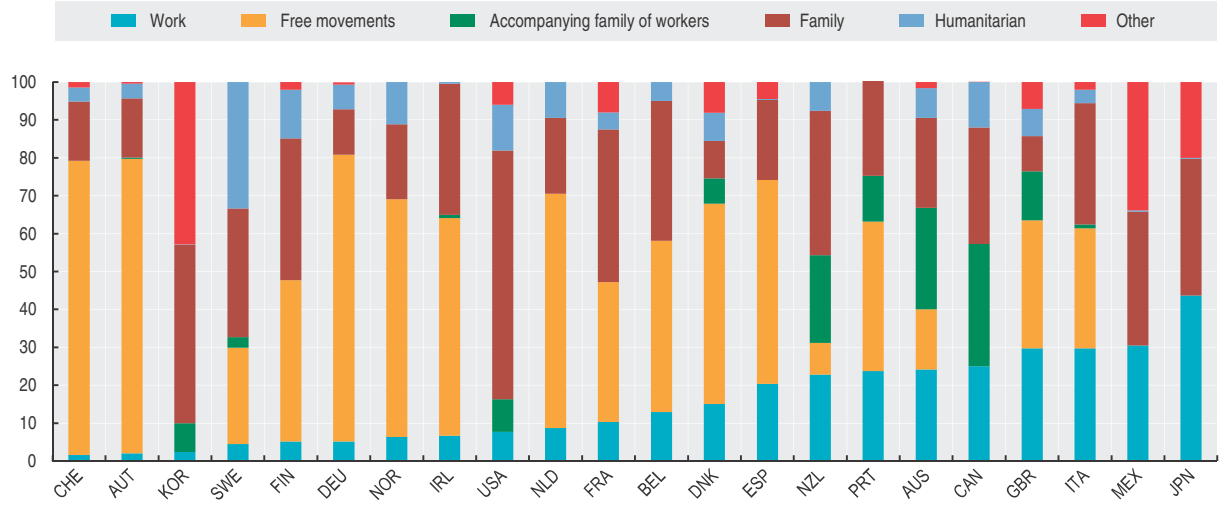
*Thousands, 2013*

| | Work | Free movements | Accompanying family of workers | Family | Humanitarian | Other | Total |
|---|---|---|---|---|---|---|---|
| Australia | 61.3 | 40.3 | 67.7 | 60.2 | 20.0 | 4.0 | 253.5 |
| Austria | 1.3 | 50.5 | 0.3 | 10.2 | 2.5 | 0.3 | 65.0 |
| Belgium | 7.8 | 27.3 | - | 22.3 | 3.0 | .. | 60.3 |
| Canada | 64.7 | .. | 83.3 | 79.6 | 31.0 | 0.0 | 258.6 |
| Chile | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | .. | .. | .. | .. | .. | .. | .. |
| Denmark | 7.9 | 27.7 | 3.5 | 5.2 | 3.9 | 4.2 | 52.4 |
| Estonia | .. | .. | .. | .. | .. | .. | .. |
| Finland | 1.2 | 10.2 | - | 8.9 | 3.1 | 0.5 | 23.9 |
| France | 26.8 | 95.9 | - | 104.6 | 11.7 | 20.9 | 259.8 |
| Germany | 24.3 | 354.8 | - | 56.0 | 30.7 | 2.4 | 468.8 |
| Greece | .. | .. | .. | .. | .. | .. | .. |
| Hungary | .. | .. | .. | .. | .. | .. | .. |
| Iceland | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 2.7 | 23.1 | 0.3 | 13.9 | 0.2 | .. | 40.2 |
| Israel | .. | .. | .. | .. | .. | .. | .. |
| Italy | 73.1 | 77.9 | 2.5 | 78.6 | 8.8 | 4.9 | 245.8 |
| Japan | 25.1 | .. | - | 20.6 | 0.2 | 11.5 | 57.3 |
| Korea | 1.6 | .. | 5.1 | 31.4 | 0.0 | 28.6 | 66.7 |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. |
| Mexico | 16.6 | .. | - | 19.2 | 0.2 | 18.4 | 54.4 |
| Netherlands | 9.2 | 65.2 | - | 21.1 | 10.0 | .. | 105.5 |
| New Zealand | 10.1 | 3.7 | 10.3 | 16.9 | 3.4 | .. | 44.4 |
| Norway | 3.8 | 37.8 | - | 11.9 | 6.7 | .. | 60.3 |
| Poland | .. | .. | .. | .. | .. | .. | .. |
| Portugal | 6.4 | 10.6 | 3.2 | 9.6 | 0.1 | 3.2 | 27.0 |
| Slovak Republic | .. | .. | .. | .. | .. | .. | .. |
| Slovenia | .. | .. | .. | .. | .. | .. | .. |
| Spain | 39.8 | 105.1 | - | 41.2 | 0.5 | 8.8 | 195.3 |
| Sweden | 3.9 | 22.0 | 2.4 | 29.5 | 28.9 | .. | 86.7 |
| Switzerland | 2.2 | 105.8 | - | 21.3 | 5.1 | 2.0 | 136.2 |
| Turkey | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 86.4 | 98.3 | 37.6 | 27.1 | 20.7 | 20.7 | 291.0 |
| United States | 75.9 | .. | 85.2 | 649.8 | 119.6 | 59.4 | 989.9 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336420*

## Permanent inflows by category of entry

*Percentage of total permanent inflows, 2013*




1 2 *http://dx.doi.org/10.1787/888933335265*

# MIGRATION AND EMPLOYMENT

Changes in the size of the working-age population affect more strongly the foreign-born than the native-born for whom such changes are hardly noticeable from one year to another. This is notably due to the impact of net migration. In most OECD countries, employment rates for immigrants are lower than those for native-born persons. However, the situation is more diverse if one disaggregates employment rates by educational attainment.

## Definition

The employment rate is calculated as the share of employed persons in the 25-64 population (active and inactive persons). In accordance with ILO definitions, employed persons are those who worked at least one hour or who had a job but were absent from work during the reference week. The classification of educational attainment shown is based on the *International Standard Classification of Education* (ISCED) categories. Generally speaking, "low" corresponds to less than upper secondary education; "intermediate" to upper secondary education; and "high" to tertiary education. Tertiary education includes programmes of high-level vocational education whose graduates feed into technical or semi-professional occupations.

## Comparability

Data for the European countries are from the *European Union Labour Force Survey*. Data for other countries are mostly taken from national labour force surveys. Even if employment levels can at times be affected by changes in survey design and by survey implementation problems (e.g. non-response), data on employment rates are generally consistent over time.

However, comparability of education levels between immigrants and the native-born population and across countries is only approximate. The educational qualifications of some origin countries may not fit exactly into national educational categories because the duration of study or the programme content for what appear to be equivalent qualifications may not be the same. Likewise, the reduction of the ISCED classification into three categories may result in some loss of information regarding the duration of study, the programme orientation, etc. For example, high educational qualifications can include programmes of durations varying from two years (in the case of short, university-level technical programmes) to seven years or more (in the case of PhDs).

The EU28 aggregate is a weighted average.

## *Overview*

Labour market outcomes of immigrants and native-born vary significantly across OECD countries, and differences by educational attainment are even larger. In all OECD countries, the employment rate increases with education level. While people with tertiary education find work more easily and are less exposed to unemployment, access to tertiary education does not necessarily guarantee equal employment rates for immigrants and native-born persons. In all OECD countries but Chile, employment rates are higher for native-born persons with high educational qualifications than for their foreign-born counterparts.

The situation is more diverse for persons with low educational attainment. In the United States, Luxembourg and to a lesser extent in some southern European countries such as Italy and Greece, foreign-born immigrants with low educational qualifications have higher employment rates than their native-born counterparts. The opposite is true in most other countries, in particular in Sweden, the Netherlands, Denmark and the United Kingdom. The higher employment rate of foreign-born persons with low educational attainment in some countries may reflect the persistent demand for workers in low-skilled jobs which are hardly taken up by the in-coming cohorts of native-born workers.

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## Employment rates of native- and foreign-born population by educational attainment

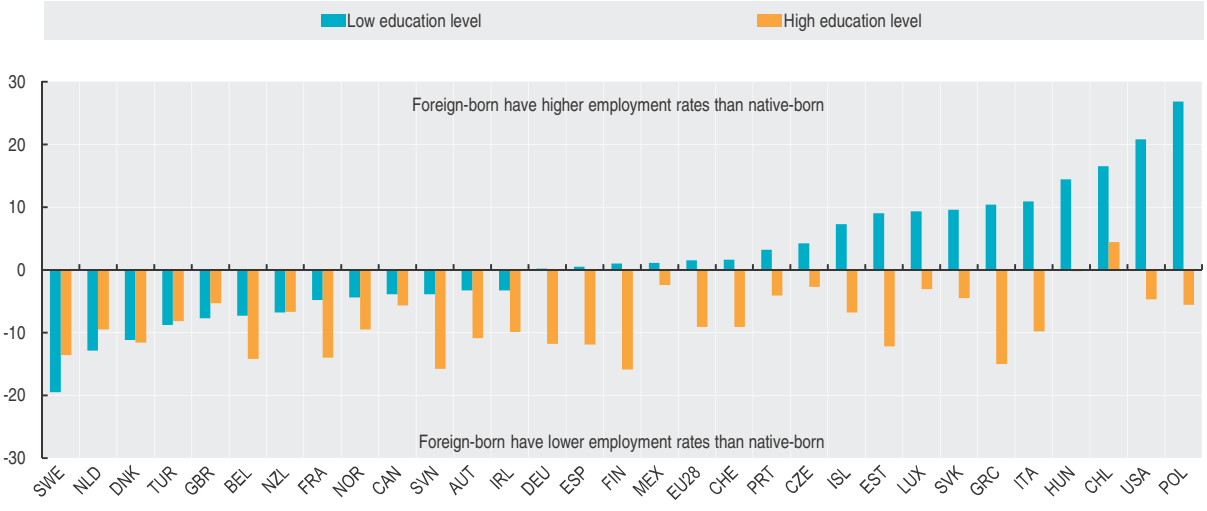
*As a percentage of population aged 25-64*

| | 2007 | | | | | | 2014 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Native-born | | | Foreign-born | | | Native-born | | | Foreign-born | | |
| | Low | High | Total | Low | High | Total | Low | High | Total | Low | High | Total |
| Australia | .. | .. | 77.2 | .. | .. | 71.1 | .. | .. | 76.5 | .. | .. | 72.7 |
| Austria | 57.1 | 89.5 | 76.5 | 57.5 | 75.5 | 67.3 | 54.2 | 87.5 | 77.1 | 50.9 | 76.6 | 67.4 |
| Belgium | 51.8 | 86.3 | 71.9 | 39.5 | 73.8 | 55.3 | 49.4 | 87.0 | 73.4 | 42.1 | 72.8 | 57.7 |
| Canada | .. | .. | .. | .. | .. | .. | 56.6 | 83.2 | 77.2 | 52.7 | 77.5 | 73.3 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 45.7 | 85.3 | 74.6 | 45.7 | 81.9 | 69.6 | 42.7 | 84.6 | 76.8 | 46.9 | 81.9 | 74.9 |
| Denmark | 67.4 | 88.8 | 81.3 | 54.1 | 76.4 | 63.9 | 63.1 | 87.6 | 79.3 | 51.9 | 76.0 | 66.6 |
| Estonia | 56.5 | 88.3 | 80.1 | 45.7 | 83.1 | 75.2 | 60.3 | 85.6 | 78.1 | 69.3 | 73.4 | 68.8 |
| Finland | 58.0 | 85.6 | 76.2 | 54.1 | 76.5 | 70.7 | 53.4 | 84.3 | 75.6 | 54.4 | 68.4 | 63.9 |
| France | 59.0 | 85.0 | 73.7 | 54.3 | 70.8 | 62.1 | 55.3 | 85.6 | 74.2 | 50.5 | 71.6 | 60.6 |
| Germany | 56.1 | 87.7 | 76.2 | 52.3 | 70.5 | 62.8 | 57.9 | 89.8 | 81.0 | 58.1 | 78.0 | 70.8 |
| Greece | 56.7 | 83.8 | 68.3 | 74.8 | 70.9 | 72.7 | 45.5 | 69.4 | 56.2 | 55.9 | 54.4 | 54.3 |
| Hungary | 38.4 | 80.5 | 65.4 | 50.1 | 77.5 | 70.7 | 45.1 | 81.8 | 69.5 | 59.5 | 81.6 | 75.0 |
| Iceland | 82.3 | 92.5 | 87.8 | 86.9 | 88.4 | 86.8 | 76.0 | 90.5 | 84.8 | 83.3 | 83.7 | 83.9 |
| Ireland | 58.6 | 88.3 | 74.0 | 60.3 | 80.9 | 75.9 | 47.0 | 83.6 | 69.3 | 43.7 | 73.7 | 66.9 |
| Israel | 42.8 | 85.4 | 71.2 | 43.0 | 80.4 | 69.0 | .. | .. | .. | .. | .. | .. |
| Italy | 51.5 | 80.6 | 64.4 | 66.9 | 75.2 | 71.0 | 48.0 | 78.8 | 62.8 | 58.9 | 69.0 | 63.5 |
| Japan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Luxembourg | 52.3 | 83.8 | 69.8 | 70.5 | 85.1 | 76.3 | 55.6 | 86.6 | 74.8 | 64.9 | 83.5 | 76.4 |
| Mexico | 63.0 | 82.8 | 67.8 | 66.6 | 69.3 | 65.5 | 63.4 | 79.2 | 67.7 | 64.5 | 76.8 | 67.2 |
| Netherlands | 63.7 | 88.4 | 79.2 | 50.9 | 77.7 | 64.3 | 61.5 | 89.1 | 79.0 | 48.6 | 79.6 | 64.2 |
| New Zealand | 69.7 | 85.3 | 81.5 | 60.7 | 80.0 | 75.3 | 68.7 | 89.8 | 81.7 | 61.9 | 83.1 | 77.6 |
| Norway | 66.5 | 90.3 | 82.3 | 58.1 | 86.6 | 75.3 | 62.5 | 91.2 | 82.7 | 58.1 | 81.7 | 73.8 |
| Poland | 41.2 | 84.6 | 65.7 | 15.3 | 65.7 | 36.3 | 39.3 | 86.3 | 69.0 | .. | 80.7 | 71.8 |
| Portugal | 71.3 | 85.8 | 74.3 | 75.4 | 87.0 | 79.2 | 62.8 | 83.2 | 70.2 | 66.0 | 79.1 | 72.7 |
| Slovak Republic | 29.0 | 84.2 | 70.0 | 40.4 | 87.2 | 70.1 | 32.6 | 80.0 | 69.4 | 42.2 | 75.5 | 67.0 |
| Slovenia | 56.1 | 88.0 | 75.0 | 56.7 | 81.8 | 69.2 | 49.4 | 84.0 | 71.6 | 45.5 | 68.2 | 60.8 |
| Spain | 57.8 | 85.5 | 69.7 | 71.4 | 78.8 | 74.9 | 49.3 | 78.7 | 63.5 | 49.8 | 66.8 | 57.9 |
| Sweden | 71.1 | 90.5 | 84.8 | 51.5 | 78.3 | 67.7 | 71.3 | 91.9 | 86.5 | 51.8 | 78.3 | 68.9 |
| Switzerland | 65.0 | 93.0 | 84.5 | 67.3 | 82.7 | 75.5 | 68.5 | 92.1 | 86.3 | 70.1 | 83.0 | 78.3 |
| Turkey | .. | .. | .. | .. | .. | .. | 47.6 | 76.5 | 54.5 | 38.8 | 68.3 | 55.8 |
| United Kingdom | 54.7 | 88.9 | 76.8 | 47.1 | 83.2 | 70.6 | 60.8 | 86.4 | 78.2 | 53.1 | 81.1 | 74.0 |
| United States | 51.5 | 84.0 | 76.5 | 68.8 | 80.3 | 75.2 | 45.0 | 81.8 | 73.2 | 65.8 | 77.1 | 72.4 |
| EU 28 | 57.0 | 86.2 | 72.1 | 59.5 | 77.8 | 68.6 | 52.3 | 84.8 | 72.1 | 53.8 | 75.7 | 66.1 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | 27.8 | 79.9 | 36.3 | 60.8 | 75.3 | 63.7 | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336388*

## Gap in employment rates between foreign- and native-born population by educational attainment

*Percentage points, 2014*




1 2 *http://dx.doi.org/10.1787/888933335228*

# MIGRATION AND UNEMPLOYMENT

Immigrant workers are more affected by unemployment than native-born workers in traditional European immigration countries. Conversely, in some settlement countries (Australia, New Zealand and the United States) as well as in Hungary, the unemployment rate depends less on the place of birth. Some groups, such as young immigrants, women or older immigrants have greater difficulties in finding jobs.

## Definition

The unemployment rate is the share of the unemployed aged 15-64 in the total labour force (the sum of employed and unemployed persons aged 15-64). In accordance with the ILO standards, unemployed persons consist of those persons who report that they are without work during the reference week, that they are available for work and that they have taken active steps to find work during the four weeks preceding the interview.

## Comparability

Data for the European countries are from the *European Union Labour Force Survey*. Data for the United States come from the *Current Population Survey*; those for other countries are taken from their national labour force surveys. Even if unemployment levels can at times be affected by changes in the survey design and by survey implementation problems (e.g. non-response), data on unemployment rates are generally consistent over time.

The EU28 aggregate is a weighted average.

### *Overview*

Immigrants were hard hit, and almost immediately, by the economic downturn in most OECD countries. This is mainly explained by their greater presence in sectors that have been strongly affected by the crisis (e.g. construction, manufacturing, hotels and restaurants) as well as by their greater likelihood of being in precarious or informal jobs. However, differences exist across OECD countries and between migrant groups.

The ongoing economic downturn has seen unemployment rates increase, both for foreign- and native-born persons, in most OECD countries. However, immigrants in most European OECD countries were more affected by unemployment than the native-born population. In Spain, Greece and Ireland, immigrant unemployment increased by 25, 25 and 11 percentage points respectively between 2007 and 2014 whereas that of the native-born increased by 15, 15 and 10 percentage points respectively. In 2014, the unemployment rate of immigrants living in Greece or Spain was still above 30%. The unemployment rate was more than twice the level observed for the native-born population in Sweden, Belgium, Switzerland, Austria and Finland.

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## Unemployment rates of native- and foreign-born population

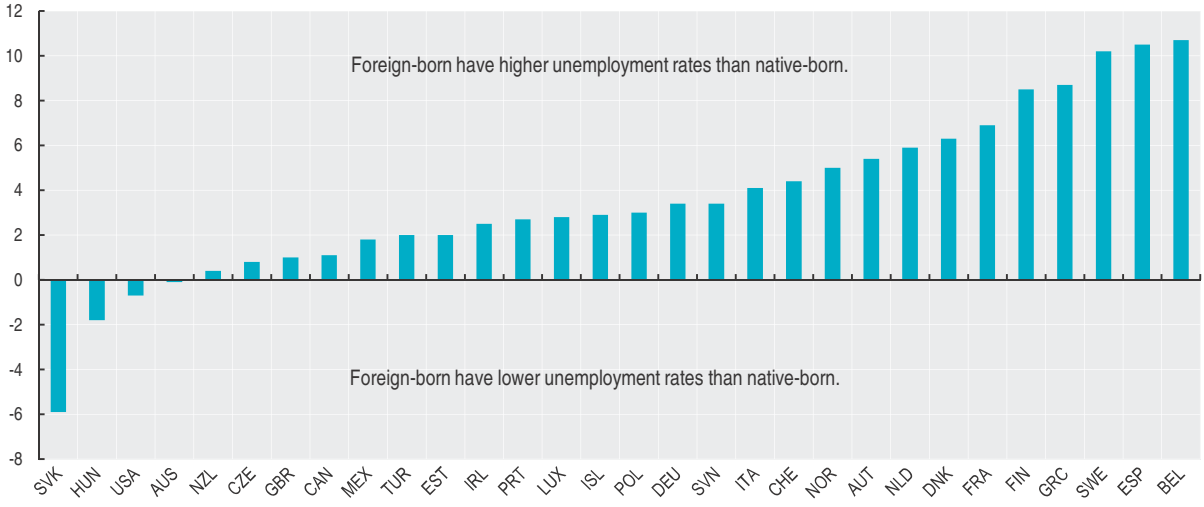
*As a percentage of total labour force*

| | Women | | | | Men | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Native-born | | Foreign-born | | Native-born | | Foreign-born | | Native-born | | Foreign-born | |
| | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 | 2007 | 2014 |
| Australia | 4.6 | 6.1 | 5.5 | 6.6 | 4.1 | 6.3 | 4.3 | 5.6 | 4.3 | 6.2 | 4.9 | 6.1 |
| Austria | 4.1 | 4.5 | 9.7 | 9.5 | 3.1 | 4.8 | 8.4 | 10.8 | 3.5 | 4.7 | 9.0 | 10.1 |
| Belgium | 7.5 | 6.5 | 17.2 | 16.3 | 5.6 | 7.2 | 15.8 | 18.7 | 6.4 | 6.9 | 16.4 | 17.6 |
| Canada | .. | 5.9 | .. | 8.4 | .. | 7.5 | .. | 7.4 | .. | 6.7 | .. | 7.9 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 6.7 | 7.4 | 10.8 | 8.8 | 4.2 | 5.2 | 7.7 | 5.7 | 5.3 | 6.2 | 9.1 | 7.0 |
| Denmark | 3.8 | 6.0 | 7.8 | 13.9 | 3.0 | 6.0 | 8.6 | 10.8 | 3.4 | 6.0 | 8.2 | 12.3 |
| Estonia | 3.9 | 6.7 | 4.6 | 9.7 | 5.3 | 7.9 | 7.1 | 8.8 | 4.6 | 7.3 | 5.7 | 9.3 |
| Finland | 6.9 | 7.5 | 17.4 | 17.1 | 6.5 | 9.1 | 12.0 | 16.5 | 6.7 | 8.3 | 14.5 | 16.8 |
| France | 8.1 | 8.8 | 14.5 | 15.7 | 6.9 | 9.3 | 11.9 | 16.4 | 7.4 | 9.1 | 13.1 | 16.0 |
| Germany | 8.0 | 4.2 | 13.8 | 7.4 | 7.6 | 4.8 | 15.2 | 8.3 | 7.8 | 4.5 | 14.6 | 7.9 |
| Greece | 12.8 | 29.8 | 14.3 | 35.4 | 5.3 | 22.6 | 4.9 | 33.8 | 8.4 | 25.8 | 8.7 | 34.5 |
| Hungary | 7.7 | 7.9 | 6.1 | 8.3 | 7.2 | 7.7 | 2.6 | 4.0 | 7.5 | 7.8 | 4.3 | 6.0 |
| Iceland | 2.2 | 4.5 | 3.9 | 7.9 | 2.3 | 5.0 | 2.1 | 7.3 | 2.2 | 4.7 | 3.0 | 7.6 |
| Ireland | 4.0 | 8.6 | 5.8 | 12.7 | 4.6 | 13.0 | 6.0 | 14.2 | 4.3 | 11.0 | 5.9 | 13.5 |
| Israel | 8.6 | .. | 6.8 | .. | 7.1 | .. | 6.3 | .. | 7.8 | .. | 6.5 | .. |
| Italy | 7.6 | 13.3 | 11.4 | 17.4 | 4.9 | 11.6 | 5.3 | 15.6 | 6.0 | 12.3 | 7.9 | 16.4 |
| Japan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Luxembourg | 4.4 | 4.0 | 5.1 | 7.3 | 3.0 | 4.7 | 4.3 | 7.1 | 3.6 | 4.4 | 4.6 | 7.2 |
| Mexico | 4.2 | 5.0 | 10.7 | 6.1 | 3.6 | 5.0 | 4.1 | 7.2 | 3.8 | 5.0 | 6.2 | 6.8 |
| Netherlands | 3.6 | 5.9 | 7.7 | 11.8 | 2.7 | 6.3 | 7.5 | 12.2 | 3.1 | 6.1 | 7.6 | 12.0 |
| New Zealand | 3.8 | 6.5 | 5.0 | 7.5 | 3.5 | 5.3 | 3.5 | 5.2 | 3.6 | 5.9 | 4.2 | 6.3 |
| Norway | 2.3 | 2.5 | 4.0 | 8.3 | 2.3 | 3.2 | 6.1 | 7.6 | 2.3 | 2.9 | 5.1 | 7.9 |
| Poland | 10.4 | 9.7 | 9.2 | 14.8 | 9.1 | 8.6 | 9.5 | 9.8 | 9.7 | 9.1 | 9.4 | 12.1 |
| Portugal | 9.9 | 14.6 | 12.1 | 16.7 | 7.0 | 13.9 | 7.3 | 17.2 | 8.4 | 14.2 | 9.6 | 16.9 |
| Slovak Republic | 12.7 | 13.7 | 5.9 | 9.1 | 9.9 | 12.9 | 7.7 | 6.0 | 11.2 | 13.3 | 6.8 | 7.4 |
| Slovenia | 5.8 | 10.3 | 7.8 | 15.7 | 4.1 | 8.9 | 4.0 | 11.1 | 4.9 | 9.6 | 5.7 | 13.0 |
| Spain | 10.5 | 24.1 | 12.6 | 32.6 | 6.0 | 21.8 | 8.3 | 34.0 | 7.9 | 22.8 | 10.3 | 33.3 |
| Sweden | 5.5 | 5.9 | 12.6 | 16.2 | 5.1 | 6.6 | 11.7 | 16.6 | 5.3 | 6.2 | 12.1 | 16.4 |
| Switzerland | 3.2 | 3.3 | 8.8 | 8.3 | 2.0 | 3.4 | 5.8 | 7.1 | 2.6 | 3.3 | 7.1 | 7.7 |
| Turkey | .. | 12.0 | .. | 14.7 | .. | 9.2 | .. | 10.5 | .. | 10.0 | .. | 12.0 |
| United Kingdom | 4.5 | 5.5 | 8.6 | 8.2 | 5.4 | 6.6 | 6.9 | 6.1 | 5.0 | 6.1 | 7.6 | 7.1 |
| United States | 4.6 | 6.1 | 4.7 | 6.6 | 5.1 | 6.8 | 4.1 | 5.1 | 4.9 | 6.5 | 4.4 | 5.8 |
| EU 28 | 7.4 | 9.8 | 11.4 | 15.2 | 6.2 | 9.7 | 8.6 | 14.6 | 6.8 | 9.8 | 9.9 | 14.9 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336406*

## Gap in unemployment rates between foreign- and native-born populations

*Percentage points, 2014*




1 2 *http://dx.doi.org/10.1787/888933335247*


5600
5400
5200
5000
4800
4600
4400
4200
4000
3800
3600
3400



# PRODUCTION

## PRODUCTION AND PRODUCTIVITY

SIZE OF GDP
EVOLUTION OF GDP
GDP BY METROPOLITAN AREA
INVESTMENT RATES
LABOUR PRODUCTIVITY LEVELS

## ECONOMIC STRUCTURE

VALUE ADDED BY ACTIVITY
REAL VALUE ADDED BY ACTIVITY
SMALL AND MEDIUM-SIZED ENTERPRISES

# 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.

GDP per capita is a core indicator of economic performance and commonly used as a broad measure of average living standard 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; gross capital formation; and exports (minus imports).

## Comparability

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. When changes in international standards are implemented, countries often take the opportunity to implement improved compilation methods; therefore also implementing various improvements in sources and estimation methodologies. In some countries the impact of the 'statistical benchmark revision' could be higher than the impact of the changeover in standards. As a consequence the GDP level for the OECD total increased by 3.8% in 2010 based on the available 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.

### *Overview*

Per capita GDP for the OECD as a whole was USD 38 865 in 2014. Five OECD countries exceed this amount by more than 25 percent – Luxembourg, Norway, Switzerland, the United States and Ireland. Nine OECD countries had a per capita GDP that was between 10 to 25 percent higher than the per capita GDP for the OECD average in 2014: the Netherlands, Austria, Sweden, Germany, Australia, Denmark, Canada, Iceland and Belgium while nine countries had a more than 25 percent lower GDP per capita than the OECD average: Mexico, Turkey, Chile, Poland, Hungary, Greece, Estonia, the Slovak Republic, and Portugal.

In the ten year time period between 2004 and 2014, the countries whose GDP per capita relative to the OECD average has increased the most (by more than 10 percentage points) were Luxembourg, the Slovak Republic, Estonia, Poland, Switzerland, Norway, Chile, and Turkey.

On the other hand, the relative position of GDP per capita to the OECD average has deteriorated in 14 countries. The largest decreases were observed in Greece, the United Kingdom, and Italy.

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## GDP per capita

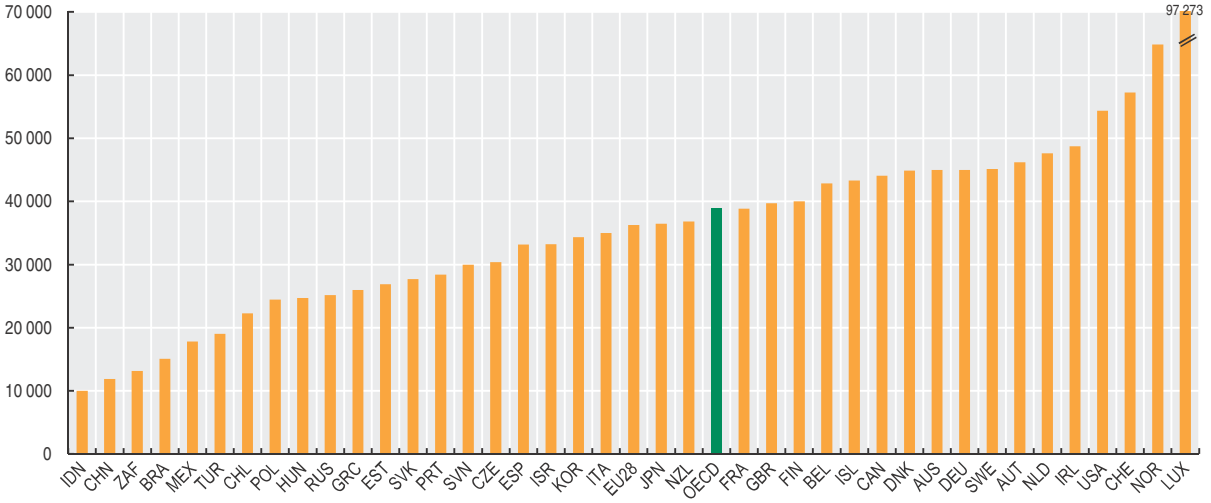
*US dollars, current prices and PPPs*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 30 603 | 32 088 | 33 699 | 35 440 | 37 583 | 39 343 | 39 704 | 41 138 | 42 253 | 43 802 | 43 676 | 44 706 | 44 971 |
| Austria | 31 261 | 32 212 | 33 820 | 34 702 | 37 653 | 39 240 | 41 151 | 40 642 | 41 876 | 44 039 | 44 870 | 45 133 | 46 171 |
| Belgium | 30 776 | 31 059 | 31 997 | 33 057 | 35 110 | 36 596 | 37 857 | 37 664 | 39 276 | 41 118 | 41 595 | 41 595 | 42 839 |
| Canada | 30 634 | 32 054 | 33 654 | 36 051 | 37 822 | 39 226 | 40 108 | 38 709 | 40 055 | 41 567 | 42 283 | 43 038 | 44 057 |
| Chile | 10 279 | 10 760 | 11 704 | 12 690 | 15 496 | 16 709 | 16 327 | 16 136 | 18 173 | 20 189 | 21 108 | 21 888 | 22 254 |
| Czech Republic | 18 311 | 19 593 | 20 970 | 22 237 | 24 350 | 26 622 | 26 994 | 26 895 | 26 941 | 28 603 | 28 636 | 28 963 | 30 366 |
| Denmark | 31 597 | 31 269 | 33 162 | 34 083 | 37 192 | 38 685 | 40 843 | 39 625 | 41 812 | 43 319 | 43 565 | 43 797 | 44 889 |
| Estonia | 11 770 | 13 193 | 14 628 | 16 510 | 19 255 | 21 803 | 22 487 | 20 195 | 21 070 | 23 914 | 25 206 | 26 160 | 26 902 |
| Finland | 28 421 | 28 813 | 31 092 | 32 065 | 34 523 | 37 509 | 39 730 | 37 546 | 38 296 | 40 251 | 40 209 | 40 017 | 39 987 |
| France | 28 523 | 28 110 | 29 056 | 30 398 | 32 311 | 34 064 | 35 170 | 34 837 | 35 896 | 37 353 | 37 281 | 37 617 | 38 870 |
| Germany | 28 438 | 29 365 | 30 709 | 32 186 | 34 716 | 36 783 | 38 434 | 37 137 | 39 622 | 42 152 | 42 807 | 43 282 | 44 985 |
| Greece | 22 719 | 23 804 | 25 432 | 25 396 | 28 290 | 29 309 | 31 161 | 30 662 | 28 961 | 26 626 | 25 177 | 25 523 | 25 950 |
| Hungary | 14 918 | 15 640 | 16 466 | 17 314 | 18 664 | 19 339 | 20 811 | 20 867 | 21 562 | 22 603 | 22 556 | 23 507 | 24 709 |
| Iceland | 31 972 | 31 751 | 34 897 | 35 987 | 36 685 | 38 729 | 41 115 | 39 831 | 38 592 | 39 558 | 40 498 | 41 987 | 43 330 |
| Ireland | 34 441 | 36 016 | 38 183 | 40 446 | 44 030 | 46 727 | 43 839 | 41 845 | 43 223 | 45 670 | 45 757 | 46 858 | 48 733 |
| Israel | 25 138 | 23 696 | 25 124 | 24 774 | 25 634 | 27 499 | 27 358 | 27 589 | 28 948 | 30 585 | 31 938 | 32 713 | 33 243 |
| Italy | 27 890 | 28 422 | 28 712 | 29 554 | 31 832 | 33 531 | 34 941 | 33 893 | 34 396 | 35 494 | 35 044 | 34 781 | 35 015 |
| Japan | 27 251 | 27 960 | 29 384 | 30 446 | 31 795 | 33 319 | 33 500 | 31 861 | 33 748 | 34 312 | 35 601 | 36 225 | 36 456 |
| Korea | 20 785 | 21 389 | 22 968 | 24 220 | 25 863 | 27 872 | 28 718 | 28 393 | 30 465 | 31 327 | 32 022 | 33 089 | 34 356 |
| Luxembourg | 59 353 | 60 831 | 65 407 | 67 003 | 77 306 | 82 733 | 84 920 | 80 265 | 84 440 | 90 889 | 91 256 | 93 234 | 97 273 |
| Mexico | 10 319 | 10 808 | 11 438 | 12 342 | 13 505 | 14 132 | 14 743 | 14 394 | 15 139 | 16 366 | 16 808 | 16 891 | 17 831 |
| Netherlands | 33 954 | 33 741 | 35 424 | 37 313 | 40 854 | 43 673 | 46 156 | 44 413 | 44 752 | 46 389 | 46 387 | 46 749 | 47 635 |
| New Zealand | 23 209 | 23 886 | 25 005 | 25 666 | 27 589 | 29 104 | 29 482 | 30 390 | 30 942 | 32 221 | 32 861 | 34 989 | 36 810 |
| Norway | 37 726 | 38 991 | 43 202 | 48 370 | 54 720 | 56 901 | 62 421 | 56 205 | 58 775 | 62 738 | 66 358 | 65 635 | 64 837 |
| Poland | 11 592 | 12 047 | 13 054 | 13 808 | 15 157 | 16 894 | 18 051 | 19 145 | 20 612 | 22 250 | 23 054 | 23 616 | 24 430 |
| Portugal | 19 332 | 19 822 | 20 303 | 22 073 | 23 887 | 25 224 | 26 096 | 26 217 | 26 924 | 26 932 | 27 001 | 27 651 | 28 382 |
| Slovak Republic | 13 133 | 13 889 | 14 965 | 16 482 | 18 760 | 21 354 | 23 728 | 23 046 | 24 325 | 25 169 | 25 809 | 26 586 | 27 711 |
| Slovenia | 20 123 | 20 938 | 22 693 | 23 884 | 25 873 | 27 670 | 29 589 | 27 488 | 27 586 | 28 513 | 28 441 | 28 675 | 29 969 |
| Spain | 24 664 | 25 329 | 26 484 | 27 863 | 30 906 | 32 800 | 33 708 | 32 804 | 32 361 | 32 535 | 32 393 | 32 546 | 33 169 |
| Sweden | 30 790 | 32 062 | 34 269 | 34 332 | 37 594 | 40 565 | 41 881 | 39 670 | 41 727 | 43 709 | 43 869 | 44 586 | 45 153 |
| Switzerland | 36 134 | 36 174 | 37 523 | 38 916 | 43 140 | 47 175 | 50 226 | 49 722 | 51 121 | 54 551 | 55 857 | 56 897 | 57 246 |
| Turkey | 8 667 | 8 806 | 10 168 | 11 394 | 12 905 | 13 896 | 15 021 | 14 495 | 16 001 | 17 692 | 18 002 | 18 599 | 19 027 |
| United Kingdom | 30 088 | 31 184 | 33 112 | 34 616 | 36 921 | 37 509 | 37 765 | 36 383 | 35 859 | 36 575 | 37 605 | 38 743 | 39 709 |
| United States | 38 122 | 39 606 | 41 857 | 44 237 | 46 369 | 47 987 | 48 330 | 46 930 | 48 302 | 49 710 | 51 368 | 52 592 | 54 353 |
| EU 28 | 24 663 | 25 302 | 26 519 | 27 727 | 30 063 | 31 817 | 33 125 | 32 339 | 33 180 | 34 493 | 34 804 | 35 271 | 36 237 |
| OECD | 26 678 | 27 484 | 28 972 | 30 479 | 32 492 | 34 035 | 34 809 | 33 860 | 35 053 | 36 347 | 37 135 | 37 815 | 38 865 |
| Brazil | 9 326 | 9 523 | 10 183 | 10 737 | 11 434 | 12 365 | 13 160 | 13 114 | 14 179 | 15 065 | .. | .. | .. |
| China | 3 454 | 3 853 | 4 333 | 4 948 | 5 717 | 6 665 | 7 412 | 8 118 | 9 031 | 10 017 | 10 917 | 11 874 | .. |
| India | .. | .. | 2 722 | 3 022 | 3 355 | 3 729 | 3 863 | 4 247 | .. | .. | .. | .. | .. |
| Indonesia | 5 372 | 5 663 | 6 026 | 6 483 | 6 959 | 7 499 | 8 003 | 8 167 | 8 489 | 8 907 | 9 433 | 10 023 | .. |
| Russian Federation | 8 029 | 9 254 | 10 231 | 11 822 | 14 916 | 16 649 | 20 164 | 19 387 | 20 498 | 22 570 | 24 069 | 25 151 | .. |
| South Africa | 8 408 | 8 737 | 9 277 | 9 946 | 10 652 | 11 441 | 11 957 | 11 598 | 11 772 | 12 292 | 12 715 | 13 002 | 13 146 |

1 2 *http://dx.doi.org/10.1787/888933336587*

## GDP per capita

*US dollars, current prices and PPPs, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335492*

# 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 *System of National Accounts* recommends 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 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. It's important to note that differences between the 2008 SNA and the 1993 SNA did not have a significant impact on the growth rates of real GDP and therefore, the comparability of the indicators presented here 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 annual chain-linked volume indices (that is the weights are updated every year). Mexico, like many non-OECD countries, revise their weights less frequently.

### *Overview*

In 2014, the annual rate of economic growth for the OECD as a whole was 1.8%, an acceleration from the 1.2% growth rate seen in 2013.

Several countries after 2 or more years of contraction rebounded in 2014: Slovenia, Greece, Spain, the Czech Republic, Portugal, Denmark, and the Netherlands. Seven countries experienced a growth rate of 3% or higher. The largest economic growth rates were recorded in Ireland (5.2%), Luxembourg (4.1%), Hungary (3.7%), Poland (3.3%), Korea (3.3%), Slovenia (3.0%) and New Zealand (3.0 %).

However, in some countries growth rates slowed or turned negative between 2013 and 2014. Chile slowed from 4.2% in 2013 to 1.9% in 2014, Iceland from 3.9% to 1.8%, Japan 1.6% to minus 0.1% and Turkey from 4.2% to 2.9%.

Moreover, two other countries experienced negative growth in 2014: Finland (minus 0.4%), Italy (minus 0.4%).

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- For non-member countries: National sources.

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## Real GDP growth

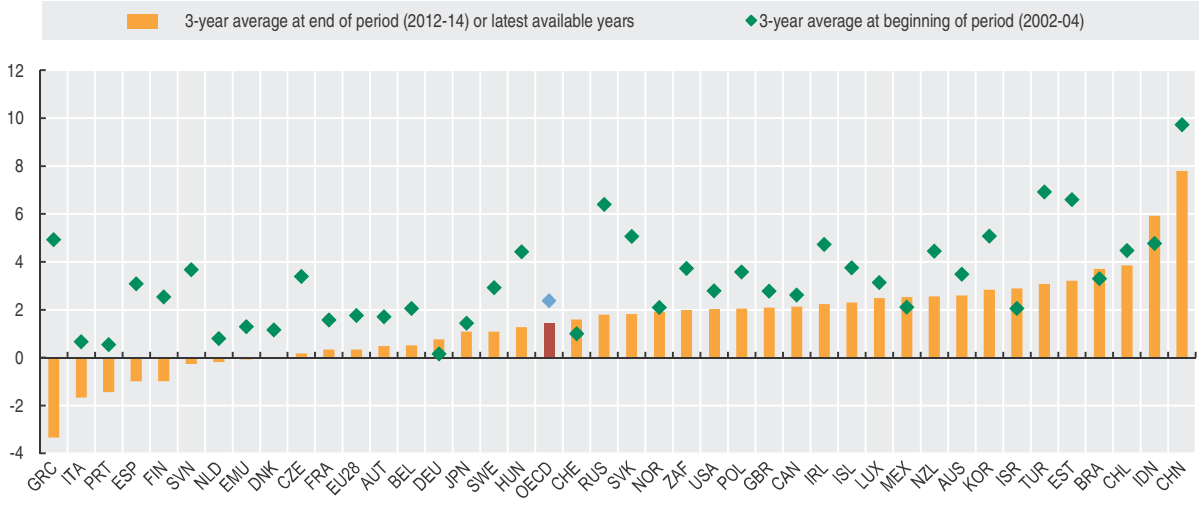
*Annual growth in percentage*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 3.1 | 4.2 | 3.2 | 3.0 | 3.8 | 3.7 | 1.7 | 2.0 | 2.3 | 3.7 | 2.5 | 2.5 | 2.7 |
| Austria | 1.7 | 0.8 | 2.7 | 2.1 | 3.4 | 3.6 | 1.5 | -3.8 | 1.9 | 2.8 | 0.8 | 0.3 | 0.4 |
| Belgium | 1.8 | 0.8 | 3.6 | 2.1 | 2.5 | 3.4 | 0.7 | -2.3 | 2.7 | 1.8 | 0.2 | 0.0 | 1.3 |
| Canada | 2.8 | 1.9 | 3.1 | 3.2 | 2.6 | 2.0 | 1.2 | -2.7 | 3.4 | 3.0 | 1.9 | 2.0 | 2.4 |
| Chile | 2.7 | 3.8 | 7.0 | 6.2 | 5.7 | 5.2 | 3.3 | -1.0 | 5.8 | 5.8 | 5.5 | 4.2 | 1.9 |
| Czech Republic | 1.6 | 3.6 | 4.9 | 6.4 | 6.9 | 5.5 | 2.7 | -4.8 | 2.3 | 2.0 | -0.9 | -0.5 | 2.0 |
| Denmark | 0.5 | 0.4 | 2.6 | 2.4 | 3.8 | 0.8 | -0.7 | -5.1 | 1.6 | 1.2 | -0.7 | -0.5 | 1.1 |
| Estonia | 6.1 | 7.4 | 6.3 | 9.4 | 10.3 | 7.7 | -5.4 | -14.7 | 2.5 | 7.6 | 5.2 | 1.6 | 2.9 |
| Finland | 1.7 | 2.0 | 3.9 | 2.8 | 4.1 | 5.2 | 0.7 | -8.3 | 3.0 | 2.6 | -1.4 | -1.1 | -0.4 |
| France | 1.1 | 0.8 | 2.8 | 1.6 | 2.4 | 2.4 | 0.2 | -2.9 | 2.0 | 2.1 | 0.2 | 0.7 | 0.2 |
| Germany | 0.0 | -0.7 | 1.2 | 0.7 | 3.7 | 3.3 | 1.1 | -5.6 | 4.1 | 3.7 | 0.4 | 0.3 | 1.6 |
| Greece | 3.9 | 5.8 | 5.1 | 0.6 | 5.7 | 3.3 | -0.3 | -4.3 | -5.5 | -9.1 | -7.3 | -3.2 | 0.7 |
| Hungary | 4.5 | 3.8 | 4.9 | 4.4 | 3.8 | 0.4 | 0.8 | -6.6 | 0.7 | 1.8 | -1.7 | 1.9 | 3.7 |
| Iceland | 0.5 | 2.7 | 8.2 | 6.0 | 4.2 | 9.5 | 1.5 | -4.7 | -3.6 | 2.0 | 1.2 | 3.9 | 1.8 |
| Ireland | 5.9 | 3.8 | 4.4 | 6.3 | 6.3 | 5.5 | -2.2 | -5.6 | 0.4 | 2.6 | 0.2 | 1.4 | 5.2 |
| Israel | -0.1 | 1.2 | 5.1 | 4.4 | 5.8 | 6.1 | 3.1 | 1.3 | 5.5 | 5.0 | 2.9 | 3.3 | 2.6 |
| Italy | 0.3 | 0.2 | 1.6 | 0.9 | 2.0 | 1.5 | -1.0 | -5.5 | 1.7 | 0.6 | -2.8 | -1.7 | -0.4 |
| Japan | 0.3 | 1.7 | 2.4 | 1.3 | 1.7 | 2.2 | -1.0 | -5.5 | 4.7 | -0.5 | 1.8 | 1.6 | -0.1 |
| Korea | 7.4 | 2.9 | 4.9 | 3.9 | 5.2 | 5.5 | 2.8 | 0.7 | 6.5 | 3.7 | 2.3 | 2.9 | 3.3 |
| Luxembourg | 3.6 | 1.4 | 4.4 | 3.2 | 5.1 | 8.4 | -0.8 | -5.4 | 5.7 | 2.6 | -0.8 | 4.3 | 4.1 |
| Mexico | 0.8 | 1.4 | 4.2 | 3.1 | 5.0 | 3.2 | 1.4 | -4.7 | 5.2 | 3.9 | 4.0 | 1.4 | 2.1 |
| Netherlands | 0.1 | 0.3 | 2.0 | 2.2 | 3.5 | 3.7 | 1.7 | -3.8 | 1.4 | 1.7 | -1.1 | -0.5 | 1.0 |
| New Zealand | 4.9 | 4.6 | 3.8 | 3.4 | 2.8 | 3.0 | -1.6 | -0.3 | 1.4 | 2.2 | 2.2 | 2.5 | 3.0 |
| Norway | 1.4 | 0.9 | 4.0 | 2.6 | 2.4 | 2.9 | 0.4 | -1.6 | 0.6 | 1.0 | 2.7 | 0.7 | 2.2 |
| Poland | 2.0 | 3.6 | 5.1 | 3.5 | 6.2 | 7.2 | 3.9 | 2.6 | 3.7 | 5.0 | 1.6 | 1.3 | 3.3 |
| Portugal | 0.8 | -0.9 | 1.8 | 0.8 | 1.6 | 2.5 | 0.2 | -3.0 | 1.9 | -1.8 | -4.0 | -1.1 | 0.9 |
| Slovak Republic | 4.5 | 5.4 | 5.3 | 6.4 | 8.5 | 10.8 | 5.7 | -5.5 | 5.1 | 2.8 | 1.5 | 1.4 | 2.5 |
| Slovenia | 3.8 | 2.8 | 4.4 | 4.0 | 5.7 | 6.9 | 3.3 | -7.8 | 1.2 | 0.6 | -2.7 | -1.1 | 3.0 |
| Spain | 2.9 | 3.2 | 3.2 | 3.7 | 4.2 | 3.8 | 1.1 | -3.6 | 0.0 | -1.0 | -2.6 | -1.7 | 1.4 |
| Sweden | 2.1 | 2.4 | 4.3 | 2.8 | 4.7 | 3.4 | -0.6 | -5.2 | 6.0 | 2.7 | -0.3 | 1.2 | 2.3 |
| Switzerland | 0.1 | 0.0 | 2.8 | 3.0 | 4.0 | 4.1 | 2.3 | -2.1 | 3.0 | 1.8 | 1.1 | 1.8 | 1.9 |
| Turkey | 6.2 | 5.3 | 9.4 | 8.4 | 6.9 | 4.7 | 0.7 | -4.8 | 9.2 | 8.8 | 2.1 | 4.2 | 2.9 |
| United Kingdom | 2.5 | 3.3 | 2.5 | 3.0 | 2.7 | 2.6 | -0.5 | -4.2 | 1.5 | 2.0 | 1.2 | 2.2 | 2.9 |
| United States | 1.8 | 2.8 | 3.8 | 3.3 | 2.7 | 1.8 | -0.3 | -2.8 | 2.5 | 1.6 | 2.2 | 1.5 | 2.4 |
| Euro area | 0.9 | 0.7 | 2.3 | 1.7 | 3.2 | 3.0 | 0.5 | -4.6 | 2.0 | 1.6 | -0.8 | -0.3 | 0.9 |
| EU 28 | 1.3 | 1.5 | 2.5 | 2.0 | 3.4 | 3.1 | 0.5 | -4.4 | 2.1 | 1.7 | -0.5 | 0.2 | 1.4 |
| OECD | 1.7 | 2.1 | 3.3 | 2.8 | 3.1 | 2.7 | 0.3 | -3.5 | 3.0 | 1.9 | 1.3 | 1.2 | 1.8 |
| Brazil | 3.1 | 1.2 | 5.7 | 3.1 | 4.0 | 6.0 | 5.0 | -0.2 | 7.6 | 3.9 | .. | .. | .. |
| China | 9.1 | 10.0 | 10.1 | 11.3 | 12.7 | 14.2 | 9.6 | 9.2 | 10.4 | 9.4 | 7.8 | 7.7 | 7.4 |
| India | .. | .. | .. | 9.3 | 9.3 | 9.8 | 4.9 | 9.1 | .. | .. | .. | .. | .. |
| Indonesia | 4.5 | 4.8 | 5.0 | 5.7 | 5.5 | 6.3 | 6.0 | 4.7 | 6.4 | 6.2 | 6.0 | 5.6 | 5.0 |
| Russian Federation | 4.7 | 7.3 | 7.2 | 6.4 | 8.2 | 8.5 | 5.2 | -7.8 | 4.5 | 4.3 | 3.4 | 1.3 | 0.6 |
| South Africa | 3.7 | 2.9 | 4.6 | 5.3 | 5.6 | 5.4 | 3.2 | -1.5 | 3.0 | 3.2 | 2.2 | 2.2 | 1.5 |

1 2 *http://dx.doi.org/10.1787/888933336096*

## Real GDP growth

*Average annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933334916*

# GDP BY METROPOLITAN AREA

Metropolitan areas are the prime engine of growth. A better understanding how cities function offers a unique opportunity to identify solutions for the problems faced by individual cities.

## Definition

281 metropolitan areas have been identified across 30 OECD countries. They are defined as the functional urban areas (FUA) with population above 500 000. The functional urban areas are defined as densely populated municipalities (city cores) and adjacent municipalities with high levels of commuting towards the densely populated urban cores (commuting zone). Functional urban areas can extend across administrative boundaries, reflecting the economic geography of where people actually live and work.

GDP is the standard measure of the value of the production activity (goods and services) or resident producer units. Values of the GDP in the metropolitan areas are estimated by adjusting the GDP values of small (TL3) regions.

GDP per capita is the ratio between GDP and population in a metropolitan area.

## Comparability

Functional urban areas have not been identified in Iceland, Israel, New Zealand and Turkey. The FUA of Luxembourg does not appear in the figures since it has a population below 500 000 inhabitants.

GDP values in metropolitan areas are estimates based on GDP data at TL3 level except for Australia, Canada, Chile and Mexico were it is TL2. The figures for the United States were provided by the U.S. Bureau of Economic Analysis.

### *Overview*

The aggregate GDP growth of metropolitan areas in the period 2000-13, appeared for a large part due to a small number of large metropolitan areas. Indeed, fourteen metropolitan areas (around 5% of the total) contributed to 40% of the GDP metropolitan growth in the OECD area. Seoul Incheon, Houston and New York recorded the highest contribution to the GDP growth in the OECD area.

The role of metropolitan areas for the national GDP growth can be quite different across OECD countries. Metropolitan areas in Norway, Japan and Denmark accounted for more than 75% of the national growth in the period 2000-13. In contrast, in Switzerland and the Netherlands, metropolitan areas accounted for less than 30% of the national growth.

Metropolitan areas tend to be wealthier than the rest of the economy. The GDP per capita gap between the metropolitan areas and the rest of the economy in the OECD area was around 37% in 2013. Such a gap is higher in the Americas and in Europe than in Asia. Overall, GDP per capita is on average higher in large metropolitan areas (with population above 1.5 million).

## *Sources*

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## *Further information*

### *Analytical publications*

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- OECD (2012), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, OECD Publishing.
- Piacentini, M. et K. Rosina (2012), "*Measuring the Environmental Performance of Metropolitan Areas with Geographic Information Sources*", OECD Regional Development Working Papers, No. 2012/05, OECD Publishing.

### *Online databases*

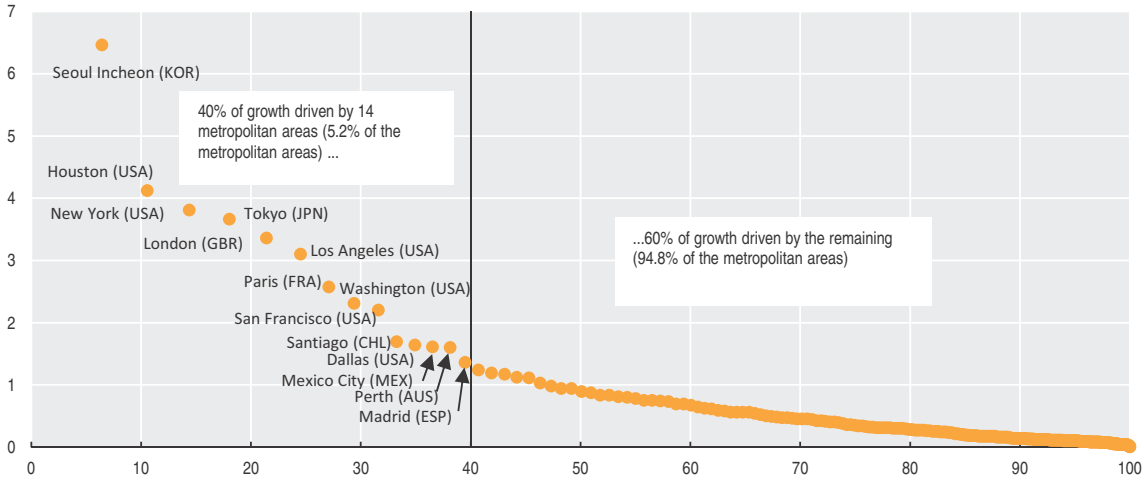
- *Metropolitan areas.*

### *Websites*

- Regional Statistics and Indicators, *www.oecd.org/gov/regional-policy/regionalstatisticsandindicators.htm*.
- Regions at a Glance Interactive, *http://rag.oecd.org*.

## Contribution of metropolitan areas to OECD aggregate growth

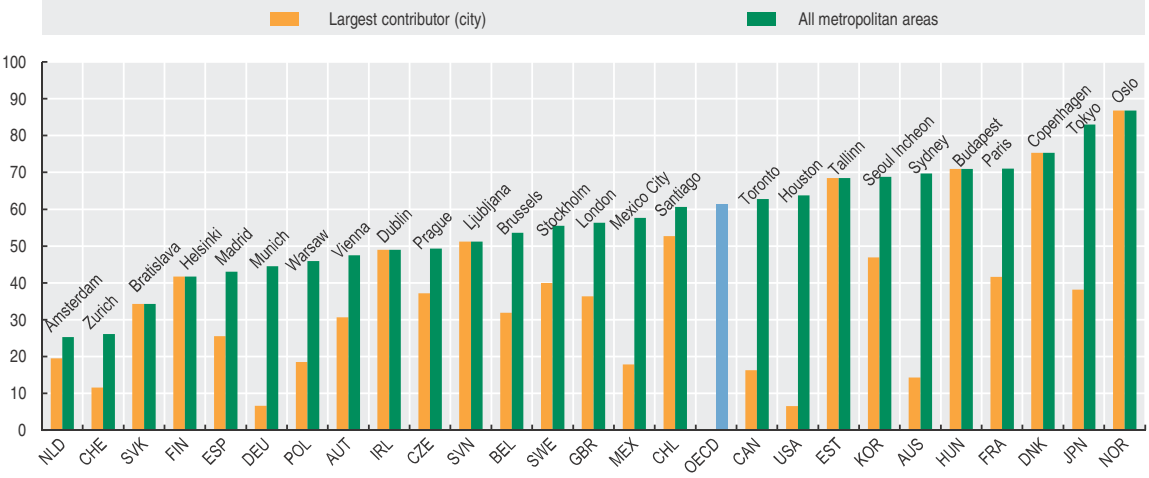
*Percentage, 2000-13; contribution (y-axis), aggregate growth (x-axis)*




1 2 *http://dx.doi.org/10.1787/888933335219*

## Per cent of national GDP growth contributed by the metropolitan areas

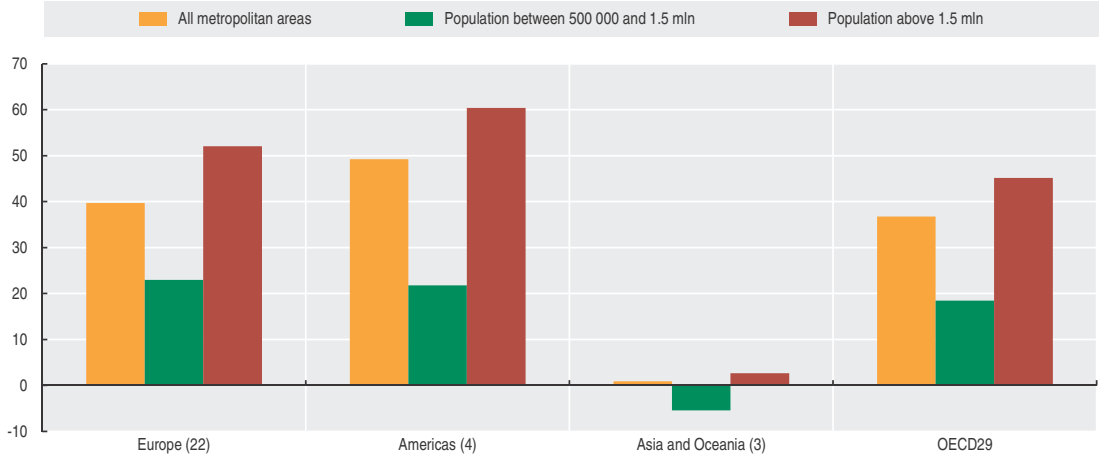
*Percentage, 2000-13*




1 2 *http://dx.doi.org/10.1787/888933335798*

## GDP per capita gap between metropolitan areas and the rest of the economy

*Percentage, 2013*




1 2 *http://dx.doi.org/10.1787/888933335930*

# 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

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. The most important changes between the 1993 SNA and the 2008 SNA was the extension of the scope of assets to be recorded as GFCF.

According to the 2008 SNA, expenditures on research and development and military weapons (warships, submarines, military aircraft, tanks, etc.) are now included in GFCF.

## *Overview*

Investment grew on average by 1.8% over the period 2012-14 for the OECD as a whole, reflecting an overall improvement since the financial crisis. While the majority of the OECD countries experienced positive growth rates, ten countries recorded negative growth in 2014: Australia, Austria, Chile, Estonia, Finland, France, Greece, Israel, Italy, and Turkey. Although Greece recorded a negative average growth rate of 12.3% for the period 2012-14, the decrease was by less than 3% in 2014 improving by 6.6 percentage points compared to 2013. The growth rate of investment, on the other hand, fell by 8.2 percentage points from 2.1% in 2013 in Chile to minus 6.1% in 2014.

Belgium, Hungary, Iceland, Ireland, Luxembourg New Zealand, Poland, Sweden, and the United Kingdom all recorded growth rates of investment larger than 5%. In Hungary, Iceland, and Ireland investment grew by more than 10% in 2014, which is particularly notable for the latter two countries because investment growth rates were negative in 2013.

## *Sources*

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- For Brazil: National sources.

## *Further information*

### *Analytical publications*

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- OECD (2015), *OECD Investment Policy Reviews*, OECD Publishing.

### *Statistical publications*

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- OECD, *et al.* (eds.) (2010), *System of National Accounts 2008*, United Nations, Geneva.

### *Websites*

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## Gross fixed capital formation

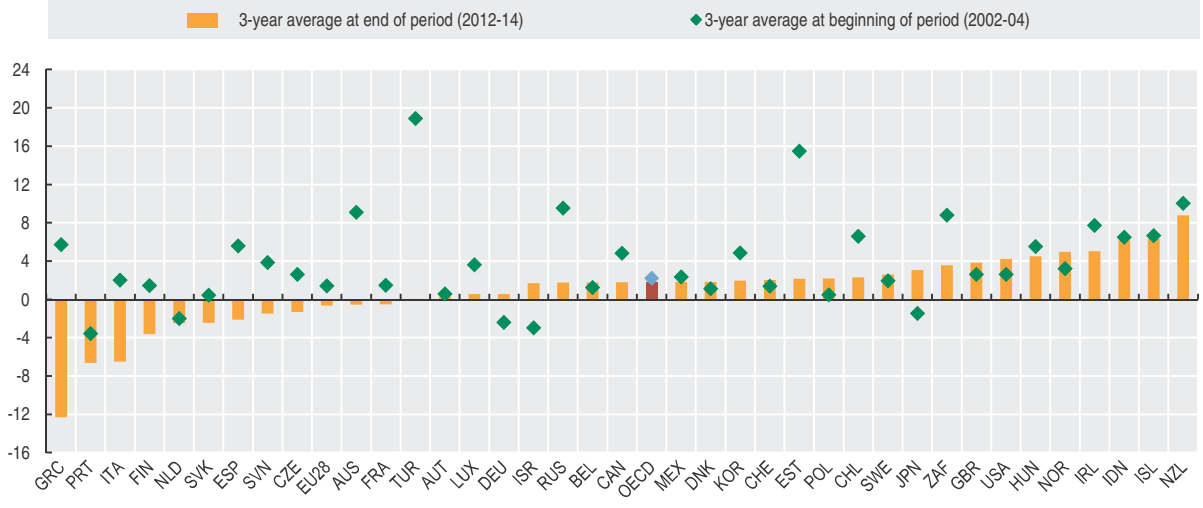
*Annual growth in percentage*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 12.6 | 8.5 | 6.3 | 9.3 | 5.1 | 9.5 | 2.1 | 2.1 | 3.8 | 11.5 | 2.0 | -1.5 | -2.0 |
| Austria | -2.9 | 3.8 | 0.9 | 0.2 | 1.1 | 4.6 | 1.4 | -7.3 | -2.1 | 6.7 | 1.3 | -0.3 | -0.2 |
| Belgium | -4.3 | -0.4 | 8.9 | 6.1 | 2.0 | 6.8 | 1.9 | -6.6 | -0.8 | 4.2 | 0.2 | -1.7 | 7.0 |
| Canada | 1.0 | 5.2 | 8.4 | 9.2 | 6.3 | 3.2 | 1.6 | -11.5 | 11.5 | 4.8 | 4.8 | 0.4 | 0.2 |
| Chile | 2.2 | 6.5 | 11.3 | 23.5 | 4.3 | 10.8 | 17.9 | -12.1 | 11.6 | 15.0 | 11.6 | 2.1 | -6.1 |
| Czech Republic | 2.2 | 1.8 | 3.9 | 6.4 | 5.9 | 13.5 | 2.5 | -10.1 | 1.3 | 1.1 | -3.2 | -2.7 | 2.0 |
| Denmark | -0.7 | 0.0 | 4.2 | 4.8 | 15.1 | 0.7 | -3.3 | -14.3 | -4.0 | 0.3 | 0.6 | 0.9 | 4.0 |
| Estonia | 23.9 | 17.8 | 5.5 | 15.3 | 22.9 | 10.3 | -13.1 | -36.7 | -2.6 | 34.4 | 6.7 | 3.2 | -3.1 |
| Finland | -3.0 | 2.8 | 4.7 | 3.2 | 1.3 | 10.0 | 0.3 | -12.5 | 1.1 | 4.1 | -2.2 | -5.2 | -3.3 |
| France | -0.9 | 1.9 | 3.5 | 2.9 | 3.6 | 5.5 | 0.9 | -9.1 | 2.1 | 2.1 | 0.2 | -0.6 | -1.2 |
| Germany | -5.8 | -1.3 | 0.0 | 0.7 | 7.5 | 4.1 | 1.5 | -10.1 | 5.4 | 7.2 | -0.4 | -1.3 | 3.5 |
| Greece | -0.3 | 15.1 | 3.0 | -11.9 | 19.4 | 15.9 | -7.2 | -13.9 | -19.3 | -20.5 | -23.5 | -9.4 | -2.8 |
| Hungary | 7.8 | 1.3 | 7.6 | 3.6 | 0.7 | 4.2 | 1.0 | -8.3 | -9.5 | -1.3 | -4.4 | 7.3 | 11.2 |
| Iceland | -12.8 | 9.8 | 26.7 | 32.0 | 23.4 | -11.2 | -19.0 | -47.8 | -8.6 | 11.6 | 5.3 | -1.0 | 15.4 |
| Ireland | 5.6 | 7.9 | 9.8 | 16.7 | 7.5 | -0.2 | -11.5 | -16.9 | -15.5 | 3.2 | 8.6 | -6.6 | 14.3 |
| Israel | -5.4 | -5.3 | 2.0 | 3.2 | 6.5 | 10.1 | 5.1 | -2.9 | 10.0 | 14.6 | 3.6 | 3.6 | -2.0 |
| Italy | 4.2 | -0.3 | 2.1 | 1.7 | 3.2 | 1.6 | -3.1 | -9.9 | -0.5 | -1.9 | -9.3 | -6.6 | -3.5 |
| Japan | -4.9 | 0.2 | 0.4 | 0.8 | 1.5 | 0.3 | -4.1 | -10.6 | -0.2 | 1.4 | 3.4 | 3.2 | 2.6 |
| Korea | 6.9 | 4.8 | 2.9 | 2.0 | 3.6 | 5.0 | -0.9 | 0.3 | 5.5 | 0.8 | -0.5 | 3.3 | 3.1 |
| Luxembourg | 0.2 | 4.4 | 6.4 | -3.3 | 4.7 | 14.9 | 7.3 | -13.2 | 0.0 | 17.2 | -0.3 | -7.2 | 9.9 |
| Mexico | -0.6 | 0.4 | 7.5 | 5.9 | 8.7 | 6.0 | 5.0 | -9.3 | 1.3 | 7.8 | 4.8 | -1.6 | 2.3 |
| Netherlands | -4.5 | -1.6 | 0.2 | 3.1 | 7.2 | 6.5 | 4.1 | -9.2 | -6.5 | 5.6 | -6.3 | -4.4 | 3.5 |
| New Zealand | 7.9 | 14.2 | 8.1 | 5.7 | -2.0 | 7.8 | -7.4 | -9.3 | 3.3 | 5.5 | 7.2 | 10.4 | 8.8 |
| Norway | -0.3 | 0.4 | 10.0 | 12.0 | 9.1 | 11.7 | 0.9 | -6.8 | -6.6 | 7.4 | 7.6 | 6.8 | 0.6 |
| Poland | -6.1 | 1.2 | 6.7 | 8.7 | 13.3 | 19.2 | 8.4 | -1.9 | -0.4 | 8.8 | -1.8 | -1.1 | 9.8 |
| Portugal | -3.4 | -7.3 | 0.1 | 0.1 | -0.8 | 3.1 | 0.4 | -7.6 | -0.9 | -12.5 | -16.6 | -5.1 | 2.8 |
| Slovak Republic | 0.0 | -3.2 | 4.7 | 16.5 | 9.1 | 8.9 | 1.6 | -18.7 | 7.2 | 12.7 | -9.2 | -1.1 | 3.5 |
| Slovenia | 0.5 | 5.8 | 5.4 | 3.5 | 10.2 | 12.0 | 7.0 | -22.0 | -13.3 | -4.9 | -8.8 | 1.7 | 3.2 |
| Spain | 4.6 | 7.0 | 5.1 | 7.5 | 7.4 | 4.4 | -3.9 | -16.9 | -4.9 | -6.9 | -7.1 | -2.5 | 3.5 |
| Sweden | -2.3 | 2.5 | 5.8 | 5.1 | 9.3 | 8.1 | 0.6 | -13.4 | 6.0 | 5.7 | -0.2 | 0.6 | 7.6 |
| Switzerland | 0.2 | -1.0 | 5.1 | 3.2 | 4.7 | 4.9 | 0.7 | -7.5 | 4.4 | 4.3 | 2.9 | 1.2 | 2.1 |
| Turkey | 14.7 | 14.2 | 28.4 | 17.4 | 13.3 | 3.1 | -6.2 | -19.0 | 30.5 | 18.0 | -2.7 | 4.4 | -1.3 |
| United Kingdom | 2.8 | 2.3 | 2.8 | 3.4 | 3.0 | 5.7 | -5.9 | -14.4 | 5.0 | 2.0 | 1.5 | 2.6 | 7.5 |
| United States | -1.8 | 3.9 | 5.8 | 5.6 | 2.2 | -1.2 | -4.8 | -13.1 | 1.1 | 3.7 | 6.3 | 2.4 | 4.1 |
| Euro area | -1.2 | 1.3 | 2.7 | 2.8 | 5.5 | 4.9 | -0.6 | -11.3 | -0.4 | 1.6 | -3.6 | -2.6 | 1.2 |
| EU 28 | -0.6 | 1.7 | 3.1 | 3.0 | 5.8 | 5.8 | -0.5 | -12.0 | 0.2 | 2.0 | -2.8 | -1.6 | 2.5 |
| OECD | -0.6 | 2.8 | 4.5 | 4.6 | 4.1 | 2.6 | -2.2 | -10.9 | 2.0 | 3.6 | 1.8 | 0.8 | 2.8 |
| Brazil | -1.5 | -3.9 | 8.4 | 2.3 | 6.1 | 12.0 | 12.7 | -1.9 | 17.8 | 6.6 | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | 16.2 | 13.8 | 16.2 | 1.5 | 7.3 | .. | .. | .. | .. | .. |
| Indonesia | 4.7 | 0.6 | 14.7 | 10.9 | 2.6 | 9.3 | 11.9 | 3.9 | 6.7 | 8.9 | 9.1 | 5.3 | 4.1 |
| Russian Federation | 3.1 | 13.9 | 12.0 | 10.2 | 17.9 | 21.1 | 9.7 | -14.7 | 6.4 | 9.2 | 7.0 | 0.6 | -2.1 |
| South Africa | 3.5 | 10.2 | 12.9 | 11.0 | 12.1 | 13.8 | 12.8 | -6.7 | -3.9 | 5.7 | 3.6 | 7.6 | -0.4 |

1 2 *http://dx.doi.org/10.1787/888933336335*

## Gross fixed capital formation

*Average annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933335155*

# 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 2014. Hours worked data are derived from two sources, the *OECD Annual National Accounts* and the *OECD Employment Outlook*.

Labour productivity and income levels in each country are calculated 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.

## Comparability

Cross-country comparisons of productivity and income levels require comparable data on output. Currently, OECD countries use the 2008 *System of National Accounts*, except Chile, Japan and Turkey for which data are based on the 1993 SNA. Comparable labour input estimates are also required. In many cases, employment data are derived from labour force surveys and may not be fully consistent with national account concepts. This reduces the comparability of labour utilisation across countries. Hours worked data are derived either from national labour force surveys or from business surveys. Several OECD countries estimate hours worked by combining these sources, or integrate these sources in a system of labour accounts which is comparable to the national accounts. Cross-country comparability of hours worked remains limited, generating a margin of uncertainty in productivity levels estimates.

## *Overview*

In 2014, the top three countries with the highest levels of GDP per hour worked, were Luxembourg, Norway and the United States. In Luxembourg, the level of labour productivity was roughly five times that observed in Mexico. Despite low labour productivity levels, Mexico and Chile recorded the highest average working time (well above 2 000 hours annually for the former) among other OECD countries.

In the same year, differences in per capita GDP with respect to the United States varied widely across countries. Much of the differences observed in GDP per capita reflect differences in labour productivity, with gaps relative to the United States ranging from minus 68 percentage points in Mexico, to plus 19 and 80 percentage points in Norway and Luxembourg, respectively. In 2014, Norway and Luxembourg were, once again, the only OECD countries to maintain substantial positive gaps in GDP per capita and in GDP per hour worked *vis-à-vis* 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. Relative to the United States, gaps in labour utilisation were significantly smaller than gaps in GDP per capita and per hour worked. In 2014, the gap in labour utilisation *vis-à-vis* the United States worsened in several countries and remained substantially negative in Belgium, France, South Africa, Spain and Turkey. In the same year, Iceland, Korea, Luxembourg, Switzerland and Russia showed a relatively positive gap in labour utilisation, therefore contributing to narrow their gap with the United States in GDP per capita.

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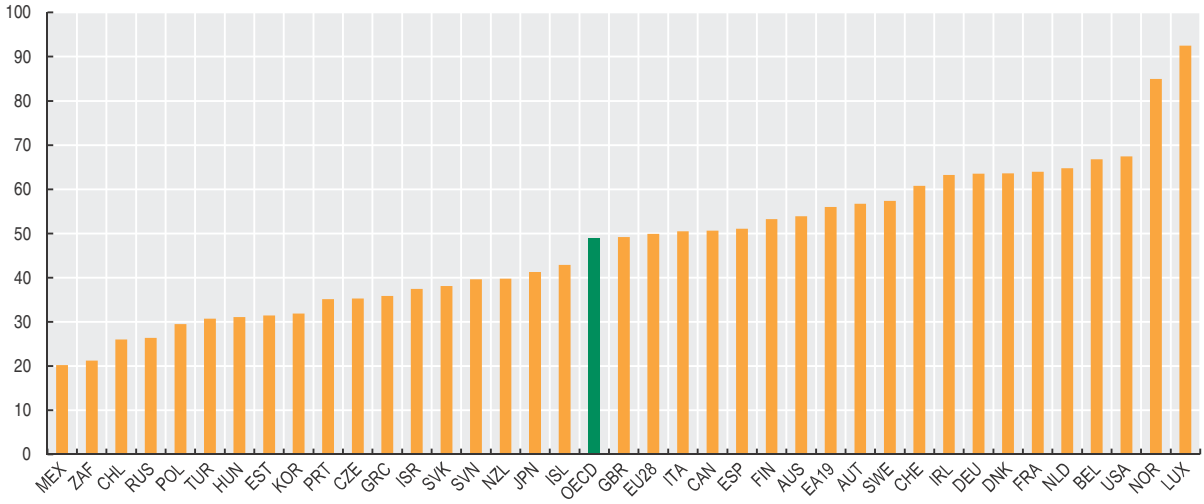
- OECD (2001), *Measuring Productivity – OECD Manual: Measurement of Aggregate and Industry-level Productivity Growth*, OECD Publishing.

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## GDP per hour worked

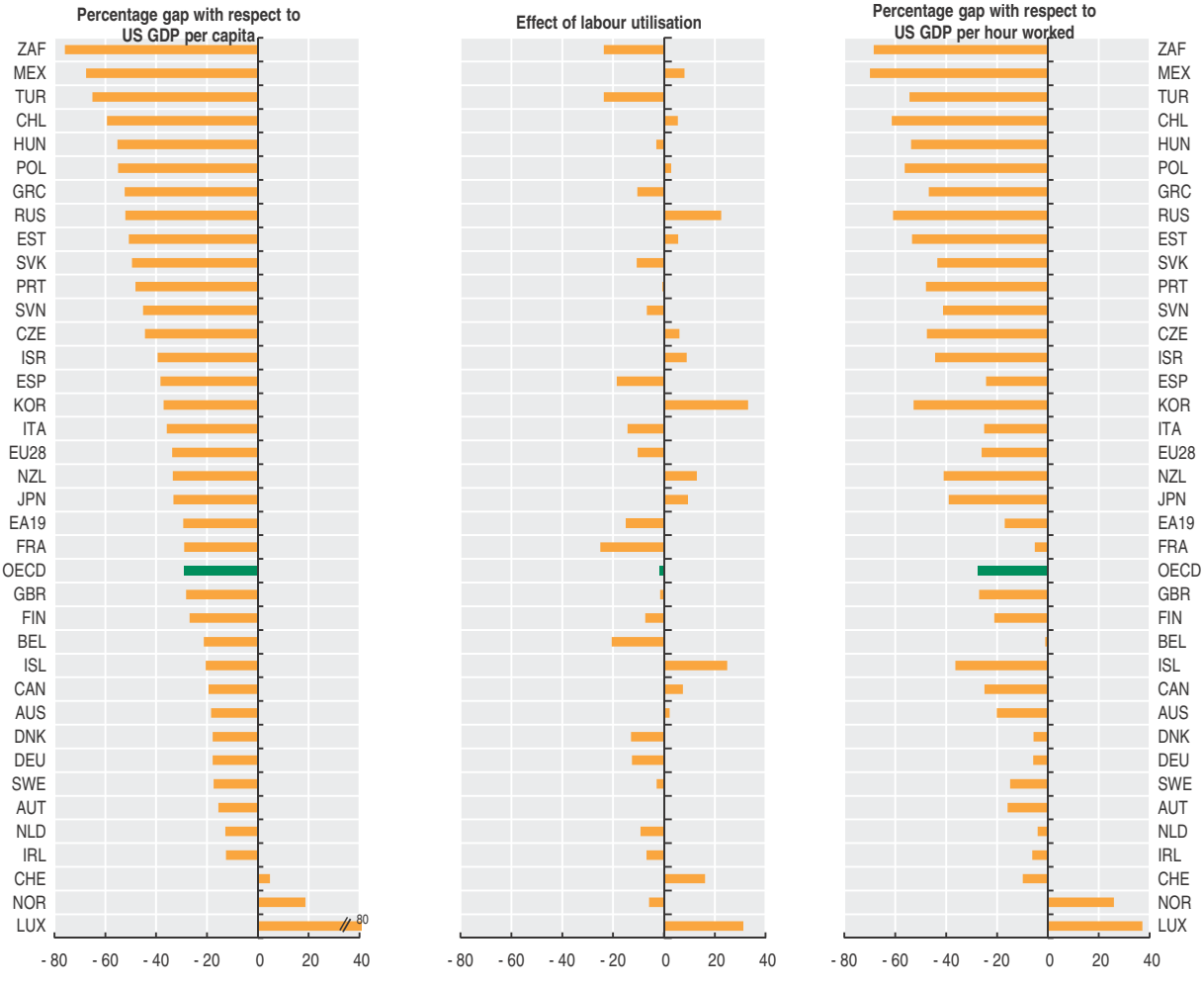
*US dollars, current prices and PPPs, 2014*




1 2 http://dx.doi.org/10.1787/888933335394

## Levels of GDP per capita and labour productivity

*Percentage point differences with respect to the United States, 2014*




1 2 http://dx.doi.org/10.1787/888933335835

# 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.

## 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 *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 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. It's important to note however that differences between the 2008 SNA and the 1993 SNA do not have a significant impact on comparability implying 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.

Activity is based on the *International Standard Industrial Classification of All Economic Activities* (ISIC Rev.4) system except for Indonesia which is 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. That said, for most countries the activities presented here are generally comparable.

### *Overview*

The importance of each activity varies across OECD countries with the most important sector groupings being industry; distributive trade, repairs, transport, accommodation and food services; and public administration, defence, education, and human health and social work activities. The share of industry in total value added has trended downward in recent decades. However, looking at changes in the share between 2002 and the most recent year, eight countries show an increase; most notably in Korea, the Czech Republic, and Hungary.

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 at over 30%. Norway, where mining and quarrying are large contributors to activity, Korea with consumer electronics, automotive, steel industries and shipbuilding, the Czech Republic with a strong automotive and energy sector come closest to these rates within the OECD.

As regards the share of financial and insurance activities, many OECD countries have regained or exceeded their 2002 levels, among them Luxembourg at 26.3%, representing the largest share of value added.

The share of agriculture in total value added within the OECD is generally small. In only five countries (Turkey, Iceland, New Zealand, Hungary and the Slovak Republic) does agriculture account for more than 4% of total value added.

## *Sources*

- OECD (2015), *National Accounts of OECD Countries*, OECD Publishing.

## *Further information*

### *Analytical publications*

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### *Statistical publications*

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## Value added by activity

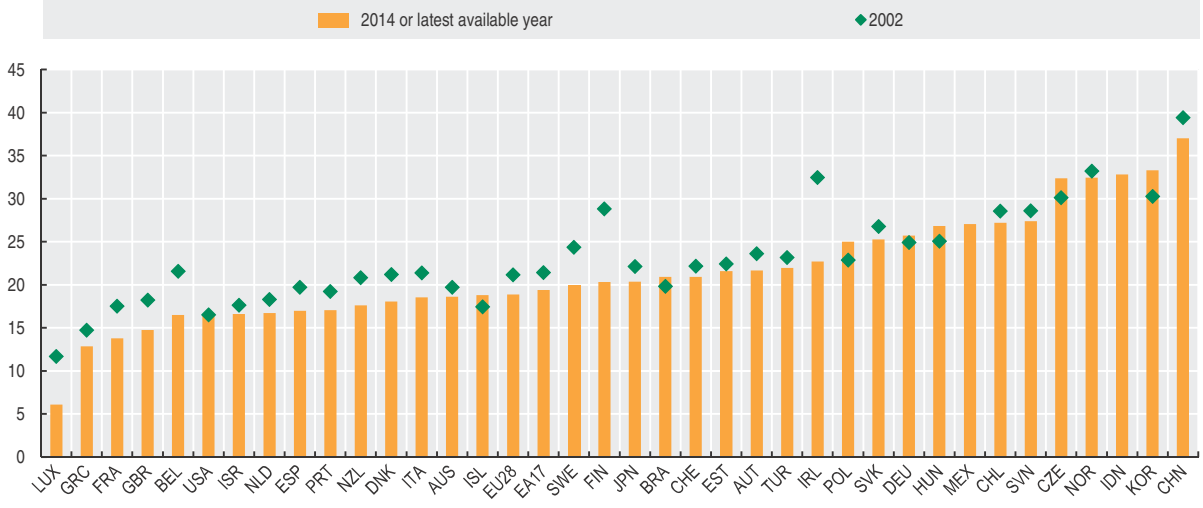
*As a percentage of total value added, 2014 or latest available year*

| | Agriculture, hunting, forestry, fishing | Industry including energy | Construction | Distributive trade, repairs, transport, accommodation and food services | Information and communication | Finance and insurance | Real estate | Professional, scientific, technical, administration and support services | Public administration, defence, education human health and social work | Other services |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 2.5 | 18.6 | 8.4 | 16.5 | 3.0 | 9.0 | 12.1 | 9.8 | 17.4 | 2.7 |
| Austria | 1.4 | 21.7 | 6.4 | 22.9 | 3.3 | 4.6 | 9.9 | 9.5 | 17.4 | 2.9 |
| Belgium | 0.7 | 16.5 | 5.7 | 19.8 | 4.1 | 6.2 | 8.6 | 13.6 | 22.6 | 2.2 |
| Canada | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chile | 3.3 | 27.2 | 7.9 | 15.3 | 2.0 | 5.6 | .. | 15.3 | 14.8 | 8.6 |
| Czech Republic | 2.7 | 32.4 | 5.6 | 18.0 | 4.9 | 4.5 | 8.3 | 6.7 | 14.8 | 2.2 |
| Denmark | 1.4 | 18.0 | 4.4 | 19.5 | 4.3 | 6.2 | 10.2 | 9.0 | 23.3 | 3.6 |
| Estonia | 3.4 | 21.6 | 6.5 | 22.7 | 5.3 | 3.8 | 10.1 | 9.2 | 14.8 | 2.6 |
| Finland | 2.8 | 20.3 | 6.2 | 16.2 | 5.5 | 3.0 | 12.3 | 8.4 | 22.1 | 3.1 |
| France | 1.7 | 13.8 | 5.7 | 17.7 | 4.9 | 4.5 | 12.9 | 12.8 | 23.2 | 3.0 |
| Germany | 0.7 | 25.7 | 4.6 | 15.5 | 4.9 | 4.1 | 11.1 | 11.1 | 18.2 | 4.1 |
| Greece | 3.8 | 12.8 | 2.9 | 24.9 | 3.2 | 4.6 | 17.8 | 5.2 | 20.6 | 4.2 |
| Hungary | 4.5 | 26.8 | 4.4 | 18.2 | 5.2 | 3.7 | 7.9 | 9.0 | 17.4 | 3.0 |
| Iceland | 6.9 | 18.8 | 4.9 | 17.9 | 4.9 | 7.4 | 9.4 | 7.4 | 19.5 | 3.0 |
| Ireland | 1.6 | 22.7 | 2.9 | 15.8 | 11.7 | 8.9 | 7.6 | 10.2 | 16.3 | 2.3 |
| Israel | 1.3 | 16.8 | 5.6 | 13.1 | 8.5 | 5.8 | 14.9 | 12.3 | 18.5 | 3.1 |
| Italy | 2.2 | 18.6 | 4.9 | 20.2 | 3.7 | 5.9 | 14.1 | 9.2 | 17.3 | 4.0 |
| Japan | 1.2 | 20.4 | 5.9 | 19.4 | 5.6 | 4.5 | 11.8 | .. | 11.4 | 19.9 |
| Korea | 2.3 | 33.3 | 4.9 | 14.9 | 3.8 | 5.6 | 8.0 | 7.4 | 17.0 | 2.8 |
| Luxembourg | 0.3 | 6.1 | 5.8 | 17.3 | 6.3 | 26.3 | 8.0 | 11.9 | 15.9 | 2.0 |
| Mexico | 3.3 | 27.1 | 7.4 | 25.1 | 2.4 | 3.7 | 11.4 | 6.4 | 11.0 | 2.1 |
| Netherlands | 1.8 | 16.7 | 4.5 | 20.2 | 4.7 | 7.8 | 5.7 | 13.6 | 22.2 | 2.7 |
| New Zealand | 6.9 | 17.6 | 5.8 | 17.1 | 3.2 | 5.9 | 13.5 | 9.9 | 16.3 | 3.7 |
| Norway | 1.7 | 32.4 | 5.8 | 14.1 | 3.8 | 5.1 | 6.7 | 7.4 | 21.1 | 1.9 |
| Poland | 2.9 | 25.0 | 7.4 | 26.0 | 3.9 | 4.4 | 5.2 | 7.7 | 14.9 | 2.4 |
| Portugal | 2.3 | 17.1 | 4.5 | 24.7 | 3.4 | 5.2 | 12.8 | 6.9 | 20.2 | 2.9 |
| Slovak Republic | 4.4 | 25.3 | 8.4 | 22.1 | 4.4 | 4.2 | 6.7 | 7.4 | 13.6 | 3.6 |
| Slovenia | 2.2 | 27.4 | 5.7 | 20.2 | 4.1 | 4.0 | 6.9 | 9.8 | 17.0 | 2.7 |
| Spain | 2.5 | 17.0 | 5.4 | 24.1 | 4.3 | 4.1 | 12.0 | 7.4 | 18.8 | 4.3 |
| Sweden | 1.4 | 20.0 | 6.0 | 17.0 | 5.6 | 4.6 | 8.5 | 9.5 | 24.4 | 3.0 |
| Switzerland | 0.8 | 20.9 | 5.3 | 20.2 | 4.1 | 9.8 | 1.0 | 9.9 | 19.0 | 8.9 |
| Turkey | 8.0 | 22.0 | 5.1 | 29.8 | 2.1 | 3.4 | 11.0 | 6.2 | 10.7 | 1.7 |
| United Kingdom | 0.7 | 14.7 | 6.2 | 18.2 | 6.2 | 8.2 | 11.2 | 12.2 | 18.1 | 4.3 |
| United States | 1.4 | 16.6 | 3.9 | 15.7 | 6.1 | 7.4 | 11.4 | 11.7 | 22.6 | 3.2 |
| Euro area | 1.6 | 19.4 | 5.0 | 18.9 | 4.6 | 5.0 | 11.6 | 10.6 | 19.6 | 5.0 |
| EU 28 | 1.6 | 18.9 | 5.4 | 19.0 | 4.9 | 5.5 | 11.2 | 10.7 | 19.3 | 5.5 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | 5.1 | 20.9 | 6.3 | 19.5 | 3.7 | 6.3 | 8.4 | 7.6 | 16.1 | 6.0 |
| China | 10.0 | 37.0 | 6.9 | 16.6 | .. | 5.9 | 5.9 | .. | .. | 17.7 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 13.7 | 32.8 | 10.1 | 21.3 | 3.6 | 4.0 | 2.9 | 1.6 | 8.4 | 1.6 |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336760*

## Value added in industry, including energy

*As a percentage of total value added*




1 2 *http://dx.doi.org/10.1787/888933335692*

# 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. 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

Growth rates 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 *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 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. It's important to note however that differences between 2008 SNA and the 1993 SNA do not have a significant impact on comparability implying 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.

Activity is based on the *International Standard Industrial Classification of All Economic Activities* (ISIC Rev.4) system except for Indonesia which is 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. That said, for most countries the activities presented here are generally comparable.

### *Overview*

OECD countries have returned to positive growth rates of real value added for agriculture. Strategies such as "Food Harvest 2020" in Ireland have begun to show their results with 21.3% annual growth in real value added. The growth rate in real value added for agriculture in Spain on the other hand fell by minus 3.7%.

In the industry sector, declines in the growth rate greater than 10% were recorded only in Greece (minus 10.2%), while in Ireland growth was strong, 6.8% in 2014 rebounding from minus 0.4% in 2004.

Ten OECD countries registered negative growth rates in the construction sector: Austria, Estonia, Finland, France, Greece, Israel, Italy, Mexico, Portugal, and Spain; whereas the construction sector in Hungary and Sweden increased by more than 12%.

In Slovenia real value added by the real estate sector fell by 25.6% in contrast to a 9.5% increase in Ireland. The growth rate of real value added for the information and communication sector was positive in most OECD countries except Austria, Greece, Italy, Luxembourg and Portugal.

Finland, Mexico, Poland and the Slovak Republic showed strong increases in their real value added for financial and insurance activities with 11.6%, 9.1%, 9.4% and 10.7% annual growth rates, respectively.

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## Real value added by activity

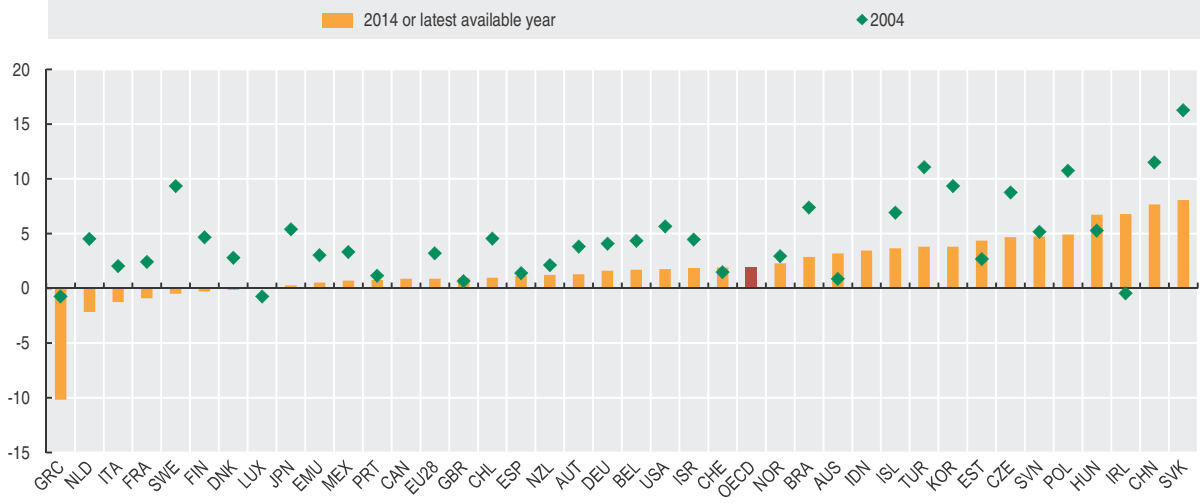
*Annual growth in percentage, 2014 or latest available year*

| | Agriculture, hunting, forestry, fishing | Industry, including energy | Construction | Distributive trade, repairs, transport, accommodation and food services | Information and communication | Finance and insurance | Real estate | Professional, scientific, technical, administration and support services | Public administration, defence, education human health and social work | Other services |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 2.1 | 3.2 | 3.9 | -0.2 | 2.4 | 5.3 | 3.6 | -0.2 | 4.1 | 2.2 |
| Austria | 4.1 | 1.3 | -2.0 | -0.4 | -2.7 | -1.5 | 2.8 | 1.2 | -0.2 | 0.4 |
| Belgium | 1.8 | 1.7 | 3.3 | 0.0 | 1.3 | 3.8 | 1.2 | 1.9 | 0.9 | 0.2 |
| Canada | 0.7 | 0.9 | 5.2 | 2.0 | 1.6 | 2.4 | 2.6 | 1.8 | 1.1 | 0.5 |
| Chile | 2.3 | 1.0 | 1.5 | 1.1 | 6.6 | 3.0 | .. | 1.9 | 4.3 | 1.7 |
| Czech Republic | 5.9 | 4.7 | 3.4 | 1.5 | 5.9 | -0.5 | -0.3 | 4.9 | 0.3 | 0.9 |
| Denmark | 11.8 | -0.1 | 3.4 | 0.8 | 8.5 | 1.1 | -2.2 | 4.6 | 0.0 | 1.7 |
| Estonia | 5.1 | 4.4 | -4.2 | 2.1 | 3.8 | 4.7 | -2.3 | 6.1 | 0.3 | 0.8 |
| Finland | -0.2 | -0.3 | -3.7 | -1.2 | 5.1 | 11.6 | 0.6 | -1.7 | -1.5 | -1.2 |
| France | 8.5 | -0.9 | -3.6 | 0.2 | 1.2 | -0.8 | 1.0 | 0.7 | 1.0 | 0.4 |
| Germany | 7.5 | 1.6 | 2.6 | 1.3 | 2.4 | 0.6 | 1.0 | 2.4 | 1.0 | 0.1 |
| Greece | 10.9 | -10.2 | -4.9 | 7.2 | -4.5 | -4.4 | 1.6 | -2.3 | -0.4 | 1.1 |
| Hungary | 13.9 | 6.7 | 12.3 | 3.6 | 1.4 | -2.9 | -0.4 | 5.8 | -2.1 | 4.3 |
| Iceland | 3.3 | 3.7 | 8.2 | 5.5 | 6.9 | -1.0 | 1.6 | 5.8 | 0.7 | 2.8 |
| Ireland | 21.3 | 6.8 | 7.6 | 3.0 | 8.9 | 5.2 | 9.5 | 5.4 | 0.1 | 7.7 |
| Israel | -3.5 | 1.9 | -2.9 | 1.0 | 9.0 | -5.0 | 4.1 | 7.3 | 0.7 | 4.4 |
| Italy | -1.7 | -1.2 | -3.3 | 0.4 | -1.7 | -0.1 | 1.5 | -2.3 | 0.1 | 0.3 |
| Japan | 2.7 | 0.3 | 3.7 | 0.6 | 4.3 | 4.5 | 0.2 | .. | -0.4 | 2.0 |
| Korea | 2.6 | 3.8 | 0.6 | 2.5 | 3.1 | 5.7 | 1.8 | 4.1 | 3.1 | 2.8 |
| Luxembourg | 13.5 | -0.1 | 7.9 | 5.3 | -5.3 | 2.1 | 7.6 | 8.6 | 2.5 | 2.6 |
| Mexico | 2.6 | 0.7 | -4.9 | 2.3 | 4.8 | 9.1 | 0.9 | 2.9 | 0.8 | 2.0 |
| Netherlands | 3.4 | -2.1 | 3.2 | 2.5 | 4.4 | -3.0 | 3.9 | 3.3 | 0.1 | 0.6 |
| New Zealand | -3.0 | 1.2 | 10.9 | 2.5 | 0.9 | 4.4 | 1.2 | 3.4 | 2.7 | 2.2 |
| Norway | 6.1 | 2.3 | 4.4 | 2.1 | 4.3 | 3.7 | 1.0 | 0.6 | 1.7 | 3.4 |
| Poland | 1.1 | 4.9 | 5.0 | 0.5 | 4.3 | 9.4 | 5.4 | 5.4 | 1.3 | 5.4 |
| Portugal | 1.2 | 0.8 | -1.4 | 2.3 | -1.4 | -6.4 | 0.3 | 3.5 | 0.1 | 3.0 |
| Slovak Republic | 18.1 | 8.1 | 7.9 | 7.1 | 0.2 | 10.7 | -25.6 | -2.7 | -5.7 | 3.2 |
| Slovenia | 10.0 | 4.8 | 9.5 | 3.5 | 1.4 | -1.2 | 1.4 | 7.7 | 1.0 | 1.6 |
| Spain | -3.7 | 1.2 | -2.1 | 3.2 | 4.7 | -1.0 | 1.2 | 3.4 | -0.4 | 4.4 |
| Sweden | 2.9 | -0.5 | 12.1 | 3.3 | 4.2 | 1.8 | 0.8 | 3.6 | 1.4 | 2.3 |
| Switzerland | 7.6 | 1.9 | 2.1 | 1.5 | 1.4 | 1.8 | 1.9 | 2.4 | 2.8 | 0.8 |
| Turkey | -1.9 | 3.8 | 2.2 | 2.1 | 3.4 | 7.0 | 2.6 | 8.5 | 4.6 | 2.9 |
| United Kingdom | 13.1 | 1.0 | 7.7 | 4.6 | 0.6 | -0.9 | 2.4 | 7.1 | 0.0 | 5.4 |
| United States | 12.1 | 1.8 | 1.9 | 1.3 | 4.0 | 4.6 | 1.4 | 2.0 | 0.6 | 1.5 |
| Euro area | 3.4 | 0.5 | -0.9 | 1.3 | 2.0 | -0.4 | 1.3 | 1.5 | 0.6 | 0.6 |
| EU 28 | 3.8 | 0.9 | 1.6 | 1.9 | 2.0 | -0.5 | 1.3 | 2.7 | 0.6 | 1.5 |
| OECD | 0.8 | 1.9 | 0.4 | 2.5 | 2.9 | 1.0 | .. | .. | 0.9 | 0.8 |
| Brazil | 5.6 | 2.9 | 8.3 | -9.1 | 6.5 | 5.3 | 1.8 | 5.7 | 1.2 | 2.2 |
| China | 4.5 | 7.7 | 9.3 | 9.0 | .. | 10.0 | 4.1 | .. | .. | 7.9 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 4.2 | 3.5 | 7.0 | 5.6 | 10.0 | 4.9 | 5.0 | 9.8 | 4.8 | 8.9 |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336116*

## Real value added in industry, including energy

*Annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933334934*

# SMALL AND MEDIUM-SIZED ENTERPRISES

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

## Definition

An enterprise is an 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.

Employees include all persons covered by a contractual arrangement, working in the enterprise and receiving compensation for their work. Included are persons on sick leave, paid leave or vacation, while excluded are working proprietors, active business partners, unpaid family workers and home-workers.

Number of persons employed is defined as the total number of persons who worked in or for the concerned unit. Excluded are directors of incorporated enterprises and members of shareholders' committees, 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.

## Comparability

An area where differences do arise concerns the coverage of data on enterprises/establishments. Data are typically compiled based on information coming from business registers, economic censuses or business surveys that may have a size or turnover cut-off. Also, countries may apply thresholds depending on tax legislation and legal provisions, for instance to reduce administrative burdens (including respondent burdens) on very small enterprises.

The size-class breakdown 1-9, 10-19, 20-49, 50-249, 250+ provides for the best comparability given the varying data collection practices across countries. Some countries use different conventions: the size class "1-9" refers to "1-19" for Australia and Turkey; the size class "20-49" refers to "20-199" for Australia; the size class "50-249" refers to "50-299" for Japan; and finally, the size class "250+" refers to "200+" for Australia and "300+" for Japan.

For Israel, Mexico, Turkey and the United States data refer to employees. Data refer to 2009 for Mexico, 2010 for Australia and 2013 for Israel.

### *Overview*

Enterprises with less than ten persons employed (i.e. micro-enterprises) in the manufacturing sector represent, on average, 80% of the total business population, ranging between 70% and 90% in most OECD countries. The share of these micro-enterprises in employment of the manufacturing sector is, however, considerably less. Across countries, the contribution of manufacturing micro-enterprises to employment is around 10 to 15%; there are a few exceptions, notably Greece where micro-enterprises account for 42.2% of employment in manufacturing.

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## Number of employees and number of enterprises in manufacturing

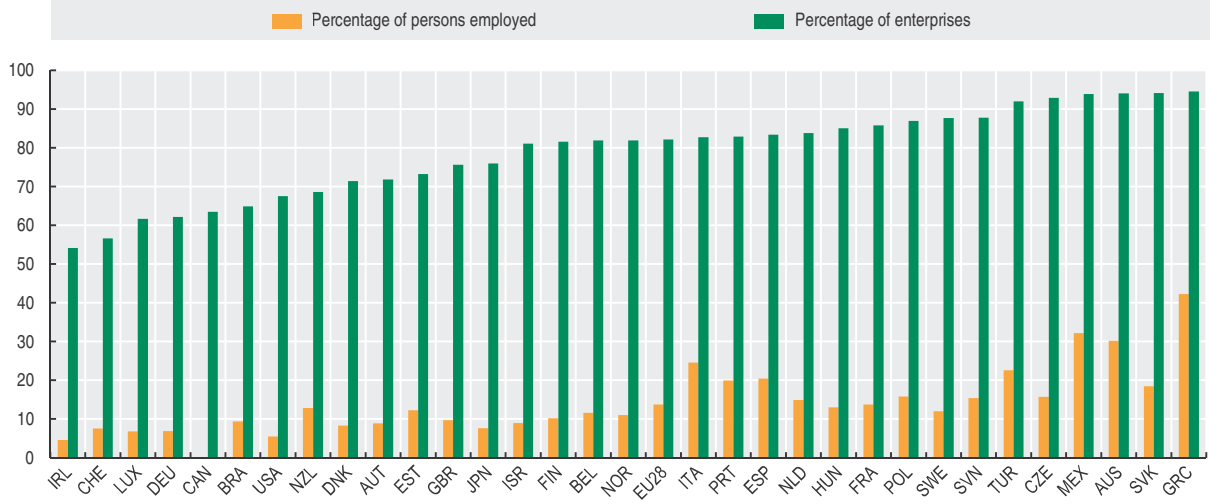
*Breakdown by size-class of enterprise, as a percentage of total, 2012 or latest available year*

| | Number of persons employed | | | | | 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 | 30.2 | .. | 31.7 | .. | 38.2 | 94.0 | .. | 5.5 | .. | 0.5 |
| Austria | 8.9 | 6.5 | 10.8 | 26.0 | 47.8 | 71.8 | 11.8 | 8.6 | 5.9 | 1.9 |
| Belgium | 11.6 | 6.3 | 12.9 | 25.1 | 44.1 | 81.9 | 7.4 | 6.2 | 3.6 | 0.9 |
| Canada | .. | .. | .. | .. | .. | 63.5 | 15.5 | 13.1 | 7.2 | 0.8 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 15.8 | 5.3 | 10.0 | 26.6 | 42.4 | 92.8 | 2.7 | 2.3 | 1.8 | 0.4 |
| Denmark | 8.3 | 7.2 | 11.9 | 25.7 | 46.8 | 71.4 | 12.3 | 9.0 | 6.0 | 1.3 |
| Estonia | 12.2 | 8.1 | 15.7 | 39.5 | 24.5 | 73.2 | 9.8 | 9.1 | 7.0 | 1.0 |
| Finland | 10.2 | 6.6 | 11.1 | 24.0 | 48.2 | 81.5 | 7.8 | 5.9 | 3.9 | 0.9 |
| France | 13.7 | 6.9 | 11.9 | 23.0 | 44.6 | 85.8 | 6.1 | 4.7 | 2.7 | 0.7 |
| Germany | 6.9 | 8.0 | 7.6 | 24.5 | 53.1 | 62.1 | 20.0 | 7.8 | 8.1 | 2.0 |
| Greece | 42.2 | 7.1 | 11.6 | 19.8 | 19.3 | 94.5 | 2.6 | 1.8 | 0.9 | 0.2 |
| Hungary | 13.0 | 6.5 | 10.4 | 26.0 | 44.1 | 85.0 | 6.4 | 4.5 | 3.3 | 0.8 |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 4.6 | 5.6 | 11.3 | 31.8 | 46.7 | 54.1 | 16.4 | 14.5 | 11.8 | 3.3 |
| Israel | 8.9 | 7.3 | 12.2 | 29.8 | 41.7 | 81.0 | 7.9 | 5.9 | 4.3 | 0.8 |
| Italy | 24.6 | 14.5 | 15.9 | 21.7 | 23.3 | 82.7 | 10.0 | 4.9 | 2.1 | 0.3 |
| Japan | 7.6 | 6.0 | 10.7 | 23.7 | 52.0 | 75.9 | 10.1 | 8.1 | 5.1 | 0.8 |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Luxembourg | 6.8 | .. | .. | .. | 93.2 | 61.7 | 13.0 | 12.3 | 10.0 | 3.0 |
| Mexico | 29.4 | 4.6 | 6.0 | 14.8 | 45.2 | 93.9 | 2.8 | 1.6 | 1.2 | 0.5 |
| Netherlands | 14.9 | 8.4 | 13.9 | 31.7 | 31.0 | 83.8 | 6.7 | 5.2 | 3.7 | 0.6 |
| New Zealand | 12.9 | 10.7 | 15.8 | 24.3 | 36.3 | 68.6 | 15.3 | 10.2 | 4.9 | 0.9 |
| Norway | 11.0 | 8.0 | 14.2 | 27.2 | 39.5 | 81.9 | 7.8 | 6.1 | 3.6 | 0.7 |
| Poland | 15.8 | 4.9 | 9.4 | 28.6 | 41.3 | 86.9 | 4.5 | 4.2 | 3.5 | 0.9 |
| Portugal | 20.0 | 11.9 | 18.3 | 29.9 | 19.9 | 82.9 | 8.2 | 5.7 | 2.9 | 0.4 |
| Slovak Republic | 18.4 | 4.6 | 8.3 | 22.7 | 46.0 | 94.1 | 2.2 | 1.9 | 1.4 | 0.4 |
| Slovenia | 15.4 | 6.6 | 9.1 | 28.2 | 40.7 | 87.8 | 5.4 | 3.3 | 2.9 | 0.6 |
| Spain | 20.4 | 10.7 | 16.3 | 23.7 | 28.9 | 83.4 | 8.2 | 5.6 | 2.4 | 0.4 |
| Sweden | 12.0 | 6.7 | 10.9 | 22.6 | 47.8 | 87.7 | 5.3 | 3.9 | 2.5 | 0.6 |
| Switzerland | 7.5 | 8.7 | 13.8 | 28.9 | 41.0 | 56.6 | 18.9 | 13.4 | 9.1 | 2.0 |
| Turkey | 22.6 | .. | 17.2 | 26.4 | 33.9 | 92.0 | .. | 5.2 | 2.4 | 0.5 |
| United Kingdom | 9.7 | 7.6 | 13.7 | 27.9 | 41.2 | 75.6 | 10.6 | 7.7 | 5.0 | 1.1 |
| United States | 5.5 | 4.9 | 8.7 | 17.7 | 63.2 | 67.5 | 13.6 | 10.7 | 6.7 | 1.6 |
| EU 28 | 13.7 | 8.3 | 11.7 | 25.3 | 41.0 | 82.1 | 8.5 | 5.2 | 3.4 | 0.8 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | 9.3 | 8.3 | 12.4 | 20.5 | 49.4 | 64.9 | 16.8 | 11.3 | 5.8 | 1.3 |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336596*

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

*As a percentage of total number of persons employed or total number of enterprises in manufacturing, 2012 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335509*



# HOUSEHOLD INCOME AND WEALTH

## INCOME AND SAVINGS

NATIONAL INCOME PER CAPITA
HOUSEHOLD DISPOSABLE INCOME
HOUSEHOLD SAVINGS

## INCOME INEQUALITY AND POVERTY

INCOME INEQUALITY
POVERTY RATES AND GAPS

## HOUSEHOLD WEALTH

HOUSEHOLD FINANCIAL ASSETS
HOUSEHOLD DEBT
NON-FINANCIAL ASSETS OF HOUSEHOLDS

# NATIONAL INCOME PER CAPITA

While per capita gross domestic product is the indicator most commonly used to compare national income levels, two other measures are preferred by many analysts. These are per capita Gross National Income (GNI) and Net National Income (NNI). Whereas GDP refers to the income generated by production activities on the economic territory of the country, GNI measures the income generated by the residents of a country, whether earned in the domestic territory or abroad. NNI is the aggregate value of the balances of net primary incomes summed over all sectors.

## Definition

GNI is defined as GDP plus receipts from abroad less payments to abroad of wages and salaries and of property income plus net taxes and subsidies receivable from abroad. NNI is equal to GNI net of depreciation.

Wages and salaries from abroad are those that are earned by residents who essentially live and consume inside the economic territory but work abroad (this happens in border areas on a regular basis) or for persons that live and work abroad for only short periods (seasonal workers) and whose centre of economic interest remains in their home country. Guest-workers and other migrant workers who live abroad for twelve months or more are considered to be resident in the country where they are working. Such persons may send part of their earnings to relatives at home, but these remittances are treated as transfers between resident and non-resident households and are recorded in national disposable income but not national income.

Property income from/to abroad includes interest and dividends. It also includes all or part of the retained earnings of foreign enterprises owned fully or in part by residents (and *vice versa*). In this respect, it is important to note that retained earnings of foreign enterprises owned by residents do not actually return to the residents concerned. Nevertheless, the retained earnings are recorded as a receipt.

### *Overview*

On average for the OECD, GNI per capita is around 15-25% higher than NNI per capita. The country rankings are not greatly affected by the choice of income measure. Only three countries would be more than one place higher in the ranking if GNI per capita were used instead of NNI: the Slovak Republic, the Czech Republic, and Finland. Only four countries would be more than two places lower in the ranking if GNI per capita were used: Russia, Israel, Ireland and the United Kingdom.

GNI per capita does not differ significantly from GDP per capita. Usually, the differences are smaller than USD 3 000. There are, however, two exceptions. For Luxembourg, GNI per capita in 2014, although still highest in the OECD, is nearly USD 33 000 lower than GDP per capita. In Ireland, GNI is USD 8 000 lower than GDP per capita in 2013.

## Comparability

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. When changes in international standards are implemented countries often take the opportunity to implement improved compilation methods; therefore also implementing various improvements in sources and estimation methodologies. In some countries the impact of the 'statistical benchmark revision' could be higher than the impact of the changeover in standards. As a consequence the GDP level for the OECD total increased by 3.8% in 2010 based on the available countries. The level changes in NNI are generally more moderate than the changes in the levels of GDP. For the OECD, the impact of the changes on NNI is about 0.5 percentage points on average in 2010.

However, there are practical difficulties in the measurement both of international flows of wages and salaries and property income and of depreciation. It is for that reason that GDP per capita is the most widely used indicator of income or welfare, even though, GNI is theoretically superior.

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## Gross national income per capita

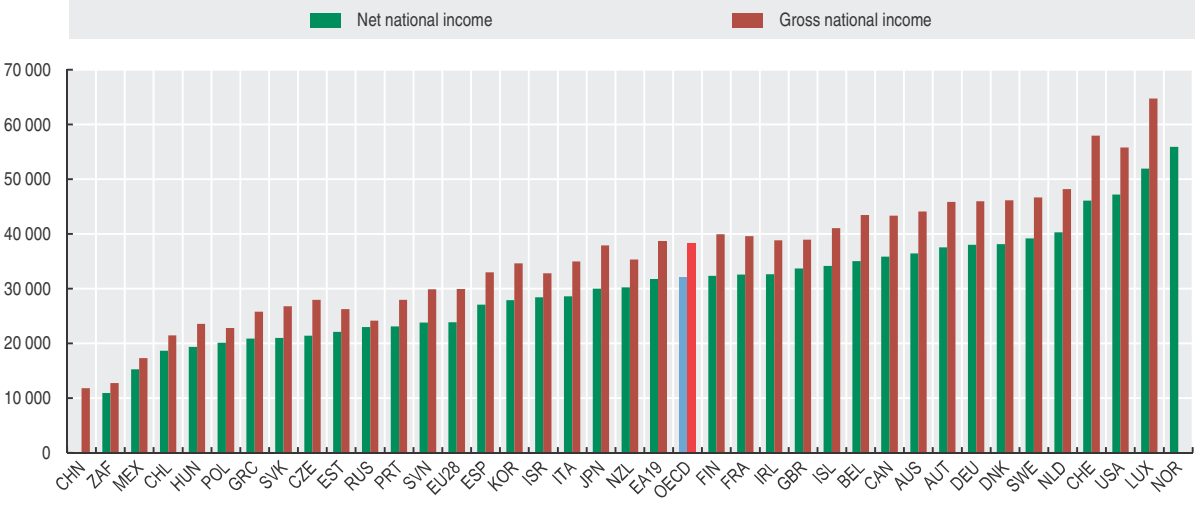
*US dollars, current prices and PPPs*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 29 740 | 31 173 | 32 446 | 34 061 | 35 906 | 37 736 | 38 317 | 39 539 | 40 554 | 42 467 | 42 575 | 43 672 | 44 098 |
| Austria | 31 109 | 32 150 | 33 770 | 34 593 | 37 755 | 39 162 | 41 451 | 40 632 | 42 227 | 44 188 | 44 916 | 45 263 | 45 878 |
| Belgium | 31 287 | 31 631 | 32 421 | 33 445 | 35 586 | 37 076 | 38 745 | 37 711 | 40 438 | 41 475 | 42 549 | 42 190 | 43 484 |
| Canada | 29 851 | 31 259 | 32 923 | 35 310 | 37 218 | 38 647 | 39 498 | 38 026 | 39 278 | 40 808 | 41 548 | 42 414 | 43 361 |
| Chile | 9 879 | 10 137 | 10 780 | 11 629 | 13 657 | 14 888 | 15 153 | 15 091 | 16 950 | 19 069 | 20 211 | 21 037 | 21 494 |
| Czech Republic | 17 675 | 18 942 | 20 004 | 21 231 | 22 872 | 24 918 | 25 243 | 25 001 | 24 914 | 26 434 | 26 840 | 27 214 | 27 984 |
| Denmark | 31 226 | 31 076 | 33 307 | 34 342 | 37 642 | 38 882 | 41 299 | 40 023 | 42 501 | 44 239 | 44 566 | 45 365 | 46 182 |
| Estonia | 11 218 | 12 478 | 13 907 | 15 864 | 18 255 | 20 302 | 21 270 | 19 578 | 19 974 | 22 721 | 24 220 | 25 630 | 26 283 |
| Finland | 28 506 | 28 643 | 31 311 | 32 199 | 34 848 | 37 627 | 39 804 | 38 028 | 38 815 | 40 434 | 40 419 | 40 157 | 39 943 |
| France | 28 812 | 28 462 | 29 479 | 30 929 | 32 961 | 34 773 | 35 921 | 35 459 | 36 629 | 38 213 | 37 810 | 38 205 | 39 636 |
| Germany | 28 097 | 29 099 | 30 925 | 32 472 | 35 314 | 37 324 | 38 805 | 37 971 | 40 402 | 43 216 | 43 826 | 44 222 | 46 016 |
| Greece | 22 678 | 23 699 | 25 095 | 25 397 | 27 722 | 28 539 | 30 188 | 29 932 | 28 390 | 25 998 | 25 734 | 25 805 | .. |
| Hungary | 14 168 | 14 940 | 15 597 | 16 380 | 17 708 | 18 063 | 19 536 | 19 919 | 20 559 | 21 505 | 21 588 | 22 836 | 23 616 |
| Iceland | 31 940 | 31 276 | 33 434 | 34 646 | 34 524 | 37 065 | 32 826 | 32 465 | 32 398 | 34 541 | 36 547 | 41 087 | .. |
| Ireland | 28 679 | 30 824 | 32 781 | 34 920 | 38 523 | 40 531 | 38 004 | 34 850 | 36 357 | 36 857 | 37 324 | 38 832 | .. |
| Israel | 24 222 | 22 839 | 24 390 | 24 558 | 25 535 | 27 460 | 26 828 | 26 917 | 28 310 | 30 184 | 31 084 | 32 065 | 32 844 |
| Italy | 27 761 | 28 277 | 28 655 | 29 586 | 31 942 | 33 546 | 34 614 | 33 857 | 34 307 | 35 377 | 34 971 | 34 691 | 35 006 |
| Japan | 27 690 | 28 423 | 29 931 | 31 156 | 32 702 | 34 445 | 34 622 | 32 745 | 34 655 | 35 380 | 36 729 | 37 556 | 37 929 |
| Korea | 20 701 | 21 307 | 22 921 | 24 031 | 25 767 | 27 787 | 28 716 | 28 326 | 30 496 | 31 512 | 32 351 | 33 325 | 34 622 |
| Luxembourg | 47 715 | 47 224 | 53 696 | 56 087 | 53 473 | 62 392 | 63 476 | 54 142 | 62 819 | 63 276 | 63 475 | 61 126 | 64 780 |
| Mexico | 10 132 | 10 611 | 11 275 | 12 124 | 13 226 | 13 822 | 14 490 | 14 166 | 14 975 | 16 083 | 16 461 | 16 405 | 17 318 |
| Netherlands | 34 010 | 34 217 | 36 051 | 37 461 | 41 696 | 44 336 | 45 298 | 44 452 | 45 115 | 47 237 | 47 342 | 47 672 | 48 235 |
| New Zealand | 22 041 | 22 752 | 23 599 | 24 013 | 25 735 | 27 022 | 27 323 | 29 135 | 29 390 | 30 739 | 31 528 | 33 620 | 35 369 |
| Norway | 37 840 | 39 230 | 43 284 | 48 900 | 54 759 | 56 725 | 62 138 | 56 517 | 59 403 | 63 328 | 66 904 | 66 353 | 66 306 |
| Poland | 11 553 | 11 930 | 12 635 | 13 566 | 14 836 | 16 327 | 17 733 | 18 566 | 19 735 | 21 251 | 22 063 | 22 840 | .. |
| Portugal | 18 994 | 19 573 | 19 999 | 21 733 | 23 128 | 24 420 | 25 080 | 25 257 | 26 019 | 26 413 | 26 346 | 27 279 | 28 002 |
| Slovak Republic | 13 081 | 13 196 | 14 367 | 16 023 | 18 196 | 20 719 | 23 286 | 22 889 | 23 757 | 24 263 | 25 270 | 26 114 | 26 815 |
| Slovenia | 20 024 | 20 790 | 22 458 | 23 743 | 25 640 | 27 127 | 28 906 | 27 120 | 27 329 | 28 287 | 28 240 | 28 515 | 29 922 |
| Spain | 24 390 | 25 125 | 26 240 | 27 460 | 30 367 | 32 007 | 32 804 | 32 202 | 31 907 | 31 970 | 32 165 | 32 395 | 33 034 |
| Sweden | 30 857 | 32 601 | 34 458 | 34 796 | 38 485 | 42 006 | 43 581 | 40 688 | 42 950 | 45 016 | 45 298 | 45 926 | 46 719 |
| Switzerland | 37 142 | 38 604 | 39 908 | 42 241 | 46 430 | 47 526 | 46 998 | 50 744 | 54 214 | 55 079 | 57 094 | 57 964 | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 30 595 | 31 725 | 33 732 | 35 466 | 37 355 | 37 924 | 37 898 | 36 515 | 36 325 | 37 038 | 37 630 | 38 367 | 38 986 |
| United States | 38 544 | 39 884 | 42 190 | 44 669 | 47 322 | 48 346 | 48 568 | 47 176 | 48 808 | 50 622 | 52 770 | 53 943 | 55 842 |
| Euro area | 22 766 | 23 152 | 24 143 | 25 238 | 27 337 | 28 899 | 29 498 | 28 698 | 29 675 | 30 881 | 30 812 | 30 931 | 38 631 |
| EU 28 | 24 488 | 25 198 | 26 508 | 27 753 | 25 337 | 26 787 | 27 574 | 26 825 | 27 638 | 28 765 | 28 917 | 29 222 | 29 948 |
| OECD | 26 725 | 27 521 | 29 057 | 30 625 | 32 772 | 34 135 | 34 818 | 33 912 | 35 222 | 36 626 | 37 548 | 38 213 | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 3 419 | 3 829 | 4 321 | 4 913 | 5 706 | 6 680 | 7 459 | 8 104 | 8 992 | 9 920 | 10 891 | 11 818 | .. |
| India | .. | .. | 2 703 | 3 001 | 3 329 | 3 714 | 3 840 | 4 223 | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 7 876 | 8 972 | 10 010 | 11 527 | 14 475 | 16 256 | 19 572 | 18 757 | 19 844 | 21 857 | 23 254 | 24 183 | .. |
| South Africa | 8 205 | 8 507 | 9 102 | 9 755 | 10 450 | 11 068 | 11 584 | 11 338 | 11 521 | 11 977 | 12 370 | 12 661 | 12 795 |

1 2 *http://dx.doi.org/10.1787/888933336415*

## Gross and net national income per capita

*US dollars, current prices and PPPs, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335255*

# HOUSEHOLD DISPOSABLE INCOME

Disposable income, as a concept, is closer to the concept of income generally understood in economics, than either national income or GDP. At the total economy level it differs from national income in that additional income items are included, mainly other current transfers such as remittances. For countries where these additional items form significant sources of income the importance of focusing on disposable income in formulating policy is clear. Another important difference between national income and disposable income reflects the fact that the latter concerns the share of national income that is allocated to households only. Disposable income can be seen as the maximum amount that a household can afford to spend on the consumption of goods or services without having to reduce its financial or non-financial assets or by increasing its liabilities.

## Definition

Household disposable income is the sum of wages and salaries, gross operating surplus (income earned from renting a dwelling or the imputed rental income of owner-occupiers), mixed income, net property income, net current transfers and social benefits other than social transfers in kind, less taxes on income and wealth and social security contributions paid by employees, the self-employed and the unemployed.

The indicator for the household sector includes the disposable income of non-profit institutions serving households (NPISH).

## Comparability

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 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 and implies that data are highly comparable across countries.

## *Overview*

On average over the period 2012-14, household disposable income in real terms increased in 20 out of 30 OECD countries for which data is available. Chile (7.5%), Norway (3.5%) and Mexico (3.1%) showed the highest growth rates. In contrast, Greece's household disposable income fell by 8.6% and the household disposable income for Italy, Spain, Portugal, and Slovenia fell around 2% in the three year period.

In most OECD countries, the growth rate of real household disposable income over the three years to 2014 was lower than in the three years to 2004. In fact, in the three years to 2004 only two countries recorded small declines in disposable income (the Netherlands and Belgium) whereas 10 countries recorded declines in the three years to 2014. In Chile and Russia, however, disposable income showed very strong growth. Over that period, inequalities in household disposable income continued to increase in the majority of OECD countries.

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## Real household disposable income

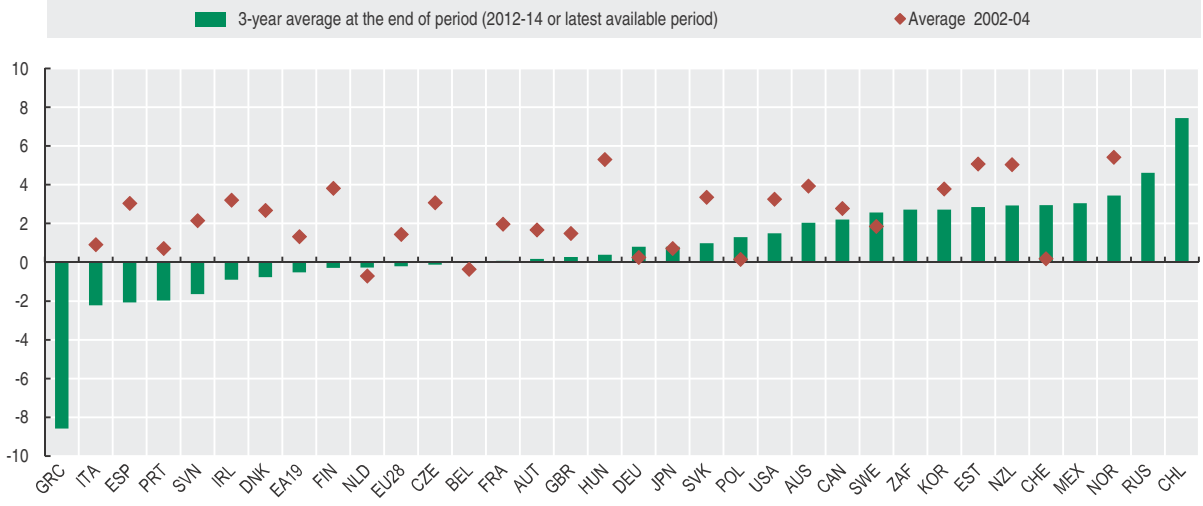
*Annual growth in percentage*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.7 | 5.6 | 5.6 | 2.7 | 5.5 | 7.1 | 6.8 | 1.3 | 4.9 | 3.7 | 0.9 | 1.5 | .. |
| Austria | 0.9 | 2.0 | 2.2 | 4.0 | 2.7 | 2.1 | 0.7 | -0.3 | -1.1 | -0.3 | 2.0 | -2.0 | 0.5 |
| Belgium | -0.6 | -0.1 | -0.4 | 0.8 | 2.2 | 2.0 | 2.2 | 2.1 | -1.2 | -1.1 | 0.4 | -0.7 | 0.3 |
| Canada | 2.4 | 2.3 | 3.6 | 2.9 | 6.1 | 3.7 | 4.0 | 1.6 | 2.4 | 2.3 | 2.7 | 2.4 | 1.5 |
| Chile | .. | .. | .. | .. | .. | .. | .. | 6.4 | 6.3 | 9.2 | 7.4 | 5.8 | .. |
| Czech Republic | 2.9 | 4.0 | 2.4 | 4.6 | 5.6 \| | 3.1 | 2.3 | 2.1 | 0.1 | -1.6 | -1.1 | -0.9 | 1.7 |
| Denmark | 3.1 \| | 2.4 | 2.5 | 2.6 | 2.4 | -0.8 | -0.9 | 2.7 | 3.6 | 1.0 | -0.5 | -1.4 | -0.4 |
| Estonia | 1.7 | 8.2 | 5.5 | 9.1 | 11.9 | 11.0 | 5.3 | -9.2 | -4.3 | 3.8 | 0.3 | 6.3 | 2.0 |
| Finland | 3.0 | 3.9 | 4.5 | 1.2 | 2.6 | 3.5 | 2.3 | 1.1 | 2.9 | 1.0 | -0.2 | 0.3 | -1.0 |
| France | 3.2 | 0.6 | 2.1 | 0.8 | 2.2 | 2.9 | 0.1 | 1.7 | 1.3 | 0.1 | -0.9 | 0.0 | 1.1 |
| Germany | -0.7 | 0.7 | 0.8 | 0.2 | 1.0 | 0.0 | 0.6 | -0.6 | 0.4 | 0.9 | 0.5 | 0.5 | 1.3 |
| Greece | .. | .. | .. | .. | .. | 3.2 | 0.9 | 0.0 | -11.0 | -9.8 | -7.6 | -8.4 | .. |
| Hungary | 4.6 | 6.6 | 4.7 | 4.0 | 1.4 | -3.2 | -2.4 | -4.4 | -2.5 | 3.9 | -3.2 | 1.6 | 2.9 |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 2.1 | 2.5 | 5.1 | 7.6 | 3.8 | 6.3 | 6.7 | 0.3 | -2.7 | -3.5 | -1.0 | -2.3 | 0.6 |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 0.9 | 0.5 | 1.3 | 0.5 | 1.1 | 1.3 | -1.4 | -2.3 | -1.8 | -0.5 | -5.7 | -0.6 | -0.3 |
| Japan | 1.0 | 0.0 | 1.1 | 0.9 | 0.8 | 0.8 | -1.2 | 1.3 | 2.6 | 0.7 | 1.0 | 0.7 | .. |
| Korea | 4.0 | 3.3 | 4.0 | 2.8 | 3.1 | 2.9 | 1.4 | 1.1 | 3.5 | 2.0 | 1.5 | 4.0 | 2.6 |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | .. | .. | 3.7 | 3.6 | 6.6 | 2.5 | 2.0 | -7.5 | 6.3 | 3.3 | 2.6 | 3.2 | .. |
| Netherlands | -0.4 | -1.4 \| | -0.3 | -0.6 | 0.2 | 1.9 | -0.9 | 0.7 | -0.7 | 0.6 | -1.2 | -0.9 | 1.3 |
| New Zealand | 0.8 | 9.5 | 5.0 | 3.0 | 4.6 | 5.0 | -1.9 | 2.8 | 3.5 | 1.4 | 3.9 | .. | .. |
| Norway | 8.4 | 4.6 | 3.4 | 8.3 | -6.6 | 6.0 | 3.4 | 3.2 | 2.3 | 4.1 | 4.4 | 3.0 | 2.9 |
| Poland | -0.3 | 0.8 | -0.1 | 0.9 \| | 4.3 | 5.2 | 4.3 | 6.0 | 1.8 | 0.0 | 1.1 | 2.8 | .. |
| Portugal | 1.1 | -1.6 | 2.7 | 0.7 | 0.0 | 1.4 | 1.0 | 1.5 | 1.0 | -5.6 | -5.1 | -0.9 | 0.2 |
| Slovak Republic | 5.3 \| | 0.5 | 4.3 | 5.6 | 3.5 | 9.6 | 5.0 | 1.4 | 2.9 | -2.3 | -1.8 | 1.7 | 3.1 |
| Slovenia | 2.5 | 0.5 | 3.5 | 4.8 | 3.1 | 4.6 | 2.8 | -1.3 | -0.5 | 0.1 | -4.2 | -2.1 | 1.5 |
| Spain | 3.1 | 3.9 | 2.2 | 2.3 | 1.8 | 0.4 | 1.8 | 3.0 | -3.5 | -1.3 | -5.3 | -1.5 | 0.7 |
| Sweden | 3.2 | 0.7 | 1.7 | 2.2 | 4.1 | 5.6 | 2.0 | 2.6 | 1.7 | 4.1 | 3.8 | 1.7 | 2.2 |
| Switzerland | -0.2 | -0.5 | 1.3 | 1.7 | 3.4 | 3.9 | 1.1 | 2.1 | 1.2 | 1.7 | 4.0 | 3.2 | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 2.1 | 1.5 | 0.8 | 2.0 | 1.3 | 2.6 | 0.9 | 3.3 | 0.7 | -2.1 | 2.6 | -1.1 | -0.7 |
| United States | 3.3 | 2.9 | 3.5 | 1.4 | 3.8 | 1.9 | 1.8 | -0.3 | 1.3 | 2.7 | 3.3 | -1.5 | 2.7 |
| Euro area | 1.2 | 1.2 | 1.6 | 0.9 | 1.6 | 1.5 | 0.3 | 0.3 | -0.8 | -0.1 | -1.9 | -0.5 | 0.9 |
| EU 28 | 1.1 | 1.7 | 1.5 | 1.3 | 1.7 | 1.8 | 0.9 | 1.2 | -0.7 | -0.2 | -1.2 | -0.1 | 0.8 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5.0 | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | 7.7 | 9.4 | 11.9 | 13.6 | 14.1 | 8.0 | -2.0 | 8.6 | 4.7 | 6.1 | 3.1 | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | 0.8 | 5.1 | 5.3 | 2.7 | 3.3 | 2.2 |

1 2 *http://dx.doi.org/10.1787/888933336269*

## Real household disposable income

*Average annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933335075*

# HOUSEHOLD SAVINGS

Household savings is the main domestic source of funds to finance capital investment, which is a major driver of long-term economic growth. Household savings rates vary considerably between countries because of institutional, demographic and socio-economic differences. For example, government provisions for old-age pensions and the demographic age structure of the population will influence the rate at which populations save (older persons tend to run down their financial assets during their retirement to the detriment of savings). Equally the availability and price of credit, as well as attitudes towards debt, may influence choices made by individuals regarding whether to spend or save.

## Definition

Household savings is estimated by subtracting household consumption expenditure from household disposable income plus the adjustment for the change in pension entitlements.

Household disposable income consists essentially of income from employment and from the operation of unincorporated enterprises, plus receipts of interest, dividends and social benefits minus payments of current taxes, interest and social contributions. Note that enterprise income includes the imputed rental income earned by owner-occupiers of dwellings.

Household consumption expenditure consists mainly of cash outlays for consumer goods and services but it also includes the imputed expenditures that owner occupiers pay, as occupiers, to themselves as owners of their dwellings and the production of goods for own-final use such as agricultural products; the values of which are also included in income.

The household savings rate is calculated as the ratio of household savings to household disposable income (plus the adjustment for the change in pension entitlements).

## Comparability

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA. One of the changes in the standards of the 2008 SNA that directly impacts the savings rates, concerns the treatment of pension schemes. These changes may have a significant impact on households' savings rates in countries with (partially) funded defined benefit pension schemes, as is the case, for example, in the United Kingdom. For pensions provided by government to their employees, countries have some flexibility in the recording of the unfunded liabilities, which may hamper comparability across countries.

Savings rates may be measured on either a net or a gross basis. Net savings rates are measured after deducting consumption of fixed capital (in respect of assets used in unincorporated enterprises and in respect of owner-occupied dwellings), from savings and from the disposable income of households, so that both savings and disposable income are shown on a net basis.

### *Overview*

Household savings rates differ significantly across countries. From 2002-14 three countries had savings rates consistently above 9%: France, Germany and Switzerland. From 2007 Sweden also registered a savings rate above 9%.

In contrast, six countries showed several years of negative savings rates over the period 2002-14; most notably in Greece (2006-13); New Zealand (2002-08); and Estonia (2002-07).

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## Household net saving rates

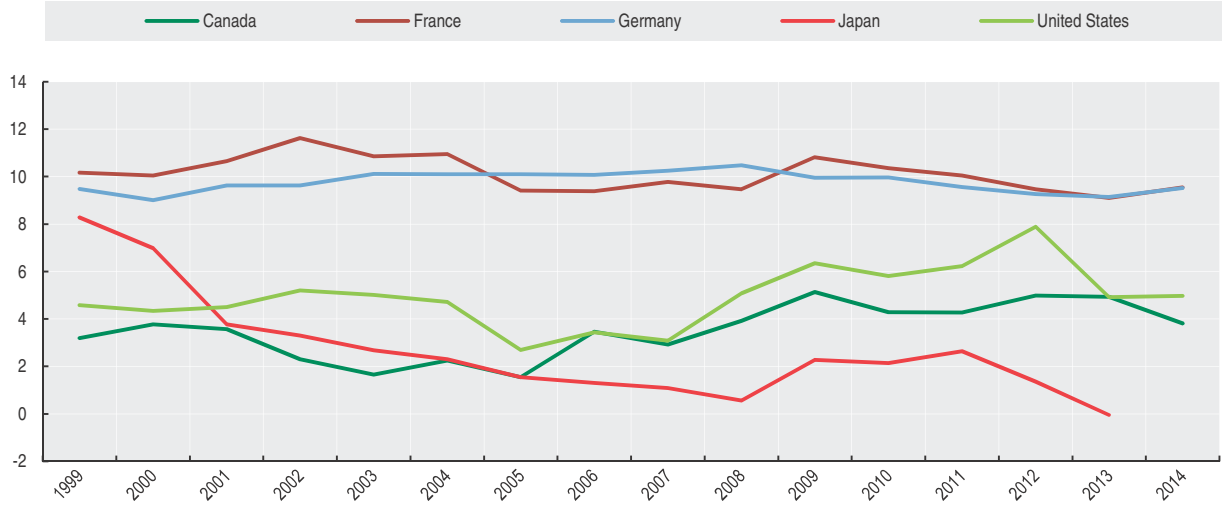
*As a percentage of household disposable income*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.0 | 0.5 | 1.5 | 1.1 | 1.8 | 4.0 | 10.0 | 9.1 | 10.2 | 11.2 | 10.3 | 9.7 | .. |
| Austria | 8.9 | 9.2 | 9.2 | 10.7 | 11.3 | 12.1 | 11.9 | 11.3 | 9.3 | 7.9 | 9.2 | 7.3 | 7.8 |
| Belgium | 11.0 | 10.6 | 8.9 | 8.5 | 9.2 | 9.4 | 10.0 | 11.4 | 8.2 | 6.6 | 6.4 | 5.0 | 5.1 |
| Canada | 2.3 | 1.7 | 2.3 | 1.5 | 3.5 | 2.9 | 3.9 | 5.1 | 4.3 | 4.3 | 5.0 | 4.9 | 3.8 |
| Chile | .. | .. | .. | .. | .. | .. | 7.0 | 12.3 | 8.8 | 8.6 | 9.9 | 9.7 | .. |
| Czech Republic | 6.3 | 5.7 | 4.9 | 6.1 | 7.8 | 7.0 | 6.3 | 8.5 | 7.6 | 5.9 | 6.2 | 5.5 | 5.7 |
| Denmark | 1.2 | 1.8 | -2.2 | -4.6 | -1.7 | -3.1 | -4.2 | 0.8 | 2.1 | 0.9 | 0.0 | -0.4 | -6.4 |
| Estonia | -9.5 | -9.3 | -11.0 | -10.7 | -11.2 | -7.3 | 1.6 | 6.9 | 3.3 | 4.1 | 1.4 | 3.9 | 3.1 |
| Finland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| France | 11.6 | 10.9 | 11.0 | 9.4 | 9.4 | 9.8 | 9.5 | 10.8 | 10.4 | 10.0 | 9.5 | 9.1 | 9.6 |
| Germany | 9.6 | 10.1 | 10.1 | 10.1 | 10.1 | 10.2 | 10.5 | 10.0 | 10.0 | 9.6 | 9.3 | 9.1 | 9.5 |
| Greece | .. | .. | .. | .. | -3.4 | -3.5 | -5.6 | -4.5 | -9.0 | -8.2 | -8.3 | -16.4 | .. |
| Hungary | 3.1 | 1.7 | 4.5 | 5.7 | 6.3 | 2.2 | 1.5 | 3.6 | 3.6 | 4.1 | 2.6 | 3.9 | 4.9 |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 0.0 | 0.4 | 1.2 | 1.9 | -0.6 | -0.7 | 6.3 | 12.2 | 9.6 | 7.3 | 8.5 | 8.1 | .. |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 9.6 | 9.1 | 9.5 | 9.0 | 8.4 | 8.0 | 7.7 | 7.0 | 4.1 | 3.6 | 1.8 | 3.9 | 3.4 |
| Japan | 3.3 | 2.7 | 2.3 | 1.6 | 1.3 | 1.1 | 0.6 | 2.3 | 2.1 | 2.6 | 1.4 | 0.0 | .. |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | 4.7 | 3.9 | 3.9 | 5.6 | .. |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | .. | 10.1 | 8.6 | 8.2 | 9.1 | 8.4 | 8.1 | 8.4 | 8.8 | 6.9 | 6.1 | 5.4 | .. |
| Netherlands | 7.9 | 7.4 | 6.8 | 5.7 | 3.8 | 3.9 | 3.7 | 7.1 | 4.9 | 5.8 | 6.8 | 7.3 | 8.2 |
| New Zealand | -6.6 | -4.1 | -3.8 | -5.9 | -3.3 | -1.0 | -1.1 | 1.1 | 3.0 | 1.7 | 2.2 | .. | .. |
| Norway | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poland | 9.0 | 7.9 | 4.0 | 3.0 | 2.7 | 2.2 | 0.8 | 3.2 | 3.0 | -0.5 | -0.5 | 0.7 | .. |
| Portugal | 3.9 | 2.7 | 2.7 | 1.8 | 0.4 | -0.8 | -1.1 | 2.7 | 1.3 | -0.9 | -0.5 | -0.2 | -2.3 |
| Slovak Republic | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Slovenia | 8.5 | 6.1 | 7.1 | 9.4 | 11.1 | 9.4 | 9.7 | 7.7 | 6.1 | 5.5 | 3.2 | 5.7 | 6.5 |
| Spain | 5.2 | 6.7 | 5.0 | 3.2 | 1.4 | -1.0 | 1.6 | 7.3 | 3.7 | 4.6 | 2.6 | 4.2 | 3.9 |
| Sweden | 7.8 | 6.6 | 5.8 | 5.4 | 6.9 | 9.4 | 12.7 | 12.2 | 11.0 | 12.7 | 15.3 | 15.1 | 15.3 |
| Switzerland | 15.3 | 14.8 | 13.7 | 14.0 | 15.8 | 17.4 | 16.7 | 17.1 | 17.0 | 17.8 | 18.5 | 19.0 | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 3.8 | 2.4 | 0.5 | -0.3 | -1.2 | -0.7 | -0.8 | 4.0 | 6.1 | 3.4 | 2.9 | 0.0 | -1.9 |
| United States | 5.2 | 5.0 | 4.7 | 2.7 | 3.4 | 3.1 | 5.1 | 6.3 | 5.8 | 6.2 | 7.9 | 4.9 | 5.0 |
| Euro area | 8.9 | 9.0 | 8.7 | 7.8 | 7.1 | 6.9 | 7.1 | 8.5 | 6.9 | 6.5 | 6.0 | 6.1 | 6.1 |
| EU 28 | 7.3 | 7.2 | 6.4 | 5.7 | 4.9 | 4.6 | 5.0 | 7.4 | 6.1 | 5.4 | 4.9 | 4.7 | 4.3 |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 31.5 | 33.9 | 33.8 | 35.4 | 37.2 | 39.2 | 39.9 | 40.4 | 42.1 | 40.9 | 40.7 | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | 11.0 | 12.4 | 12.1 | 10.1 | 13.1 | 15.5 | 13.8 | 12.5 | 10.9 | .. |
| South Africa | .. | .. | .. | .. | .. | .. | -1.1 | -0.5 | -0.8 | -1.1 | -2.1 | -2.5 | -2.4 |

1 2 *http://dx.doi.org/10.1787/888933336288*

## Household net saving rates

*As a percentage of household disposable income*




1 2 *http://dx.doi.org/10.1787/888933335091*

# INCOME INEQUALITY

Income inequalities are one of the most visible manifestations of differences in living standards within each country. In many OECD countries, income inequalities reflect developments in the labour market, as well as in tax and transfer systems.

## Definition

Income is defined as household disposable income in a particular year. It consists of earnings, self-employment and capital income and public cash transfers; income taxes and social security contributions paid by households are deducted. The income of the household is attributed to each of its members, with an adjustment to reflect differences in needs for households of different sizes.

The Gini coefficient is based on the comparison of cumulative proportions of the population against cumulative proportions of income they receive, and it ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality. The Palma index is the ratio between the income share of the top 10% and the bottom 40%; S90/S10 is the ratio of the average income of the 10% richest to the 10% poorest; S80/S20 of the average income of the 20% richest to the 20% poorest. P90/P10 is the ratio of the upper bound value of the ninth decile (i.e. the 10% of people with highest income) to that of the first decile; P90/P50 of the upper bound value of the ninth decile to the median income; and P50/P10 of median income to the upper bound value of the first decile.

## Comparability

Data have been provided by national experts applying common methodologies and standardised definitions. In many cases, experts made several adjustments to source data to conform to standardised definitions. While this approach improves comparability, full standardisation cannot be achieved. Small differences between periods and across countries are usually not significant.

Results refer to different years. "2012 or latest year available" data refer to the income in 2012 in all countries except Japan (2009); Indonesia and Russia (2010); Brazil, Canada and Chile (2011); India (2013); and China (2014). "Mid-1990s" data refer to the income earned between 1993 and 1996. "Mid-1980s" data refer to the income earned between 1983 and 1987 in all countries for which data are available except Czech Republic (1992) and Hungary (1991).

For the emerging economies except Russia, Gini coefficients are not strictly comparable with OECD countries as they are based on per capita incomes except India and Indonesia for which per capita consumption was used.

### *Overview*

There is considerable variation in income inequality across OECD countries. Inequality as measured by the Gini coefficient ranges from 0.25 in Denmark to approximately twice that value in Chile and Mexico. The Nordic and Central European countries have the lowest inequality in disposable income while inequality is high in Chile, Israel, Mexico, Turkey and the United States. Alternative indicators of income inequality suggest similar rankings. The gap between the average income of the richest and the poorest 10% of the population was almost 10 to 1 on average across OECD countries in 2012, ranging from 5 to 1 in Denmark to five times larger in Chile and Mexico.

From the mid-1980s to around 2012, inequality rose in 16 out of 18 countries for which longer-run data are available. The increase was strongest in Finland, Luxembourg and Sweden. Declines occurred in Turkey, and Greece to a lesser extent. Income inequality generally rose faster from the mid-1980s to the mid-1990s than in the following periods.

With measurement-related differences in mind, the emerging economies have higher levels of income inequality than most OECD countries, particularly Brazil and South Africa. Comparable data from the early 1990s suggest that inequality increased in Asia, decreased in Latin America and remained very high in South Africa.

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## Income inequality

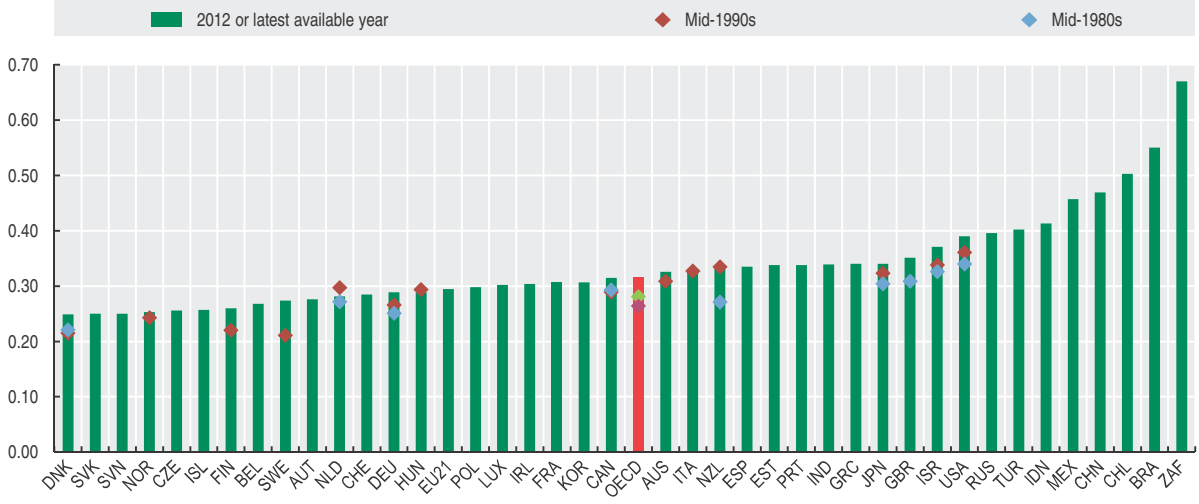
*Different summary inequality measures, 2012 or latest year available*

| | Gini coefficient (disposable income, post taxes and transfers) | Palma ratio (S90/S40 disposable income decile share) | S90/S10 disposable income decile share | S80/S20 disposable income quintile share | P90/P10 disposable income decile ratio | P90/P50 disposable income decile ratio | P50/P10 disposable income decile ratio |
|---|---|---|---|---|---|---|---|
| Australia | 0.33 | 1.2 | 8.8 | 5.5 | 4.4 | 2.0 | 2.2 |
| Austria | 0.28 | 1.0 | 7.0 | 4.3 | 3.5 | 1.8 | 2.0 |
| Belgium | 0.27 | 0.9 | 5.9 | 4.0 | 3.4 | 1.7 | 2.0 |
| Canada | 0.32 | 1.2 | 8.6 | 5.2 | 4.2 | 1.9 | 2.1 |
| Chile | 0.50 | 3.3 | 26.5 | 13.0 | 8.5 | 3.3 | 2.6 |
| Czech Republic | 0.26 | 0.9 | 5.4 | 3.6 | 3.0 | 1.8 | 1.7 |
| Denmark | 0.25 | 0.9 | 5.2 | 3.5 | 2.8 | 1.6 | 1.7 |
| Estonia | 0.34 | 1.3 | 9.6 | 5.8 | 4.7 | 2.2 | 2.1 |
| Finland | 0.26 | 0.9 | 5.4 | 3.7 | 3.1 | 1.7 | 1.8 |
| France | 0.31 | 1.2 | 7.4 | 4.6 | 3.6 | 1.9 | 1.9 |
| Germany | 0.29 | 1.1 | 6.6 | 4.3 | 3.5 | 1.9 | 1.9 |
| Greece | 0.34 | 1.3 | 12.3 | 6.3 | 4.9 | 1.9 | 2.5 |
| Hungary | 0.29 | 1.0 | 7.3 | 4.5 | 3.8 | 1.8 | 2.0 |
| Iceland | 0.26 | 0.9 | 5.6 | 3.7 | 3.0 | 1.7 | 1.7 |
| Ireland | 0.30 | 1.1 | 7.4 | 4.7 | 3.8 | 2.0 | 1.9 |
| Israel | 0.37 | 1.6 | 13.7 | 7.5 | 6.1 | 2.2 | 2.7 |
| Italy | 0.33 | 1.3 | 11.4 | 5.8 | 4.4 | 2.0 | 2.2 |
| Japan | 0.34 | 1.3 | 10.7 | 6.2 | 5.2 | 2.0 | 2.6 |
| Korea | 0.31 | 1.1 | 10.2 | 5.5 | 4.8 | 1.9 | 2.5 |
| Luxembourg | 0.30 | 1.1 | 7.1 | 4.6 | 3.6 | 1.9 | 1.9 |
| Mexico | 0.46 | 2.5 | 25.1 | 11.5 | 8.1 | 2.8 | 2.9 |
| Netherlands | 0.28 | 1.0 | 6.8 | 4.2 | 3.3 | 1.8 | 1.9 |
| New Zealand | 0.33 | 1.3 | 8.2 | 5.3 | 4.2 | 2.1 | 2.0 |
| Norway | 0.25 | 0.9 | 6.2 | 3.8 | 3.0 | 1.6 | 1.9 |
| Poland | 0.30 | 1.1 | 7.3 | 4.7 | 3.9 | 1.9 | 2.0 |
| Portugal | 0.34 | 1.3 | 10.1 | 5.9 | 4.7 | 2.1 | 2.2 |
| Slovak Republic | 0.25 | 0.8 | 5.7 | 3.7 | 3.2 | 1.7 | 1.9 |
| Slovenia | 0.25 | 0.8 | 5.5 | 3.7 | 3.3 | 1.7 | 2.0 |
| Spain | 0.34 | 1.3 | 11.7 | 6.1 | 4.9 | 2.0 | 2.4 |
| Sweden | 0.27 | 1.0 | 6.3 | 4.1 | 3.3 | 1.7 | 1.9 |
| Switzerland | 0.29 | 1.0 | 6.7 | 4.3 | 3.5 | 1.8 | 1.9 |
| Turkey | 0.40 | 1.9 | 14.0 | 7.8 | 6.0 | 2.5 | 2.4 |
| United Kingdom | 0.35 | 1.5 | 10.5 | 5.9 | 4.2 | 2.1 | 2.0 |
| United States | 0.39 | 1.8 | 17.9 | 8.5 | 6.2 | 2.3 | 2.8 |
| EU 28 | 0.29 | 1.1 | 7.7 | 4.7 | 3.8 | 1.9 | 2.0 |
| OECD | 0.32 | 1.3 | 9.5 | 5.5 | 4.3 | 2.0 | 2.1 |
| Brazil | 0.55 | .. | .. | .. | .. | .. | .. |
| China | 0.47 | .. | .. | .. | .. | .. | .. |
| India | 0.34 | .. | .. | .. | .. | .. | .. |
| Indonesia | 0.41 | .. | .. | .. | .. | .. | .. |
| Russian Federation | 0.40 | .. | .. | .. | .. | .. | .. |
| South Africa | 0.67 | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336302*

## Trends in income inequality

*Percentage point changes in the Gini coefficient*




1 2 *http://dx.doi.org/10.1787/888933335119*

# POVERTY RATES AND GAPS

Avoiding economic hardship is a primary objective of social policy. As perceptions of "a decent standard of living" vary across countries and over time, no commonly agreed measure of "absolute" poverty across OECD countries exists. A starting point for measuring poverty is therefore to look at "relative" poverty, whose measure is based on the income that is most typical in each country in each year.

## Definition

The poverty rate is the ratio of the number of people (in a given age group) whose income falls below the poverty line, taken as half the median household income of the total population. However, two countries with the same poverty rates may differ in terms of the relative income level of the poor. To measure this dimension, the poverty gap, i.e. the percentage by which the mean income of the poor falls below the poverty line.

Income is defined as household disposable income in a particular year. It consists of earnings, self-employment and capital income and public cash transfers; income taxes and social security contributions paid by households are deducted. The income of the household is attributed to each of its members, with an adjustment to reflect differences in needs for households of different sizes (i.e. the needs of a household composed of four people are assumed to be twice as large as those of a person living alone).

### *Overview*

Across OECD countries, the average poverty rate was about 11% around 2012. There is considerable diversity across countries: poverty rates are almost 20% in Israel and Mexico, but below 6% in the Czech Republic and Denmark. Poverty rates vary across age groups: in Japan and Korea, older people are more likely to be poor, while in Turkey child poverty is a greater issue. The United States, Chile, Israel and Mexico share higher overall poverty rates, while the Nordic countries combine lower poverty rates.

On average, in OECD countries, the mean income of poor people is 31% below the poverty line (poverty gap), with larger gaps in countries hard hit by the recent crisis like Italy, Greece, Spain and the United States and lower ones in Belgium, Finland, Germany, New Zealand and Slovenia. In general, countries with higher poverty rates also have higher poverty gaps.

From the mid-1980s to around 2012, poverty rates rose in 15 out of 18 countries for which data are available, resulting in an overall increase of 2.7 percentage points for the OECD as a whole. The largest rises were experienced by Israel and Sweden, and the only decline was registered in Denmark.

## Comparability

Data have been provided by national experts applying common methodologies and standardised definitions. In many cases, experts made several adjustments to source data to conform to standardised definitions. While this approach improves comparability, full standardisation cannot be achieved.

Measurement problems are especially severe at the top but also at the bottom end of the income scale. As large proportions of the population are clustered around the poverty line, small changes in their income can lead to large swings in poverty measures. Small differences between periods and across countries are usually not significant.

Results refer to different years. "2012 or latest year available" data refer to the income in 2012 in all countries except Japan (2009), Russia (2010), Canada and Chile (2011). "Mid-1990s" data refer to the income earned between 1993 and 1996. "Mid-1980s" data refer to the income earned between 1983 and 1987 in all countries for which data are available except the Czech Republic (1992) and Hungary (1991).

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## Poverty rates and poverty gaps

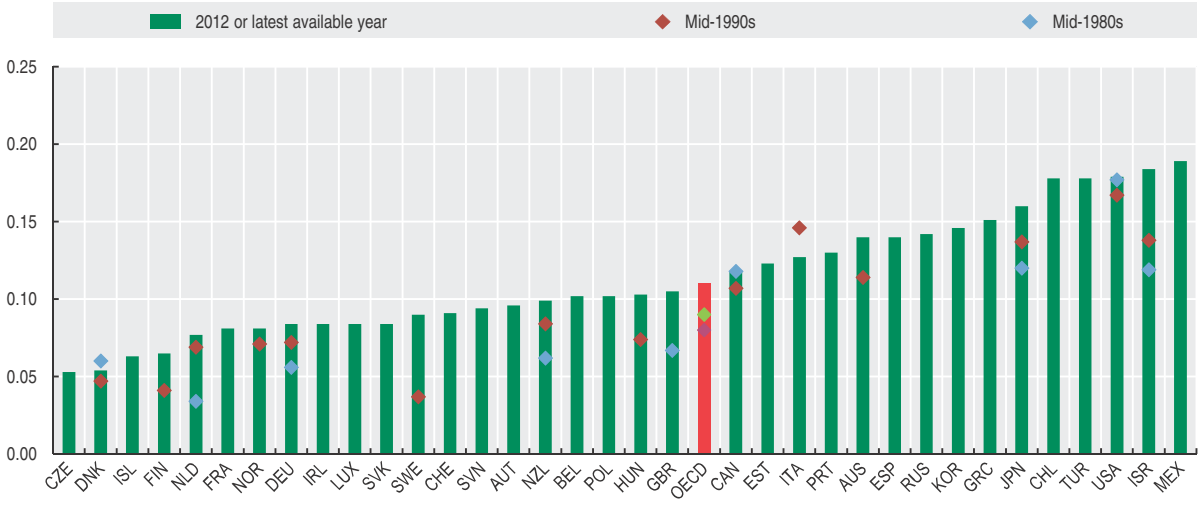
*2012 or latest available year*

| | Relative poverty rates (50% median income) | | | | Poverty gap (mean) |
|---|---|---|---|---|---|
| | Entire population | Children (age 0-17) | Working-age population (age 18-65) | Retirement-age population (over 65) | Entire population |
| Australia | 0.14 | 0.13 | 0.11 | 0.34 | 0.27 |
| Austria | 0.10 | 0.10 | 0.09 | 0.11 | 0.34 |
| Belgium | 0.10 | 0.11 | 0.10 | 0.11 | 0.23 |
| Canada | 0.12 | 0.14 | 0.12 | 0.07 | 0.30 |
| Chile | 0.18 | 0.24 | 0.15 | 0.21 | 0.33 |
| Czech Republic | 0.05 | 0.08 | 0.05 | 0.03 | 0.25 |
| Denmark | 0.05 | 0.03 | 0.07 | 0.05 | 0.31 |
| Estonia | 0.12 | 0.12 | 0.12 | 0.12 | 0.31 |
| Finland | 0.07 | 0.03 | 0.07 | 0.09 | 0.23 |
| France | 0.08 | 0.11 | 0.08 | 0.04 | 0.25 |
| Germany | 0.08 | 0.07 | 0.08 | 0.09 | 0.22 |
| Greece | 0.15 | 0.21 | 0.16 | 0.07 | 0.39 |
| Hungary | 0.10 | 0.17 | 0.10 | 0.06 | 0.31 |
| Iceland | 0.06 | 0.08 | 0.06 | 0.03 | 0.29 |
| Ireland | 0.08 | 0.09 | 0.09 | 0.07 | 0.30 |
| Israel | 0.18 | 0.25 | 0.15 | 0.21 | 0.35 |
| Italy | 0.13 | 0.18 | 0.12 | 0.09 | 0.41 |
| Japan | 0.16 | 0.16 | 0.14 | 0.33 | 0.33 |
| Korea | 0.15 | 0.09 | 0.10 | 0.49 | 0.39 |
| Luxembourg | 0.08 | 0.13 | 0.08 | 0.03 | 0.26 |
| Mexico | 0.19 | 0.23 | 0.16 | 0.27 | 0.38 |
| Netherlands | 0.08 | 0.10 | 0.08 | 0.02 | 0.31 |
| New Zealand | 0.10 | 0.13 | 0.09 | 0.08 | 0.23 |
| Norway | 0.08 | 0.06 | 0.10 | 0.04 | 0.37 |
| Poland | 0.10 | 0.13 | 0.10 | 0.08 | 0.27 |
| Portugal | 0.13 | 0.18 | 0.13 | 0.08 | 0.31 |
| Slovak Republic | 0.08 | 0.15 | 0.08 | 0.04 | 0.30 |
| Slovenia | 0.09 | 0.09 | 0.08 | 0.16 | 0.23 |
| Spain | 0.14 | 0.21 | 0.14 | 0.07 | 0.39 |
| Sweden | 0.09 | 0.08 | 0.09 | 0.09 | 0.26 |
| Switzerland | 0.09 | 0.08 | 0.06 | 0.23 | 0.24 |
| Turkey | 0.18 | 0.26 | 0.14 | 0.17 | 0.30 |
| United Kingdom | 0.11 | 0.10 | 0.10 | 0.13 | 0.33 |
| United States | 0.18 | 0.21 | 0.16 | 0.21 | 0.40 |
| EU 28 | 0.10 | 0.12 | 0.10 | 0.08 | 0.29 |
| OECD | 0.11 | 0.13 | 0.10 | 0.13 | 0.31 |
| Brazil | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. |
| Russian Federation | 0.14 | 0.19 | .. | .. | 0.27 |
| South Africa | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336319*

## Trends in poverty rates

*Relative poverty rates in mid-1980s, mid-1990s and 2012 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335124*

# HOUSEHOLD FINANCIAL ASSETS

Along with income, wealth is a key measure of households' economic resources. Households hold both non-financial and financial wealth. The structure of financial assets affects households financial risks as different types of securities carry different risk levels.

## Definition

Household financial assets are classified according to the 2008 *System of National Accounts* (currency and deposits; debt securities; equity, investment funds shares; life insurance and annuity entitlements; and pension entitlements and entitlements to non-pension benefits). They relate to the households and the non-profit institutions serving households (NPISHs) sector. They exclude financial derivatives, loans and other accounts receivable.

The financial assets are classified according to their liquidity.

## Comparability

International comparability may be hampered by differences in the way pension systems are organised and operated in the various countries. According to the 2008 SNA employment related pension entitlements that are expected or likely to be enforceable, are to be recognised as liabilities towards households regardless of whether the necessary assets exist in segregated schemes or not. However, for pensions provided by a government to their employees, countries have some flexibility in the recording of the unfunded liabilities, which may hamper comparability across countries.

Any changes in the stocks of financial assets over a period are the result of two components: net acquisitions of financial assets; and changes in valuations (holding gains and losses depending on the performance of financial markets), of which those for quoted shares are the most relevant.

### *Overview*

The comparison of the structure of households' stocks of financial assets between 2008 and 2014 gives some insight into the impact of recent economic developments on the restructuring of their portfolio towards financial instruments better adapted to the new environment, i.e. more liquid and less risky. There is a slight decrease in the share of both currency and deposits, and debt securities for two-thirds of OECD countries over the period 2008-14. The largest decreases were recorded for Hungary and Italy (minus 8 percentage points) for currency and deposits and debt securities respectively. The share of life insurance remained relatively stable in a large number of OECD countries. On the other hand, the share of pension entitlements, equity, and investment fund shares became more popular in most OECD countries, the largest rise being observed in Greece (13 percentage points) for equity, and in the Netherlands (11 percentage points) for pension entitlements.

Considerable differences in national preferences for financial instruments can be observed across the OECD. Currency and deposits, the most liquid of the asset categories and also considered the one with the least risk, represented more than 50% in five OECD countries (the Czech Republic, Greece, Luxembourg, the Slovak Republic and Turkey) in 2014, and in Japan in 2013. The proportion of debt securities held by households was low in most OECD countries in 2014 with the exception of Italy (13%). Furthermore, despite the financial crisis, equity remained a predominant portfolio asset held by households in for example Estonia (53%), Finland (36%), and Sweden (35%). Household reserves in life insurance and pension funds represented more than half of the stock of total financial assets in the Netherlands (65%), Chile (62%), the United Kingdom (59%), Australia (56%) and Denmark (49%), whereas they remained at a very low level in Greece (3%).

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## Financial assets of households by type of assets

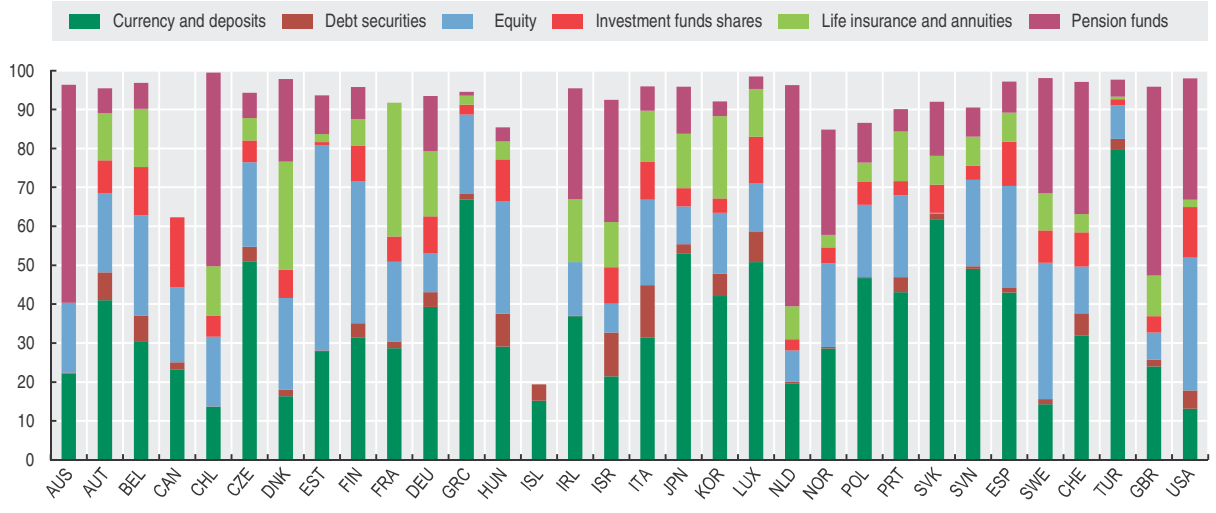
*As a percentage of total financial assets*

| | Currency and deposits | | Debt securities | | Equity | | Investment funds shares | | Life insurance and annuities | | Pension funds | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2014 | 2008 | 2014 | 2008 | 2014 | 2008 | 2014 | 2008 | 2014 | 2008 | 2014 |
| Australia | 23.7 | 22.2 | 0.7 | 0.2 | 18.8 | 18.0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.1 | 56.0 |
| Austria | 44.5 | 41.0 | 8.8 | 7.1 | 16.6 | 20.4 | 7.2 | 8.4 | 12.9 | 12.1 | 6.3 | 6.4 |
| Belgium | 30.3 | 30.5 | 10.0 | 6.5 | 23.0 | 25.8 | 12.4 | 12.4 | 14.7 | 15.0 | 6.3 | 6.7 |
| Canada | 26.6 | 23.3 | 3.2 | 1.8 | 16.2 | 19.2 | 15.0 | 18.0 | .. | .. | .. | .. |
| Chile | 14.4 | 13.7 | 0.0 | 0.0 | 26.0 | 17.9 | 4.2 | 5.4 | 13.0 | 12.7 | 41.9 | 49.8 |
| Czech Republic | 52.9 | 50.9 | 0.6 | 3.9 | 25.1 | 21.7 | 4.9 | 5.5 | 5.8 | 5.7 | 5.2 | 6.5 |
| Denmark | 21.3 | 16.4 | 4.9 | 1.6 | 20.9 | 23.6 | 5.3 | 7.3 | 24.5 | 27.8 | 20.2 | 21.3 |
| Estonia | 22.7 | 28.0 | 0.8 | 0.1 | 63.4 | 52.8 | 0.4 | 0.8 | 1.4 | 2.0 | 4.6 | 9.9 |
| Finland | 39.1 | 31.5 | 2.1 | 3.6 | 29.4 | 36.5 | 6.0 | 9.1 | 7.3 | 6.9 | 11.3 | 8.3 |
| France | 30.4 | 28.7 | 2.2 | 1.7 | 17.9 | 20.5 | 7.9 | 6.5 | 33.6 | 34.4 | 0.0 | 0.0 |
| Germany | 39.4 | 39.3 | 6.3 | 3.8 | 9.4 | 9.9 | 9.0 | 9.5 | 16.5 | 16.8 | 13.1 | 14.1 |
| Greece | 71.4 | 66.9 | 9.0 | 1.4 | 6.9 | 20.4 | 2.1 | 2.6 | 2.5 | 2.2 | 0.4 | 1.1 |
| Hungary | 37.5 | 29.1 | 5.6 | 8.4 | 26.9 | 29.0 | 6.9 | 10.7 | 5.2 | 4.6 | 10.0 | 3.6 |
| Iceland | 24.1 | .. | 4.3 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 42.7 | 36.9 | 0.1 | 0.1 | 16.2 | 13.7 | 0.0 | 0.0 | 15.0 | 16.2 | 22.0 | 28.5 |
| Israel | 27.4 | .. | 17.6 | .. | 10.2 | .. | 0.0 | .. | 9.2 | .. | 29.4 | .. |
| Italy | 29.2 | 31.5 | 21.3 | 13.4 | 24.4 | 22.0 | 6.0 | 9.7 | 9.1 | 13.2 | 5.7 | 6.3 |
| Japan | 53.7 | .. | 4.3 | .. | 6.4 | .. | 3.2 | .. | 14.5 | .. | 13.8 | .. |
| Korea | .. | 42.0 | .. | 5.8 | .. | 15.6 | .. | 3.7 | .. | 21.1 | .. | 3.8 |
| Luxembourg | 54.5 | 50.8 | 11.8 | 7.7 | 11.6 | 12.6 | 11.1 | 11.9 | 7.8 | 12.2 | 2.0 | 3.2 |
| Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Netherlands | 22.7 | 19.6 | 1.8 | 0.5 | 12.0 | 8.1 | 3.1 | 2.9 | 10.4 | 8.4 | 45.8 | 56.9 |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 29.4 | 28.6 | 0.8 | 0.4 | 21.2 | 21.5 | 3.2 | 4.1 | 4.2 | 3.2 | 24.1 | 27.1 |
| Poland | 46.4 | 46.7 | 1.0 | 0.3 | 19.6 | 18.6 | 5.6 | 6.0 | 7.0 | 4.8 | 15.1 | 10.2 |
| Portugal | 41.8 | 43.0 | 5.2 | 3.9 | 20.7 | 21.1 | 4.4 | 3.6 | 12.3 | 12.7 | 7.4 | 5.7 |
| Slovak Republic | 61.8 | 61.8 | 0.2 | 1.4 | 0.3 | 0.2 | 7.1 | 7.3 | 8.3 | 7.3 | 8.4 | 13.9 |
| Slovenia | 47.9 | 49.0 | 1.4 | 0.7 | 25.2 | 22.2 | 3.3 | 3.6 | 5.1 | 7.5 | 4.9 | 7.4 |
| Spain | 46.7 | 43.0 | 2.2 | 1.3 | 23.7 | 26.0 | 8.8 | 11.4 | 5.9 | 7.5 | 8.1 | 8.0 |
| Sweden | 16.4 | 14.3 | 2.5 | 1.4 | 29.5 | 35.0 | 7.2 | 8.3 | 14.2 | 9.5 | 27.5 | 29.6 |
| Switzerland | 28.8 | .. | 9.4 | .. | 9.3 | .. | 8.9 | .. | 5.6 | .. | 34.6 | .. |
| Turkey | .. | 79.8 | .. | 2.6 | .. | 8.6 | .. | 1.6 | .. | 0.6 | .. | 4.4 |
| United Kingdom | 28.1 | 24.0 | 1.4 | 1.7 | 7.3 | 7.0 | 2.5 | 4.2 | 12.6 | 10.4 | 43.3 | 48.5 |
| United States | 14.3 | 13.2 | 9.2 | 4.6 | 28.9 | 34.1 | 10.5 | 13.0 | 2.3 | 1.9 | 32.0 | 31.2 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336294*

## Financial assets of households by type of assets

*As a percentage of their total financial assets, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335102*

# HOUSEHOLD DEBT

The household debt ratio measures the indebtedness of households in relation to their income, that is their spending and saving capacity. High debt ratios are often interpreted as a sign of financial vulnerability though one should also take into account the availability of assets (e.g. dwellings) in such an assessment. High indebtedness levels generally increase the financing costs of the borrower, deteriorate balance sheet positions and may restrict access to new financing.

## Definition

Debt is a commonly used concept, defined as a specific subset of liabilities identified according to the types of financial instruments included or excluded. Generally, debt is defined as all liabilities that require payment or payments of interest or principal by the debtor to the creditor at a date or dates in the future.

Consequently, all debt instruments are liabilities, but some liabilities such as equity and investment fund shares and financial derivatives are not considered as debt. Debt is thus obtained as the sum of the following liability categories, whenever available/applicable in the financial balance sheet of the households and non-profit institutions serving households (NPISHs) sector: monetary gold and Special Drawing Rights (SDRs), currency and deposits; debt securities; loans; insurance, pension, and standardised guarantees; and other accounts payable. For the households sector, liabilities predominantly consist of loans, and more particularly mortgage loans for the purchase of houses.

## Comparability

As a number of OECD countries are not able to provide a breakdown between households and NPISHs, household debt refers to the aggregated sector "Households and NPISHs" to ensure the highest level of comparability between countries.

### *Overview*

Households remain highly indebted in a large number of OECD economies. In 2013, the ratio of household debt to net disposable income (NDI) was far higher than the OECD average (134%), in Denmark, the Netherlands, Norway, Ireland, Australia and Switzerland. Hungary had the lowest debt ratio at 57% in 2013.

The level of household debt rose in most OECD countries over the period 2007-13. As a percentage of NDI, Greece recorded the largest increase during this period (around 31 percentage points). Belgium, Canada, the Netherlands and Poland showed increases of around 20 percentage points, followed by the Slovak Republic with 19 percentage points. A net fall of respectively 31 and 28 percentage points were observed in the United Kingdom and the United States, and to a lesser extent in Estonia, Spain and Ireland.

Long-term loans, mainly consisting of mortgage loans, remain the largest component of household debt, contributing more than 80% of the total household debt in twenty four OECD countries and even more than 90% in eighteen countries. In 2013, the highest levels were recorded in Estonia (98%) and Norway (97%) and the lowest ratios were observed in the United States (72%), and Korea (82%).

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## Household debt

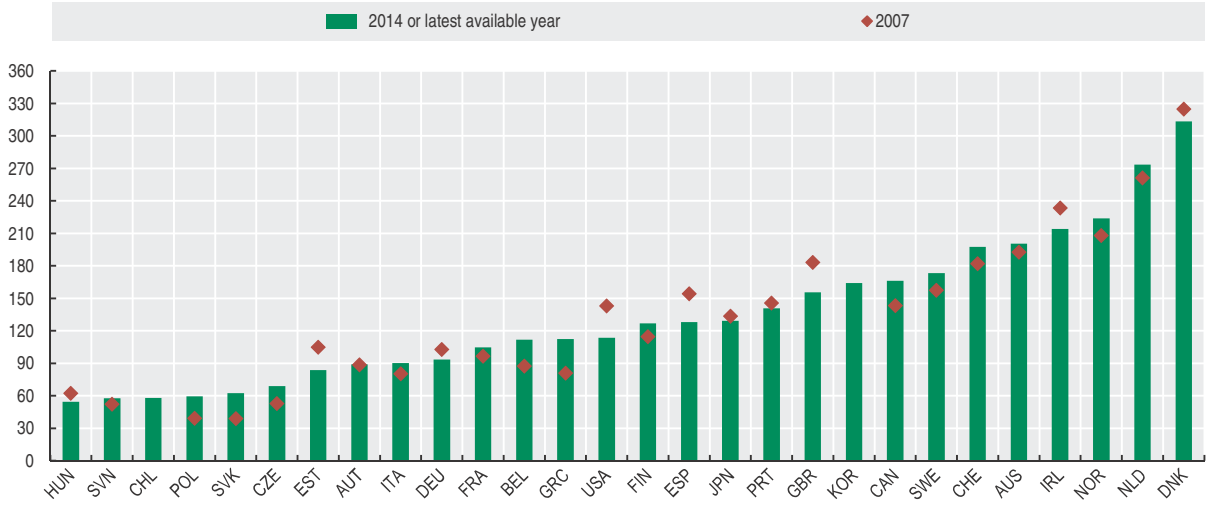
*Debt of households and non-profit institutions serving households, as a percentage of net disposable income*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 154.6 | 165.0 | 178.4 | 186.4 | 190.3 | 192.8 | 188.1 | 195.3 | 195.5 | 194.2 | 196.6 | 200.4 | .. |
| Austria | 79.3 | 79.4 | 83.3 | 87.5 | 88.8 | 88.6 | 90.2 | 90.3 | 94.2 | 93.5 | 89.5 | 89.3 | 89.1 |
| Belgium | 68.3 | 70.7 | 74.6 | 79.5 | 83.3 | 87.4 | 89.8 | 90.8 | 96.0 | 102.4 | 104.2 | 107.3 | 111.9 |
| Canada | 114.4 | 119.4 | 124.8 | 132.1 | 135.2 | 143.4 | 148.4 | 157.4 | 160.2 | 161.5 | 163.1 | 163.8 | 166.1 |
| Chile | .. | .. | .. | .. | .. | .. | 58.9 | 57.2 | 57.5 | 57.2 | 56.8 | 57.9 | .. |
| Czech Republic | 27.1 | 29.2 | 34.1 | 39.4 | 43.6 | 52.9 | 58.8 | 60.3 | 61.9 | 64.4 | 65.8 | 67.6 | 68.9 |
| Denmark | 242.9 | 248.7 | 261.9 | 282.1 | 299.4 | 324.7 | 339.4 | 338.7 | 325.1 | 319.5 | 314.6 | 313.0 | 313.3 |
| Estonia | 32.7 | 41.7 | 54.0 | 71.7 | 93.6 | 104.7 | 101.1 | 108.6 | 107.1 | 95.6 | 92.8 | 83.6 | 83.7 |
| Finland | 75.6 | 79.9 | 88.6 | 99.2 | 109.4 | 114.7 | 117.1 | 117.5 | 119.6 | 121.0 | 124.0 | 123.3 | 126.7 |
| France | 77.5 | 81.1 | 81.9 | 88.4 | 93.6 | 96.6 | 98.7 | 104.3 | 107.5 | 107.1 | 103.4 | 103.8 | 104.7 |
| Germany | 113.6 | 112.0 | 110.4 | 108.1 | 105.7 | 102.6 | 99.4 | 100.3 | 98.3 | 96.5 | 95.5 | 94.5 | 93.6 |
| Greece | .. | .. | .. | .. | 72.7 | 80.8 | 85.3 | 86.7 | 104.3 | 111.5 | 109.0 | 112.4 | .. |
| Hungary | 27.0 | 35.8 | 41.2 | 47.1 | 53.8 | 62.2 | 76.1 | 76.6 | 81.1 | 74.5 | 63.1 | 57.1 | 54.4 |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 125.3 | 146.1 | 168.7 | 199.0 | 223.2 | 233.3 | 227.1 | 235.6 | 231.3 | 230.3 | 221.9 | 214.1 | .. |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 59.4 | 62.5 | 66.2 | 71.3 | 76.1 | 80.2 | 81.6 | 86.5 | 90.4 | 89.9 | 92.0 | 90.6 | 90.1 |
| Japan | 139.5 | 138.1 | 137.4 | 137.9 | 137.3 | 133.6 | 132.2 | 132.4 | 131.9 | 128.3 | 127.1 | 129.2 | .. |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | .. | 157.8 | 159.4 | 160.3 | 164.2 |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Netherlands | 204.4 | 222.9 | 233.0 | 251.5 | 256.9 | 261.4 | 274.3 | 286.6 | 293.9 | 287.8 | 288.4 | 280.9 | 273.6 |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 147.8 | 151.4 | 161.6 | 167.4 | 199.2 | 207.9 | 207.6 | 207.0 | 212.1 | 216.8 | 220.2 | 221.9 | 223.9 |
| Poland | .. | 19.7 | 21.6 | 25.0 | 31.2 | 39.2 | 51.5 | 52.8 | 57.2 | 60.7 | 58.6 | 59.5 | .. |
| Portugal | 121.6 | 123.6 | 126.8 | 135.9 | 140.6 | 145.7 | 148.9 | 151.4 | 154.4 | 144.9 | 150.9 | 141.3 | 140.8 |
| Slovak Republic | 24.2 | 27.7 | 25.9 | 29.8 | 32.8 | 38.9 | 42.5 | 42.1 | 43.1 | 49.4 | 54.8 | 57.6 | 62.3 |
| Slovenia | 33.6 | 35.4 | 36.0 | 40.3 | 44.9 | 52.2 | 53.5 | 56.2 | 58.9 | 57.7 | 59.5 | 58.8 | 57.6 |
| Spain | 94.1 | 102.3 | 113.6 | 128.2 | 144.3 | 154.1 | 150.1 | 145.2 | 148.6 | 142.7 | 141.2 | 134.1 | 128.0 |
| Sweden | 121.6 | 128.2 | 137.0 | 146.7 | 153.8 | 157.4 | 159.5 | 163.5 | 170.7 | 168.5 | 167.1 | 169.7 | 173.4 |
| Switzerland | 173.3 | 182.5 | 184.2 | 188.2 | 187.6 | 182.1 | 180.4 | 184.0 | 189.3 | 194.0 | 196.0 | 197.4 | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 138.8 | 151.6 | 164.9 | 167.2 | 178.9 | 183.3 | 178.2 | 167.5 | 158.7 | 159.1 | 153.7 | 152.0 | 155.7 |
| United States | 112.4 | 120.3 | 126.9 | 134.6 | 139.7 | 143.1 | 135.3 | 133.7 | 127.2 | 119.0 | 113.6 | 115.1 | 113.4 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336257*

## Households and NPISHs debt

*As a percentage of net disposable income*




1 2 *http://dx.doi.org/10.1787/888933335066*

# NON-FINANCIAL ASSETS OF HOUSEHOLDS

Non-financial assets held by households reflect the assets owned by unincorporated household enterprises and dwellings owned by households, with the latter representing by far the bulk of non-financial assets held by households. They form an important part of overall wealth and can provide an important additional source of revenue; either through their sale or refinancing, or as income via rentals of residential property for example. Estimates of non-financial assets held by households also play an important role in economic analyses, such as studies of asset bubbles, and analyses of living standards.

## Definition

Non-financial assets held by households include, in theory, both produced and non-produced non-financial assets, i.e. dwellings, other buildings and structures and land improvements; machinery and equipment including livestock; and intellectual property products, such as software and literary originals, and non-produced assets such as land and taxi-licenses. In practice dwellings form by far the most significant component.

Except for dwellings, only those assets owned by household unincorporated enterprises, and used in production, are included as non-financial assets. For example a car used by a household purely for household transport is not a non-financial asset whereas a car used by a self-employed taxi driver is.

Non-financial assets are valued at the market prices at the time of the balance sheet, and are recorded net of depreciation.

## Comparability

Information on non-financial assets held by households typically relies on household based surveys. As a consequence, the quality of this information, except for that pertaining to dwellings and land, is generally of lower quality than it is for similar information collected on incorporated businesses.

Moreover, in practice, countries use a variety of methods to differentiate between the value of dwellings and the land on which the dwellings sit, meaning that comparisons of these subcomponents across countries are challenging. Some countries include the value of land under dwellings within the figures for dwellings. This matters not only for international comparability but also because dwellings, as produced assets depreciate whereas land, as a non-produced asset, does not. A particular challenge arises from capturing quality change and quality differences in the housing stock and valuing it accordingly.

The caveats above, pertaining to the distinction between land and dwellings, mean that users should be particularly careful in using the figures in making international comparisons. The OECD is working with national statistics institutes so that future versions of these data reflect a greater degree of international comparability.

Data are assets net of depreciation for all countries except for the Slovak Republic and Poland (gross recording).

### *Overview*

The non-financial assets of households in dwellings constitute a large share of household wealth. This indicator is of particular interest since the financial crisis because it may indicate risks of a speculative bubble.

In most OECD countries dwelling values per capita have grown steadily since 2010. In contrast, dwelling values per capita have fallen since 2010 in the Netherlands. The Netherland's land values have also exhibited sizable declines in recent years (minus 10% in 2012 and minus 9.7% in 2013).

Only nine OECD countries currently provide data on land. For those countries reporting data the value of the land exceeds that of dwellings in 5 of them in 2013.

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## Non-financial assets of households

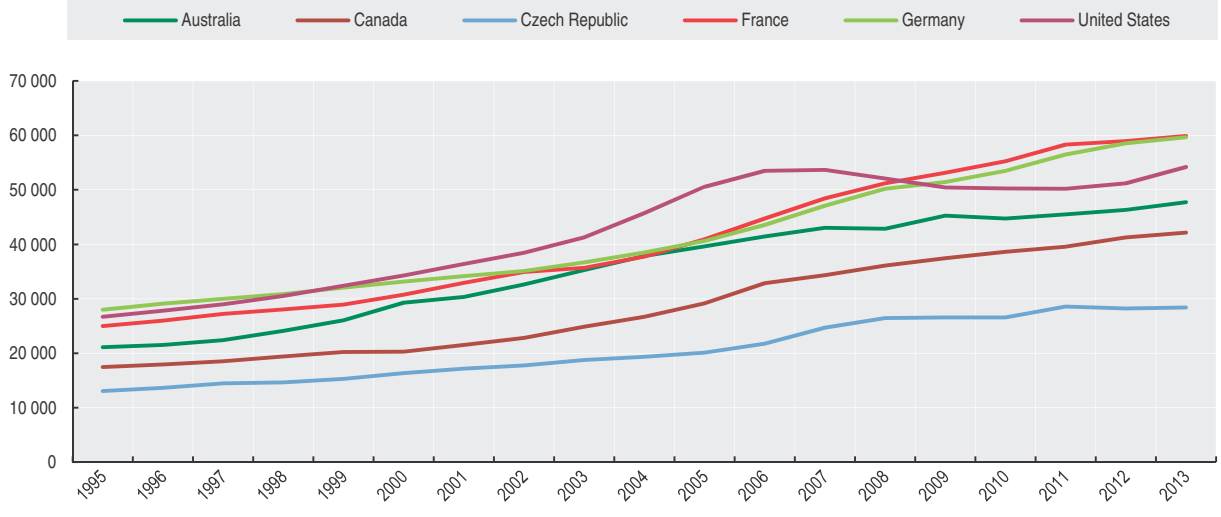
*US dollars at current PPPs, per capita*

| | Dwellings | | | | Land | | | | Other | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2011 | 2012 | 2013 | 2010 | 2011 | 2012 | 2013 | 2010 | 2011 | 2012 | 2013 |
| Australia | 44 748 | 45 479 | 46 291 | 47 711 | 92 678 | 86 630 | 89 250 | 98 839 | 16 627 | 16 661 | 16 971 | 17 278 |
| Austria | 48 602 | 50 804 | 52 312 | 53 533 | .. | .. | .. | .. | .. | .. | .. | .. |
| Belgium | 49 853 | 51 629 | 53 280 | 53 408 | .. | .. | .. | .. | .. | .. | .. | .. |
| Canada | 38 617 | 39 560 | 41 261 | 42 163 | 35 659 | 37 687 | 39 448 | 43 026 | 1 869 | 1 903 | 1 827 | 1 843 |
| Chile | 12 976 | 13 930 | 13 998 | 14 504 | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 26 575 | 28 554 | 28 226 | 28 410 | 7 549 | 8 044 | 8 139 | 8 267 | 5 568 | 6 440 | 6 579 | 6 626 |
| Denmark | 37 431 | 41 738 | 42 083 | 42 153 | .. | .. | .. | .. | .. | .. | .. | .. |
| Estonia | 23 446 | 24 609 | 24 213 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Finland | 42 709 | 45 142 | 47 617 | 48 108 | 21 335 | 22 256 | 22 850 | 23 239 | .. | .. | .. | .. |
| France | 55 254 | 58 282 | 58 939 | 59 891 | 63 576 | 66 525 | 62 926 | 60 568 | 7 194 | 7 408 | 7 202 | 7 033 |
| Germany | 53 494 | 56 475 | 58 551 | 59 648 | .. | .. | .. | .. | .. | .. | .. | .. |
| Greece | 44 516 | 44 514 | 44 676 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hungary | 24 321 | 24 993 | 24 991 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Israel | 26 791 | 28 532 | 30 052 | 31 037 | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 49 145 | 52 164 | 53 517 | 54 618 | .. | .. | .. | .. | .. | .. | .. | .. |
| Japan | 21 083 | 21 645 | 21 985 | 22 850 | 52 882 | 53 479 | 54 129 | 53 928 | 4 550 | 4 601 | 4 649 | 4 684 |
| Korea | 23 117 | 23 927 | 24 402 | 25 329 | 72 576 | 76 634 | 78 033 | 78 994 | 9 086 | 9 511 | 9 414 | 9 370 |
| Luxembourg | 46 548 | 48 939 | 49 958 | 49 768 | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Netherlands | 53 266 | 53 003 | 51 881 | 50 849 | 53 982 | 54 145 | 48 740 | 43 999 | .. | .. | .. | .. |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Poland | 5 626 | 5 775 | 5 895 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Portugal | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Slovak Republic | 31 836 | 32 296 | 32 767 | 33 865 | .. | .. | .. | .. | .. | .. | .. | .. |
| Slovenia | 28 367 | 29 519 | 30 440 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Spain | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sweden | 29 677 | 30 534 | 31 134 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Switzerland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United States | 50 256 | 50 218 | 51 190 | 54 214 | 33 460 | 33 785 | 39 144 | 46 095 | .. | .. | .. | .. |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336271*

## Non-financial assets of households per capita: dwellings

*US dollars at current PPPs*




1 2 *http://dx.doi.org/10.1787/888933335085*





# GLOBALISATION

## TRADE

SHARE OF INTERNATIONAL TRADE IN GDP
INTERNATIONAL MERCHANDISE TRADE
INTERNATIONAL TRADE IN SERVICES
TRADE IN VALUE ADDED
TRADE IN VALUE ADDED: ROLE OF INTERMEDIATES AND SERVICES

## FDI AND BALANCE OF PAYMENTS

FOREIGN DIRECT INVESTMENT FLOWS
FOREIGN DIRECT INVESTMENT STOCKS
FDI REGULATORY RESTRICTIVENESS INDEX
BALANCE OF PAYMENTS

# SHARE OF INTERNATIONAL TRADE IN GDP

In today's increasingly globalised world, exports and imports are key aggregates in the analysis of a country's economic situation. Whenever an economy slows down or accelerates, all other economies are potentially affected through trade linkages.

## Definition

Exports of goods and services consist of sales, barter or gifts or grants, of goods and services (included in the production boundary of GDP) from residents to non-residents. Equally, imports reflect the same transactions from non-residents to residents.

Not all goods need to physically enter a country's border to be recorded as an export or import. Transportation equipment, goods produced by residents in international waters sold directly to non-residents, and food consumed in ships or planes are but a few examples of transactions which may be recorded as exports or imports without physically crossing borders.

Equally not all goods that enter a country's borders are necessarily imports or exports. Transportation equipment, goods sent abroad for minor processing (or which enter and leave a country in their original state and ownership) are examples of goods that cross borders but are not recorded as imports or exports.

## Comparability

Goods (merchandise trade) reflect the bulk of import and exports, and these are generally well covered and afford good comparability across countries; although discrepancies between total imports and exports of traded goods at the global level reveal that measurement in practice is not trivial. Growth in trade through the Internet has increased measurement difficulties.

The comparability of trade in services is more affected by practical measurement issues however; even if the conceptual approach, as it is for goods, is the same for all OECD countries.

Increases in outsourcing, merchanting, processing services and transactions in intellectual property, such as software and artistic originals, have increased the difficulties inherent in the measurement of trade in services.

### *Overview*

International trade measured as the ratio of exports and imports to GDP increased for almost all OECD countries in 2010 and 2011, following sharp declines during the financial crisis. For 2010 and 2011, exports and imports as a share of GDP increased by more than 2 percentage points for the OECD total. The GDP ratio for imports fell in 15 countries in 2012 and fell even further in 2013 and 2014 for many OECD countries reflecting a weak demand for imported products as many economies slowed. However, the GDP ratio for exports also fell in 2012-14 but fewer countries saw declines as compared to the drops in the import share.

Looking at the balance of exports and imports in 2014, Luxembourg shows the largest surplus at 32.4% of GDP. Other countries showing a surplus greater than 10% are Ireland, the Netherlands and Switzerland, whereas Norway, Slovenia, Hungary, Germany, the Czech Republic, Iceland, Denmark and Korea have trade surpluses of more than 5% of GDP. On the other hand Turkey, Japan, the United States and Greece have deficits of more than 2% of GDP.

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## International trade in goods and services

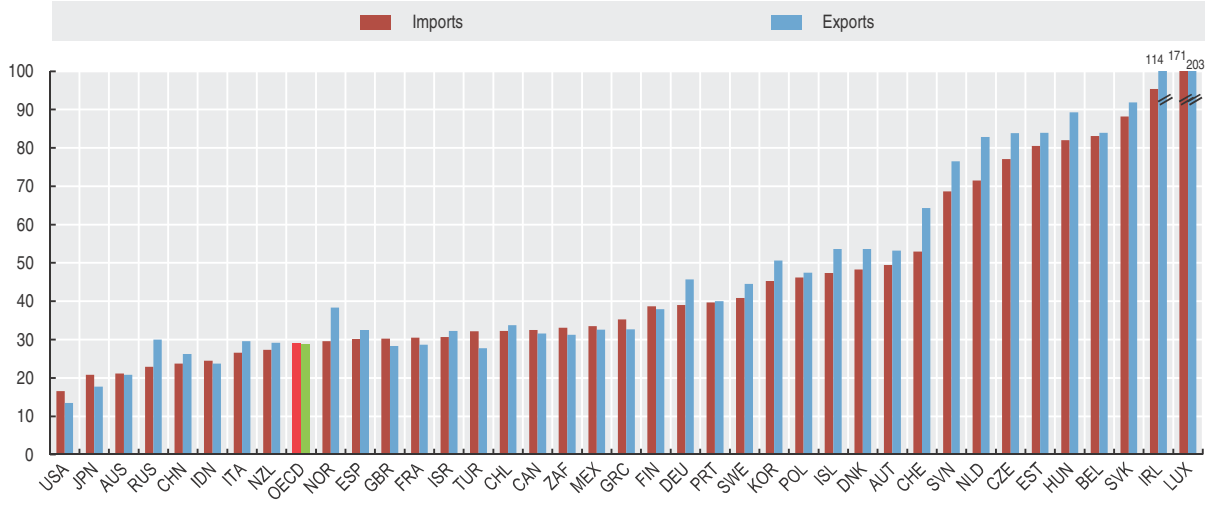
*As a percentage of GDP*

| | Imports | | | | | | Exports | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Australia | 20.4 | 20.1 | 21.5 | 21.1 | 21.3 | 21.2 | 19.5 | 21.2 | 21.3 | 19.9 | 20.9 | 20.8 |
| Austria | 41.9 | 47.7 | 51.2 | 51.2 | 50.2 | 49.5 | 44.9 | 51.0 | 53.7 | 53.8 | 53.2 | 53.2 |
| Belgium | 67.0 | 74.7 | 81.1 | 81.7 | 80.9 | 83.1 | 69.3 | 76.4 | 81.6 | 82.3 | 82.2 | 84.0 |
| Canada | 29.9 | 31.0 | 31.8 | 32.1 | 31.8 | 32.5 | 28.4 | 29.1 | 30.6 | 30.2 | 30.2 | 31.6 |
| Chile | 29.6 | 31.7 | 34.9 | 34.5 | 33.1 | 32.3 | 37.2 | 38.1 | 38.1 | 34.3 | 32.4 | 33.8 |
| Czech Republic | 54.9 | 63.1 | 67.7 | 71.7 | 71.5 | 77.1 | 58.8 | 66.2 | 71.6 | 76.6 | 77.3 | 83.8 |
| Denmark | 42.4 | 43.6 | 47.4 | 48.6 | 48.5 | 48.3 | 46.7 | 49.7 | 52.9 | 54.0 | 54.3 | 53.7 |
| Estonia | 55.8 | 68.7 | 80.8 | 85.6 | 84.6 | 80.5 | 60.8 | 75.1 | 86.5 | 86.6 | 86.8 | 83.9 |
| Finland | 34.3 | 37.4 | 40.0 | 40.9 | 39.8 | 38.7 | 36.3 | 38.7 | 39.2 | 39.5 | 39.0 | 37.9 |
| France | 25.5 | 27.9 | 30.4 | 30.7 | 30.4 | 30.5 | 24.1 | 26.0 | 27.8 | 28.5 | 28.5 | 28.7 |
| Germany | 32.9 | 37.1 | 39.9 | 39.9 | 39.5 | 39.0 | 37.8 | 42.3 | 44.8 | 46.0 | 45.5 | 45.7 |
| Greece | 28.8 | 30.7 | 32.3 | 33.1 | 33.4 | 35.2 | 19.0 | 22.1 | 25.5 | 28.7 | 30.6 | 32.7 |
| Hungary | 70.8 | 77.0 | 81.1 | 80.1 | 80.7 | 82.0 | 74.8 | 82.3 | 87.2 | 86.8 | 88.0 | 89.3 |
| Iceland | 40.8 | 43.5 | 48.6 | 50.9 | 47.7 | 47.4 | 49.8 | 53.7 | 56.6 | 57.0 | 55.7 | 53.6 |
| Ireland | 80.1 | 87.1 | 83.3 | 90.0 | 87.4 | 95.4 | 93.6 | 103.1 | 101.2 | 107.2 | 106.7 | 113.7 |
| Israel | 30.4 | 32.8 | 35.4 | 35.6 | 31.4 | 30.6 | 33.3 | 35.0 | 36.1 | 36.9 | 33.2 | 32.3 |
| Italy | 23.1 | 27.1 | 28.6 | 27.6 | 26.5 | 26.5 | 22.5 | 25.2 | 27.0 | 28.6 | 28.9 | 29.6 |
| Japan | 12.3 | 14.0 | 16.0 | 16.7 | 19.0 | 20.8 | 12.7 | 15.2 | 15.1 | 14.7 | 16.2 | 17.7 |
| Korea | 42.9 | 46.2 | 54.3 | 53.5 | 48.9 | 45.3 | 47.5 | 49.4 | 55.7 | 56.3 | 53.9 | 50.6 |
| Luxembourg | 136.5 | 147.1 | 154.8 | 158.9 | 161.9 | 170.9 | 166.5 | 179.0 | 185.6 | 189.2 | 195.6 | 203.3 |
| Mexico | 28.8 | 31.1 | 32.6 | 33.8 | 32.7 | 33.5 | 27.3 | 29.9 | 31.3 | 32.7 | 31.8 | 32.6 |
| Netherlands | 55.8 | 63.6 | 68.8 | 72.3 | 71.6 | 71.5 | 63.2 | 72.0 | 77.4 | 81.9 | 82.6 | 82.9 |
| New Zealand | 26.6 | 28.2 | 29.2 | 28.5 | 27.6 | 27.4 | 29.0 | 30.5 | 30.8 | 29.2 | 29.3 | 29.2 |
| Norway | 27.9 | 28.6 | 28.5 | 27.7 | 28.6 | 29.6 | 39.2 | 39.8 | 41.3 | 40.6 | 38.8 | 38.3 |
| Poland | 38.3 | 42.1 | 44.5 | 44.9 | 44.4 | 46.2 | 37.6 | 40.0 | 42.5 | 44.4 | 46.3 | 47.4 |
| Portugal | 34.0 | 37.4 | 38.6 | 38.2 | 38.5 | 39.7 | 27.1 | 29.9 | 34.3 | 37.7 | 39.5 | 40.0 |
| Slovak Republic | 69.3 | 78.0 | 86.2 | 88.1 | 89.6 | 88.2 | 67.8 | 76.6 | 85.3 | 91.8 | 93.8 | 91.9 |
| Slovenia | 55.4 | 62.9 | 68.5 | 69.1 | 69.3 | 68.7 | 57.2 | 64.3 | 70.4 | 73.3 | 75.2 | 76.5 |
| Spain | 23.8 | 26.8 | 29.2 | 29.1 | 28.7 | 30.1 | 22.7 | 25.5 | 28.9 | 30.6 | 32.0 | 32.5 |
| Sweden | 38.7 | 40.7 | 42.0 | 41.4 | 39.3 | 40.8 | 44.5 | 46.2 | 46.7 | 46.3 | 43.8 | 44.5 |
| Switzerland | 49.9 | 53.5 | 57.3 | 56.9 | 60.2 | 53.0 | 57.4 | 64.2 | 65.8 | 67.3 | 72.3 | 64.3 |
| Turkey | 24.4 | 26.8 | 32.6 | 31.5 | 32.2 | 32.2 | 23.3 | 21.2 | 24.0 | 26.3 | 25.6 | 27.7 |
| United Kingdom | 29.2 | 31.3 | 32.3 | 32.2 | 32.0 | 30.3 | 26.8 | 28.6 | 30.7 | 30.1 | 30.0 | 28.4 |
| United States | 13.8 | 15.8 | 17.3 | 17.1 | 16.6 | 16.6 | 11.0 | 12.4 | 13.6 | 13.6 | 13.6 | 13.5 |
| Euro area | 33.4 | 37.5 | 40.4 | 40.9 | 40.5 | 40.7 | 34.8 | 38.9 | 41.8 | 43.6 | 43.9 | 44.5 |
| EU 28 | 33.8 | 37.6 | 40.3 | 40.6 | 40.2 | 40.2 | 34.8 | 38.5 | 41.4 | 42.6 | 42.9 | 43.0 |
| OECD | 24.3 | 27.0 | 29.4 | 29.3 | 29.0 | 29.1 | 24.0 | 26.3 | 28.3 | 28.7 | 28.7 | 28.9 |
| Brazil | 11.3 | 11.8 | 12.2 | .. | .. | .. | 10.9 | 10.7 | 11.5 | .. | .. | .. |
| China | 22.3 | 25.6 | 25.9 | 24.5 | 23.8 | .. | 26.7 | 29.4 | 28.5 | 27.3 | 26.2 | .. |
| India | 25.0 | .. | .. | .. | .. | .. | 19.8 | .. | .. | .. | .. | .. |
| Indonesia | 21.1 | 22.4 | 23.9 | 25.0 | 24.8 | 24.5 | 23.6 | 24.3 | 26.3 | 24.6 | 24.0 | 23.7 |
| Russian Federation | 20.5 | 21.1 | 21.7 | 22.3 | 22.7 | 22.9 | 27.9 | 29.2 | 30.3 | 29.5 | 28.6 | 30.0 |
| South Africa | 27.5 | 27.4 | 29.6 | 31.0 | 33.2 | 33.1 | 27.9 | 28.6 | 30.4 | 29.7 | 31.0 | 31.3 |

1 2 *http://dx.doi.org/10.1787/888933336720*

## International imports and exports in goods and services

*As percentage of GDP, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335659*

# INTERNATIONAL MERCHANDISE TRADE

For the majority of countries, international merchandise trade flows have grown steadily over the long term. However, in the recent years since the economic crisis, trade growth has remained flat, raising questions about the role of international trade as a driver of growth, and whether the slowdown is structural or pro-cyclical.

## Definition

According to United Nations guidelines, international merchandise trade statistics record all goods which add to, or subtract from, the stock of material resources of a country by entering (as imports) or leaving (as exports) its economic territory. Goods being transported through a country or temporarily admitted or withdrawn (except for goods for inward or outward processing) are not included in merchandise trade statistics.

All OECD countries use the United Nations guidelines to the extent that their data sources allow. There are some, generally minor, differences across countries in the coverage of certain types of transactions such as postal trade, imports and exports of military equipment under defence agreements, sea products traded by domestic vessels on the high seas and goods entering or leaving bonded customs areas.

## Comparability

Exports are usually valued free on board (f.o.b.), with the exception of the United States which values exports free alongside ship (f.a.s.), which is lower than f.o.b. by the cost of loading the goods on board. Imports are valued by most countries at cost, insurance and freight (c.i.f.) i.e. the cost of the goods plus the costs of insurance and freight to bring the goods to the borders of the importing country. Canada, however, reports imports at f.o.b. values.

The introduction by the European Union of the single market in 1993 resulted in a loss of accuracy for intra-EU trade because custom documents were no longer available to record all imports and exports. Note that while the OECD data mostly follow the UN recommendations, trade statistics reported by Eurostat follow Community definitions, and are not strictly comparable.

The OECD aggregate includes all 34 members only from 1999. The EU28 aggregate excludes Croatia.

### *Overview*

For a substantial number of OECD countries, notably in Europe, total imports in 2014 (in current US dollars) were below those recorded in 2011, reflecting a combination of an appreciating US dollar, lower oil prices, and weak domestic demand. In the United States and the United Kingdom, merchandise imports grew, but only modestly compared to earlier periods.

Merchandise exports likewise remained stable in the recent years. Petroleum exporters such as Brazil and Russia, saw their trade values decline, especially in 2014, in light of the drop in oil prices. In contrast, the European countries most severely affected by the crisis (Greece, Spain, Portugal and Italy) noted modest merchandise trade growth rates since 2010.

Overall, the merchandise trade balance deteriorated in several OECD countries in recent years, for instance in the United States, the United Kingdom, France and Turkey. However, Germany, Korea, the Netherlands, China and Russia have continued to run a merchandise trade surplus.

The Japanese merchandise trade balance has deteriorated sharply since 2011, resulting in annual trade deficits for these years after 30 years of surpluses. This reversal is related to the rise in energy imports in the aftermath of the tsunami and earthquake in 2011.

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## International trade in goods

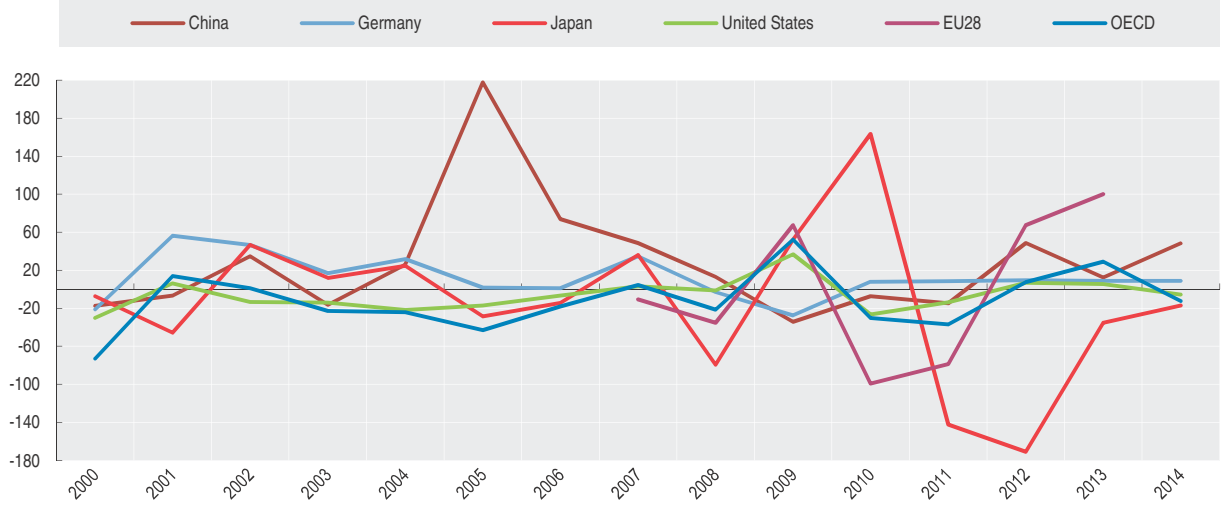
*Billion US dollars*

| | Trade balance | | | | Imports | | | | Exports | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2014 | 2000 | 2005 | 2010 | 2014 | 2000 | 2005 | 2010 | 2014 |
| Australia | -4.0 | -12.8 | 18.6 | 12.9 | 67.8 | 118.9 | 193.3 | 227.5 | 63.8 | 106.0 | 211.8 | 240.4 |
| Austria | -5.2 | -2.2 | -5.7 | -2.7 | 67.4 | 120.0 | 150.6 | 172.4 | 62.3 | 117.7 | 144.9 | 169.7 |
| Belgium | 10.8 | 13.8 | 21.0 | 19.4 | 177.0 | 320.2 | 390.1 | 452.8 | 187.8 | 334.0 | 411.1 | 472.2 |
| Canada | 37.6 | 46.1 | -5.5 | 10.9 | 240.0 | 314.4 | 392.1 | 462.0 | 277.6 | 360.6 | 386.6 | 472.9 |
| Chile | 1.6 | 9.0 | 11.5 | 4.3 | 16.6 | 32.9 | 59.4 | 72.3 | 18.2 | 42.0 | 70.9 | 76.6 |
| Czech Republic | -3.2 | 1.7 | 6.5 | 21.1 | 32.2 | 76.5 | 125.7 | 153.2 | 29.1 | 78.2 | 132.1 | 174.3 |
| Denmark | 5.2 | 8.3 | 12.3 | 11.2 | 44.4 | 75.0 | 84.5 | 99.6 | 49.6 | 83.3 | 96.8 | 110.7 |
| Estonia | -1.2 | -2.8 | -0.4 | -2.5 | 5.1 | 11.0 | 13.2 | 20.1 | 3.8 | 8.2 | 12.8 | 17.6 |
| Finland | 11.6 | 6.8 | 1.4 | -2.4 | 33.9 | 58.5 | 68.8 | 76.8 | 45.5 | 65.2 | 70.1 | 74.3 |
| France | -8.5 | -41.6 | -87.5 | -93.2 | 304.0 | 476.0 | 599.2 | 659.9 | 295.6 | 434.4 | 511.7 | 566.7 |
| Germany | 54.8 | 197.3 | 204.3 | 287.3 | 495.4 | 779.8 | 1 066.8 | 1 223.8 | 550.2 | 977.1 | 1 271.1 | 1 511.1 |
| Greece | -18.8 | -37.4 | -41.8 | -26.4 | 29.8 | 54.9 | 63.3 | 62.2 | 11.0 | 17.5 | 21.6 | 35.8 |
| Hungary | -4.0 | -3.6 | 7.3 | 9.2 | 32.1 | 65.9 | 87.4 | 103.2 | 28.1 | 62.3 | 94.7 | 112.4 |
| Iceland | -0.7 | -1.9 | 0.7 | -0.3 | 2.6 | 5.0 | 3.9 | 5.4 | 1.9 | 3.1 | 4.6 | 5.1 |
| Ireland | 25.6 | 39.7 | 57.8 | 47.2 | 50.6 | 70.3 | 60.5 | 71.0 | 76.3 | 110.0 | 118.3 | 118.3 |
| Israel | -4.3 | -2.3 | -0.8 | -3.4 | 35.7 | 45.0 | 59.2 | 72.3 | 31.4 | 42.8 | 58.4 | 69.0 |
| Italy | 1.9 | -11.9 | -39.9 | 56.7 | 238.1 | 384.8 | 486.6 | 471.7 | 239.9 | 373.0 | 446.8 | 528.4 |
| Japan | 99.6 | 79.1 | 75.7 | -138.4 | 379.7 | 515.9 | 694.1 | 822.3 | 479.2 | 594.9 | 769.8 | 683.8 |
| Korea | 11.8 | 23.2 | 41.2 | 47.5 | 160.5 | 261.2 | 425.2 | 525.6 | 172.3 | 284.4 | 466.4 | 573.1 |
| Luxembourg | -2.8 | -4.9 | -6.5 | -9.2 | 10.6 | 17.6 | 20.4 | 23.9 | 7.9 | 12.7 | 13.9 | 14.7 |
| Mexico | -13.1 | -7.6 | -3.2 | -2.9 | 179.4 | 221.8 | 301.5 | 400.0 | 166.3 | 214.2 | 298.3 | 397.1 |
| Netherlands | 5.4 | 36.9 | 52.7 | 63.3 | 174.7 | 283.2 | 440.0 | 508.0 | 180.1 | 320.1 | 492.6 | 571.3 |
| New Zealand | -0.6 | -4.5 | 0.8 | -0.9 | 13.9 | 26.2 | 30.2 | 42.5 | 13.3 | 21.7 | 30.9 | 41.6 |
| Norway | 25.5 | 48.3 | 54.1 | 53.7 | 34.4 | 55.5 | 77.3 | 89.2 | 59.9 | 103.8 | 131.4 | 142.8 |
| Poland | -17.2 | -12.2 | -17.1 | -2.2 | 48.8 | 101.5 | 174.1 | 216.7 | 31.6 | 89.4 | 157.1 | 214.5 |
| Portugal | -15.6 | -23.1 | -26.5 | -14.2 | 39.9 | 61.2 | 75.2 | 78.1 | 24.4 | 38.1 | 48.8 | 64.0 |
| Slovak Republic | -0.9 | -2.4 | -0.4 | 4.6 | 12.7 | 34.2 | 64.4 | 81.4 | 11.8 | 31.9 | 64.0 | 86.0 |
| Slovenia | -1.4 | -1.7 | -2.2 | 0.5 | 10.1 | 19.6 | 26.4 | 30.0 | 8.7 | 17.9 | 24.2 | 30.5 |
| Spain | -39.5 | -96.8 | -70.6 | -32.3 | 152.9 | 289.6 | 318.2 | 351.0 | 113.3 | 192.8 | 247.6 | 318.6 |
| Sweden | 14.2 | 18.9 | 9.6 | 1.9 | 73.1 | 111.4 | 148.8 | 162.5 | 87.4 | 130.3 | 158.4 | 164.3 |
| Switzerland | -2.0 | 4.4 | 19.3 | 36.1 | 82.5 | 126.6 | 176.3 | 275.1 | 80.5 | 130.9 | 195.6 | 311.1 |
| Turkey | -26.7 | -43.3 | -71.6 | -84.5 | 54.5 | 116.8 | 185.5 | 242.2 | 27.8 | 73.5 | 114.0 | 157.7 |
| United Kingdom | -56.6 | -131.4 | -156.6 | -183.2 | 339.4 | 515.8 | 562.4 | 694.3 | 282.9 | 384.4 | 405.8 | 511.1 |
| United States | -477.7 | -828.0 | -689.4 | -726.3 | 1 258.1 | 1 732.3 | 1 966.5 | 2 346.0 | 780.3 | 904.3 | 1 277.1 | 1 619.7 |
| EU 28 | .. | -155.4 | -231.2 | .. | .. | 1 465.5 | 2 026.9 | .. | .. | 1 310.1 | 1 795.8 | .. |
| OECD | -398.4 | -738.8 | -630.7 | -637.3 | 4 898.0 | 7 499.6 | 9 590.9 | 11 295.0 | 4 499.5 | 6 760.7 | 8 960.2 | 10 657.7 |
| Brazil | -0.7 | 44.9 | 16.9 | -4.0 | 55.9 | 73.6 | 180.5 | 229.1 | 55.1 | 118.5 | 197.4 | 225.1 |
| China | 24.1 | 102.0 | 181.8 | 384.3 | 225.1 | 660.0 | 1 396.0 | 1 958.0 | 249.2 | 762.0 | 1 577.8 | 2 342.3 |
| India | -10.6 | -40.5 | -129.6 | -141.8 | 52.9 | 140.9 | 350.0 | 459.4 | 42.4 | 100.4 | 220.4 | 317.5 |
| Indonesia | 28.6 | 28.0 | 22.1 | -2.1 | 33.5 | 57.7 | 135.7 | 178.2 | 62.1 | 85.7 | 157.8 | 176.0 |
| Russian Federation | 69.2 | 142.7 | 168.2 | 211.2 | 33.9 | 98.7 | 228.9 | 286.6 | 103.1 | 241.5 | 397.1 | 497.8 |
| South Africa | -0.5 | -8.0 | -0.3 | -9.3 | 26.8 | 55.0 | 82.9 | 99.9 | 26.3 | 47.0 | 82.6 | 90.6 |

1 2 *http://dx.doi.org/10.1787/888933336374*

## Evolution of the merchandise trade balance

*Annual growth rate in percentage*




1 2 *http://dx.doi.org/10.1787/888933335205*

# INTERNATIONAL TRADE IN SERVICES

International trade in services is growing in importance both among OECD countries and in the rest of the world. Traditional services – transport, insurance on merchandise trade, and travel – account for about half of international trade in services, but trade in newer types of services, particularly those that can be conducted via the Internet, is growing rapidly.

## Definition

International trade in services is defined according to the International Monetary Fund (IMF) *Balance of Payments and International Investment Manual* as well as by the *Manual on Statistics on International Trade in Services*. Services include: manufacturing services on physical inputs owned by others; maintenance and repair services n.i.e.; transport; travel (mainly expenditure on goods and services by tourists and business travellers); construction; insurance and pension services; financial services; charges for the use of intellectual property n.i.e.; telecommunications, computer and information services; other business services (research and development services, operational leasing, technical and professional services, etc.); personal cultural and recreational services (rents for films, fees for actors and other performers, but excluding purchases of films, recorded music, books, etc.); and government goods and services n.i.e.

## Comparability

Almost all OECD countries now report international trade in services broadly according to the *Balance of Payments and International Investment Manual, Sixth Edition* (BPM6) framework.

Two recent changes introduced with BPM6 are worth highlighting here.

A stricter application of the change of ownership principle means that that goods sent abroad for processing are excluded from exports and imports in the goods accounts. Instead, the exchange of processing fees is recorded under services in the economies concerned: the outward processing economy recording payment of fees as imports of services, the inward processing economy recording the receipt of fees as exports of services.

To improve consistency on international merchandise and services trade statistics, purchase of goods under merchanting arrangements are registered as negative exports with subsequent sales registered as exports; the difference reflecting the merchanting margin, with all transactions recorded on the goods account. Previously the margin was recorded on the services account.

Both changes create differences between the balance of payments goods statistics and merchandise trade statistics.

### *Overview*

Between 2010 and 2014 international trade in services in the OECD area grew significantly (imports by 22% and exports by 24%) despite the backdrop of slow global economic growth and low growth in merchandise trade. The United States, by some distance in 2014, was the largest exporter of international trade in services at 710.6 million USD, followed by the United Kingdom (361.7 million USD), Germany (277.7 million USD) and France (276.0 million USD). China, (232.0 million USD) emerged as the fifth largest exporter in the word, following a near doubling (up 97%) since 2010.

Measuring exports of international trade in services as a percentage of total exports in international trade in services and goods provides a picture of the relative importance of services in international trade. Amongst larger OECD countries, the percentage increased significantly, for example, in the United Kingdom (from around 30% in 1999 to just over 40% in 2014). Although growth in other major economies was less dramatic, this in part reflects the increasing services content of goods exports, and the growing knowledge content of goods, i.e. an increased blurring between goods and services.

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## International trade in services

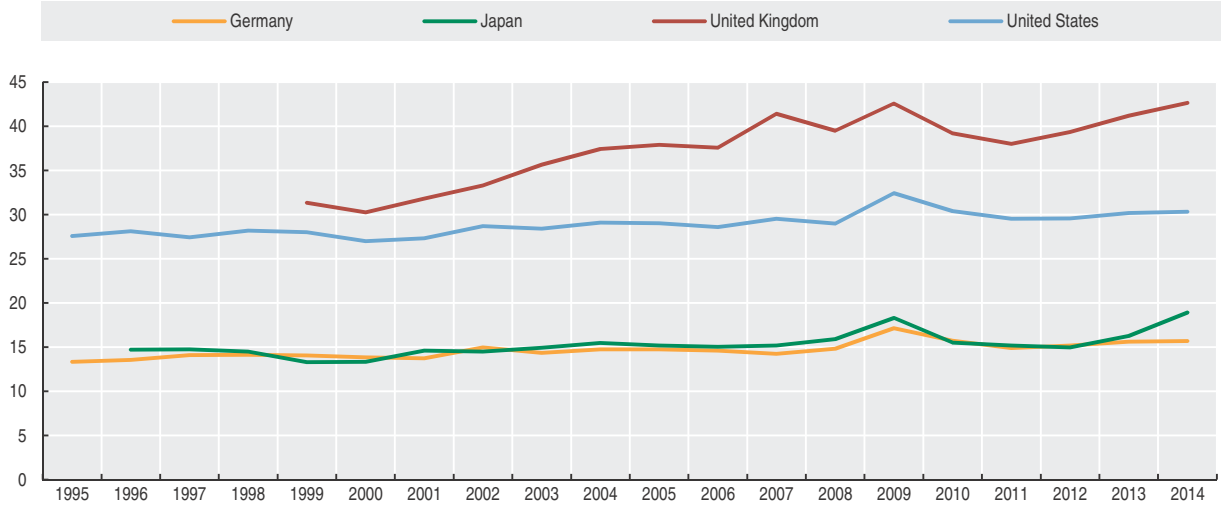
*Billion US dollars*

| | Trade balance | | | | Imports | | | | Exports | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2010 | 2013 | 2014 | 2000 | 2010 | 2013 | 2014 | 2000 | 2010 | 2013 | 2014 |
| Australia | 0.6 | -4.9 | -14.5 | -9.4 | 19.3 | 51.5 | 68.0 | 63.5 | 19.9 | 46.6 | 53.4 | 54.2 |
| Austria | .. | 13.7 | 13.5 | 13.9 | .. | 38.8 | 51.0 | 53.3 | .. | 52.5 | 64.5 | 67.3 |
| Belgium | 1.9 | 10.8 | 8.5 | 6.9 | 35.5 | 87.7 | 104.0 | 117.0 | 37.4 | 98.4 | 112.5 | 123.9 |
| Canada | -2.8 | -21.5 | -22.6 | -21.2 | 43.0 | 98.4 | 112.6 | 107.9 | 40.2 | 76.9 | 90.1 | 86.7 |
| Chile | .. | -1.9 | -3.4 | -3.8 | .. | 13.0 | 15.9 | 14.7 | .. | 11.1 | 12.5 | 11.0 |
| Czech Republic | 4.2 | 4.1 | 3.6 | 2.7 | 5.6 | 17.8 | 20.4 | 22.5 | 9.8 | 21.9 | 24.0 | 25.1 |
| Denmark | .. | 6.8 | 8.8 | 10.6 | .. | 54.7 | 62.4 | 62.3 | .. | 61.5 | 71.2 | 72.8 |
| Estonia | 0.7 | 1.8 | 1.8 | 2.2 | 0.9 | 2.9 | 4.7 | 4.8 | 1.6 | 4.7 | 6.5 | 7.1 |
| Finland | -1.8 | 0.2 | -1.9 | -2.4 | 10.1 | 28.8 | 31.5 | 30.5 | 8.3 | 29.0 | 29.6 | 28.1 |
| France | 12.1 | 20.4 | 29.7 | 23.7 | 84.8 | 181.7 | 226.6 | 252.3 | 96.9 | 202.1 | 256.4 | 276.0 |
| Germany | -53.8 | -36.4 | -59.4 | -53.0 | 137.0 | 263.3 | 326.0 | 330.8 | 83.2 | 226.9 | 266.6 | 277.7 |
| Greece | .. | 16.1 | 20.9 | 24.2 | .. | 21.7 | 16.3 | 17.0 | .. | 37.8 | 37.2 | 41.2 |
| Hungary | 2.5 | 3.5 | 5.3 | 6.8 | 4.9 | 15.9 | 17.3 | 17.9 | 7.4 | 19.4 | 22.6 | 24.7 |
| Iceland | 0.0 | 0.8 | 1.2 | 1.2 | 1.1 | 2.2 | 2.8 | 3.1 | 1.1 | 3.0 | 4.0 | 4.3 |
| Ireland | .. | -19.5 | -2.1 | -11.7 | .. | 109.6 | 123.6 | 145.1 | .. | 90.2 | 121.5 | 133.4 |
| Israel | 3.9 | 6.6 | 13.6 | 12.9 | 12.3 | 18.8 | 20.8 | 22.5 | 16.3 | 25.4 | 34.5 | 35.4 |
| Italy | 0.6 | -12.1 | 0.9 | -1.7 | 58.7 | 113.1 | 110.8 | 115.8 | 59.3 | 101.0 | 111.7 | 114.1 |
| Japan | -48.8 | -30.3 | -35.5 | -29.3 | 118.2 | 164.7 | 170.9 | 192.3 | 69.4 | 134.4 | 135.2 | 163.2 |
| Korea | -1.0 | -14.2 | -6.5 | -8.2 | 33.6 | 97.5 | 110.2 | 115.0 | 32.7 | 83.3 | 103.7 | 106.9 |
| Luxembourg | 7.2 | 16.8 | 21.6 | 22.9 | 13.7 | 45.6 | 67.4 | 77.1 | 20.9 | 62.4 | 89.0 | 99.9 |
| Mexico | -3.6 | -10.6 | -11.0 | -12.5 | 17.1 | 25.8 | 31.2 | 33.5 | 13.5 | 15.2 | 20.2 | 21.1 |
| Netherlands | .. | -9.8 | -7.3 | -4.9 | .. | 134.5 | 151.9 | 159.9 | .. | 124.6 | 144.6 | 155.0 |
| New Zealand | 0.7 | 1.3 | 0.8 | 1.2 | 4.5 | 10.3 | 12.6 | 13.2 | 5.2 | 11.6 | 13.5 | 14.4 |
| Norway | .. | -1.1 | -7.7 | -6.7 | .. | 42.8 | 56.4 | 56.1 | .. | 41.7 | 48.7 | 49.4 |
| Poland | .. | 4.4 | 10.1 | 11.4 | .. | 31.1 | 34.5 | 36.8 | .. | 35.5 | 44.6 | 48.1 |
| Portugal | 2.9 | 8.6 | 14.7 | 15.2 | 6.4 | 14.3 | 14.5 | 16.1 | 9.4 | 22.8 | 29.2 | 31.3 |
| Slovak Republic | .. | -0.9 | 0.5 | 0.1 | .. | 7.3 | 8.6 | 9.0 | .. | 6.4 | 9.1 | 9.1 |
| Slovenia | 0.6 | 1.6 | 2.3 | 2.3 | 1.7 | 4.6 | 4.7 | 5.1 | 2.4 | 6.2 | 7.1 | 7.4 |
| Spain | 19.9 | 44.9 | 63.3 | 64.3 | 33.0 | 68.2 | 63.2 | 68.4 | 53.0 | 113.1 | 126.4 | 132.7 |
| Sweden | -3.9 | 6.9 | 12.3 | 9.2 | 24.6 | 47.4 | 60.7 | 65.9 | 20.7 | 54.3 | 73.0 | 75.1 |
| Switzerland | 15.2 | 25.5 | 22.0 | 20.0 | 30.7 | 69.3 | 92.4 | 98.6 | 45.9 | 94.8 | 114.4 | 118.5 |
| Turkey | 11.3 | 16.6 | 22.8 | 25.2 | 8.1 | 19.6 | 23.8 | 25.4 | 19.4 | 36.2 | 46.6 | 50.6 |
| United Kingdom | 20.1 | 83.9 | 126.6 | 146.1 | 103.6 | 185.1 | 209.2 | 215.6 | 123.7 | 269.0 | 335.8 | 361.7 |
| United States | 74.3 | 154.0 | 224.2 | 233.1 | 216.1 | 409.3 | 463.7 | 477.4 | 290.4 | 563.3 | 687.9 | 710.6 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | 286.1 | 457.2 | 491.3 | .. | 2 497.2 | 2 890.8 | 3 046.5 | .. | 2 783.4 | 3 347.8 | 3 537.9 |
| Brazil | .. | -30.0 | -46.2 | -48.1 | .. | 60.8 | 84.4 | 88.1 | .. | 30.8 | 38.2 | 40.0 |
| China | .. | -23.4 | -123.5 | -151.0 | .. | 140.9 | 330.4 | 383.0 | .. | 117.5 | 206.9 | 232.0 |
| India | .. | 42.5 | 70.5 | 75.9 | .. | 81.4 | 78.1 | 80.4 | .. | 123.9 | 148.6 | 156.3 |
| Indonesia | .. | -9.8 | -12.1 | -10.0 | .. | 26.5 | 35.0 | 33.5 | .. | 16.7 | 22.9 | 23.5 |
| Russian Federation | -5.0 | -26.1 | -58.3 | -55.3 | 16.3 | 75.3 | 128.4 | 121.0 | 11.3 | 49.2 | 70.1 | 65.7 |
| South Africa | -0.8 | -4.5 | .. | .. | 5.8 | 18.5 | .. | .. | 5.0 | 14.0 | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336643*

## Exports of services as a percentage of total exports of goods and services

*Percentage*




1 2 *http://dx.doi.org/10.1787/888933335572*

# TRADE IN VALUE ADDED

Trade in value added data are statistical estimates of the source(s) of the value (by country and industry) that is added in producing goods and services for export (and import). It recognises that growing global value chains mean that a country's exports increasingly rely on significant intermediate imports (and, so, value added by industries in upstream countries). The consequence of the significant growth in global value chains is a multiple counting of trade in intermediates that may distort trade policy analysis.

The joint OECD-WTO Trade in Value Added (TiVA) initiative addresses this issue by considering the value added by each country in the production of goods and services that are consumed worldwide.

## Definition

The OECD-WTO database includes a number of indicators that help to better understand the nature of global value chains and how value and where value is created. These indicators are derived from an inter-country input-output table that is constructed by combining national input-output tables and international trade in goods and services statistics, and benchmarked to countries' latest national accounts figures.

The share of foreign value added embedded in exports reflects how much of a country's gross exports contains value added that is produced outside the domestic economy (and imported).

Domestic value added embodied in foreign final demand shows how much domestic value added is included, via direct final exports and via indirect exports of intermediates through other countries, in the demand of foreign final consumers (households, charities, government, and as investment).

Foreign value added embodied in final domestic demand shows how much value added in final goods and services (purchased by households, government, non-profit institutions serving households and as investment) originates from abroad.

## Comparability

The indicators in the TiVA database are estimates. The inter-country input-output tables from which the TiVA indicators are derived by necessity have to eliminate inconsistencies within and between official national statistics, and balance bilateral trade asymmetries to achieve a coherent picture of global production, trade and consumption of goods and services. This means that while for the countries for which data is presented, all data (including total exports and imports) are made consistent with official national accounts estimates, the bilateral trade positions presented in TiVA and those published by national statistics institutions may differ.

### *Overview*

The foreign value added content of exports has generally increased over the past two decades, up to a weighted OECD average of 24.3%. Yet economies differ significantly in this respect. The share of foreign value added in exports clearly depends on economies' size and pattern of specialisation. Smaller economies tend to have higher shares of foreign value added embodied in their exports; larger economies have a wider variety of domestically sourced intermediate goods available and are therefore less reliant on foreign imports of intermediaries.

In particular, for Asian countries like India and Korea, but also for Poland, Hungary, Turkey and Luxembourg, the share of foreign value added in exports has increased substantially since the mid-1990s. The strong effects of the economic crisis has had on international trade is also evident in the decline of the share of foreign value added in gross exports from 2008 to 2009. This share recovered in 2011.

## *Sources*

- OECD/WTO (2016), *OECD-WTO: Statistics on Trade in Value Added* (Database).

## *Further information*

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- OECD (2012), "*Trade in Value-Added: Concepts, Methodologies, and Challenges (Joint OECD-WTO Note)*", Paris.

### *Websites*

- Measuring Trade in Value Added: An OECD-WTO joint initiative, *www.oecd.org/trade/valueadded*.

## Foreign value added as a share of gross exports

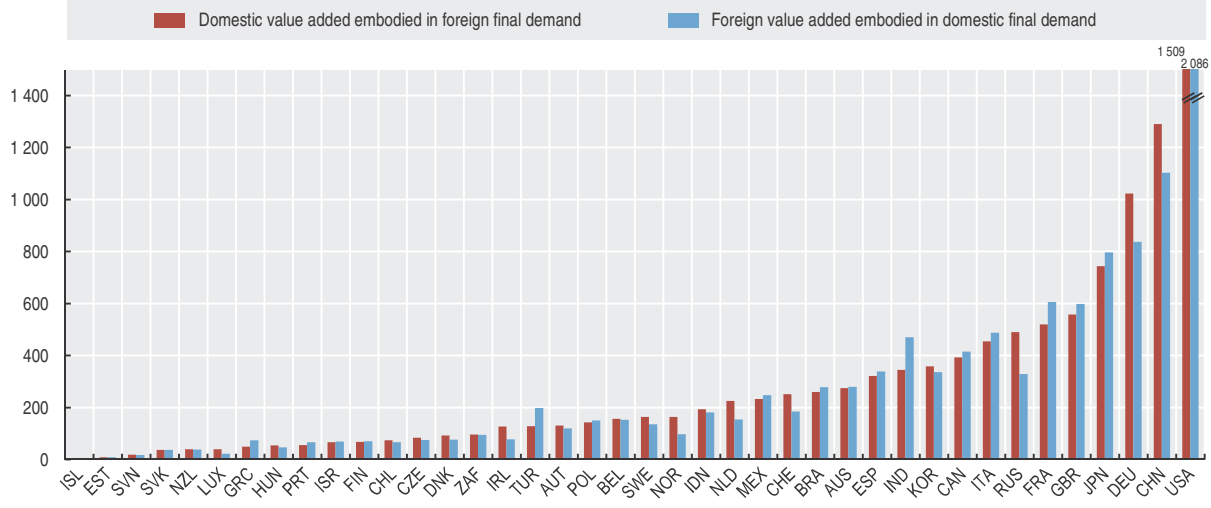
*Percentage*

| | 1995 | 2000 | 2005 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|
| Australia | 12.1 | 15.9 | 12.2 | 13.8 | 13.1 | 13.0 | 14.1 |
| Austria | 21.4 | 24.8 | 26.5 | 28.1 | 24.7 | 26.4 | 27.8 |
| Belgium | 31.0 | 34.4 | 31.3 | 36.6 | 30.6 | 30.9 | 34.5 |
| Canada | 24.4 | 27.0 | 23.5 | 22.8 | 22.3 | 23.4 | 23.5 |
| Chile | 13.9 | 21.7 | 18.9 | 24.7 | 18.8 | 17.8 | 20.2 |
| Czech Republic | 30.6 | 38.7 | 42.6 | 42.3 | 40.2 | 44.1 | 45.3 |
| Denmark | 23.2 | 26.1 | 27.7 | 34.1 | 30.7 | 29.9 | 32.6 |
| Estonia | 36.0 | 44.6 | 42.7 | 33.0 | 28.4 | 33.0 | 35.2 |
| Finland | 24.2 | 30.6 | 31.8 | 33.6 | 30.6 | 31.8 | 34.7 |
| France | 17.3 | 22.8 | 23.4 | 24.8 | 21.6 | 23.7 | 25.1 |
| Germany | 14.9 | 20.2 | 21.3 | 24.8 | 21.9 | 23.3 | 25.5 |
| Greece | 16.4 | 23.9 | 21.3 | 25.3 | 20.7 | 21.8 | 25.0 |
| Hungary | 29.9 | 51.6 | 48.1 | 46.4 | 45.0 | 48.9 | 48.7 |
| Iceland | 17.4 | 24.2 | 29.0 | 29.6 | 30.4 | 31.2 | 33.2 |
| Ireland | 38.5 | 43.0 | 41.9 | 43.6 | 42.0 | 43.7 | 43.6 |
| Israel | 21.9 | 21.0 | 26.0 | 27.0 | 22.0 | 23.6 | 25.3 |
| Italy | 17.2 | 20.0 | 22.0 | 25.8 | 21.2 | 25.0 | 26.5 |
| Japan | 5.6 | 7.4 | 11.1 | 15.8 | 11.2 | 12.7 | 14.7 |
| Korea | 22.3 | 29.8 | 33.0 | 41.8 | 37.5 | 39.2 | 41.7 |
| Luxembourg | 41.0 | 52.9 | 54.7 | 58.9 | 55.2 | 57.5 | 59.0 |
| Mexico | 27.3 | 34.4 | 33.0 | 32.8 | 33.6 | 34.5 | 31.7 |
| Netherlands | 23.2 | 22.5 | 18.6 | 19.6 | 17.8 | 19.4 | 20.1 |
| New Zealand | 16.9 | 22.2 | 15.6 | 18.7 | 15.2 | 16.1 | 16.7 |
| Norway | 19.9 | 16.1 | 15.9 | 16.2 | 17.5 | 17.7 | 17.2 |
| Poland | 16.1 | 24.0 | 28.3 | 31.1 | 27.1 | 31.3 | 32.4 |
| Portugal | 27.4 | 30.2 | 31.8 | 33.8 | 28.6 | 31.6 | 32.8 |
| Slovak Republic | 31.9 | 44.2 | 47.2 | 46.5 | 43.6 | 45.9 | 46.8 |
| Slovenia | 32.3 | 36.5 | 37.9 | 36.2 | 31.1 | 34.9 | 36.2 |
| Spain | 19.2 | 25.8 | 26.3 | 27.6 | 22.2 | 24.8 | 26.9 |
| Sweden | 26.3 | 29.2 | 29.1 | 32.1 | 28.7 | 28.9 | 29.2 |
| Switzerland | 17.6 | 21.3 | 25.9 | 22.9 | 21.4 | 22.1 | 21.8 |
| Turkey | 8.9 | 13.1 | 21.0 | 25.0 | 21.6 | 22.6 | 25.7 |
| United Kingdom | 18.3 | 18.1 | 17.1 | 19.5 | 18.9 | 21.1 | 23.1 |
| United States | 11.5 | 12.6 | 13.1 | 15.6 | 11.6 | 13.4 | 15.0 |
| EU 28 | 19.2 | 23.5 | 24.4 | 27.6 | 24.5 | 26.4 | 28.2 |
| OECD | 14.9 | 18.1 | 20.8 | 24.6 | 21.2 | 22.5 | 24.3 |
| Brazil | 7.8 | 11.5 | 11.7 | 12.5 | 10.0 | 10.3 | 10.8 |
| China | 33.4 | 37.3 | 37.4 | 31.8 | 30.8 | 32.0 | 32.2 |
| India | 9.4 | 11.3 | 17.5 | 22.7 | 21.0 | 22.3 | 24.1 |
| Indonesia | 12.6 | 17.4 | 16.6 | 14.6 | 11.1 | 11.1 | 12.0 |
| Russian Federation | 13.3 | 18.3 | 12.8 | 13.9 | 12.7 | 13.1 | 13.7 |
| South Africa | 13.2 | 17.8 | 19.5 | 23.8 | 18.8 | 17.9 | 19.5 |

1 2 *http://dx.doi.org/10.1787/888933336694*

## Value added in domestic and foreign final demand

*Billion US dollars, 2011*




1 2 *http://dx.doi.org/10.1787/888933335612*

# TRADE IN VALUE ADDED: ROLE OF INTERMEDIATES AND SERVICES

The data on Trade in Value Added (TiVA) highlight the significance of intermediate imports used in producing goods and services for export in many economies. They emphasise that being competitive on international markets requires access to the most efficient inputs – either domestically produced or imported – and that tariffs on imports can harm the competitiveness of downstream exporters. The data also stress the important role played by upstream services in producing exports of goods, and, so, the importance of ensuring that producers have access to the most efficient services (again either domestically produced or imported).

## Definition

Re-exported intermediates reflect the share of intermediate imports that are used (indirectly and directly) in producing goods and services for exports, as a percentage of total intermediate imports (by import category).

### *Overview*

On average, 45% of intermediate imports are destined for the export market in 2011. Not surprisingly, the smaller the economy the higher the share, while the larger and more diversified economies see relative low share of imports in intermediates. The United States and Japan have the lowest such shares amongst OECD countries, at 20.6% and 20.4% respectively for the total economy, with noticeably higher percentages for some sectors. In Japan for example for basic metals and fabricated metal products, transport equipment and electrical and optical equipment sectors, around 35% of intermediate imports end up in exports.

In other countries, the share of intermediate imports embodied in exports is significantly higher. In Hungary for example, over 70% of all intermediate imports are destined for the export market after further processing, with the share reaching 88.6% for electronic intermediate imports in 2011. In China and Korea, around two thirds of all intermediate imports of electronics are embodied in exports. The TiVA database also reveals that close to 90% of China's intermediate imports of textile products end up in exports.

While services comprise about two-thirds of GDP in most developed economies, they typically account for just over one-quarter of total gross trade in goods and services in OECD countries. However, from a trade in value added perspective, the services sector contributes over 50% of total exports in the United States, the United Kingdom, France, Germany and Italy, and more than 40% in China, and services are provided by both foreign and domestic service providers.

Total services value added embodied in gross exports shows the total value added provided by the services sector in generating direct exports of services and also embodied in the exports of goods using intermediate services. The indicator contains a breakdown showing the contributions from domestic or foreign services.

## Comparability

The indicators in the TiVA database are estimates. The global input-output tables from which the TiVA indicators are derived by necessity have to eliminate inconsistencies within and between official national statistics, and balance bilateral trade asymmetries to achieve a coherent picture of global production, trade and consumption of goods and services. This means that while for the countries for which data is presented, all data (including total exports and imports) are made consistent with official national accounts estimates, the bilateral trade positions presented in TiVA and those published by national statistics institutions may differ.

## Sources

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- Beltramello, A., K. De Backer and L. Moussiegt (2012), "*The Export Performance of Countries within Global Value Chains (GVCs)*", OECD Science, Technology and Industry Working Papers, No. 2012/02, OECD Publishing.
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### Methodological publications

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### Websites

- Measuring Trade in Value Added: An OECD-WTO joint initiative, *www.oecd.org/trade/valueadded*.

## Re-exported intermediates as percentage of total intermediate imports by selected industries

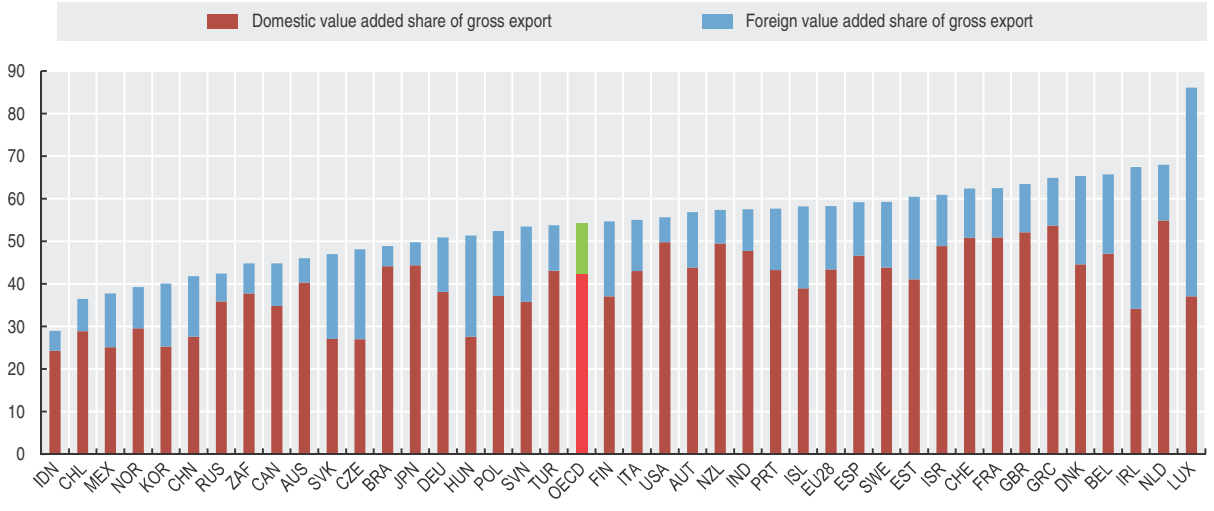
*Percentage, 2011*

| | Agriculture, hunting, forestry and fishing | Food products, beverages and tobacco | Textiles, textile products, leather and footwear | Wood paper, paper products, printing and publishing | Chemicals and non-metallic mineral products | Basic metals and fabricated metal products | Machinery and equipment | Transport equipment | Transport and storage, post and telecommunication | Business services |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 25.2 | 18.7 | 19.5 | 14.4 | 20.7 | 26.7 | 35.2 | 25.6 | 25.6 | 23.9 |
| Austria | 40.7 | 37.7 | 53.4 | 45.7 | 45.7 | 64.4 | 65.1 | 64.2 | 64.2 | 44.8 |
| Belgium | 38.1 | 37.9 | 43.9 | 41.2 | 56.1 | 57.7 | 47.6 | 58.1 | 58.1 | 48.1 |
| Canada | 31.1 | 23.6 | 35.4 | 27.1 | 35.5 | 53.8 | 37.0 | 71.3 | 71.3 | 31.8 |
| Chile | 33.2 | 28.5 | 24.8 | 32.2 | 35.3 | 43.0 | 36.8 | 25.4 | 25.4 | 37.8 |
| Czech Republic | 38.1 | 35.7 | 64.5 | 57.5 | 65.3 | 75.2 | 63.4 | 74.6 | 74.6 | 53.5 |
| Denmark | 50.0 | 46.5 | 44.5 | 36.3 | 54.7 | 44.0 | 61.5 | 63.1 | 63.1 | 53.5 |
| Estonia | 52.8 | 47.2 | 65.5 | 51.9 | 51.0 | 58.5 | 60.3 | 61.3 | 61.3 | 57.0 |
| Finland | 38.3 | 28.8 | 45.7 | 40.3 | 46.1 | 62.7 | 55.8 | 53.8 | 53.8 | 43.8 |
| France | 27.4 | 24.6 | 48.4 | 28.3 | 40.2 | 44.9 | 41.7 | 52.2 | 52.2 | 34.2 |
| Germany | 27.1 | 25.1 | 50.8 | 38.4 | 50.7 | 64.8 | 60.4 | 60.7 | 60.7 | 44.4 |
| Greece | 20.3 | 23.0 | 37.5 | 26.9 | 35.6 | 37.0 | 29.7 | 30.3 | 30.3 | 36.9 |
| Hungary | 50.1 | 49.3 | 80.1 | 59.0 | 67.5 | 72.8 | 80.5 | 84.5 | 84.5 | 63.7 |
| Iceland | 72.6 | 63.6 | 63.0 | 24.7 | 44.3 | 70.3 | 50.9 | 82.0 | 82.0 | 67.4 |
| Ireland | 67.9 | 64.4 | 59.3 | 63.6 | 68.9 | 64.6 | 70.4 | 74.0 | 74.0 | 70.4 |
| Israel | 13.6 | 19.5 | 53.6 | 51.4 | 52.5 | 49.7 | 50.5 | 46.1 | 46.1 | 42.6 |
| Italy | 25.3 | 25.1 | 46.9 | 31.2 | 39.7 | 57.8 | 50.6 | 46.3 | 46.3 | 34.5 |
| Japan | 7.0 | 6.0 | 17.4 | 12.0 | 20.7 | 36.8 | 32.5 | 35.1 | 35.1 | 17.7 |
| Korea | 16.1 | 13.1 | 39.9 | 36.1 | 52.9 | 56.6 | 49.9 | 58.6 | 58.6 | 49.1 |
| Luxembourg | 89.3 | 74.8 | 80.8 | 86.1 | 84.6 | 83.5 | 85.0 | 86.7 | 86.7 | 92.4 |
| Mexico | 13.4 | 19.9 | 63.4 | 42.4 | 40.7 | 69.0 | 71.7 | 63.4 | 63.4 | 47.0 |
| Netherlands | 40.3 | 38.0 | 34.6 | 31.7 | 47.9 | 39.6 | 39.1 | 38.1 | 38.1 | 38.0 |
| New Zealand | 47.7 | 46.2 | 37.1 | 28.4 | 29.6 | 32.8 | 36.9 | 29.4 | 29.4 | 31.3 |
| Norway | 31.1 | 32.8 | 36.3 | 24.6 | 45.6 | 65.2 | 50.9 | 41.8 | 41.8 | 41.8 |
| Poland | 31.0 | 31.3 | 54.5 | 41.0 | 44.5 | 58.9 | 57.1 | 67.0 | 67.0 | 42.3 |
| Portugal | 33.6 | 27.4 | 57.5 | 42.5 | 44.3 | 56.6 | 52.0 | 69.2 | 69.2 | 41.1 |
| Slovak Republic | 51.3 | 42.9 | 75.6 | 54.7 | 68.4 | 75.4 | 65.9 | 88.1 | 88.1 | 59.4 |
| Slovenia | 37.7 | 36.4 | 67.3 | 57.5 | 58.5 | 71.7 | 58.1 | 73.5 | 73.5 | 53.2 |
| Spain | 30.2 | 27.1 | 48.0 | 31.5 | 41.3 | 50.5 | 42.5 | 64.8 | 64.8 | 35.7 |
| Sweden | 41.6 | 34.2 | 47.6 | 43.3 | 51.7 | 66.6 | 57.7 | 66.6 | 66.6 | 47.7 |
| Switzerland | 27.9 | 30.3 | 50.4 | 44.5 | 52.9 | 59.2 | 57.2 | 55.6 | 55.6 | 52.1 |
| Turkey | 14.1 | 17.5 | 28.0 | 21.4 | 25.4 | 36.4 | 26.8 | 35.6 | 35.6 | 25.8 |
| United Kingdom | 22.7 | 20.3 | 37.8 | 27.2 | 39.2 | 56.2 | 48.8 | 43.5 | 43.5 | 33.2 |
| United States | 15.5 | 10.6 | 21.0 | 15.3 | 20.3 | 30.6 | 23.4 | 24.9 | 24.9 | 16.0 |
| EU 28 | 31.7 | 29.5 | 50.0 | 37.0 | 46.4 | 58.5 | 54.1 | 58.3 | 58.3 | 44.8 |
| OECD | 23.9 | 23.4 | 37.4 | 29.9 | 38.6 | 50.5 | 42.2 | 50.2 | 50.2 | 37.4 |
| Brazil | 21.9 | 14.2 | 11.2 | 16.7 | 17.3 | 20.1 | 22.3 | 15.0 | 15.0 | 16.2 |
| China | 34.8 | 36.3 | 88.3 | 49.3 | 48.3 | 54.3 | 48.1 | 26.5 | 26.5 | 48.7 |
| India | 14.9 | 18.2 | 27.3 | 23.0 | 26.3 | 16.5 | 24.2 | 29.9 | 29.9 | 28.1 |
| Indonesia | 16.7 | 11.9 | 30.9 | 20.8 | 16.9 | 10.9 | 21.4 | 16.2 | 16.2 | 18.7 |
| Russian Federation | 11.5 | 14.3 | 21.7 | 27.7 | 37.3 | 54.4 | 30.1 | 30.0 | 30.0 | 31.8 |
| South Africa | 17.1 | 19.6 | 22.4 | 24.6 | 29.3 | 31.4 | 43.3 | 31.2 | 31.2 | 32.6 |

1 2 *http://dx.doi.org/10.1787/888933336685*

## Total domestic and foreign services value added embodied in gross exports

*As a percentage of gross exports, 2011*




1 2 *http://dx.doi.org/10.1787/888933335625*

# FOREIGN DIRECT INVESTMENT FLOWS

Foreign direct investment (FDI) is a key element in international economic integration. FDI creates direct, stable and long-lasting links between economies. It encourages the transfer of technology and know-how between countries, and allows the host economy to promote its products more widely in international markets. FDI is key to the creation of many global value chains by allowing firms to link and organise production across countries. FDI is also an additional source of funding for investment and, under the right policy environment, can be an important vehicle for development.

## Definition

Foreign direct investment is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy in an enterprise that is resident in an economy other than that of the direct investor. The direct or indirect ownership of 10% or more of the voting power is evidence of such a relationship.

FDI flows are cross-border financial transactions within a given period (e.g. year) and between affiliated enterprises that are in a direct investment relationship. FDI flows include equity capital, reinvestment of earnings and inter-company debt.

## Comparability

In 2014, the implementation of the latest international standards for compiling FDI statistics came into widespread use, which generally enhanced the comparability of FDI statistics across countries. However, some differences remain. For example, data for Brazil, India, Korea, Norway, South Africa and Switzerland are on an asset/liability basis while data for the other countries are on a directional basis. Implementation of the new standards also caused major changes to FDI statistics. Therefore, long historical series are not available for all countries.

Data for Austria, Chile, Denmark, Hungary, Iceland, Luxembourg, Mexico, the Netherlands, Poland, Portugal and Spain exclude resident Special Purpose Entities.

The EU28 aggregate has an evolving composition: EU15 until end 2003; EU25 in 2004-06; and EU27 for 2007-12.

## *Overview*

Despite large quarterly fluctuations, global FDI flows remained stable overall in 2014 as compared to 2013, at around USD 1 385 billion. FDI activity gained momentum in the second half of 2014 after falling sharply in the first quarter due to a single large deal which reduced both inward FDI flows in the United States and outward FDI flows from the United Kingdom. Preliminary information for 2015 indicate that global FDI flows continued to rise in the first half of 2015. However, global FDI flows have stalled at levels substantially below the peak levels reached before the financial crisis (at USD 2 077 billion) and ensuing global recession that began in 2008.

OECD investors accounted for around 65% of global FDI outflows in 2014 at USD 895 billion and were up 2% as compared to 2013. The top three investing countries were the United States, Japan and Germany, representing 40% of global FDI outflows. OECD countries received 42% of global FDI inflows at USD 588 billion, representing an 18% decrease as compared to 2013. 40% of global FDI inflows were hosted by four countries: China (the top recipient of FDI worldwide since 2010), the United States, Brazil and Canada.

## *Sources*

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- OECD International Investment, *www.oecd.org/daf/investment*.

## Outflows and inflows of foreign direct investment

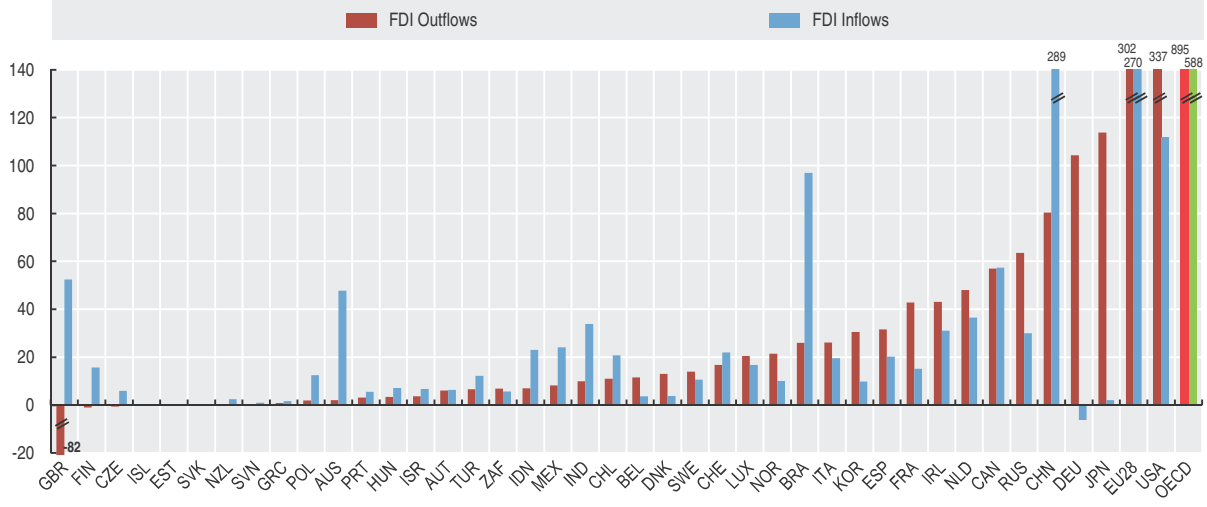
*Million US dollars*

| | Outflows of foreign direct investment | | | | | | Inflows of foreign direct investment | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Australia | 16 409 | 19 803 | 1 716 | 6 737 | 1 580 | 2 114 | 31 668 | 36 442 | 58 906 | 58 970 | 56 946 | 47 742 |
| Austria | 10 999 | 9 585 | 21 933 | 13 114 | 15 565 | 6 074 | 9 269 | 2 576 | 10 625 | 3 990 | 5 719 | 6 428 |
| Belgium | .. | .. | 46 413 | 33 834 | 23 063 | 11 611 | .. | .. | 76 938 | 6 518 | 13 678 | 3 655 |
| Canada | 39 660 | 34 721 | 52 144 | 53 948 | 50 521 | 57 043 | 22 733 | 28 399 | 39 667 | 39 273 | 70 545 | 57 376 |
| Chile | 6 487 | 10 226 | 12 470 | 17 252 | 9 217 | 10 994 | 12 051 | 15 220 | 16 815 | 24 924 | 18 071 | 20 820 |
| Czech Republic | 950 | 1 168 | -328 | 1 794 | 4 021 | -529 | 2 929 | 6 147 | 2 323 | 8 000 | 3 641 | 5 908 |
| Denmark | 3 689 | 1 382 | 11 278 | 7 359 | 9 534 | 12 984 | 392 | -9 167 | 11 488 | 418 | -742 | 3 859 |
| Estonia | 1 375 | 159 | -1 476 | 1 032 | 431 | -230 | 1 840 | 1 453 | 978 | 1 558 | 546 | 507 |
| Finland | .. | .. | .. | .. | -2 686 | -926 | .. | .. | .. | .. | -6 609 | 15 726 |
| France | 100 872 | 48 158 | 51 462 | 31 574 | 24 993 | 42 871 | 30 735 | 13 890 | 31 671 | 16 985 | 42 884 | 15 192 |
| Germany | .. | .. | .. | .. | 34 313 | 104 230 | .. | .. | .. | .. | 22 395 | -6 175 |
| Greece | 2 055 | 1 558 | 1 774 | 678 | -785 | 904 | 2 436 | 330 | 1 144 | 1 741 | 2 817 | 1 671 |
| Hungary | 1 852 | 1 173 | 4 713 | 11 717 | 1 963 | 3 472 | 1 998 | 2 195 | 6 315 | 14 427 | 3 333 | 7 107 |
| Iceland | 2 248 | -2 368 | 18 | -3 205 | 460 | -237 | 79 | 245 | 1 107 | 1 025 | 397 | 441 |
| Ireland | .. | .. | .. | 22 573 | 29 023 | 43 135 | .. | .. | .. | 45 276 | 44 890 | 31 133 |
| Israel | 1 753 | 8 657 | 9 165 | 3 255 | 5 499 | 3 667 | 4 605 | 6 335 | 8 727 | 8 469 | 12 449 | 6 739 |
| Italy | .. | .. | .. | .. | 25 107 | 26 137 | .. | .. | .. | .. | 24 268 | 19 538 |
| Japan | 74 699 | 56 276 | 107 550 | 122 514 | 135 745 | 113 699 | 11 939 | -1 252 | -1 757 | 1 732 | 2 303 | 2 092 |
| Korea | 17 436 | 28 280 | 29 705 | 30 632 | 28 360 | 30 558 | 9 022 | 9 497 | 9 773 | 9 496 | 12 767 | 9 899 |
| Luxembourg | .. | .. | .. | .. | 25 278 | 20 541 | .. | .. | .. | .. | 15 368 | 16 740 |
| Mexico | 9 604 | 15 050 | 12 636 | 22 470 | 13 138 | 8 304 | 17 756 | 26 168 | 23 328 | 19 492 | 44 886 | 24 154 |
| Netherlands | 26 267 | 68 363 | 34 818 | 6 174 | 68 856 | 48 046 | 38 748 | -7 185 | 24 391 | 20 121 | 39 026 | 36 568 |
| New Zealand | -1 002 | 716 | 2 524 | -457 | 524 | 71 | 701 | -61 | 4 222 | 3 396 | 1 831 | 2 493 |
| Norway | 12 330 | 30 520 | 14 412 | 27 536 | 8 152 | 21 478 | 8 673 | 21 238 | 10 895 | 26 750 | 1 608 | 10 140 |
| Poland | 1 807 | 6 149 | 1 028 | 2 905 | 1 488 | 1 975 | 10 043 | 12 800 | 15 953 | 12 441 | 3 626 | 12 532 |
| Portugal | 814 | -9 956 | 13 917 | -9 869 | -139 | 3 138 | 1 282 | 1 507 | 5 997 | 8 337 | 1 659 | 5 594 |
| Slovak Republic | .. | .. | .. | .. | -313 | -123 | .. | .. | .. | .. | -604 | -332 |
| Slovenia | 214 | -19 | 200 | -258 | -214 | 264 | -477 | 106 | 1 088 | 339 | -151 | 1 061 |
| Spain | .. | .. | .. | .. | 11 771 | 31 613 | .. | .. | .. | .. | 27 551 | 20 314 |
| Sweden | 26 205 | 20 364 | 29 912 | 28 977 | 29 074 | 13 994 | 10 095 | 141 | 12 946 | 16 349 | 3 673 | 10 697 |
| Switzerland | 44 361 | 73 827 | 44 084 | 53 153 | 10 237 | 16 819 | 48 061 | 17 509 | 24 397 | 25 844 | -22 553 | 21 942 |
| Turkey | 1 553 | 1 469 | 2 330 | 4 106 | 3 525 | 6 656 | 8 585 | 9 086 | 16 136 | 13 283 | 12 355 | 12 198 |
| United Kingdom | 28 993 | 48 075 | 95 577 | 20 769 | -18 770 | -81 854 | 89 796 | 58 180 | 42 196 | 55 626 | 47 589 | 52 478 |
| United States | 310 383 | 301 080 | 419 061 | 339 694 | 328 628 | 336 935 | 150 442 | 205 850 | 236 068 | 193 795 | 216 587 | 111 577 |
| EU 28 | 366 450 | 469 427 | 518 169 | 274 877 | 295 255 | 302 289 | 361 905 | 372 419 | 417 592 | 270 749 | 304 812 | 269 570 |
| OECD | 893 448 | 1 050 081 | 1 208 354 | 943 898 | 877 161 | 895 428 | 686 406 | 736 942 | 856 034 | 688 385 | 722 749 | 587 814 |
| Brazil | -4 552 | 16 426 | 3 850 | 8 017 | 13 352 | 26 042 | 31 481 | 53 345 | 71 539 | 76 111 | 80 843 | 96 895 |
| China | 43 890 | 57 954 | 48 421 | 64 963 | 72 971 | 80 418 | 131 057 | 243 703 | 280 072 | 241 214 | 290 928 | 289 097 |
| India | 16 096 | 15 968 | 12 608 | 8 553 | 1 766 | 9 951 | 35 581 | 27 397 | 36 499 | 23 996 | 28 153 | 33 870 |
| Indonesia | 2 249 | 2 664 | 7 713 | 5 422 | 6 652 | 7 077 | 4 878 | 13 771 | 19 241 | 19 138 | 18 817 | 23 039 |
| Russian Federation | 34 450 | 41 116 | 48 635 | 28 423 | 70 685 | 63 513 | 27 752 | 31 668 | 36 868 | 30 188 | 53 397 | 30 011 |
| South Africa | 1 322 | -84 | -229 | 2 885 | 6 646 | 6 939 | 8 614 | 4 014 | 3 783 | 4 403 | 8 296 | 5 714 |

1 2 *http://dx.doi.org/10.1787/888933336132*

## FDI flows

*As a percentage of GDP, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933334953*

# FOREIGN DIRECT INVESTMENT STOCKS

Foreign direct investment (FDI) is a key element in international economic integration. FDI creates direct, stable and long-lasting links between economies. It encourages the transfer of technology and know-how between countries, and allows the host economy to promote its products more widely in international markets. FDI is key to the creation of many global value chains by allowing firms to link and organise production across countries.

## Definition

Foreign direct investment is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy in an enterprise that is resident in an economy other than that of the direct investor. The direct or indirect ownership of 10% or more of the voting power is evidence of such a relationship.

FDI positions relate to the stock of investments at a given point in time (e.g. end of year). FDI positions include equity (10% or more voting shares), reinvestment of earnings and inter-company debt.

## Comparability

In 2014, the implementation of the latest international standards for compiling FDI statistics came into widespread use, which generally enhanced the comparability of FDI statistics across countries. However, some differences remain. For example, data for Brazil, India, Korea, South Africa and Switzerland are on an asset/liability basis while data for the other countries are on a directional basis. Implementation of the new standards also caused major changes to FDI statistics. Therefore, long historical series are not available for all countries.

Data for Austria, Belgium, Chile, Denmark, Hungary, Iceland, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal and Spain exclude resident Special Purpose Entities.

The EU28 aggregate has an evolving composition: EU15 until end 2003; EU25 for 2004-06; and EU27 for 2007-12.

### *Overview*

At the end of 2014, OECD FDI stocks of outward and inward FDI stood at USD 19.8 trillion and USD 16.6 trillion respectively, a level that almost doubled as compared to the 2005 positions (at USD 10.2 trillion and USD 8.5 trillion respectively). For many countries, 2014 shows a decrease of their stock of inward and outward FDI from 2013, a development due in most cases to movements in the US dollar, which is used for the conversions.

OECD investors account for around 80% of the global stock of outward FDI in 2014 as compared to 90% in 2005. The top three investing countries worldwide are the United States, Germany and the United Kingdom, accounting for 38% of global FDI outward stocks. OECD countries host 57% of the global stock of inward FDI in 2014 as compared to 73% in 2005. The top three hosts of FDI stocks worldwide in 2014 are the United States, China and the United Kingdom, which together represent 33% of the global stock of inward FDI.

## *Sources*

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## Outward and inward FDI stocks

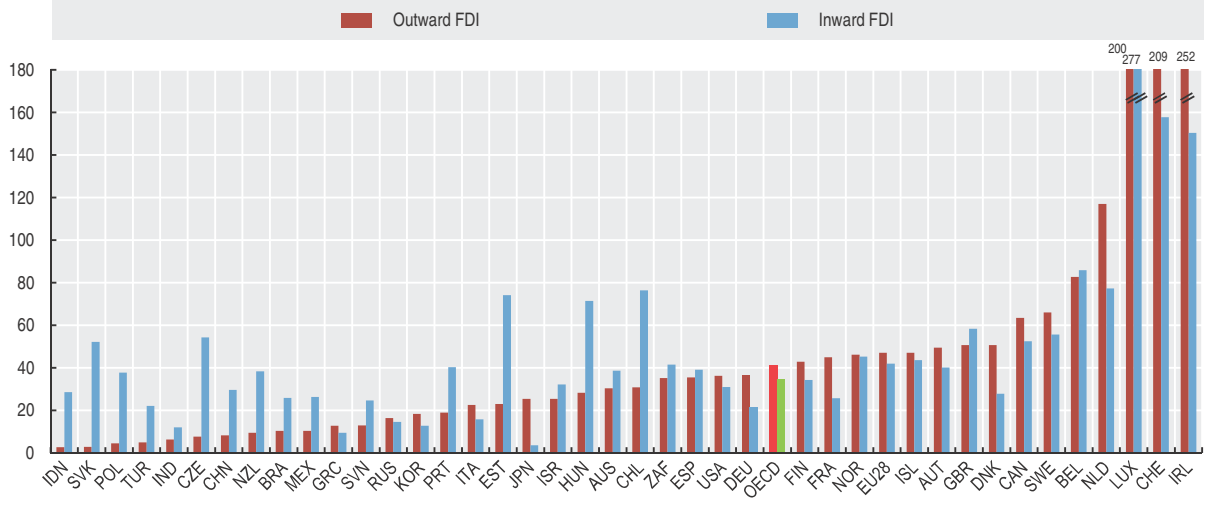
*Million US dollars*

| | Outward direct investment stocks | | | | | | Inward direct investment stocks | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2005 | 2010 | 2011 | 2012 | 2013 | 2014 | 2005 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Australia | 205 368 | 449 768 | 418 814 | 476 426 | 456 993 | 448 171 | 247 748 | 527 096 | 554 931 | 614 542 | 568 094 | 568 863 |
| Austria | 75 497 | 181 636 | 193 133 | 209 533 | 231 840 | 216 555 | 83 767 | 160 614 | 152 760 | 164 696 | 178 828 | 175 592 |
| Belgium | .. | .. | .. | 419 640 | 465 528 | 439 972 | .. | .. | .. | 486 226 | 482 946 | 456 670 |
| Canada | 692 287 | 986 049 | 881 244 | 958 321 | 1 113 589 | 1 134 132 | 638 650 | 994 749 | 872 772 | 962 090 | 951 698 | 937 970 |
| Chile | .. | 48 084 | 59 376 | 73 005 | 82 499 | 79 536 | .. | 151 058 | 157 090 | 180 974 | 195 350 | 197 015 |
| Czech Republic | 3 610 | 14 923 | 13 214 | 17 368 | 20 627 | 15 978 | 60 662 | 128 505 | 120 569 | 136 494 | 134 085 | 111 504 |
| Denmark | 88 076 | 165 369 | 176 071 | 183 985 | 190 661 | 173 748 | 74 650 | 96 985 | 98 406 | 98 293 | 94 486 | 95 219 |
| Estonia | 1 892 | 5 189 | 4 267 | 5 469 | 6 787 | 6 093 | 11 192 | 14 451 | 14 906 | 17 077 | 21 202 | 19 645 |
| Finland | .. | .. | .. | .. | 147 422 | 116 721 | .. | .. | .. | .. | 87 096 | 93 428 |
| France | 625 585 | 1 172 979 | 1 247 922 | 1 307 605 | 1 360 308 | 1 274 769 | 371 448 | 630 692 | 698 832 | 717 253 | 796 500 | 726 685 |
| Germany | 831 364 | 1 383 601 | 1 432 696 | 1 346 449 | 1 449 647 | 1 411 083 | 646 319 | 955 428 | 965 948 | 862 875 | 944 631 | 827 857 |
| Greece | 13 602 | 42 623 | 48 041 | 44 960 | 36 300 | 30 390 | 29 189 | 35 025 | 29 058 | 24 763 | 25 850 | 22 456 |
| Hungary | 8 637 | 22 315 | 26 357 | 37 717 | 38 533 | 39 063 | 61 110 | 90 851 | 85 331 | 104 009 | 108 410 | 98 899 |
| Iceland | 10 091 | 11 481 | 11 711 | 9 093 | 9 503 | 8 031 | 4 553 | 11 025 | 11 754 | 9 325 | 7 367 | 7 422 |
| Ireland | .. | .. | .. | 412 011 | 538 755 | 632 617 | .. | .. | .. | 364 569 | 392 921 | 376 925 |
| Israel | 23 114 | 68 973 | 70 783 | 71 172 | 75 374 | 78 016 | 30 811 | 60 220 | 64 496 | 74 703 | 87 972 | 98 698 |
| Italy | .. | .. | .. | .. | 533 906 | 483 703 | .. | .. | .. | .. | 364 965 | 338 747 |
| Japan | 386 581 | 831 110 | 955 854 | 1 037 700 | 1 118 009 | 1 169 077 | 100 899 | 214 890 | 225 785 | 205 754 | 170 713 | 169 436 |
| Korea | 38 683 | 144 032 | 172 413 | 202 875 | 238 812 | 258 553 | 104 879 | 135 500 | 135 178 | 157 876 | 180 860 | 182 037 |
| Luxembourg | .. | .. | .. | .. | 101 283 | 129 759 | .. | .. | .. | .. | 91 397 | 179 824 |
| Mexico | 60 882 | 110 014 | 114 265 | 148 204 | 136 523 | 134 058 | 234 149 | 363 769 | 338 975 | 366 564 | 391 879 | 339 155 |
| Netherlands | .. | .. | .. | .. | 1 124 797 | 1 028 876 | .. | .. | .. | .. | 739 835 | 679 540 |
| New Zealand | 11 758 | 16 053 | 19 007 | 19 529 | 18 740 | 18 998 | 44 094 | 57 365 | 64 444 | 71 472 | 75 209 | 76 651 |
| Norway | .. | .. | .. | .. | 198 677 | 230 721 | .. | .. | .. | .. | 196 448 | 226 632 |
| Poland | 1 776 | 16 407 | 18 928 | 26 102 | 27 725 | 24 938 | 86 338 | 187 602 | 164 424 | 198 953 | 229 167 | 205 581 |
| Portugal | 30 972 | 43 968 | 54 412 | 49 587 | 51 200 | 43 541 | 51 828 | 84 869 | 84 979 | 98 698 | 108 181 | 92 722 |
| Slovak Republic | .. | 3 456 | 4 021 | 4 765 | 4 830 | 2 977 | .. | 50 327 | 51 978 | 55 118 | 58 022 | 52 310 |
| Slovenia | 3 276 | 8 147 | 7 826 | 7 533 | 7 142 | 6 432 | 7 056 | 10 667 | 11 490 | 12 202 | 12 269 | 12 257 |
| Spain | .. | .. | .. | .. | 513 326 | 491 005 | .. | .. | .. | .. | 604 681 | 539 625 |
| Sweden | 207 836 | 374 399 | 379 286 | 389 229 | 419 443 | 377 351 | 171 902 | 347 163 | 349 058 | 373 444 | 389 169 | 317 945 |
| Switzerland | 492 889 | 1 283 706 | 1 364 894 | 1 473 863 | 1 465 278 | 1 462 971 | 252 731 | 888 695 | 976 866 | 1 050 518 | 1 033 833 | 1 106 015 |
| Turkey | 8 315 | 22 506 | 27 652 | 30 936 | 33 321 | 39 507 | 71 322 | 187 013 | 136 475 | 189 994 | 149 608 | 177 388 |
| United Kingdom | 1 177 335 | 1 574 643 | 1 625 966 | 1 593 820 | 1 579 928 | 1 513 222 | 779 085 | 1 057 145 | 1 145 700 | 1 428 091 | 1 490 033 | 1 744 230 |
| United States | 3 637 996 | 4 809 587 | 4 514 327 | 5 222 873 | 6 291 370 | 6 285 320 | 2 817 970 | 3 422 293 | 3 498 726 | 3 915 538 | 4 954 713 | 5 390 081 |
| EU 28 | 4 579 580 | 7 914 578 | 8 156 983 | 8 706 214 | 8 985 817 | 8 579 340 | 3 875 487 | 6 294 556 | 6 513 898 | 7 451 316 | 7 833 471 | 7 599 959 |
| OECD | 10 256 966 | 16 788 538 | 16 879 735 | 18 542 367 | 20 088 674 | 19 805 885 | 8 551 507 | 13 156 368 | 13 385 731 | 15 047 058 | 16 318 416 | 16 645 025 |
| Brazil | 79 259 | 191 349 | 206 187 | 270 864 | 300 791 | 302 964 | 181 344 | 682 346 | 696 408 | 743 964 | 747 891 | 755 371 |
| China | 64 493 | 317 210 | 424 780 | 531 900 | 660 480 | 744 289 | 471 549 | 1 569 604 | 1 906 908 | 2 068 000 | 2 331 238 | 2 677 901 |
| India | 12 832 | 96 911 | 109 519 | 118 072 | 119 838 | 129 788 | 50 614 | 205 603 | 206 374 | 224 984 | 226 748 | 252 141 |
| Indonesia | .. | 6 672 | 6 204 | 12 401 | 19 350 | 24 116 | .. | 160 735 | 184 804 | 211 635 | 230 799 | 253 655 |
| Russian Federation | .. | .. | 315 742 | 332 836 | 385 328 | 307 200 | .. | .. | 408 942 | 438 195 | 471 481 | 272 243 |
| South Africa | 31 038 | 83 248 | 97 051 | 111 779 | 128 681 | .. | 96 693 | 179 564 | 159 391 | 163 509 | 152 123 | .. |

1 2 *http://dx.doi.org/10.1787/888933336152*

## FDI stocks

*As a percentage of GDP, 2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933334975*

# FDI REGULATORY RESTRICTIVENESS INDEX

Foreign direct investment (FDI) is a key element in international economic integration. FDI creates direct, stable and long-lasting links between economies. It encourages the transfer of technology and know-how between countries, and allows the host economy to promote its products more widely in international markets. FDI is also an additional source of funding for investment and, under the right policy environment, it can be an important vehicle for development.

## Definition

The OECD FDI Regulatory Restrictiveness Index gauges the restrictiveness of a country's FDI rules through four types of restrictions: foreign equity restrictions; screening or approval mechanisms; restrictions on key foreign employment; and operational restrictions.

## Comparability

The OECD FDI Regulatory Restrictiveness Index covers statutory restrictions in 22 sectors. The Index is currently available for 8 years: 1997, 2003, 2006, 2010-14. Restrictions are scored on a range from 0 (open) to 1 (closed). Absence of scores refers to the absence of restrictions. Implementation issues are not addressed and factors such as the degree of transparency or discretion in granting approvals are not taken into account.

For OECD and non-OECD countries adherents to the OECD *Declaration on International Investment and Multinational Enterprises*, the measures taken into account by the index are limited to statutory regulatory restrictions on FDI as reflected in countries' lists of exceptions to national treatment and measures notified for transparency under OECD instruments without assessing their actual enforcement. For the non-OECD countries, information is collected through *Investment Policy Reviews*. Information is updated on a yearly basis following the OECD Freedom of Investment monitoring of investment measures, and ad-hoc legal and regulatory documental research for the countries not covered.

### *Overview*

The OECD FDI Regulatory Restrictiveness Index shows that there still remains significant variation across countries in terms of statutory restrictions on foreign direct investment. Countries in Asia and those with significant raw materials tend to be more restrictive. When used in combination with indicators measuring other aspects of the FDI climate, the Index can help to account for variations in countries' success in attracting FDI.

Seen from a broad perspective, countries continue to liberalise their requirements on international investment over time, albeit with occasional relapses. But worldwide, many service sectors remain partly off limits to foreign investors, holding back potential economy-wide productivity gains. Even within OECD countries, restrictions on foreign investment remain in key network sectors such as energy and transport. A key risk is that FDI restrictions limiting competition in service sectors end-up raising service input costs for other economic sectors and constraining productivity growth in the more dynamic downstream ones.

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## FDI Regulatory Restrictiveness Index

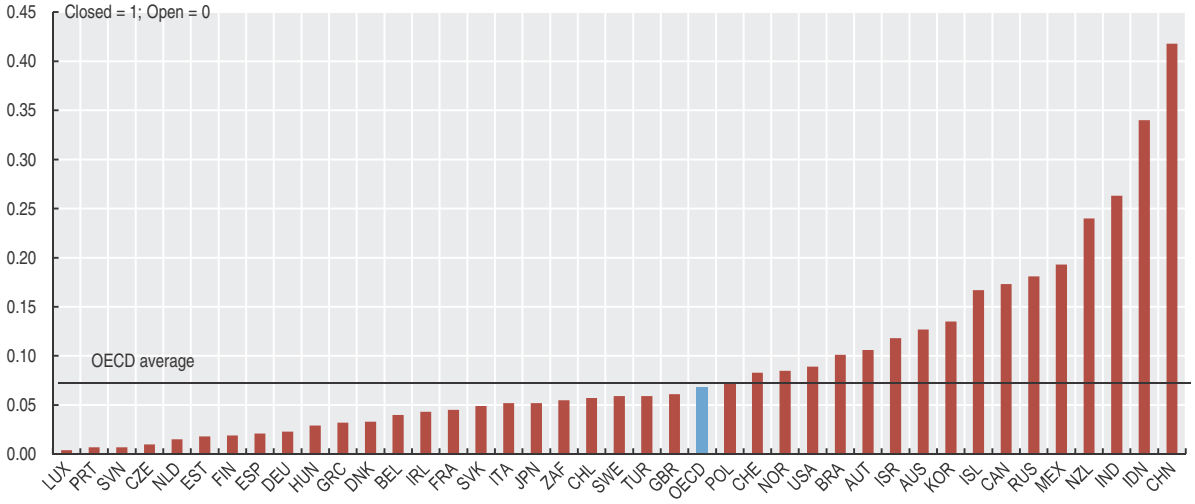
2014

| | Total FDI Index | Primary sector | Manufacturing | Electricity | Distribution | Transport | Media | Communications | Financial services | Business services |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.127 | 0.078 | 0.075 | 0.075 | 0.075 | 0.260 | 0.200 | 0.400 | 0.133 | 0.078 |
| Austria | 0.106 | 0.150 | - | 1.000 | - | 0.182 | - | - | 0.002 | 0.322 |
| Belgium | 0.040 | 0.035 | 0.023 | 0.023 | 0.023 | 0.114 | 0.023 | 0.023 | 0.024 | 0.248 |
| Canada | 0.173 | 0.198 | 0.110 | 0.110 | 0.110 | 0.277 | 0.710 | 0.575 | 0.077 | 0.110 |
| Chile | 0.057 | 0.150 | - | - | - | 0.413 | 0.188 | - | 0.017 | 0.013 |
| Czech Republic | 0.010 | 0.025 | - | - | - | 0.075 | - | - | 0.010 | - |
| Denmark | 0.033 | 0.056 | - | - | - | 0.083 | - | - | 0.002 | 0.363 |
| Estonia | 0.018 | 0.023 | - | - | - | 0.150 | - | - | 0.002 | - |
| Finland | 0.019 | 0.015 | 0.009 | 0.084 | 0.009 | 0.092 | 0.009 | 0.009 | 0.011 | 0.046 |
| France | 0.045 | 0.155 | - | - | - | 0.150 | 0.048 | - | 0.054 | 0.003 |
| Germany | 0.023 | 0.069 | - | - | - | 0.200 | 0.025 | - | 0.005 | - |
| Greece | 0.032 | 0.079 | - | - | - | 0.150 | 0.113 | - | 0.020 | 0.056 |
| Hungary | 0.029 | - | - | - | - | 0.167 | - | - | 0.005 | - |
| Iceland | 0.167 | 0.241 | 0.112 | 0.562 | 0.112 | 0.204 | 0.112 | 0.112 | 0.119 | 0.112 |
| Ireland | 0.043 | 0.135 | - | - | - | 0.125 | - | - | 0.009 | - |
| Israel | 0.118 | 0.060 | 0.020 | 0.770 | 0.020 | 0.403 | 0.264 | 0.395 | 0.037 | 0.020 |
| Italy | 0.052 | 0.130 | - | - | - | 0.200 | 0.363 | - | 0.018 | - |
| Japan | 0.052 | 0.069 | 0.002 | 0.025 | 0.001 | 0.275 | 0.200 | 0.265 | - | - |
| Korea | 0.135 | 0.250 | - | 0.417 | - | 0.508 | 0.563 | 0.325 | 0.050 | - |
| Luxembourg | 0.004 | - | - | - | - | 0.075 | - | - | 0.002 | - |
| Mexico | 0.193 | 0.319 | 0.103 | 0.100 | 0.175 | 0.528 | 0.525 | 0.100 | 0.133 | 0.100 |
| Netherlands | 0.015 | 0.062 | - | - | - | 0.083 | - | - | 0.002 | - |
| New Zealand | 0.240 | 0.325 | 0.200 | 0.200 | 0.200 | 0.283 | 0.200 | 0.400 | 0.233 | 0.200 |
| Norway | 0.085 | 0.156 | - | - | - | 0.350 | 0.125 | - | 0.067 | 0.313 |
| Poland | 0.072 | 0.050 | - | - | - | 0.092 | 0.298 | 0.075 | 0.003 | - |
| Portugal | 0.007 | 0.006 | - | - | - | 0.083 | - | - | 0.017 | - |
| Slovak Republic | 0.049 | - | - | - | - | 0.075 | - | - | 0.002 | - |
| Slovenia | 0.007 | - | - | - | - | 0.150 | - | - | 0.002 | - |
| Spain | 0.021 | 0.011 | - | - | - | 0.075 | 0.225 | - | 0.002 | 0.113 |
| Sweden | 0.059 | 0.138 | - | - | - | 0.292 | 0.200 | 0.200 | 0.002 | 0.051 |
| Switzerland | 0.083 | - | - | 0.500 | - | 0.250 | 0.467 | - | 0.067 | - |
| Turkey | 0.059 | 0.013 | - | - | - | 0.383 | 0.200 | - | - | 0.125 |
| United Kingdom | 0.061 | 0.160 | 0.023 | 0.023 | 0.023 | 0.114 | 0.248 | 0.023 | 0.024 | 0.023 |
| United States | 0.089 | 0.181 | - | 0.197 | - | 0.550 | 0.250 | 0.110 | 0.042 | - |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 0.068 | 0.098 | 0.020 | 0.120 | 0.022 | 0.218 | 0.163 | 0.089 | 0.035 | 0.067 |
| Brazil | 0.101 | 0.188 | 0.025 | 0.025 | 0.025 | 0.275 | 0.550 | 0.025 | 0.108 | 0.025 |
| China | 0.418 | 0.456 | 0.236 | 0.530 | 0.256 | 0.642 | 1.000 | 0.750 | 0.513 | 0.388 |
| India | 0.263 | 0.405 | 0.046 | 0.064 | 0.238 | 0.179 | 0.395 | 0.175 | 0.320 | 0.563 |
| Indonesia | 0.340 | 0.426 | 0.067 | 0.100 | 0.560 | 0.412 | 0.885 | 0.290 | 0.239 | 0.579 |
| Russian Federation | 0.181 | 0.157 | 0.095 | 0.030 | 0.050 | 0.350 | 0.350 | 0.100 | 0.432 | 0.175 |
| South Africa | 0.055 | 0.010 | 0.010 | 0.010 | 0.010 | 0.193 | 0.298 | 0.010 | 0.052 | 0.260 |

1 2 *http://dx.doi.org/10.1787/888933336144*

## FDI regulatory restrictiveness index

2014




1 2 *http://dx.doi.org/10.1787/888933334964*

# BALANCE OF PAYMENTS

The current account balance is the difference between current receipts from abroad and current payments to abroad. When the current account balance is positive, the country can use the surplus to repay foreign debts, to acquire foreign assets or to lend to the rest of the world. When the current account balance is negative, the deficit will be financed by borrowing from abroad or by liquidating foreign assets acquired in earlier periods.

## Definition

Current account transactions consist of exports and imports of goods; exports and imports of services such as travel, international freight and passenger transport, insurance and financial services; primary income flows, consisting of compensation of employees (e.g. wages and salaries) and investment income (i.e. property income in *System of National Accounts*); and secondary income such as government transfers (i.e. international cooperation), worker's remittances and other transfers such as gifts, inheritances and prizes won from lotteries.

Investment income includes retained earnings (i.e. profits not distributed as dividends to the direct investor) of foreign subsidiaries. In general, earnings of direct investment enterprises are treated as if they were remitted abroad to the direct investor, with the part that is actually retained in the country where the direct investment enterprises are located shown as direct investment income reinvested earnings in the current account and as inward direct investment in the financial account.

## Comparability

The data are taken from balance of payments statistics compiled according to the International Monetary Fund (IMF) *Balance of Payments Manual and International Investment Position* (BPM6) which was introduced in most countries in 2014. However, data for Mexico, Brazil, China, India, Indonesia, and South Africa are still presented according to the old BPM5. The IMF, OECD and other international organisations closely monitor balance of payments statistics reported by member countries through regular meetings of balance of payments compilers. As a result, there is relatively good comparability across countries.

### *Overview*

The lead up to and the aftermath of the global financial and economic crisis had a clear impact on current account balances as a percentage of GDP of for a large number of countries between 2002, 2006, 2010 and 2014. An example of this rise and fall is Iceland, which saw its current account balance as a percentage of GDP fall from 1.1% in 2002 to negative 23.2% in 2006, due to the large inflow of capital seeking high interest rates and now sits at 3.2% in 2014. A number of other countries that exhibit a similar pattern are Estonia, Ireland, Portugal, Spain and the United States.

OECD countries that have recorded current account deficits throughout the period since 2002 are: Australia, Mexico, New Zealand, Poland, Turkey, the United Kingdom and the United States. This is partly due to the way in which earnings of direct investment enterprises are treated.

Turkey is the only OECD country that recorded a current account deficit of 5% of GDP or more on average over the three years to 2014 (negative 6.6%), although Turkey's current account deficit as a percentage of GDP has improved since 2011 when it reached negative 9.6%. Surpluses in excess of 5% of GDP were recorded by Denmark, Germany, Korea, Luxembourg, the Netherlands, Norway, Sweden, Slovenia and Switzerland.

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## Current account balance

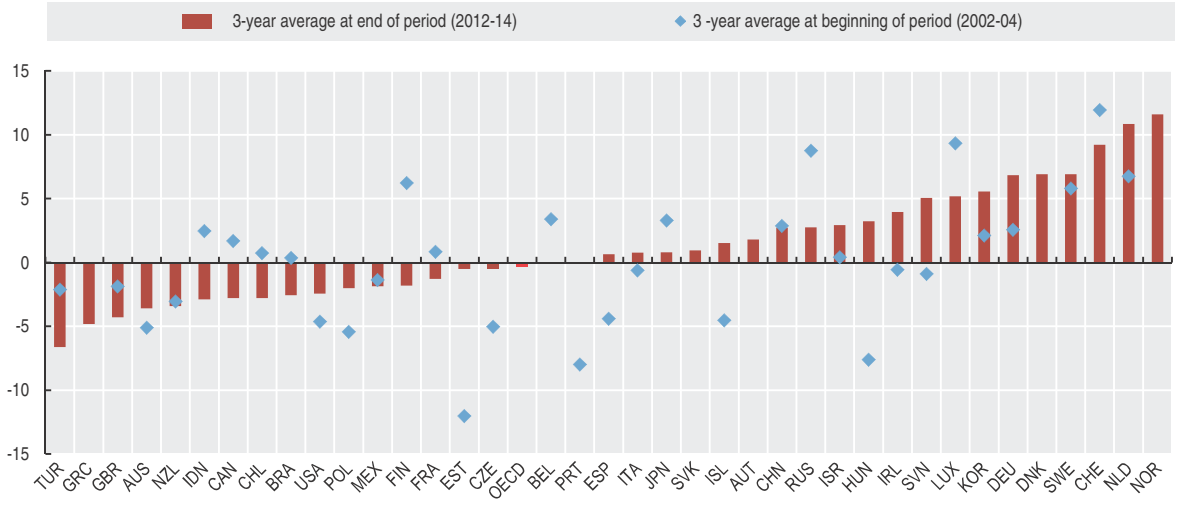
*As a percentage of GDP*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | -3.7 | -5.4 | -6.2 | -5.9 | -5.8 | -6.7 | -4.9 | -4.6 | -3.6 | -3.0 | -4.3 | -3.4 | -3.0 |
| Austria | .. | .. | .. | .. | 3.3 | 3.8 | 4.5 | 2.6 | 2.9 | 1.6 | 1.5 | 2.0 | 2.0 |
| Belgium | .. | 3.5 | 3.3 | 2.1 | 1.9 | 2.0 | -1.0 | -1.1 | 1.8 | -1.1 | -0.1 | -0.2 | 0.1 |
| Canada | 1.7 | 1.1 | 2.3 | 1.8 | 1.4 | 0.8 | 0.1 | -2.9 | -3.5 | -2.7 | -3.3 | -3.0 | -2.1 |
| Chile | .. | -0.9 | 2.4 | 1.6 | 4.7 | 4.3 | -3.1 | 1.5 | 1.7 | -1.1 | -3.6 | -3.7 | -1.2 |
| Czech Republic | -5.1 | -5.7 | -4.2 | -1.0 | -2.1 | -4.3 | -1.9 | -2.3 | -3.6 | -2.1 | -1.6 | -0.5 | 0.6 |
| Denmark | .. | .. | .. | 4.3 | 3.2 | 1.4 | 2.7 | 3.3 | 5.7 | 5.7 | 5.7 | 7.2 | 7.8 |
| Estonia | -11.1 | -12.9 | -12.1 | -8.7 | -14.9 | -15.1 | -8.6 | 2.6 | 1.8 | 1.3 | -2.4 | -0.1 | 1.0 |
| Finland | 8.2 | 4.6 | 5.8 | 3.0 | 3.8 | 3.8 | 2.2 | 1.9 | 1.2 | -1.8 | -1.9 | -1.7 | -1.8 |
| France | 1.2 | 0.9 | 0.4 | 0.0 | 0.0 | -0.3 | -1.0 | -0.8 | -0.8 | -1.0 | -1.5 | -1.4 | -0.8 |
| Germany | 1.9 | 1.4 | 4.5 | 4.6 | 5.7 | 6.7 | 5.6 | 5.7 | 5.6 | 6.1 | 6.8 | 6.4 | 7.4 |
| Greece | .. | .. | .. | .. | .. | .. | -14.4 | -10.9 | -10.0 | -9.9 | -2.4 | -2.1 | -2.1 |
| Hungary | -6.3 | -8.0 | -8.6 | -7.0 | -7.1 | -7.1 | -7.0 | -0.8 | 0.3 | 0.8 | 1.8 | 4.0 | 3.9 |
| Iceland | 1.1 | -5.0 | -9.8 | -15.7 | -23.2 | -14.2 | -22.9 | -9.8 | -6.5 | -5.4 | -4.4 | 5.7 | 3.2 |
| Ireland | -0.6 | 0.5 | -1.6 | -5.2 | -5.8 | -9.2 | -9.3 | -6.6 | -3.2 | -2.7 | 1.5 | 4.3 | 6.1 |
| Israel | -0.9 | 0.6 | 1.5 | 3.0 | 4.6 | 4.1 | 1.1 | 3.5 | 3.6 | 2.3 | 1.5 | 3.0 | 4.3 |
| Italy | -0.5 | -0.8 | -0.5 | -0.9 | -1.5 | -1.4 | -2.8 | -1.9 | -3.5 | -3.1 | -0.5 | 0.9 | 1.9 |
| Japan | 2.7 | 3.2 | 3.9 | 3.7 | 4.0 | 4.9 | 2.9 | 2.9 | 4.0 | 2.2 | 1.0 | 0.8 | 0.5 |
| Korea | 0.8 | 1.7 | 3.9 | 1.4 | 0.3 | 1.0 | 0.6 | 3.9 | 2.6 | 1.5 | 4.1 | 6.2 | 6.3 |
| Luxembourg | 9.4 | 6.6 | 12.0 | 11.1 | 10.0 | 9.8 | 7.3 | 7.7 | 7.0 | 5.8 | 5.8 | 4.7 | 5.1 |
| Mexico | -2.0 | -1.2 | -0.9 | -1.1 | -0.8 | -1.4 | -1.9 | -0.9 | -0.5 | -1.1 | -1.4 | -2.3 | -1.9 |
| Netherlands | .. | .. | 6.8 | 6.1 | 7.9 | 6.0 | 4.1 | 5.8 | 7.3 | 9.1 | 10.8 | 11.0 | 10.8 |
| New Zealand | -2.2 | -2.4 | -4.5 | -7.0 | -7.2 | -6.8 | -7.7 | -2.3 | -2.2 | -2.8 | -4.0 | -3.1 | -3.1 |
| Norway | .. | .. | .. | 16.2 | 16.2 | 12.2 | 15.6 | 10.6 | 10.9 | 12.3 | 12.4 | 10.0 | 9.4 |
| Poland | .. | .. | -5.4 | -2.5 | -3.9 | -6.2 | -6.5 | -3.8 | -5.5 | -5.0 | -3.4 | -1.3 | -1.3 |
| Portugal | -8.5 | -7.2 | -8.3 | -9.9 | -10.7 | -9.7 | -12.1 | -10.4 | -10.2 | -6.0 | -2.1 | 1.4 | 0.6 |
| Slovak Republic | .. | .. | .. | .. | .. | .. | -6.2 | -3.5 | -4.7 | -5.0 | 0.9 | 1.8 | 0.1 |
| Slovenia | 0.9 | -0.8 | -2.7 | -1.8 | -1.8 | -4.1 | -5.3 | -0.6 | -0.1 | 0.2 | 2.6 | 5.6 | 7.0 |
| Spain | -3.7 | -3.9 | -5.6 | -7.5 | -9.0 | -9.6 | -9.2 | -4.3 | -3.9 | -3.2 | -0.3 | 1.4 | 0.8 |
| Sweden | 4.5 | 6.6 | 6.3 | 6.5 | 8.3 | 8.9 | 8.6 | 5.9 | 6.0 | 6.9 | 6.6 | 7.3 | 6.8 |
| Switzerland | 8.6 | 12.7 | 14.5 | 13.4 | 14.2 | 10.0 | 2.2 | 7.1 | 14.0 | 6.8 | 9.9 | 10.7 | 7.1 |
| Turkey | -0.3 | -2.5 | -3.6 | -4.4 | -6.0 | -5.8 | -5.3 | -1.9 | -6.1 | -9.6 | -6.2 | -7.8 | -5.8 |
| United Kingdom | -2.1 | -1.7 | -1.8 | -1.2 | -2.3 | -2.5 | -3.6 | -3.0 | -2.8 | -1.7 | -3.3 | -4.5 | -5.1 |
| United States | -4.2 | -4.5 | -5.2 | -5.7 | -5.8 | -5.0 | -4.7 | -2.7 | -3.0 | -3.0 | -2.8 | -2.3 | -2.2 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | -1.7 | -0.5 | -0.4 | -0.6 | -0.4 | -0.1 | 0.0 |
| Brazil | -1.3 | 0.7 | 1.7 | 1.6 | 1.2 | 0.2 | -1.6 | -1.3 | -2.1 | -2.0 | -2.3 | -3.4 | -3.9 |
| China | 2.4 | 2.6 | 3.6 | 5.9 | 8.5 | 10.1 | 9.3 | 4.9 | 4.0 | 1.9 | 2.3 | .. | .. |
| India | 1.4 | 1.5 | 0.2 | -1.2 | -1.0 | -0.6 | -2.5 | -2.0 | -3.2 | .. | .. | .. | .. |
| Indonesia | 3.7 | 3.2 | 0.6 | 0.1 | 2.7 | 2.2 | 0.0 | 1.8 | 0.7 | 0.2 | -2.7 | -3.1 | .. |
| Russian Federation | .. | 7.8 | 9.7 | 11.1 | 9.7 | 5.6 | 6.2 | 3.8 | 4.6 | 5.0 | 3.5 | 1.7 | 3.1 |
| South Africa | 0.8 | -1.0 | -2.9 | -3.3 | -5.1 | -6.6 | -6.8 | -3.9 | -2.8 | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336031*

## Current account balance

*As a percentage of GDP*




1 2 *http://dx.doi.org/10.1787/888933334849*


34,432,741,064.
34,432,741,064.
220,061,246.
242,765.
54,975,316.
3,458,295,462.
627,646,320.
242,347,296.
312,759.



# PRICES

## PRICES AND INTEREST RATES

INFLATION (CPI)

PRODUCER PRICE INDICES

LONG-TERM INTEREST RATES

## PURCHASING POWER PARITIES AND EXCHANGE RATES

RATES OF CONVERSION

REAL EFFECTIVE EXCHANGE RATES

# INFLATION (CPI)

Consumer price indices have a long history in official statistics. They provide a measure of the erosion of living standards through price inflation and are probably one of the best known economic statistics used by the media and general public.

## Definition

Consumer price indices (CPI) measure the change in the prices of a basket of goods and services that are typically purchased by specific groups of households. Consumer price indices cover virtually all households except for "institutional" households – people in prisons and military barracks, for example – and, in some countries, households in the highest income group.

The CPI for all items excluding food and energy provides a measure of underlying inflation, which is less affected by short-term fluctuations. The index for food covers food and non-alcoholic beverages but excludes purchases in restaurants. The index for energy covers all forms of energy, including fuels for motor vehicles, heating and other household uses.

## Comparability

There are a number of differences in the ways that these indices are calculated. The most important ones concern the treatment of dwelling costs, the adjustments made for changes in the quality of goods and services, the frequency with which the basket weights are updated, and the index formulae used. In particular, country methodologies for the treatment of owner-occupied housing vary significantly. The European Harmonised Indices of Consumer Prices (HICPs) exclude owner-occupied housing as do national CPIs for Belgium, Chile, Estonia, France, Greece, Italy, Luxembourg, Poland, Portugal, Slovenia, Spain, Turkey, the United Kingdom and most of the countries outside the OECD area. For the United Kingdom, the national CPI is the same as the HICP. The European Union and euro area CPI refer to the HICP published by Eurostat and cover the 28 and 19 countries respectively for the entire period of the time series.

### *Overview*

The annual average inflation rate from 2012-14 has been below 2.5% in all OECD countries except Chile, Iceland, Mexico and Turkey. The CPI for the OECD total dropped from 2.5% in the 3-year average from 2002-04 to 1.9% in the 3-year average from 2012-14. Over the entire period from 2002 to 2014, most OECD countries experienced substantial declines in inflation. By contrast, Japan experienced a substantial increase of inflation after many years of negative and flat rates while Mexico, Turkey, and Iceland all experienced periods or years of high inflation during this period.

Annual inflation rates have been higher for countries outside the OECD area.

Energy prices have been volatile during the whole period (2000-14) and have recorded large swings, with spikes in 2000, 2005, 2008 and 2011 and sharp declines in 2002, 2007 and 2014. Food prices have risen by less than total consumer prices in 2000 and 2010 but for the most recent period, 2014, they have risen faster. When excluding these more volatile items, the underlying consumer price index (i.e. all items excluding food and energy) points to a progressive decline in inflation rates from 2000 to 2010 followed by a slight increase from 2010 onwards.

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## Inflation (CPI)

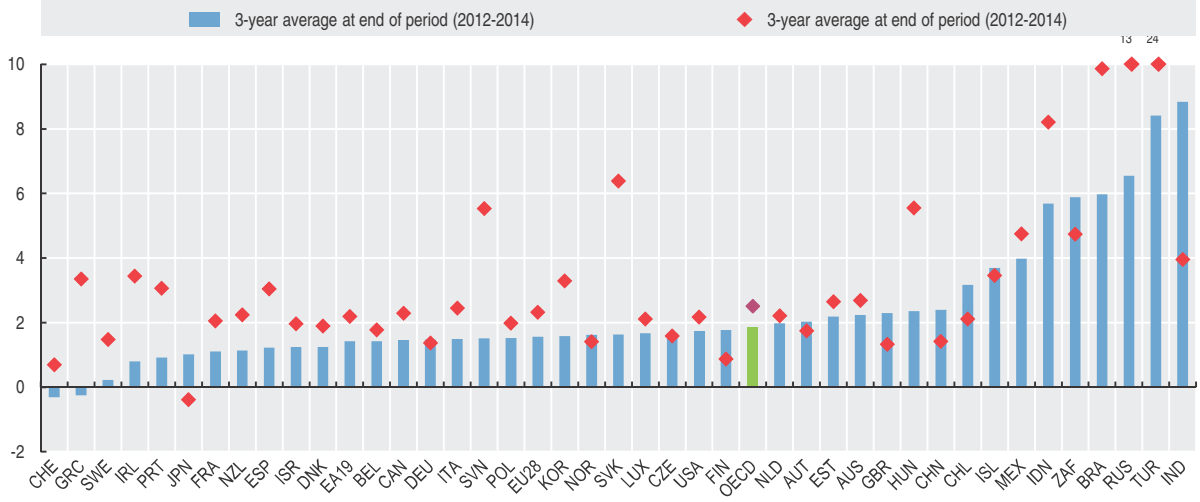
*Annual growth in percentage*

| | All items | | | All items non-food, non-energy | | | Food | | | Energy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2010 | 2014 | 2000 | 2010 | 2014 | 2000 | 2010 | 2014 | 2000 | 2010 | 2014 |
| Australia | 4.5 | 2.9 | 2.5 | 4.4 | 2.8 | 2.6 | 0.3 | 1.1 | 2.8 | 16.3 | 8.5 | 1.2 |
| Austria | 2.3 | 1.8 | 1.6 | 1.7 | 1.4 | 2.0 | 0.6 | 0.5 | 2.0 | 10.7 | 7.6 | -2.0 |
| Belgium | 2.5 | 2.2 | 0.3 | 1.8 | 1.5 | 1.6 | 0.9 | 1.7 | -0.4 | 14.4 | 9.5 | -6.2 |
| Canada | 2.7 | 1.8 | 1.9 | 1.7 | 1.3 | 1.6 | 1.1 | 0.9 | 2.5 | 16.2 | 6.6 | 3.5 |
| Chile | 3.8 | 1.4 | 4.7 | 3.1 | 0.5 | 3.9 | 1.1 | 2.2 | 7.0 | 22.0 | 7.1 | 6.2 |
| Czech Republic | 3.8 | 1.5 | 0.4 | 3.3 | 1.1 | 0.4 | 1.0 | 1.5 | 2.0 | 15.1 | 3.8 | -4.2 |
| Denmark | 2.9 | 2.3 | 0.6 | 2.1 | 1.9 | 0.9 | 2.5 | 0.4 | -0.9 | 11.8 | 9.0 | -0.2 |
| Estonia | 4.0 | 3.0 | -0.1 | 3.9 | 0.8 | 1.0 | 2.4 | 3.0 | 0.0 | 8.0 | 12.3 | -4.0 |
| Finland | 3.0 | 1.2 | 1.0 | 2.6 | 1.2 | 1.5 | 1.1 | -3.4 | 0.2 | 12.6 | 10.6 | -1.7 |
| France | 1.7 | 1.5 | 0.5 | 0.5 | 0.9 | 0.9 | 2.2 | 0.8 | -0.8 | 12.2 | 9.6 | -1.1 |
| Germany | 1.4 | 1.1 | 0.9 | 0.9 | 0.7 | 1.4 | -0.7 | 1.2 | 1.0 | 13.9 | 4.0 | -2.1 |
| Greece | 3.2 | 4.7 | -1.3 | 2.2 | 3.4 | -1.2 | 1.9 | 0.1 | -1.7 | 17.2 | 28.8 | -1.8 |
| Hungary | 9.8 | 4.9 | -0.2 | 8.4 | 3.7 | 2.3 | 9.2 | 2.8 | -0.8 | 17.3 | 10.8 | -6.8 |
| Iceland | 5.1 | 5.4 | 2.0 | 4.7 | 4.7 | 2.7 | 4.1 | 4.2 | 0.5 | 11.9 | 15.5 | -1.3 |
| Ireland | 5.6 | -0.9 | 0.2 | 5.6 | -1.2 | 0.8 | 3.1 | -4.6 | -2.2 | 13.6 | 9.6 | -1.5 |
| Israel | 1.1 | 2.7 | 0.5 | 0.4 | 2.6 | 0.9 | 2.3 | 2.5 | -1.4 | 9.5 | 3.9 | -0.3 |
| Italy | 2.5 | 1.5 | 0.2 | 2.1 | 1.6 | 0.9 | 1.6 | 0.2 | 0.1 | 11.6 | 3.5 | -3.0 |
| Japan | -0.7 | -0.7 | 2.7 | -0.5 | -1.2 | 1.9 | -2.3 | -0.3 | 4.2 | 2.7 | 2.7 | 6.5 |
| Korea | 2.3 | 2.9 | 1.3 | 1.8 | 1.8 | 1.7 | 0.9 | 6.4 | 0.3 | 9.6 | 6.5 | -0.4 |
| Luxembourg | 3.2 | 2.3 | 0.6 | 2.2 | 1.6 | 1.3 | 2.0 | 0.9 | 0.6 | 19.8 | 10.2 | -4.6 |
| Mexico | 9.5 | 4.2 | 4.0 | 10.4 | 4.2 | 3.2 | 5.4 | 3.4 | 4.8 | 16.8 | 5.4 | 8.4 |
| Netherlands | 2.3 | 1.3 | 1.0 | 1.9 | 1.7 | 1.5 | 0.2 | -0.1 | -0.1 | 14.9 | -0.3 | -1.7 |
| New Zealand | 2.6 | 2.3 | 1.2 | 2.4 | 1.9 | 1.4 | 1.1 | 1.0 | 0.3 | 11.0 | 7.0 | 1.2 |
| Norway | 3.1 | 2.4 | 2.0 | 2.5 | 0.9 | 3.1 | 1.9 | 0.2 | 3.1 | 11.3 | 15.5 | -4.0 |
| Poland | 9.9 | 2.6 | 0.1 | 9.3 | 1.5 | 0.7 | 9.7 | 2.8 | -1.0 | 13.4 | 6.2 | -1.1 |
| Portugal | 2.9 | 1.4 | -0.3 | 2.9 | 1.0 | 0.1 | 2.1 | -0.2 | -1.3 | 6.0 | 9.5 | -1.4 |
| Slovak Republic | 12.0 | 1.0 | -0.1 | 11.5 | 3.1 | 0.7 | 5.2 | 1.6 | -0.8 | 41.8 | -2.8 | -1.8 |
| Slovenia | 8.9 | 1.8 | 0.2 | 7.3 | 0.2 | 0.7 | -13.8 | 1.0 | -0.3 | 25.2 | 13.2 | -1.4 |
| Spain | 3.4 | 1.8 | -0.2 | 2.9 | 0.6 | 0.0 | 2.1 | -0.8 | -0.3 | 13.3 | 12.5 | -0.8 |
| Sweden | 0.9 | 1.2 | -0.2 | -0.3 | -0.4 | 0.6 | 0.0 | 1.4 | 0.4 | 7.2 | 6.8 | -2.6 |
| Switzerland | 1.6 | 0.7 | 0.0 | 1.2 | 0.2 | 0.0 | 1.6 | -1.1 | 0.9 | 18.0 | 9.2 | -1.0 |
| Turkey | 54.9 | 8.6 | 8.9 | 58.0 | 7.2 | 8.6 | 46.6 | 10.6 | 12.6 | 56.4 | 10.5 | 2.5 |
| United Kingdom | 0.8 | 3.3 | 1.5 | 0.1 | 2.9 | 1.6 | -0.5 | 3.4 | -0.2 | 7.0 | 6.1 | 0.1 |
| United States | 3.4 | 1.6 | 1.6 | 2.4 | 1.0 | 1.7 | 2.2 | 0.3 | 2.4 | 16.9 | 9.5 | -0.3 |
| Euro area | 2.2 | 1.6 | 0.4 | 1.0 | 1.0 | 0.8 | 1.2 | 0.4 | -0.1 | 13.4 | 7.4 | -1.9 |
| EU 28 | 3.5 | 2.1 | 0.6 | 1.2 | 1.3 | 0.9 | 3.9 | 1.0 | -0.2 | 12.7 | 7.2 | -1.6 |
| OECD | 4.0 | 1.9 | 1.7 | 3.4 | 1.3 | 1.8 | 2.3 | 1.1 | 2.1 | 14.7 | 7.8 | 0.5 |
| Brazil | 7.0 | 5.0 | 6.3 | .. | .. | .. | 5.1 | 6.1 | 7.6 | .. | .. | .. |
| China | 0.4 | 3.3 | 2.0 | .. | .. | .. | -2.6 | 7.2 | 3.1 | .. | .. | .. |
| India | 4.0 | 12.0 | 6.4 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 3.7 | 5.1 | 6.4 | .. | .. | .. | -4.8 | 9.4 | 6.8 | .. | .. | .. |
| Russian Federation | 20.8 | 6.9 | 7.8 | .. | .. | .. | 17.8 | 7.0 | 10.3 | .. | .. | .. |
| South Africa | 5.3 | 4.1 | 6.1 | .. | 4.2 | 5.5 | 7.8 | 1.2 | 8.0 | .. | 14.6 | 7.2 |

1 2 *http://dx.doi.org/10.1787/888933336052*

## CPI: all items

*Average annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933334865*

# PRODUCER PRICE INDICES

A variety of price indices may be used to measure inflation in an economy. These include consumer price indices (CPI), price indices relating to specific goods and/or services, GDP deflators and producer price indices (PPI). Whereas CPIs are designed to measure changes over time in average retail prices of a fixed basket of goods and services taken as representing the consumption habits of households, PPIs aim to provide measures of average movements of prices applied by the producers of various commodities. They are often seen as advanced indicators of price changes throughout the economy, including changes in the prices of consumer goods and services.

## Definition

Producer price indices measure the rate of change in prices of products sold as they leave the producer. They exclude any taxes, transport and trade margins that the purchaser may have to pay. Manufacturing covers the production of semi-processed goods and other intermediate goods as well as final products such as consumer goods and capital equipment. The indexes shown here are weighted averages of monthly price changes in the manufacturing sector.

## Comparability

The precise ways in which PPIs are defined and constructed depend on their intended use. In this context, national practices may differ and these differences may affect cross-country comparability. This is especially the case for aspects such as the weighting and aggregation systems, the treatment of quality differences, the sampling and collection of individual prices, the frequency with which the weights are updated, and in the index formulae used. Differences may also arise concerning the scope of the manufacturing sector and the statistical unit used for measurement. In some countries, for example, indices may reflect price changes in the output of the manufacturing sector as opposed to manufactured products.

While the PPI series for most countries refer to domestic sales of manufacturing goods, those for Australia, Canada, Chile, New Zealand and the United States include prices applied for foreign sales (i.e. "total market").

### *Overview*

In the 3-year average from 2012-14, producer prices in the OECD area as a whole increased at an annual rate of around 0.9%, a lower rate than recorded in the 3-year average from 2002-04 (2.1%).

Producer prices have been, however, volatile during the whole period (2002-14), and have recorded swings, with peaks in 2008 and 2011 and decreases in 2002, 2009 and 2013. The effect of the financial and economic crisis is particularly noteworthy, with nearly all OECD countries recording negative growth in producer prices in 2009, with the OECD average at minus 4.0% for that year.

Since then the picture has been less clear in producer prices with some OECD countries seeing large increases in 2011 followed by large drops in 2012 and 2013 (Greece, Hungary and the Netherlands), while some have recorded low or continued negative growth (Switzerland and Sweden). The year 2014 shows also diverging patterns among OECD countries, with, on one side, large increases recorded in Turkey and Chile and to a smaller extent in Sweden, Australia, Canada, Japan and Mexico, and a slowdown in producer price inflation rates recorded in New Zealand, the United Kingdom, Belgium and Estonia.

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- OECD Main Economic Indicators, *www.oecd.org/std/mei*.

## PPI: domestic manufacturing

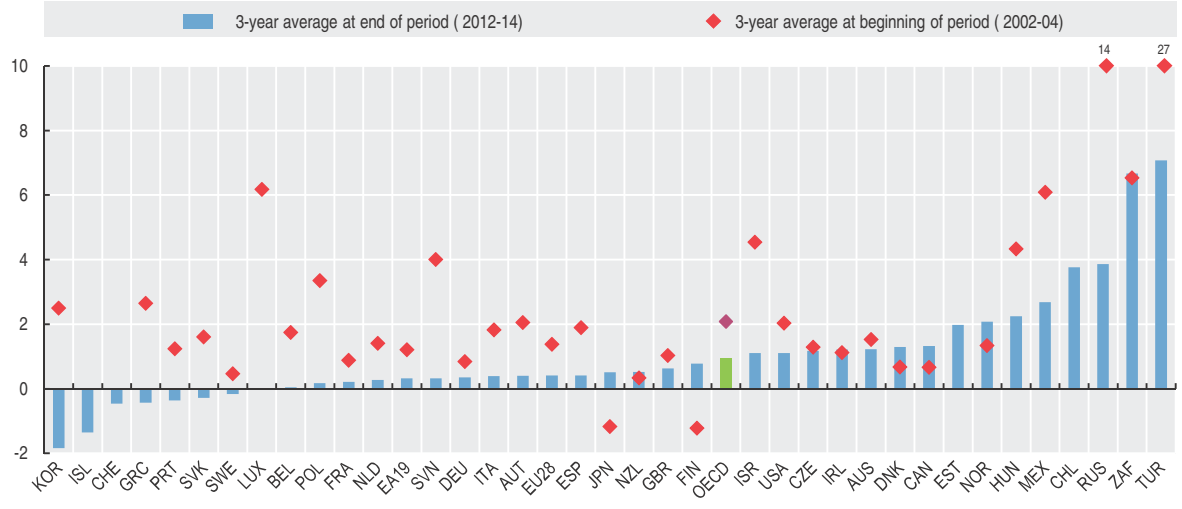
*Annual growth in percentage*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.2 | 0.5 | 3.9 | 6.0 | 7.9 | 2.3 | 8.3 | -5.4 | 1.9 | 3.4 | -0.5 | 1.1 | 3.1 |
| Austria | -1.4 | 0.3 | 2.2 | 3.7 | 1.8 | 3.4 | 3.4 | -2.2 | 4.4 | 5.0 | 1.5 | 0.1 | -0.4 |
| Belgium | 0.1 | 0.9 | 4.2 | 6.0 | 5.5 | 3.6 | 5.7 | -4.9 | 6.3 | 6.8 | 2.8 | -0.2 | -2.5 |
| Canada | 0.1 | -1.2 | 3.2 | 1.6 | 2.3 | 1.5 | 4.4 | -3.5 | 1.5 | 6.9 | 1.1 | 0.4 | 2.5 |
| Chile | .. | .. | .. | 2.9 | 5.0 | 6.0 | 15.9 | -3.3 | 5.5 | 4.6 | 0.3 | 2.6 | 8.6 |
| Czech Republic | -1.3 | -0.4 | 5.8 | 2.0 | 0.6 | 3.5 | 3.1 | -5.5 | 1.5 | 5.7 | 2.3 | 0.2 | 1.0 |
| Denmark | 1.0 | 0.0 | 1.0 | 3.0 | 3.4 | 4.9 | 5.7 | -1.2 | 3.2 | 4.6 | 3.1 | 1.3 | -0.5 |
| Estonia | -1.0 | -0.6 | 3.4 | 2.3 | 4.8 | 10.1 | 7.6 | -3.9 | 2.1 | 5.7 | 2.9 | 2.7 | 0.3 |
| Finland | -1.9 | -1.5 | -0.2 | 3.8 | 5.0 | 4.7 | 7.2 | -6.7 | 5.2 | 6.2 | 2.7 | 0.3 | -0.5 |
| France | -0.1 | 0.7 | 2.0 | 2.7 | 3.3 | 2.7 | 5.0 | -6.2 | 2.3 | 5.2 | 2.0 | -0.1 | -1.3 |
| Germany | 0.2 | 0.6 | 1.7 | 2.4 | 2.3 | 2.3 | 3.1 | -3.4 | 2.5 | 4.2 | 1.5 | 0.0 | -0.4 |
| Greece | 2.1 | 2.1 | 3.8 | 6.4 | 7.9 | 3.5 | 9.7 | -7.2 | 6.9 | 8.6 | 3.7 | -2.1 | -2.8 |
| Hungary | 2.0 | 3.7 | 7.3 | 4.3 | 5.7 | 4.3 | 8.6 | -0.1 | 5.7 | 8.6 | 5.2 | 1.1 | 0.6 |
| Iceland | .. | .. | .. | .. | 17.5 | 1.8 | 31.0 | 11.3 | 11.8 | 9.2 | 1.1 | -4.4 | -0.7 |
| Ireland | 2.1 | 0.8 | 0.4 | 1.9 | 3.5 | 2.2 | 5.9 | -3.6 | 1.6 | 6.2 | 2.8 | 1.3 | -0.5 |
| Israel | 3.9 | 4.3 | 5.4 | 6.2 | 5.7 | 3.5 | 9.6 | -6.3 | 4.0 | 7.7 | 4.4 | 0.4 | -1.4 |
| Italy | 0.8 | 1.4 | 3.3 | 3.1 | 4.0 | 3.4 | 5.0 | -5.6 | 3.6 | 4.9 | 1.9 | 0.0 | -0.7 |
| Japan | -2.4 | -1.4 | 0.3 | 0.8 | 1.9 | 1.3 | 4.1 | -4.8 | -0.3 | 1.1 | -1.7 | 0.5 | 2.8 |
| Korea | -1.6 | 1.7 | 7.6 | 3.1 | 0.1 | 0.8 | 12.1 | -1.8 | 4.3 | 9.0 | -0.4 | -3.0 | -2.1 |
| Luxembourg | 0.9 | 3.3 | 14.8 | 0.1 | 9.0 | 7.6 | 12.9 | -19.2 | 8.3 | 5.6 | 0.0 | 0.2 | -0.2 |
| Mexico | 3.2 | 6.6 | 8.6 | 4.5 | 6.0 | 5.0 | 8.6 | 5.4 | 4.7 | 6.5 | 5.5 | 0.2 | 2.4 |
| Netherlands | -0.6 | 1.3 | 3.6 | 4.5 | 4.8 | 6.1 | 7.5 | -9.6 | 6.6 | 10.8 | 4.0 | -1.0 | -2.1 |
| New Zealand | 0.0 | -1.7 | 2.8 | 5.6 | 6.5 | 4.0 | 14.9 | -4.8 | 4.3 | 5.7 | -2.1 | 3.1 | 0.6 |
| Norway | -0.4 | 1.4 | 3.1 | 3.5 | 3.0 | 4.4 | 7.8 | 0.3 | 3.2 | 6.5 | 2.8 | 2.0 | 1.4 |
| Poland | -1.7 | 0.8 | 8.0 | 1.4 | 1.9 | 3.6 | 3.4 | -2.6 | 2.9 | 8.6 | 3.3 | -0.8 | -1.9 |
| Portugal | 0.4 | 0.4 | 2.9 | 3.4 | 3.4 | 1.5 | 5.0 | -5.5 | 3.5 | 6.0 | 1.9 | -0.8 | -2.1 |
| Slovak Republic | 2.5 | -0.1 | 2.5 | 1.3 | 1.5 | 0.2 | 2.0 | -5.9 | 0.0 | 4.1 | 1.3 | -0.3 | -1.8 |
| Slovenia | 4.9 | 2.9 | 4.2 | 3.3 | 2.4 | 4.4 | 5.2 | -2.0 | 2.1 | 4.1 | 1.1 | 0.4 | -0.5 |
| Spain | 0.6 | 1.4 | 3.7 | 4.7 | 5.0 | 3.4 | 6.0 | -5.5 | 4.1 | 6.5 | 2.7 | 0.0 | -1.4 |
| Sweden | 0.6 | -0.9 | 1.8 | 4.0 | 3.9 | 3.3 | 3.9 | 1.0 | 0.3 | 1.3 | -0.2 | -2.0 | 1.7 |
| Switzerland | .. | .. | 2.0 | 2.0 | 2.7 | 2.8 | 4.4 | -2.8 | 0.5 | 0.1 | -0.5 | -0.1 | -0.7 |
| Turkey | 48.3 | 20.8 | 13.1 | 7.6 | 9.3 | 5.6 | 11.8 | -0.6 | 6.0 | 13.3 | 5.5 | 4.5 | 11.4 |
| United Kingdom | -0.3 | 1.1 | 2.2 | 4.0 | 3.1 | 3.0 | 9.5 | -2.3 | 4.1 | 7.4 | 2.2 | 1.1 | -1.4 |
| United States | -0.7 | 2.5 | 4.3 | 5.5 | 4.0 | 3.8 | 7.9 | -4.9 | 5.0 | 7.8 | 2.1 | 0.4 | 0.8 |
| Euro area | 0.3 | 0.9 | 2.5 | 3.1 | 3.4 | 3.0 | 4.6 | -5.0 | 3.3 | 5.3 | 2.0 | -0.1 | -0.9 |
| EU 28 | 0.2 | 1.0 | 2.9 | 3.3 | 3.4 | 3.1 | 5.1 | -4.6 | 3.3 | 5.6 | 2.1 | 0.0 | -0.9 |
| OECD | 0.8 | 1.8 | 3.7 | 4.0 | 3.7 | 3.2 | 6.8 | -4.0 | 3.7 | 6.3 | 1.8 | 0.3 | 0.7 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 8.0 | 16.0 | 19.4 | 13.8 | 11.1 | 13.2 | 21.1 | -5.1 | 11.5 | 14.0 | 3.8 | 2.2 | 5.6 |
| South Africa | 13.3 | 4.6 | 2.0 | 3.7 | 6.4 | 9.8 | 15.2 | 0.7 | 1.9 | 5.7 | 6.6 | 6.0 | 7.4 |

1 2 *http://dx.doi.org/10.1787/888933336516*

## PPI: domestic manufacturing

*Average annual growth in percentage*




1 2 *http://dx.doi.org/10.1787/888933335389*

# LONG-TERM INTEREST RATES

Long-term interest rates are one of the determinants of business investment. Low long-term interest rates encourage investment in new equipment; investment is, in turn, a major source of economic growth.

## Definition

Long-term interest rates as measured here refer to government bonds with a residual maturity of about ten years. They are not the interest rates at which the loans were issued, but the interest rates implied by the prices at which these government bonds are traded on financial markets. For example if a bond was initially bought at a price of 100 with an interest rate of 9%, but it is now trading at a price 90, the interest rate shown here will be 10% ([9/90] × 100).

Long-term interest are, where possible, averages of daily rates. In all cases, they refer to bonds whose capital repayment is guaranteed by governments.

Long-term interest rates are mainly determined by three factors: the price that lenders charge for postponing consumption; the risk that the borrower may not repay the capital; and the fall in the real value of the capital that the lender expects to occur because of inflation during the lifetime of the loan. Interest rates refer to government borrowing and the risk factor is assumed to be very low. To an important extent the interest rates are driven by expected inflation rates.

## Comparability

Comparability of these data is considered to be high. There may be differences, however, in the size of government bonds outstanding, and in the extent to which these rates are representatives of financial conditions in various countries.

### *Overview*

Long-term interest rates peaked in 1981 for most OECD countries (for example, French government bonds reached 16.3%) but since then, rates have consistently and gradually decreased to hit historic low levels in 2014. For example, in 2014 long-term interest rates in the euro area fell to a low of 2.3%, while both Japan and Switzerland saw their long-term interest rates fall below 1%, (0.5% and 0.7% respectively).

From the end of the nineties to the start of the global financial crisis, the spread for 10-year bonds of European countries, *vis-a-vis* German bonds was small (around 0.1%). After 2008, in Greece, Ireland and Portugal spreads rose to 21.0 (2012), 7.0 (2011) and 9.1 (2012) respectively. The spreads also increased for Italy and Spain but to a lesser extent.

In 2014 there were only three OECD countries with long-term interest rates above 6%, namely Greece (6.9%), Iceland (6.4%) and Mexico (6.0%). Non-member countries for which data is available recorded higher rates e.g. 8.5% in Russia and 8.3% in South Africa.

## Sources

- OECD (2015), *Main Economic Indicators*, OECD Publishing.

## Further information

### Analytical publications

- OECD (2015), *OECD Economic Outlook*, OECD Publishing.
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- OECD (2014), *OECD Sovereign Borrowing Outlook*, OECD Publishing.
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- OECD (1998), *Main Economic Indicators – Sources and Methods: Interest Rates and Share Price Indices*, OECD Publishing.

### Websites

- Main Economic Indicators, *www.oecd.org/std/mei*.

## Long-term interest rates

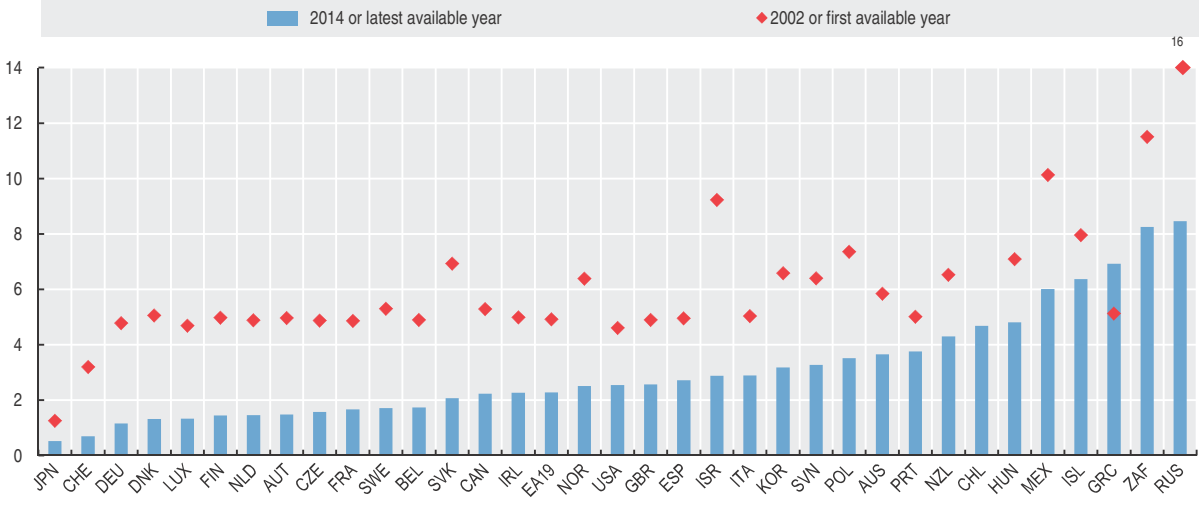
*Percentage*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 5.84 | 5.37 | 5.59 | 5.34 | 5.59 | 5.99 | 5.82 | 5.04 | 5.37 | 4.88 | 3.38 | 3.70 | 3.66 |
| Austria | 4.96 | 4.14 | 4.13 | 3.39 | 3.80 | 4.30 | 4.36 | 3.94 | 3.23 | 3.32 | 2.37 | 2.01 | 1.49 |
| Belgium | 4.89 | 4.15 | 4.06 | 3.37 | 3.81 | 4.33 | 4.40 | 3.82 | 3.35 | 4.18 | 2.96 | 2.37 | 1.74 |
| Canada | 5.29 | 4.81 | 4.58 | 4.07 | 4.21 | 4.27 | 3.61 | 3.23 | 3.24 | 2.78 | 1.87 | 2.26 | 2.23 |
| Chile | .. | .. | .. | 6.05 | 6.16 | 6.09 | 7.10 | 5.71 | 6.27 | 6.03 | 5.47 | 5.35 | 4.69 |
| Czech Republic | 4.88 | 4.12 | 4.82 | 3.54 | 3.80 | 4.30 | 4.63 | 4.84 | 3.88 | 3.71 | 2.78 | 2.11 | 1.58 |
| Denmark | 5.06 | 4.31 | 4.30 | 3.40 | 3.81 | 4.29 | 4.28 | 3.59 | 2.93 | 2.73 | 1.40 | 1.75 | 1.33 |
| Estonia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Finland | 4.98 | 4.14 | 4.11 | 3.35 | 3.78 | 4.29 | 4.29 | 3.74 | 3.01 | 3.01 | 1.88 | 1.86 | 1.45 |
| France | 4.86 | 4.13 | 4.10 | 3.41 | 3.80 | 4.30 | 4.23 | 3.65 | 3.12 | 3.32 | 2.54 | 2.20 | 1.67 |
| Germany | 4.78 | 4.07 | 4.04 | 3.35 | 3.76 | 4.22 | 3.98 | 3.22 | 2.74 | 2.61 | 1.50 | 1.57 | 1.16 |
| Greece | 5.12 | 4.27 | 4.26 | 3.59 | 4.07 | 4.50 | 4.80 | 5.17 | 9.09 | 15.75 | 22.50 | 10.05 | 6.93 |
| Hungary | 7.09 | 6.77 | 8.29 | 6.60 | 7.12 | 6.74 | 8.24 | 9.12 | 7.28 | 7.64 | 7.89 | 5.92 | 4.81 |
| Iceland | 7.96 | 6.65 | 7.49 | 8.64 | 8.83 | 9.42 | 11.07 | 8.26 | 6.09 | 5.98 | 6.19 | 5.79 | 6.37 |
| Ireland | 4.99 | 4.13 | 4.06 | 3.32 | 3.79 | 4.33 | 4.55 | 5.23 | 5.99 | 9.58 | 5.99 | 3.83 | 2.26 |
| Israel | 9.23 | 8.88 | 7.56 | 6.36 | 6.31 | 5.55 | 5.92 | 5.06 | 4.68 | 4.98 | 4.40 | 3.80 | 2.89 |
| Italy | 5.03 | 4.30 | 4.26 | 3.56 | 4.05 | 4.49 | 4.68 | 4.31 | 4.04 | 5.42 | 5.49 | 4.32 | 2.89 |
| Japan | 1.26 | 1.00 | 1.49 | 1.35 | 1.74 | 1.67 | 1.47 | 1.33 | 1.15 | 1.10 | 0.84 | 0.69 | 0.52 |
| Korea | 6.59 | 5.05 | 4.73 | 4.95 | 5.15 | 5.35 | 5.57 | 5.17 | 4.77 | 4.20 | 3.45 | 3.28 | 3.19 |
| Luxembourg | 4.68 | 3.32 | 2.84 | 2.41 | 3.30 | .. | .. | .. | 2.95 | 2.92 | 1.83 | 1.83 | 1.34 |
| Mexico | 10.13 | 8.98 | 9.54 | 9.42 | 8.39 | 7.79 | 8.31 | 7.96 | 6.90 | 6.67 | 5.60 | 5.68 | 6.01 |
| Netherlands | 4.89 | 4.12 | 4.10 | 3.37 | 3.78 | 4.29 | 4.23 | 3.69 | 2.99 | 2.99 | 1.93 | 1.96 | 1.45 |
| New Zealand | 6.53 | 5.87 | 6.07 | 5.88 | 5.78 | 6.27 | 6.08 | 5.46 | 5.60 | 4.95 | 3.69 | 4.09 | 4.30 |
| Norway | 6.38 | 5.05 | 4.37 | 3.75 | 4.08 | 4.77 | 4.46 | 4.00 | 3.53 | 3.14 | 2.10 | 2.58 | 2.52 |
| Poland | 7.36 | 5.78 | 6.90 | 5.22 | 5.23 | 5.48 | 6.07 | 6.12 | 5.78 | 5.96 | 5.00 | 4.03 | 3.52 |
| Portugal | 5.01 | 4.18 | 4.14 | 3.44 | 3.91 | 4.42 | 4.52 | 4.21 | 5.40 | 10.24 | 10.55 | 6.29 | 3.75 |
| Slovak Republic | 6.94 | 4.99 | 5.03 | 3.52 | 4.41 | 4.49 | 4.72 | 4.71 | 3.87 | 4.42 | 4.55 | 3.19 | 2.07 |
| Slovenia | .. | 6.40 | 4.68 | 3.81 | 3.85 | 4.53 | 4.61 | 4.38 | 3.83 | 4.97 | 5.81 | 5.81 | 3.27 |
| Spain | 4.96 | 4.12 | 4.10 | 3.39 | 3.78 | 4.31 | 4.36 | 3.97 | 4.25 | 5.44 | 5.85 | 4.56 | 2.72 |
| Sweden | 5.30 | 4.64 | 4.43 | 3.38 | 3.70 | 4.17 | 3.89 | 3.25 | 2.89 | 2.61 | 1.59 | 2.12 | 1.72 |
| Switzerland | 3.20 | 2.66 | 2.74 | 2.10 | 2.52 | 2.93 | 2.90 | 2.20 | 1.63 | 1.47 | 0.65 | 0.95 | 0.69 |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 4.89 | 4.53 | 4.88 | 4.41 | 4.50 | 5.01 | 4.59 | 3.65 | 3.62 | 3.14 | 1.92 | 2.39 | 2.57 |
| United States | 4.61 | 4.02 | 4.27 | 4.29 | 4.79 | 4.63 | 3.67 | 3.26 | 3.21 | 2.79 | 1.80 | 2.35 | 2.54 |
| Euro area | 4.92 | 4.16 | 4.14 | 3.44 | 3.86 | 4.33 | 4.36 | 4.03 | 3.78 | 4.31 | 3.05 | 3.01 | 2.28 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 15.82 | 9.12 | 8.29 | 8.11 | 6.98 | 6.72 | 7.52 | 9.87 | 7.83 | 8.06 | 8.15 | 7.33 | 8.46 |
| South Africa | 11.50 | 9.62 | 9.53 | 8.07 | 7.94 | 7.99 | 9.10 | 8.70 | 8.62 | 8.52 | 7.90 | 7.72 | 8.25 |

1 2 *http://dx.doi.org/10.1787/888933336351*

## Long-term interest rates

*Percentage*




1 2 *http://dx.doi.org/10.1787/888933335187*

# RATES OF CONVERSION

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

Market exchange rates are sometimes used to convert national GDPs into a common currency. However, comparisons of GDP based on exchange rates do not reflect well the real volumes of goods and services in the different countries. For many of the low-income countries, for example, the differences between GDP converted using market exchange rates and GDP converted using PPPs are considerable. In general, the use of market exchange rates understates the real GDP of low-income countries and overstates the real GDP of high-income countries.

## Definition

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

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

Comparative price level indices are the ratios of PPPs to market exchange rates. At the level of GDP they provide a measure of the differences in the general price levels of countries.

## Comparability

PPPs for the OECD and Russia have been calculated jointly by the OECD and Eurostat using standard procedures. In consultation with their member countries, OECD and Eurostat keep their methodology under review and improvements are made regularly. PPPs for non-OECD countries, with the exception of Russia, are calculated within the framework of the International Comparison Programme (ICP). There are six regions in the ICP programme, of which five – Africa, Asia-Pacific, the Commonwealth of Independent States (CIS), Latin America and Caribbean and Western Asia – are regions overseen by the ICP Global Office at the World Bank.

### *Overview*

Over the period 2002-14, there were significant differences between changes in PPPs and changes in market exchange rates; even when the two indicators moved in the same direction, changes differed in their magnitude.

Price level indices are PPPs estimates for 2014 divided by market exchange rates for the same year, with the OECD set equal to 100. In general, there is a positive correlation between GDP levels and price levels. Australia, Norway and Switzerland, three OECD countries with high per capita income, also recorded the highest price levels in 2014, exceeding the average OECD level by 40% or more, while India had price levels of around 30% of the OECD average. Changes in price level indices should however be interpreted with caution as they are highly dependent on changes in exchange rates.

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- OECD (2008), *Understanding Economic Statistics: An OECD Perspective*, OECD Publishing.

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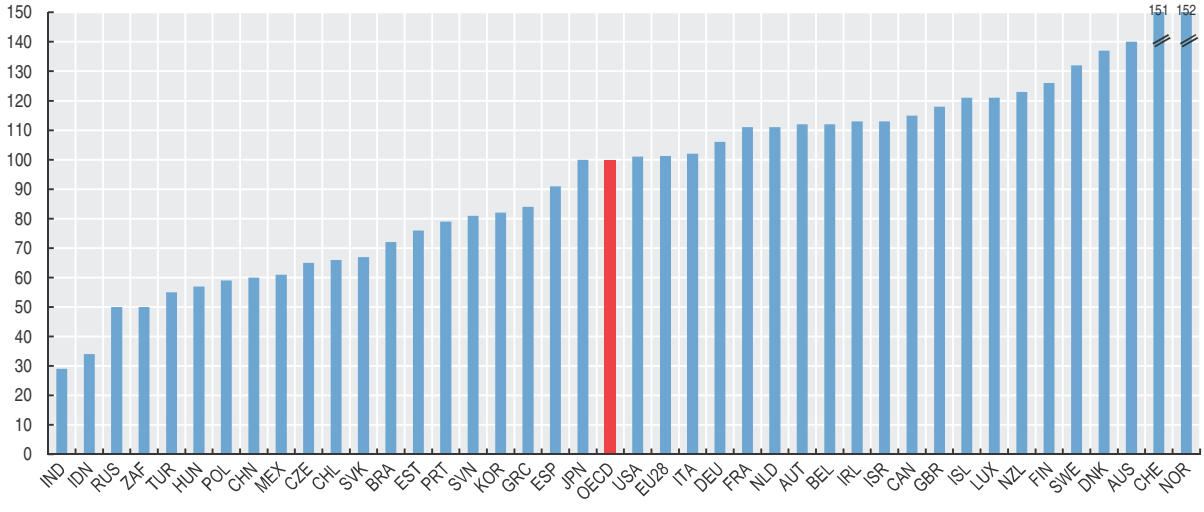
## Purchasing power parities and indices of price levels

| | Purchasing power parities | | | | | | Indices of price levels | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | National currency units per US dollar | | | | | | OECD = 100 | | | | | |
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Australia | 1.443 | 1.505 | 1.511 | 1.522 | 1.522 | 1.536 | 111 | 135 | 148 | 155 | 146 | 140 |
| Austria | 0.844 | 0.841 | 0.835 | 0.839 | 0.844 | 0.835 | 116 | 109 | 110 | 106 | 112 | 112 |
| Belgium | 0.858 | 0.854 | 0.840 | 0.843 | 0.850 | 0.838 | 117 | 111 | 111 | 106 | 112 | 112 |
| Canada | 1.204 | 1.221 | 1.240 | 1.246 | 1.252 | 1.261 | 104 | 116 | 119 | 122 | 121 | 115 |
| Chile | 353.070 | 357.334 | 348.017 | 350.295 | 354.907 | 370.814 | 62 | 68 | 68 | 71 | 71 | 66 |
| Czech Republic | 13.899 | 13.954 | 13.398 | 13.430 | 13.393 | 13.332 | 72 | 71 | 72 | 67 | 68 | 65 |
| Denmark | 7.833 | 7.755 | 7.599 | 7.664 | 7.673 | 7.586 | 144 | 135 | 135 | 130 | 136 | 137 |
| Estonia | 0.524 | 0.524 | 0.524 | 0.539 | 0.551 | 0.564 | 72 | 68 | 69 | 68 | 73 | 76 |
| Finland | 0.903 | 0.911 | 0.908 | 0.918 | 0.932 | 0.939 | 124 | 118 | 120 | 116 | 123 | 126 |
| France | 0.861 | 0.857 | 0.844 | 0.853 | 0.854 | 0.829 | 118 | 111 | 112 | 108 | 113 | 111 |
| Germany | 0.809 | 0.796 | 0.784 | 0.786 | 0.794 | 0.787 | 111 | 103 | 104 | 99 | 105 | 106 |
| Greece | 0.697 | 0.702 | 0.700 | 0.688 | 0.645 | 0.626 | 95 | 91 | 93 | 87 | 85 | 84 |
| Hungary | 125.553 | 125.461 | 124.821 | 127.936 | 129.279 | 132.000 | 61 | 59 | 59 | 56 | 58 | 57 |
| Iceland | 124.992 | 131.845 | 134.752 | 136.698 | 138.204 | 140.228 | 100 | 105 | 110 | 107 | 113 | 121 |
| Ireland | 0.892 | 0.843 | 0.832 | 0.832 | 0.832 | 0.841 | 122 | 109 | 110 | 105 | 110 | 113 |
| Israel | 3.964 | 3.971 | 3.945 | 3.964 | 4.006 | 4.006 | 99 | 104 | 105 | 101 | 111 | 113 |
| Italy | 0.779 | 0.780 | 0.769 | 0.764 | 0.762 | 0.758 | 107 | 101 | 102 | 96 | 101 | 102 |
| Japan | 115.497 | 111.633 | 107.454 | 104.628 | 104.090 | 105.270 | 122 | 124 | 128 | 129 | 106 | 100 |
| Korea | 824.761 | 840.569 | 854.586 | 860.249 | 860.219 | 857.261 | 64 | 71 | 73 | 75 | 78 | 82 |
| Luxembourg | 0.907 | 0.922 | 0.894 | 0.898 | 0.915 | 0.900 | 124 | 119 | 118 | 113 | 121 | 121 |
| Mexico | 7.432 | 7.670 | 7.673 | 7.929 | 8.042 | 8.023 | 54 | 59 | 59 | 59 | 63 | 61 |
| Netherlands | 0.841 | 0.849 | 0.830 | 0.830 | 0.829 | 0.825 | 115 | 110 | 110 | 105 | 110 | 111 |
| New Zealand | 1.470 | 1.494 | 1.486 | 1.481 | 1.468 | 1.469 | 90 | 105 | 112 | 118 | 120 | 123 |
| Norway | 8.956 | 9.014 | 8.985 | 8.903 | 9.204 | 9.455 | 140 | 146 | 152 | 150 | 156 | 152 |
| Poland | 1.864 | 1.820 | 1.828 | 1.834 | 1.822 | 1.828 | 59 | 59 | 59 | 55 | 57 | 59 |
| Portugal | 0.633 | 0.632 | 0.620 | 0.593 | 0.589 | 0.588 | 87 | 82 | 82 | 75 | 78 | 79 |
| Slovak Republic | 0.511 | 0.510 | 0.518 | 0.519 | 0.513 | 0.503 | 70 | 66 | 69 | 65 | 68 | 67 |
| Slovenia | 0.644 | 0.641 | 0.630 | 0.615 | 0.608 | 0.604 | 88 | 83 | 83 | 78 | 80 | 81 |
| Spain | 0.709 | 0.717 | 0.704 | 0.688 | 0.680 | 0.676 | 97 | 93 | 93 | 87 | 90 | 91 |
| Sweden | 8.915 | 8.995 | 8.853 | 8.824 | 8.807 | 8.950 | 115 | 122 | 130 | 128 | 135 | 132 |
| Switzerland | 1.519 | 1.509 | 1.433 | 1.397 | 1.379 | 1.370 | 137 | 142 | 153 | 146 | 148 | 151 |
| Turkey | 0.912 | 0.941 | 0.992 | 1.051 | 1.112 | 1.199 | 58 | 61 | 56 | 57 | 58 | 55 |
| United Kingdom | 0.656 | 0.691 | 0.700 | 0.695 | 0.699 | 0.708 | 101 | 104 | 107 | 108 | 109 | 118 |
| United States | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 98 | 98 | 95 | 98 | 100 | 101 |
| EU 28 | 0.752 | 0.763 | 0.755 | 0.760 | 0.755 | 0.755 | 103 | 99 | 100 | 96 | 100 | 101 |
| Brazil | 1.311 | 1.402 | 1.471 | 1.517 | 1.608 | 1.667 | 65 | 78 | 84 | 76 | 74 | 72 |
| China | 3.147 | 3.316 | 3.506 | 3.514 | 3.521 | 3.655 | 45 | 48 | 52 | 55 | 57 | 60 |
| India | 13.182 | 14.194 | 15.109 | 15.915 | 16.762 | 17.689 | 27 | 30 | 31 | 29 | 28 | 29 |
| Indonesia | 3 181.203 | 3 402.693 | 3 606.566 | 3 699.950 | 3 803.351 | 3 941.790 | 30 | 37 | 39 | 39 | 36 | 34 |
| Russian Federation | 14.019 | 15.815 | 17.346 | 18.043 | 18.425 | 19.066 | 44 | 51 | 56 | 57 | 58 | 50 |
| South Africa | 4.322 | 4.598 | 4.774 | 4.901 | 5.110 | 5.342 | 50 | 61 | 62 | 59 | 53 | 50 |

1 2 http://dx.doi.org/10.1787/888933336563

## Indices of price levels

*OECD = 100, 2014*




1 2 http://dx.doi.org/10.1787/888933335476

# REAL EFFECTIVE EXCHANGE RATES

Effective exchange rates are a summary measure of the changes in the exchange rates of a country vis-à-vis its trading partners. They provide a broad interpretation of a country's price competitiveness, which is, in turn, a major determinant of the success of different countries in raising exports and productivity, fostering innovation and improving living standards.

## Definition

Nominal effective exchange rate indices are calculated by comparing, for each country, the change in its own exchange rate against the US dollar to a weighted average of changes in its competitors' exchange rates, also against the US dollar. Changes in the competitor exchange rates are weighted using a matrix measuring the importance of bilateral trade flows in the current year.

The indicator of real effective exchange rates, i.e. relative consumer price indices, takes into account not only changes in market exchange rates but also variations in relative prices using consumer prices.

The change in a country's relative consumer prices between two years is obtained by comparing the change in the country's consumer price index converted into US dollars at market exchange rates to a weighted average of changes in its competitors' consumer price indices, also expressed in US dollars. The weighted average of competitors' prices is based on a matrix for the current year expressing the importance of bilateral trade.

## Comparability

The index is constructed using a common procedure that assures a high degree of comparability both across countries and over time.

A rise in the index represents a deterioration in that country's competitiveness. Real effective exchange rates are a major short-run determinant of any country's capacity to compete. Note that the index only shows changes in the international competitiveness of each country over time. Differences between countries in the levels of the indices have no significance.

Real effective exchange rates try to eliminate the weakness in the nominal effective exchange rates - namely that potential competitiveness gains from exchange rate depreciations can be eroded by domestic inflation - by correcting effective nominal exchange rates for differences in inflation rates. Consumer prices are usually used to make the correction because they are readily available. However, this implicitly assumes that the relative price of domestic tradable goods as compared with foreign tradables evolves in parallel to the relative consumer prices, which is often not the case.

### *Overview*

From around 2009 to 2012, France, Germany, Italy, Japan, the United Kingdom and the United States saw virtually no change in their real effective exchange rate. However since 2012, while rates for France, Germany, Italy and the United States have remained stable, Japan has seen a major gain in its international competitiveness, as measured by the drop in its real effective exchange rate, while the United Kingdom has seen its international competitiveness deteriorate.

Commodity exporting countries also saw an improvement in international competitiveness in the last few years (Australia, Canada, Chile and Norway) along with the Czech Republic, Sweden and Turkey. Iceland, Korea and New Zealand, on the other hand, all recorded drops in their international competitiveness over the last few years.

For non-OECD countries, with the exception of China, all have seen their international competitiveness improve; and in the case of Indonesia and South Africa quite substantially since 2010.

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## Real effective exchange rates

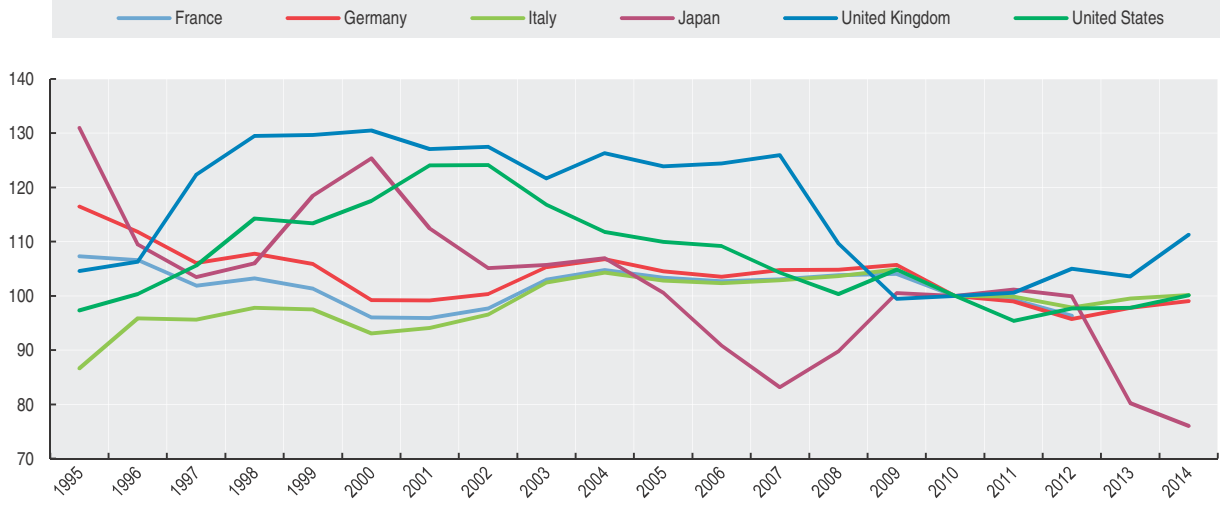
*Based on consumer price indices, 2010 = 100*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 69.6 | 78.6 | 85.1 | 87.6 | 87.4 | 92.9 | 91.0 | 88.2 | 100.0 | 106.9 | 108.4 | 103.7 | 99.0 |
| Austria | 99.1 | 102.3 | 103.4 | 102.5 | 101.7 | 102.1 | 102.2 | 103.0 | 100.0 | 100.4 | 98.8 | 100.8 | 102.6 |
| Belgium | 94.1 | 99.0 | 100.9 | 100.7 | 100.2 | 100.9 | 103.5 | 103.6 | 100.0 | 100.9 | 98.7 | 100.2 | 100.6 |
| Canada | 73.8 | 81.6 | 85.7 | 90.8 | 95.9 | 98.7 | 96.0 | 92.0 | 100.0 | 101.5 | 101.1 | 97.6 | 92.0 |
| Chile | 89.0 | 83.0 | 88.7 | 94.3 | 98.7 | 97.1 | 98.5 | 94.9 | 100.0 | 101.1 | 103.7 | 103.1 | 94.2 |
| Czech Republic | 79.7 | 78.1 | 79.0 | 83.3 | 87.5 | 89.9 | 102.9 | 99.0 | 100.0 | 102.0 | 98.8 | 96.6 | 91.5 |
| Denmark | 95.0 | 100.1 | 101.0 | 99.8 | 99.4 | 99.9 | 101.4 | 104.4 | 100.0 | 99.4 | 96.8 | 97.7 | 98.9 |
| Estonia | 86.5 | 89.6 | 91.2 | 91.4 | 92.2 | 95.8 | 101.7 | 103.4 | 100.0 | 101.2 | 100.1 | 102.9 | 104.8 |
| Finland | 103.1 | 107.8 | 107.6 | 104.2 | 102.6 | 103.6 | 105.1 | 106.7 | 100.0 | 99.6 | 96.9 | 98.6 | 101.4 |
| France | 97.7 | 103.0 | 104.8 | 103.4 | 102.7 | 103.1 | 103.8 | 104.0 | 100.0 | 99.3 | 96.3 | 97.4 | 97.8 |
| Germany | 100.3 | 105.3 | 106.7 | 104.5 | 103.5 | 104.8 | 104.8 | 105.7 | 100.0 | 99.0 | 95.7 | 97.8 | 99.0 |
| Greece | 88.0 | 93.5 | 95.8 | 95.9 | 96.6 | 98.0 | 99.8 | 101.4 | 100.0 | 100.7 | 96.8 | 95.9 | 95.5 |
| Hungary | 87.4 | 89.5 | 95.4 | 96.9 | 92.1 | 102.5 | 105.2 | 99.2 | 100.0 | 99.8 | 96.8 | 96.0 | 92.5 |
| Iceland | 125.4 | 132.2 | 135.7 | 153.4 | 143.1 | 148.7 | 116.4 | 95.0 | 100.0 | 101.0 | 101.5 | 105.4 | 113.1 |
| Ireland | 89.4 | 98.2 | 100.7 | 100.4 | 102.1 | 107.1 | 112.0 | 107.9 | 100.0 | 100.2 | 95.7 | 97.2 | 96.9 |
| Israel | 102.9 | 96.8 | 90.3 | 87.7 | 87.2 | 87.7 | 97.7 | 95.5 | 100.0 | 101.1 | 96.2 | 102.3 | 103.6 |
| Italy | 96.6 | 102.5 | 104.3 | 102.8 | 102.3 | 102.8 | 103.6 | 104.9 | 100.0 | 99.9 | 97.9 | 99.5 | 100.1 |
| Japan | 105.1 | 105.7 | 107.0 | 100.5 | 90.8 | 83.2 | 89.8 | 100.5 | 100.0 | 101.2 | 99.9 | 80.2 | 76.0 |
| Korea | 107.0 | 108.2 | 109.8 | 122.7 | 131.1 | 129.1 | 105.0 | 93.1 | 100.0 | 100.0 | 99.7 | 103.7 | 109.9 |
| Luxembourg | 94.3 | 98.0 | 99.4 | 99.1 | 99.7 | 100.6 | 101.6 | 102.3 | 100.0 | 100.5 | 99.0 | 100.4 | 100.8 |
| Mexico | 123.4 | 109.7 | 105.1 | 108.9 | 108.9 | 107.6 | 105.5 | 92.8 | 100.0 | 100.1 | 97.3 | 102.7 | 101.8 |
| Netherlands | 98.6 | 104.2 | 105.0 | 103.5 | 102.2 | 102.5 | 103.0 | 104.8 | 100.0 | 99.4 | 96.9 | 99.8 | 101.0 |
| New Zealand | 82.3 | 94.2 | 101.2 | 106.7 | 99.0 | 106.0 | 98.9 | 92.6 | 100.0 | 103.8 | 106.6 | 109.4 | 113.1 |
| Norway | 98.8 | 98.3 | 94.0 | 97.3 | 96.9 | 96.9 | 97.5 | 95.5 | 100.0 | 100.7 | 100.3 | 98.6 | 93.8 |
| Poland | 99.6 | 89.0 | 88.1 | 97.8 | 99.4 | 102.6 | 111.7 | 94.8 | 100.0 | 98.2 | 95.7 | 96.0 | 97.1 |
| Portugal | 97.9 | 102.1 | 103.2 | 102.3 | 102.8 | 103.5 | 103.6 | 102.9 | 100.0 | 100.8 | 99.5 | 99.6 | 99.3 |
| Slovak Republic | 61.2 | 69.5 | 76.2 | 77.7 | 81.6 | 90.0 | 97.5 | 104.7 | 100.0 | 100.9 | 100.4 | 101.8 | 102.5 |
| Slovenia | 95.8 | 99.3 | 99.5 | 98.4 | 98.4 | 99.9 | 102.2 | 103.7 | 100.0 | 99.0 | 97.2 | 98.8 | 99.5 |
| Spain | 91.0 | 95.9 | 98.1 | 98.5 | 99.8 | 101.3 | 103.4 | 103.4 | 100.0 | 100.5 | 98.2 | 99.9 | 99.8 |
| Sweden | 104.2 | 110.8 | 111.3 | 106.4 | 105.7 | 106.8 | 104.3 | 94.4 | 100.0 | 105.8 | 105.3 | 106.4 | 101.3 |
| Switzerland | 98.5 | 99.1 | 98.1 | 95.9 | 93.1 | 88.8 | 92.3 | 96.3 | 100.0 | 109.7 | 105.6 | 103.7 | 104.8 |
| Turkey | 73.7 | 78.2 | 80.9 | 89.6 | 88.8 | 96.1 | 97.0 | 91.3 | 100.0 | 88.4 | 91.7 | 90.3 | 86.1 |
| United Kingdom | 127.5 | 121.7 | 126.3 | 123.9 | 124.4 | 126.0 | 109.7 | 99.5 | 100.0 | 100.6 | 105.0 | 103.6 | 111.3 |
| United States | 124.1 | 116.8 | 111.8 | 110.0 | 109.2 | 104.3 | 100.3 | 104.8 | 100.0 | 95.3 | 97.7 | 97.8 | 100.1 |
| Brazil | 55.8 | 53.7 | 55.9 | 69.2 | 77.6 | 83.6 | 87.9 | 87.9 | 100.0 | 104.8 | 94.8 | 89.9 | 88.6 |
| China | 95.8 | 89.4 | 86.7 | 85.7 | 87.1 | 90.1 | 97.9 | 102.0 | 100.0 | 102.2 | 108.0 | 114.6 | 117.4 |
| India | 88.5 | 87.0 | 86.0 | 88.1 | 87.2 | 93.5 | 88.9 | 90.2 | 100.0 | 99.1 | 94.6 | 93.7 | 96.4 |
| Indonesia | 81.1 | 87.0 | 83.0 | 81.7 | 94.8 | 94.3 | 90.4 | 89.5 | 100.0 | 99.8 | 96.1 | 92.0 | 85.7 |
| Russian Federation | 66.3 | 67.2 | 72.5 | 80.4 | 88.7 | 93.0 | 99.3 | 91.1 | 100.0 | 104.0 | 105.9 | 107.5 | 97.1 |
| South Africa | 74.1 | 97.1 | 103.8 | 104.0 | 98.5 | 91.6 | 80.0 | 87.3 | 100.0 | 98.1 | 92.3 | 81.8 | 77.0 |

1 2 *http://dx.doi.org/10.1787/888933336329*

## Real effective exchange rates based on consumer price indices

*2010 = 100*




1 2 *http://dx.doi.org/10.1787/888933335141*





# ENERGY AND TRANSPORTATION

## ENERGY REQUIREMENTS

ENERGY SUPPLY
ENERGY INTENSITY
ELECTRICITY GENERATION
NUCLEAR ENERGY
RENEWABLE ENERGY
OIL PRODUCTION
OIL PRICES

## TRANSPORT

GOODS TRANSPORT
PASSENGER TRANSPORT
ROAD FATALITIES

# ENERGY SUPPLY

Basic supply and demand data for all fuels are required to compare the contribution that each fuel makes to the economy and their interrelationships through the conversion of one fuel into another.

## Definition

Energy supply refers to total primary energy supply (TPES). TPES equals production plus imports minus exports minus international bunkers plus or minus stock changes. The International Energy Agency (IEA) energy balance methodology is based on the calorific content of the energy commodities and a common unit of account. The unit of account adopted is the tonne of oil equivalent (toe) which is defined as $10^7$ kilocalories (41.868 gigajoules). This quantity of energy is, within a few per cent, equal to the net heat content of one tonne of crude oil. The difference between the "net" and the "gross" calorific value for each fuel is the latent heat of vaporisation of the water produced during combustion of the fuel. For coal and oil, net calorific value is about 5% less than gross, for most forms of natural and manufactured gas the difference is 9-10%, while for electricity there is no difference. The IEA balances are calculated using the physical energy content method to calculate the primary energy equivalent.

## Comparability

Data quality is not homogeneous for all countries and regions. In some countries, data are based on secondary sources, and where incomplete or unavailable, the IEA has made estimates. In general, data are likely to be more accurate for production and trade than for international bunkers or stock changes. Moreover, statistics for biofuels and waste are less accurate than those for traditional commercial energy data.

### *Overview*

Between 1971 and 2013, the world's total primary energy supply more than doubled, reaching 13 541 Mtoe (million tonnes of oil equivalent). This equates to a compound growth rate of 2.2% per year. By comparison, world population grew on average by 1.5% and gross domestic product by 3.0% per year in real terms over the same period.

Energy supply growth was fairly constant over the period, except in 1974-75 and in the early 1980s as a consequence of the first two oil shocks, and in the early 1990s following the dissolution of the Soviet Union. With the economic crisis in 2008/2009, world energy supply declined by 1% in 2009. However, energy supply rebounded in 2010, increasing by 5% and kept growing by 3% in 2013.

The share of OECD in world primary energy supply decreased from 61% in 1971 to 39% in 2013. Strong economic development in Asia led to a large increase in the share of non-OECD Asia (including China) in world energy supply, from 13% to 35% over the same period. By contrast, the combined share of non-OECD Europe and Eurasia (which includes the Former Soviet Union) decreased significantly in the late 1980s and early 1990s.

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## Total primary energy supply

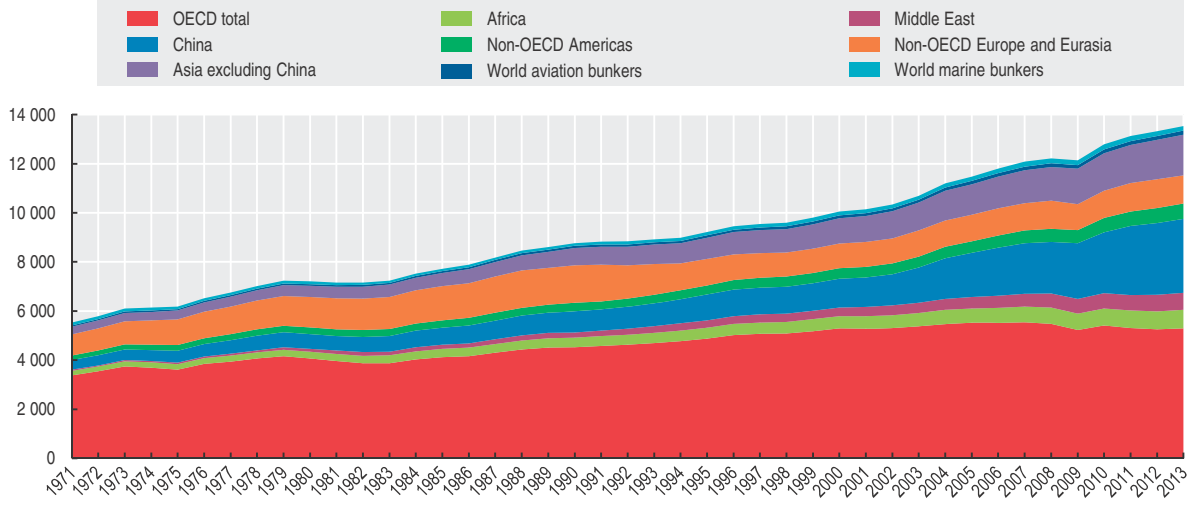
*Million tonnes of oil equivalent (Mtoe)*

| | 1971 | 1990 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 51.6 | 86.4 | 112.7 | 113.5 | 118.2 | 122.2 | 126.7 | 127.2 | 124.5 | 126.0 | 126.3 | 129.1 | 128.7 |
| Austria | 18.8 | 24.8 | 32.7 | 33.8 | 33.8 | 33.4 | 33.6 | 32.0 | 34.1 | 33.1 | 33.1 | 33.2 | 32.1 |
| Belgium | 39.7 | 48.3 | 59.0 | 58.8 | 58.2 | 57.3 | 59.0 | 56.8 | 61.0 | 57.6 | 54.4 | 56.4 | 54.0 |
| Canada | 141.4 | 208.6 | 267.6 | 270.3 | 267.1 | 267.4 | 265.1 | 249.9 | 251.4 | 257.0 | 252.3 | 253.2 | 257.6 |
| Chile | 8.7 | 14.0 | 27.5 | 28.4 | 29.5 | 30.6 | 30.3 | 29.5 | 30.9 | 33.6 | 37.2 | 38.7 | 38.8 |
| Czech Republic | 45.4 | 49.6 | 45.5 | 44.9 | 46.0 | 46.0 | 45.0 | 42.1 | 44.4 | 42.8 | 42.6 | 42.0 | 41.5 |
| Denmark | 18.5 | 17.4 | 19.4 | 18.9 | 20.3 | 19.8 | 19.2 | 18.4 | 19.5 | 18.0 | 17.3 | 17.5 | 16.4 |
| Estonia | .. | 9.8 | 5.3 | 5.2 | 5.1 | 5.7 | 5.5 | 4.9 | 5.6 | 5.6 | 5.5 | 6.1 | 6.1 |
| Finland | 18.2 | 28.4 | 37.2 | 34.3 | 37.4 | 36.9 | 35.4 | 33.4 | 36.6 | 35.2 | 33.9 | 33.0 | 34.2 |
| France | 158.6 | 224.0 | 269.8 | 271.1 | 267.0 | 263.8 | 265.0 | 253.6 | 261.7 | 251.8 | 252.4 | 253.3 | 242.1 |
| Germany | 305.1 | 351.2 | 339.5 | 337.0 | 346.4 | 327.9 | 331.5 | 310.5 | 326.9 | 310.7 | 311.8 | 317.7 | 303.6 |
| Greece | 8.7 | 21.4 | 29.7 | 30.3 | 30.2 | 30.2 | 30.4 | 29.4 | 27.6 | 26.8 | 26.6 | 23.4 | 22.5 |
| Hungary | 19.0 | 28.8 | 26.1 | 27.6 | 27.3 | 26.7 | 26.5 | 24.9 | 25.7 | 25.0 | 23.5 | 22.6 | 22.6 |
| Iceland | 0.9 | 2.3 | 3.1 | 3.1 | 3.9 | 4.6 | 5.2 | 5.4 | 5.4 | 5.8 | 5.7 | 5.9 | 5.8 |
| Ireland | 6.7 | 9.9 | 14.5 | 14.6 | 14.6 | 15.0 | 14.8 | 14.3 | 14.4 | 13.2 | 13.2 | 13.1 | 12.8 |
| Israel | 5.7 | 11.5 | 19.2 | 18.4 | 20.3 | 20.8 | 22.9 | 21.5 | 23.2 | 23.1 | 24.3 | 23.9 | 23.4 |
| Italy | 105.4 | 146.6 | 181.6 | 183.6 | 181.2 | 179.0 | 175.4 | 164.4 | 170.0 | 166.9 | 161.3 | 155.4 | 146.2 |
| Japan | 267.5 | 439.3 | 522.6 | 520.5 | 519.8 | 515.2 | 495.4 | 472.3 | 498.9 | 462.0 | 452.0 | 454.7 | 441.2 |
| Korea | 17.0 | 92.9 | 208.3 | 210.3 | 213.7 | 222.2 | 227.1 | 229.3 | 250.0 | 260.5 | 263.5 | 263.8 | 265.3 |
| Luxembourg | 4.1 | 3.4 | 4.3 | 4.4 | 4.3 | 4.2 | 4.2 | 4.0 | 4.2 | 4.2 | 4.1 | 4.0 | 3.8 |
| Mexico | 43.0 | 122.5 | 160.8 | 168.7 | 170.9 | 175.5 | 180.8 | 175.3 | 176.3 | 183.6 | 188.7 | 191.3 | 189.4 |
| Netherlands | 50.9 | 65.7 | 79.1 | 78.4 | 76.8 | 79.4 | 79.6 | 78.2 | 83.4 | 77.4 | 78.6 | 77.4 | 72.3 |
| New Zealand | 6.8 | 12.8 | 17.3 | 16.9 | 16.9 | 17.1 | 17.4 | 17.5 | 18.4 | 18.3 | 19.3 | 19.5 | 20.1 |
| Norway | 13.3 | 21.1 | 26.5 | 26.8 | 27.2 | 27.6 | 32.2 | 31.3 | 33.9 | 28.0 | 29.7 | 32.7 | 30.1 |
| Poland | 86.1 | 103.1 | 91.0 | 92.1 | 96.8 | 96.3 | 97.8 | 94.1 | 100.4 | 101.0 | 97.7 | 97.6 | 94.9 |
| Portugal | 6.3 | 16.8 | 25.8 | 26.5 | 25.2 | 25.3 | 24.7 | 24.4 | 23.5 | 22.9 | 21.7 | 21.8 | 21.1 |
| Slovak Republic | 14.3 | 21.3 | 18.4 | 18.8 | 18.6 | 17.9 | 18.3 | 16.7 | 17.8 | 17.4 | 16.7 | 17.2 | 15.4 |
| Slovenia | .. | 5.7 | 7.1 | 7.3 | 7.3 | 7.3 | 7.7 | 7.0 | 7.3 | 7.3 | 7.0 | 6.9 | 6.8 |
| Spain | 42.6 | 90.1 | 139.0 | 141.9 | 141.8 | 143.8 | 139.1 | 127.9 | 127.8 | 125.7 | 125.5 | 116.7 | 113.9 |
| Sweden | 36.0 | 47.2 | 52.6 | 51.6 | 50.2 | 50.1 | 49.6 | 45.4 | 50.9 | 49.8 | 50.2 | 49.3 | 46.7 |
| Switzerland | 16.4 | 24.4 | 26.1 | 25.9 | 27.1 | 25.8 | 26.8 | 27.0 | 26.2 | 25.4 | 25.6 | 26.7 | 25.2 |
| Turkey | 19.5 | 52.7 | 80.7 | 84.2 | 93.2 | 100.0 | 98.7 | 97.8 | 105.3 | 112.2 | 116.9 | 116.5 | 119.4 |
| United Kingdom | 208.7 | 205.9 | 221.6 | 222.7 | 219.0 | 211.1 | 207.7 | 195.8 | 202.4 | 187.7 | 192.9 | 191.0 | 177.8 |
| United States | 1 587.5 | 1 915.1 | 2 307.8 | 2 318.8 | 2 296.8 | 2 337.0 | 2 277.1 | 2 164.8 | 2 215.4 | 2 191.2 | 2 139.8 | 2 188.4 | 2 206.0 |
| EU 28 | .. | 1 644.8 | 1 782.2 | 1 787.4 | 1 793.4 | 1 763.7 | 1 755.9 | 1 655.5 | 1 721.5 | 1 658.1 | 1 646.2 | 1 625.6 | .. |
| OECD | 3 372.3 | 4 522.7 | 5 479.3 | 5 509.4 | 5 512.1 | 5 543.1 | 5 475.5 | 5 226.8 | 5 404.8 | 5 306.6 | 5 251.2 | 5 299.6 | 5 237.6 |
| Brazil | 69.8 | 140.2 | 210.0 | 215.3 | 222.8 | 235.5 | 248.6 | 240.5 | 265.9 | 270.0 | 281.7 | 293.7 | .. |
| China | 391.1 | 870.7 | 1 639.0 | 1 775.3 | 1 937.9 | 2 043.4 | 2 087.9 | 2 253.4 | 2 469.1 | 2 801.2 | 2 907.9 | 3 009.5 | .. |
| India | 152.2 | 306.6 | 498.0 | 517.7 | 544.5 | 573.7 | 600.4 | 662.1 | 692.7 | 716.4 | 752.0 | 775.5 | .. |
| Indonesia | 35.1 | 98.6 | 176.7 | 179.8 | 184.0 | 183.2 | 186.8 | 200.0 | 209.4 | 205.3 | 211.8 | 213.6 | .. |
| Russian Federation | .. | 879.2 | 647.4 | 651.7 | 670.7 | 672.6 | 688.5 | 647.0 | 689.7 | 723.0 | 741.0 | 730.9 | .. |
| South Africa | 45.4 | 91.0 | 128.5 | 128.3 | 127.3 | 136.3 | 146.9 | 144.0 | 141.8 | 142.7 | 140.3 | 141.3 | .. |
| World | 5 522.5 | 8 768.2 | 11 203.3 | 11 480.9 | 11 807.0 | 12 082.9 | 12 220.9 | 12 135.7 | 12 789.0 | 13 133.7 | 13 327.9 | 13 541.3 | .. |

1 2 *http://dx.doi.org/10.1787/888933336800*

## Total primary energy supply by region

*Million tonnes of oil equivalent (Mtoe)*




1 2 *http://dx.doi.org/10.1787/888933335733*

# ENERGY INTENSITY

A common way to measure and compare the energy intensity of different countries, and how this changes over time, is to look at the ratio of energy supply to GDP. Energy intensity is sometimes also used as proxy of energy efficiency. However, this use can be misleading as energy intensity depends on numerous elements beyond energy efficiency such as climate, output composition, outsourcing of goods produced by energy-intensive industries, etc.

## Definition

Energy intensity refers to total primary energy supply (TPES) per thousand US dollars of GDP. The ratios are calculated by dividing each country's annual TPES by each country's annual GDP expressed in constant 2005 prices and converted to US dollars using purchasing power parities (PPPs) for the year 2005.

TPES consists of primary energy production adjusted for net trade, bunkers and stock changes. Production of secondary energy (e.g. oil/coal products, electricity from fossil fuels, etc.) is not included since the "energy equivalent" of the primary fuels used to create the secondary products or electric power has already been counted. TPES is expressed in tonnes of oil equivalent.

## Comparability

Care should be taken when comparing energy intensities between countries and over time since different national circumstances (e.g. density of population, country size, average temperatures and economic structure) will affect the ratios. A decrease in the TPES/GDP ratio may reflect a restructuring of the economy and the transfer of energy-intensive industries such as iron and steel out of the country. The harmful effects of such outsourcing may increase the global damage to the environment if the producers abroad use less energy efficient techniques.

### *Overview*

Sharp improvements in the efficiency of key end uses, shifts to electricity, some changes in manufacturing output and consumer behaviour have occurred in many OECD countries since 1971. As a consequence, energy supply per unit of GDP fell significantly, particularly in the 1979-1990 period.

Contributing to the trend were higher fuel prices, long-term technological progress, government energy efficiency programmes and regulations.

Globally the ratio of energy supply to GDP (TPES/GDP) fell less than the ratio of energy consumption to GDP (total final consumption/GDP), because of increased use of electricity. The main reason for this divergence is that losses in electricity generation outweighed intensity improvements achieved in end uses such as household appliances.

Among OECD countries, the ratio of energy consumption to GDP varies considerably. Apart from energy prices, winter weather is a key element in these variations, as are raw materials processing techniques, the distance goods must be shipped, the size of dwellings, the use of private rather than public transport and other lifestyle factors.

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## Total primary energy supply per unit of GDP

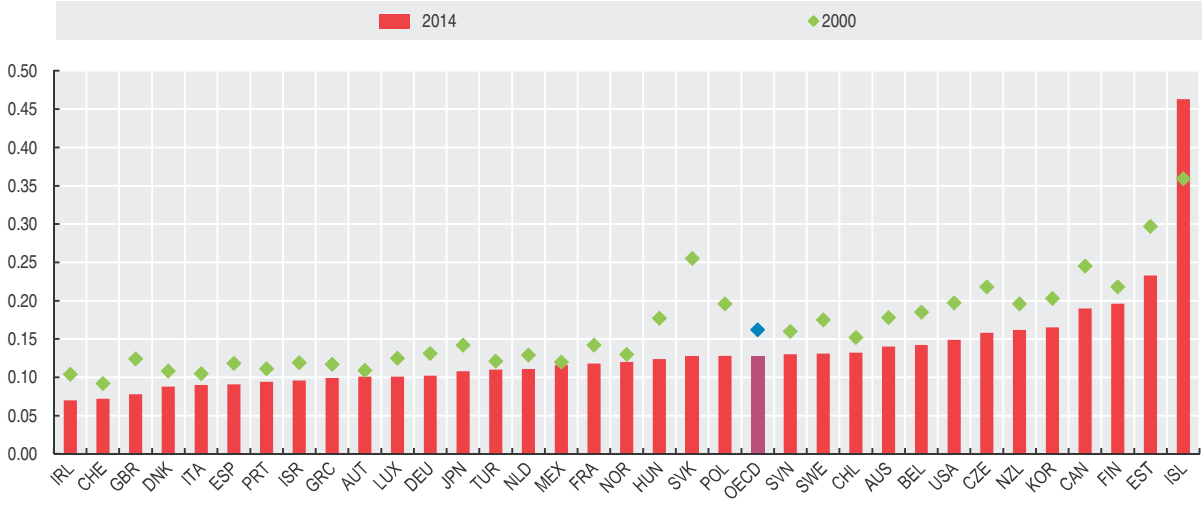
*Tonnes of oil equivalent (toe) per thousand 2005 US dollars of GDP calculated using PPPs*

| | 1971 | 1990 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.21 | 0.20 | 0.18 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 |
| Austria | 0.16 | 0.12 | 0.11 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 |
| Belgium | 0.26 | 0.19 | 0.19 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.17 | 0.15 | 0.15 | 0.15 | 0.14 |
| Canada | 0.34 | 0.27 | 0.25 | 0.23 | 0.22 | 0.22 | 0.22 | 0.21 | 0.20 | 0.20 | 0.19 | 0.19 | 0.19 |
| Chile | 0.18 | 0.16 | 0.15 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.12 | 0.13 | 0.13 | 0.13 | 0.13 |
| Czech Republic | 0.37 | 0.28 | 0.22 | 0.20 | 0.19 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 |
| Denmark | 0.21 | 0.13 | 0.11 | 0.10 | 0.11 | 0.10 | 0.10 | 0.10 | 0.11 | 0.10 | 0.09 | 0.09 | 0.09 |
| Estonia | .. | 0.60 | 0.30 | 0.23 | 0.21 | 0.21 | 0.22 | 0.23 | 0.25 | 0.24 | 0.22 | 0.24 | 0.23 |
| Finland | 0.30 | 0.24 | 0.22 | 0.20 | 0.21 | 0.20 | 0.19 | 0.20 | 0.21 | 0.20 | 0.19 | 0.19 | 0.20 |
| France | 0.19 | 0.16 | 0.14 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 |
| Germany | 0.23 | 0.17 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | 0.10 |
| Greece | 0.08 | 0.12 | 0.12 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.11 | 0.11 | 0.10 | 0.10 |
| Hungary | 0.24 | 0.21 | 0.18 | 0.16 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.13 | 0.12 |
| Iceland | 0.29 | 0.34 | 0.36 | 0.29 | 0.35 | 0.38 | 0.42 | 0.46 | 0.48 | 0.50 | 0.48 | 0.48 | 0.46 |
| Ireland | 0.22 | 0.15 | 0.10 | 0.09 | 0.08 | 0.08 | 0.08 | 0.09 | 0.09 | 0.08 | 0.08 | 0.08 | 0.07 |
| Israel | 0.15 | 0.13 | 0.12 | 0.11 | 0.11 | 0.11 | 0.12 | 0.11 | 0.11 | 0.10 | 0.11 | 0.10 | 0.10 |
| Italy | 0.14 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 |
| Japan | 0.19 | 0.13 | 0.14 | 0.13 | 0.13 | 0.13 | 0.12 | 0.13 | 0.13 | 0.12 | 0.11 | 0.11 | 0.11 |
| Korea | 0.20 | 0.20 | 0.20 | 0.18 | 0.17 | 0.17 | 0.17 | 0.17 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 |
| Luxembourg | 0.51 | 0.21 | 0.13 | 0.14 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.10 |
| Mexico | 0.11 | 0.14 | 0.12 | 0.13 | 0.12 | 0.12 | 0.12 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Netherlands | 0.20 | 0.16 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.13 | 0.12 | 0.12 | 0.12 | 0.11 |
| New Zealand | 0.15 | 0.20 | 0.20 | 0.16 | 0.16 | 0.15 | 0.16 | 0.16 | 0.16 | 0.16 | 0.17 | 0.16 | 0.16 |
| Norway | 0.19 | 0.15 | 0.13 | 0.12 | 0.12 | 0.12 | 0.14 | 0.14 | 0.15 | 0.12 | 0.12 | 0.13 | 0.12 |
| Poland | 0.36 | 0.33 | 0.20 | 0.18 | 0.17 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.13 |
| Portugal | 0.08 | 0.10 | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 |
| Slovak Republic | 0.33 | 0.33 | 0.26 | 0.21 | 0.19 | 0.17 | 0.16 | 0.16 | 0.16 | 0.15 | 0.14 | 0.15 | 0.13 |
| Slovenia | .. | 0.17 | 0.16 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 |
| Spain | 0.10 | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 |
| Sweden | 0.24 | 0.21 | 0.18 | 0.17 | 0.16 | 0.15 | 0.15 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.13 |
| Switzerland | 0.09 | 0.10 | 0.09 | 0.09 | 0.09 | 0.08 | 0.08 | 0.09 | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 |
| Turkey | 0.11 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.12 | 0.12 | 0.11 | 0.12 | 0.11 | 0.11 |
| United Kingdom | 0.23 | 0.15 | 0.12 | 0.11 | 0.10 | 0.10 | 0.10 | 0.09 | 0.10 | 0.09 | 0.09 | 0.09 | 0.08 |
| United States | 0.35 | 0.23 | 0.20 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 |
| EU 28 | .. | 0.16 | 0.14 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 | 0.11 | .. |
| OECD | 0.25 | 0.18 | 0.16 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 |
| Brazil | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | .. |
| China | 1.08 | 0.58 | 0.29 | 0.28 | 0.27 | 0.25 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.22 | .. |
| India | 0.25 | 0.22 | 0.19 | 0.16 | 0.15 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.13 | .. |
| Indonesia | 0.19 | 0.14 | 0.15 | 0.14 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 | 0.10 | .. |
| Russian Federation | .. | 0.47 | 0.49 | 0.38 | 0.37 | 0.34 | 0.33 | 0.34 | 0.34 | 0.34 | 0.34 | 0.33 | .. |
| South Africa | 0.22 | 0.28 | 0.28 | 0.27 | 0.26 | 0.26 | 0.27 | 0.27 | 0.26 | 0.25 | 0.24 | 0.24 | .. |
| World | 0.27 | 0.22 | 0.19 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 | 0.16 | 0.16 | 0.16 | .. |

1 2 *http://dx.doi.org/10.1787/888933336713*

## Total primary energy supply per unit of GDP

*Tonnes of oil equivalent (toe) per thousand 2005 US dollars of GDP calculated using PPPs*




1 2 *http://dx.doi.org/10.1787/888933335641*

# ELECTRICITY GENERATION

The amount of electricity generated by a country, and the breakdown of that production by type of fuel, reflects the natural resources, imported energy, national policies on security of energy supply, population size, electrification rate as well as the stage of development and rate of growth of the economy in each country.

## Definition

Electricity generation includes fossil fuels, nuclear, hydro (excluding pumped storage), geothermal, solar, biofuels, etc. It includes electricity produced in electricity-only plants and in combined heat and power plants. Both main activity producer and autoproducer plants are included, where data are available. Main activity producers generate electricity for sale to third parties as their primary activity. Autoproducers generate electricity wholly or partly for their own use as an activity which supports their primary activity. Both types of plants may be privately or publicly owned.

Electricity generation is measured in terawatt hours, which expresses the generation of 1 terawatt ($10^{12}$ watts) of electricity for one hour.

## *Overview*

World electricity generation rose at an average annual rate of 3.6% from 1971 to 2013, greater than the 2.2% growth in total primary energy supply. This increase was largely due to more electrical appliances, the development of electrical heating in several developed countries and of rural electrification programmes in developing countries.

The share of electricity production from fossil fuels has gradually fallen, from 74% in 1971 to 67% in 2013. This decrease was due to a progressive move away from oil, which fell from 21% to 4%.

Oil for world electricity generation has been displaced in particular by dramatic growth in nuclear electricity generation, which rose from 2% in 1971 to 18% in 1996. However, the share of nuclear has been falling steadily since then and represented 11% in 2013.

The share of coal remained stable, at 40-41%, while that of natural gas increased from 13% in 1971 to 22% in 2013. The share of hydro-electricity decreased from 23% to 16% over the same time range.

Due to large development programmes in several OECD countries, the share of new and renewable energies, such as solar, wind, geothermal, biofuels and waste increased. However, these energy forms remain of limited importance: in 2013, they accounted for only around 6% of total electricity production for the world as a whole.

## Comparability

Some countries, both OECD member and non-member countries, have trouble reporting electricity generation from autoproducer plants. In some non-member countries it is also difficult to obtain information on electricity generated by biofuels and waste. For example, electricity generated from waste biofuel in sugar refining remains largely unreported in a number of countries.

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## Electricity generation

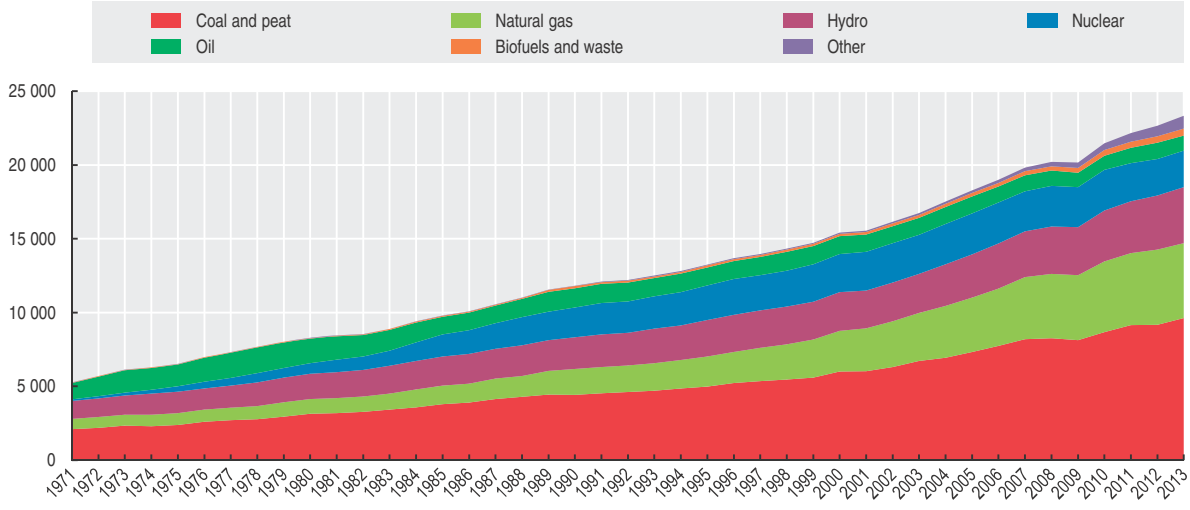
*Terawatt hours (TWh)*

| | 1975 | 1990 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 73.6 | 154.3 | 229.6 | 228.3 | 232.7 | 243.0 | 243.1 | 248.7 | 252.2 | 253.2 | 250.0 | 249.0 | 248.2 |
| Austria | 34.9 | 49.3 | 61.9 | 64.1 | 62.1 | 62.6 | 64.5 | 66.3 | 67.9 | 62.3 | 68.7 | 64.5 | 61.6 |
| Belgium | 40.8 | 70.3 | 84.4 | 85.7 | 84.3 | 87.5 | 83.6 | 89.8 | 93.8 | 89.0 | 81.8 | 82.1 | 71.3 |
| Canada | 277.1 | 482.0 | 599.9 | 625.0 | 610.5 | 629.3 | 632.0 | 609.1 | 599.0 | 633.0 | 633.1 | 651.8 | 639.4 |
| Chile | 8.7 | 18.4 | 51.2 | 52.5 | 55.3 | 58.5 | 59.7 | 60.7 | 60.4 | 65.7 | 69.8 | 73.1 | 76.7 |
| Czech Republic | 45.9 | 62.3 | 83.8 | 81.9 | 83.7 | 87.8 | 83.2 | 81.7 | 85.3 | 86.9 | 86.8 | 86.2 | 85.1 |
| Denmark | 18.3 | 26.0 | 40.4 | 36.2 | 45.6 | 39.3 | 36.6 | 36.4 | 38.9 | 35.2 | 30.7 | 34.7 | 31.9 |
| Estonia | .. | 17.2 | 10.3 | 10.2 | 9.7 | 12.2 | 10.6 | 8.8 | 13.0 | 12.9 | 12.0 | 13.3 | 12.4 |
| Finland | 26.2 | 54.4 | 85.8 | 70.6 | 82.3 | 81.2 | 77.4 | 72.1 | 80.7 | 73.5 | 70.4 | 71.3 | 68.0 |
| France | 185.3 | 417.2 | 568.7 | 571.4 | 569.6 | 564.1 | 569.0 | 530.8 | 564.4 | 556.4 | 560.9 | 567.4 | 557.2 |
| Germany | 383.8 | 547.7 | 611.1 | 615.8 | 632.7 | 633.7 | 634.4 | 590.0 | 626.6 | 607.2 | 623.7 | 627.4 | 608.8 |
| Greece | 16.1 | 34.8 | 58.8 | 59.4 | 60.2 | 62.7 | 62.9 | 61.1 | 57.4 | 59.2 | 60.8 | 57.1 | 47.6 |
| Hungary | 20.5 | 28.4 | 33.7 | 35.8 | 35.9 | 40.0 | 40.0 | 35.9 | 37.4 | 36.0 | 34.6 | 30.3 | 29.3 |
| Iceland | 2.3 | 4.5 | 8.6 | 8.7 | 9.9 | 12.0 | 16.5 | 16.8 | 17.1 | 17.2 | 17.5 | 18.1 | 18.1 |
| Ireland | 7.5 | 14.2 | 25.2 | 25.6 | 27.1 | 27.8 | 29.9 | 28.0 | 28.4 | 27.5 | 27.4 | 25.8 | 26.0 |
| Israel | 9.7 | 20.9 | 47.3 | 48.6 | 50.6 | 53.8 | 57.0 | 55.0 | 58.6 | 59.7 | 63.0 | 59.9 | 57.1 |
| Italy | 145.8 | 213.1 | 295.8 | 296.8 | 307.7 | 308.2 | 313.5 | 288.3 | 298.8 | 300.6 | 297.3 | 287.9 | 276.2 |
| Japan | 473.1 | 835.5 | 1 068.3 | 1 089.9 | 1 094.8 | 1 125.5 | 1 075.5 | 1 043.4 | 1 108.7 | 1 042.8 | 1 026.2 | 1 038.5 | 1 020.0 |
| Korea | 20.1 | 105.4 | 366.6 | 387.9 | 402.3 | 425.9 | 443.9 | 451.7 | 496.7 | 520.1 | 530.9 | 537.9 | 541.3 |
| Luxembourg | 1.1 | 0.6 | 3.4 | 3.3 | 3.5 | 3.2 | 2.7 | 3.2 | 3.2 | 2.7 | 2.8 | 1.8 | 1.9 |
| Mexico | 43.9 | 115.8 | 232.6 | 243.8 | 249.5 | 257.3 | 261.9 | 261.0 | 271.1 | 295.8 | 293.9 | 297.1 | 300.4 |
| Netherlands | 54.3 | 71.9 | 102.4 | 100.2 | 98.4 | 105.2 | 107.6 | 113.5 | 118.1 | 113.0 | 102.5 | 100.9 | 102.5 |
| New Zealand | 20.6 | 32.3 | 42.5 | 43.0 | 43.6 | 43.7 | 43.8 | 43.5 | 44.9 | 44.5 | 44.3 | 43.3 | 43.5 |
| Norway | 77.4 | 121.6 | 110.1 | 137.2 | 121.2 | 136.1 | 141.2 | 131.0 | 123.2 | 126.4 | 146.6 | 133.7 | 141.6 |
| Poland | 96.8 | 134.4 | 152.6 | 155.4 | 160.8 | 158.8 | 154.7 | 151.1 | 157.1 | 163.1 | 161.7 | 164.0 | 158.5 |
| Portugal | 10.7 | 28.4 | 44.8 | 46.2 | 48.6 | 46.9 | 45.5 | 49.5 | 53.7 | 51.9 | 45.6 | 50.5 | 52.0 |
| Slovak Republic | 13.4 | 25.5 | 30.5 | 31.4 | 31.3 | 27.9 | 28.8 | 25.9 | 27.5 | 28.3 | 28.3 | 28.5 | 26.5 |
| Slovenia | .. | 12.4 | 15.3 | 15.1 | 15.1 | 15.0 | 16.4 | 16.4 | 16.2 | 15.9 | 15.5 | 15.8 | 17.2 |
| Spain | 82.1 | 151.2 | 276.7 | 289.4 | 295.6 | 301.8 | 311.0 | 291.9 | 298.3 | 291.5 | 293.9 | 279.3 | 273.9 |
| Sweden | 80.6 | 146.0 | 151.7 | 158.4 | 143.3 | 148.8 | 149.9 | 136.6 | 148.5 | 150.3 | 166.4 | 153.0 | 154.1 |
| Switzerland | 43.0 | 55.0 | 63.9 | 57.8 | 62.1 | 66.4 | 67.0 | 66.7 | 66.1 | 62.9 | 68.2 | 68.8 | 69.8 |
| Turkey | 15.6 | 57.5 | 150.7 | 162.0 | 176.3 | 191.6 | 198.4 | 194.8 | 211.2 | 229.4 | 239.5 | 240.2 | 250.4 |
| United Kingdom | 270.8 | 317.8 | 391.3 | 395.4 | 393.4 | 393.0 | 384.8 | 373.0 | 378.6 | 364.3 | 360.4 | 356.3 | 332.2 |
| United States | 2 011.2 | 3 202.8 | 4 148.1 | 4 268.9 | 4 275.0 | 4 323.9 | 4 343.0 | 4 165.4 | 4 354.4 | 4 326.6 | 4 270.8 | 4 286.9 | 4 310.9 |
| EU 28 | .. | 2 576.3 | 3 269.5 | 3 290.1 | 3 335.2 | 3 349.9 | 3 354.8 | 3 190.6 | 3 333.4 | 3 267.8 | 3 265.8 | 3 229.9 | .. |
| OECD | 4 611.0 | 7 629.1 | 10 247.9 | 10 502.0 | 10 574.7 | 10 774.8 | 10 790.1 | 10 398.0 | 10 857.1 | 10 804.9 | 10 786.0 | 10 796.2 | 10 711.6 |
| Brazil | 78.9 | 222.8 | 387.5 | 403.0 | 419.3 | 445.1 | 463.1 | 466.1 | 515.7 | 531.8 | 552.7 | 570.3 | .. |
| China | 198.3 | 621.3 | 2 204.8 | 2 502.5 | 2 869.8 | 3 287.5 | 3 482.0 | 3 742.0 | 4 197.3 | 4 704.9 | 4 984.7 | 5 436.6 | .. |
| India | 85.9 | 292.7 | 684.0 | 715.7 | 773.8 | 823.6 | 848.4 | 917.3 | 979.4 | 1 074.5 | 1 123.0 | 1 193.5 | .. |
| Indonesia | 3.0 | 32.7 | 120.2 | 127.5 | 133.1 | 142.2 | 149.3 | 156.8 | 169.8 | 183.3 | 193.1 | 215.6 | .. |
| Russian Federation | .. | 1 082.2 | 929.9 | 951.2 | 993.9 | 1 013.4 | 1 038.4 | 990.0 | 1 036.1 | 1 053.0 | 1 069.3 | 1 057.6 | .. |
| South Africa | 74.9 | 165.4 | 240.9 | 242.1 | 250.9 | 260.5 | 255.5 | 246.8 | 256.6 | 259.6 | 254.9 | 253.2 | .. |
| World | 6 518.7 | 11 826.1 | 17 519.3 | 18 282.2 | 18 990.6 | 19 826.3 | 20 216.6 | 20 161.6 | 21 460.3 | 22 158.7 | 22 656.6 | 23 321.6 | .. |

1 2 *http://dx.doi.org/10.1787/888933336794*

## World electricity generation by source of energy

*Terawatt hours (TWh)*




1 2 *http://dx.doi.org/10.1787/888933335729*

# NUCLEAR ENERGY

Nuclear energy expanded rapidly in the 1970s and 1980s, but in the last 20 years only small numbers of new nuclear power plants have entered operation. The role of nuclear energy in reducing greenhouse gas emissions and in increasing energy diversification and security of supply has been increasingly recognised over the last few years, leading to renewed interest in building new nuclear plants in several countries. However, the accident at the Fukushima Daiichi nuclear power plant in Japan following a major earthquake and tsunami in March 2011 has led some countries to review their nuclear programmes. Belgium, Germany and Switzerland decided to hasten the phase out of nuclear power while others conducted safety checks of nuclear facilities causing a delay in nuclear development programmes. With successful completion of these safety reviews no other countries decided to exit nuclear power, development plans were resumed and, as a result, global nuclear capacity is expected to increase over the next few years.

Much of the future growth in nuclear capacity is expected to be in non-OECD economies. China in particular has begun a rapid expansion of nuclear capacity, with a total of 26 units under construction as of end 2014. India and Russia also have several new plants under construction. Among OECD countries, Finland, France, Japan, Korea, the Slovak Republic and the United States all presently have one or more nuclear plants under construction, while Turkey is finalising plans for the construction of its first two nuclear power plants (a total of four reactors each) and Poland is actively planning its first nuclear units. However, there remains uncertainty on the role of nuclear power in Japan where all 48 operational reactors were offline throughout 2014.

## Definition

Nuclear electricity generation in terawatt hours (TWh) and the percentage share of nuclear in total electricity generation. Information on the number of nuclear power plants in operation and under construction as of December 2014.

## Comparability

Some generation data are provisional and may be subject to revision. Generation data for Japan are for the fiscal year.

### *Overview*

In 2014, nuclear energy provided 19.3% of total electricity supply in the OECD (and 11.1% of the world's electricity). However, the use of nuclear energy varies widely. In all, 18 of the 34 OECD countries currently use nuclear energy, with eight generating one-third or more of their total electricity from this source in 2014. Collectively, OECD countries produce about 80% of the world's nuclear energy. The remainder is produced in 12 non-OECD economies.

Analysis indicates that, as part of a scenario to limit global temperature rise to two degrees, nuclear generating capacity should rise from about 370 GW at present to around 1 100 GW by 2050, supplying almost 20% of global electricity. This would be a major contribution to cutting the emissions of greenhouse gases from the electricity supply sector. However, uncertainties remain concerning the successful construction and operation of the next generation of nuclear plants, public and political acceptance of nuclear energy in the wake of the Fukushima Daiichi accident, and the extent to which other low-carbon energy sources are successfully developed. Presently the current level of development of nuclear energy is lagging behind these projections, with recent annual capacity additions only a third of what is required to meet the two degree scenario objectives by 2025.

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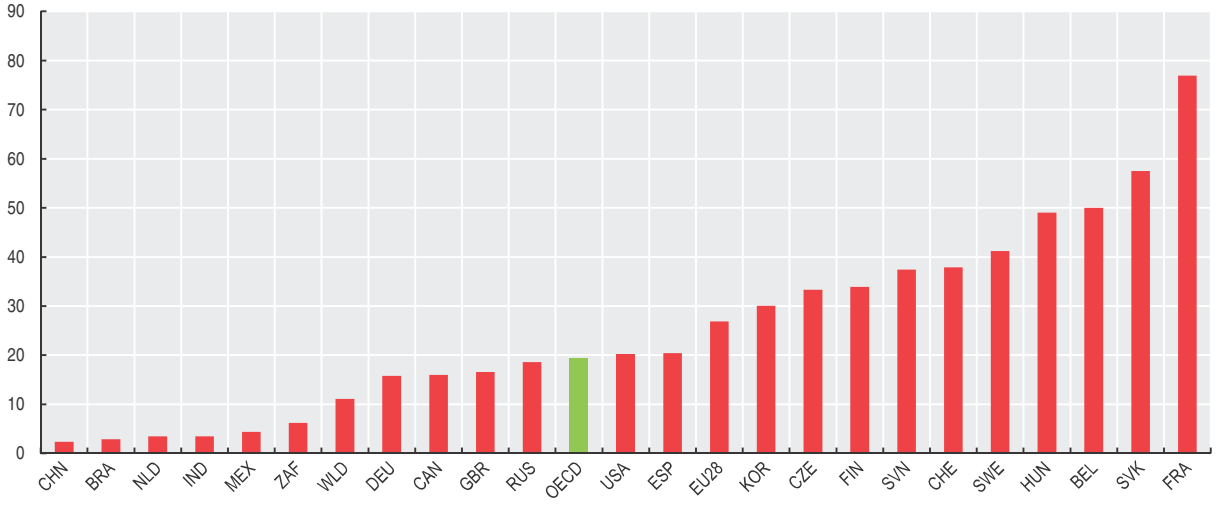
## Nuclear electricity generation and nuclear plants

| | 2014 | | Number as of 31 December 2014 | |
|---|---|---|---|---|
| | Terawatt hours | As a percentage of total electricity generation | Plants connected to the grid | Plants under construction |
| Australia | - | - | - | - |
| Austria | - | - | - | - |
| Belgium | 32.0 | 50.0 | 7 | - |
| Canada | 100.9 | 16.0 | 19 | - |
| Chile | - | - | - | - |
| Czech Republic | 28.6 | 33.3 | 6 | - |
| Denmark | - | - | - | - |
| Estonia | - | - | - | - |
| Finland | 22.2 | 33.9 | 4 | 1 |
| France | 415.9 | 76.9 | 58 | 1 |
| Germany | 91.7 | 15.8 | 9 | - |
| Greece | - | - | - | - |
| Hungary | 14.7 | 49.0 | 4 | - |
| Iceland | - | - | - | - |
| Ireland | - | - | - | - |
| Israel | - | - | - | - |
| Italy | - | - | - | - |
| Japan | 0.0 | 0.0 | 48 | 4 |
| Korea | 150.4 | 30.1 | 23 | 5 |
| Luxembourg | - | - | - | - |
| Mexico | 9.3 | 4.4 | 2 | - |
| Netherlands | 3.5 | 3.5 | 1 | - |
| New Zealand | - | - | - | - |
| Norway | - | - | - | - |
| Poland | - | - | - | - |
| Portugal | - | - | - | - |
| Slovak Republic | 14.5 | 57.5 | 4 | 2 |
| Slovenia | 6.1 | 37.4 | 1 | - |
| Spain | 54.8 | 20.4 | 8 | - |
| Sweden | 62.2 | 41.2 | 10 | - |
| Switzerland | 26.4 | 37.9 | 5 | - |
| Turkey | - | - | - | - |
| United Kingdom | 57.8 | 16.6 | 16 | - |
| United States | 797.0 | 20.2 | 99 | 5 |
| EU 28 | 833.6 | 26.9 | 131 | 4 |
| OECD | 1 888.0 | 19.3 | 324 | 18 |
| Brazil | 14.5 | 2.9 | 2 | 1 |
| China | 123.8 | 2.4 | 23 | 26 |
| India | 33.2 | 3.5 | 21 | 6 |
| Indonesia | - | - | - | - |
| Russian Federation | 169.1 | 18.6 | 34 | 9 |
| South Africa | 14.8 | 6.2 | 2 | - |
| World | 2 410.4 | 11.1 | 438 | 70 |

1 2 *http://dx.doi.org/10.1787/888933336434*

## Nuclear electricity generation

*As a percentage of total electricity generation, 2014*




1 2 *http://dx.doi.org/10.1787/888933335278*

# RENEWABLE ENERGY

More and more governments are recognising the importance of promoting sustainable development and combating climate change when setting out their energy policies. Higher energy use has contributed to higher greenhouse gas emissions and higher concentration of these gases in the atmosphere. One way to reduce greenhouse gas emissions, while diversifying the energy portfolio, is to replace energy from fossil fuels by energy from renewables.

## Definition

Data refer to the contribution of renewables to total primary energy supply (TPES) in OECD countries and the emerging economies (Brazil, China, India, Indonesia, South Africa and Russia). Renewables include the primary energy equivalent of hydro (excluding pumped storage), geothermal, solar, wind, tide and wave. It also includes energy derived from solid biofuels, biogasoline, biodiesels, other liquid biofuels, biogases, and the renewable fraction of municipal waste. Biofuels are defined as fuels derived directly or indirectly from biomass (material obtained from living or recently living organisms). Included here are wood, vegetal waste (including wood waste and crops used for energy production), ethanol, animal materials/wastes and sulphite lyes. Municipal waste comprises wastes produced by the residential, commercial and public service sectors that are collected by local authorities for disposal in a central location for the production of heat and/or power.

Both renewable and non-renewable shares of waste are included under "Biofuels and waste".

### *Overview*

In OECD countries, total renewables supply grew on average by 2.7% per year between 1971 and 2014 as compared to 1.0% per year for total primary energy supply. Annual growth for hydro (1.1%) was lower than for other renewables such as geothermal (4.9%) and biofuels and waste (2.9%). Due to a very low base in 1971, solar and wind experienced the most rapid growth in OECD countries, especially where government policies have stimulated expansion of these energy sources.

For the OECD as a whole, the contribution of renewables to energy supply increased from 4.8% in 1971 to 9.2% in 2014. The contribution of renewables varied greatly by country. On the high end, renewables represented 89.3% of energy supply in Iceland and 43.5% in Norway. On the low end, renewables contributed less than 5% to the energy supply for Japan, Korea, Luxembourg and the Netherlands.

In 2013 renewables contributed 40% to the energy supply of Brazil, 34% in Indonesia, 26% in India, 11% in China, 11% in South Africa and 3% in Russia.

## Comparability

Biofuels and waste data are often based on small sample surveys or other incomplete information. Thus, the data give only a broad impression of developments and are not strictly comparable between countries. In some cases, complete categories of vegetal fuel are omitted due to lack of information.

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## Contribution of renewables to energy supply

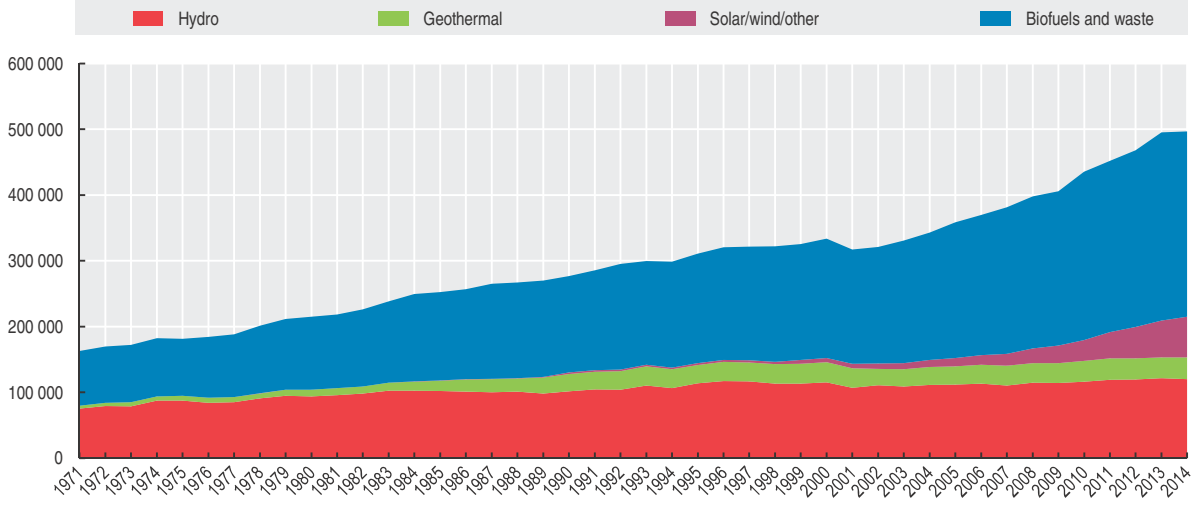
*As a percentage of total primary energy supply*

| | 1970 | 1990 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 8.47 | 5.87 | 5.79 | 5.69 | 5.63 | 5.62 | 5.57 | 4.42 | 4.71 | 4.92 | 5.63 | 6.03 | 6.60 |
| Austria | 13.59 | 20.29 | 19.74 | 21.00 | 22.09 | 24.09 | 25.27 | 27.87 | 27.30 | 26.58 | 30.53 | 30.08 | 30.84 |
| Belgium | 0.05 | 1.00 | 1.64 | 1.97 | 2.35 | 2.93 | 3.41 | 4.22 | 4.59 | 5.37 | 6.16 | 6.19 | 6.63 |
| Canada | 15.29 | 16.11 | 15.58 | 16.95 | 16.71 | 17.24 | 17.38 | 18.06 | 17.63 | 18.24 | 18.11 | 18.87 | 18.34 |
| Chile | .. | 27.84 | 24.22 | 25.10 | 25.33 | 23.52 | 24.49 | 26.13 | 22.13 | 23.13 | 29.96 | 31.29 | 32.39 |
| Czech Republic | .. | 1.85 | 3.82 | 3.97 | 4.20 | 4.65 | 4.92 | 5.76 | 6.26 | 6.99 | 7.53 | 8.52 | 8.52 |
| Denmark | 1.63 | 5.94 | 13.72 | 15.02 | 14.25 | 16.20 | 16.88 | 17.95 | 20.12 | 22.23 | 24.39 | 25.09 | 27.77 |
| Estonia | .. | 1.92 | 11.29 | 11.29 | 10.44 | 10.57 | 11.77 | 14.73 | 15.05 | 14.85 | 15.60 | 13.97 | 14.53 |
| Finland | 27.89 | 19.34 | 23.34 | 23.58 | 23.27 | 23.49 | 25.85 | 24.12 | 25.54 | 25.96 | 29.38 | 29.99 | 29.65 |
| France | 9.31 | 6.80 | 5.83 | 5.86 | 5.91 | 6.38 | 7.13 | 7.52 | 8.11 | 7.27 | 8.36 | 9.21 | 8.64 |
| Germany | 1.34 | 1.51 | 4.30 | 5.11 | 5.94 | 7.24 | 7.04 | 7.88 | 8.43 | 9.43 | 10.34 | 10.50 | 11.13 |
| Greece | 8.82 | 5.15 | 5.28 | 5.43 | 5.89 | 5.72 | 5.63 | 6.35 | 7.74 | 8.03 | 9.25 | 11.21 | 10.86 |
| Hungary | 2.79 | 2.59 | 3.64 | 4.32 | 4.51 | 5.11 | 6.01 | 7.38 | 7.61 | 7.56 | 7.57 | 8.27 | 8.48 |
| Iceland | 45.65 | 71.36 | 75.88 | 76.31 | 80.26 | 83.78 | 86.80 | 87.82 | 88.47 | 89.75 | 89.67 | 89.60 | 89.34 |
| Ireland | 1.15 | 1.69 | 1.95 | 2.51 | 2.89 | 3.18 | 3.89 | 4.64 | 4.60 | 5.88 | 6.05 | 6.51 | 7.43 |
| Israel | .. | 3.15 | 3.83 | 3.99 | 3.67 | 3.64 | 4.71 | 4.97 | 4.99 | 4.96 | 4.79 | 4.90 | 5.12 |
| Italy | 5.61 | 4.42 | 6.60 | 6.26 | 6.82 | 6.62 | 7.65 | 9.61 | 10.67 | 11.96 | 14.80 | 16.97 | 17.78 |
| Japan | 2.53 | 3.45 | 3.27 | 3.15 | 3.33 | 3.17 | 3.23 | 3.34 | 3.83 | 4.18 | 4.14 | 4.45 | 4.86 |
| Korea | .. | 1.08 | 0.46 | 0.51 | 0.55 | 0.59 | 0.60 | 0.66 | 0.72 | 0.74 | 0.86 | 1.01 | 1.06 |
| Luxembourg | 0.20 | 0.54 | 1.17 | 1.64 | 1.76 | 3.05 | 3.17 | 3.16 | 3.04 | 3.00 | 3.37 | 3.94 | 4.36 |
| Mexico | .. | 12.24 | 10.26 | 10.45 | 10.03 | 9.99 | 10.09 | 9.52 | 9.91 | 9.40 | 8.82 | 7.94 | 9.07 |
| Netherlands | .. | 1.12 | 2.15 | 2.75 | 2.98 | 3.02 | 3.51 | 4.03 | 3.75 | 4.28 | 4.36 | 4.28 | 4.60 |
| New Zealand | 30.01 | 32.91 | 31.40 | 31.50 | 32.07 | 32.20 | 32.92 | 35.65 | 38.67 | 40.03 | 37.45 | 38.76 | 39.14 |
| Norway | 37.53 | 54.09 | 39.91 | 48.36 | 42.51 | 46.37 | 41.50 | 38.84 | 34.41 | 42.86 | 46.62 | 38.48 | 43.45 |
| Poland | 1.30 | 1.53 | 4.75 | 4.87 | 4.85 | 5.01 | 5.69 | 6.66 | 7.25 | 7.87 | 8.83 | 8.77 | 9.41 |
| Portugal | 21.61 | 19.53 | 14.71 | 13.13 | 16.75 | 17.69 | 17.54 | 19.65 | 23.24 | 22.49 | 20.65 | 24.43 | 24.63 |
| Slovak Republic | .. | 1.54 | 3.98 | 4.30 | 4.48 | 5.28 | 5.12 | 6.75 | 7.42 | 7.45 | 8.16 | 8.19 | 8.89 |
| Slovenia | .. | 9.12 | 11.52 | 10.61 | 10.52 | 10.05 | 11.02 | 14.26 | 14.42 | 13.49 | 14.73 | 16.47 | 18.59 |
| Spain | 6.32 | 6.88 | 6.34 | 5.92 | 6.46 | 6.96 | 7.59 | 9.83 | 11.78 | 11.80 | 12.86 | 14.91 | 14.80 |
| Sweden | 17.20 | 24.43 | 25.00 | 28.75 | 28.66 | 30.55 | 31.49 | 34.84 | 33.39 | 33.20 | 36.93 | 34.67 | 34.38 |
| Switzerland | 18.35 | 14.91 | 16.46 | 16.01 | 15.50 | 17.78 | 17.84 | 17.82 | 19.00 | 18.08 | 20.69 | 20.27 | 21.22 |
| Turkey | 34.35 | 18.32 | 13.36 | 12.03 | 11.12 | 9.60 | 9.43 | 10.14 | 11.04 | 10.00 | 10.40 | 12.07 | 9.32 |
| United Kingdom | 0.19 | 0.50 | 1.48 | 1.79 | 1.95 | 2.18 | 2.64 | 3.16 | 3.36 | 4.09 | 4.33 | 5.30 | 6.42 |
| United States | 3.68 | 5.02 | 4.39 | 4.54 | 4.77 | 4.67 | 5.07 | 5.44 | 5.60 | 6.09 | 6.03 | 6.45 | 6.51 |
| EU 28 | .. | 4.34 | 6.27 | 6.58 | 6.97 | 7.52 | 8.04 | 9.10 | 9.82 | 10.19 | 11.35 | 12.10 | .. |
| OECD | .. | 5.93 | 5.98 | 6.24 | 6.44 | 6.59 | 6.98 | 7.45 | 7.75 | 8.17 | 8.60 | 9.02 | 9.17 |
| Brazil | .. | 46.74 | 42.28 | 42.92 | 43.31 | 44.40 | 44.46 | 45.80 | 43.94 | 42.74 | 40.72 | 39.49 | .. |
| China | .. | 24.27 | 14.44 | 13.68 | 12.77 | 12.46 | 12.73 | 12.20 | 11.59 | 10.39 | 10.67 | 10.81 | .. |
| India | .. | 45.54 | 33.38 | 32.96 | 32.09 | 31.16 | 30.19 | 27.92 | 27.36 | 27.33 | 26.41 | 26.31 | .. |
| Indonesia | .. | 46.55 | 35.69 | 35.02 | 34.84 | 35.44 | 36.22 | 34.84 | 33.30 | 34.56 | 33.56 | 33.95 | .. |
| Russian Federation | .. | 3.01 | 2.92 | 2.87 | 2.81 | 2.88 | 2.58 | 2.83 | 2.57 | 2.45 | 2.41 | 2.61 | .. |
| South Africa | .. | 11.54 | 10.52 | 10.71 | 11.03 | 10.32 | 9.75 | 10.11 | 10.46 | 10.55 | 10.84 | 10.96 | .. |
| World | .. | 12.74 | 12.36 | 12.44 | 12.43 | 12.49 | 12.74 | 13.12 | 13.01 | 12.99 | 13.23 | 13.51 | .. |

1 2 *http://dx.doi.org/10.1787/888933336553*

## OECD renewable energy supply

*Thousand tonnes of oil equivalent (ktoe)*




1 2 *http://dx.doi.org/10.1787/888933335468*

# OIL PRODUCTION

The Middle East and North Africa are exceptionally well-endowed with energy resources, holding about 67% of the world's proven conventional oil reserves at the end of 2014. Current oil production is relatively low in comparison to these reserves and further development of them will be critical to meeting global energy needs in the coming decades. Unconventional oil (e.g. oil shale and sands, liquid supplies based on coal and biomass, and liquids arising for the chemical processing of natural gas) is also expected to play an increasing role in meeting world demand.

## Definition

Crude oil production refers to the quantities of oil extracted from the ground after the removal of inert matter or impurities. Crude oil is a mineral oil consisting of a mixture of hydrocarbons of natural origin, being yellow to black in colour, of variable density and viscosity.

Refinery production refers to the output of secondary oil products from an oil refinery. Crude oil includes all primary oils – crude oil, natural gas liquids, and other hydrocarbons, for example synthetic crude oil from tar sands, shale oil, etc.

## Comparability

In general, data on oil production are of high quality. In some instances, information has been based on secondary sources or estimated by the International Energy Agency (IEA).

### *Overview*

World crude oil production has increased by 57% over the 43 years from 1971 to 2014. In 2014, production reached 3 858 million tonnes or about 76 million barrels per day. Growth was not constant over the period as production declined in the aftermath of two oil shocks in the early and late 1970s.

In 2014, the Middle East region's share of oil production was 31% of the world total. However, both the level of production and its share in the world total varied significantly over the period, from 39% of the world total in 1974 to 19% in 1985. Increased production in the 1980s and 1990s put the OECD on par with the Middle East during that period, but by 2014, the share of OECD oil production had fallen to 23%.

In 2014, OECD crude oil production rose by 7% year-on-year, driven by strong growth in North America. In the rest of the world, most of the growth happened outside of OPEC countries (minus 0.1% for OPEC and 1% for rest of the world).

The United States has overtaken Saudi Arabia and Russia as the world's leading producer of crude oil. Canada also remained in the top-five with production levels close to the ones of China. In the rest of the OECD, production by all major oil producers except Norway declined from 2013 to 2014.

With the increase in the production of United States and Canada, the five top oil-producing countries represented together nearly half (48%) of world production. OPEC member countries represented 40% of total oil production and OECD members 25%.

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## Production of crude oil

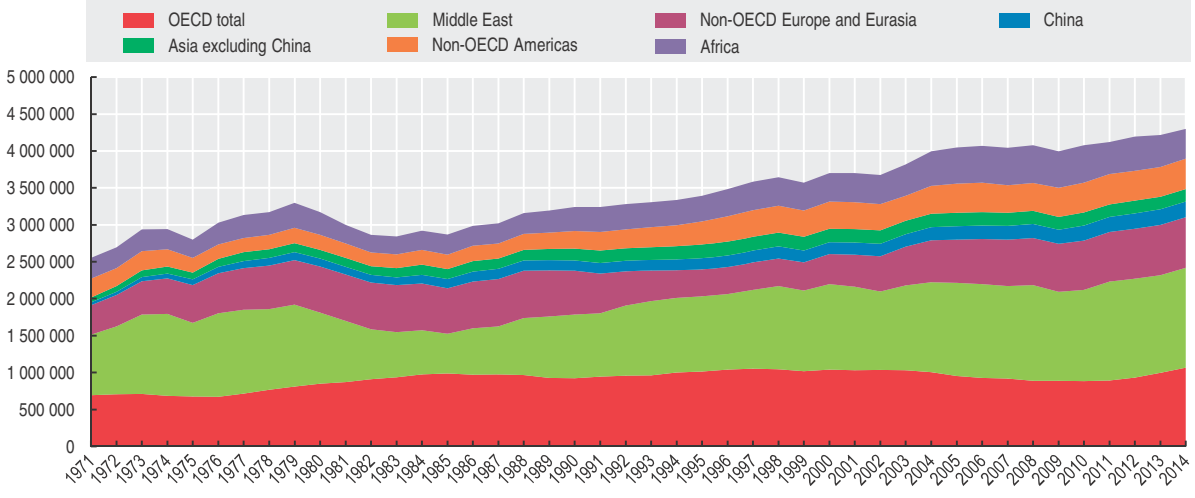
*Thousand tonnes of oil equivalent (ktoe)*

| | 1971 | 1990 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 14 826 | 29 026 | 28 534 | 25 673 | 23 216 | 25 912 | 23 855 | 24 510 | 23 906 | 23 092 | 23 043 | 20 093 | 18 582 |
| Austria | 2 628 | 1 208 | 1 077 | 980 | 998 | 997 | 995 | 1 056 | 1 026 | 972 | 933 | 886 | 925 |
| Belgium | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Canada | 72 408 | 94 147 | 149 294 | 146 228 | 153 665 | 157 146 | 155 262 | 153 349 | 161 138 | 170 764 | 183 664 | 195 251 | 212 268 |
| Chile | 1 766 | 1 166 | 390 | 355 | 348 | 592 | 602 | 721 | 611 | 641 | 532 | 539 | 418 |
| Czech Republic | 35 | 218 | 579 | 588 | 440 | 429 | 343 | 306 | 269 | 341 | 319 | 258 | 260 |
| Denmark | - | 6 113 | 19 783 | 19 018 | 17 294 | 15 579 | 14 414 | 13 252 | 12 486 | 11 237 | 10 250 | 8 918 | 8 350 |
| Estonia | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Finland | - | - | 83 | 89 | 90 | 24 | 14 | 59 | 43 | 38 | 46 | 42 | 42 |
| France | 2 499 | 3 471 | 1 527 | 1 357 | 1 225 | 1 196 | 1 336 | 1 173 | 1 125 | 1 088 | 988 | 1 012 | 921 |
| Germany | 7 724 | 4 709 | 4 437 | 4 603 | 4 563 | 4 536 | 4 247 | 3 851 | 3 315 | 3 454 | 3 373 | 3 374 | 3 136 |
| Greece | - | 837 | 122 | 92 | 87 | 74 | 57 | 73 | 105 | 89 | 86 | 64 | 58 |
| Hungary | 1 990 | 2 273 | 1 591 | 1 418 | 1 359 | 1 214 | 1 245 | 1 207 | 1 090 | 968 | 1 030 | 880 | 818 |
| Iceland | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ireland | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Israel | 5 830 | 13 | 2 | 2 | 7 | 4 | 6 | 6 | 4 | 20 | 12 | 12 | 12 |
| Italy | 1 254 | 4 468 | 5 616 | 6 260 | 6 103 | 6 308 | 5 719 | 4 962 | 5 620 | 5 608 | 5 629 | 5 748 | 5 982 |
| Japan | 852 | 696 | 699 | 750 | 742 | 808 | 767 | 748 | 695 | 698 | 620 | 549 | 516 |
| Korea | - | - | 437 | 534 | 571 | 581 | 536 | 692 | 698 | 707 | 718 | 605 | 609 |
| Luxembourg | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mexico | 25 654 | 152 756 | 198 747 | 193 675 | 187 341 | 176 984 | 166 861 | 156 254 | 154 961 | 153 327 | 152 190 | 150 058 | 144 799 |
| Netherlands | 1 748 | 4 069 | 2 973 | 2 338 | 2 083 | 2 857 | 2 434 | 2 029 | 1 684 | 1 701 | 1 786 | 1 936 | 2 053 |
| New Zealand | - | 1 966 | 1 169 | 1 084 | 1 061 | 2 086 | 2 933 | 2 771 | 2 745 | 2 382 | 2 121 | 1 855 | 2 068 |
| Norway | 287 | 83 659 | 146 590 | 135 281 | 125 850 | 121 770 | 116 694 | 110 526 | 99 371 | 96 340 | 87 327 | 82 051 | 84 179 |
| Poland | 396 | 175 | 917 | 892 | 813 | 733 | 788 | 697 | 744 | 676 | 700 | 983 | 971 |
| Portugal | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Slovak Republic | 163 | 77 | 219 | 261 | 226 | 259 | 232 | 203 | 210 | 223 | 189 | 227 | 250 |
| Slovenia | - | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Spain | 127 | 1 168 | 260 | 169 | 142 | 145 | 129 | 107 | 125 | 102 | 145 | 375 | 311 |
| Sweden | - | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Switzerland | - | - | - | - | - | - | - | - | 1 | - | - | - | - |
| Turkey | 3 529 | 3 613 | 2 224 | 2 231 | 2 134 | 2 109 | 2 134 | 2 373 | 2 478 | 2 342 | 2 310 | 2 370 | 2 436 |
| United Kingdom | 237 | 95 248 | 99 633 | 88 467 | 80 010 | 79 872 | 74 612 | 70 898 | 64 368 | 53 223 | 46 275 | 42 206 | 41 334 |
| United States | 549 436 | 432 545 | 339 085 | 322 545 | 317 808 | 317 454 | 312 911 | 335 501 | 346 692 | 360 705 | 407 368 | 475 946 | 534 593 |
| EU 28 | .. | 134 586 | 145 818 | 133 715 | 122 181 | 120 159 | 112 293 | 105 326 | 97 300 | 84 694 | 76 417 | 71 664 | 70 086 |
| OECD | 693 389 | 923 627 | 1 005 989 | 954 889 | 928 175 | 919 670 | 889 125 | 887 324 | 885 509 | 890 739 | 931 655 | 996 238 | 1 065 891 |
| Brazil | 8 662 | 33 393 | 78 800 | 86 943 | 92 405 | 94 187 | 97 335 | 104 057 | 109 591 | 112 833 | 112 660 | 110 145 | 122 207 |
| China | 40 120 | 138 306 | 175 942 | 181 427 | 184 855 | 186 423 | 190 561 | 189 619 | 203 157 | 203 034 | 207 644 | 210 101 | 211 855 |
| India | 7 460 | 35 323 | 39 150 | 37 679 | 39 345 | 39 533 | 39 002 | 39 404 | 43 139 | 43 694 | 43 334 | 43 036 | 42 701 |
| Indonesia | 44 947 | 74 589 | 54 476 | 53 445 | 50 207 | 47 632 | 49 222 | 48 215 | 48 442 | 46 147 | 44 486 | 42 181 | 40 338 |
| Russian Federation | .. | 526 252 | 458 466 | 468 708 | 478 130 | 490 038 | 488 530 | 493 641 | 506 541 | 514 864 | 521 251 | 524 196 | 531 095 |
| South Africa | - | - | 1 621 | 853 | 811 | 175 | 150 | 430 | 494 | 494 | 252 | 214 | 214 |
| World | 2 552 306 | 3 240 983 | 3 995 826 | 4 046 002 | 4 070 191 | 4 045 004 | 4 079 918 | 3 994 336 | 4 076 661 | 4 119 083 | 4 195 257 | 4 215 637 | 4 300 002 |

1 2 *http://dx.doi.org/10.1787/888933336469*

## Production of crude oil by region

*Thousand tonnes of oil equivalent (ktoe)*




1 2 *http://dx.doi.org/10.1787/888933335324*

# OIL PRICES

The price of crude oil, from which oil products such as gasoline are derived, is influenced by a number of factors beyond the traditional movements of supply and demand, notably geopolitics. Some of the lowest cost reserves are located in sensitive areas of the world. In addition, technological advances can have a significant influence on crude oil prices, for example by making new oil fields profitable to exploit or by providing substitute energy sources such as biofuels. So far though, the transport sector, driving global oil demand, remains heavily dependent on oil products. Therefore, demand for oil and consequently oil prices are closely linked to economic cycles.

There is not one price for crude oil but many. World crude oil prices are established, always in US dollars, in relation to three market traded benchmarks (West Texas Intermediate [WTI], Brent [or North Sea], and Dubai), and are often seen quoted at premiums or discounts to these prices.

## *Overview*

The 1973 Arab oil embargo had a major price impact with Arabian Light prices surging from USD 1.84/barrel in 1972 to USD 10.98 in 1974. The next spike came with the 1981 Iranian revolution, when prices rose to a high of nearly USD 40/barrel. Prices declined gradually after this crisis. They dropped considerably in 1986 when Saudi Arabia substantially increased its oil production. The first Gulf crisis in 1990 brought a new peak. In 1997, crude oil prices declined due to the impact of the Asian financial crisis.

Prices increased again in 1999 with OPEC target reductions and tightening stocks. A dip occurred in 2001 and 2002, but the expectation of war in Iraq raised prices to over USD 30/barrel in the first quarter of 2003. Prices remained high in the latter part of 2003 and in 2004. Crude oil prices increased dramatically in late August 2005 after Hurricane Katrina hit the US coast of the Gulf of Mexico. Prices increased throughout 2006 and into 2007 as the demand for oil in emerging economies, especially China, put pressure on the supply/demand balance, averaging 24 per cent higher than in the previous year.

Early in 2008, prices crossed the symbolic USD 100/barrel threshold and by July reached just under USD 150/barrel, bringing the price of oil to a record high in nominal and real terms. From early 2009 prices plummeted to USD 40/barrel as the impact of high prices and the onset of the global financial crisis sharply curbed oil demand, though by year-end they had risen to between USD 70 and 80/barrel.

Crude oil prices increased steadily throughout 2010 and 2011, and, with the post-recession demand rebound, tightening stocks and low spare capacity, reached a peak of USD 122/barrel in March 2012. These high prices led to a period of significant over supply. After fluctuating around the USD 105/barrel mark until August 2014, prices halved to USD 50/barrel in January 2015. Following a rebound to USD 60/barrel in June 2015, prices were at USD 40/barrel by the end of the year.

## Definition

Crude oil import prices come from the IEA's Crude Oil Import Register. Information is collected from national agencies according to the type of crude, by geographic origin and by quality of crude. Average prices are obtained by dividing value by volume as recorded by customs administrations for each tariff position. Values are recorded at the time of import and include cost, insurance and freight (c.i.f.) but exclude import duties. The nominal crude oil spot price from 2003 onwards is for Dubai and from 1970 to 2002 for Arabian Light. These nominal spot prices are expressed in US dollars per barrel of oil. The real price was calculated using the deflator for GDP at market prices and rebased with reference year 1970 = 100.

## Comparability

Average crude oil import prices depend on the quality of the crude oil imported. High quality crude oils such as UK Forties, Norwegian Oseberg and Venezuelan Light can be significantly more expensive than lower quality crude oils such as Canadian Heavy and Venezuelan Extra Heavy. High quality crudes command a higher premium because, amongst other factors, they are easier, being less corrosive, to transport and process, and produce higher yields of quality oil products. For any given country, the mix of crude oils imported each month will directly influence the average monthly price.

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- IEA (2015), *Medium-Term Gas Market Report*, IEA, Paris.
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### *Websites*

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- Oil Market Report, *www.oilmarketreport.org*.

## Crude oil import prices

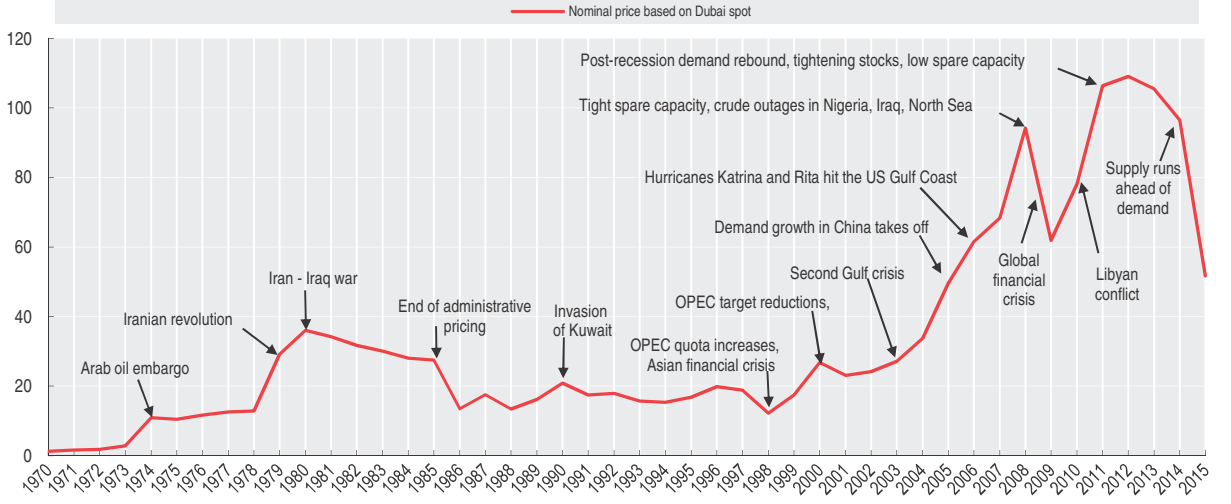
*US dollars per barrel, average unit value, c.i.f.*

| | 1980 | 1990 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 31.81 | 24.21 | 40.93 | 56.71 | 66.71 | 77.13 | 107.83 | 63.40 | 82.60 | 115.66 | 117.78 | 114.19 | 107.05 |
| Austria | 33.66 | 24.58 | 38.21 | 53.15 | 64.44 | 71.86 | 103.05 | 60.69 | 80.00 | 110.92 | 112.50 | 110.63 | 103.81 |
| Belgium | 29.93 | 21.11 | 35.35 | 50.06 | 61.06 | 70.35 | 96.01 | 61.77 | 79.65 | 110.50 | 110.83 | 108.45 | 98.49 |
| Canada | 30.21 | 24.15 | 38.13 | 52.37 | 64.33 | 70.04 | 101.41 | 60.29 | 79.14 | 110.80 | 110.61 | 108.60 | 98.60 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | .. | .. | 34.82 | 51.28 | 62.05 | 68.54 | 97.71 | 60.77 | 79.04 | 110.42 | 112.33 | 110.26 | 102.13 |
| Denmark | 33.56 | 23.18 | 38.78 | 54.40 | 66.92 | 74.94 | 96.48 | 62.87 | 80.40 | 112.77 | 107.90 | 107.25 | 100.19 |
| Estonia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Finland | .. | .. | 36.09 | 51.12 | 63.37 | 70.48 | 94.79 | 61.01 | 79.10 | 109.23 | 110.47 | 107.57 | 97.53 |
| France | .. | .. | 37.61 | 52.74 | 63.69 | 72.22 | 97.63 | 61.64 | 79.78 | 111.78 | 112.01 | 109.56 | 99.40 |
| Germany | 33.96 | 23.17 | 36.65 | 52.30 | 63.29 | 71.60 | 96.70 | 61.18 | 78.49 | 110.63 | 112.21 | 109.62 | 99.76 |
| Greece | 31.81 | 22.42 | 34.53 | 50.33 | 60.97 | 69.93 | 93.60 | 60.10 | 78.97 | 109.41 | 111.92 | 107.61 | 95.55 |
| Hungary | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Iceland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ireland | 31.15 | 25.55 | 39.24 | 55.24 | 66.38 | 74.16 | 100.39 | 62.61 | 80.95 | 113.92 | 115.64 | 110.46 | 99.87 |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 31.84 | 23.23 | 36.60 | 51.33 | 62.50 | 70.20 | 96.67 | 60.69 | 79.29 | 110.23 | 112.18 | 109.98 | 99.09 |
| Japan | 33.11 | 22.64 | 36.59 | 51.57 | 64.03 | 70.09 | 100.98 | 61.29 | 79.43 | 109.30 | 114.75 | 110.61 | 104.16 |
| Korea | .. | .. | 36.15 | 50.19 | 62.82 | 70.01 | 98.11 | 61.12 | 78.72 | 108.63 | 113.24 | 108.59 | 101.24 |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Netherlands | 32.80 | 21.83 | 35.02 | 50.00 | 61.47 | 68.74 | 97.89 | 60.54 | 78.55 | 109.19 | 111.54 | 108.55 | 99.22 |
| New Zealand | 32.77 | 21.97 | 41.71 | 56.07 | 67.36 | 73.84 | 105.80 | 65.85 | 80.62 | 112.38 | 117.70 | 113.43 | 105.96 |
| Norway | 33.17 | 18.46 | 39.20 | 53.08 | 58.83 | 70.16 | 80.22 | 69.08 | 81.06 | 111.18 | 108.23 | 109.07 | 101.61 |
| Poland | .. | .. | .. | .. | .. | .. | 94.02 | 60.83 | 77.89 | 109.58 | 109.97 | 107.71 | 96.28 |
| Portugal | 35.45 | 22.75 | 37.89 | 51.94 | 62.77 | 70.23 | 98.83 | 62.49 | 79.13 | 112.33 | 112.21 | 109.74 | 100.22 |
| Slovak Republic | .. | .. | .. | .. | .. | 69.97 | 90.49 | 59.37 | 78.72 | 108.90 | 109.83 | 107.29 | 95.63 |
| Slovenia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Spain | 32.25 | 21.88 | 36.03 | 50.54 | 60.99 | 68.66 | 94.86 | 59.78 | 77.84 | 108.50 | 109.48 | 106.77 | 97.07 |
| Sweden | 32.22 | 23.02 | 36.47 | 51.78 | 62.50 | 70.13 | 95.09 | 60.58 | 79.00 | 110.67 | 112.36 | 109.10 | 97.75 |
| Switzerland | 34.68 | 24.23 | 38.73 | 55.81 | 66.76 | 74.92 | 101.03 | 63.27 | 80.92 | 112.51 | 111.30 | 110.35 | 101.91 |
| Turkey | .. | 23.11 | 34.90 | 50.65 | 61.48 | 68.59 | 98.07 | 61.27 | 78.26 | 109.81 | 111.70 | 108.37 | 99.71 |
| United Kingdom | 31.22 | 22.92 | 37.75 | 53.79 | 65.00 | 73.80 | 99.34 | 62.39 | 80.60 | 113.49 | 112.62 | 110.27 | 100.07 |
| United States | 33.39 | 21.07 | 35.86 | 48.82 | 59.17 | 66.77 | 94.97 | 58.83 | 76.02 | 102.43 | 101.16 | 97.25 | 89.43 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336456*

## Crude oil spot prices

*US dollars per barrel*




1 2 *http://dx.doi.org/10.1787/888933335315*

# GOODS TRANSPORT

There is an increasing demand for data on the transport sector to assess its various impacts on the economy, the environment and societies. However comparability of transport data between countries is not always possible worldwide due to the lack of harmonised definitions and methods. The Glossary for Transport Statistics (4th edition) provides common definitions to all member states of the European Union, the International Transport Forum and the United Nations Economic Commission for Europe.

## Definition

Goods transport data refer to the total movement of goods using inland transport modes (rail, road, inland waterways and pipelines) on a given network. Data are expressed in tonne-kilometres which represents the transport of one tonne over one kilometre. The distance to be taken into consideration is the distance actually run.

## Comparability

The International Transport Forum collects, on an annual basis from all its member countries, data on transport statistics. Data are collected from Transport Ministries, national statistics offices and other institution designated as official data sources.

Transport is classified as national if both loading and unloading take place in the same country. If one of them occurs in another country then the transport is considered as international. The statistics on international road transport, based on the nationality concept are different for statistics for other modes that are based on the territoriality concept.

Statistics based on the territoriality concept reflect the goods and the vehicles entering or leaving a country irrespective of the nationality of the transporting vehicle. Statistics based on the nationality concept only reflect the vehicles registered in the reporting country.

Although there are clear definitions for all the terms used in transport statistics, countries might have different methodologies to calculate tonne-kilometre. Methods could be based on traffic or mobility surveys, use very different sampling methods and estimating techniques which could affect the comparability of their statistics.

The aggregate "EU28" does not include Cyprus, and for OECD neither Chile nor Israel are included.

In case of missing data for a country, the ITF can calculate estimates based generally on the growth rates of the relevant region to calculate aggregated trends.

### *Overview*

If global freight volumes transported by sea and air rebounded strongly, following the 2008 economic crisis and the collapse of world trade for rail and road freight the recovery has been slower, reflecting domestic economic performance more than trade.

After having been hit severely by the economic crisis, OECD rail freight transport volumes continued to recover and remain above their pre-crisis levels. If OECD rail freight volumes increased by 1.1% in 2014 when compared to the previous year, in the European Union, rail freight volume stagnated (0.3%) during the same period to a level slightly over 405 billion ton-kilometres. This is still 8% below their level in 2008. In Russia, rail freight volumes continued to increase in 2014 (4.7%) with more than 2.3 billion ton-kilometres, a level that is 8.7 % above pre-crisis volumes.

Road freight transport suffered in 2009 and recovery in road freight has been slow. Road transport data for 2014 show an overall stagnation when compared to 2013 levels however volumes remain above their 2008 levels (3.4% for the OECD). The increase in activity, expressed in ton-kilometres, was 0.3 % for both the OECD and the EU in 2014 when compared with the previous year. However road freight activity in the emerging economies continued to increase throughout the 2008-14 period.

## *Sources*

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## *Further information*

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## Inland goods transport

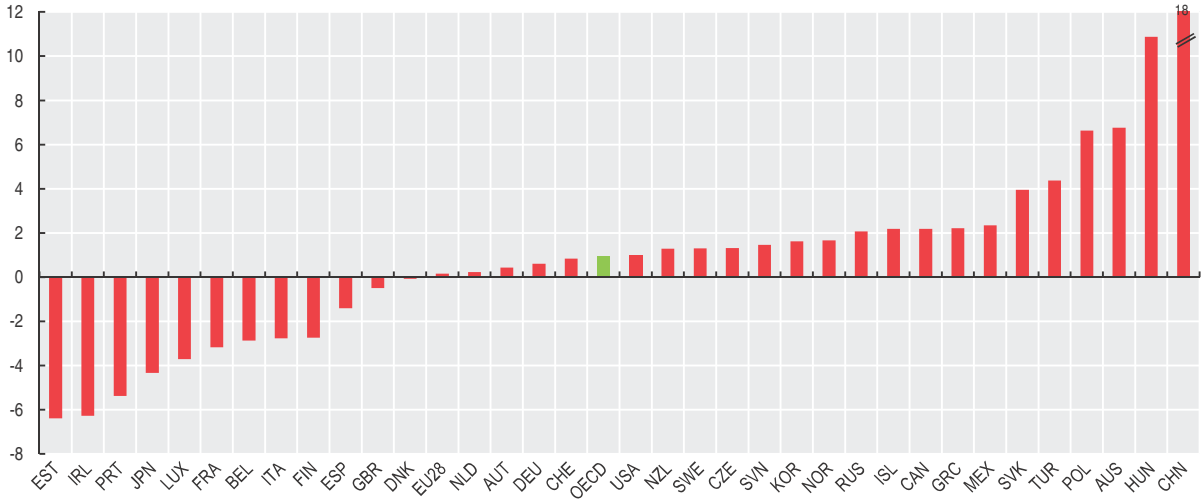
*Billion tonne-kilometres*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 294.2 | 311.1 | 326.5 | 348.0 | 359.1 | 376.4 | 404.6 | 418.7 | 444.0 | 479.6 | 517.5 | 551.6 | 588.4 |
| Austria | 45.8 | 45.0 | 45.7 | 44.5 | 49.9 | 49.8 | 50.0 | 43.4 | 45.7 | 46.7 | 45.0 | 45.6 | 47.5 |
| Belgium | 70.5 | 67.7 | 65.6 | 62.1 | 62.1 | 60.7 | 57.0 | 50.7 | 50.9 | 50.5 | .. | .. | .. |
| Canada | 403.0 | 434.8 | 497.5 | 507.9 | 520.9 | 523.5 | 513.0 | 479.4 | 523.8 | 561.1 | 591.0 | 604.5 | .. |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 63.2 | 64.8 | 63.4 | 61.4 | 69.2 | 67.4 | 69.5 | 60.5 | 68.5 | 71.8 | 68.1 | 71.5 | 71.4 |
| Denmark | 18.1 | 18.2 | 17.9 | 18.2 | 18.3 | 18.2 | 16.8 | 15.6 | 16.4 | 17.9 | 17.6 | 17.4 | 17.8 |
| Estonia | 14.1 | 16.1 | 17.3 | 16.5 | 16.0 | 14.9 | 13.0 | 11.2 | 12.2 | 12.2 | 10.9 | 10.7 | 9.6 |
| Finland | 37.8 | 41.1 | 42.5 | 41.6 | 40.9 | 40.4 | 41.9 | 36.6 | 40.2 | 36.4 | 34.9 | 34.0 | 33.1 |
| France | 266.5 | 265.0 | 270.3 | 261.5 | 270.2 | 278.3 | 264.4 | 225.1 | 230.0 | 237.3 | 221.3 | 216.8 | 210.6 |
| Germany | 440.9 | 444.3 | 470.1 | 486.4 | 516.8 | 538.6 | 536.9 | 474.9 | 499.0 | 507.8 | 491.9 | 496.6 | .. |
| Greece | 15.0 | 15.2 | 16.1 | 16.5 | 17.2 | 18.2 | 17.7 | 17.5 | 20.7 | 20.8 | 20.7 | 19.4 | 19.6 |
| Hungary | 31.5 | 33.0 | 36.7 | 41.9 | 48.4 | 53.9 | 53.5 | 50.1 | 50.5 | 51.1 | 50.7 | 53.2 | 55.3 |
| Iceland | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Ireland | 14.9 | 16.3 | 17.7 | 18.5 | 17.9 | 19.3 | 17.4 | 12.1 | 11.0 | 10.0 | 10.0 | 9.2 | 9.9 |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 193.9 | 176.4 | 192.3 | 205.3 | 189.9 | 187.2 | 198.7 | 184.7 | 191.7 | 165.0 | 148.5 | 149.3 | .. |
| Japan | 334.2 | 344.7 | 350.1 | 357.8 | 369.7 | 378.1 | 368.7 | 355.2 | 266.6 | 254.0 | 230.4 | 235.2 | .. |
| Korea | 102.8 | 109.4 | 111.7 | 111.0 | 119.6 | 116.1 | 113.0 | 108.4 | 112.3 | 114.5 | 118.6 | 129.0 | .. |
| Luxembourg | 10.4 | 10.5 | 10.9 | 9.6 | 9.7 | 9.9 | 10.2 | 8.9 | 9.3 | 9.4 | 7.2 | 7.7 | .. |
| Mexico | 244.5 | 249.3 | 254.2 | 276.4 | 283.1 | 299.6 | 301.9 | 280.8 | 299.1 | 306.6 | 312.8 | 313.1 | .. |
| Netherlands | 81.3 | 83.9 | 89.8 | 88.9 | 89.1 | 90.7 | 91.7 | 80.5 | 94.3 | 95.0 | 93.1 | 91.6 | 91.7 |
| New Zealand | 20.5 | 21.1 | 23.1 | 23.2 | 23.2 | 23.8 | 25.5 | 21.6 | 24.0 | 24.7 | 25.5 | 25.9 | .. |
| Norway | 19.0 | 20.4 | 22.7 | 23.7 | 23.9 | 24.1 | 25.2 | 23.6 | 24.3 | 23.8 | 24.3 | 25.8 | 26.4 |
| Poland | 150.1 | 160.3 | 188.5 | 196.2 | 216.7 | 238.6 | 248.8 | 259.0 | 288.2 | 297.0 | 305.4 | 331.5 | 335.8 |
| Portugal | 32.3 | 29.5 | 43.7 | 45.6 | 48.0 | 49.5 | 41.9 | 37.9 | 37.3 | 40.2 | 32.5 | 39.2 | .. |
| Slovak Republic | 25.9 | 27.5 | 28.9 | 32.7 | 33.0 | 37.7 | 39.5 | 35.3 | 36.7 | 37.9 | 38.1 | 39.5 | 41.0 |
| Slovenia | 5.0 | 5.3 | 5.4 | 5.6 | 5.7 | 6.2 | 6.2 | 4.9 | 5.7 | 5.9 | 5.3 | 5.7 | 6.2 |
| Spain | 204.6 | 212.3 | 241.1 | 254.1 | 262.6 | 278.9 | 262.4 | 227.5 | 226.1 | 223.5 | 215.6 | 208.7 | 212.3 |
| Sweden | 51.0 | 51.6 | 53.5 | 56.4 | 57.7 | 59.6 | 60.9 | 52.5 | 56.2 | 56.3 | 59.3 | 59.6 | 60.1 |
| Switzerland | 25.5 | 25.8 | 27.1 | 27.6 | 29.0 | 29.1 | 29.6 | 27.6 | 28.2 | 29.1 | 28.3 | 29.2 | .. |
| Turkey | 205.8 | 179.0 | 178.2 | 181.7 | 192.9 | 204.1 | 229.1 | 231.9 | 241.5 | 259.4 | 265.2 | 261.9 | 261.8 |
| United Kingdom | 183.9 | 186.4 | 194.3 | 199.2 | 200.0 | 204.7 | 193.0 | 170.3 | 182.8 | 185.5 | .. | .. | .. |
| United States | 7 250.9 | 7 297.5 | 7 373.6 | 7 475.7 | 7 556.7 | 7 584.5 | 7 882.9 | 7 122.5 | 7 441.4 | 7 730.3 | .. | .. | .. |
| EU 28 | 2 082.6 | 2 108.0 | 2 266.4 | 2 342.1 | 2 424.6 | 2 516.7 | 2 482.4 | 2 213.8 | 2 329.5 | 2 344.7 | 2 286.2 | .. | .. |
| OECD | 10 857.4 | 10 964.0 | 11 277.1 | 11 496.3 | 11 718.0 | 11 882.9 | 12 185.6 | 11 129.7 | 11 579.4 | 11 962.0 | 12 287.6 | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 2 890.2 | 3 149.6 | 3 711.8 | 4 162.8 | 4 616.8 | 5 261.7 | 7 733.0 | 8 248.3 | 9 566.0 | 10 979.5 | 12 022.8 | 16 815.1 | .. |
| India | .. | .. | .. | 1 176.1 | 1 335.5 | 1 471.5 | 1 581.6 | 1 739.6 | 1 881.1 | 2 018.6 | 2 092.7 | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 2 657.9 | 2 925.4 | 3 192.4 | 3 295.2 | 3 390.1 | 3 523.1 | 3 509.1 | 3 220.9 | 3 387.6 | 3 529.9 | 3 739.6 | 3 750.3 | 3 840.1 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336731*

## Inland goods transport

*Average annual growth rate in percentage, 2004-14 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335666*

# PASSENGER TRANSPORT

Although some studies have suggested a saturation of passenger travel by car in some developed countries, the demand for passenger mobility continues to increase worldwide. There is a need for good and comprehensive data on passenger mobility in order to develop sustainable passenger mobility systems. Comparability of transport data between countries is not always possible worldwide due to the lack of harmonised definitions and methods. The Glossary for Transport Statistics (4th edition) provides common definitions to all member states of the European Union, the International Transport Forum and the United Nations Economic Commission for Europe.

## Definition

Passenger transport data refer to the total movement of passengers using rail or road (passenger cars, buses or coaches) transport modes. Data are expressed in passenger-kilometres which represents the transport of one passenger over one kilometre. The distance to be taken into consideration is the distance actually run.

## Comparability

Although there are clear definitions for all the terms used in transport statistics, countries might have different methodologies to calculate passenger-kilometres. Methods could be based on traffic or mobility surveys, use very different sampling methods and estimating techniques which could affect the comparability of their statistics.

If passenger transport by rail or by regular buses and coaches can be estimated fairly easily, passengers transport by passenger car or by un-schedule coaches are much more difficult to track down. Some countries do not report passenger car transport at all, others carry out different types of surveys to estimate passenger travel on their territory. There is no common methodology for this and since no method provides a complete vision of passenger movements, data are not always comparable between countries.

The aggregate "EU28" does not include Cyprus, and for OECD neither Chile nor Israel are included.

In case of missing data for a country, estimates are based generally on the growth rates of the relevant region. These estimates are used solely to calculate aggregated trends in graphic representations and are not shown at the individual country level.

### *Overview*

The economic crisis had a relatively small impact on rail passenger transport. If rail passenger-kilometres fell in 2009 in the OECD and the EU, volumes have recovered since then and in 2014 they are above pre-crisis levels by 3.9% and 6.3% respectively. However there are marked differences between countries. Indeed, some European countries showed a decrease in their rail passenger traffic in 2014, notably in the Netherlands (minus 8.4%), Slovenia (minus 8.3%) and Poland (minus 4.7%). A few countries resisted the otherwise downward trend; Ireland (8.0%), Portugal (5.6%), the United Kingdom (4.4%) and the Czech Republic (2.6%). Outside Europe, rail passenger-kilometres for Russia dropped by 6.1% in 2014 when compared to the previous year. Rail passenger-kilometres continues to show strong growth in China (8.0%) and India (6.9%) which account for nearly 70% of the estimated global rail passenger transport.

However, there continue to be marked differences in the EU. In France and Germany, passenger-kilometres have remained consistently above their pre-crisis levels. Passenger transport by rail in the United Kingdom has experienced continuous growth in volumes whereas passenger traffic in Italy, which had deteriorated since the economic crisis, shows an increase in trend since 2013, but still remains below pre-crisis levels.

Data on passenger-kilometres travelled in passenger cars are less detailed and less up to date in many countries. Within the EU, the decline was on average 0.5% in the 15 countries where data are available for 2014. In the United States, passenger travel by car fell 0.6% in 2013 when compared to 2012.

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- OECD and ITF (2010), *Improving Reliability on Surface Transport Networks*, OECD Publishing.

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## Inland passenger transport

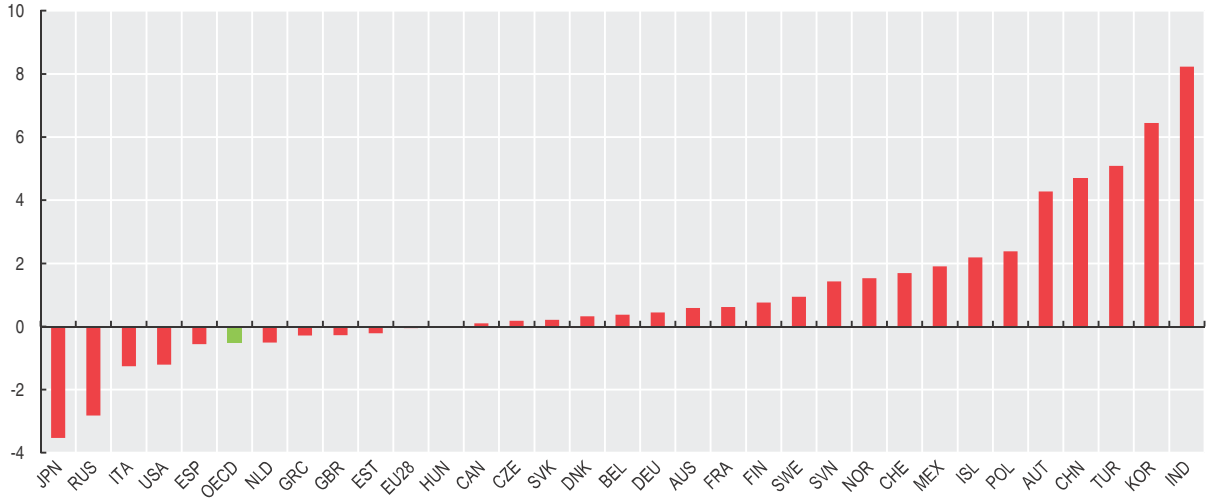
*Billion passenger-kilometres*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 272.4 | 279.0 | 291.0 | 291.8 | 287.8 | 292.0 | 294.9 | 294.8 | 296.7 | 300.0 | 302.8 | 304.9 | 306.7 |
| Austria | 8.3 | 8.2 | 8.3 | 8.5 | 9.3 | 9.6 | 10.8 | 10.7 | 10.3 | 10.9 | 11.3 | 11.9 | 12.1 |
| Belgium | 132.2 | 133.0 | 135.5 | 136.1 | 137.6 | 140.7 | 139.1 | 140.6 | 140.3 | 144.2 | 140.1 | .. | .. |
| Canada | 494.6 | 486.4 | 489.8 | 514.2 | 511.6 | 504.9 | 494.0 | 494.4 | .. | .. | .. | .. | .. |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 81.6 | 83.3 | 82.7 | 83.9 | 86.1 | 88.0 | 88.6 | 88.3 | 81.0 | 81.5 | 80.5 | 81.3 | 84.1 |
| Denmark | 69.2 | 69.9 | 71.5 | 71.7 | 72.5 | 74.2 | 74.3 | 73.6 | 73.2 | 73.5 | 74.1 | 74.6 | 73.7 |
| Estonia | 2.8 | 2.8 | 2.9 | 3.2 | 3.4 | 3.2 | 3.0 | 2.6 | 2.5 | 2.5 | 2.7 | 2.8 | 2.9 |
| Finland | 69.3 | 70.6 | 71.9 | 72.9 | 73.5 | 75.1 | 75.0 | 75.7 | 76.2 | 76.9 | 76.8 | 76.7 | 76.9 |
| France | 912.2 | 917.7 | 923.3 | 919.2 | 924.2 | 938.6 | 934.8 | 937.3 | 946.2 | 952.5 | 955.4 | 964.2 | 970.5 |
| Germany | 1 001.9 | 996.5 | 1 024.4 | 1 016.2 | 1 024.0 | 1 026.9 | 1 033.4 | 1 041.9 | 1 046.8 | 1 057.8 | 1 061.1 | 1 066.1 | .. |
| Greece | 43.6 | 43.6 | 44.3 | 44.3 | 44.1 | 44.5 | 43.8 | 43.6 | 43.5 | 43.1 | 43.1 | .. | .. |
| Hungary | 75.2 | 76.4 | 78.1 | 76.5 | 79.2 | 79.2 | 79.3 | 78.6 | 76.5 | 76.3 | 76.5 | 76.6 | 77.9 |
| Iceland | 4.6 | 4.7 | 4.9 | 5.1 | 5.5 | 5.7 | 5.6 | 5.6 | 5.6 | 5.4 | 5.5 | 5.6 | 5.9 |
| Ireland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 854.6 | 854.5 | 865.1 | 828.1 | 829.5 | 829.5 | 828.3 | 869.7 | 847.8 | 814.6 | 726.7 | 771.7 | .. |
| Japan | 1 337.7 | 1 339.2 | 1 333.0 | 1 324.2 | 1 313.6 | 1 324.6 | 1 310.5 | 1 292.5 | 1 100.7 | 953.4 | 964.7 | .. | .. |
| Korea | 296.9 | 289.8 | 242.9 | 255.4 | 260.4 | 260.9 | 364.3 | 366.3 | 437.2 | 426.4 | 425.6 | 426.3 | .. |
| Luxembourg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mexico | 393.3 | 399.1 | 410.1 | 423.0 | 437.1 | 450.0 | 464.0 | 437.3 | 452.9 | 466.5 | 481.7 | 485.8 | .. |
| Netherlands | 175.1 | 176.2 | 181.5 | 179.6 | 179.5 | 182.2 | 178.5 | 172.7 | 166.7 | 173.1 | 173.4 | .. | .. |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 60.6 | 60.9 | 61.7 | 61.3 | 62.3 | 64.0 | 65.2 | 65.8 | 65.8 | 66.8 | 67.7 | 68.5 | 70.7 |
| Poland | 208.6 | 212.6 | 216.6 | 219.6 | 223.8 | 229.8 | 240.5 | 245.3 | 248.4 | 256.1 | 265.7 | 267.7 | .. |
| Portugal | 99.5 | 100.1 | 101.4 | 101.3 | 101.1 | 101.7 | 101.0 | .. | .. | .. | .. | .. | .. |
| Slovak Republic | 35.9 | 35.3 | 34.4 | 35.7 | 35.9 | 35.9 | 35.3 | 34.0 | 34.3 | 34.7 | 34.7 | 34.8 | 35.1 |
| Slovenia | 25.4 | 25.6 | 26.0 | 26.3 | 26.9 | 28.4 | 28.9 | 29.8 | 29.6 | 29.6 | 29.6 | .. | .. |
| Spain | 383.8 | 392.3 | 404.0 | 412.6 | 412.4 | 424.3 | 427.4 | 430.6 | 415.0 | 412.6 | 398.1 | 392.2 | 384.3 |
| Sweden | 123.9 | 124.7 | 125.1 | 125.6 | 125.9 | 129.0 | 128.4 | 128.7 | 128.3 | 129.9 | 130.6 | 128.7 | 136.2 |
| Switzerland | 96.2 | 97.3 | 98.5 | 100.1 | 101.4 | 103.2 | 104.7 | 107.4 | 109.4 | 111.0 | 112.8 | 114.6 | .. |
| Turkey | 168.5 | 170.2 | 179.5 | 187.2 | 192.9 | 214.7 | 211.2 | 217.8 | 232.4 | 248.1 | 263.5 | 272.0 | 280.5 |
| United Kingdom | 752.7 | 753.5 | 755.5 | 752.3 | 758.2 | 762.8 | 759.9 | 755.8 | 742.0 | 740.3 | 742.1 | 737.2 | .. |
| United States | 5 640.7 | 5 680.6 | 5 765.9 | 5 788.2 | 5 695.1 | 5 855.6 | 5 663.2 | 5 007.5 | 5 009.6 | 5 057.1 | 5 127.7 | 5 166.9 | .. |
| EU 28 | 5 018.3 | 5 041.7 | 5 121.1 | 5 093.8 | 5 132.3 | 5 187.9 | 5 195.4 | 5 242.2 | 5 194.1 | 5 179.7 | 5 099.3 | .. | .. |
| OECD | 13 721.7 | 13 783.8 | 13 928.4 | 13 962.8 | 13 913.7 | 14 177.5 | 14 086.9 | 13 453.6 | 13 326.0 | 13 239.7 | 13 272.7 | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 1 277.5 | 1 248.4 | 1 446.1 | 1 535.4 | 1 675.3 | 1 872.3 | 2 025.5 | 2 139.0 | 2 378.3 | 2 637.3 | 2 828.0 | 2 184.7 | .. |
| India | 3 330.0 | 3 611.2 | 4 044.7 | 4 867.6 | 5 240.8 | 5 630.0 | 6 034.0 | 6 459.5 | 6 918.5 | 7 397.5 | 7 923.0 | 8 434.0 | 9 010.0 |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 323.3 | 323.4 | 332.7 | 314.2 | 313.5 | 323.8 | 327.8 | 292.8 | 279.4 | 278.1 | 277.7 | 263.3 | 257.3 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336749*

## Inland passenger transport

*Average annual growth rate in percentage, 2004-14 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335675*

# ROAD FATALITIES

The number of road motor vehicles is high amongst member countries of the International Transport Forum and reducing road accidents is a concern for all governments. Such concern becomes more challenging with increasing needs for more mobility.

## Definition

A road vehicle is a vehicle running on wheels and intended for use on roads, it includes bicycles and road motor vehicles. A road motor vehicle is a road vehicle fitted with an engine whence it derives its sole means of propulsion, and which is normally used for carrying persons or goods or for drawing, on the road, vehicles used for the carriage of persons or goods. They include buses, coaches, trolley buses, goods road vehicles and passenger road motor vehicles. Although tramways (street-cars) are rail borne vehicles they are integrated into the urban road network and considered as road motor vehicles.

Road fatality means any person killed immediately or dying within 30 days as a result of a road injury accident. Suicides involving the use of a road motor vehicle are excluded.

## Comparability

Road motor vehicles are attributed to the countries where they are registered while deaths are attributed to the countries in which they occur.

Fatalities per million inhabitants express the mortality rate, or an overall risk of being killed in traffic for a citizen. It can be compared with other causes of death in a country (heart diseases, cancer, HIV, etc.), however when comparing countries road fatality risks, this indicator loses its relevance if countries do not have the same level of motorisation. Fatalities per vehicle-kilometre provides a better measure of fatality risk on road networks, even if it does not take into account non-motorised vehicles such as bicycles, but there is currently no harmonisation in the methodology to calculate distances travelled, and not all countries collect this indicator.

The numbers of vehicles entering the existing stock is usually accurate, but information on the numbers of vehicles withdrawn from use is less certain. Therefore it can only be used to compare safety performance between countries with similar traffic and car use characteristics. In addition it does not take into account non-motorised vehicles such as bicycles.

### *Overview*

The first ten years of the 21st century saw record road safety performance in most countries of the International Transport Forum (ITF). Following three consecutive years of record improvements in 2008, 2009 and 2010, the number of people killed in road accidents continued to fall in 2014 recording a drop of 1.2% in OECD countries (excluding Chile and Israel). However, in 2014 one third of ITF countries reported an increase in road fatalities when compared to 2013, Russia (10.9%), the United Kingdom (4.7%), France (3.5%) and Germany (1.1%) Countries used to good road safety performance might report an increase in road fatalities; this could be explained by the difficulty in improving further an already good level of safety performance.

These overall positive developments should not hide the economic costs and human tragedies behind the data. While high-income countries look back on a record decade in reducing road fatalities, 90% of global road deaths occur in low and middle income countries and estimates put annual world road fatalities above 1.3 million, with 50 million serious injuries.

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## Road fatalities

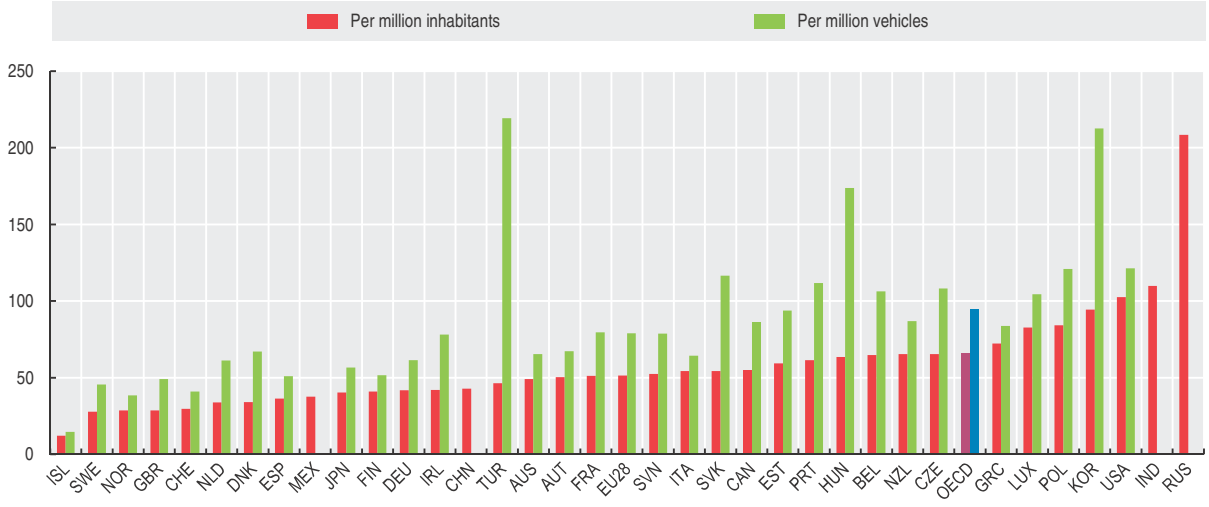
*Per million inhabitants*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 87 | 81 | 79 | 80 | 77 | 77 | 68 | 69 | 61 | 57 | 57 | 51 | 49 |
| Austria | 118 | 115 | 107 | 93 | 88 | 83 | 82 | 76 | 66 | 62 | 63 | 54 | 50 |
| Belgium | 131 | 117 | 112 | 104 | 101 | 100 | 88 | 87 | 77 | 78 | 69 | 65 | .. |
| Canada | 93 | 88 | 85 | 90 | 88 | 84 | 73 | 66 | 66 | 59 | 60 | 55 | .. |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 140 | 142 | 136 | 126 | 104 | 119 | 104 | 86 | 77 | 74 | 71 | 62 | 65 |
| Denmark | 86 | 80 | 68 | 61 | 56 | 74 | 74 | 55 | 46 | 39 | 30 | 34 | .. |
| Estonia | 162 | 120 | 125 | 125 | 151 | 146 | 99 | 75 | 59 | 76 | 66 | 61 | 59 |
| Finland | 80 | 73 | 72 | 72 | 64 | 72 | 65 | 52 | 51 | 54 | 47 | 47 | 41 |
| France | 124 | 97 | 89 | 84 | 74 | 72 | 66 | 66 | 61 | 61 | 56 | 50 | 51 |
| Germany | 83 | 80 | 71 | 65 | 62 | 60 | 55 | 51 | 45 | 49 | 45 | 41 | 42 |
| Greece | 149 | 146 | 151 | 149 | 149 | 144 | 139 | 130 | 113 | 103 | 89 | 79 | 72 |
| Hungary | 141 | 131 | 128 | 127 | 129 | 123 | 99 | 82 | 74 | 64 | 61 | 60 | 63 |
| Iceland | 101 | 79 | 79 | 64 | 102 | 48 | 38 | 53 | 25 | 38 | 28 | 46 | 12 |
| Ireland | 96 | 84 | 92 | 95 | 85 | 77 | 62 | 52 | 46 | 41 | 35 | 41 | 42 |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Italy | 122 | 115 | 106 | 100 | 97 | 88 | 80 | 72 | 69 | 65 | 63 | 56 | 54 |
| Japan | 76 | 70 | 67 | 63 | 57 | 52 | 47 | 46 | 45 | 43 | 41 | 40 | .. |
| Korea | 152 | 151 | 137 | 132 | 131 | 127 | 120 | 119 | 111 | 105 | 108 | 101 | 94 |
| Luxembourg | 139 | 117 | 109 | 101 | 91 | 96 | 72 | 96 | 63 | 64 | 64 | 83 | .. |
| Mexico | 46 | 43 | 42 | 43 | 44 | 48 | 47 | 42 | 43 | 37 | 38 | .. | .. |
| Netherlands | 66 | 67 | 54 | 50 | 50 | 48 | 46 | 44 | 39 | 40 | 39 | 34 | 34 |
| New Zealand | 103 | 114 | 106 | 98 | 94 | 100 | 86 | 89 | 86 | 65 | 70 | 57 | 65 |
| Norway | 68 | 61 | 56 | 48 | 52 | 49 | 53 | 44 | 43 | 34 | 29 | 37 | 29 |
| Poland | 152 | 148 | 150 | 143 | 137 | 146 | 143 | 120 | 103 | 110 | 94 | 88 | 84 |
| Portugal | 161 | 148 | 123 | 119 | 92 | 92 | 84 | 70 | 89 | 84 | 68 | 61 | 61 |
| Slovak Republic | 116 | 122 | 113 | 112 | 113 | 123 | 113 | 71 | 65 | 60 | 65 | 46 | 54 |
| Slovenia | 134 | 121 | 137 | 129 | 131 | 145 | 106 | 84 | 67 | 69 | 63 | 61 | 52 |
| Spain | 129 | 128 | 110 | 88 | 92 | 85 | 67 | 59 | 53 | 44 | 41 | 36 | 36 |
| Sweden | 63 | 59 | 53 | 49 | 49 | 51 | 43 | 39 | 28 | 34 | 30 | 27 | 28 |
| Switzerland | 70 | 74 | 69 | 55 | 49 | 51 | 47 | 45 | 42 | 40 | 42 | 33 | 30 |
| Turkey | 63 | 60 | 66 | 67 | 68 | 72 | 60 | 61 | 56 | 52 | 51 | 49 | 46 |
| United Kingdom | 60 | 61 | 56 | 55 | 54 | 50 | 43 | 38 | 30 | 31 | 28 | 28 | 29 |
| United States | 150 | 148 | 146 | 147 | 143 | 137 | 123 | 110 | 107 | 104 | 107 | 103 | 102 |
| EU 28 | 110 | 104 | 97 | 92 | 88 | 86 | 79 | 70 | 63 | 61 | 56 | 51 | .. |
| OECD | 107 | 103 | 99 | 96 | 93 | 90 | 81 | 74 | 70 | 68 | 66 | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | 83 | 76 | 68 | 62 | 55 | 51 | 49 | 46 | 44 | 43 | .. |
| India | 79 | 79 | 83 | 84 | 92 | 99 | 102 | 106 | 112 | 117 | 112 | 110 | 110 |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 229 | 246 | 240 | 237 | 229 | 233 | 210 | 194 | 186 | 196 | 195 | 188 | 208 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336538*

## Road fatalities

*2014 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335413*





# LABOUR

## EMPLOYMENT AND HOURS WORKED

EMPLOYMENT RATES
EMPLOYMENT RATES BY AGE GROUP
PART-TIME EMPLOYMENT
SELF-EMPLOYMENT
EMPLOYMENT BY REGION
HOURS WORKED

## UNEMPLOYMENT

UNEMPLOYMENT RATES
LONG-TERM UNEMPLOYMENT
UNEMPLOYMENT BY REGION

# EMPLOYMENT RATES

Employment rates are a measure of the extent of utilisation of available labour resources. In the short term, these rates are sensitive to the economic cycle, but in the longer term they are significantly affected by government policies with regard to higher education and by policies that facilitate employment of women and disadvantaged groups.

## Definition

Employment rates are calculated as the ratio of the employed to the working age population. Employment is generally measured through household labour force surveys. According to the ILO Guidelines, employed persons are defined as those aged 15 or over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work during the reference week. Those not in employment consist of persons who are classified as either unemployed or inactive, in the sense that they are not included in the labour force for reasons of experiencing difficulty to find a job, study, incapacity or the need to look after young children or elderly relatives or personal choice.

The working age population refers to persons aged 15 to 64.

## Comparability

All OECD countries use the ILO Guidelines for measuring employment. Operational definitions used in national labour force surveys may vary slightly from country to country. Employment levels are also likely to be affected by changes in the survey design, the survey scope and the survey conduct. Despite these changes, employment rate are fairly consistent over time.

There are series breaks due to a major redesign of the national labour force survey in Chile between 2009 and 2010, in Israel between 2011 and 2012 and in Turkey between 2013 and 2014. For Israel there was a change from a quarterly to a monthly survey as well as a change in concept from "civilian" to "total" labour force.

## *Overview*

In 2014, the OECD employment rate was 65.7%, 0.6 percentage point higher than in 2013. Among OECD countries, employment rates ranged from a bit less than 50% in Greece and Turkey to more than 80% in Iceland.

Employment rates for men are higher than those for women in all OECD countries with an average OECD difference of 15.7 percentage points in 2014. However, there are large cross country differences in the employment gaps, which range from less than 5 percentage points in Finland, Sweden, Norway and Iceland (which are also the only four countries where the employment rate for women is above 70%), to more than 20 percentage points in Korea, Chile, Mexico and Turkey (the country with the lowest women's employment rate, at 29.5% in 2014). The employment gap has closed by 3.3 percentage points since 2005 in the OECD area due to an increase in women's employment rates, while those of men declined since the onset of the crisis in late 2007 and in particular in countries hard hit by the crisis. However, compared to 2013, the gap was stable in 2014

Since 2005, the employment rate for women has increased in about three quarters of countries. By contrast, over the same period, almost two-thirds of countries have registered decreasing men's employment rates.

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## Employment rates by gender

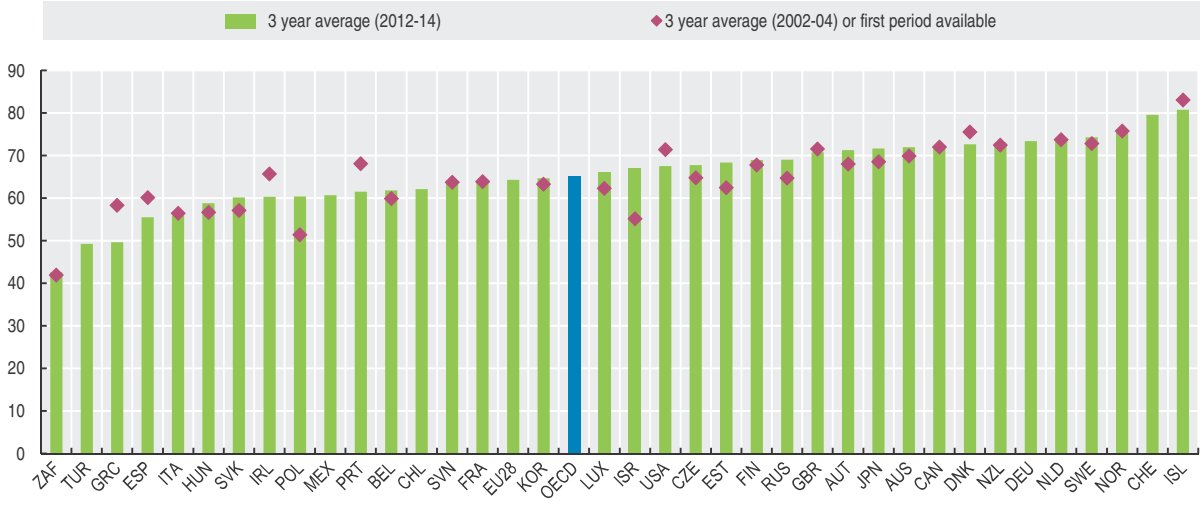
*Share of persons of working age in employment*

| | Women | | | | Men | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2010 | 2013 | 2014 | 2000 | 2010 | 2013 | 2014 | 2000 | 2010 | 2013 | 2014 |
| Australia | 61.3 | 66.1 | 66.4 | 66.1 | 76.9 | 78.6 | 77.6 | 77.1 | 69.1 | 72.4 | 72.0 | 71.6 |
| Austria | 59.6 | 65.7 | 66.9 | 66.9 | 77.4 | 76.0 | 76.0 | 75.3 | 68.5 | 70.8 | 71.4 | 71.1 |
| Belgium | 51.5 | 56.5 | 57.2 | 58.0 | 69.5 | 67.5 | 66.4 | 65.8 | 60.5 | 62.0 | 61.8 | 61.9 |
| Canada | 65.6 | 68.8 | 69.7 | 69.4 | 76.2 | 74.1 | 75.2 | 75.2 | 70.9 | 71.5 | 72.4 | 72.3 |
| Chile | .. | 46.7 | 51.0 | 51.7 | .. | 72.1 | 73.8 | 72.8 | .. | 59.3 | 62.3 | 62.2 |
| Czech Republic | 56.9 | 56.3 | 59.6 | 60.7 | 73.2 | 73.5 | 75.7 | 77.0 | 65.0 | 65.0 | 67.7 | 69.0 |
| Denmark | 71.6 | 71.1 | 70.1 | 69.8 | 80.8 | 75.6 | 75.0 | 75.8 | 76.3 | 73.4 | 72.6 | 72.8 |
| Estonia | 57.4 | 60.8 | 65.7 | 66.3 | 63.4 | 61.7 | 71.4 | 73.0 | 60.3 | 61.3 | 68.5 | 69.6 |
| Finland | 64.2 | 66.9 | 67.8 | 68.0 | 70.1 | 69.4 | 69.9 | 69.5 | 67.2 | 68.2 | 68.9 | 68.7 |
| France | .. | 59.8 | 60.4 | 60.4 | .. | 68.4 | 67.9 | 67.3 | .. | 64.0 | 64.1 | 63.8 |
| Germany | .. | 66.1 | 69.0 | 69.5 | .. | 76.0 | 78.0 | 78.1 | .. | 71.1 | 73.5 | 73.8 |
| Greece | 41.7 | 48.0 | 39.9 | 41.1 | 71.5 | 70.4 | 57.9 | 58.0 | 56.5 | 59.1 | 48.8 | 49.4 |
| Hungary | 49.7 | 50.2 | 52.6 | 55.9 | 63.1 | 59.9 | 63.7 | 67.8 | 56.2 | 55.0 | 58.1 | 61.8 |
| Iceland | .. | 76.2 | 79.0 | 79.3 | .. | 80.1 | 83.2 | 84.0 | .. | 78.2 | 81.1 | 81.6 |
| Ireland | 53.9 | 55.8 | 55.9 | 56.7 | 76.3 | 63.5 | 65.1 | 66.9 | 65.2 | 59.7 | 60.5 | 61.7 |
| Israel | 50.9 | 56.9 | 63.0 | 64.2 | 61.4 | 63.4 | 71.2 | 71.5 | 56.1 | 60.2 | 67.1 | 67.9 |
| Italy | 39.6 | 46.1 | 46.5 | 46.8 | 68.0 | 67.5 | 64.7 | 64.7 | 53.7 | 56.8 | 55.5 | 55.7 |
| Japan | 56.8 | 60.4 | 62.5 | 63.7 | 81.1 | 80.7 | 80.8 | 81.6 | 69.0 | 70.6 | 71.7 | 72.7 |
| Korea | 50.0 | 52.6 | 53.9 | 54.9 | 73.1 | 73.9 | 74.9 | 75.7 | 61.5 | 63.3 | 64.4 | 65.3 |
| Luxembourg | .. | 57.2 | 59.1 | 60.5 | .. | 73.1 | 72.2 | 72.6 | .. | 65.2 | 65.7 | 66.6 |
| Mexico | .. | 43.2 | 45.0 | 44.2 | .. | 77.8 | 78.3 | 78.1 | .. | 59.7 | 60.8 | 60.4 |
| Netherlands | 63.5 | 69.3 | 69.0 | 68.1 | 82.1 | 80.0 | 78.2 | 78.2 | 73.0 | 74.7 | 73.6 | 73.1 |
| New Zealand | 63.1 | 66.5 | 67.7 | 69.1 | 77.8 | 78.2 | 78.3 | 79.7 | 70.3 | 72.2 | 72.8 | 74.2 |
| Norway | 73.7 | 73.3 | 73.5 | 73.4 | 81.3 | 77.3 | 77.3 | 77.0 | 77.5 | 75.3 | 75.4 | 75.2 |
| Poland | 48.9 | 52.6 | 53.4 | 55.2 | 61.2 | 65.3 | 66.6 | 68.2 | 55.0 | 59.0 | 60.0 | 61.7 |
| Portugal | 60.5 | 61.0 | 57.9 | 59.7 | 76.6 | 69.7 | 63.5 | 65.8 | 68.4 | 65.3 | 60.6 | 62.6 |
| Slovak Republic | 51.5 | 52.3 | 53.3 | 54.3 | 62.2 | 65.2 | 66.4 | 67.7 | 56.8 | 58.8 | 59.9 | 61.0 |
| Slovenia | 58.4 | 62.6 | 59.2 | 60.0 | 67.2 | 69.7 | 67.1 | 67.6 | 62.9 | 66.2 | 63.3 | 63.9 |
| Spain | 41.3 | 52.8 | 50.3 | 51.2 | 71.2 | 64.8 | 59.2 | 60.7 | 56.3 | 58.9 | 54.8 | 56.0 |
| Sweden | .. | 69.7 | 72.5 | 73.1 | .. | 74.6 | 76.3 | 76.6 | .. | 72.2 | 74.4 | 74.9 |
| Switzerland | .. | 72.5 | 74.4 | 75.2 | .. | 84.6 | 84.7 | 84.5 | .. | 78.6 | 79.6 | 79.9 |
| Turkey | .. | 26.2 | 29.7 | 29.5 | .. | 66.7 | 69.5 | 69.5 | .. | 46.3 | 49.5 | 49.5 |
| United Kingdom | 64.7 | 64.5 | 65.8 | 67.1 | 77.8 | 74.4 | 75.4 | 76.8 | 71.2 | 69.4 | 70.5 | 71.9 |
| United States | 67.8 | 62.4 | 62.3 | 63.0 | 80.6 | 71.1 | 72.6 | 73.5 | 74.1 | 66.7 | 67.4 | 68.1 |
| EU 28 | .. | 58.2 | 58.8 | 59.6 | .. | 70.1 | 69.4 | 70.1 | .. | 64.1 | 64.1 | 64.8 |
| OECD | .. | 56.5 | 57.4 | 57.9 | .. | 72.6 | 73.1 | 73.6 | .. | 64.5 | 65.1 | 65.7 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 59.3 | 63.3 | 64.4 | 64.8 | 67.6 | 71.6 | 73.6 | 74.3 | 63.3 | 67.3 | 68.8 | 69.3 |
| South Africa | 39.0 | 35.3 | 36.9 | 36.9 | 53.2 | 48.7 | 48.7 | 48.9 | 45.7 | 41.8 | 42.7 | 42.8 |

1 2 *http://dx.doi.org/10.1787/888933336088*

## Employment rates: total

*Share of persons of working age in employment*




1 2 *http://dx.doi.org/10.1787/888933334907*

# EMPLOYMENT RATES BY AGE GROUP

Labour markets differ in how employment opportunities are allocated among people of different ages. Employment rates for people of different ages are significantly affected by government policies with regard to higher education, pensions and retirement age.

Employment rates are shown for three age groups: persons aged 15 to 24 are those just entering the labour market following education; persons aged 25 to 54 are those in their prime working lives; persons aged 55 to 64 are those who are approaching retirement.

## Definition

The employment rate for a given age group is measured as the number of employed people of a given age as a ratio of the total number of people in that same age group.

Employment is generally measured through national labour force surveys. In accordance with the ILO Guidelines, employed persons are those aged 15 or over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work in the reference week. Those not in employment consist of persons who are classified as either unemployed or inactive, in the sense that they are not included in the labour force for reasons of experiencing difficulty to find a job, study, incapacity or the need to look after young children or elderly relatives or personal choice.

## Comparability

Employment levels are likely to be affected by changes in the survey design, the survey scope, the survey conduct and adjustments to the population controls based on census results and intercensal population estimates between censuses. Despite these changes, the employment rates shown here are fairly consistent over time.

There are series breaks due to a major redesign of the national labour force survey in Chile between 2009 and 2010, in Israel between 2011 and 2012 and in Turkey between 2013 and 2014. For Israel there was a change from a quarterly to a monthly survey as well as a change in concept from "civilian" to "total" labour force.

## *Overview*

Employment rates for people aged 25 to 54 (prime-age) are relatively similar between OECD countries, with rates in all countries except Turkey ranging between 62.4% and 86.9% in 2014. Eight countries have prime-age rates below the OECD average whereas the rates are 6 or more percentage points above the average in eleven countries. Cross country differences are larger when looking at the youngest age group (aged 15-24) where, in 2014, employment rates ranged between less than 25% in eight countries – Greece, Italy, Spain, Luxembourg, the Slovak Republic, Portugal, Belgium and Hungary – to over 60% in just two countries – Switzerland and Iceland. Employment rates for the oldest age group (aged 55-64) also vary considerably, between 70% or more in five countries – Switzerland, Norway, Sweden, New Zealand and Iceland – to less than 40% in three countries – Turkey, Greece and Slovenia.

As a consequence of the financial crisis, compared to 2005, prime-age employment rates have fallen quite significantly in a few countries, by more than 5 percentage points in Greece, Spain and Ireland and by 2 to 5 percentage points in Italy, Portugal, Denmark, Iceland, and the United States. The employment rates for older workers increased by 5.6 percentage points on average in the OECD area, between 2005 and 2014, with the largest increases of more than 12 percentage points recorded in Germany, Poland, Austria, Italy, the Netherlands, the Slovak Republic, Chile and Israel.

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- Youth employment and unemployment, *www.oecd.org/employment/emp/action-plan-youth.htm*.



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## Employment rates by age group

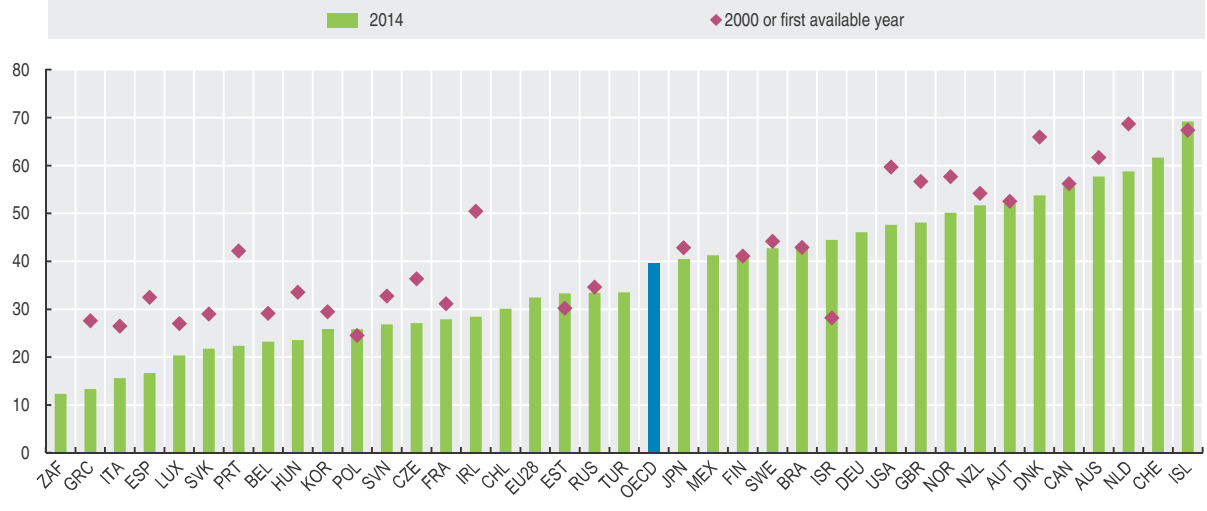
*As a percentage of population in that age group*

| | Persons 15-24 in employment | | | | Persons 25-54 in employment | | | | Persons 55-64 in employment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2014 | 2000 | 2005 | 2010 | 2014 | 2000 | 2005 | 2010 | 2014 |
| Australia | 61.7 | 63.3 | 60.5 | 57.7 | 76.2 | 78.8 | 79.5 | 78.8 | 46.0 | 53.5 | 60.6 | 61.5 |
| Austria | 52.6 | 51.6 | 52.8 | 52.1 | 82.6 | 81.6 | 83.3 | 83.5 | 28.9 | 30.0 | 41.2 | 45.1 |
| Belgium | 29.1 | 27.5 | 25.2 | 23.2 | 77.4 | 78.3 | 80.0 | 79.1 | 26.3 | 31.8 | 37.4 | 42.7 |
| Canada | 56.2 | 57.7 | 54.9 | 55.6 | 79.9 | 81.3 | 80.5 | 81.2 | 48.1 | 54.8 | 58.1 | 60.4 |
| Chile | .. | 25.4 | 30.5 | 30.1 | .. | 67.5 | 72.0 | 74.9 | .. | 51.0 | 58.0 | 64.2 |
| Czech Republic | 36.4 | 27.5 | 25.2 | 27.1 | 81.6 | 82.0 | 82.2 | 83.8 | 36.3 | 44.5 | 46.5 | 54.0 |
| Denmark | 66.0 | 62.3 | 58.1 | 53.8 | 84.1 | 84.5 | 82.8 | 82.0 | 55.7 | 59.5 | 58.5 | 63.2 |
| Estonia | 30.2 | 30.7 | 25.4 | 33.3 | 74.5 | 79.2 | 74.9 | 80.9 | 45.0 | 55.7 | 53.8 | 64.0 |
| Finland | 41.1 | 40.5 | 38.8 | 41.4 | 80.9 | 81.7 | 81.6 | 80.5 | 41.7 | 52.7 | 56.3 | 59.1 |
| France | .. | 30.4 | 30.1 | 27.9 | .. | 80.8 | 82.0 | 79.8 | .. | 38.6 | 39.7 | 46.9 |
| Germany | .. | 41.9 | 46.3 | 46.1 | .. | 77.4 | 81.5 | 83.5 | .. | 45.5 | 57.7 | 65.6 |
| Greece | 27.6 | 25.0 | 20.1 | 13.3 | 70.5 | 74.0 | 73.2 | 62.4 | 38.9 | 42.0 | 42.4 | 34.1 |
| Hungary | 33.5 | 21.8 | 18.3 | 23.5 | 73.0 | 73.7 | 72.5 | 79.3 | 22.2 | 33.0 | 33.6 | 41.8 |
| Iceland | .. | 70.5 | 61.7 | 69.2 | .. | 87.7 | 82.9 | 85.1 | .. | 84.3 | 79.8 | 83.6 |
| Ireland | 50.4 | 48.7 | 31.5 | 28.4 | 75.3 | 78.0 | 70.3 | 72.6 | 45.3 | 51.6 | 50.2 | 53.0 |
| Israel | 28.2 | 26.6 | 27.0 | 44.5 | 70.4 | 70.6 | 73.9 | 78.2 | 46.7 | 52.4 | 59.8 | 65.1 |
| Italy | 26.5 | 25.7 | 20.3 | 15.6 | 68.0 | 72.3 | 71.1 | 67.9 | 27.7 | 31.4 | 36.5 | 46.2 |
| Japan | 42.8 | 40.9 | 38.5 | 40.3 | 78.7 | 79.2 | 80.7 | 82.2 | 62.8 | 63.9 | 66.0 | 68.6 |
| Korea | 29.4 | 29.9 | 23.0 | 25.8 | 72.2 | 73.4 | 73.8 | 75.7 | 57.8 | 58.7 | 60.9 | 65.6 |
| Luxembourg | .. | 24.9 | 21.2 | 20.4 | .. | 80.7 | 82.3 | 83.8 | .. | 31.7 | 39.7 | 42.6 |
| Mexico | .. | 44.6 | 42.5 | 41.2 | .. | 68.9 | 69.1 | 70.1 | .. | 53.2 | 53.5 | 55.0 |
| Netherlands | 68.7 | 65.2 | 63.0 | 58.8 | 81.7 | 82.9 | 84.7 | 81.7 | 38.2 | 46.1 | 53.7 | 59.9 |
| New Zealand | 54.2 | 56.3 | 49.4 | 51.7 | 78.2 | 81.5 | 79.9 | 81.7 | 56.8 | 69.5 | 73.2 | 76.2 |
| Norway | 57.7 | 53.4 | 51.5 | 50.2 | 85.4 | 83.3 | 84.7 | 83.9 | 65.2 | 65.5 | 68.6 | 72.2 |
| Poland | 24.5 | 22.5 | 26.4 | 25.8 | 70.9 | 69.6 | 77.2 | 78.4 | 28.4 | 27.2 | 34.1 | 42.5 |
| Portugal | 42.2 | 35.3 | 27.9 | 22.4 | 81.8 | 80.7 | 79.2 | 77.4 | 50.7 | 50.4 | 49.5 | 47.8 |
| Slovak Republic | 29.0 | 25.6 | 20.7 | 21.8 | 74.7 | 75.3 | 75.8 | 76.8 | 21.4 | 30.3 | 40.6 | 44.8 |
| Slovenia | 32.8 | 34.0 | 34.1 | 26.8 | 82.6 | 83.8 | 83.7 | 81.9 | 22.8 | 30.7 | 35.1 | 35.4 |
| Spain | 32.5 | 38.5 | 25.0 | 16.7 | 68.4 | 74.8 | 70.0 | 67.4 | 37.0 | 43.1 | 43.6 | 44.3 |
| Sweden | .. | 39.0 | 38.8 | 42.8 | .. | 83.5 | 84.0 | 85.4 | .. | 69.5 | 70.5 | 74.0 |
| Switzerland | .. | 59.9 | 62.5 | 61.7 | .. | 85.1 | 85.8 | 86.9 | .. | 65.1 | 68.0 | 71.6 |
| Turkey | .. | .. | 30.0 | 33.5 | .. | .. | 55.4 | 58.8 | .. | .. | 29.6 | 31.4 |
| United Kingdom | 56.7 | 54.3 | 46.8 | 48.1 | 80.2 | 81.3 | 79.8 | 82.1 | 50.7 | 56.8 | 57.2 | 61.0 |
| United States | 59.7 | 53.9 | 45.0 | 47.6 | 81.5 | 79.3 | 75.1 | 76.7 | 57.8 | 60.8 | 60.3 | 61.3 |
| EU 28 | .. | 36.0 | 33.9 | 32.4 | .. | 77.0 | 77.7 | 77.4 | .. | 42.3 | 46.2 | 51.8 |
| OECD | .. | 42.5 | 39.0 | 39.7 | .. | 75.8 | 75.2 | 76.0 | .. | 51.7 | 54.0 | 57.3 |
| Brazil | .. | 43.6 | 46.0 | 43.4 | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 34.6 | 33.1 | 34.2 | 33.4 | 80.2 | 82.9 | 83.6 | 85.7 | 34.8 | 45.9 | 46.7 | 47.4 |
| South Africa | .. | .. | 12.8 | 12.3 | .. | .. | 56.8 | 57.5 | .. | .. | 37.9 | 40.6 |

1 2 *http://dx.doi.org/10.1787/888933336076*

## Employment rates for age group 15-24

*Persons in employment as a percentage of population in that age group*




1 2 *http://dx.doi.org/10.1787/888933334898*

# PART-TIME EMPLOYMENT

Opportunities for part-time work are especially important for people who do not want to work full-time because of family circumstances, such as parents (often woman) with young children and those caring for the elderly. Indeed, recent surveys in a large number of OECD countries show that most people who work part-time do so by choice. This suggests that countries with little part-time employment could foster increased employment by policies that promote the availability of part-time jobs.

## Definition

Part-time employment refers to persons who usually work less than 30 hours per week in their main job. This definition has the advantage of being comparable across countries as national definitions of part-time employment vary greatly from one country to another. Part-time workers include both employees and the self-employed.

### *Overview*

The incidence of part-time employment for the OECD area as a whole was 16.7% in 2014. But this incidence differed significantly across countries. In Australia, the Netherlands and Switzerland, over 25% of all those in employment were working part-time, while this share was under 10% in seven Eastern European countries and below 5% in the Czech Republic, Hungary, and the Slovak Republic. In Russia this rate is also low at 4% and at 8% in South Africa.

In recent years, part-time work has accounted for a substantial share of overall employment growth in many OECD countries. For the OECD as a whole, the incidence of part-time employment increased by close to 3 percentage points between 2002 and 2014, while overall employment rates declined since the onset of the jobs crisis in late 2007. Part-time employment rates grew by 5 percentage points or more in Austria, Japan, Mexico and the Netherlands but also in Greece, Italy, Spain and Ireland that were hard hit by the crisis. The largest increase in part-time employment rates occurred in Austria (9.2 percentage points) which benefited from an overall increase in employment rates of women over the 2002-14 period. In Iceland and Poland as well as in Russia, part-time employment declined, by more than 3 percentage points in 2002-14.

The growth of part-time employment has been especially important for groups that are often under-represented in the labour force such as women – over 5 percentage points in Austria, Greece, Italy, Japan, Korea, Slovenia and Spain; youth – over 20 percentage points in Denmark, Ireland, Slovenia and Spain; and older workers – over 5 percentage points in Austria, Ireland, Italy, Mexico and Spain.

Employment is generally measured through household labour force surveys. According to the ILO Guidelines, employed persons are those aged 15 or over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work in the reference week. The rates shown here refer to the number of persons who usually work less than 30 hours per week in their main job as a percentage of the total number of those in employment.

## Comparability

All OECD countries use the ILO Guidelines for measuring employment. Operational definitions used in national labour force surveys may, however, vary slightly across countries. Employment levels are also likely to be affected by changes in the survey design, the survey scope and the survey conduct. Despite these changes, employment rates are fairly consistent over time. Information on the number of hours usually worked is mostly collected in household labour force surveys. Part-time rates are considered to be of good comparability.

There are two series breaks due a major redesign of the national labour force survey in Chile between 2009 and 2010 and in Israel between 2011 and 2012. For Israel there was a change from a quarterly to a monthly survey as well as a change in concept from “civilian” to “total” labour force.

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- Labour statistics, *www.oecd.org/employment/labour-stats*.

## Incidence of part-time employment

*As a percentage of total employment*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 24.0 | 24.3 | 23.8 | 24.0 | 23.9 | 23.7 | 23.8 | 24.6 | 24.8 | 24.7 | 24.6 | 24.9 | 25.2 |
| Austria | 13.3 | 13.7 | 15.3 | 16.4 | 17.0 | 17.3 | 17.8 | 18.7 | 19.2 | 19.0 | 19.4 | 19.9 | 20.9 |
| Belgium | 17.6 | 18.3 | 18.5 | 18.5 | 18.7 | 18.1 | 18.3 | 18.2 | 18.3 | 18.8 | 18.7 | 18.2 | 18.1 |
| Canada | 18.8 | 19.0 | 18.5 | 18.4 | 18.2 | 18.3 | 18.6 | 19.3 | 19.6 | 19.3 | 19.0 | 19.1 | 19.3 |
| Chile | 5.2 | 5.7 | 6.6 | 7.2 | 7.7 | 8.0 | 9.1 | 10.5 | 17.4 | 17.2 | 16.7 | 16.5 | 17.0 |
| Czech Republic | 2.9 | 3.2 | 3.1 | 3.3 | 3.3 | 3.5 | 3.5 | 3.9 | 4.3 | 3.9 | 4.3 | 4.9 | 4.8 |
| Denmark | 15.5 | 16.2 | 17.0 | 17.3 | 17.9 | 17.3 | 17.8 | 18.8 | 19.2 | 19.2 | 19.4 | 19.2 | 19.7 |
| Estonia | 7.2 | 7.8 | 7.2 | 6.9 | 6.8 | 6.8 | 6.3 | 8.5 | 8.8 | 8.9 | 8.2 | 8.0 | 7.6 |
| Finland | 11.0 | 11.3 | 11.3 | 11.2 | 11.4 | 11.7 | 11.5 | 12.2 | 12.5 | 12.7 | 13.0 | 13.0 | 13.3 |
| France | 13.8 | 13.0 | 13.3 | 13.2 | 13.2 | 13.3 | 12.9 | 13.3 | 13.6 | 13.6 | 13.7 | 14.0 | 14.2 |
| Germany | 18.8 | 19.6 | 20.1 | 21.5 | 21.8 | 22.0 | 21.8 | 21.9 | 21.7 | 22.3 | 22.2 | 22.6 | 22.3 |
| Greece | 5.4 | 5.6 | 5.9 | 6.4 | 7.4 | 7.7 | 7.9 | 8.5 | 8.9 | 9.1 | 9.8 | 10.3 | 11.2 |
| Hungary | 2.6 | 3.2 | 3.3 | 3.2 | 2.7 | 2.8 | 3.1 | 3.5 | 3.7 | 4.8 | 4.8 | 4.6 | 4.2 |
| Iceland | 20.1 | 16.0 | 16.6 | 16.4 | 16.0 | 15.9 | 15.1 | 17.5 | 18.4 | 17.0 | 17.3 | 17.4 | 16.7 |
| Ireland | 18.4 | 18.9 | 18.9 | 19.3 | 19.3 | 19.9 | 20.9 | 23.8 | 24.9 | 25.7 | 25.0 | 24.2 | 23.4 |
| Israel | 15.5 | 15.3 | 15.2 | 15.1 | 15.2 | 14.8 | 14.7 | 14.8 | 14.0 | 13.7 | 15.0 | 14.4 | 14.7 |
| Italy | 11.6 | 11.7 | 14.8 | 14.7 | 15.0 | 15.3 | 16.0 | 15.9 | 16.4 | 16.7 | 17.8 | 18.5 | 18.8 |
| Japan | 17.7 | 18.2 | 18.1 | 18.3 | 18.0 | 18.9 | 19.6 | 20.3 | 20.2 | 20.6 | 20.5 | 21.9 | 22.7 |
| Korea | 7.6 | 7.7 | 8.4 | 9.0 | 8.8 | 8.9 | 9.3 | 9.9 | 10.7 | 13.5 | 10.2 | 11.1 | 10.5 |
| Luxembourg | 12.5 | 13.3 | 13.2 | 13.9 | 12.7 | 13.1 | 13.4 | 16.4 | 15.8 | 16.0 | 15.5 | 15.3 | 15.5 |
| Mexico | 13.5 | 13.4 | 15.1 | 16.8 | 17.0 | 17.6 | 17.6 | 17.9 | 18.9 | 18.2 | 19.4 | 19.0 | 18.7 |
| Netherlands | 33.9 | 34.5 | 35.0 | 35.6 | 35.4 | 35.9 | 36.1 | 36.7 | 37.1 | 37.2 | 37.8 | 38.7 | 38.5 |
| New Zealand | 22.5 | 22.1 | 21.8 | 21.6 | 21.2 | 21.9 | 22.1 | 22.4 | 21.8 | 22.1 | 22.3 | 21.6 | 21.5 |
| Norway | 20.6 | 21.0 | 21.1 | 20.8 | 21.1 | 20.4 | 20.3 | 20.4 | 20.1 | 20.0 | 19.8 | 19.5 | 18.8 |
| Poland | 11.7 | 11.5 | 12.0 | 11.7 | 10.8 | 10.1 | 9.3 | 8.7 | 8.7 | 8.3 | 8.0 | 7.7 | 7.1 |
| Portugal | 9.7 | 10.0 | 9.8 | 9.6 | 9.4 | 10.0 | 9.9 | 9.8 | 9.6 | 11.7 | 12.5 | 12.0 | 11.0 |
| Slovak Republic | 1.6 | 2.2 | 2.6 | 2.4 | 2.4 | 2.4 | 2.6 | 2.9 | 3.7 | 4.0 | 3.8 | 4.3 | 4.9 |
| Slovenia | 4.9 | 5.0 | 7.5 | 7.4 | 7.8 | 7.8 | 7.5 | 8.3 | 9.4 | 8.6 | 7.9 | 8.6 | 9.6 |
| Spain | 7.6 | 7.8 | 8.3 | 10.8 | 10.7 | 10.5 | 10.9 | 11.6 | 12.2 | 12.7 | 13.6 | 14.7 | 14.7 |
| Sweden | 13.8 | 14.1 | 14.4 | 13.5 | 13.4 | 14.4 | 14.4 | 14.6 | 14.5 | 14.3 | 14.3 | 14.3 | 14.2 |
| Switzerland | 24.8 | 25.1 | 24.8 | 25.1 | 25.5 | 25.4 | 25.9 | 26.5 | 26.1 | 25.9 | 26.0 | 26.4 | 26.9 |
| Turkey | 6.6 | 6.0 | 6.1 | 5.6 | 7.6 | 8.1 | 8.5 | 11.1 | 11.5 | 11.7 | 11.8 | 12.3 | 10.6 |
| United Kingdom | 23.1 | 23.4 | 23.4 | 23.0 | 23.2 | 22.9 | 23.0 | 23.9 | 24.6 | 24.7 | 25.0 | 24.6 | 24.1 |
| United States | 13.1 | 13.2 | 13.2 | 12.8 | 12.6 | 12.6 | 12.8 | 14.1 | 13.5 | 12.6 | 13.4 | 12.3 | 12.3 |
| EU 28 | 14.8 | 14.9 | 15.5 | 15.9 | 16.0 | 16.0 | 16.0 | 16.4 | 16.7 | 17.0 | 17.3 | 17.6 | 17.4 |
| OECD | 14.4 | 14.6 | 15.0 | 15.2 | 15.2 | 15.4 | 15.6 | 16.4 | 16.6 | 16.5 | 16.9 | 16.8 | 16.7 |
| Brazil | 17.9 | 18.0 | 18.2 | 19.0 | 19.2 | 18.3 | 18.0 | 17.8 | .. | 16.0 | 16.2 | 16.4 | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 3.8 | 5.3 | 5.4 | 5.6 | 5.3 | 5.1 | 5.0 | 4.7 | 4.3 | 4.1 | 4.1 | 4.3 | 4.0 |
| South Africa | .. | .. | .. | .. | .. | .. | 7.9 | 8.1 | 7.7 | 7.4 | 7.7 | 8.3 | 8.0 |

1 2 *http://dx.doi.org/10.1787/888933336520*

## Incidence of part-time employment

*As a percentage of total employment*




1 2 *http://dx.doi.org/10.1787/888933335407*

# SELF-EMPLOYMENT

Self-employment may be seen either as a survival strategy for those who cannot find any other means of earning an income or as evidence of entrepreneurial spirit and a desire to be one's own boss. Self-employment rates reflect these various motives.

## Definition

Employment is generally measured through national labour force surveys. According to the ILO Guidelines, employed persons are defined as those aged 15 or over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work in the reference week.

Self-employed persons include employers, own-account workers, members of producers' co-operatives, and unpaid family workers. People in the last of these groups do not have a formal contract to receive a fixed amount of income at regular intervals, but they share in the income generated by the enterprise; unpaid family workers are particularly important in farming and retail trade. Note that all persons who work in corporate enterprises, including company directors, are considered to be employees.

Rates are the percentages of the self-employed in total employment.

## Comparability

All OECD countries use ILO Guidelines for measuring employment. Operational definitions used in national labour force surveys may, however, vary slightly across countries. Only unincorporated self-employed are included in self-employed in Australia, Canada and the United States. Employment levels are also likely to be affected by changes in the survey design, questions sequencing and/or the ways in which surveys are conducted. Despite this, self-employment rates are likely to be fairly consistent over time.

## *Overview*

In 2014, the share of self-employed workers in total employment ranged from under 7% in Luxembourg and the United States to well over 30% in Brazil, Greece, Mexico and Turkey. In general, self-employment rates are highest in countries with low per capita income although Italy, with a self-employment rate of around 25%, is an exception. Ireland and Spain also combine high per capita incomes and high self-employment rates.

Over the period 2000-14, self-employment rates have fallen in more than two thirds of countries and by 2.4 percentage points in the OECD area. These falls have mostly occurred prior to the onset of the global financial crisis in late 2007. However the Czech Republic, the Netherlands, Slovenia and the United Kingdom saw moderate to strong increases and the Slovak Republic even had an increase exceeding 7 percentage points, albeit from low levels. Conversely, and starting from a higher level, there have been sharp declines in self-employment rates of 3 percentage points or more in Turkey, Korea, Greece, Portugal, Poland, Mexico and Italy but also in Australia, Hungary, Iceland, Japan, New Zealand, and Switzerland.

Levels and changes in total self-employment rates conceal significant differences between men and women. In 2014, only Mexico and Turkey recorded self-employment rates for women higher than those for men with many of them working as unpaid family workers. In the case of Turkey, almost 40% of all working women are self-employed, albeit down from 64.7% in 2000.

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- SMEs and entrepreneurship, *www.oecd.org/industry/smes*.

## Self-employment rates

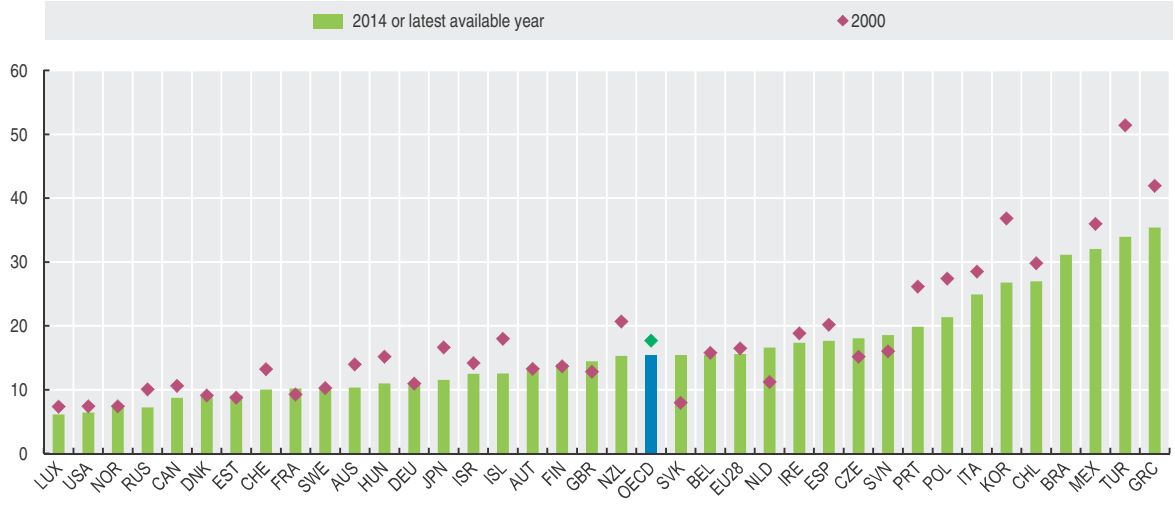
*As a percentage of total employment by gender*

| | Women | | | | Men | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2012 | 2013 | 2014 | 2000 | 2012 | 2013 | 2014 | 2000 | 2012 | 2013 | 2014 |
| Australia | 10.3 | 8.4 | 8.1 | .. | 16.0 | 12.4 | 12.2 | .. | 13.5 | 10.6 | 10.3 | .. |
| Austria | 12.3 | 10.5 | 10.6 | 10.5 | 14.0 | 15.4 | 15.6 | 15.8 | 13.3 | 13.1 | 13.2 | 13.3 |
| Belgium | 13.5 | 10.5 | 10.7 | 12.3 | 17.5 | 17.6 | 18.8 | 18.3 | 15.8 | 14.3 | 15.1 | 15.5 |
| Canada | 9.2 | 8.0 | 8.1 | 8.0 | 11.8 | 9.7 | 9.5 | 9.4 | 10.6 | 8.9 | 8.8 | 8.8 |
| Chile | 24.5 | 24.8 | 25.1 | 25.6 | 32.4 | 25.3 | 25.7 | 26.0 | 29.8 | 25.1 | 25.4 | 25.9 |
| Czech Republic | 10.2 | 13.5 | 13.5 | 12.9 | 19.1 | 22.3 | 21.3 | 22.1 | 15.2 | 18.5 | 17.9 | 18.1 |
| Denmark | 5.7 | 5.6 | 5.6 | .. | 12.1 | 12.3 | 12.1 | .. | 9.1 | 9.1 | 9.0 | .. |
| Estonia | 6.0 | 5.1 | 5.9 | 5.7 | 11.4 | 12.6 | 12.4 | 12.5 | 8.8 | 8.9 | 9.2 | 9.1 |
| Finland | 9.2 | 8.9 | 8.8 | 9.4 | 17.8 | 18.2 | 18.0 | 18.5 | 13.7 | 13.6 | 13.5 | 14.1 |
| France | 7.3 | 7.5 | 7.6 | 7.6 | 10.9 | 12.3 | 12.6 | 12.6 | 9.3 | 10.0 | 10.2 | 10.2 |
| Germany | 7.9 | 8.4 | 8.1 | 8.0 | 13.4 | 14.4 | 14.0 | 13.6 | 11.0 | 11.6 | 11.2 | 11.0 |
| Greece | 39.0 | 31.1 | 31.9 | 29.8 | 43.7 | 40.4 | 40.4 | 39.4 | 42.0 | 36.6 | 36.9 | 35.4 |
| Hungary | 10.5 | 8.7 | 8.2 | 7.8 | 19.1 | 14.5 | 14.0 | 13.7 | 15.2 | 11.8 | 11.3 | 11.0 |
| Iceland | 11.0 | 8.8 | 8.4 | 7.8 | 24.0 | 15.9 | 16.7 | 16.8 | 18.0 | 12.5 | 12.7 | 12.5 |
| Ireland | 8.6 | 7.5 | 8.1 | 7.9 | 25.9 | 24.8 | 24.9 | 25.5 | 18.8 | 16.7 | 17.1 | 17.4 |
| Israel | 9.3 | 8.7 | 9.0 | 9.1 | 18.3 | 16.2 | 15.8 | 15.6 | 14.2 | 12.7 | 12.6 | 12.5 |
| Italy | 22.0 | 18.3 | 18.3 | 18.5 | 32.3 | 30.2 | 30.1 | 29.7 | 28.5 | 25.2 | 25.1 | 24.9 |
| Japan | 18.3 | 10.7 | 10.4 | .. | 15.5 | 12.6 | 12.4 | .. | 16.6 | 11.8 | 11.5 | .. |
| Korea | 38.4 | 26.0 | 25.3 | 24.6 | 35.7 | 29.8 | 29.0 | 28.4 | 36.8 | 28.2 | 27.4 | 26.8 |
| Luxembourg | 6.9 | .. | .. | .. | 7.7 | .. | .. | .. | 7.4 | 6.1 | 6.2 | .. |
| Mexico | 35.2 | 35.1 | 33.8 | 32.7 | 36.4 | 32.8 | 32.5 | 31.7 | 36.0 | 33.7 | 33.0 | 32.1 |
| Netherlands | 9.4 | 11.5 | 12.1 | .. | 12.6 | 18.4 | 19.2 | .. | 11.2 | 15.2 | 15.9 | .. |
| New Zealand | 14.5 | 12.4 | 11.7 | 11.8 | 25.7 | 20.4 | 18.8 | 18.3 | 20.6 | 16.6 | 15.4 | 15.3 |
| Norway | 4.8 | 4.1 | 4.4 | 4.3 | 9.8 | 9.4 | 9.3 | 9.8 | 7.4 | 6.9 | 7.0 | 7.2 |
| Poland | 24.8 | 19.2 | 18.4 | 17.7 | 29.5 | 25.0 | 24.5 | 24.3 | 27.4 | 22.4 | 21.8 | 21.4 |
| Portugal | 24.5 | 17.7 | 17.5 | 14.9 | 27.5 | 26.5 | 26.4 | 24.6 | 26.1 | 22.2 | 22.1 | 19.9 |
| Slovak Republic | 4.6 | 9.9 | 9.8 | 9.9 | 10.8 | 19.8 | 20.2 | 19.7 | 8.0 | 15.5 | 15.6 | 15.4 |
| Slovenia | 13.0 | 12.8 | 13.6 | 16.0 | 18.6 | 19.2 | 19.6 | 20.7 | 16.1 | 16.2 | 16.9 | 18.6 |
| Spain | 16.6 | 12.7 | 13.1 | 13.0 | 22.2 | 21.3 | 22.1 | 21.7 | 20.2 | 17.4 | 17.9 | 17.7 |
| Sweden | 5.7 | 5.9 | 6.2 | 6.2 | 14.5 | 14.6 | 14.5 | 14.1 | 10.3 | 10.5 | 10.6 | 10.3 |
| Switzerland | 12.3 | 10.3 | 10.2 | 10.0 | 13.9 | 10.4 | 10.5 | 10.0 | 13.2 | 10.4 | 10.4 | 10.0 |
| Turkey | 64.7 | 45.7 | 43.4 | 39.8 | 46.5 | 33.5 | 32.7 | 31.5 | 51.4 | 37.1 | 35.9 | 34.0 |
| United Kingdom | 8.3 | 9.6 | 9.6 | .. | 16.7 | 19.0 | 18.7 | .. | 12.8 | 14.6 | 14.4 | .. |
| United States | 6.1 | 5.6 | 5.6 | 5.4 | 8.6 | 7.8 | 7.5 | 7.4 | 7.4 | 6.8 | 6.6 | 6.5 |
| EU 28 | 14.8 | 12.4 | 12.3 | .. | 20.9 | 20.2 | 20.0 | .. | 18.3 | 16.6 | 16.5 | .. |
| OECD | 15.1 | 13.2 | 13.0 | 12.8 | 19.6 | 18.0 | 17.7 | 17.5 | 17.7 | 15.9 | 15.6 | 15.4 |
| Brazil | .. | 27.1 | 26.8 | .. | .. | 34.3 | 34.4 | .. | .. | 31.2 | 31.2 | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 9.7 | 6.0 | 6.4 | 6.3 | 10.5 | 7.8 | 8.1 | 8.1 | 10.1 | 6.9 | 7.3 | 7.2 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336573*

## Self-employment rates: total

*As a percentage of total employment*




1 2 *http://dx.doi.org/10.1787/888933335485*

# EMPLOYMENT BY REGION

Inequalities in economic performance across regions partly reflect the extent to which each region is able to utilise its available labour resources, and especially to increase job opportunities for under-represented groups.

## Definition

Employed persons are all persons who during the reference week of the survey worked at least one hour for pay or profit, or were temporarily absent from such work. The employment rate is the number of employed persons as a percentage of the working age (15-64) population.

## Comparability

As for other regional statistics, comparability is affected by differences in the meaning of the word "region". This results in significant differences in terms of geographic area and population both within and among countries. To address this issue, the OECD has classified regions within each country based on two levels: territorial level 2 (TL2, large regions) and territorial level 3 (TL3, small regions). Labour market data for Canada refers to a different regional grouping, labelled non-official grids (NOG) comparable to TL3. For Brazil, China, Russia and South Africa only large regions have been defined.

Data on employment growth refer to period 2000-14 for all countries, except for Germany and Slovenia, the first available year is 2001, and 2004 for Turkey. Data on employment increase contributed by the top 10% regions include only countries with average positive growth of employment over 2000-14. Greece and Japan are excluded. Denmark is excluded due to lack of data on comparable years.

Data on regional employment growth refer to small regions (TL3), except for Iceland, Israel, Mexico, Poland, Portugal, Slovenia and Russia where it is large regions (TL2).

Data on female employment refer to large regions (TL2).

### *Overview*

Differences in employment opportunities within countries are often larger than across countries. In almost half of the countries, differences in regional employment growth rates across regions were above 2 percentage points over the period 2000-14. Regional differences in employment in OECD countries were the largest in Austria, Poland, Italy, and the United States, and among the emerging economies, Russia.

A small number of regions drive employment creation at the national level. On average, almost half of overall employment creation in OECD countries between 2000 and 2014 was accounted for by just 10% of regions. The regional contribution to national employment creation was particularly concentrated in certain countries. In Greece, Japan, Australia and the United States, more than two-third of employment growth was spurred by 10% of regions.

Comparing the periods before and after the peak of the recent economic crisis, respectively 2000-07 and 2009-14, the regional concentration of employment creation has increased in 20 of the 30 countries, resulting in higher differences in employment among regions.

In one fourth of OECD regions, the difference between employment rates for men and women is higher than 20 percentage points. In 2014, OECD countries with the highest regional disparities of difference in gender employment rates were Mexico, Turkey, Chile, the United States and Israel.

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## *Further information*

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- OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*, OECD Publishing.

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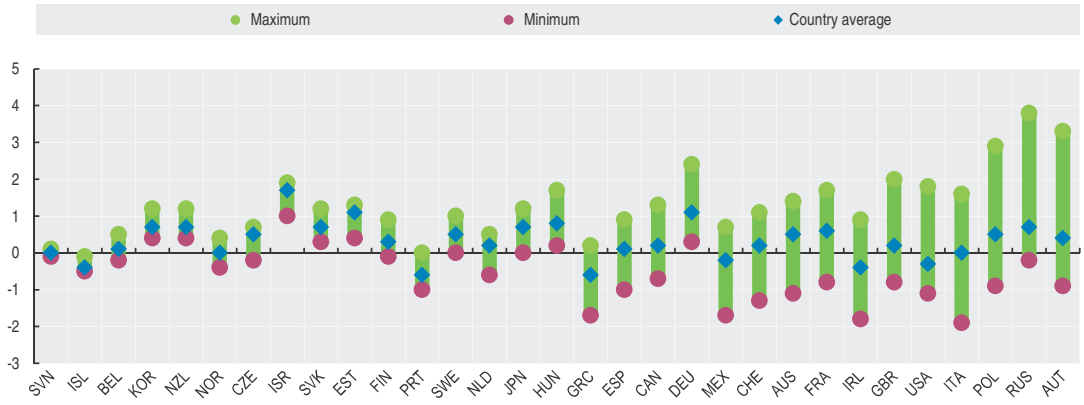
- *OECD Regional Database*.

### *Websites*

- Regional Development, *www.oecd.org/regional/regional-policy*.
- Regions at a Glance Interactive, *http://rag.oecd.org*.

## Differences in annual employment growth across regions

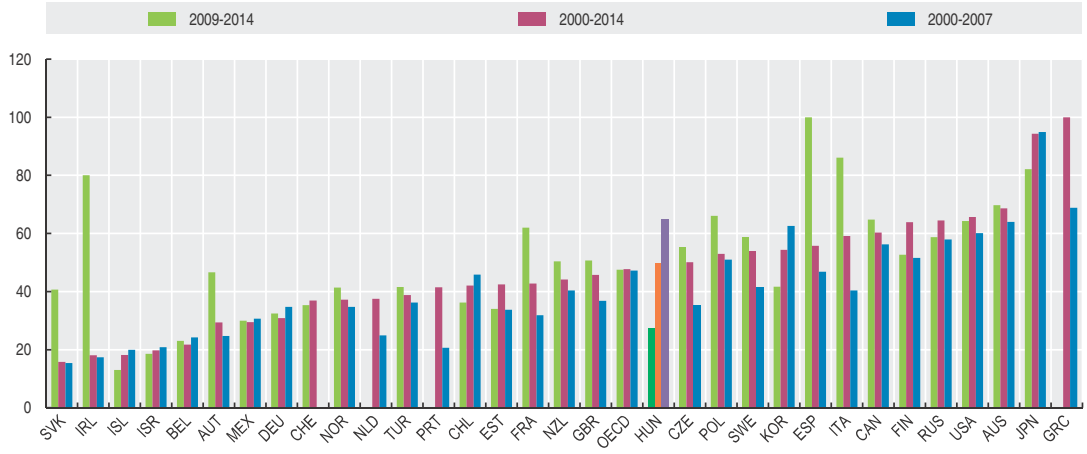
*Percentage, 2014*




1 2 *http://dx.doi.org/10.1787/888933335430*

## Share of national employment growth due to the 10% of most dynamic regions

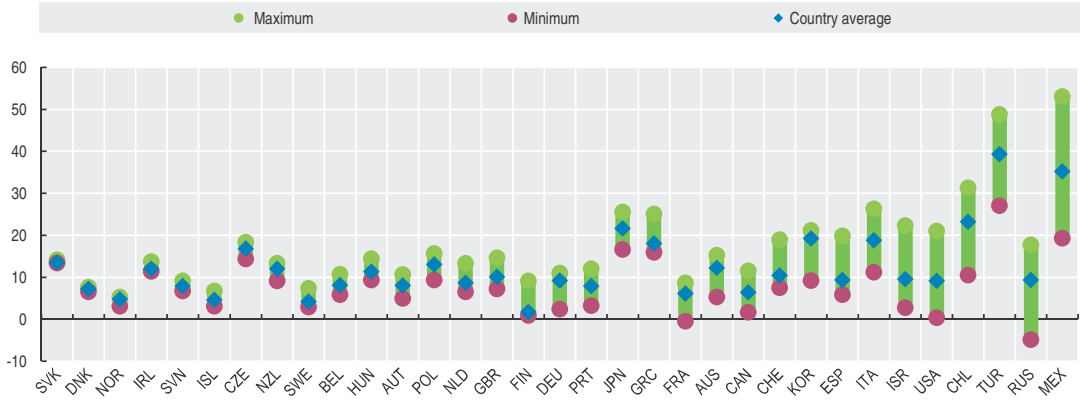
*Percentage*




1 2 *http://dx.doi.org/10.1787/888933335853*

## Regional disparities in the employment rate gender difference (men-women)

*Percentage point, 2014*




1 2 *http://dx.doi.org/10.1787/888933335978*

# HOURS WORKED

Lower hours worked is one of the forms in which the benefits of productivity growth have been shared by people. Hours worked is also one of the ways that labour markets adjust during business cycles. In recent years, governments of several OECD countries have also pursued policies to make it easier for parents to reconcile work and family life, and some of these policies have tended to reduce working time.

## Definition

The average number of hours worked per year is calculated as the total number of hours actually worked over the year divided by the average number of people in employment. The data cover employees and self-employed workers; they include both full-time and part-time employment.

Employment is generally measured through household labour force surveys. In accordance with the ILO Guidelines, employed persons are defined as those aged 15 years or over who report that they have worked in gainful employment for at least one hour in the previous week or were temporarily absent from work.

Estimates of the hours actually worked are based on national labour force surveys in many countries, while others use establishment surveys, administrative records or a combination of sources. Actual hours worked include regular work hours of full-time and part-time workers, over-time (paid and unpaid), hours worked in additional jobs, and time not worked because of public holidays, annual paid leave, illness, maternity and parental leave, strikes and labour disputes, bad weather, economic conditions and several other minor reasons.

## Comparability

Data are based on a range of sources of varying reliability. Annual working hours reported for 34 OECD countries and Russia are provided by national statistical offices and are estimated using the best available sources. These national data are intended for comparisons of trends in productivity and labour inputs (or total hours) and are not fully suitable for inter-country comparisons of the level of hours worked per worker because of differences in their sources and other uncertainties about their international comparability.

### *Overview*

Over the period from 2002 to 2014, average hours worked per employed person have fallen in almost all OECD countries except Norway, the Slovak Republic and Sweden. This decline is more pronounced in two-thirds of countries than the decline in the previous decade, while annual hours worked remained stable in Belgium, the Netherlands, Sweden, the Slovak Republic and the United Kingdom.

For the OECD as a whole, the average hours worked per employed person fell from 1 819 annual hours in 2002 to 1 770 in 2014; this is equivalent to a reduction of more than one hour per week over a year with 45 work weeks. Sharp reductions in annual hours worked over this period occurred in about one-third of OECD countries where they fell by 80 or more hours, with a further decline of 150 or more hours in Korea (minus 340), Chile (minus 260), albeit from high levels, Austria, Hungary, Iceland, Israel, Estonia, Turkey, Italy and Ireland. Most of the decline in hours worked materialised following the onset of the global crisis in ten countries - some hard hit by the crisis, such as Estonia, Greece, Hungary, and Italy, but also Austria, Chile, Korea, Israel, Switzerland and Turkey.

Although one should exercise caution when comparing levels across countries, actual hours worked are significantly above the OECD average, by 200 or more hours, in Mexico, Korea, Greece and Chile and significantly below the OECD average, by 200 or less hours, in Germany, the Netherlands, Norway, Denmark, France, Slovenia and Switzerland.

## *Sources*

- OECD (2015), *OECD Employment Outlook*, OECD Publishing.

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- Online OECD employment database, *www.oecd.org/employment/database*.

## Average hours actually worked

*Hours per year per person in paid employment*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 1 731 | 1 736 | 1 736 | 1 730 | 1 720 | 1 711 | 1 717 | 1 690 | 1 692 | 1 699 | 1 678 | 1 663 | 1 664 |
| Austria | 1 792 | 1 784 | 1 787 | 1 764 | 1 746 | 1 736 | 1 729 | 1 673 | 1 665 | 1 670 | 1 649 | 1 629 | 1 629 |
| Belgium | 1 582 | 1 578 | 1 572 | 1 565 | 1 575 | 1 579 | 1 572 | 1 554 | 1 560 | 1 572 | 1 573 | 1 576 | .. |
| Canada | 1 754 | 1 740 | 1 760 | 1 747 | 1 745 | 1 741 | 1 734 | 1 702 | 1 703 | 1 700 | 1 713 | 1 708 | 1 704 |
| Chile | 2 250 | 2 235 | 2 232 | 2 157 | 2 165 | 2 128 | 2 095 | 2 074 | 2 068 | 2 047 | 2 024 | 2 015 | 1 990 |
| Czech Republic | 1 816 | 1 806 | 1 817 | 1 817 | 1 799 | 1 784 | 1 790 | 1 779 | 1 800 | 1 806 | 1 776 | 1 763 | 1 776 |
| Denmark | 1 487 | 1 482 | 1 481 | 1 474 | 1 479 | 1 456 | 1 450 | 1 446 | 1 436 | 1 455 | 1 443 | 1 438 | 1 436 |
| Estonia | 1 973 | 1 978 | 1 986 | 2 008 | 2 001 | 1 998 | 1 968 | 1 831 | 1 875 | 1 919 | 1 886 | 1 866 | 1 859 |
| Finland | 1 714 | 1 705 | 1 707 | 1 697 | 1 693 | 1 691 | 1 685 | 1 661 | 1 668 | 1 662 | 1 650 | 1 643 | 1 645 |
| France | 1 487 | 1 484 | 1 513 | 1 507 | 1 484 | 1 500 | 1 507 | 1 489 | 1 494 | 1 496 | 1 490 | 1 474 | 1 473 |
| Germany | 1 431 | 1 425 | 1 422 | 1 411 | 1 425 | 1 424 | 1 418 | 1 373 | 1 390 | 1 393 | 1 374 | 1 363 | 1 371 |
| Greece | 2 093 | 2 091 | 2 083 | 2 136 | 2 125 | 2 111 | 2 106 | 2 081 | 2 019 | 2 131 | 2 058 | 2 060 | 2 042 |
| Hungary | 2 005 | 1 978 | 1 986 | 1 987 | 1 984 | 1 979 | 1 982 | 1 963 | 1 958 | 1 976 | 1 889 | 1 880 | 1 858 |
| Iceland | 2 012 | 1 973 | 1 979 | 1 970 | 1 958 | 1 932 | 1 934 | 1 849 | 1 834 | 1 878 | 1 853 | 1 846 | 1 864 |
| Ireland | 1 904 | 1 887 | 1 875 | 1 883 | 1 879 | 1 865 | 1 844 | 1 812 | 1 801 | 1 801 | 1 806 | 1 815 | 1 821 |
| Israel | 1 993 | 1 974 | 1 942 | 1 931 | 1 919 | 1 931 | 1 929 | 1 927 | 1 918 | 1 920 | 1 910 | 1 867 | 1 853 |
| Italy | 1 827 | 1 816 | 1 815 | 1 812 | 1 813 | 1 818 | 1 807 | 1 776 | 1 777 | 1 773 | 1 734 | 1 733 | 1 734 |
| Japan | 1 798 | 1 799 | 1 787 | 1 775 | 1 784 | 1 785 | 1 771 | 1 714 | 1 733 | 1 728 | 1 745 | 1 734 | 1 729 |
| Korea | 2 464 | 2 424 | 2 392 | 2 351 | 2 346 | 2 306 | 2 246 | 2 232 | 2 187 | 2 090 | 2 163 | 2 079 | 2 124 |
| Luxembourg | 1 663 | 1 658 | 1 614 | 1 597 | 1 608 | 1 544 | 1 584 | 1 628 | 1 643 | 1 607 | 1 615 | 1 649 | 1 643 |
| Mexico | 2 271 | 2 277 | 2 271 | 2 281 | 2 281 | 2 262 | 2 260 | 2 253 | 2 242 | 2 250 | 2 226 | 2 237 | 2 228 |
| Netherlands | 1 435 | 1 427 | 1 448 | 1 434 | 1 430 | 1 430 | 1 430 | 1 422 | 1 421 | 1 422 | 1 426 | 1 421 | 1 425 |
| New Zealand | 1 826 | 1 823 | 1 830 | 1 815 | 1 795 | 1 774 | 1 761 | 1 740 | 1 755 | 1 746 | 1 734 | 1 752 | 1 762 |
| Norway | 1 414 | 1 401 | 1 421 | 1 423 | 1 420 | 1 426 | 1 430 | 1 407 | 1 415 | 1 421 | 1 420 | 1 408 | 1 427 |
| Poland | 1 979 | 1 984 | 1 983 | 1 994 | 1 985 | 1 976 | 1 969 | 1 948 | 1 940 | 1 938 | 1 929 | 1 918 | 1 923 |
| Portugal | 1 894 | 1 887 | 1 893 | 1 895 | 1 883 | 1 900 | 1 887 | 1 887 | 1 890 | 1 867 | 1 849 | 1 852 | 1 857 |
| Slovak Republic | 1 754 | 1 698 | 1 742 | 1 769 | 1 774 | 1 791 | 1 793 | 1 780 | 1 805 | 1 793 | 1 789 | 1 772 | 1 763 |
| Slovenia | 1 614 | 1 616 | 1 627 | 1 590 | 1 562 | 1 551 | 1 566 | 1 569 | 1 580 | 1 557 | 1 537 | 1 550 | 1 561 |
| Spain | 1 765 | 1 756 | 1 742 | 1 726 | 1 716 | 1 704 | 1 713 | 1 720 | 1 710 | 1 717 | 1 704 | 1 699 | 1 689 |
| Sweden | 1 595 | 1 582 | 1 605 | 1 605 | 1 599 | 1 612 | 1 617 | 1 609 | 1 635 | 1 632 | 1 618 | 1 607 | 1 609 |
| Switzerland | 1 614 | 1 627 | 1 657 | 1 652 | 1 643 | 1 633 | 1 623 | 1 615 | 1 613 | 1 607 | 1 592 | 1 576 | 1 568 |
| Turkey | 1 943 | 1 943 | 1 918 | 1 936 | 1 944 | 1 911 | 1 900 | 1 881 | 1 877 | 1 864 | 1 855 | 1 832 | .. |
| United Kingdom | 1 684 | 1 674 | 1 674 | 1 673 | 1 669 | 1 677 | 1 659 | 1 651 | 1 652 | 1 625 | 1 654 | 1 669 | 1 677 |
| United States | 1 810 | 1 800 | 1 802 | 1 799 | 1 800 | 1 797 | 1 791 | 1 767 | 1 777 | 1 786 | 1 789 | 1 788 | 1 789 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 1 819 | 1 812 | 1 813 | 1 807 | 1 808 | 1 802 | 1 794 | 1 700 | 1 776 | 1 773 | 1 773 | 1 770 | 1 770 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 1 982 | 1 993 | 1 993 | 1 989 | 1 998 | 1 999 | 1 997 | 1 974 | 1 976 | 1 979 | 1 982 | 1 980 | 1 985 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336245*

## Average hours actually worked

*Hours per year per person in paid employment*




1 2 *http://dx.doi.org/10.1787/888933335059*

# UNEMPLOYMENT RATES

The unemployment rate is one measure of the extent of labour market slack, as well as being an important indicator of economic and social well-being. Breakdowns of unemployment by gender show how women are faring compared to men.

## Definition

Unemployed persons are defined as those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks. The ILO Guidelines specify what actions count as active steps to find work; these include answering vacancy notices, visiting factories, construction sites and other places of work, and placing advertisements in the press as well as registering with labour offices.

The unemployment rate is defined as the number of unemployed persons as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment.

### *Overview*

When looking at total unemployment rates averaged over the three years ending 2014, countries can be divided into three groups: a low unemployment group with rates below 5% (Korea, Norway, Japan, Switzerland and Mexico); a middle group with unemployment rates between 5% and 10%; and a high unemployment group with unemployment rates of 10% and above (Italy, Ireland, the Slovak Republic, Portugal, South Africa, Spain and Greece).

In almost two thirds of countries, unemployment rates decreased in 2014, with marked declines (by more than 1.5 percentage point) in Hungary, Portugal, Ireland and Spain.

The breakdown of unemployment by gender shows that, in line with the overall rate, OECD unemployment rates for both men and women was significantly higher in 2014 than in 2008. The unemployment rate for men, which had been lower than the rate for women in 2008, rose considerably faster and by 2009 was higher than the rate for women. This is first explained by the fact that job losses over the early stages of the crisis were particularly severe in sectors which traditionally have been occupied by men – namely construction, manufacturing and mining and quarrying. Between 2009 and 2010, the rise in the overall OECD unemployment rates decelerated faster for men, and between 2010 and 2014, the men to women unemployment ratio has decreased in about two third of the countries. However, in 2014, the rate for men was still higher than the rate for women in about half of the countries.

When unemployment is high, some persons become discouraged and stop looking for work; they are then excluded from the labour force. This implies that the unemployment rate may fall, or stop rising, even though there has been no underlying improvement in the labour market.

## Comparability

All OECD countries use the ILO Guidelines for measuring unemployment in their national labour force surveys. The operational definitions used in national labour force surveys may, however, vary slightly across countries. Unemployment levels are also likely to be affected by changes in the survey design and the survey conduct. Despite these limits, unemployment rates are of good international comparability and fairly consistent over time.

Unemployment rates differ from rates derived from registered unemployed at labour offices that are often published in individual countries. Data on registered unemployment have limited international comparability, as the rules for registering at labour offices vary from country to country.

There are series breaks due to a major redesign of the national labour force survey in Chile between 2009 and 2010, in Israel between 2011 and 2012 and in Turkey between 2013 and 2014. For Israel there was a change from a quarterly to a monthly survey as well as a change in concept from “civilian” to “total” labour force.

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- Labour statistics, *www.oecd.org/employment/labour-stats*.

## Unemployment rates

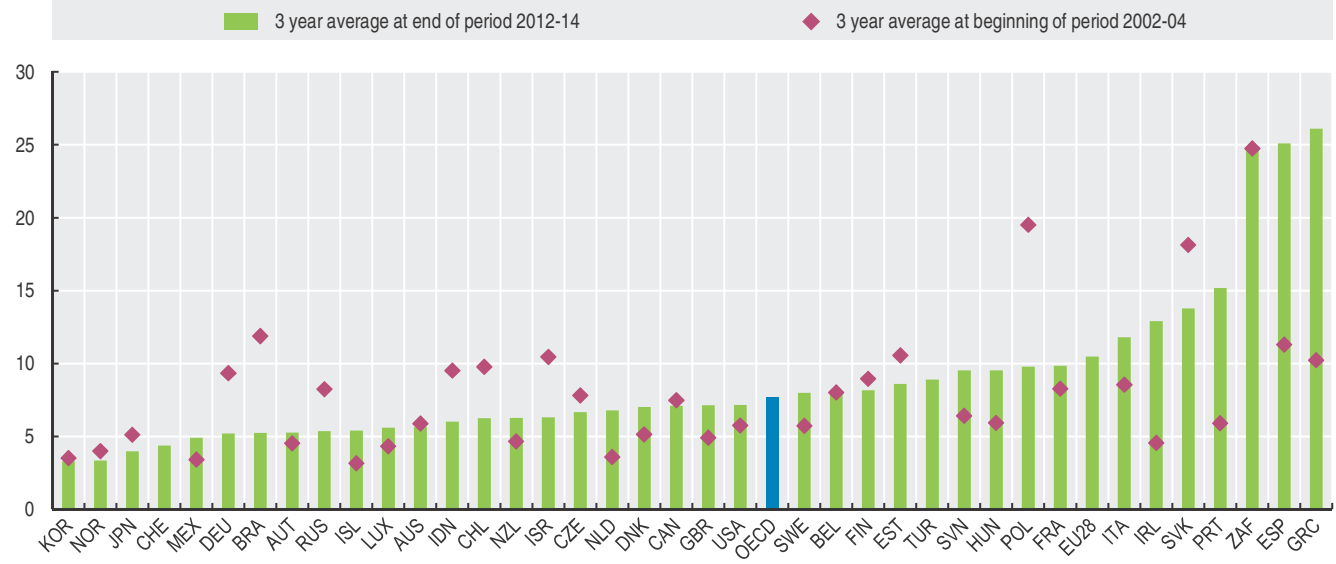
*As a percentage of labour force*

| | Women | | | | Men | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2008 | 2013 | 2014 | 2000 | 2008 | 2013 | 2014 | 2000 | 2008 | 2013 | 2014 |
| Australia | 6.1 | 4.6 | 5.6 | 6.2 | 6.5 | 4.0 | 5.7 | 6.0 | 6.3 | 4.2 | 5.7 | 6.1 |
| Austria | 3.8 | 4.4 | 5.3 | 5.4 | 3.3 | 3.9 | 5.4 | 5.8 | 3.5 | 4.1 | 5.3 | 5.6 |
| Belgium | 8.7 | 7.6 | 8.2 | 7.9 | 5.8 | 6.5 | 8.6 | 9.0 | 7.0 | 7.0 | 8.4 | 8.5 |
| Canada | 6.7 | 5.6 | 6.6 | 6.4 | 7.0 | 6.6 | 7.5 | 7.4 | 6.8 | 6.1 | 7.1 | 6.9 |
| Chile | 10.3 | 9.5 | 6.9 | 6.9 | 9.3 | 6.8 | 5.3 | 6.0 | 9.7 | 7.8 | 5.9 | 6.4 |
| Czech Republic | 10.5 | 5.6 | 8.3 | 7.4 | 7.4 | 3.5 | 5.9 | 5.1 | 8.8 | 4.4 | 7.0 | 6.1 |
| Denmark | 5.2 | 3.7 | 7.3 | 6.8 | 4.1 | 3.2 | 6.7 | 6.4 | 4.6 | 3.4 | 7.0 | 6.6 |
| Estonia | 13.3 | 5.1 | 8.2 | 6.8 | 15.9 | 5.7 | 9.1 | 7.9 | 14.6 | 5.4 | 8.6 | 7.4 |
| Finland | 10.6 | 6.7 | 7.5 | 7.9 | 9.1 | 6.1 | 8.8 | 9.3 | 9.8 | 6.4 | 8.2 | 8.7 |
| France | .. | 7.4 | 9.8 | 10.0 | .. | 6.7 | 10.0 | 10.5 | .. | 7.1 | 9.9 | 10.3 |
| Germany | 8.1 | 7.7 | 4.9 | 4.6 | 7.5 | 7.4 | 5.5 | 5.3 | 7.8 | 7.5 | 5.2 | 5.0 |
| Greece | 17.2 | 11.5 | 31.3 | 30.2 | 7.5 | 5.1 | 24.5 | 23.6 | 11.4 | 7.8 | 27.5 | 26.5 |
| Hungary | 5.6 | 8.0 | 10.1 | 7.9 | 7.1 | 7.7 | 10.2 | 7.6 | 6.4 | 7.8 | 10.2 | 7.7 |
| Iceland | .. | 2.6 | 5.1 | 4.8 | .. | 3.3 | 5.6 | 5.0 | .. | 2.9 | 5.4 | 4.9 |
| Ireland | 4.2 | 4.9 | 10.7 | 9.4 | 4.4 | 7.5 | 15.0 | 12.8 | 4.3 | 6.4 | 13.0 | 11.3 |
| Israel | 9.2 | 6.5 | 6.3 | 5.9 | 8.4 | 5.7 | 6.2 | 5.9 | 8.8 | 6.1 | 6.2 | 5.9 |
| Italy | 14.5 | 8.5 | 13.1 | 13.8 | 8.1 | 5.5 | 11.5 | 11.9 | 10.6 | 6.7 | 12.1 | 12.7 |
| Japan | 4.5 | 3.9 | 3.7 | 3.4 | 4.9 | 4.1 | 4.3 | 3.8 | 4.7 | 4.0 | 4.0 | 3.6 |
| Korea | 3.7 | 2.6 | 2.9 | 3.5 | 5.0 | 3.6 | 3.3 | 3.6 | 4.4 | 3.2 | 3.1 | 3.5 |
| Luxembourg | .. | 6.0 | 6.4 | 5.8 | .. | 4.3 | 5.4 | 5.9 | .. | 5.1 | 5.8 | 5.9 |
| Mexico | .. | 4.1 | 5.0 | 4.9 | .. | 3.8 | 4.9 | 4.8 | 2.5 | 3.9 | 4.9 | 4.8 |
| Netherlands | 3.8 | 3.0 | 7.3 | 7.7 | 2.3 | 2.5 | 7.2 | 7.1 | 2.9 | 2.8 | 7.2 | 7.4 |
| New Zealand | 6.0 | 4.3 | 7.0 | 6.6 | 6.3 | 4.1 | 5.6 | 5.1 | 6.2 | 4.2 | 6.2 | 5.8 |
| Norway | 3.2 | 2.4 | 3.2 | 3.2 | 3.4 | 2.7 | 3.6 | 3.7 | 3.3 | 2.5 | 3.4 | 3.5 |
| Poland | 18.1 | 8.0 | 11.1 | 9.6 | 14.4 | 6.4 | 9.7 | 8.5 | 16.1 | 7.1 | 10.3 | 9.0 |
| Portugal | 5.0 | 8.8 | 16.4 | 14.3 | 3.2 | 6.5 | 16.0 | 13.5 | 4.0 | 7.6 | 16.2 | 13.9 |
| Slovak Republic | 18.6 | 10.9 | 14.5 | 13.6 | 18.9 | 8.4 | 14.0 | 12.8 | 18.8 | 9.5 | 14.2 | 13.2 |
| Slovenia | 7.1 | 4.8 | 10.9 | 10.5 | 6.5 | 4.0 | 9.4 | 8.9 | 6.7 | 4.4 | 10.1 | 9.7 |
| Spain | 20.5 | 12.8 | 26.7 | 25.4 | 9.6 | 10.1 | 25.6 | 23.6 | 13.9 | 11.2 | 26.1 | 24.4 |
| Sweden | .. | 6.6 | 7.9 | 7.7 | .. | 5.9 | 8.2 | 8.2 | .. | 6.2 | 8.1 | 8.0 |
| Switzerland | .. | .. | 4.5 | 4.7 | .. | .. | 4.3 | 4.4 | .. | .. | 4.4 | 4.5 |
| Turkey | .. | 10.0 | 10.6 | 11.8 | .. | 9.6 | 7.9 | 9.0 | .. | 9.7 | 8.7 | 9.9 |
| United Kingdom | 5.0 | 5.1 | 7.0 | 5.8 | 6.1 | 6.1 | 8.0 | 6.4 | 5.6 | 5.6 | 7.5 | 6.1 |
| United States | 4.1 | 5.4 | 7.1 | 6.1 | 3.9 | 6.1 | 7.6 | 6.3 | 4.0 | 5.8 | 7.4 | 6.2 |
| EU 28 | .. | 7.4 | 10.9 | 10.3 | .. | 6.6 | 10.8 | 10.1 | .. | 7.0 | 10.8 | 10.2 |
| OECD | .. | 6.0 | 7.9 | 7.5 | .. | 5.8 | 7.8 | 7.3 | .. | 5.9 | 7.9 | 7.3 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | 12.7 | 7.9 | 5.4 | 4.9 |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | 6.1 | 8.4 | 6.0 | 5.8 |
| Russian Federation | 10.4 | 6.1 | 5.2 | 4.8 | 10.6 | 6.6 | 5.8 | 5.5 | 10.5 | 6.4 | 5.5 | 5.2 |
| South Africa | 26.5 | 25.9 | 26.7 | 27.2 | 20.4 | 19.9 | 23.1 | 23.3 | 23.3 | 22.5 | 24.7 | 25.1 |

1 2 *http://dx.doi.org/10.1787/888933336753*

## Unemployment rates: total

*As a percentage of labour force*




1 2 *http://dx.doi.org/10.1787/888933335684*

# LONG-TERM UNEMPLOYMENT

Long-term unemployment is of particular concern to the people affected and to policy makers. Apart from the mental and material stress caused to the unemployed and their families, high rates of long-term unemployment indicate that labour markets are operating inefficiently.

Rates of long-term unemployment are generally lower in countries that have enjoyed high GDP growth rates in recent years. Lower rates of long-term unemployment may also occur at the onset of an economic downturn due to rising inflow of newly unemployed persons, as witnessed during the first years of the recent global economic crisis. Subsequently, long-term unemployment may gradually begin to unfold in the case of a prolonged economic and jobs crisis as is currently the case in a number of OECD countries.

## Definition

Long-term unemployment is defined as referring to people who have been unemployed for 12 months or more. Ratios are the proportion of these long-term unemployed among all unemployed, hereafter called long-term unemployment rates. Lower duration limits (e.g. six months or more) are sometimes considered in national statistics on the subject.

Unemployment is defined in all OECD countries in accordance with the ILO Guidelines. Unemployment is usually measured by national labour force surveys and refer to persons who report that they have worked in gainful employment for less than one hour in the previous week, who are available for work and who have taken actions to seek employment in the previous four weeks. The ILO Guidelines specify the kinds of actions that count as seeking work.

## Comparability

All OECD countries use the ILO Guidelines for measuring unemployment. Operational definitions used in national labour force surveys may vary slightly across countries. Unemployment levels may also be affected by changes in the survey design and the survey conduct. Despite these caveats long-term unemployment rates are fairly consistent over time.

In comparing rates of long-term unemployment, it is important to bear in mind differences in institutional arrangements between countries. Rates of long-term unemployment will generally be higher in countries where unemployment benefits are relatively generous and are available for long periods of unemployment. In countries where benefits are low and of limited duration, unemployed persons will more quickly lower their wage expectations or consider taking jobs that are in other ways less attractive than those which they formerly held.

### *Overview*

In 2014, more than one-third of the unemployed were long-term unemployed in the OECD area. The rates varied from 10% or less in Korea and Mexico, to 50% or more in Estonia, Ireland and Italy and more than two-thirds of the unemployed in Greece and the Slovak Republic. For at least the last ten years, the share of long-term unemployed has remained stubbornly high in Germany despite a rising trend in employment rates since 2005.

Over the period 2002-14, long-term unemployment rates increased by almost 8 percentage points for the OECD as a whole. Country patterns differ depending on how deeply national labour markets were affected by the global financial and the Euro area sovereign debt crisis. Since 2002, sharp rises, of 5 percentage points or more, were recorded in 14 countries, exceeding 10 percentage points in the Netherlands, Portugal, Spain, Switzerland, the United Kingdom and the United States, with a dramatic increase of more than 20 percentage points in Greece, Ireland and Portugal. Falls of over 5 per cent occurred in just four countries, with Poland recording the steepest fall of over 10 percentage points. More recently, long-term unemployment has actually increased since 2011 in a number of European countries, notably in Italy, Slovenia, Portugal and Greece.

In Russia and South Africa, long-term unemployment declined markedly since 2002 by more than 10 percentage points. In South Africa however, close to 58% of unemployed people were still long-term unemployed in 2014.

## *Sources*

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- For non-member countries: National sources.

## *Further information*

### *Analytical publications*

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## Long-term unemployment

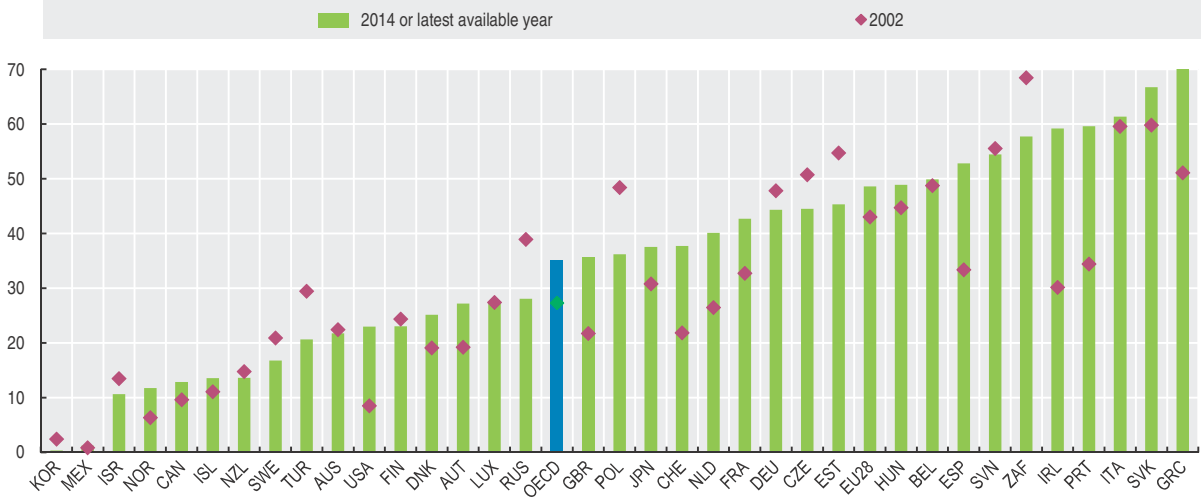
*Persons unemployed for 12 months or more as a percentage of total unemployed*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 22.4 | 21.5 | 20.6 | 18.2 | 18.1 | 15.4 | 14.9 | 14.7 | 18.6 | 18.9 | 19.0 | 19.1 | 21.8 |
| Austria | 19.2 | 24.5 | 27.9 | 25.5 | 28.0 | 27.2 | 24.3 | 21.7 | 25.4 | 26.3 | 24.9 | 24.6 | 27.2 |
| Belgium | 48.8 | 45.3 | 49.0 | 51.7 | 51.2 | 50.4 | 47.6 | 44.2 | 48.8 | 48.3 | 44.7 | 46.0 | 49.9 |
| Canada | 9.6 | 10.0 | 9.5 | 9.6 | 8.7 | 7.5 | 7.3 | 8.0 | 12.1 | 13.6 | 12.7 | 12.9 | 12.9 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 50.7 | 49.9 | 51.8 | 53.6 | 55.2 | 53.4 | 50.2 | 31.2 | 43.3 | 41.6 | 43.4 | 44.9 | 44.5 |
| Denmark | 19.1 | 20.4 | 21.5 | 23.4 | 20.8 | 16.1 | 13.5 | 9.5 | 20.2 | 24.4 | 28.0 | 25.5 | 25.2 |
| Estonia | 54.8 | 46.9 | 51.1 | 54.2 | 48.6 | 49.8 | 31.2 | 27.3 | 45.3 | 57.3 | 54.7 | 44.5 | 45.3 |
| Finland | 24.4 | 24.7 | 23.4 | 24.9 | 24.8 | 23.0 | 18.2 | 16.6 | 23.6 | 22.6 | 21.7 | 21.2 | 23.1 |
| France | 32.7 | 39.3 | 40.6 | 41.1 | 41.9 | 40.2 | 37.4 | 35.2 | 40.2 | 41.5 | 40.4 | 40.4 | 42.7 |
| Germany | 47.8 | 50.0 | 51.8 | 53.0 | 56.4 | 56.6 | 52.5 | 45.5 | 47.4 | 47.9 | 45.4 | 44.7 | 44.3 |
| Greece | 51.1 | 54.7 | 52.9 | 51.9 | 54.1 | 49.7 | 47.1 | 40.4 | 44.6 | 49.3 | 59.1 | 67.1 | 73.5 |
| Hungary | 44.8 | 42.2 | 45.1 | 46.1 | 46.3 | 47.5 | 47.3 | 42.4 | 50.3 | 48.8 | 46.6 | 49.8 | 48.9 |
| Iceland | 11.1 | 8.1 | 11.2 | 13.3 | 7.3 | 8.0 | 4.1 | 6.9 | 21.3 | 27.8 | 27.9 | 21.9 | 13.6 |
| Ireland | 30.1 | 32.8 | 34.9 | 33.4 | 31.6 | 30.0 | 26.5 | 29.1 | 49.1 | 59.3 | 61.7 | 60.6 | 59.2 |
| Israel | 13.5 | 18.0 | 24.2 | 25.3 | 27.3 | 24.9 | 22.7 | 20.3 | 22.4 | 20.2 | 13.3 | 12.7 | 10.6 |
| Italy | 59.6 | 58.1 | 49.0 | 49.8 | 49.6 | 47.5 | 45.7 | 44.6 | 48.5 | 52.0 | 53.2 | 56.9 | 61.4 |
| Japan | 30.8 | 33.5 | 33.7 | 33.3 | 33.0 | 32.0 | 33.3 | 28.5 | 37.6 | 39.4 | 38.5 | 41.2 | 37.6 |
| Korea | 2.5 | 0.6 | 1.1 | 0.8 | 1.1 | 0.6 | 2.7 | 0.5 | 0.3 | 0.4 | 0.3 | 0.4 | .. |
| Luxembourg | 27.4 | 24.7 | 21.0 | 26.4 | 29.5 | 28.7 | 32.4 | 23.1 | 29.3 | 28.8 | 30.3 | 30.4 | 27.4 |
| Mexico | 0.9 | 0.9 | 1.1 | 2.1 | 2.1 | 2.3 | 1.4 | 1.7 | 2.0 | 1.9 | 1.8 | 1.4 | 1.2 |
| Netherlands | 26.5 | 27.7 | 34.2 | 40.2 | 43.0 | 39.4 | 34.4 | 24.8 | 27.6 | 33.6 | 33.7 | 35.9 | 40.2 |
| New Zealand | 14.8 | 13.6 | 11.7 | 9.8 | 7.6 | 6.0 | 4.3 | 6.4 | 8.9 | 8.9 | 13.3 | 12.2 | 13.6 |
| Norway | 6.4 | 6.4 | 9.2 | 9.5 | 14.5 | 8.8 | 6.0 | 7.7 | 9.5 | 11.6 | 8.7 | 9.2 | 11.8 |
| Poland | 48.4 | 49.7 | 47.9 | 52.2 | 50.4 | 45.9 | 29.0 | 25.2 | 25.5 | 31.6 | 34.8 | 36.5 | 36.2 |
| Portugal | 34.5 | 35.0 | 44.4 | 48.3 | 50.4 | 47.2 | 47.4 | 44.2 | 52.2 | 48.4 | 48.8 | 56.4 | 59.6 |
| Slovak Republic | 59.8 | 61.2 | 60.6 | 68.1 | 73.1 | 70.8 | 66.0 | 50.9 | 59.3 | 64.0 | 63.7 | 66.6 | 66.8 |
| Slovenia | 55.6 | 52.8 | 51.4 | 47.3 | 49.3 | 45.7 | 42.2 | 30.1 | 43.3 | 44.2 | 47.9 | 51.0 | 54.5 |
| Spain | 33.4 | 33.5 | 31.9 | 24.4 | 21.6 | 20.4 | 18.0 | 23.8 | 36.6 | 41.6 | 44.4 | 49.7 | 52.8 |
| Sweden | 20.9 | 17.8 | 18.9 | .. | .. | 12.8 | 12.1 | 12.8 | 17.3 | 18.2 | 17.5 | 17.0 | 16.8 |
| Switzerland | 21.8 | 26.1 | 33.5 | 39.0 | 39.1 | 40.8 | 34.3 | 30.1 | 33.1 | 38.8 | 35.3 | 33.2 | 37.7 |
| Turkey | 29.4 | 24.4 | 39.2 | 39.4 | 35.7 | 30.3 | 26.9 | 25.3 | 28.6 | 26.5 | 24.9 | 24.4 | 20.6 |
| United Kingdom | 21.7 | 21.4 | 20.5 | 21.0 | 22.3 | 23.7 | 24.1 | 24.5 | 32.6 | 33.5 | 34.7 | 36.2 | 35.7 |
| United States | 8.5 | 11.8 | 12.7 | 11.8 | 10.0 | 10.0 | 10.6 | 16.3 | 29.0 | 31.3 | 29.3 | 25.9 | 23.0 |
| EU 28 | 43.1 | 42.9 | 41.8 | 44.5 | 44.5 | 41.6 | 36.2 | 32.6 | 39.1 | 42.0 | 43.6 | 46.4 | 48.6 |
| OECD | 27.3 | 28.5 | 29.4 | 31.9 | 31.3 | 28.5 | 24.9 | 23.6 | 31.5 | 33.5 | 34.1 | 35.1 | 35.2 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 38.9 | 37.6 | 39.2 | 39.0 | 42.3 | 40.6 | 35.2 | 28.7 | 30.0 | 32.9 | 30.9 | 31.0 | 28.1 |
| South Africa | 68.5 | 68.4 | 65.1 | 63.7 | 59.5 | 57.7 | 50.2 | 50.1 | 56.7 | 59.7 | 58.5 | 57.8 | 57.8 |

1 2 *http://dx.doi.org/10.1787/888933336367*

## Long-term unemployment

*Persons unemployed for 12 months or more as a percentage of total unemployed*




1 2 *http://dx.doi.org/10.1787/888933335196*

# UNEMPLOYMENT BY REGION

The unemployment rate is an important indicator of economic and social well-being. Breakdowns by region show that large international differences hide even larger differences among regions within each country.

## Definition

Unemployed persons are defined as those who are without work, who are available for work and have taken active steps to find work in the last four weeks. The unemployment rate is defined as the ratio between unemployed persons and the labour force, where the latter is composed of unemployed and employed persons.

The long-term unemployment rate is defined as the ratio of those unemployed for 12 months or more out of the total labour force. The incident of long-term unemployment is defined as the ratio of the long-term unemployed out of the total unemployed. The youth unemployment rate is defined as the ratio between the unemployed persons aged between 15 and 24 and the labour force in the same age class.

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.

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

Comparability of regional statistics is affected by differences in the meaning of the word "region". This results in significant differences in terms of geographic area and population both within and among countries. To address this issue, the OECD has classified regions within each country based on two levels: territorial level 2 (TL2, large regions) and territorial level 3 (TL3, small regions). Labour market data for Canada refers to a different regional grouping, labelled non-official grids (NOG), which is comparable to the small regions. For Brazil, China, India, Russia and South Africa only large regions have been defined.

Data on unemployment, youth and long-term unemployment refer to large (TL2) regions.

Data on unemployment refer to period 2007-14 for all countries.

Data on youth unemployment rate refer to 2014, except 2013 for Israel. New Zealand is not included due to lack of data on comparable years. No regional data for Iceland and Korea exist.

Data on the long-term unemployment refer to 2014 for all countries. Austria and New Zealand are not included due to lack of data on comparable years. No regional data for Iceland, Japan, Korea, Mexico and the United States exist.

### *Overview*

Regional disparities in unemployment have decreased mainly in countries (as measured by the Gini index) where the economic downturn has affected all regions evenly, such as Portugal, Greece, Spain, and Italy.

Youth unemployment is of particular concern in Spain, Italy, Greece, Portugal and Poland where regional differences are high and some regions display a youth unemployment rate above 40%.

Long-term unemployment rates also show large regional variations not only in dual economies such as Italy, but also in Spain, the United States, the Slovak Republic and the United Kingdom.

## *Sources*

- OECD (2013), *OECD Regions at a Glance*, OECD Publishing.

## *Further information*

### *Analytical publications*

- OECD (2014), *OECD Regional Outlook*, OECD Publishing.
- OECD (2012), *Promoting Growth in All Regions*, OECD Publishing.

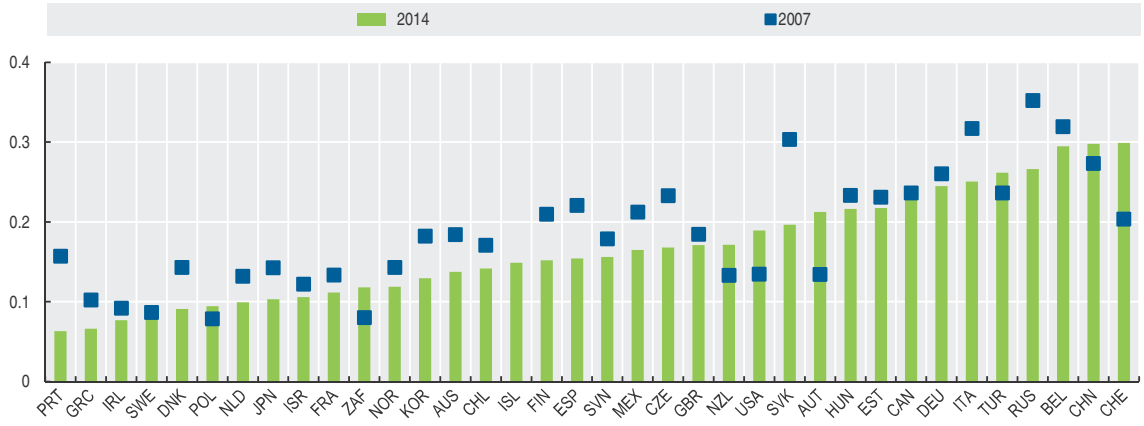
### *Online databases*

- *OECD Regional Database*.

### *Websites*

- Regional Statistics and Indicators, *www.oecd.org/regional/regional-policy/regionalstatisticsandindicators.htm*.
- Regions at a Glance Interactive, *http://rag.oecd.org*.

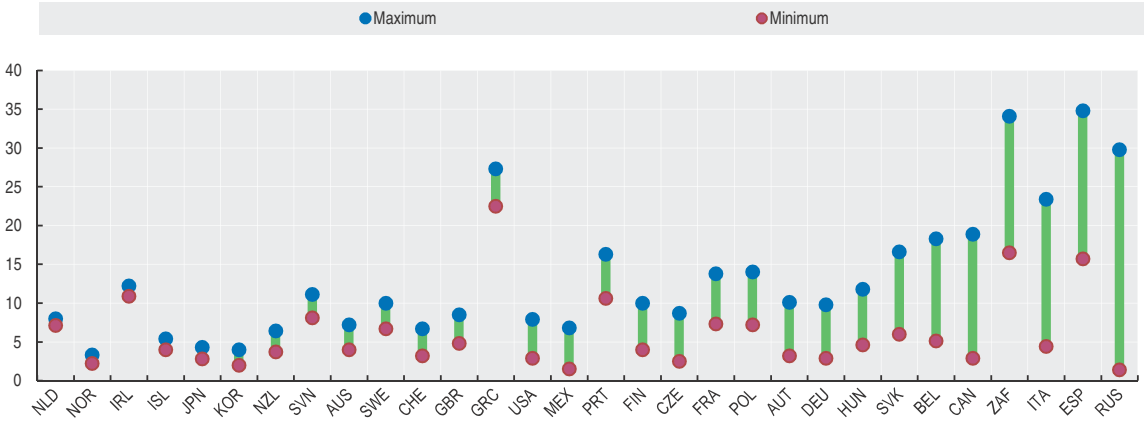
## Gini index of regional unemployment rates




1 2 *http://dx.doi.org/10.1787/888933335441*

## Regional variation of the youth unemployment rate

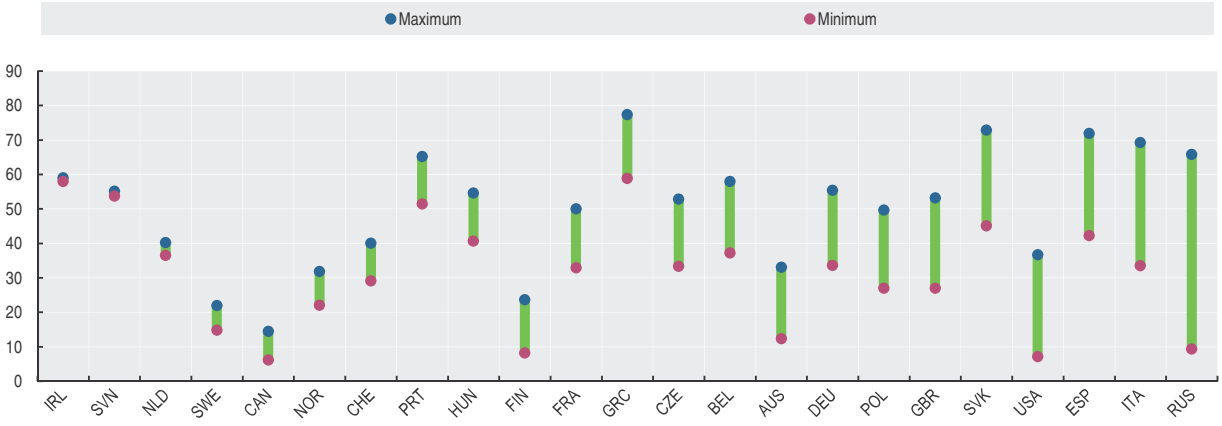
*Percentage, 2014*




1 2 *http://dx.doi.org/10.1787/888933335862*

## Regional variation in incidence of long-term unemployment

*Ratio, 2014*




1 2 *http://dx.doi.org/10.1787/888933335981*





# ENVIRONMENT AND SCIENCE

## WATER AND WASTE

ABSTRACTIONS OF FRESHWATER
MUNICIPAL WASTE

## AIR AND CLIMATE

EMISSIONS OF CARBON DIOXIDE
SULPHUR AND NITROGEN EMISSIONS
GREENHOUSE GAS EMISSIONS
REGIONAL QUALITY OF AIR

## RESEARCH AND DEVELOPMENT

EXPENDITURE ON R&D
RESEARCHERS
PATENTS

# ABSTRACTIONS OF FRESHWATER

Freshwater resources are of major environmental, economic and social importance. Their distribution varies widely among and within countries. If a significant share of a country's water comes from transboundary rivers, tensions between countries can arise. In arid regions, freshwater resources may at times be limited to the extent that demand for water can be met only by going beyond sustainable use. Freshwater abstractions, particularly for public water supply, irrigation, industrial processes and cooling of electric power plants, exert a major pressure on water resources, with significant implications for their quantity and quality. Main concerns relate to overexploitation and inefficient use of water and to their environmental and socio-economic consequences.

## Definition

Water abstractions refer to freshwater taken from ground or surface water sources, either permanently or temporarily, and conveyed to the place of use. If the water is returned to a surface water source, abstraction of the same water by the downstream user is counted again in compiling total abstractions: this may lead to double counting.

Mine water and drainage water are included, whereas water used for hydroelectricity generation (which is considered an *in situ* use) is normally excluded.

Data are for gross abstractions of freshwater taken from ground or surface waters and per capita

## Comparability

Information on the use of water resources can be derived from water resource account. It is available for most OECD countries, but often incomplete. The definitions and estimation methods employed may vary considerably from country to country and over time. In general, data availability and quality are best for water abstractions for public supply. For some countries the data refer to water permits and not to actual abstractions. OECD totals are estimates based on linear interpolations to fill missing values, and exclude Chile. Data for the United Kingdom refer to England and Wales only.

### *Overview*

Over the last century, the estimated growth in global water demand was more than double the rate of population growth, with agriculture being the largest user of water.

In the 1980s, some countries stabilised their abstractions through more efficient irrigation techniques, the decline of water-intensive industries, increased use of more efficient technologies and reduced losses in pipe networks. Since the mid-1990s, OECD-wide trends in water abstractions have been generally stable. In some countries this is due to increased use of alternative water sources, including water reuse and desalination.

The use of irrigation water in the OECD area declined slightly compared to agricultural production, but in about half of the countries it increased driven by expansion in the irrigated area. In semi-arid areas in North America and the Mediterranean region, groundwater sustains an increasing share of irrigation. Water stress levels vary greatly among and within countries. Most face seasonal or local water quantity problems, and several have extensive arid or semi-arid regions where water availability is a constraint on economic development. In more than one-third of OECD countries, freshwater resources are under medium to high stress. In a few countries water resources are abundant and population density is low.

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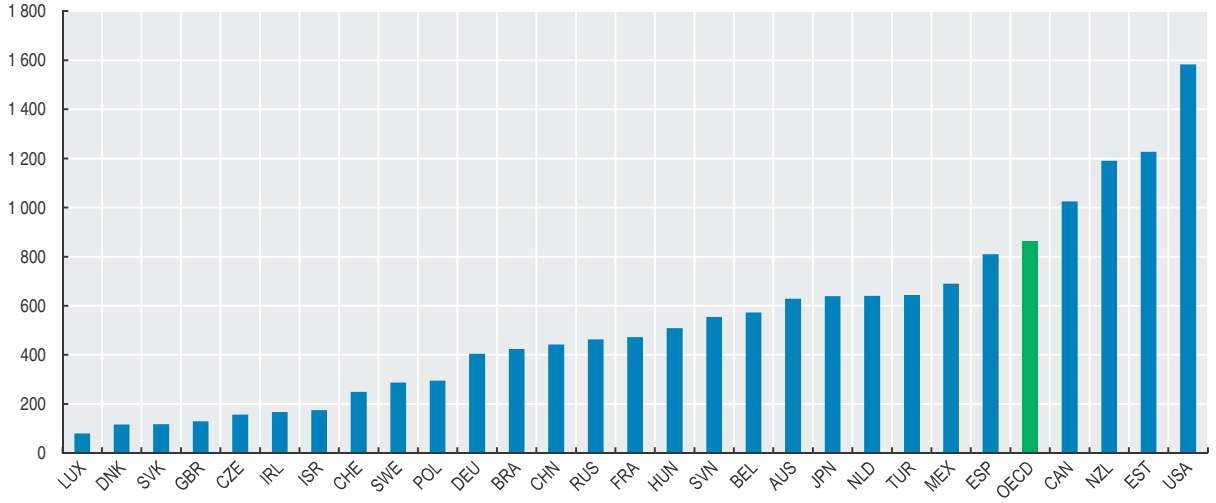
## Water abstractions

| | Water abstractions per capita m³ per capita | | | | | | Total abstractions millions m³ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1990 | 1995 | 2000 | 2005 | 2013 or latest available year | 1985 | 1990 | 1995 | 2000 | 2005 | 2013 or latest available year |
| Australia | 925 | .. | 1 337 | .. | 958 | 629 | 14 600 | .. | 24 071 | .. | 19 336 | 14 060 |
| Austria | 473 | 496 | 434 | .. | .. | .. | 3 580 | 3 807 | 3 449 | .. | .. | .. |
| Belgium | .. | .. | 814 | 735 | 610 | 572 | .. | .. | 8 248 | 7 536 | 6 389 | 6 176 |
| Canada | .. | .. | 1 612 | .. | 1 301 | 1 025 | .. | .. | 47 250 | .. | 41 955 | 35 351 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 356 | 350 | 266 | 187 | 190 | 157 | 3 679 | 3 623 | 2 743 | 1 918 | 1 949 | 1 650 |
| Denmark | 333 | 245 | 169 | 136 | 119 | 117 | 1 705 | 1 261 | 887 | 726 | 644 | 652 |
| Estonia | .. | 2 049 | 1 239 | 1 066 | 1 168 | 1 227 | .. | 3 215 | 1 780 | 1 471 | 1 578 | 1 631 |
| Finland | 816 | 471 | 506 | .. | .. | .. | 4 000 | 2 347 | 2 586 | .. | .. | .. |
| France | 631 | 665 | .. | 554 | 554 | 472 | 34 887 | 37 687 | .. | 32 715 | 33 872 | 30 006 |
| Germany | .. | .. | 531 | .. | .. | 404 | .. | .. | 43 374 | .. | .. | 33 036 |
| Greece | 553 | 774 | 731 | 909 | 870 | .. | 5 496 | 7 862 | 7 770 | 9 924 | 9 654 | .. |
| Hungary | 588 | 607 | 579 | 648 | 489 | 509 | 6 267 | 6 293 | 5 976 | 6 621 | 4 929 | 5 051 |
| Iceland | 464 | 655 | 617 | 580 | 558 | .. | 112 | 167 | 165 | 163 | 165 | .. |
| Ireland | .. | .. | .. | .. | 193 | 167 | .. | .. | .. | .. | 799 | 757 |
| Israel | .. | 382 | 327 | 275 | 249 | 176 | .. | 1 780 | 1 812 | 1 727 | 1 728 | 1 340 |
| Italy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Japan | 720 | 719 | 708 | 685 | 653 | 639 | 87 209 | 88 906 | 88 881 | 86 972 | 83 427 | 81 454 |
| Korea | 455 | 480 | 525 | .. | 607 | .. | 18 580 | 20 570 | 23 670 | .. | 29 198 | .. |
| Luxembourg | 183 | .. | 138 | .. | .. | 80 | 67 | .. | 57 | .. | .. | 43 |
| Mexico | .. | .. | 780 | 698 | 714 | 690 | .. | .. | 73 672 | 70 428 | 76 508 | 81 651 |
| Netherlands | .. | .. | .. | .. | 707 | 640 | .. | .. | .. | .. | 11 546 | 10 724 |
| New Zealand | .. | .. | .. | .. | .. | 1 191 | .. | .. | .. | .. | .. | 5 201 |
| Norway | 488 | .. | .. | .. | 619 | .. | 2 025 | .. | .. | .. | 2 864 | .. |
| Poland | 441 | 399 | 338 | 314 | 302 | 295 | 16 408 | 15 164 | 12 924 | 11 994 | 11 521 | 11 242 |
| Portugal | 200 | .. | .. | .. | .. | .. | 2 003 | .. | .. | .. | .. | .. |
| Slovak Republic | 399 | 399 | 258 | 217 | 169 | 118 | 2 061 | 2 116 | 1 386 | 1 171 | 907 | 637 |
| Slovenia | .. | .. | .. | .. | 461 | 554 | .. | .. | .. | .. | 923 | 1 156 |
| Spain | 1 204 | .. | 845 | 907 | 876 | 809 | 46 250 | .. | 33 288 | 36 525 | 38 029 | 37 349 |
| Sweden | 356 | 347 | 309 | 303 | 291 | 287 | 2 970 | 2 968 | 2 725 | 2 688 | 2 631 | 2 690 |
| Switzerland | 409 | 397 | 365 | 357 | 337 | 249 | 2 646 | 2 665 | 2 571 | 2 564 | 2 507 | 1 983 |
| Turkey | 387 | 500 | 542 | 648 | 620 | 642 | 19 400 | 28 073 | 33 482 | 43 650 | 44 684 | 46 956 |
| United Kingdom | .. | .. | .. | .. | 174 | 129 | .. | .. | .. | .. | 10 324 | 8 214 |
| United States | 1 953 | 1 852 | 1 750 | 1 710 | 1 634 | 1 583 | 464 737 | 462 250 | 466 118 | 482 558 | 482 972 | 489 528 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 988 | 949 | 928 | 901 | 872 | 860 | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | 305 | 424 | .. | .. | .. | .. | 56 019 | 83 300 |
| China | .. | .. | .. | .. | 426 | 442 | .. | .. | .. | .. | 561 100 | 608 660 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | 518 | 463 | .. | .. | .. | .. | 74 366 | 66 296 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336789*

## Water abstractions

*m³/capita, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335712*

# MUNICIPAL WASTE

The amount of municipal waste generated in a country is related to the rate of urbanisation, the types and patterns of consumption, household revenue and lifestyles. While municipal waste is only one part of total waste generated in each country, its management and treatment often absorbs more than one third of the public sector's financial efforts to abate and control pollution.

The main concerns raised by municipal waste are the potential impacts from inappropriate waste management on human health and the environment (soil and water contamination, air quality, land use and landscape).

## Definition

Municipal waste is waste collected by or on behalf of municipalities. It includes household waste originating from households (i.e. waste generated by the domestic activity of households) and similar waste from small commercial activities, office buildings, institutions such as schools and government buildings, and small businesses that treat or dispose of waste at the same facilities used for municipally collected waste.

The kilogrammes of municipal waste per capita produced each year – or "waste generation intensities" – provide one broad indicator of the potential environmental and health pressures from municipal waste. They should be complemented with information on waste management practices and costs, and on consumption levels and patterns.

## Comparability

The definition of municipal waste, the type of waste covered and the surveying methods used to collect information vary from country to country and over time. Breaks in time series exist for: Denmark, Estonia, Greece, Hungary, Ireland, Italy, Korea, Luxembourg, Mexico, Norway, Poland, the Slovak Republic, Slovenia and Turkey.

The main problems in terms of data comparability relate to the coverage of household like waste from commerce and trade, and of separate waste collections that may include hazardous waste from households such as waste batteries or waste electric and electronic equipment (WEEE) and waste collected by the private sector in the framework of extended producer responsibility schemes.

In some cases the reference year refers to the closest available year.

Data for Estonia exclude packaging waste separately collected for recycling and thus under-estimate the amount of municipal waste generated.

### *Overview*

During the 1990s, municipal waste generated in the OECD area has risen (19%), mostly in line with private consumption expenditure and GDP. As of the early 2000s, this rise has been slowing down. Today, the quantity of municipal waste generated exceeds an estimated 650 million tonnes (522 kg per capita). The amount and composition of municipal waste vary widely among OECD countries, being related to levels and patterns of consumption, the rate of urbanisation, lifestyles, and national waste management practices.

More and more waste is being diverted from landfills and incinerators and fed back into the economy through recycling. Landfill nonetheless remains the major disposal method in many OECD countries.

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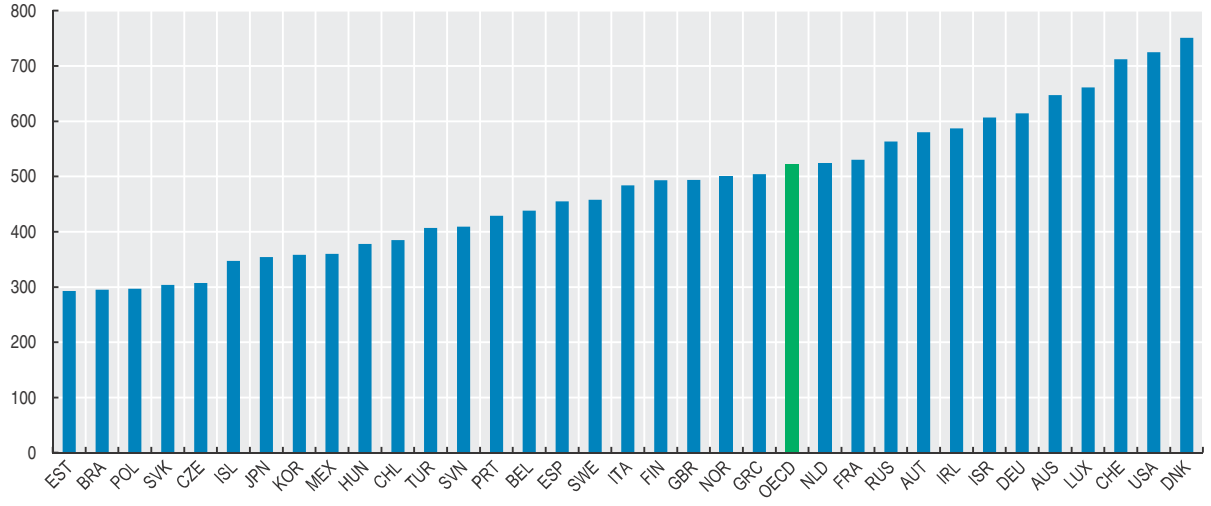
## Municipal waste generation

| | Generation intensities kg per capita | | | | | | | Total amount generated thousand tonnes |
|---|---|---|---|---|---|---|---|---|
| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2013 or latest available year | 2013 or latest available year |
| Australia | 680 | .. | .. | .. | 694 | .. | 647 | 14 035 |
| Austria | .. | .. | 417 | 437 | 539 | 575 | 580 | 4 883 |
| Belgium | 280 | 310 | 345 | 455 | 476 | 483 | 438 | 4 905 |
| Canada | .. | .. | .. | .. | .. | .. | .. | .. |
| Chile | 204 | 225 | 249 | 282 | 329 | 353 | 385 | 6 517 |
| Czech Republic | .. | .. | .. | 302 | 334 | 289 | 307 | 3 228 |
| Denmark | 399 | 475 | .. | 521 | 610 | 662 | 751 | 4 192 |
| Estonia | .. | .. | .. | 371 | 459 | 435 | 293 | 386 |
| Finland | .. | .. | .. | 413 | 502 | 477 | 493 | 2 682 |
| France | .. | .. | .. | 476 | 514 | 530 | 530 | 34 828 |
| Germany | .. | .. | 628 | 623 | 642 | 565 | 614 | 49 780 |
| Greece | 259 | 302 | 295 | 301 | 407 | 437 | 504 | 5 585 |
| Hungary | .. | .. | 530 | 460 | 446 | 461 | 378 | 3 738 |
| Iceland | .. | .. | .. | 426 | 462 | 517 | 347 | 112 |
| Ireland | 188 | .. | .. | 513 | 601 | 736 | 587 | 2 693 |
| Israel | .. | .. | .. | .. | 631 | 590 | 607 | 4 894 |
| Italy | 249 | 265 | 353 | 454 | 509 | 540 | 484 | 29 595 |
| Japan | 375 | 348 | 407 | 416 | 432 | 413 | 354 | 45 359 |
| Korea | .. | 514 | 715 | 387 | 361 | 367 | 358 | 17 881 |
| Luxembourg | 352 | 357 | 585 | 587 | 654 | 678 | 661 | 355 |
| Mexico | .. | .. | .. | 323 | 305 | 330 | 360 | 42 103 |
| Netherlands | .. | 478 | 497 | 539 | 598 | 599 | 525 | 8 845 |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 547 | 592 | 555 | 637 | 620 | 430 | 501 | 2 518 |
| Poland | 283 | 298 | 292 | 287 | 320 | 319 | 297 | 11 295 |
| Portugal | 203 | .. | 301 | 387 | 440 | 452 | 429 | 4 598 |
| Slovak Republic | .. | .. | .. | 302 | 317 | 273 | 304 | 1 645 |
| Slovenia | .. | .. | .. | 596 | 513 | 494 | 409 | 853 |
| Spain | .. | .. | .. | 476 | 614 | 592 | 455 | 20 931 |
| Sweden | 302 | 317 | 374 | 386 | 428 | 477 | 458 | 4 399 |
| Switzerland | 448 | 527 | 611 | 602 | 659 | 664 | 712 | 5 708 |
| Turkey | 270 | 359 | .. | 441 | 454 | 435 | 407 | 30 920 |
| United Kingdom | .. | .. | 473 | 498 | 577 | 591 | 494 | 30 890 |
| United States | 605 | 634 | 757 | 740 | 783 | 779 | 725 | 227 604 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | 502 | 521 | 554 | 554 | 522 | 656 169 |
| Brazil | .. | .. | .. | .. | 336 | 328 | 295 | 57 900 |
| China | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | 294 | .. | .. | 354 | 402 | 563 | 80 564 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336776*

## Municipal waste generation

*kg per capita, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335704*

# EMISSIONS OF CARBON DIOXIDE

Carbon dioxide ($CO_2$) makes up the largest share of man-made greenhouse gases. The addition of man-made greenhouse gases to the atmosphere disturbs the earth's radiative balance (i.e. the balance between the solar energy that the earth absorbs and radiates back into space). This is leading to an increase in the earth's surface temperature and to related effects on climate, sea level and world agriculture.

## Definition

Emissions refer to $CO_2$ from burning oil, coal, natural gas and waste materials for energy use. Carbon dioxide also enters the atmosphere from deforestation and from some industrial processes such as cement production. However, emissions of $CO_2$ from these other sources represent a smaller share of global emissions, and are not included. The *2006 IPCC Guidelines for National Greenhouse Gas Inventories* provide a fuller, technical definition of how $CO_2$ emissions have been estimated.

## Comparability

These emissions estimates are affected by the quality of the underlying energy data. For example, some countries, both OECD and non-OECD members, have trouble reporting information on bunker fuels and may not be able to accurately split fuel consumption between domestic and international transport. Since emissions from bunkers are excluded from the national totals, this affects the comparability of the estimates across countries. On the other hand, since these estimates have been made using the same method and emission factors for all countries, in general, the comparability across countries is quite good.

### *Overview*

Global emissions of carbon dioxide have more than doubled since 1971, increasing on average 2% per year. In 1971, the current OECD countries were responsible for 67% of world $CO_2$ emissions. As a consequence of rapidly rising emissions in the developing world, the OECD contribution to the total fell to 37% in 2013. By far, the largest increase in non-OECD countries occurred in Asia, where China's emissions of $CO_2$ from fuel combustion have risen, on average, by 6% per annum between 1971 and 2013. Driven primarily by increased use of coal, $CO_2$ emissions from fuel combustion in China increased over tenfold between 1971 and 2013.

Two significant downturns in OECD $CO_2$ emissions occurred following the oil shocks of the mid-1970s and early 1980s. Emissions from the economies in transition declined in the 1990s, helping to offset the OECD increases between 1990 and the present. However, this decline did not stabilise global emissions as emissions in developing countries continued to grow. With the economic crisis in 2008/2009, world $CO_2$ emissions declined by 2% in 2009. However, growth in $CO_2$ emissions have rebounded, with emissions increasing by 1% in 2012 and 2% in 2013.

Disaggregating the emissions estimates shows substantial variations within individual sectors. Between 1971 and 2013, the combined share of electricity and heat generation and transport shifted from one-half to two-thirds of the total. The share of the respective fuels in overall emissions also changed significantly during the period. The share of oil decreased from 48% to 34%, while the share of natural gas increased from 15% to 20% and that of coal in global emissions increased from 38% to 46%. Fuel switching, including the penetration of nuclear, and the increasing use of other non-fossil energy sources only reduced the $CO_2$/total primary energy supply ratio by 6% over the past 40 years.

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## $CO_2$ emissions from fuel combustion

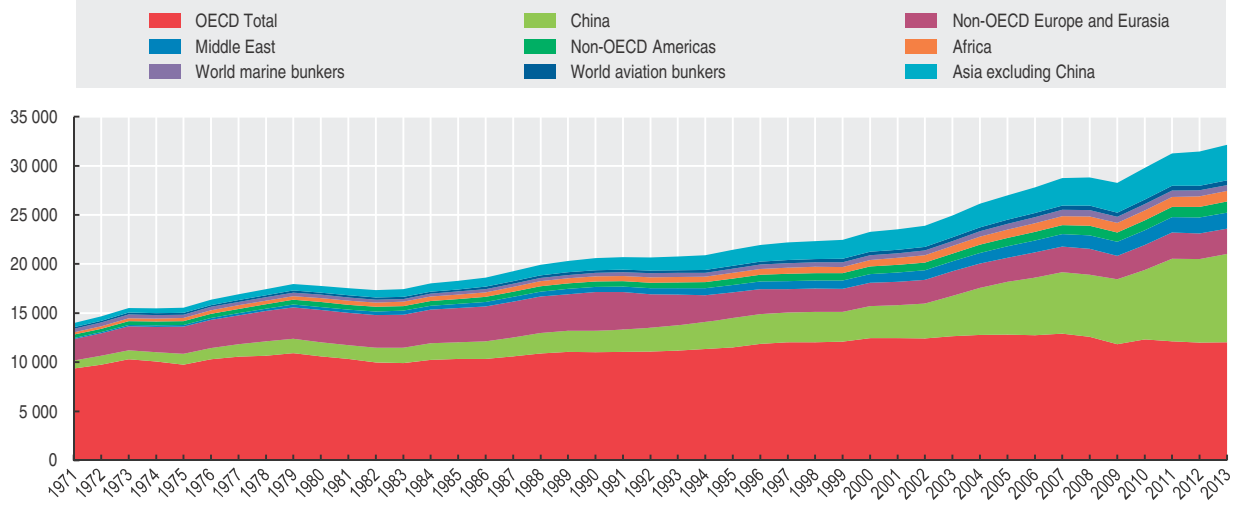
*Million tonnes*

| | 1971 | 1990 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 143 | 260 | 354 | 367 | 371 | 376 | 386 | 389 | 394 | 385 | 385 | 387 | 389 |
| Austria | 49 | 56 | 73 | 74 | 75 | 73 | 70 | 71 | 65 | 70 | 68 | 65 | 65 |
| Belgium | 118 | 106 | 112 | 111 | 107 | 104 | 100 | 104 | 93 | 102 | 94 | 89 | 89 |
| Canada | 340 | 419 | 534 | 526 | 536 | 524 | 554 | 539 | 504 | 515 | 524 | 524 | 536 |
| Chile | 21 | 29 | 49 | 53 | 54 | 56 | 63 | 67 | 64 | 69 | 75 | 77 | 82 |
| Czech Republic | 154 | 150 | 121 | 122 | 118 | 119 | 121 | 116 | 109 | 111 | 110 | 106 | 101 |
| Denmark | 55 | 51 | 57 | 52 | 48 | 56 | 52 | 49 | 47 | 47 | 42 | 37 | 39 |
| Estonia | .. | 36 | 17 | 17 | 17 | 16 | 19 | 18 | 15 | 19 | 18 | 16 | 19 |
| Finland | 40 | 54 | 71 | 67 | 55 | 66 | 64 | 56 | 53 | 62 | 54 | 49 | 49 |
| France | 423 | 346 | 368 | 369 | 370 | 361 | 353 | 349 | 333 | 340 | 310 | 312 | 316 |
| Germany | 978 | 940 | 821 | 805 | 787 | 799 | 767 | 775 | 720 | 759 | 731 | 745 | 760 |
| Greece | 25 | 70 | 94 | 94 | 95 | 94 | 98 | 94 | 90 | 83 | 82 | 77 | 69 |
| Hungary | 60 | 66 | 57 | 55 | 55 | 54 | 53 | 52 | 47 | 48 | 46 | 42 | 40 |
| Iceland | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Ireland | 22 | 30 | 42 | 42 | 44 | 45 | 44 | 44 | 39 | 39 | 35 | 36 | 34 |
| Israel | 14 | 33 | 61 | 61 | 59 | 62 | 64 | 64 | 64 | 68 | 68 | 75 | 68 |
| Italy | 289 | 389 | 445 | 455 | 456 | 449 | 441 | 429 | 384 | 392 | 384 | 367 | 338 |
| Japan | 751 | 1 049 | 1 188 | 1 189 | 1 196 | 1 183 | 1 221 | 1 137 | 1 076 | 1 126 | 1 178 | 1 217 | 1 235 |
| Korea | 53 | 232 | 438 | 460 | 458 | 465 | 477 | 489 | 502 | 551 | 574 | 575 | 572 |
| Luxembourg | 16 | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 10 | 11 | 11 | 10 | 10 |
| Mexico | 94 | 260 | 358 | 364 | 382 | 391 | 405 | 399 | 396 | 414 | 428 | 434 | 452 |
| Netherlands | 128 | 145 | 167 | 169 | 163 | 161 | 162 | 164 | 158 | 168 | 157 | 157 | 156 |
| New Zealand | 14 | 22 | 33 | 32 | 34 | 34 | 33 | 33 | 30 | 30 | 30 | 31 | 31 |
| Norway | 23 | 27 | 35 | 36 | 35 | 36 | 36 | 35 | 36 | 38 | 36 | 36 | 35 |
| Poland | 287 | 345 | 293 | 297 | 296 | 308 | 307 | 302 | 291 | 310 | 303 | 297 | 292 |
| Portugal | 14 | 38 | 57 | 58 | 61 | 56 | 55 | 53 | 53 | 48 | 47 | 46 | 45 |
| Slovak Republic | 39 | 55 | 37 | 36 | 37 | 36 | 36 | 35 | 33 | 35 | 33 | 31 | 32 |
| Slovenia | .. | 14 | 15 | 15 | 15 | 16 | 16 | 17 | 15 | 15 | 15 | 15 | 14 |
| Spain | 119 | 203 | 303 | 319 | 334 | 325 | 338 | 310 | 276 | 262 | 265 | 260 | 236 |
| Sweden | 82 | 52 | 54 | 52 | 49 | 47 | 45 | 43 | 41 | 46 | 42 | 39 | 38 |
| Switzerland | 39 | 41 | 43 | 43 | 44 | 43 | 41 | 43 | 42 | 43 | 39 | 40 | 42 |
| Turkey | 42 | 127 | 203 | 207 | 216 | 240 | 265 | 265 | 257 | 265 | 285 | 303 | 284 |
| United Kingdom | 621 | 548 | 532 | 533 | 531 | 533 | 521 | 508 | 459 | 477 | 439 | 462 | 449 |
| United States | 4 288 | 4 802 | 5 609 | 5 688 | 5 702 | 5 602 | 5 686 | 5 512 | 5 120 | 5 355 | 5 219 | 5 032 | 5 120 |
| EU 28 | .. | 4 024 | 3 939 | 3 940 | 3 916 | 3 922 | 3 868 | 3 790 | 3 499 | 3 611 | 3 465 | 3 425 | 3 340 |
| OECD | 9 342 | 11 006 | 12 653 | 12 781 | 12 816 | 12 742 | 12 907 | 12 573 | 11 819 | 12 306 | 12 132 | 11 990 | 12 038 |
| Brazil | 87 | 184 | 292 | 310 | 311 | 314 | 330 | 348 | 324 | 370 | 390 | 422 | 452 |
| China | 831 | 2 184 | 4 117 | 4 788 | 5 360 | 5 881 | 6 276 | 6 338 | 6 618 | 7 095 | 8 420 | 8 519 | 8 977 |
| India | 182 | 534 | 954 | 1 034 | 1 086 | 1 157 | 1 266 | 1 342 | 1 513 | 1 597 | 1 660 | 1 780 | 1 869 |
| Indonesia | 25 | 134 | 312 | 319 | 322 | 343 | 358 | 355 | 370 | 383 | 390 | 416 | 425 |
| Russian Federation | .. | 2 163 | 1 494 | 1 488 | 1 482 | 1 537 | 1 533 | 1 554 | 1 440 | 1 529 | 1 604 | 1 551 | 1 543 |
| South Africa | 157 | 244 | 348 | 375 | 372 | 374 | 391 | 423 | 399 | 409 | 395 | 408 | 420 |
| World | 13 995 | 20 623 | 24 992 | 26 177 | 27 048 | 27 856 | 28 783 | 28 871 | 28 322 | 29 838 | 31 293 | 31 491 | 32 190 |

1 2 *http://dx.doi.org/10.1787/888933336022*

## World $CO_2$ emissions from fuel combustion, by region

*Million tonnes*




1 2 *http://dx.doi.org/10.1787/888933334826*

# SULPHUR AND NITROGEN EMISSIONS

Atmospheric pollutants from energy transformation and energy consumption, but also from industrial processes, are the main contributors to regional and local air pollution and raise concerns as to their effects on human health and ecosystems.

In the atmosphere, emissions of sulphur and nitrogen compounds are transformed into acidifying substances. When these substances reach the ground, acidification of soil, water and buildings arises. Soil acidification is one important factor causing forest damage; acidification of the aquatic environment may severely impair the life of plant and animal species.

Nitrogen oxides ($NO_X$) also contribute to ground-level ozone formation and are responsible for eutrophication, reduction in water quality and species richness. High concentrations of $NO_X$ cause respiratory illnesses.

## Definition

Total emissions refer to emissions from human activities of sulphur oxides ($SO_X$) and nitrogen oxides ($NO_X$).

It should be kept in mind that $SO_X$ and $NO_X$ emissions provide only a partial view of air pollution problems. They should be supplemented with information on the acidity of rain and snow, and the exceedance of critical loads in soil and water, which reflect the actual acidification of the environment, and with information on population exposure to air pollutants.

## Comparability

International data on $SO_X$ and $NO_X$ emissions are available for almost all OECD countries. The details of estimation methods for emissions such as emission factors and reliability, extent of sources and pollutants included in estimation, etc., may differ from one country to another.

### *Overview*

$SO_X$ emissions have continued to decrease since 2000 for the OECD as a whole as a combined result of changes in energy demand through energy savings and fuel substitution, pollution control policies and technical progress.

$NO_X$ emissions have continued to decrease in the OECD overall since 2000, but less than $SO_X$ emissions. This is mainly due to changes in energy demand, pollution control policies and technical progress. In the late 2000s, the slowdown in economic activity following the 2008 economic crisis further contributed to reduce emissions. However, these results have not compensated in all countries for steady growth in road traffic, fossil fuel use and other activities generating $NO_X$.

The high emission levels of $SO_X$ for Iceland are due to $SO_X$ emissions from geothermal energy which represented 80% of total emissions in 2012.

OECD totals do not include Chile and Mexico.

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## Sulphur and nitrogen oxides emissions

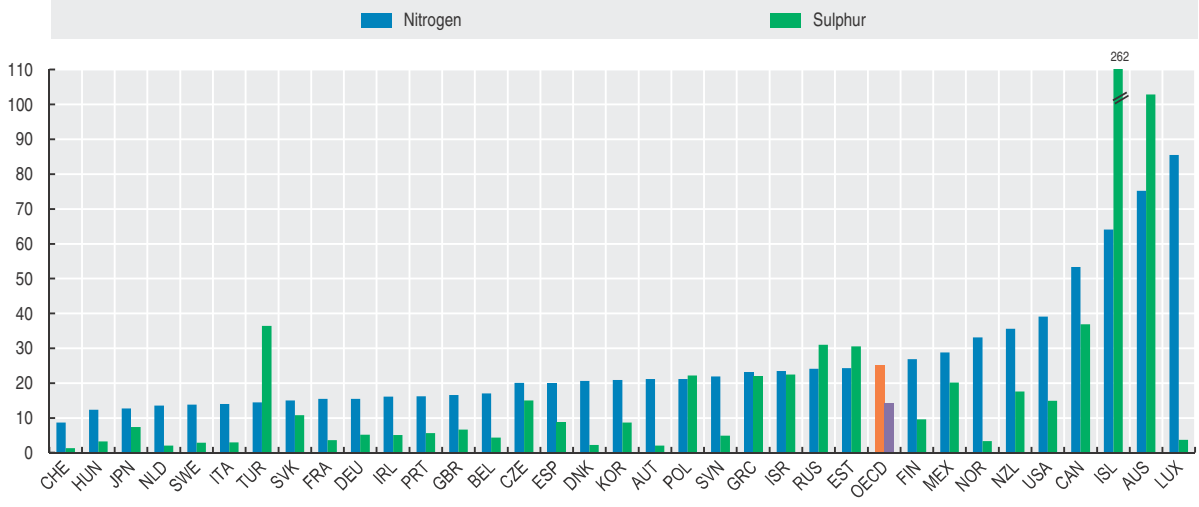
*Thousand tonnes*

| | Sulphur oxides | | | | | | Nitrogen oxides | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Australia | 2 440.2 | 2 618.1 | 2 594.6 | 2 381.0 | 2 356.4 | 2 333.9 | 1 659.9 | 1 667.9 | 1 657.8 | 1 669.8 | 1 678.0 | 1 706.7 |
| Austria | 24.7 | 22.4 | 17.0 | 18.6 | 18.0 | 17.2 | 217.4 | 204.8 | 189.0 | 193.1 | 182.5 | 178.3 |
| Belgium | 123.8 | 96.1 | 74.5 | 59.9 | 52.7 | 48.0 | 261.2 | 230.5 | 204.9 | 212.2 | 198.2 | 189.7 |
| Canada | 1 968.2 | 1 789.9 | 1 538.3 | 1 375.2 | 1 286.9 | 1 287.7 | 2 273.4 | 2 183.9 | 2 075.9 | 2 061.7 | 1 964.2 | 1 861.7 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 216.5 | 174.3 | 173.5 | 170.3 | 169.0 | 157.9 | 283.2 | 261.1 | 251.4 | 239.1 | 225.9 | 210.6 |
| Denmark | 25.5 | 20.0 | 14.9 | 14.9 | 14.0 | 12.5 | 172.0 | 154.3 | 136.1 | 131.8 | 124.6 | 115.4 |
| Estonia | 88.0 | 69.4 | 54.8 | 83.2 | 72.7 | 40.6 | 38.5 | 35.7 | 30.2 | 36.7 | 35.8 | 32.3 |
| Finland | 82.0 | 68.3 | 58.7 | 66.6 | 60.7 | 52.0 | 182.7 | 167.7 | 153.5 | 165.5 | 155.2 | 145.6 |
| France | 424.2 | 359.3 | 311.2 | 287.8 | 246.3 | 232.4 | 1 269.4 | 1 168.3 | 1 086.5 | 1 065.9 | 999.7 | 981.5 |
| Germany | 453.9 | 454.2 | 406.6 | 430.4 | 423.8 | 427.1 | 1 476.7 | 1 402.1 | 1 303.3 | 1 324.9 | 1 289.1 | 1 269.3 |
| Greece | 537.9 | 445.2 | 425.6 | 265.4 | 262.2 | 244.9 | 414.1 | 392.2 | 379.5 | 319.4 | 296.0 | 258.6 |
| Hungary | 36.4 | 36.6 | 30.9 | 32.3 | 35.3 | 31.8 | 163.0 | 160.2 | 153.6 | 151.5 | 137.3 | 122.4 |
| Iceland | 58.0 | 74.2 | 68.7 | 73.4 | 80.2 | 83.9 | 26.3 | 24.4 | 24.8 | 22.4 | 20.9 | 20.5 |
| Ireland | 54.5 | 45.2 | 32.4 | 26.3 | 24.7 | 23.2 | 120.9 | 108.8 | 87.0 | 80.1 | 71.8 | 73.8 |
| Israel | 198.9 | 183.8 | 167.8 | 164.0 | 174.2 | .. | 201.4 | 196.3 | 183.9 | 186.1 | 182.0 | .. |
| Italy | 339.8 | 284.6 | 232.8 | 214.2 | 193.9 | 177.7 | 1 112.5 | 1 042.0 | 970.3 | 951.6 | 927.8 | 849.2 |
| Japan | 1 031.8 | 990.0 | 957.0 | 951.2 | 942.2 | 936.8 | 1 957.3 | 1 870.4 | 1 778.3 | 1 730.2 | 1 675.2 | 1 626.9 |
| Korea | 402.5 | 418.0 | 387.7 | 401.7 | 434.0 | .. | 1 187.8 | 1 044.9 | 1 014.1 | 1 061.1 | 1 040.0 | .. |
| Luxembourg | 2.4 | 2.2 | 2.2 | 2.2 | 1.7 | 2.0 | 51.6 | 49.7 | 43.3 | 45.6 | 47.6 | 45.4 |
| Mexico | .. | 2 241.2 | .. | .. | .. | .. | .. | 3 206.9 | .. | .. | .. | .. |
| Netherlands | 59.3 | 50.0 | 36.7 | 33.5 | 33.5 | 33.8 | 287.9 | 279.0 | 254.7 | 253.5 | 237.7 | 227.3 |
| New Zealand | 82.2 | 86.4 | 74.3 | 73.5 | 74.2 | 78.2 | 160.5 | 161.9 | 151.8 | 150.6 | 152.8 | 157.9 |
| Norway | 20.1 | 20.0 | 15.4 | 19.5 | 18.4 | 16.7 | 201.6 | 190.4 | 179.8 | 182.0 | 174.2 | 166.2 |
| Poland | 1 229.2 | 1 007.3 | 868.2 | 935.6 | 897.5 | 853.3 | 860.3 | 829.9 | 809.4 | 862.1 | 845.9 | 817.3 |
| Portugal | 162.9 | 114.1 | 79.0 | 70.2 | 64.5 | 59.2 | 241.6 | 215.6 | 204.4 | 189.1 | 179.0 | 170.1 |
| Slovak Republic | 70.6 | 69.4 | 64.1 | 69.4 | 68.5 | 58.5 | 95.6 | 93.6 | 84.2 | 88.6 | 85.2 | 81.0 |
| Slovenia | 14.6 | 12.8 | 10.5 | 9.8 | 10.9 | 10.2 | 49.3 | 54.1 | 46.9 | 46.1 | 46.2 | 45.1 |
| Spain | 1 135.9 | 512.8 | 459.9 | 424.9 | 459.5 | 407.9 | 1 368.7 | 1 179.5 | 1 043.9 | 965.7 | 958.9 | 928.0 |
| Sweden | 32.4 | 30.2 | 29.5 | 32.0 | 29.2 | 27.8 | 164.4 | 155.9 | 147.1 | 148.7 | 139.5 | 131.8 |
| Switzerland | 13.2 | 13.7 | 11.8 | 12.5 | 10.6 | 10.8 | 84.7 | 81.6 | 76.8 | 75.3 | 70.5 | 69.3 |
| Turkey | 2 646.2 | 2 560.2 | 2 663.8 | 2 558.8 | 2 652.7 | 2 739.1 | 1 038.6 | 989.5 | 967.5 | 938.1 | 1 115.7 | 1 087.7 |
| United Kingdom | 588.0 | 490.3 | 397.3 | 415.0 | 385.4 | 426.4 | 1 467.7 | 1 317.6 | 1 147.0 | 1 113.1 | 1 040.4 | 1 057.0 |
| United States | 10 562.9 | 9 302.1 | 8 223.8 | 7 016.9 | 5 853.1 | 4 694.5 | 16 334.5 | 15 252.7 | 14 316.1 | 13 497.2 | 13 045.1 | 12 257.9 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 25 126.7 | 22 421.3 | 20 483.5 | 18 690.4 | 17 406.8 | 16 052.8 | 35 424.5 | 33 166.3 | 31 152.8 | 30 158.8 | 29 342.9 | 28 108.0 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 4 709.0 | 4 675.0 | 4 512.0 | 4 512.0 | 4 462.0 | 4 431.0 | 3 764.0 | 3 809.0 | 3 669.0 | 3 735.0 | 3 649.0 | 3 452.0 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336620*

## Sulphur and nitrogen oxides emissions

*Kilograms per capita, 2012 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335546*

# GREENHOUSE GAS EMISSIONS

Emissions of greenhouses gases (GHG) from human activities disturb the radiative energy balance of the earth's atmosphere system. They exacerbate the natural greenhouse effect, leading to temperature changes and other consequences for the earth's climate.

Climate change is of concern mainly as regards its impact on ecosystems (biodiversity), human settlements and agriculture, and on the frequency and scale of extreme weather events. It could have significant consequences for human well-being and socio-economic activities.

## Definition

Emissions refer to the sum of six GHGs that have direct effects on climate change and are considered responsible for a major part of global warming: carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride ($SF_6$).

They show total gross emissions expressed in $CO_2$ equivalents as well as emission intensities per capita. They refer to GHG emitted within the national territory; $CO_2$ emissions and removals from land use change and forestry are excluded as are international transactions of emission reduction units or certified emission reductions.

## Comparability

Data on GHG emissions are reported annually to the Secretariat of the United Nations Framework Convention on Climate Change (UNCCC) with 1990 as a base year but not by all OECD countries. They display a good level of comparability. The high per capita emissions of Luxembourg result from the lower taxation of road fuels compared to neighbouring countries, which attracts drivers to refuel in the country.

The OECD total does not include Israel.

### *Overview*

Emissions of greenhouse gas emissions have been declining in recent years in almost all OECD countries. They fell by almost 5% since 2008 in the OECD area. This is partly due to a slowdown in economic activity following the 2008 economic crisis, but also to a strengthening of climate policies and changing patterns of energy consumption. $CO_2$ remains predominant and determines the overall trend. Together with $CH_4$ and $N_2O$, it accounts for about 98% of GHG emissions. The other gases account for about 2%, but their emissions are growing.

Individual OECD countries' contributions to the additional greenhouse effect, and their rates of progress, vary significantly. These differences partly reflect different national circumstances, such as composition and rate of economic growth, population growth, energy resource endowment, and the extent to which the countries have taken steps to reduce emissions from various sources.

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### *Websites*

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## Greenhouse gas emissions

*Thousand tonnes $CO_2$ equivalent*

| | 1990 | 1995 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 414 974 | 436 864 | 489 813 | 523 479 | 529 885 | 537 931 | 544 574 | 541 178 | 540 211 | 541 543 | 543 648 |
| Austria | 78 086 | 79 744 | 80 277 | 92 581 | 89 711 | 86 967 | 86 882 | 80 148 | 84 808 | 82 761 | 80 059 |
| Belgium | 142 952 | 150 327 | 145 857 | 142 063 | 138 342 | 133 440 | 135 823 | 123 209 | 130 611 | 120 146 | 116 520 |
| Canada | 590 908 | 639 072 | 721 362 | 735 829 | 727 850 | 749 289 | 731 081 | 689 313 | 699 302 | 701 212 | 698 626 |
| Chile | 49 897 | 59 286 | 74 488 | 82 005 | 83 285 | 92 828 | 93 970 | 90 933 | 91 576 | .. | .. |
| Czech Republic | 196 146 | 151 774 | 146 330 | 145 965 | 147 021 | 147 246 | 142 185 | 134 206 | 137 008 | 135 277 | 131 466 |
| Denmark | 70 020 | 77 280 | 69 955 | 65 589 | 73 470 | 68 920 | 65 404 | 62 511 | 63 007 | 58 052 | 53 118 |
| Estonia | 40 615 | 20 064 | 17 157 | 18 421 | 17 837 | 20 949 | 19 546 | 16 189 | 19 892 | 20 484 | 19 188 |
| Finland | 70 329 | 70 768 | 69 188 | 68 624 | 79 900 | 78 249 | 70 126 | 66 003 | 74 397 | 66 861 | 60 966 |
| France | 560 384 | 556 875 | 564 597 | 563 577 | 551 868 | 542 721 | 537 953 | 514 380 | 522 156 | 495 982 | 496 221 |
| Germany | 1 248 049 | 1 117 580 | 1 040 367 | 994 460 | 1 002 426 | 976 584 | 979 803 | 912 606 | 946 388 | 928 695 | 939 083 |
| Greece | 104 927 | 109 718 | 126 579 | 135 311 | 131 794 | 134 637 | 130 758 | 124 110 | 117 878 | 114 728 | 110 985 |
| Hungary | 97 603 | 78 475 | 76 504 | 78 376 | 77 485 | 75 651 | 73 328 | 66 976 | 67 638 | 66 034 | 61 981 |
| Iceland | 3 538 | 3 315 | 3 903 | 3 859 | 4 391 | 4 619 | 5 022 | 4 779 | 4 646 | 4 441 | 4 468 |
| Ireland | 55 246 | 58 903 | 68 216 | 69 656 | 69 166 | 68 371 | 68 020 | 62 312 | 61 895 | 57 750 | 58 531 |
| Israel | .. | .. | 72 439 | 73 312 | 74 656 | 76 870 | 77 954 | 74 111 | 76 924 | 78 452 | .. |
| Italy | 519 055 | 530 333 | 551 237 | 574 262 | 563 373 | 555 078 | 540 620 | 490 113 | 499 359 | 486 601 | 460 083 |
| Japan | 1 234 320 | 1 335 888 | 1 340 523 | 1 350 321 | 1 332 533 | 1 364 258 | 1 280 903 | 1 205 673 | 1 256 095 | 1 306 518 | 1 343 118 |
| Korea | 295 683 | 442 840 | 511 187 | 569 466 | 575 193 | 591 429 | 605 407 | 609 167 | 667 755 | 697 708 | .. |
| Luxembourg | 12 901 | 10 177 | 9 762 | 13 095 | 12 946 | 12 361 | 12 188 | 11 684 | 12 250 | 12 125 | 11 839 |
| Mexico | 458 754 | 487 432 | 564 970 | 614 648 | 643 362 | 670 204 | 699 201 | 688 927 | 701 360 | .. | .. |
| Netherlands | 211 850 | 223 161 | 213 023 | 209 448 | 205 559 | 204 199 | 203 314 | 197 787 | 209 286 | 195 064 | 191 669 |
| New Zealand | 60 641 | 64 465 | 70 899 | 78 287 | 78 186 | 76 222 | 75 764 | 73 101 | 73 491 | 74 393 | 76 048 |
| Norway | 50 409 | 50 242 | 54 058 | 54 469 | 54 288 | 56 006 | 54 425 | 51 809 | 54 347 | 53 294 | 52 733 |
| Poland | 466 372 | 441 103 | 396 104 | 398 827 | 414 148 | 415 449 | 406 081 | 387 700 | 407 475 | 405 741 | 399 268 |
| Portugal | 60 767 | 71 399 | 84 100 | 87 686 | 82 647 | 80 269 | 78 032 | 74 854 | 70 634 | 69 317 | 68 752 |
| Slovak Republic | 73 227 | 53 232 | 48 947 | 50 264 | 50 318 | 48 395 | 49 001 | 44 690 | 45 382 | 44 698 | 42 710 |
| Slovenia | 18 444 | 18 549 | 18 953 | 20 314 | 20 526 | 20 672 | 21 384 | 19 373 | 19 411 | 19 463 | 18 911 |
| Spain | 283 749 | 322 108 | 380 004 | 431 393 | 423 789 | 432 112 | 398 444 | 359 659 | 347 181 | 345 887 | 340 809 |
| Sweden | 72 714 | 74 152 | 68 563 | 66 913 | 66 778 | 65 233 | 63 014 | 59 097 | 65 072 | 60 754 | 57 604 |
| Switzerland | 52 890 | 51 576 | 51 775 | 54 209 | 53 846 | 51 910 | 53 653 | 52 366 | 54 095 | 49 973 | 51 449 |
| Turkey | 188 434 | 238 820 | 298 091 | 330 740 | 350 881 | 382 378 | 368 734 | 371 149 | 403 495 | 424 091 | 439 874 |
| United Kingdom | 778 805 | 726 758 | 693 693 | 678 253 | 675 547 | 666 079 | 646 736 | 593 380 | 609 147 | 566 269 | 584 304 |
| United States | 6 219 524 | 6 597 665 | 7 075 609 | 7 228 293 | 7 150 744 | 7 287 750 | 7 090 753 | 6 642 320 | 6 854 728 | 6 716 993 | 6 487 847 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 14 756 908 | 15 279 204 | 16 086 790 | 16 480 697 | 16 434 113 | 16 625 965 | 16 258 947 | 15 352 402 | 15 858 726 | 15 674 979 | 15 505 620 |
| Brazil | 573 079 | 660 104 | 756 664 | 863 895 | 881 670 | 881 782 | 910 098 | 890 515 | 954 325 | 991 691 | 1 027 739 |
| China | .. | .. | .. | 7 465 862 | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | 1 523 767 | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 266 818 | .. | 554 334 | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 3 363 342 | 2 207 676 | 2 053 321 | 2 135 398 | 2 201 494 | 2 206 100 | 2 245 851 | 2 130 321 | 2 221 342 | 2 284 293 | 2 295 045 |
| South Africa | 347 349 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336230*

## Greenhouse gas emissions

*Tonnes per capita*




1 2 *http://dx.doi.org/10.1787/888933335043*

# REGIONAL QUALITY OF AIR

The impact of outdoor air pollution on people's health is sizeable. Fine particulate matters (or PM2.5, 2.5 microns and smaller), a mixture of sulphates, nitrates, ammonia, sodium chloride, carbon, mineral dust and water suspended in the air, can cause respiration and cardiovascular morbidity or mortality from lung cancer, cardiovascular and respiratory diseases.

## Definition

Average exposure to air pollution (PM2.5) is estimated at city, regional and national levels using the satellite-based data. The satellite-based data are weighted with data on population distributed at circa 1km$^2$ resolution. Subsequently, the exposure to air pollution is calculated by taking the weighted average value of PM2.5 for the 1km$^2$ grid cells present in each territory (country, region or city), with the weight given by the estimated population count in each cell.

Comparability of regional statistics is affected by differences in the meaning of the word "region". This results in significant differences in terms of geographic area and population both within and among countries. To address this issue, the OECD has classified regions within each country based on two levels: territorial level 2 (TL2, large regions) and territorial level 3 (TL3, small regions).

Metropolitan areas are defined as the functional urban areas (FUA) with population above 500 000. The functional urban areas are defined as densely populated municipalities (urban cores) and adjacent municipalities with high levels of commuting towards the densely populated urban cores (hinterland). Functional urban areas can extend across administrative boundaries, reflecting the economic geography of where people actually live and work.

## Comparability

Air pollution in regions refers here to small regions.

The functional urban areas have not been identified in Iceland, Israel, New Zealand and Turkey. The FUA of Luxembourg does not appear in the figures since it has a population below 500 000 inhabitants.

### *Overview*

OECD estimates show a wide variation in PM2.5 exposure levels across regions within countries, with the largest exposures in Mexico, Italy, Chile and Turkey. In 58% of OECD regions, representing 64% of the total OECD population, the levels of air pollution were higher than World Health Organization recommendations. Critically high values are found in some regions in Korea, Turkey, Mexico, Italy and Israel, among the OECD countries, and China and India. For example, Mexico shows a national average exposure to PM2.5 of 11.5 µg/m$^3$, however half of the population live in regions with air pollution levels higher than the national average.

More than one-third of urban population in the OECD area breathes a cleaner air than the rest of the population. At the country level, the share of urban population exposed to lower levels of air pollution than the rest of the country varies from 100% in Estonia to 10% in Spain. In the Czech Republic, Denmark, Finland, Hungary, Ireland, Norway, Slovenia and the Slovak Republic the entire urban population is exposed to pollution levels above the national average.

Cities' characteristics and local efforts to reduce air pollution paint a differentiated geography of urban air quality also within countries. For example, the average exposure to PM2.5 in Cuernavaca (Mexico), Milan (Italy) and Kurnamoto (Japan) is three times higher than in other cities of these countries. All cities in Canada, Finland, Chile, Estonia, Norway, Ireland and Australia have relatively low level of air pollution.

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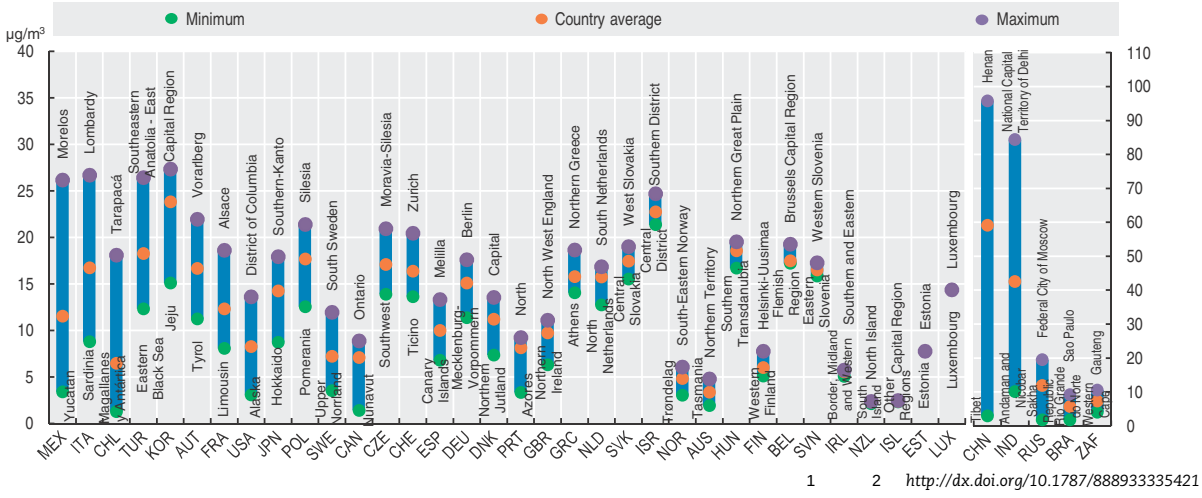
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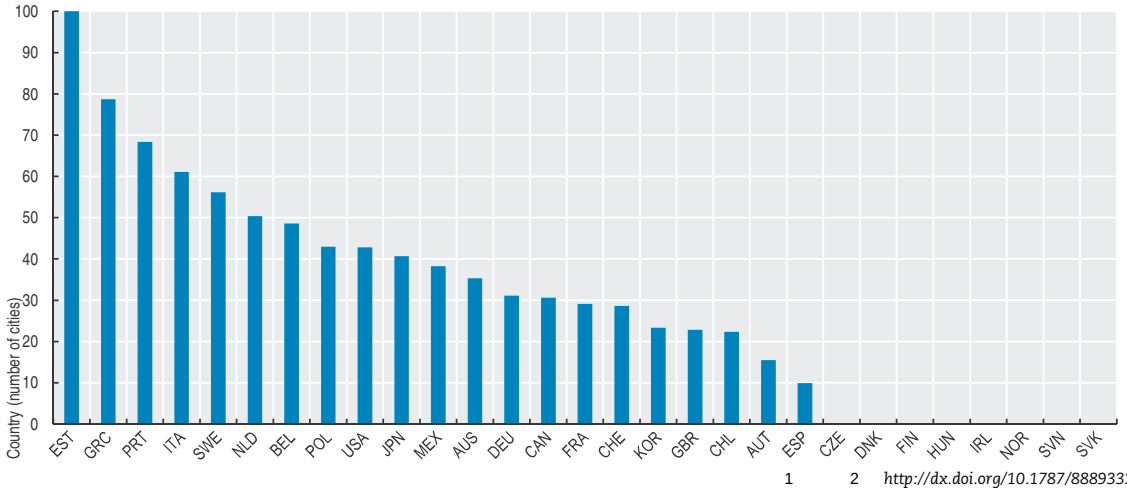
## Regional disparities in average exposure to air pollution

*Regions with the lowest and highest exposure to PM2.5 levels, 2011*



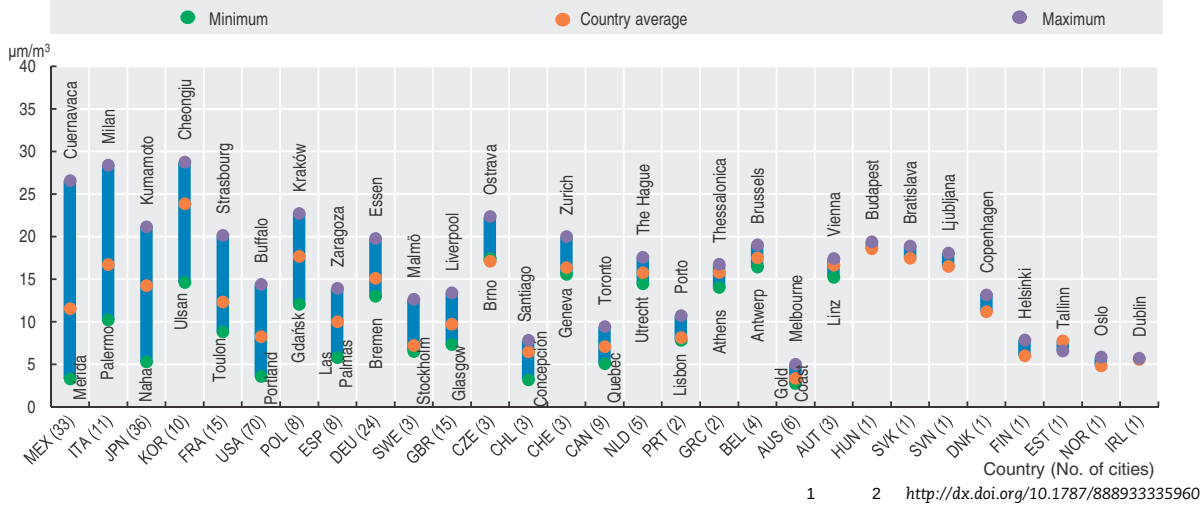

## Share of urban population with exposure to PM2.5 below the national average

*2011*




## Urban disparities in average exposure to PM2.5

*Cities with the lowest and highest exposure to PM2.5 levels in each country, 2011*



# EXPENDITURE ON R&D

Expenditure on research and development (R&D) is a key indicator of countries' innovative efforts. Research and development comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge (including knowledge of man, culture and society) and the use of this knowledge to devise new applications.

## Definition

Research and development covers three activities: basic research; applied research; and experimental development. Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. Applied research is also original investigation undertaken in order to acquire new knowledge; it is, however, directed primarily towards a specific practical aim or objective. Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

The main aggregate used for international comparisons is gross domestic expenditure on R&D (GERD). This consists of the total expenditure (current and capital) on R&D carried out by all resident companies, research institutes, university and government laboratories, etc. It includes R&D funded from abroad but excludes domestic funds for R&D performed outside the domestic economy. GERD is expressed in constant 2010 dollars (adjusted for purchasing power parity) and as a share of GDP (R&D intensity).

## Comparability

R&D data have been compiled according to the 2002 guidelines of the *Frascati Manual* which have now been superseded by the 2015 edition. The revised definitions are in the course of being implemented and are not expected to revise significantly the major indicators. Estimates of the resources allocated to R&D are affected by national characteristics such as the periodicity and coverage of national R&D surveys across institutional sectors and industries (and the inclusion of firms and organisations of different sizes); and the use of different sampling and estimation methods.

Data for Israel exclude defence. Those for Korea, prior to 2007, exclude social sciences and the humanities. For the United States, R&D capital expenditures are excluded (except for the government sector) and depreciation charges of the business enterprises are included.

The latest update to the *System of National Accounts* (SNA), the 2008 SNA, recognised the role of R&D as an activity leading to the creation of an intellectual asset. One implication of this is that the level of GDP has been revised upwards and the R&D intensity ratio has been reduced, as the numerator has stayed constant and the denominator increased. Users should be careful when comparing the R&D intensity of countries that have and have not capitalised R&D in their national accounts. Likewise, they should avoid comparing previously published measures of R&D intensity and more recent ones.

## *Overview*

Among OECD countries, the United States has the highest level of gross domestic expenditure on R&D (GERD), with 40% of the total OECD GERD in 2013, followed by Japan (14%) and Germany (9%). Since 2000, real R&D expenditure has been growing fastest in Estonia (average annual growth rate of 12.5%), Turkey (9.7%), Korea (9.4%) and Slovenia (7%). Outside the OECD area, China's average annual real growth in R&D spending has been 17.2%, making it the world's second largest R&D performer and ahead of Japan since 2009.

In 2013, R&D amounted to 2.4% of GDP for the OECD as a whole. Denmark, Finland, Israel, Japan, Korea and Sweden were the only OECD countries whose R&D-to-GDP ratio exceeded 3%.

Over the last decade, R&D intensity grew in the EU (from 1.7% to 1.9%), in Japan (from 3.1% to 3.5%) and in the United States (from 2.6% to 2.7%). Estonia, Portugal, Slovenia and Turkey were the fastest growing OECD countries. In the same period, R&D intensity in China increased from 1.1% to 2.1% and surpassed the EU for the first time in 2012.

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## Gross domestic expenditure on R&D

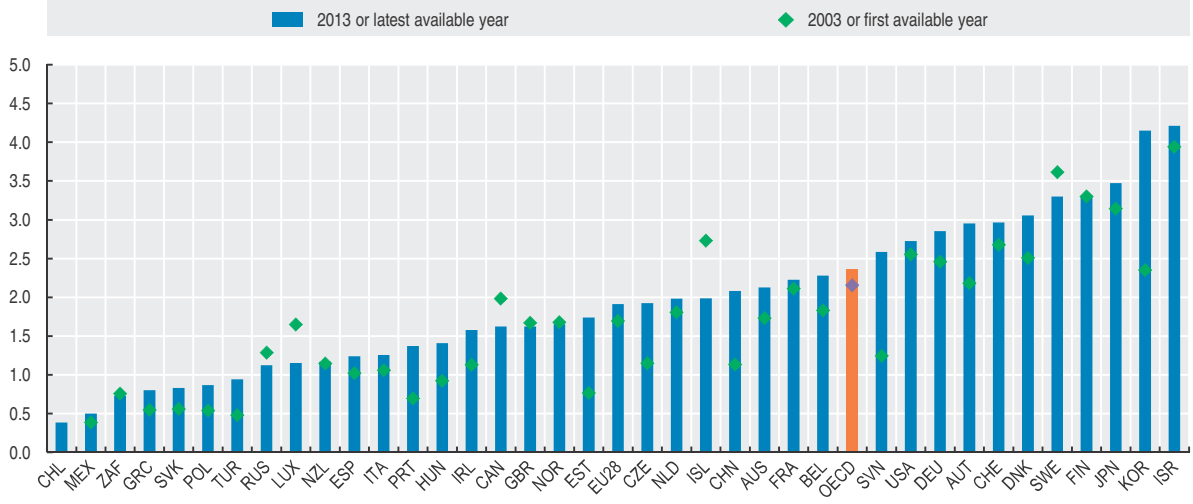
*Million US dollars, 2010 constant prices and PPPs*

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | .. | 12 206 | .. | 13 773 | .. | 17 031 | .. | 20 174 | .. | 20 546 | 20 653 | .. | .. |
| Austria | 6 093 | 6 424 | 6 825 | 6 981 | 7 818 | 8 039 | 8 545 | 9 223 | 8 969 | 9 586 | 9 662 | 10 485 | 10 754 |
| Belgium | 7 540 | 7 161 | 6 996 | 7 145 | 7 172 | 7 469 | 7 828 | 8 231 | 8 272 | 8 766 | 9 358 | 9 770 | 9 963 |
| Canada | 23 380 | 23 499 | 23 857 | 24 959 | 25 401 | 25 663 | 25 673 | 25 303 | 25 333 | 25 029 | 24 946 | 24 436 | 23 673 |
| Chile | .. | .. | .. | .. | .. | .. | 892 | 1 113 | 1 037 | 1 028 | 1 162 | 1 265 | 1 398 |
| Czech Republic | 2 362 | 2 399 | 2 589 | 2 709 | 2 942 | 3 313 | 3 699 | 3 615 | 3 593 | 3 796 | 4 507 | 5 129 | 5 474 |
| Denmark | 5 073 | 5 353 | 5 527 | 5 468 | 5 537 | 5 771 | 6 091 | 6 684 | 7 005 | 6 812 | 6 959 | 7 045 | 7 089 |
| Estonia | 150 | 163 | 188 | 222 | 263 | 351 | 363 | 405 | 382 | 444 | 712 | 687 | 562 |
| Finland | 5 693 | 5 897 | 6 097 | 6 361 | 6 567 | 6 849 | 7 222 | 7 712 | 7 476 | 7 653 | 7 666 | 7 101 | 6 781 |
| France | 44 884 | 46 165 | 45 371 | 46 088 | 45 888 | 46 997 | 47 513 | 48 490 | 50 530 | 50 730 | 52 155 | 53 196 | 53 493 |
| Germany | 71 846 | 72 750 | 73 457 | 73 239 | 73 809 | 77 602 | 79 820 | 85 650 | 84 767 | 87 822 | 93 726 | 96 756 | 96 069 |
| Greece | 1 572 | .. | 1 691 | 1 715 | 1 894 | 1 942 | 2 064 | 2 359 | 2 134 | 1 927 | 1 967 | 1 890 | 2 119 |
| Hungary | 1 674 | 1 883 | 1 831 | 1 801 | 2 013 | 2 227 | 2 183 | 2 254 | 2 436 | 2 473 | 2 625 | 2 744 | 3 078 |
| Iceland | 280 | 281 | 275 | .. | 311 | 351 | 338 | 338 | 338 | .. | 314 | .. | 263 |
| Ireland | 1 711 | 1 815 | 1 988 | 2 178 | 2 333 | 2 473 | 2 659 | 2 921 | 3 192 | 3 166 | 3 082 | 3 160 | .. |
| Israel | 6 669 | 6 588 | 6 286 | 6 563 | 7 145 | 7 752 | 8 807 | 8 926 | 8 611 | 8 673 | 9 372 | 9 993 | 10 236 |
| Italy | 21 201 | 22 066 | 21 634 | 21 793 | 21 874 | 23 162 | 24 492 | 24 898 | 24 697 | 25 152 | 25 022 | 25 548 | 24 835 |
| Japan | 123 563 | 125 578 | 128 853 | 131 447 | 140 618 | 147 337 | 152 878 | 151 532 | 138 627 | 140 607 | 145 528 | 146 330 | 154 515 |
| Korea | 23 896 | 24 934 | 26 543 | 29 986 | 32 316 | 36 635 | 40 952 | 43 839 | 46 549 | 52 173 | 58 427 | 64 268 | 68 149 |
| Luxembourg | .. | .. | 578 | 596 | 606 | 678 | 702 | 707 | 698 | 641 | 618 | 506 | 515 |
| Mexico | 5 058 | 5 639 | 5 689 | 6 011 | 6 352 | 6 154 | 6 274 | 6 971 | 7 094 | 7 864 | 7 651 | 8 077 | 9 505 |
| Netherlands | 11 993 | 11 689 | 11 960 | 12 259 | 12 450 | 12 689 | 12 660 | 12 564 | 12 395 | 12 822 | 14 383 | 14 527 | 14 638 |
| New Zealand | 1 197 | .. | 1 370 | .. | 1 432 | .. | 1 575 | .. | 1 679 | .. | 1 722 | .. | 1 693 |
| Norway | 3 592 | 3 680 | 3 829 | 3 791 | 3 958 | 4 178 | 4 571 | 4 802 | 4 828 | 4 744 | 4 899 | 5 054 | 5 168 |
| Poland | 3 395 | 3 103 | 3 104 | 3 367 | 3 550 | 3 684 | 4 015 | 4 476 | 5 072 | 5 723 | 6 223 | 7 478 | 7 428 |
| Portugal | 2 061 | 1 960 | 1 877 | 1 997 | 2 090 | 2 676 | 3 231 | 4 161 | 4 413 | 4 363 | 4 071 | 3 695 | 3 617 |
| Slovak Republic | 531 | 500 | 526 | 494 | 519 | 542 | 566 | 616 | 597 | 816 | 903 | 1 114 | 1 157 |
| Slovenia | 656 | 668 | 595 | 682 | 732 | 840 | 834 | 984 | 1 013 | 1 163 | 1 378 | 1 426 | 1 417 |
| Spain | 11 201 | 12 428 | 13 654 | 14 311 | 15 663 | 17 454 | 19 075 | 20 578 | 20 359 | 20 336 | 19 756 | 18 608 | 17 960 |
| Sweden | 12 630 | .. | 12 189 | 11 931 | 12 263 | 13 255 | 12 752 | 13 610 | 12 611 | 12 585 | 12 952 | 13 145 | 13 396 |
| Switzerland | .. | .. | .. | 9 346 | .. | .. | .. | 10 875 | .. | .. | .. | 12 250 | .. |
| Turkey | 4 053 | 4 208 | 4 069 | 4 774 | 5 901 | 6 192 | 8 070 | 8 154 | 9 086 | 9 853 | 10 921 | 11 964 | 12 774 |
| United Kingdom | 33 572 | 34 389 | 34 831 | 34 443 | 35 873 | 37 387 | 39 153 | 39 035 | 38 605 | 38 139 | 38 787 | 37 633 | 38 116 |
| United States | 338 685 | 333 151 | 342 931 | 347 142 | 361 066 | 377 207 | 395 494 | 415 342 | 411 369 | 410 093 | 420 072 | 419 722 | 433 380 |
| EU 28 | 249 178 | 254 184 | 256 513 | 259 025 | 265 325 | 279 139 | 289 692 | 303 718 | 302 976 | 308 607 | 320 503 | 325 744 | 325 568 |
| OECD | 797 175 | 801 542 | 819 758 | 835 994 | 872 322 | 916 577 | 960 528 | 998 381 | 985 019 | 998 864 | 1 033 905 | 1 048 576 | 1 076 732 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 46 018 | 56 499 | 65 854 | 78 656 | 94 305 | 111 357 | 127 816 | 147 563 | 186 611 | 213 010 | 243 035 | 282 481 | 317 848 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 22 623 | 25 097 | 27 753 | 26 629 | 26 276 | 28 551 | 32 234 | 31 745 | 35 078 | 33 094 | 33 298 | 35 522 | 35 937 |
| South Africa | 3 126 | .. | 3 545 | 3 964 | 4 429 | 4 867 | 5 040 | 5 232 | 4 847 | 4 405 | 4 529 | 4 614 | .. |

1 2 *http://dx.doi.org/10.1787/888933336203*

## Gross domestic expenditure on R&D

*As a percentage of GDP*




1 2 *http://dx.doi.org/10.1787/888933335027*

# RESEARCHERS

On average, in OECD countries, labour costs account for half of the R&D expenditure. Researchers represent around 60% of total R&D personnel on average in the OECD.

## Definition

Researchers are professionals engaged in the conception and creation of new knowledge, products, processes, methods and systems, as well as those who are directly involved in the management of projects for such purposes. They include researchers working in both civil and military research in government, universities and research institutes as well as in the business sector.

Researchers are part of human resources devoted to R&D. Other categories of R&D personnel are technicians (and equivalent staff) who participate in R&D by performing scientific and technical tasks, and other supporting staff (skilled and unskilled craftsmen, secretarial and clerical staff participating in R&D projects).

The number of researchers is measured in full-time equivalents (i.e. a person working half-time on R&D is counted as 0.5 person-year) and expressed per thousand people employed in each country. The number of researchers includes staff engaged in R&D during the course of one year.

## *Overview*

In the OECD area, around 4.4 million persons were employed as researchers in 2013. There were about 7.8 researchers per thousand of employed persons, compared with 5.4 per thousand employed in 1995, and this has steadily increased over the last two decades.

The Nordic countries as well as Korea and Israel top the table for the numbers of researchers per thousand persons employed, with Israel the highest in the OECD, recording 17.4 researchers per thousand persons employed in 2012. Conversely, researchers per thousand of employed people are low in Chile and Mexico. Other countries with low rates, below 5.0 researchers per thousand of employed people, include Italy, Poland and Turkey.

In 2012, in the OECD, about 2.6 million researchers were engaged in the business sector. This represents approximately 60% of the total although there are differences across countries: two out of three researchers work in the business sector in the United States, about three out of four in Japan and Korea, but less than one out of two in the EU. Chile, Mexico, and South Africa have a low intensity of business researchers (less than one per 1 000 employees in industry). In these countries, the business sector plays a much smaller role in the national R&D system than the higher education and government sectors.

## Comparability

The data on researchers have been compiled according to the 2002 guidelines of the *Frascati Manual* which have now been superseded by the 2015 edition. The revised definitions are in the course of being implemented and are not expected to revise significantly the major indicators. Comparability over time is affected to some extent by improvements in the coverage of national R&D surveys and by the efforts of countries to improve the international comparability of their data.

For the United States, the total numbers of researchers are OECD estimates and exclude military personnel in the government sector. For China, from 2009 researcher data are collected according to the *Frascati Manual* definition of researcher.

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## Researchers

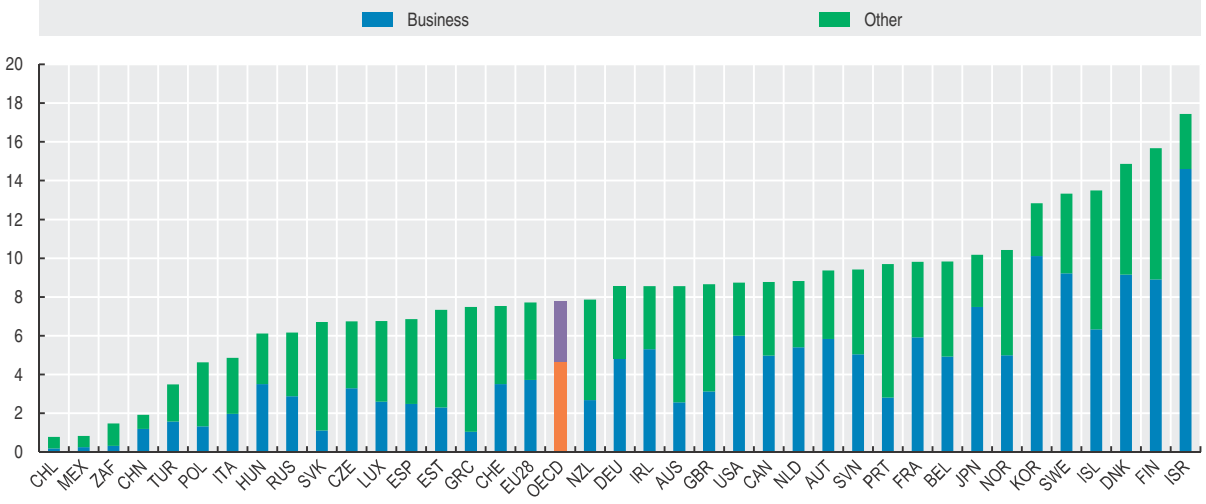
*Per thousand employed, full-time equivalent*

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | .. | 7.8 | .. | 8.3 | .. | 8.5 | .. | 8.6 | .. | .. | .. | .. | .. |
| Austria | .. | 6.4 | .. | 6.8 | 7.3 | 7.4 | 7.9 | 8.4 | 8.5 | 8.9 | 8.9 | 9.3 | 9.4 |
| Belgium | 7.7 | 7.4 | 7.4 | 7.7 | 7.8 | 8.1 | 8.3 | 8.2 | 8.6 | 9.1 | 9.4 | 9.6 | 9.8 |
| Canada | 7.5 | 7.4 | 7.7 | 8.0 | 8.3 | 8.4 | 8.9 | 9.0 | 8.8 | 9.1 | 9.2 | 8.8 | .. |
| Chile | .. | .. | .. | .. | .. | .. | 0.9 | 0.9 | 0.7 | 0.8 | 0.8 | 0.9 | 0.8 |
| Czech Republic | 3.1 | 3.1 | 3.3 | 3.4 | 4.9 | 5.3 | 5.5 | 5.7 | 5.6 | 5.8 | 6.1 | 6.6 | 6.7 |
| Denmark | 7.1 | 9.3 | 9.1 | 9.6 | 10.2 | 10.3 | 10.5 | 12.3 | 13.0 | 13.6 | 14.2 | 14.9 | 14.9 |
| Estonia | 4.5 | 5.2 | 5.0 | 5.6 | 5.4 | 5.5 | 5.7 | 6.2 | 7.5 | 7.4 | 7.7 | 7.7 | 7.3 |
| Finland | 15.8 | 16.4 | 17.7 | 17.3 | 16.4 | 16.5 | 15.6 | 16.0 | 16.3 | 16.7 | 15.9 | 15.9 | 15.7 |
| France | 6.8 | 7.1 | 7.4 | 7.7 | 7.7 | 7.9 | 8.2 | 8.4 | 8.7 | 9.1 | 9.2 | 9.6 | 9.8 |
| Germany | 6.6 | 6.7 | 6.9 | 6.9 | 6.9 | 7.1 | 7.2 | 7.4 | 7.8 | 8.0 | 8.1 | 8.4 | 8.5 |
| Greece | 3.3 | .. | 3.5 | .. | 4.2 | 4.2 | 4.4 | .. | .. | .. | 5.6 | 6.2 | 7.5 |
| Hungary | 3.5 | 3.5 | 3.6 | 3.6 | 3.8 | 4.2 | 4.1 | 4.5 | 5.0 | 5.3 | 5.7 | 5.9 | 6.1 |
| Iceland | 11.7 | .. | 12.2 | .. | 13.4 | 14.2 | 12.5 | 12.9 | 14.9 | .. | 13.5 | .. | .. |
| Ireland | 5.1 | 5.3 | 5.5 | 5.9 | 5.9 | 5.9 | 5.9 | 6.8 | 7.2 | 7.5 | 8.2 | 8.6 | .. |
| Israel | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 15.7 | 17.4 | .. |
| Italy | 2.8 | 3.0 | 2.9 | 3.0 | 3.4 | 3.5 | 3.7 | 3.8 | 4.1 | 4.2 | 4.3 | 4.5 | 4.9 |
| Japan | 10.0 | 9.7 | 10.1 | 10.0 | 10.4 | 10.4 | 10.4 | 10.0 | 10.1 | 10.2 | 10.2 | 10.0 | 10.2 |
| Korea | 6.3 | 6.4 | 6.8 | 6.9 | 7.9 | 8.6 | 9.5 | 10.0 | 10.4 | 11.1 | 11.9 | 12.8 | 12.8 |
| Luxembourg | .. | .. | 6.7 | 6.8 | 7.2 | 6.4 | 6.6 | 6.5 | 6.8 | 7.3 | 8.2 | 6.6 | 6.8 |
| Mexico | 0.6 | 0.8 | 0.9 | 1.0 | 1.1 | 0.9 | 0.9 | 0.9 | 1.0 | 0.8 | 0.8 | .. | .. |
| Netherlands | 5.4 | 5.2 | 5.2 | 5.8 | 5.7 | 6.2 | 5.8 | 5.7 | 5.3 | 6.1 | 6.9 | 8.3 | 8.8 |
| New Zealand | 5.7 | .. | 6.5 | .. | 6.3 | .. | 6.9 | .. | 7.5 | .. | 7.4 | .. | 7.9 |
| Norway | 8.5 | .. | 8.9 | 8.9 | 9.0 | 9.3 | 9.6 | 9.8 | 10.1 | 10.2 | 10.4 | 10.4 | 10.4 |
| Poland | 4.0 | 4.1 | 4.3 | 4.4 | 4.4 | 4.1 | 4.1 | 3.9 | 3.9 | 4.2 | 4.1 | 4.3 | 4.6 |
| Portugal | 3.5 | 3.7 | 4.0 | 4.1 | 4.2 | 4.9 | 5.6 | 8.0 | 8.1 | 8.5 | 9.2 | 9.3 | 9.7 |
| Slovak Republic | 4.7 | 4.5 | 4.7 | 5.2 | 5.2 | 5.5 | 5.7 | 5.6 | 6.0 | 7.0 | 6.9 | 6.9 | 6.7 |
| Slovenia | 4.9 | 5.0 | 4.1 | 4.3 | 5.7 | 6.2 | 6.4 | 7.0 | 7.6 | 8.0 | 9.3 | 9.5 | 9.4 |
| Spain | 4.6 | 4.7 | 5.1 | 5.3 | 5.5 | 5.6 | 5.8 | 6.1 | 6.7 | 6.9 | 6.8 | 6.9 | 6.9 |
| Sweden | 10.5 | .. | 11.0 | 11.2 | 12.7 | 12.6 | 10.1 | 11.0 | 10.6 | 11.0 | 10.6 | 10.7 | 13.3 |
| Switzerland | .. | .. | .. | 6.0 | .. | .. | .. | 5.5 | .. | .. | .. | 7.5 | .. |
| Turkey | 1.2 | 1.2 | 1.7 | 1.7 | 2.0 | 2.1 | 2.4 | 2.5 | 2.7 | 2.8 | 3.0 | 3.3 | 3.5 |
| United Kingdom | 6.5 | 7.1 | 7.7 | 8.0 | 8.6 | 8.7 | 8.6 | 8.5 | 8.8 | 8.8 | 8.6 | 8.7 | 8.7 |
| United States | 7.3 | 7.5 | 8.0 | 7.8 | 7.6 | 7.7 | 7.6 | 8.1 | 8.8 | 8.5 | 8.8 | 8.7 | .. |
| EU 28 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.3 | 6.4 | 6.6 | 6.8 | 7.1 | 7.2 | 7.5 | 7.7 |
| OECD | 6.3 | 6.4 | 6.7 | 6.7 | 6.9 | 7.0 | 7.0 | 7.2 | 7.5 | 7.5 | 7.7 | 7.8 | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 1.0 | 1.1 | 1.2 | 1.2 | 1.5 | 1.6 | 1.9 | 2.1 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 7.8 | 7.4 | 7.3 | 7.1 | 6.8 | 6.7 | 6.6 | 6.4 | 6.4 | 6.3 | 6.3 | 6.2 | 6.2 |
| South Africa | 1.2 | .. | 1.2 | 1.5 | 1.4 | 1.4 | 1.4 | 1.3 | 1.4 | 1.4 | 1.4 | 1.5 | .. |

1 2 *http://dx.doi.org/10.1787/888933336548*

## Researchers

*Per thousand employed, full-time equivalent, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335457*

# PATENTS

Patent-based indicators provide a measure of the output of a country's R&D, i.e. its inventions. The methodology used for counting patents can however influence the results, as simple counts of patents filed at a national patent office are affected by various kinds of limitations (such as weak international comparability) and highly heterogeneous patent values. To overcome these limits, the OECD has developed triadic patent families, which are designed to capture all important inventions and to be internationally comparable.

## Definition

A patent family is defined as a set of patents registered in various countries (i.e. patent offices) to protect the same invention. Triadic patent families are a set of patents filed at three of these major patent offices: the European Patent Office, the Japan Patent Office and the United States Patent and Trademark Office.

Triadic patent family counts are attributed to the country of residence of the inventor and to the date when the patent was first registered.

Triadic patent families are expressed as numbers and per million inhabitants.

## Comparability

The concept of triadic patent families has been developed in order to improve the international comparability and quality of patent-based indicators. Indeed, only patents registered in the same set of countries are included in the family: home advantage and influence of geographical location are therefore eliminated. Furthermore, patents included in the triadic family are typically of higher economic value: patentees only take on the additional costs and delays of extending the protection of their invention to other countries if they deem it worthwhile.

### *Overview*

Although the volume of triadic patent families remained relatively steady over time, with more than 50 500 triadic patent families filed in 2013, there has been a significant shift in the origin of patented inventions. The share of triadic patent families originating from Europe (26.2%), Japan (26.6%) and the United States (27.0%) report a loss of 1 to 4 percentage points compared to the levels observed in 2003. Asian countries are increasingly contributing to patent families: the most spectacular growth among OECD countries has been observed by Korea, whose share of all triadic patent families increased from 3.8% in 2003 to 5.8% in 2013. Strong rises are also observed for China and India, with an average growth in the number of triadic patents of more than 17% and 12% a year respectively seen between 2003 and 2013.

When triadic patent families are expressed relative to the total population, Switzerland, Japan, Germany, Sweden and Denmark were the five most inventive countries in 2013, with the highest values recorded in Switzerland (148) and Japan (125). Ratios for Austria, Belgium, Finland, Israel, Korea, the Netherlands and the United States are also above the OECD average (40).

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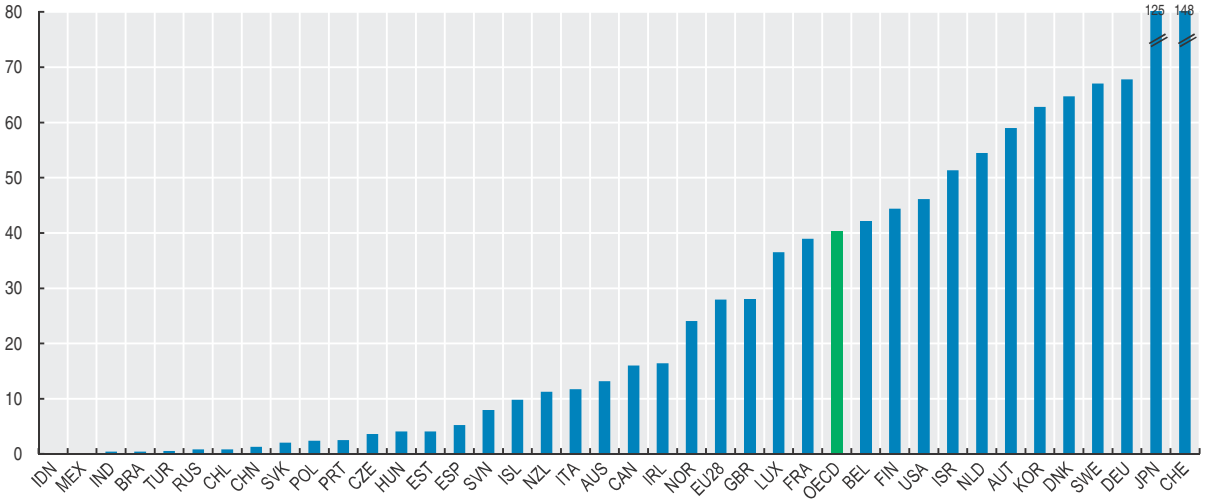
*Number*

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 466 | 491 | 498 | 524 | 482 | 365 | 346 | 317 | 351 | 305 | 301 | 299 | 304 |
| Austria | 339 | 349 | 346 | 353 | 408 | 355 | 376 | 343 | 367 | 389 | 419 | 458 | 500 |
| Belgium | 438 | 473 | 464 | 565 | 541 | 478 | 430 | 457 | 479 | 474 | 490 | 487 | 471 |
| Canada | 635 | 681 | 669 | 736 | 715 | 667 | 682 | 690 | 678 | 554 | 545 | 562 | 564 |
| Chile | 9 | 6 | 3 | 7 | 6 | 9 | 7 | 9 | 11 | 15 | 16 | 16 | 15 |
| Czech Republic | 20 | 23 | 23 | 24 | 25 | 28 | 23 | 28 | 17 | 14 | 29 | 32 | 38 |
| Denmark | 281 | 287 | 312 | 369 | 390 | 317 | 316 | 345 | 258 | 302 | 340 | 347 | 364 |
| Estonia | 3 | 1 | 6 | 0 | 3 | 7 | 4 | 3 | 3 | 3 | 5 | 5 | 5 |
| Finland | 417 | 318 | 350 | 396 | 390 | 293 | 259 | 253 | 224 | 226 | 230 | 240 | 241 |
| France | 2 809 | 2 753 | 2 757 | 2 968 | 3 051 | 2 885 | 2 782 | 2 887 | 2 722 | 2 472 | 2 606 | 2 539 | 2 484 |
| Germany | 7 242 | 6 890 | 6 747 | 6 997 | 7 143 | 6 532 | 5 809 | 5 473 | 5 561 | 5 352 | 5 396 | 5 440 | 5 465 |
| Greece | 11 | 12 | 20 | 15 | 24 | 22 | 14 | 16 | 15 | 5 | 9 | 9 | 8 |
| Hungary | 42 | 37 | 50 | 60 | 59 | 48 | 59 | 31 | 50 | 37 | 40 | 41 | 40 |
| Iceland | 5 | 14 | 6 | 5 | 7 | 8 | 10 | 5 | 2 | 3 | 3 | 3 | 3 |
| Ireland | 61 | 67 | 86 | 96 | 97 | 76 | 93 | 84 | 85 | 64 | 70 | 74 | 75 |
| Israel | 387 | 323 | 363 | 422 | 501 | 421 | 349 | 369 | 377 | 350 | 367 | 389 | 414 |
| Italy | 917 | 929 | 900 | 974 | 964 | 822 | 729 | 759 | 737 | 700 | 688 | 696 | 705 |
| Japan | 16 630 | 16 830 | 17 909 | 18 712 | 17 717 | 17 992 | 17 722 | 15 726 | 15 330 | 16 042 | 16 423 | 16 220 | 15 970 |
| Korea | 1 157 | 1 570 | 2 195 | 2 570 | 2 750 | 2 350 | 1 982 | 1 828 | 2 108 | 2 460 | 2 668 | 2 887 | 3 154 |
| Luxembourg | 28 | 15 | 23 | 27 | 21 | 24 | 15 | 20 | 20 | 24 | 24 | 22 | 20 |
| Mexico | 14 | 14 | 21 | 19 | 19 | 27 | 19 | 17 | 15 | 14 | 15 | 16 | 17 |
| Netherlands | 1 364 | 1 870 | 1 987 | 1 974 | 1 761 | 1 478 | 1 065 | 1 127 | 1 052 | 819 | 961 | 930 | 916 |
| New Zealand | 57 | 81 | 76 | 80 | 73 | 72 | 56 | 72 | 55 | 44 | 45 | 48 | 50 |
| Norway | 113 | 132 | 120 | 134 | 142 | 123 | 106 | 87 | 129 | 116 | 118 | 121 | 122 |
| Poland | 15 | 20 | 16 | 24 | 18 | 18 | 25 | 37 | 32 | 61 | 71 | 81 | 92 |
| Portugal | 9 | 8 | 12 | 12 | 16 | 21 | 42 | 29 | 17 | 16 | 21 | 22 | 26 |
| Slovak Republic | 4 | 4 | 6 | 1 | 2 | 3 | 4 | 5 | 2 | 8 | 11 | 11 | 11 |
| Slovenia | 8 | 17 | 16 | 14 | 22 | 8 | 12 | 16 | 17 | 16 | 15 | 16 | 16 |
| Spain | 213 | 225 | 207 | 293 | 292 | 269 | 258 | 269 | 255 | 236 | 254 | 249 | 244 |
| Sweden | 754 | 794 | 758 | 804 | 970 | 885 | 964 | 837 | 797 | 641 | 675 | 677 | 644 |
| Switzerland | 983 | 992 | 1 042 | 1 100 | 1 087 | 1 149 | 1 008 | 995 | 968 | 1 060 | 1 106 | 1 153 | 1 207 |
| Turkey | 12 | 10 | 11 | 17 | 16 | 17 | 9 | 27 | 28 | 34 | 38 | 41 | 42 |
| United Kingdom | 2 294 | 2 231 | 2 202 | 2 098 | 2 169 | 2 091 | 1 799 | 1 699 | 1 724 | 1 681 | 1 693 | 1 715 | 1 770 |
| United States | 16 022 | 16 504 | 16 807 | 17 230 | 17 399 | 15 502 | 13 916 | 13 829 | 13 537 | 12 823 | 13 254 | 13 819 | 14 606 |
| EU 28 | 17 287 | 17 356 | 17 340 | 18 101 | 18 411 | 16 678 | 15 106 | 14 738 | 14 460 | 13 558 | 14 067 | 14 111 | 14 162 |
| OECD | 53 762 | 54 969 | 57 009 | 59 618 | 59 281 | 55 359 | 51 292 | 48 690 | 48 023 | 47 362 | 48 945 | 49 661 | 50 604 |
| Brazil | 65 | 58 | 57 | 67 | 76 | 71 | 70 | 84 | 78 | 65 | 69 | 78 | 88 |
| China | 154 | 272 | 358 | 403 | 522 | 565 | 695 | 826 | 1 297 | 1 417 | 1 542 | 1 657 | 1 785 |
| India | 109 | 172 | 167 | 175 | 206 | 214 | 197 | 290 | 310 | 375 | 439 | 484 | 528 |
| Indonesia | 2 | 5 | 3 | 2 | 1 | 5 | 1 | 1 | 1 | 3 | 4 | 5 | 6 |
| Russian Federation | 83 | 80 | 79 | 70 | 91 | 75 | 78 | 59 | 87 | 89 | 102 | 111 | 119 |
| South Africa | 28 | 39 | 43 | 38 | 49 | 40 | 37 | 52 | 35 | 30 | 39 | 42 | 42 |
| World | 54 541 | 56 013 | 58 149 | 60 830 | 60 762 | 56 815 | 52 946 | 50 598 | 50 519 | 50 080 | 51 950 | 52 867 | 54 037 |

1 2 *http://dx.doi.org/10.1787/888933336477*

## Triadic patent families

*Number per million inhabitants, 2013*




1 2 *http://dx.doi.org/10.1787/888933335331*





# EDUCATION

## OUTCOMES

INTERNATIONAL STUDENT ASSESSMENT
STUDENTS, COMPUTERS AND LEARNING
EARLY CHILDHOOD EDUCATION AND CARE
YOUTH INACTIVITY
HOW MANY STUDENTS STUDY ABROAD?
EDUCATIONAL ATTAINMENT

## RESOURCES

TEACHERS' SALARIES
EDUCATIONAL EXPENDITURE
EXPENDITURE IN TERTIARY EDUCATION

# INTERNATIONAL STUDENT ASSESSMENT

How effective are school systems in providing young people with a solid foundation in the knowledge and skills that will equip them for life and learning beyond school? The OECD Programme for International Student Assessment (PISA) assesses student knowledge and skills at age 15, i.e. toward the end of compulsory education. The PISA 2012 survey covers mathematics, reading, science and problem-solving. For the first time, PISA 2012 also included an assessment of the financial literacy of young people and an optional computer-based assessment of mathematics.

## Definition

PISA is a triennial survey of 15-year-old students around the world. The survey examines how well students can extrapolate from what they have learned and can apply that knowledge in unfamiliar settings, both in and outside of school. The PISA survey covers 3 main subjects: mathematics, reading and science and in each round, one of these subjects is the major domain and the other two are minor domains. In PISA 2012 the major domain was mathematics.

For PISA, mathematical literacy means the capacity to formulate, employ and interpret mathematics in a variety of contexts to describe, predict and explain phenomena. It assists individuals in recognising the role that mathematics plays in the world and to make the well-founded judgements and decisions needed by constructive, engaged and reflective citizens. Reading literacy is the capacity to understand, use and reflect on written texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society. Scientific literacy is the capacity to use scientific knowledge to identify questions, acquire new knowledge, explain scientific phenomena, and draw evidence-based conclusions about science-related issues.

## Comparability

Leading experts in countries participating in PISA provide advice on the scope and nature of the assessments, with final decisions taken by the PISA Governing Board. Substantial efforts and resources are devoted to achieving cultural and linguistic breadth and balance in the assessment materials. Stringent quality assurance mechanisms are applied in the item development and translation, sampling, data collection, scoring and data management stages to ensure comparability of the results.

Around 510 000 15-year-old students in 65 participating countries or economies were assessed in PISA 2012. Because the results are based on probability samples, standard errors (S.E.) are normally shown in the tables.

### *Overview*

The average score from the PISA 2012 results across OECD countries are 494 points for mathematics, 496 points for reading and 501 points for science. Korea has the highest score in mathematics, with a mean score of 554 points, while Japan shows the highest scores in reading and science, with mean scores of 538 and 547 respectively.

Marked gender differences in mathematics performance – in favour of boys – are observed in 27 countries presented. Only in Iceland do girls outperform boys in mathematics. Across OECD countries, boys outperform girls with an 11 score-point difference. By contrast, girls outperform boys in reading everywhere. Across OECD countries, the difference in favour of girls is about 38 score points. In science, boys outperform girls in eight countries, while in five countries girls outperform boys. Across OECD countries, the gender differences in science tend to be smaller than in mathematics and reading, with only one score point in favour of boys.

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- *OECD PISA Database.*

### *Websites*

- Programme for International Student Assessment (PISA), *www.oecd.org/pisa*.

## Mean scores by gender in PISA

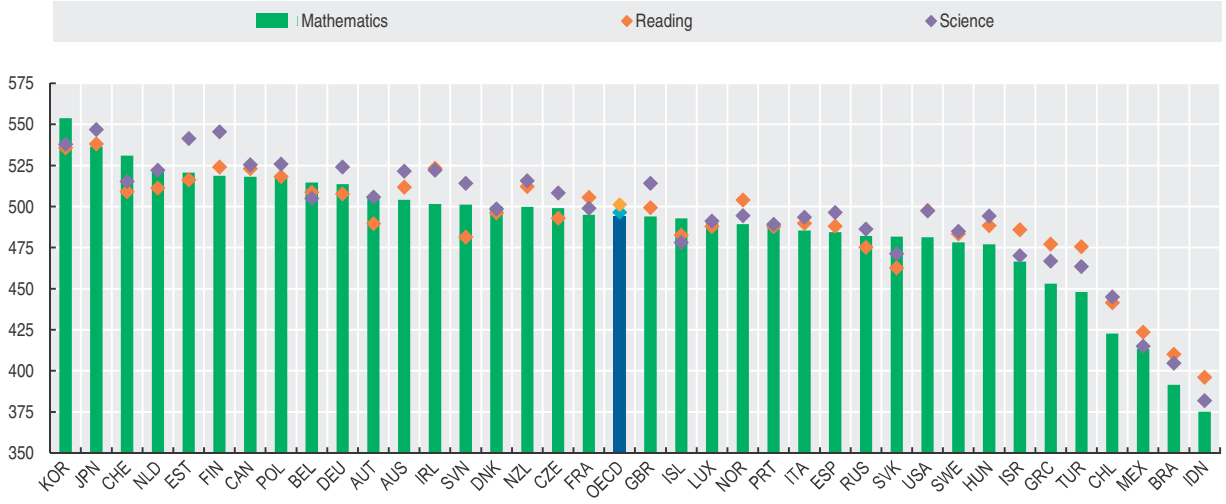
2012

| | Mathematics scale | | | | Reading scale | | | | Science scale | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Girls | | Boys | | Girls | | Boys | | Girls | | Boys | |
| | Mean score | S.E. | Mean score | S.E. | Mean score | S.E. | Mean score | S.E. | Mean score | S.E. | Mean score | S.E. |
| Australia | 498 | 2.0 | 510 | 2.4 | 530 | 2.0 | 495 | 2.3 | 519 | 2.1 | 524 | 2.5 |
| Austria | 494 | 3.3 | 517 | 3.9 | 508 | 3.4 | 471 | 4.0 | 501 | 3.4 | 510 | 3.9 |
| Belgium | 509 | 2.6 | 520 | 2.9 | 525 | 2.7 | 493 | 3.0 | 503 | 2.6 | 507 | 3.0 |
| Canada | 513 | 2.1 | 523 | 2.1 | 541 | 2.1 | 506 | 2.3 | 524 | 2.0 | 527 | 2.4 |
| Chile | 411 | 3.1 | 436 | 3.8 | 452 | 2.9 | 430 | 3.8 | 442 | 2.9 | 448 | 3.7 |
| Czech Republic | 493 | 3.6 | 505 | 3.7 | 513 | 3.4 | 474 | 3.3 | 508 | 3.5 | 509 | 3.7 |
| Denmark | 493 | 2.3 | 507 | 2.9 | 512 | 2.6 | 481 | 3.3 | 493 | 2.5 | 504 | 3.5 |
| Estonia | 518 | 2.2 | 523 | 2.6 | 538 | 2.3 | 494 | 2.4 | 543 | 2.3 | 540 | 2.5 |
| Finland | 520 | 2.2 | 517 | 2.6 | 556 | 2.4 | 494 | 3.1 | 554 | 2.3 | 537 | 3.0 |
| France | 491 | 2.5 | 499 | 3.4 | 527 | 3.0 | 483 | 3.8 | 500 | 2.4 | 498 | 3.8 |
| Germany | 507 | 3.4 | 520 | 3.0 | 530 | 3.1 | 486 | 2.9 | 524 | 3.5 | 524 | 3.1 |
| Greece | 449 | 2.6 | 457 | 3.3 | 502 | 3.1 | 452 | 4.1 | 473 | 3.0 | 460 | 3.8 |
| Hungary | 473 | 3.6 | 482 | 3.7 | 508 | 3.3 | 468 | 3.9 | 493 | 3.3 | 496 | 3.4 |
| Iceland | 496 | 2.3 | 490 | 2.3 | 508 | 2.5 | 457 | 2.4 | 480 | 2.9 | 477 | 2.7 |
| Ireland | 494 | 2.6 | 509 | 3.3 | 538 | 3.0 | 509 | 3.5 | 520 | 3.1 | 524 | 3.4 |
| Israel | 461 | 3.5 | 472 | 7.8 | 507 | 3.9 | 463 | 8.2 | 470 | 4.0 | 470 | 7.9 |
| Italy | 476 | 2.2 | 494 | 2.4 | 510 | 2.3 | 471 | 2.5 | 492 | 2.4 | 495 | 2.2 |
| Japan | 527 | 3.6 | 545 | 4.6 | 551 | 3.6 | 527 | 4.7 | 541 | 3.5 | 552 | 4.7 |
| Korea | 544 | 5.1 | 562 | 5.8 | 548 | 4.5 | 525 | 5.0 | 536 | 4.2 | 539 | 4.7 |
| Luxembourg | 477 | 1.4 | 502 | 1.5 | 503 | 1.8 | 473 | 1.9 | 483 | 1.7 | 499 | 1.7 |
| Mexico | 406 | 1.4 | 420 | 1.6 | 435 | 1.6 | 411 | 1.7 | 412 | 1.3 | 418 | 1.5 |
| Netherlands | 518 | 3.9 | 528 | 3.6 | 525 | 3.5 | 498 | 4.0 | 520 | 3.9 | 524 | 3.7 |
| New Zealand | 492 | 2.9 | 507 | 3.2 | 530 | 3.5 | 495 | 3.3 | 513 | 3.3 | 518 | 3.2 |
| Norway | 488 | 3.4 | 490 | 2.8 | 528 | 3.9 | 481 | 3.3 | 496 | 3.7 | 493 | 3.2 |
| Poland | 516 | 3.8 | 520 | 4.3 | 539 | 3.1 | 497 | 3.7 | 527 | 3.2 | 524 | 3.7 |
| Portugal | 481 | 3.9 | 493 | 4.1 | 508 | 3.7 | 468 | 4.2 | 490 | 3.8 | 488 | 4.1 |
| Slovak Republic | 477 | 4.1 | 486 | 4.1 | 483 | 5.1 | 444 | 4.6 | 467 | 4.2 | 475 | 4.3 |
| Slovenia | 499 | 2.0 | 503 | 2.0 | 510 | 1.8 | 454 | 1.7 | 519 | 1.9 | 510 | 1.9 |
| Spain | 476 | 2.0 | 492 | 2.4 | 503 | 1.9 | 474 | 2.3 | 493 | 1.9 | 500 | 2.3 |
| Sweden | 480 | 2.4 | 477 | 3.0 | 509 | 2.8 | 458 | 4.0 | 489 | 2.8 | 481 | 3.9 |
| Switzerland | 524 | 3.1 | 537 | 3.5 | 527 | 2.5 | 491 | 3.1 | 512 | 2.7 | 518 | 3.3 |
| Turkey | 444 | 5.7 | 452 | 5.1 | 499 | 4.3 | 453 | 4.6 | 469 | 4.3 | 458 | 4.5 |
| United Kingdom | 488 | 3.8 | 500 | 4.2 | 512 | 3.8 | 487 | 4.5 | 508 | 3.7 | 521 | 4.5 |
| United States | 479 | 3.9 | 484 | 3.8 | 513 | 3.8 | 482 | 4.1 | 498 | 4.0 | 497 | 4.1 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 489 | 0.5 | 499 | 0.6 | 515 | 0.5 | 478 | 0.6 | 500 | 0.5 | 502 | 0.6 |
| Brazil | 383 | 2.3 | 401 | 2.2 | 425 | 2.2 | 394 | 2.4 | 404 | 2.3 | 406 | 2.3 |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 373 | 4.3 | 377 | 4.4 | 410 | 4.3 | 382 | 4.8 | 383 | 4.1 | 380 | 4.1 |
| Russian Federation | 483 | 3.1 | 481 | 3.7 | 495 | 3.2 | 455 | 3.5 | 489 | 2.9 | 484 | 3.5 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336494*

## Performance in mathematics, reading and science, PISA 2012

*Mean score*




1 2 *http://dx.doi.org/10.1787/888933335359*

# STUDENTS, COMPUTERS AND LEARNING

Information and communication technology (ICT) has revolutionised many aspects of people's personal and professional lives. As computers and the Internet have reached a central role in everyday life, students who have not acquired basic skills in reading, writing and navigating through a complex digital landscape will find themselves unable to participate fully in the economic, social and cultural life around them. By analysing PISA 2012 data, it is possible to examine how students' access to ICT devices and their experience in using these technologies evolve in recent years.

## Definition

The *OECD Programme for International Student Assessment* (PISA) is a triennial survey of 15-year-old students around the world. The survey examines how well students can extrapolate from what they have learned and can apply that knowledge in unfamiliar settings, both in and outside of school.

Additional questionnaire materials were developed and offered as international options to the participating countries and economies, including the information communication technology familiarity questionnaire. It consists of questions to students regarding their access to uses of, and attitudes towards computers.

## Comparability

In PISA 2012, 29 OECD countries and 13 partner countries and economies chose to distribute the optional ICT familiarity component of the student questionnaire. In 2012, this component contained 12 questions, some of which were retained from the previous PISA survey (2009) to allow for comparisons across time. New questions focused on the age at first use of computers and the Internet; the amount of time spent on the Internet; and, since mathematics was the major domain assessed in PISA 2012, on the use of computers during mathematics lessons.

Additional information on the availability and use of ICT at home and at school, as well as on school policies on using ICT, was collected through the main student and school questionnaires, and is available for the 65 participating countries and economies in PISA 2012.

### *Overview*

On average across OECD countries, students spent over 2 hours online each day in 2012. In that same year, 96% of 15-year-old students in OECD countries reported that they have a computer at home, 43% of students reported having three or more computes at home, and 72% reported that they use a desktop, laptop or tablet computer at school. But in Korea, only 42% of students reported that they use computers at school – and Korea is among the top performers in the digital reading and computer-based mathematics tests in the *OECD Programme for International Student Assessment* in 2012. By contrast, in countries where it is more common for students to use the Internet at school for schoolwork, students' performance in reading declined between 2000 and 2012, on average.

## *Sources*

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### *Analytical publications*

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### *Statistical publications*

- OECD (2015), *Education at a Glance: OECD Indicators*, OECD Publishing.

### *Methodological publications*

- OECD (2014), *PISA 2012 Technical Report*, OECD, Paris.
- OECD (2013), *PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy*, PISA, OECD Publishing.

### *Online databases*

- *OECD PISA Database*.

### *Websites*

- Programme for International Student Assessment (PISA), *www.oecd.org/pisa*.

## ICT equipment and use at school and at home

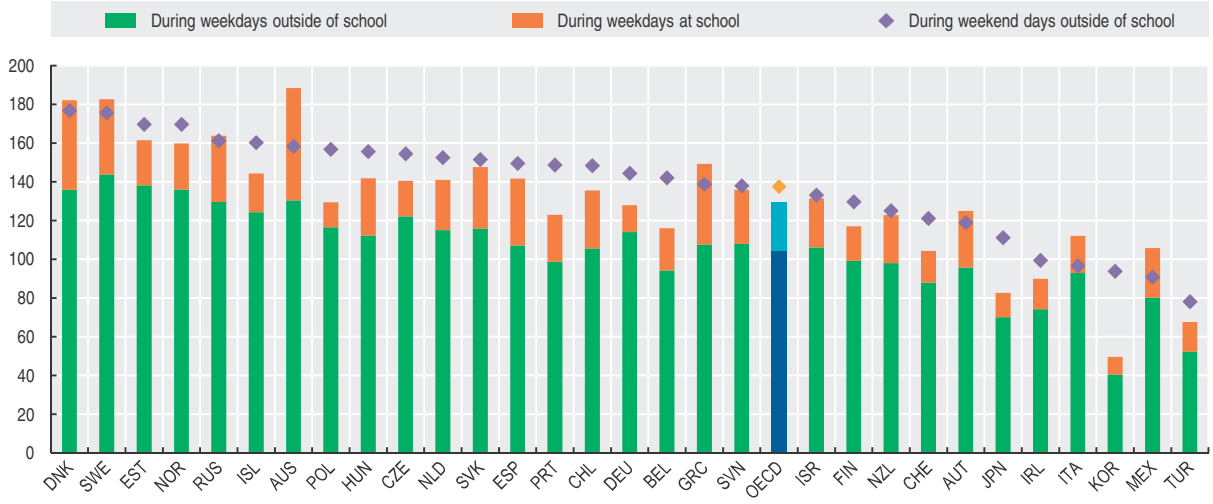
*PISA 2012*

| | ICT use at or for school | | | | | | Home ICT equipment | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number of 15-year-old students per school computer | | Students using computers at school | | Students browsing the Internet weekly for schoolwork (at school) | | Students with at least one computer at home | | Students with three or more computers at home | |
| | Mean | S.E. | % | S.E. | % | S.E. | % | S.E. | % | S.E. |
| Australia | 0.9 | 0.0 | 93.7 | 0.3 | 80.8 | 0.6 | 99.0 | 0.1 | 64.6 | 0.5 |
| Austria | 2.9 | 0.5 | 81.4 | 1.0 | 48.0 | 1.3 | 99.5 | 0.1 | 45.3 | 1.1 |
| Belgium | 2.8 | 0.3 | 65.3 | 0.8 | 29.4 | 0.9 | 98.9 | 0.1 | 55.0 | 0.6 |
| Canada | 2.8 | 1.0 | .. | .. | .. | .. | 98.9 | 0.1 | 53.0 | 0.6 |
| Chile | 4.7 | 0.9 | 61.7 | 1.5 | 44.5 | 1.3 | 88.3 | 0.9 | 20.9 | 0.8 |
| Czech Republic | 1.6 | 0.1 | 83.2 | 1.0 | 47.6 | 1.1 | 98.1 | 0.3 | 36.9 | 0.9 |
| Denmark | 2.4 | 0.3 | 86.7 | 0.8 | 80.8 | 0.8 | 99.9 | 0.0 | 84.7 | 0.6 |
| Estonia | 2.1 | 0.1 | 61.0 | 1.0 | 28.9 | 1.0 | 98.5 | 0.2 | 37.3 | 0.7 |
| Finland | 3.1 | 0.1 | 89.0 | 0.6 | 34.9 | 1.1 | 99.8 | 0.1 | 56.1 | 0.7 |
| France | 2.9 | 0.2 | .. | .. | .. | .. | 99.0 | 0.1 | 45.0 | 0.9 |
| Germany | 4.2 | 1.3 | 68.7 | 1.3 | 28.9 | 1.0 | 99.4 | 0.1 | 54.0 | 0.9 |
| Greece | 8.2 | 1.1 | 65.9 | 1.3 | 44.9 | 1.1 | 94.6 | 0.4 | 18.4 | 0.7 |
| Hungary | 2.2 | 0.1 | 74.7 | 1.0 | 35.7 | 1.1 | 96.2 | 0.5 | 24.2 | 0.8 |
| Iceland | 4.1 | 0.0 | 81.9 | 0.6 | 28.9 | 0.7 | 99.3 | 0.1 | 70.7 | 0.9 |
| Ireland | 2.6 | 0.2 | 63.5 | 1.4 | 32.4 | 1.1 | 98.7 | 0.2 | 36.0 | 0.8 |
| Israel | 4.7 | 0.6 | 55.2 | 1.5 | 30.6 | 1.3 | 96.5 | 0.4 | 44.6 | 1.0 |
| Italy | 4.1 | 0.5 | 66.8 | 0.7 | 28.8 | 0.6 | 98.7 | 0.1 | 27.7 | 0.4 |
| Japan | 3.6 | 0.1 | 59.2 | 1.9 | 11.3 | 0.8 | 92.4 | 0.6 | 17.1 | 0.6 |
| Korea | 5.3 | 0.2 | 41.9 | 1.7 | 11.0 | 0.9 | 98.6 | 0.2 | 10.1 | 0.6 |
| Luxembourg | 2.2 | 0.0 | .. | .. | .. | .. | 99.1 | 0.1 | 56.6 | 0.7 |
| Mexico | 15.5 | 2.0 | 60.6 | 0.8 | 39.5 | 0.8 | 58.5 | 0.8 | 9.1 | 0.5 |
| Netherlands | 2.6 | 0.2 | 94.0 | 0.6 | 67.5 | 1.3 | 99.8 | 0.1 | 69.0 | 0.7 |
| New Zealand | 1.2 | 0.1 | 86.4 | 0.5 | 59.3 | 1.0 | 96.8 | 0.3 | 41.6 | 0.9 |
| Norway | 1.7 | 0.1 | 91.9 | 0.7 | 69.0 | 1.3 | 99.1 | 0.2 | 83.9 | 0.6 |
| Poland | 4.0 | 0.1 | 60.3 | 1.3 | 30.3 | 1.2 | 97.7 | 0.3 | 22.9 | 1.0 |
| Portugal | 3.7 | 0.3 | 69.0 | 1.2 | 38.1 | 1.1 | 97.1 | 0.3 | 36.6 | 1.1 |
| Slovak Republic | 2.0 | 0.2 | 80.2 | 0.9 | 43.1 | 1.3 | 94.4 | 0.6 | 26.4 | 0.8 |
| Slovenia | 3.3 | 0.0 | 57.2 | 0.8 | 41.6 | 0.7 | 99.7 | 0.1 | 43.4 | 0.8 |
| Spain | 2.2 | 0.1 | 73.2 | 0.9 | 51.1 | 1.0 | 97.9 | 0.2 | 37.9 | 0.7 |
| Sweden | 3.7 | 0.8 | 87.0 | 1.1 | 66.6 | 1.5 | 99.6 | 0.1 | 74.8 | 0.7 |
| Switzerland | 2.7 | 0.2 | 78.3 | 1.0 | 32.5 | 0.9 | 99.5 | 0.1 | 58.9 | 0.7 |
| Turkey | 44.9 | 9.7 | 48.7 | 1.7 | 28.0 | 1.2 | 70.7 | 1.1 | 4.1 | 0.5 |
| United Kingdom | 1.4 | 0.1 | .. | .. | .. | .. | 98.8 | 0.2 | 50.9 | 0.8 |
| United States | 1.8 | 0.2 | .. | .. | .. | .. | 94.5 | 0.5 | 37.6 | 1.3 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 4.7 | 0.3 | 72.0 | 0.2 | 41.9 | 0.2 | 95.8 | 0.1 | 42.8 | 0.1 |
| Brazil | 22.1 | 2.7 | .. | .. | .. | .. | 73.5 | 0.7 | 9.4 | 0.5 |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | 16.4 | 2.2 | .. | .. | .. | .. | 25.8 | 2.0 | 1.9 | 0.8 |
| Russian Federation | 3.0 | 0.1 | 80.2 | 0.7 | 20.3 | 0.8 | 92.8 | 0.7 | 10.5 | 0.9 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336342*

## Time spent on line in school and outside of school

*Minutes per day, PISA 2012*




1 2 *http://dx.doi.org/10.1787/888933335163*

# EARLY CHILDHOOD EDUCATION AND CARE

As family structures change, so do the relative ages of parents. More women and men are waiting until later in life to start a family. They do so for a number of reasons, including planning for greater financial security and emotional maturity, taking more time to find a stable relationship, and committing to their careers before turning their attention to having children. As younger and older parents are also more likely to be in the workforce today, there is a growing need for early childhood education. In addition, there is increasing awareness of the key role that early childhood education plays in the cognitive and emotional development of the young.

Enrolling children in early childhood education can also mitigate social inequalities and promote better student outcomes overall. Many of the inequalities found in education systems are already evident when children enter formal schooling and persist as they progress through the school system. Because inequalities tend to grow when school is not compulsory, earlier entrance into the school system may reduce these inequalities. In addition, pre-primary education helps to prepare children to enter and succeed in formal schooling.

### *Overview*

In most OECD countries, education now begins for most children well before they are 5 years old. Four out of ten 2-year-olds are enrolled in early childhood education across OECD countries, as a whole, growing to almost three out of four (74%) for 3-year-olds. The highest enrolment rates of 3-year-olds in early childhood education are found in Belgium, Denmark, France, Iceland, Italy, New Zealand, Norway, Spain and the United Kingdom.

The ratio of children to teaching staff is an indicator of the resources devoted to early childhood education. The child-teacher ratio at the pre-primary level, excluding non-teaching staff (e.g. teachers' aides), ranges from more than 20 children per teacher in Chile, China, France, Indonesia and Mexico, to fewer than 10 in Estonia, Iceland, New Zealand, Russia, Slovenia, Sweden and the United Kingdom.

Sustained public funding is critical for supporting the growth and quality of early childhood education programmes. Public expenditure on pre-primary education is mainly used to support public institutions, but in some countries it also funds private institutions, to varying degrees. At the pre-primary level, annual expenditure, from both public and private sources, per child for both public and private institutions averages USD 8 008 in OECD countries. However, expenditure varies from USD 4 000 or less in Israel, Latvia and South Africa, to more than USD 10 000 in Australia, Iceland, Luxembourg, Sweden, the United Kingdom and the United States.

## Definition

The *International Standard Classification of Education* (ISCED) level 0 refers to early childhood programmes that have an intentional education component. ISCED level 0 programmes target children below the age of entry into primary education (ISCED level 1). These programmes aim to develop cognitive, physical and socio-emotional skills necessary for participation and well-being in school and society.

Thanks to the new ISCED classification, level 0 covers now early childhood education for all ages, including very young children. Programmes are sub-classified into two categories, depending on the level of complexity of the educational content: early childhood educational development (code 01) and pre-primary education (code 02). Early childhood educational development programmes (code 01) are generally designed for children younger than 3. They were introduced as a new category in ISCED-2011 and were not covered by ISCED-97. Pre-primary education (code 02) corresponds exactly to level 0 in ISCED-97.

## Comparability

There are many different early education systems and structures within OECD countries. Consequently, there is also a range of different approaches to identifying the boundary between early childhood education and childcare. These differences should be taken into account when drawing conclusions from international comparisons.

## *Sources*

- OECD (2015), *Education at a Glance*, OECD Publishing.

## *Further information*

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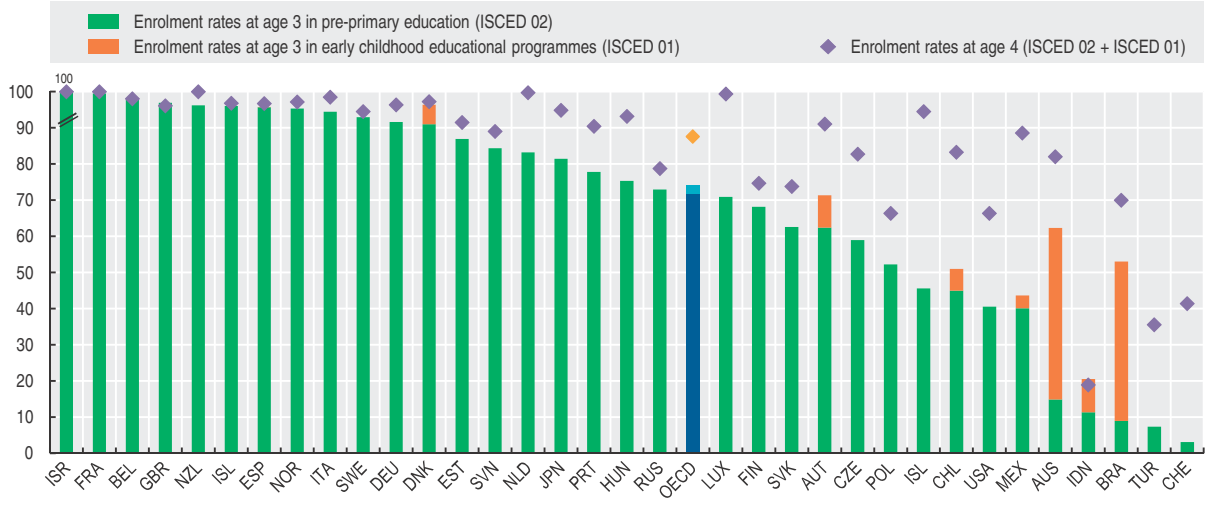
## Early childhood educational development programmes and pre-primary education

| | 2013 | | | | | 2012 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-primary share of total early childhood enrolment | Early childhood educational development | | Pre-primary education | | Share of public expenditure | | | Annual expenditure by educational institutions for all services, USD per student | | |
| | ISCED 02/ (ISCED 01 + ISCED 02) | Pupils/contact staff ratio | Pupils/teaching staff ratio | Pupils/contact staff ratio | Pupils/teaching staff ratio | Early childhood educational development | Pre-primary | All early childhood education | Early childhood educational development | Pre-primary | All early childhood education |
| | | ISCED 01 | ISCED 01 | ISCED 02 | ISCED 02 | ISCED 01 | ISCED 02 | ISCED 01 + ISCED 02 | ISCED 01 | ISCED 02 | ISCED 01 + ISCED 02 |
| Australia | 42 | .. | .. | .. | .. | 4 | 47 | 21 | 10 054 | 10 298 | 10 146 |
| Austria | 87 | 6 | 9 | 9 | 14 | 69 | 87 | 84 | 9 434 | 7 716 | 7 954 |
| Belgium | .. | .. | .. | .. | 16 | .. | 96 | .. | .. | 6 975 | .. |
| Chile | 80 | 9 | 13 | 19 | 27 | .. | .. | 82 | .. | .. | 4 599 |
| Czech Republic | 100 | .. | .. | 14 | 14 | .. | 92 | 92 | .. | 4 447 | 4 447 |
| Denmark | 63 | .. | .. | .. | .. | .. | .. | 81 | .. | .. | 10 911 |
| Estonia | .. | .. | .. | .. | 9 | .. | .. | 99 | .. | .. | 2 193 |
| Finland | 79 | .. | .. | .. | 10 | 90 | 89 | 89 | 17 860 | 9 998 | 11 559 |
| France | 100 | .. | .. | 15 | 22 | .. | 93 | 93 | .. | 6 969 | 6 969 |
| Germany | 77 | 5 | 5 | 9 | 10 | 70 | 79 | 76 | 13 720 | 8 568 | 9 744 |
| Greece | .. | .. | .. | 12 | 12 | .. | .. | .. | .. | .. | .. |
| Hungary | .. | .. | .. | 11 | 11 | .. | 92 | .. | .. | 4 539 | .. |
| Iceland | 69 | 3 | 3 | 6 | 6 | 88 | 85 | 86 | 12 969 | 10 250 | 11 096 |
| Israel | 76 | .. | .. | .. | .. | .. | 85 | .. | .. | 3 416 | .. |
| Italy | .. | .. | .. | 14 | 14 | .. | 91 | 91 | .. | 7 892 | 7 892 |
| Japan | 100 | .. | .. | 14 | 15 | .. | 44 | 44 | .. | 5 872 | 5 872 |
| Korea | .. | .. | .. | .. | .. | .. | 62 | .. | .. | 5 674 | .. |
| Luxembourg | 100 | .. | .. | 11 | 11 | .. | 99 | .. | .. | 19 719 | .. |
| Mexico | 95 | 26 | 83 | 25 | 25 | .. | .. | 83 | .. | .. | 2 445 |
| Netherlands | 100 | .. | .. | 14 | 16 | .. | 87 | 87 | .. | 8 176 | 8 176 |
| New Zealand | 62 | .. | 4 | .. | 8 | 72 | 87 | 80 | 12 656 | 9 670 | 10 726 |
| Norway | 64 | .. | .. | 5 | 11 | 86 | 86 | 86 | 15 604 | 9 050 | 11 383 |
| Poland | 100 | .. | .. | .. | 16 | .. | 76 | 76 | .. | 6 505 | 6 505 |
| Portugal | .. | .. | .. | .. | 17 | .. | 61 | .. | .. | 5 713 | .. |
| Slovak Republic | 100 | .. | .. | 13 | 13 | .. | 83 | 83 | .. | 4 694 | 4 694 |
| Slovenia | 70 | 6 | 6 | 9 | 9 | 75 | 79 | 78 | 11 665 | 7 472 | 8 726 |
| Spain | 77 | .. | 9 | .. | 15 | 62 | 73 | 70 | 7 924 | 6 182 | 6 588 |
| Sweden | 73 | .. | 5 | 6 | 6 | .. | .. | .. | 14 180 | 12 212 | 12 752 |
| Switzerland | .. | .. | .. | .. | 16 | .. | .. | .. | .. | 5 457 | 5 457 |
| Turkey | .. | .. | .. | .. | 17 | .. | .. | .. | .. | .. | .. |
| United Kingdom | 83 | .. | .. | .. | 10 | 64 | 63 | 63 | 9 495 | 10 699 | 10 548 |
| United States | .. | .. | .. | 10 | 12 | .. | 75 | .. | .. | 10 042 | .. |
| OECD | 81 | 9 | 14 | 12 | 14 | 68 | 80 | 78 | 12 324 | 8 008 | 7 886 |
| Brazil | 64 | 8 | 13 | 15 | 17 | .. | .. | .. | .. | .. | 2 939 |
| China | 100 | .. | .. | 17 | 22 | .. | .. | .. | .. | .. | .. |
| Indonesia | 61 | .. | 20 | 19 | 21 | .. | 88 | .. | .. | .. | .. |
| Russian Federation | 84 | .. | .. | 4 | 10 | .. | .. | 89 | .. | .. | 4 887 |
| South Africa | 100 | .. | .. | .. | .. | .. | .. | .. | .. | 806 | 806 |

1 2 http://dx.doi.org/10.1787/888933336044

## Enrolment rates at age 3 and 4 in early childhood education

2013




1 2 http://dx.doi.org/10.1787/888933334855

# YOUTH INACTIVITY

Young people who are neither in employment nor in education or training (the "NEET" population) are at risk of becoming socially excluded – individuals with income below the poverty-line and lacking the skills to improve their economic situation.

## Definition

The share refers to young people who are neither in education or training nor in employment, as a percentage of the total number of young people in the corresponding age group. Young people in education include those attending part-time as well as full-time education, but exclude those in non-formal education and in educational activities of very short duration. Employment is defined according to the ILO Guidelines and covers all those who have been in paid work for at least one hour in the reference week of the survey or were temporarily absent from such work.

### *Overview*

On average across OECD countries, 17.9% of the 20-24 year-olds and 7.2% of the 15-19 year-olds were neither in school nor at work in 2014. For OECD countries as a whole, the proportion of the 20-24 year-olds who were not in education but employed fell from 48.2% to 36.2% between 2000 and 2014, while the percentage of individuals in education increased steadily. The proportion of 20-24 year-olds who were neither in employment nor in education or training (NEET) remained stable at around 17-19% between 2000 and 2014.

In 2014, Greece, Italy and Turkey were the only countries where more than 30% of 20-24 year-olds were NEET. Turkey has the highest proportion of NEET, but it is also the only country among these three to show a decrease in the percentage of NEET between 2005 and 2014, from 49.7% in 2005 to 36.3% in 2014. Germany's share of 20-24 year-old NEET (18.7%) was above the OECD average (17.4%) in 2005, but by 2014, that share fell back to 10.1%, well below the OECD average of 17.9%. In fact, the proportion of 20-24 year-old NEET in Germany is now one of the smallest among OECD countries along with those in Iceland (9.4%), Luxembourg (9.0%), the Netherlands (10.4%) and Norway (10.0%).

Women are more often neither in employment nor in education or training than men. Among 20-24 year olds, 19.4% of women and 16.4% of men were NEET in 2014, on average across OECD countries. In Mexico and Turkey, the gender difference in the shares of 20-24 year-olds who were NEET was around 30 percentage points.

## Comparability

The length and the quality of the schooling individuals receive have an impact on students' transition from education to work; so do labour-market conditions, the economic environment and demographics. National traditions also play an important role. For example, in some countries, young people traditionally complete schooling before they look for work; in others, education and employment are concurrent. In some countries, there is little difference between how young women and men experience their transitions from school to work, while in other countries, significant proportions of young women raise families full-time after leaving the education system and do not enter employment. The ageing of the population in OECD countries should favour employment among young adults, as, theoretically, when older people leave the labour market, their jobs are made available to the young. However, during recessionary periods, high general unemployment rates make the transition from school to work substantially more difficult for young people, as those with more work experience are favoured over new entrants into the labour market. In addition, when labour-market conditions are unfavourable, younger people often tend to stay in education longer, because high unemployment rates drive down the opportunity costs of education.

Please note that data for Chile for 2010 refer to 2009 and data for Brazil, Chile and Korea for 2014 refer to 2013. In Israel, the proportion of NEETs in 2014 is not comparable with data from 2010 and previous years.

## *Sources*

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## Youth who are not in education nor in employment

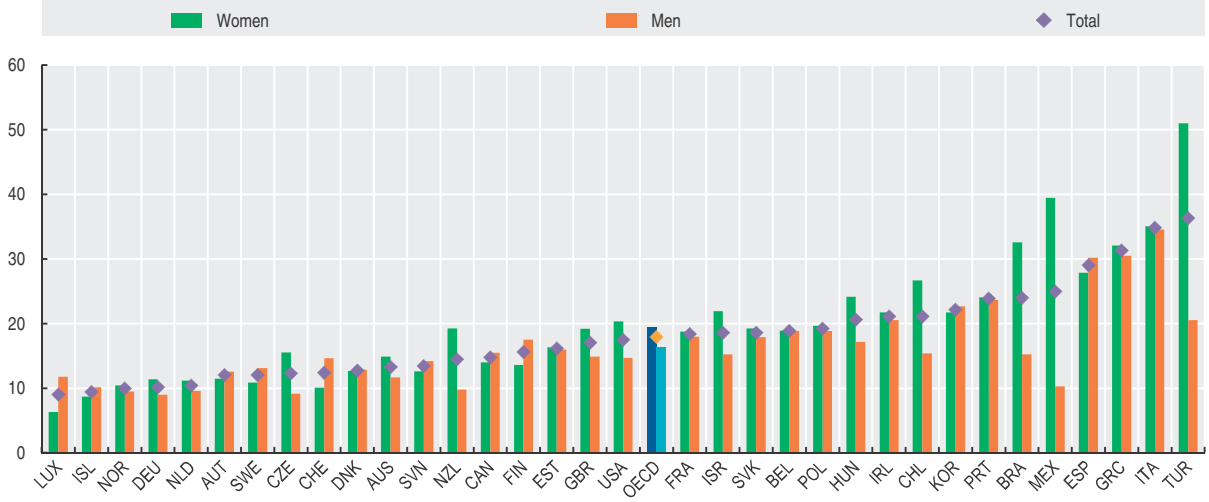
*As a percentage of persons in that age group*

| | Youth aged between 15 and 19 | | | | Youth aged between 20 and 24 | | | |
|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2014 | 2000 | 2005 | 2010 | 2014 |
| Australia | 6.8 | 7.4 | 8.1 | 7.2 | 13.3 | 11.6 | 11.2 | 13.2 |
| Austria | .. | 7.0 | 5.5 | 7.2 | .. | 12.7 | 13.0 | 12.0 |
| Belgium | 6.5 | 6.2 | 5.9 | 5.4 | 16.0 | 18.3 | 18.0 | 18.9 |
| Canada | 8.2 | 6.9 | 8.2 | 7.1 | 15.9 | 14.5 | 15.7 | 14.8 |
| Chile | .. | .. | 17.0 | 12.7 | .. | .. | 27.5 | 21.1 |
| Czech Republic | 7.9 | 5.3 | 3.8 | 3.2 | 20.3 | 16.6 | 13.6 | 12.3 |
| Denmark | 2.7 | 4.3 | 5.5 | 3.5 | 6.5 | 8.3 | 12.1 | 12.7 |
| Estonia | .. | 5.2 | 6.1 | 7.0 | .. | 16.3 | 22.4 | 16.1 |
| Finland | .. | 5.2 | 5.1 | 5.5 | .. | 13.0 | 15.8 | 15.6 |
| France | 7.0 | 6.3 | 7.9 | 7.9 | 17.6 | 17.8 | 20.6 | 18.3 |
| Germany | 5.7 | 4.4 | 3.7 | 2.9 | 16.9 | 18.7 | 13.7 | 10.1 |
| Greece | 9.3 | 11.7 | 7.5 | 10.5 | 25.9 | 21.6 | 21.6 | 31.3 |
| Hungary | 8.6 | 6.4 | 4.6 | 6.8 | 22.0 | 18.9 | 21.5 | 20.6 |
| Iceland | .. | .. | 6.2 | 5.5 | .. | 6.6 | 12.2 | 9.4 |
| Ireland | 4.4 | 4.5 | 10.1 | 9.1 | 9.7 | 12.3 | 26.1 | 21.1 |
| Israel | .. | 26.4 | 23.6 | 7.8 | .. | 41.5 | 37.4 | 18.5 |
| Italy | 13.1 | 11.2 | 12.5 | 11.2 | 27.5 | 24.1 | 27.1 | 34.8 |
| Japan | 8.8 | 8.8 | 9.9 | 6.6 | .. | .. | .. | .. |
| Korea | .. | .. | 8.5 | 7.7 | .. | .. | 23.5 | 22.2 |
| Luxembourg | .. | 2.2 | 6.3 | 2.4 | 8.2 | 9.3 | 7.5 | 9.0 |
| Mexico | 18.3 | 18.2 | 17.6 | 15.3 | 27.1 | 27.0 | 26.1 | 24.9 |
| Netherlands | 3.7 | 3.1 | 3.1 | 3.6 | 8.2 | 8.1 | 7.4 | 10.4 |
| New Zealand | .. | 7.2 | 8.6 | 7.1 | .. | 14.0 | 17.7 | 14.4 |
| Norway | .. | 2.5 | 3.5 | 3.5 | 8.0 | 9.6 | 9.0 | 10.0 |
| Poland | 4.5 | 1.7 | 3.6 | 4.0 | 30.8 | 20.1 | 17.6 | 19.2 |
| Portugal | 7.7 | 8.4 | 7.4 | 6.1 | 11.0 | 14.1 | 16.4 | 23.9 |
| Slovak Republic | 26.3 | 6.3 | 4.6 | 5.7 | 33.1 | 25.2 | 22.1 | 18.6 |
| Slovenia | .. | 4.9 | 3.2 | 4.6 | .. | 13.0 | 9.3 | 13.4 |
| Spain | 8.0 | 10.9 | 12.8 | 12.1 | 15.0 | 19.1 | 27.0 | 29.0 |
| Sweden | 3.6 | 4.6 | 5.3 | 4.3 | 10.7 | 12.9 | 14.2 | 12.0 |
| Switzerland | 7.9 | 7.5 | 4.8 | 4.7 | 5.9 | 11.9 | 11.1 | 12.4 |
| Turkey | 31.2 | 36.1 | 25.6 | 21.0 | 44.2 | 49.7 | 43.7 | 36.3 |
| United Kingdom | 8.0 | 9.3 | 10.0 | 8.4 | 15.4 | 16.8 | 19.3 | 17.0 |
| United States | 7.0 | 6.1 | 7.6 | 7.6 | 14.4 | 15.5 | 19.4 | 17.5 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 9.4 | 8.2 | 8.3 | 7.2 | 17.7 | 17.4 | 18.8 | 17.9 |
| Brazil | .. | .. | .. | 15.7 | .. | .. | .. | 24.0 |
| China | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336606*

## Youth aged between 20 and 24 who are not in education nor in employment

*As a percentage of persons in that age group, 2014*




1 2 *http://dx.doi.org/10.1787/888933335528*

# HOW MANY STUDENTS STUDY ABROAD?

As national economies become more interconnected, governments and individuals are looking to higher education to broaden students' horizons. By pursuing high level studies in countries other than their own students may expand their knowledge of other cultures and languages, and better equip themselves in an increasingly globalised labour market. Some countries, particularly in the European Union, have established policies and schemes that promote such mobility to foster intercultural contacts and help build social networks.

## Definition

Students are classified as "international" if they left their country of origin for the purpose of study. Students are classified as "foreign" when they are not citizens of the country where they are enrolled. This includes international students as well as other students who are permanent residents, albeit not citizens, of the countries in which they are studying such as young people from immigrant families.

## Comparability

Data on international and foreign students refer to the academic year 2012/2013, based on an annual joint data collection by UNESCO, the OECD and Eurostat.

### *Overview*

OECD countries attract 73% of all students enrolled abroad in countries reporting data to the OECD and the UNESCO Institute for Statistics. Within the OECD area, EU countries host the largest proportion (35%) of international students. At the level of single countries, the United States hosted the largest number of all international students (19% of the total), followed by the United Kingdom (10%), Australia and France (6%), Germany (5%), Canada and Japan (both 3%) and, among the emerging economies with data on foreign students only, Russia (3%). The destinations of international students highlight the attractiveness of specific education systems, whether because of their academic reputation or because of subsequent immigration opportunities.

But they can also reflect language as well as cultural considerations, geographic proximity and the similarities between some education systems.

Students from Asia form the largest group of international students enrolled in countries reporting data: 53% or the total in all reporting destinations. In particular, students from China account for 22% of all international students enrolled in tertiary education in the OECD area, the highest share among all reporting countries.

The share of international students within total enrolment depends on the level of education. On average across OECD countries, international students represent 6% of the students enrolled in programmes at the bachelor's or equivalent level, but this proportion is 14% at the master's or equivalent level and 24% at the doctoral or equivalent level.

Trends in the number of foreign students worldwide, computed until 2012, reveal that this number has been steadily increasing. The number of students enrolled in a country of which they are not citizens increased by 50% (from 3 to 4.5 million) between 2005 and 2012.

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## International student mobility and foreign students in tertiary education

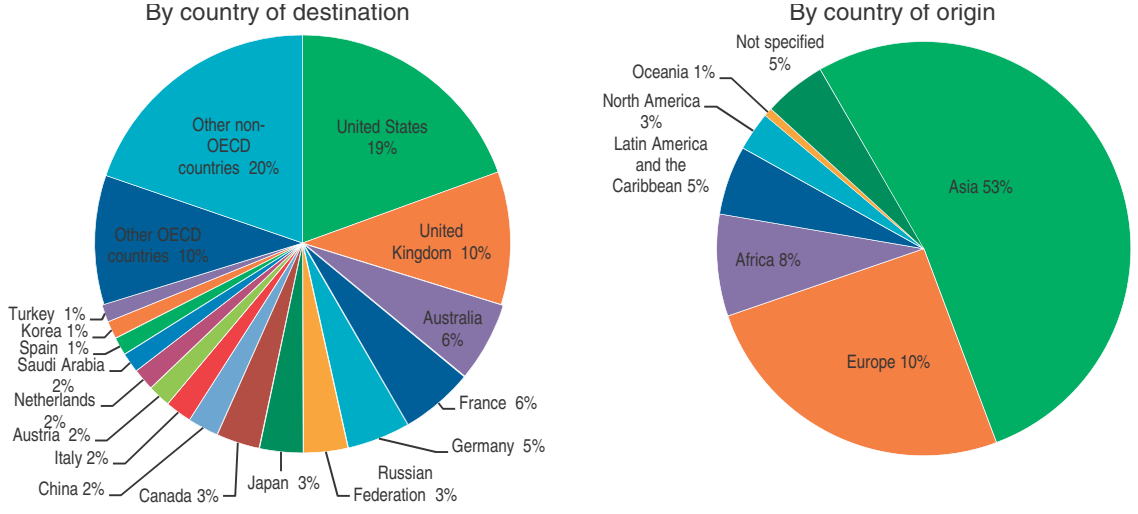
*As a percentage of all students (international plus domestic), 2013*

| | International students | | | | | Foreign students | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total tertiary education | Short-cycle tertiary programmes | Bachelor's or equivalent level | Master's or equivalent level | Doctoral or equivalent level | Total tertiary education | Short-cycle tertiary programmes | Bachelor's or equivalent level | Master's or equivalent level | Doctoral or equivalent level |
| Australia | 18.0 | 12.2 | 14.0 | 37.9 | 33.0 | .. | .. | .. | .. | .. |
| Austria | 16.8 | 1.5 | 19.7 | 19.3 | 27.5 | .. | .. | .. | .. | .. |
| Belgium | 10.0 | 5.9 | 7.7 | 16.1 | 37.7 | .. | .. | .. | .. | .. |
| Canada | 9.0 | 9.0 | 7.3 | 13.0 | 25.6 | .. | .. | .. | .. | .. |
| Chile | 0.3 | 0.1 | 0.1 | 2.5 | 3.4 | .. | .. | .. | .. | .. |
| Czech Republic | .. | .. | .. | .. | .. | 9.4 | 4.2 | 8.1 | 11.4 | 12.8 |
| Denmark | 10.1 | 13.3 | 5.8 | 17.6 | 29.5 | .. | .. | .. | .. | .. |
| Estonia | 2.9 | .. | 2.2 | 4.0 | 7.2 | .. | .. | .. | .. | .. |
| Finland | 7.1 | 0.0 | 5.0 | 11.5 | 16.8 | .. | .. | .. | .. | .. |
| France | 9.8 | 4.2 | 7.6 | 13.1 | 39.9 | .. | .. | .. | .. | .. |
| Germany | 7.1 | 0.0 | 4.4 | 11.7 | 7.1 | .. | .. | .. | .. | .. |
| Greece | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hungary | 5.8 | 0.5 | 3.7 | 14.4 | 7.5 | .. | .. | .. | .. | .. |
| Iceland | 6.5 | 20.6 | 5.9 | 5.6 | 19.8 | .. | .. | .. | .. | .. |
| Ireland | 6.4 | 2.1 | 5.8 | 10.2 | 25.3 | .. | .. | .. | .. | .. |
| Israel | .. | .. | .. | .. | .. | .. | .. | 3.1 | 4.2 | 4.6 |
| Italy | .. | .. | .. | .. | .. | 4.4 | 5.4 | 4.4 | 4.0 | 12.5 |
| Japan | 3.5 | 3.6 | 2.6 | 7.6 | 18.8 | .. | .. | .. | .. | .. |
| Korea | .. | .. | .. | .. | .. | 1.7 | 0.2 | 1.5 | 6.2 | 7.7 |
| Luxembourg | 43.5 | 15.5 | 24.4 | 67.1 | 84.1 | .. | .. | .. | .. | .. |
| Mexico | 0.2 | 0.0 | 0.2 | 0.7 | 2.6 | .. | .. | .. | .. | .. |
| Netherlands | 10.2 | 1.5 | 8.4 | 17.4 | 37.8 | .. | .. | .. | .. | .. |
| New Zealand | 16.1 | 20.7 | 13.1 | 20.3 | 43.3 | .. | .. | .. | .. | .. |
| Norway | 3.6 | 5.4 | 1.8 | 7.0 | 20.9 | .. | .. | .. | .. | .. |
| Poland | 1.5 | 0.0 | 1.1 | 2.2 | 1.6 | .. | .. | .. | .. | .. |
| Portugal | 3.9 | .. | 2.6 | 4.7 | 15.0 | .. | .. | .. | .. | .. |
| Slovak Republic | 4.9 | 0.5 | 3.7 | 6.3 | 8.6 | .. | .. | .. | .. | .. |
| Slovenia | 2.6 | 0.9 | 2.3 | 3.6 | 7.6 | .. | .. | .. | .. | .. |
| Spain | 2.9 | 5.5 | 0.8 | 4.9 | 16.2 | .. | .. | .. | .. | .. |
| Sweden | 5.8 | 0.2 | 2.4 | 9.3 | 31.5 | .. | .. | .. | .. | .. |
| Switzerland | 16.8 | .. | 10.1 | 27.4 | 52.1 | .. | .. | .. | .. | .. |
| Turkey | .. | .. | .. | .. | .. | 1.1 | 0.3 | 1.1 | 3.7 | 4.5 |
| United Kingdom | 17.5 | 5.0 | 13.2 | 36.1 | 41.4 | .. | .. | .. | .. | .. |
| United States | 3.9 | 1.8 | 3.2 | 8.2 | 32.4 | .. | .. | .. | .. | .. |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 8.6 | 5.1 | 6.2 | 13.9 | 23.9 | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | 0.3 | 0.2 | .. | .. |
| China | .. | .. | .. | .. | .. | 0.3 | 0.0 | 0.4 | 1.0 | 2.4 |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | 1.7 | 0.8 | .. | 3.1 | 3.9 |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336638*

## Distribution of foreign and international students in tertiary education

*2013*




1 2 *http://dx.doi.org/10.1787/888933335551*

# EDUCATIONAL ATTAINMENT

Educational attainment is a commonly used proxy for the stock of human capital – say, the skills available in the population and the labour force. As globalisation and technology continue to re-shape the needs of labour markets worldwide, the demand for individuals with a broader knowledge base and more specialised skills, e.g. advanced analytical capacities, and complex communication skills, continues to rise. As a result, more individuals are pursuing higher levels of education now than in previous generations, leading to significant shifts in attainment levels over time within countries.

## Definition

Educational attainment refers to the highest level of education completed by a person, shown as a percentage of all persons in that age group. Below upper secondary education includes early childhood education, primary education or lower secondary education. Programmes at the lower secondary education level are designed to lay the foundation across a wide range of subjects. Programmes at the upper secondary level are more specialised and offer students more choices and diverse pathways for completing their secondary education. Tertiary education includes short-cycle tertiary education, bachelor's, master's, or doctoral or equivalent levels.

### *Overview*

An indication of long-term trends in educational attainment can be obtained by comparing the current attainment levels of younger and older adults. Tertiary attainment levels have increased considerably over the past 30 years. On average across OECD countries, 41% of 25-34 year-olds have a tertiary attainment, compared with 25% of 55-64 year-olds. Canada, Korea and Russia lead in the proportion of young adults (25-34 year-olds) with a tertiary attainment, with 55% or more having reached this level of education. In Ireland, Korea and Poland, there is a difference of 25 percentage points or more between the proportion of young adults and older adults who have attained this level of education.

In 2014, over 30% of the population aged between 25 and 64 has attained tertiary level education in more than half of the OECD countries. On average across OECD countries, 24% of adults now have only primary or lower secondary levels of education, 43% have upper secondary education and 34% have a tertiary qualification.

## Comparability

The *International Standard Classification of Education* (ISCED 2011) is used to define the levels of education in a comparable way across countries. The ISCED 2011 *Operational Manual: Guidelines for Classifying National Education Programmes and Related Qualifications* describes ISCED 2011 education programmes and attainment levels and examples for each country.

Note that data for Brazil, Chile, France and Russia for 2014 refer to 2013 and for South Africa to year 2012. Data for Indonesia for 2014 refer to 2011 and data for 2010 refer to 2006. In the United Kingdom, data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (18% of the adults are under this group).

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## Educational attainment

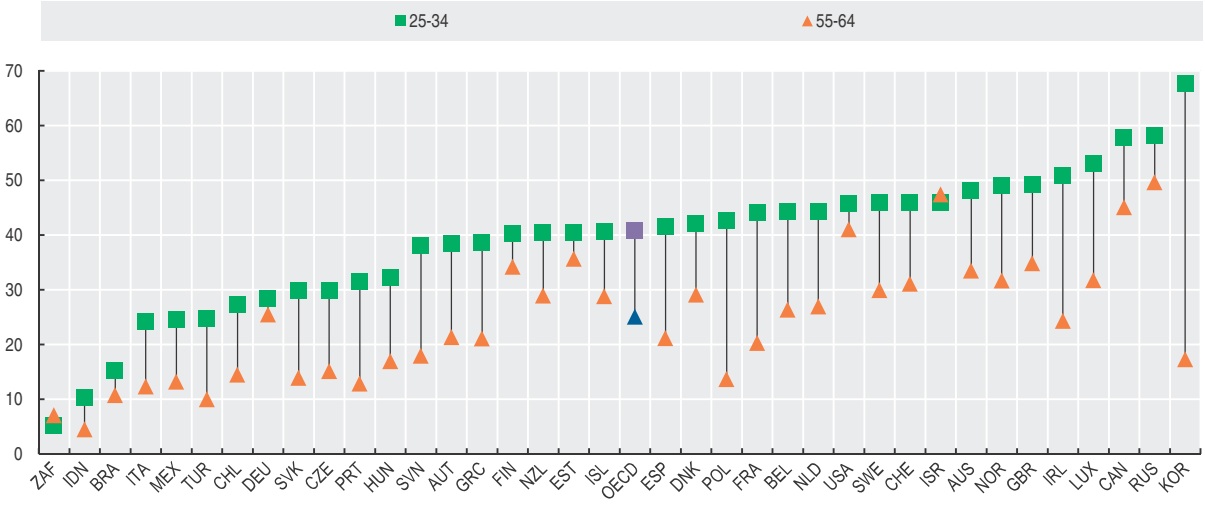
*As a percentage of total population in that age group*

| | Population aged 25-34 | | | | | | Population aged 25-64 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below upper secondary | | Upper secondary or post-secondary non-tertiary | | Tertiary | | Below upper secondary | | Upper secondary or post-secondary non-tertiary | | Tertiary | |
| | 2000 | 2014 | 2000 | 2014 | 2000 | 2014 | 2000 | 2014 | 2000 | 2014 | 2000 | 2014 |
| Australia | 31.7 | 13.3 | 36.9 | 38.6 | 31.4 | 48.1 | 41.2 | 22.9 | 31.3 | 35.2 | 27.5 | 41.9 |
| Austria | .. | 10.0 | .. | 51.6 | .. | 38.4 | .. | 16.1 | .. | 54.0 | .. | 29.9 |
| Belgium | 24.7 | 17.7 | 39.3 | 38.0 | 36.0 | 44.2 | 41.5 | 26.4 | 31.4 | 36.7 | 27.1 | 36.9 |
| Canada | 11.7 | 7.4 | 39.9 | 34.9 | 48.4 | 57.7 | 19.3 | 10.0 | 40.6 | 36.4 | 40.1 | 53.6 |
| Chile | .. | 20.0 | .. | 52.7 | .. | 27.3 | .. | 38.6 | .. | 40.3 | .. | 21.1 |
| Czech Republic | 7.6 | 5.4 | 81.2 | 64.7 | 11.2 | 29.9 | 14.1 | 6.8 | 75.0 | 71.7 | 11.0 | 21.5 |
| Denmark | 13.1 | 17.8 | 57.6 | 40.0 | 29.3 | 42.1 | 20.2 | 20.4 | 54.0 | 43.8 | 25.8 | 35.8 |
| Estonia | 9.0 | 11.0 | 59.7 | 48.6 | 31.3 | 40.4 | 15.3 | 8.9 | 55.8 | 53.6 | 28.9 | 37.5 |
| Finland | 13.7 | 9.8 | 47.6 | 49.9 | 38.7 | 40.3 | 26.8 | 13.5 | 40.5 | 44.7 | 32.6 | 41.8 |
| France | 23.6 | 14.7 | 45.0 | 41.2 | 31.4 | 44.1 | 37.8 | 25.2 | 40.7 | 42.7 | 21.6 | 32.1 |
| Germany | 15.1 | 12.7 | 62.6 | 58.9 | 22.3 | 28.4 | 18.3 | 13.1 | 58.2 | 59.8 | 23.5 | 27.1 |
| Greece | 31.3 | 18.3 | 44.8 | 43.0 | 23.9 | 38.7 | 50.7 | 31.7 | 31.6 | 40.2 | 17.7 | 28.1 |
| Hungary | 18.7 | 13.0 | 66.6 | 54.9 | 14.7 | 32.1 | 30.8 | 16.9 | 55.2 | 59.7 | 14.0 | 23.4 |
| Iceland | .. | 26.2 | .. | 33.2 | .. | 40.6 | .. | 26.7 | .. | 36.2 | .. | 37.1 |
| Ireland | 27.0 | 9.9 | 43.2 | 39.3 | 29.8 | 50.8 | 42.7 | 21.2 | 35.7 | 37.8 | 21.6 | 41.0 |
| Israel | .. | 9.2 | .. | 44.8 | .. | 46.0 | .. | 14.6 | .. | 36.8 | .. | 48.5 |
| Italy | 43.6 | 26.2 | 46.0 | 49.7 | 10.4 | 24.2 | 57.9 | 40.7 | 32.7 | 42.4 | 9.4 | 16.9 |
| Japan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Korea | 6.7 | 1.7 | 56.4 | 30.6 | 36.9 | 67.7 | 31.7 | 15.0 | 44.4 | 40.4 | 23.9 | 44.6 |
| Luxembourg | 31.8 | 13.1 | 45.3 | 33.9 | 22.9 | 52.9 | 39.1 | 18.0 | 42.6 | 36.0 | 18.3 | 45.9 |
| Mexico | 62.9 | 54.4 | 19.6 | 21.0 | 17.5 | 24.6 | 70.9 | 66.3 | 14.5 | 15.1 | 14.6 | 18.5 |
| Netherlands | 25.7 | 14.8 | 47.7 | 40.9 | 26.6 | 44.3 | 35.1 | 24.1 | 41.5 | 41.5 | 23.4 | 34.4 |
| New Zealand | 31.3 | 18.9 | .. | 40.7 | .. | 40.4 | 36.8 | 25.9 | .. | 38.4 | .. | 35.6 |
| Norway | 6.6 | 18.6 | 58.5 | 32.4 | 34.9 | 49.0 | 14.8 | 18.1 | 56.8 | 40.2 | 28.4 | 41.8 |
| Poland | 10.6 | 5.8 | 75.2 | 51.6 | 14.2 | 42.6 | 20.1 | 9.5 | 68.5 | 63.5 | 11.4 | 27.0 |
| Portugal | 68.2 | 35.3 | 18.9 | 33.2 | 12.9 | 31.4 | 80.6 | 56.7 | 10.5 | 21.6 | 8.8 | 21.7 |
| Slovak Republic | 6.3 | 7.5 | 82.5 | 62.6 | 11.2 | 29.8 | 16.2 | 9.2 | 73.4 | 70.5 | 10.4 | 20.4 |
| Slovenia | 14.6 | 6.1 | 66.1 | 55.8 | 19.3 | 38.1 | 25.2 | 14.3 | 59.1 | 57.1 | 15.7 | 28.6 |
| Spain | 44.6 | 34.4 | 21.3 | 24.1 | 34.1 | 41.5 | 61.7 | 43.4 | 15.7 | 21.9 | 22.6 | 34.7 |
| Sweden | 12.7 | 18.2 | 53.6 | 35.9 | 33.6 | 46.0 | 22.4 | 18.4 | 47.4 | 42.9 | 30.1 | 38.7 |
| Switzerland | 10.2 | 9.0 | 64.2 | 45.0 | 25.6 | 46.0 | 16.1 | 12.0 | 59.7 | 47.8 | 24.2 | 40.2 |
| Turkey | 72.3 | 50.5 | 18.9 | 24.7 | 8.9 | 24.8 | 76.7 | 64.4 | 14.9 | 18.9 | 8.3 | 16.7 |
| United Kingdom | 33.2 | 13.8 | 37.9 | 37.1 | 28.9 | 49.2 | 37.4 | 20.8 | 36.9 | 36.9 | 25.7 | 42.2 |
| United States | 11.8 | 10.0 | 50.1 | 44.3 | 38.1 | 45.7 | 12.6 | 10.4 | 50.9 | 45.3 | 36.5 | 44.2 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 24.8 | 16.8 | 49.5 | 42.4 | 25.9 | 40.8 | 35.0 | 23.6 | 43.6 | 42.7 | 21.5 | 33.6 |
| Brazil | .. | 39.2 | .. | 45.5 | .. | 15.3 | .. | 53.6 | .. | 32.7 | .. | 13.7 |
| China | 93.9 | .. | 6.1 | .. | .. | .. | 95.4 | .. | 4.6 | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | 60.0 | .. | 29.7 | .. | 10.3 | .. | 69.0 | .. | 22.5 | .. | 8.5 |
| Russian Federation | .. | 5.2 | .. | 36.6 | .. | 58.2 | .. | 5.3 | .. | 40.4 | .. | 54.3 |
| South Africa | .. | 22.6 | .. | 72.1 | .. | 5.2 | .. | 35.1 | .. | 58.3 | .. | 6.6 |

1 2 http://dx.doi.org/10.1787/888933336678

## Population that has attained tertiary education

*Percentage, 2014*




1 2 http://dx.doi.org/10.1787/888933335606

# TEACHERS' SALARIES

Teachers' salaries represent the largest single cost in formal education and have a direct impact on the attractiveness of the teaching profession. They influence decisions to enrol in teacher education, become a teacher after graduation, return to the teaching profession after a career interruption, and/or remain a teacher (as, in general, the higher the salaries, the fewer the people who choose to leave the profession).

## Definition

Salary structures usually define the salaries paid to teachers at different points in their careers. Deferred compensation, which rewards employees for staying in organisations or professions and for meeting established performance criteria, is also used in teachers' salary structures. OECD data on teachers' salaries are limited to information on statutory salaries at four points of the salary scale: starting salaries, salaries after 10 years of service, salaries after 15 years of experience, and salaries at the top of the scale. Salaries are for those teachers who have the typical qualification (i.e. that have the qualification held by the largest proportion of teachers across the teaching force). Qualifications beyond the minimum required to enter the teaching profession can lead to wage increases in some countries.

## Comparability

Teachers' statutory salaries are one component of teachers' total compensation. Other benefits, such as regional allowances for teaching in remote areas, family allowances, reduced rates on public transport and tax allowances on the purchase of cultural materials, may also form part of teachers' total remuneration. There are also large differences in taxation and social-benefits systems in OECD countries. All this should be borne in mind when comparing salaries across countries.

In most OECD countries, teachers' salaries increase with the level of education they teach.

### *Overview*

Teachers' salaries vary widely across countries. The salaries of lower secondary school teachers with 15 years of experience and typical qualification range from less than USD 15 000 in Estonia, Hungary, to more than USD 60 000 in Canada, Germany, the Netherlands and the United States and exceed USD 100 000 in Luxembourg.

Between 2000 and 2013, teachers' salaries rose, in real terms, in all countries with available data, except Denmark (upper secondary), France and Italy. However, in most countries, salaries increased less since 2005 than between 2000 and 2005.

Salaries at the top of the scale for teachers with typical qualifications are, on average, 64%, 66%, 65% and 66% higher, respectively, than starting salaries in pre-primary, primary, lower secondary and upper secondary education. The difference tends to be greatest when it takes many years to progress through the scale. In countries where it takes 30 years or more to reach the top of the salary scale, salaries at that level can be more than 90% higher, on average, than starting salaries..

On average across OECD countries with available data, teachers' salaries decreased, for the first time since 2000, by around 5% at all levels of education between 2009 and 2013. The economic downturn may also have an influence on the supply of teachers. In general, when the general economy is weak, and there is high unemployment among graduates and low graduate earnings, teaching might seem to be a more attractive job choice than other occupations.

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- OECD Education at a Glance (supplementary material), *www.oecd.org/education/education-at-a-glance-19991487.htm*.
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## Teachers' statutory salaries at different points in their careers

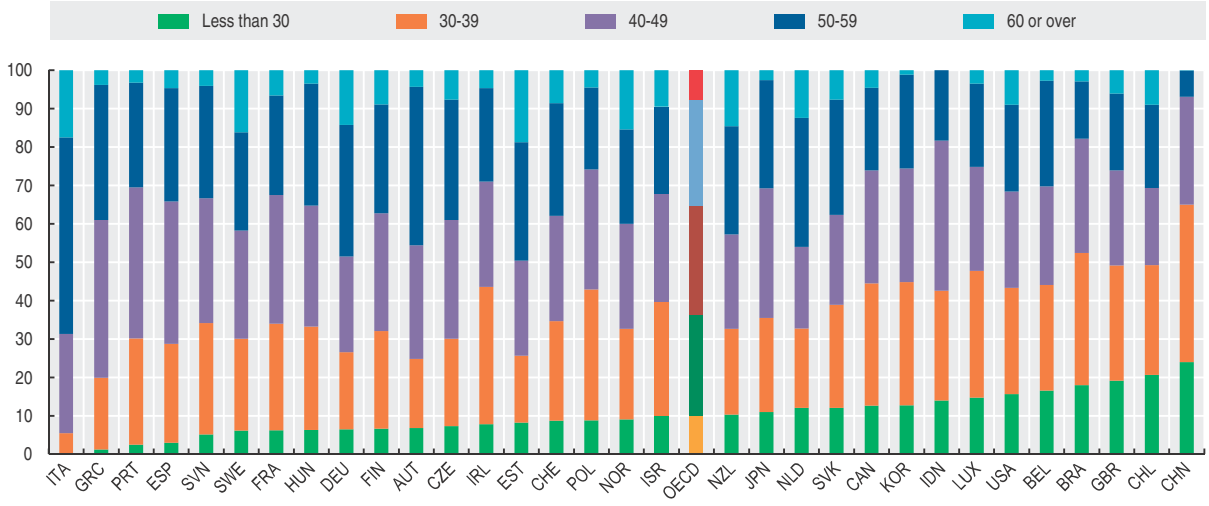
*Primary education*

| | 2005 = 100 | | Equivalent USD using PPPs | | | |
|---|---|---|---|---|---|---|
| | Change in salary after 15 years experience | | Starting salary | Salary after 10 years experience | Salary after 15 years experience | Salary at top of scale |
| | 2000 | 2013 | 2013 | 2013 | 2013 | 2013 |
| Australia | .. | 111.1 | 39 177 | 56 335 | 56 335 | 56 521 |
| Austria | 91.0 | 101.2 | 32 610 | 38 376 | 43 015 | 64 014 |
| Belgium | .. | .. | .. | .. | .. | .. |
| Canada | .. | .. | 39 608 | 63 557 | 66 702 | 66 702 |
| Chile | .. | .. | 17 733 | 23 736 | 26 610 | 37 110 |
| Czech Republic | .. | .. | 17 033 | 17 529 | 18 273 | 20 795 |
| Denmark | 93.8 | 101.9 | 45 860 | 50 958 | 52 672 | 52 672 |
| Estonia | 85.3 | 131.4 | 13 004 | 13 233 | 13 233 | 17 015 |
| Finland | 87.4 | 107.2 | 32 356 | 37 453 | 39 701 | 42 083 |
| France | 104.8 | 93.8 | 27 254 | 31 229 | 33 500 | 49 398 |
| Germany | .. | 107.9 | 51 389 | 60 449 | 63 221 | 67 413 |
| Greece | .. | 74.1 | 17 760 | 22 460 | 25 826 | 34 901 |
| Hungary | 63.1 | 67.7 | 10 647 | 12 177 | 13 061 | 17 362 |
| Iceland | .. | 88.5 | 26 046 | 29 165 | 31 145 | 31 145 |
| Ireland | 83.2 | 109.1 | 34 899 | 50 248 | 56 057 | 63 165 |
| Israel | 99.5 | 126.4 | 19 806 | 25 732 | 29 869 | 51 855 |
| Italy | 94.5 | 93.9 | 27 509 | 30 262 | 33 230 | 40 437 |
| Japan | .. | 93.9 | 27 627 | 41 036 | 48 546 | 60 878 |
| Korea | .. | 96.9 | 29 357 | 44 193 | 51 594 | 82 002 |
| Luxembourg | .. | 139.9 | 68 873 | 91 203 | 102 956 | 123 406 |
| Mexico | 87.3 | 109.0 | 15 944 | 20 779 | 26 533 | 34 048 |
| Netherlands | .. | .. | 36 456 | 45 228 | 54 001 | 54 001 |
| New Zealand | .. | .. | 29 124 | 43 292 | 43 292 | 43 292 |
| Norway | .. | 114.9 | 41 177 | 44 538 | 44 538 | 48 662 |
| Poland | .. | 121.8 | 15 220 | 20 402 | 24 921 | 25 980 |
| Portugal | .. | 84.8 | 30 806 | 33 740 | 36 663 | 57 201 |
| Slovak Republic | .. | .. | 11 116 | 13 351 | 15 650 | 16 869 |
| Slovenia | 86.2 | 100.0 | 25 134 | 31 077 | 38 261 | 45 764 |
| Spain | .. | 95.2 | 36 422 | 39 468 | 42 187 | 51 265 |
| Sweden | .. | 109.2 | 32 991 | 36 817 | 38 175 | 43 595 |
| Switzerland | .. | .. | .. | .. | .. | .. |
| Turkey | 99.4 | 114.2 | 25 295 | 26 107 | 27 139 | 29 342 |
| United Kingdom | .. | .. | .. | .. | .. | .. |
| United States | 82.0 | 98.4 | 41 606 | 53 799 | 59 339 | 66 938 |
| EU 28 | .. | .. | .. | .. | .. | .. |
| OECD | 89.4 | 102.8 | 29 807 | 37 795 | 41 245 | 48 706 |
| Brazil | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336663*

## Age distribution of teachers in secondary education

*2013*




1 2 *http://dx.doi.org/10.1787/888933335596*

# EDUCATIONAL EXPENDITURE

Expenditure on education is an investment that can foster economic growth, enhance productivity, contribute to personal and social development and reduce social inequality. The proportion of total financial resources devoted to education is one of the key choices made by governments, enterprises, students and their families. The demand for high-quality education, which can translate into higher costs per student, must be balanced against other demands on public expenditure and the overall tax burden. Policy makers must also balance the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities.

## Definition

Expenditure on institutions is not limited to expenditure on instruction services but includes public and private expenditure on ancillary services for students and their families, where these services are provided through educational institutions.

In principle, public expenditure includes both direct expenditure on educational institutions and educational related public subsidies to households administered by educational institutions. Private expenditure is recorded net of these public subsidies attributable to educational institutions; it also excludes expenditure made outside educational institutions (such as textbooks purchased by families, private tutoring for students and student living costs).

## Comparability

Expenditure data were obtained by a special survey conducted in 2012 which applied consistent methods and definitions. Expenditure data are based on the definitions and coverage for the UNESCO-OECD-Eurostat data collection programme on education; they have been adjusted to 2012 prices using the GDP price deflator. The use of a common survey and definitions ensures good comparability of results across countries.

The level of expenditure on educational institutions is affected by the size of a country's school age population, enrolment rates, level of teachers' salaries, and the organisation and delivery of instruction. At the primary and lower secondary levels of education (corresponding broadly to the 5-14 year-old population), enrolment rates are close to 100% in OECD countries, and changes in the number of students are closely related to demographic changes. This is not as much the case in upper secondary and tertiary education, because part of the concerned population has left the education system.

### *Overview*

In 2012, primary, secondary and post-secondary non-tertiary education accounted for more than two thirds of expenditure on educational institutions, or 3.7% of the GDP, on average across OECD countries. New Zealand spent more than 5% of its GDP on these levels of education, while the Czech Republic, Hungary, Indonesia, Latvia, Russia and Turkey spent 3% or less.

In 2012, the OECD average level of annual expenditure per student for primary, secondary and post-secondary non-tertiary education was USD 8 982. Between 2000 and 2012, a period of relatively stable student enrolment at these levels, spending per student increased in every country, rising by 35% on average.

### *Sources*

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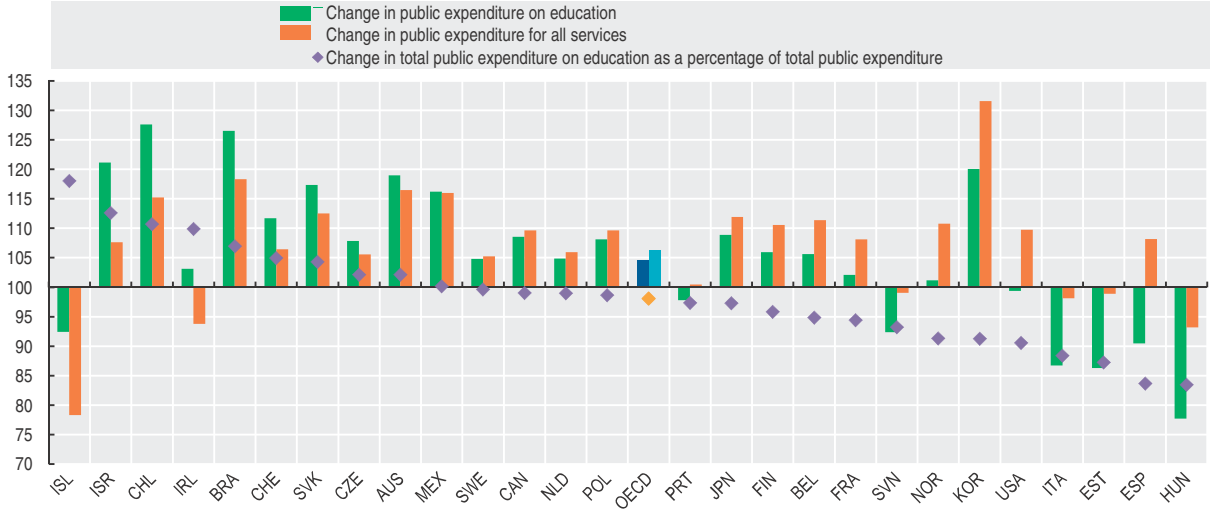
## Expenditure on primary, secondary, post-secondary non tertiary institutions

| | Annual expenditure per student (USD converted using PPPs for GDP) | | | | 2005 = 100 | | | | | | As a percentage of total expenditure | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Primary | Secondary | | | Primary, secondary, post-secondary non tertiary institutions | | | | | | Primary, secondary, post-secondary non tertiary institutions | |
| | 2012 | Lower secondary | Upper secondary | All secondary | Change in expenditure | | Change in number of students | | Change in expenditure per student | | Public sources | Private sources |
| | | 2012 | 2012 | 2012 | 2000 | 2012 | 2000 | 2012 | 2000 | 2012 | 2012 | 2012 |
| Australia | 7 705 | 10 574 | 9 581 | 10 165 | 82.6 | 130.2 | 92.9 | 106.2 | 88.9 | 122.6 | 82.4 | 17.6 |
| Austria | 9 563 | 13 632 | 14 013 | 13 806 | .. | .. | .. | .. | .. | .. | 96.0 | 4.0 |
| Belgium | 9 581 | 11 670 | 12 210 | 12 025 | .. | 114.7 | 90.9 | 96.5 | .. | 118.9 | 96.3 | 3.7 |
| Canada | 9 680 | .. | 11 695 | .. | 83.7 | 114.7 | 99.1 | 96.4 | 84.4 | 118.9 | 91.0 | 9.0 |
| Chile | 4 476 | 4 312 | 3 706 | 3 909 | 95.8 | 139.5 | 98.6 | 89.6 | 97.2 | 155.7 | 78.0 | 22.0 |
| Czech Republic | 4 728 | 7 902 | 7 119 | 7 469 | 76.8 | 113.7 | 107.4 | 84.8 | 71.5 | 134.2 | 91.0 | 9.0 |
| Denmark | 10 953 | 11 460 | 9 959 | 10 632 | 86.1 | 80.7 | 95.1 | .. | 90.5 | .. | 97.2 | 2.8 |
| Estonia | 5 668 | 6 524 | 7 013 | 6 791 | .. | 105.0 | 121.2 | 80.7 | .. | 130.1 | 99.1 | 0.9 |
| Finland | 8 316 | 12 909 | 8 599 | 9 985 | 82.6 | 112.2 | 95.4 | 98.1 | 86.6 | 114.4 | 99.3 | 0.7 |
| France | 7 013 | 9 588 | 13 070 | 11 046 | 99.3 | 104.2 | 101.8 | 100.7 | 97.5 | 103.4 | 91.0 | 9.0 |
| Germany | 7 749 | 9 521 | 12 599 | 10 650 | .. | .. | .. | .. | .. | .. | 86.5 | 13.5 |
| Greece | .. | .. | .. | .. | 77.2 | .. | 100.5 | .. | .. | .. | .. | .. |
| Hungary | 4 370 | 4 459 | 4 386 | 4 419 | 68.4 | 75.2 | 104.3 | 90.5 | 65.5 | 83.1 | 94.2 | 5.8 |
| Iceland | 10 003 | 10 706 | 7 541 | 8 724 | 72.9 | 98.5 | 94.4 | 100.2 | 77.2 | 98.4 | 96.0 | 4.0 |
| Ireland | 8 681 | 11 087 | 11 564 | 11 298 | 69.0 | 138.5 | 97.0 | 109.4 | 71.2 | 126.6 | 95.7 | 4.3 |
| Israel | 6 931 | .. | .. | 5 689 | 99.2 | 154.0 | 94.1 | 111.8 | 105.5 | 137.7 | 88.9 | 11.1 |
| Italy | 7 924 | 8 905 | 8 684 | 8 774 | 96.4 | 89.6 | 98.6 | 99.3 | 97.8 | 90.2 | 95.5 | 4.5 |
| Japan | 8 595 | 9 976 | 10 360 | 10 170 | 98.5 | 106.3 | 109.2 | 94.2 | 90.3 | 112.8 | 92.9 | 7.1 |
| Korea | 7 395 | 7 008 | 9 651 | 8 355 | 68.9 | 125.2 | 102.1 | 86.3 | 67.5 | 145.1 | 83.9 | 16.1 |
| Luxembourg | 20 020 | 20 247 | 20 962 | 20 617 | .. | 96.4 | .. | .. | .. | .. | 97.8 | 2.2 |
| Mexico | 2 632 | 2 367 | 4 160 | 3 007 | 80.4 | 118.7 | 94.6 | 107.2 | 85.0 | 110.7 | 82.8 | 17.2 |
| Netherlands | 8 185 | 12 227 | 12 368 | 12 296 | 82.3 | 113.1 | 96.7 | 101.4 | 85.1 | 111.6 | 86.7 | 13.3 |
| New Zealand | 7 069 | 8 644 | 10 262 | 9 409 | .. | .. | .. | .. | .. | .. | 82.5 | 17.5 |
| Norway | 12 728 | 13 373 | 15 248 | 14 450 | 86.8 | 112.5 | 94.5 | 103.8 | 91.8 | 108.3 | .. | .. |
| Poland | 6 721 | 6 682 | 6 419 | 6 540 | 89.8 | 124.6 | 109.7 | 77.0 | 81.9 | 161.9 | 92.0 | 8.0 |
| Portugal | 6 105 | 8 524 | 8 888 | 8 691 | 99.6 | 122.6 | 111.0 | 97.4 | 89.7 | 125.8 | 85.2 | 14.8 |
| Slovak Republic | 5 415 | 5 283 | 5 027 | 5 152 | 73.6 | 124.7 | 108.1 | 78.6 | 68.1 | 158.7 | 88.1 | 11.9 |
| Slovenia | 9 015 | 9 802 | 6 898 | 8 022 | .. | 97.6 | .. | 89.3 | .. | 109.2 | 91.0 | 9.0 |
| Spain | 7 111 | 9 137 | 9 145 | 9 141 | 92.3 | 110.4 | 106.9 | 107.4 | 86.4 | 102.8 | 88.7 | 11.3 |
| Sweden | 10 312 | 10 966 | 11 329 | 11 177 | 88.3 | 102.7 | 98.4 | 91.0 | 89.7 | 112.9 | 100.0 | 0.0 |
| Switzerland | 13 889 | 16 370 | 17 024 | 16 731 | 86.6 | 110.5 | 100.1 | 96.6 | 86.5 | 114.3 | 88.5 | 11.5 |
| Turkey | 2 577 | 2 448 | 3 524 | 2 904 | 71.0 | 164.8 | 92.5 | 106.6 | 76.7 | 154.7 | 85.4 | 14.6 |
| United Kingdom | 10 017 | 10 271 | 9 963 | 10 085 | .. | 112.1 | 112.6 | 103.7 | .. | 108.1 | 84.0 | 16.0 |
| United States | 11 030 | 11 856 | 13 059 | 12 442 | 86.2 | 104.2 | 97.7 | 99.5 | 88.2 | 104.8 | 92.0 | 8.0 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 8 247 | 9 627 | 9 876 | 9 518 | 84.4 | 113.9 | 100.9 | 96.6 | 84.5 | 120.6 | 90.6 | 9.4 |
| Brazil | 3 095 | 2 981 | 3 078 | 3 020 | 65.8 | 181.7 | 98.2 | 86.5 | 67.0 | 210.0 | .. | .. |
| Indonesia | 1 180 | 915 | 1 067 | 981 | .. | .. | .. | .. | .. | .. | 90.6 | 9.4 |
| Russian Federation | .. | .. | .. | 5 345 | 65.7 | 150.7 | .. | 87.8 | .. | 171.7 | 96.7 | 3.3 |
| South Africa | 2 431 | .. | .. | 2 440 | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336128*

## Total public expenditure on primary to tertiary education, change between 2008 and 2012

*As a percentage of total public expenditure, 2008 = 100, 2012 constant prices*




1 2 *http://dx.doi.org/10.1787/888933334944*

# EXPENDITURE IN TERTIARY EDUCATION

Educational institutions in OECD countries are mainly publicly funded, although there are substantial and growing levels of private funding at the tertiary level. At this level, the contribution to the costs of education by individuals and other private entities is more and more considered an effective way to ensure funding is available to students regardless of their economic backgrounds.

## Definition

Covered are public and private expenditure on schools, universities and other private institutions delivering or supporting educational services. Other private entities include private businesses and non-profit organisations, e.g. religious organisations, charitable organisations and business and labour associations. Expenditure by private companies on the work-based element of school- and work-based training of apprentices and students is also taken into account.

Private expenditure is recorded net of public subsidies to educational institutions; it also includes expenditures made outside educational institutions.

## Comparability

The data on expenditure were obtained by a survey conducted in 2011 which applied consistent methods and definitions. Expenditure data are based on the definitions and coverage for the UNESCO-OECD-Eurostat data collection programme on education; they have been adjusted to 2012 prices using the GDP price deflator. The use of a common survey and definitions ensures good comparability of results across countries.

Educational expenditure in national currency for 2012 is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. PPPs are used because market exchange rates are affected by many factors that are unrelated to the purchasing power of currencies in different countries.

## *Overview*

In 2012, the average level of expenditure per tertiary student, across OECD countries, was USD 15 028. Spending per student at tertiary level ranged from USD 8 000 or less in Chile, Indonesia, Latvia, South Africa and Turkey to more than USD 20 000 in Canada, Norway, Sweden, Switzerland, the United Kingdom, and the United States and even more than USD 30 000 in Luxembourg.

Expenditure on tertiary education amounts to more than 1.5% of GDP in more than half of all countries, and exceeds 2.0% in Canada (2.5%), Chile (2.5%), Korea (2.3%) and the United States (2.8%). Five countries devote less than 1% of GDP to tertiary education, namely Brazil (0.9%), Italy (0.9%), Indonesia (0.8%), Luxembourg (0.4%) and South Africa (0.7%).

High private returns to tertiary education suggest that a greater contribution to the costs of education by individuals and other private entities may be justified, as long as there are ways to ensure that funding is available to students regardless of their economic backgrounds.

The proportion of expenditure on tertiary institutions covered by individuals, businesses and other private sources, including subsidised private payments, ranges from 5% or less in Finland and Norway (tuition fees charged by tertiary institutions are low or negligible in these countries), to more than 40% in Australia, Canada, Chile, Hungary, Israel, Japan Korea, New Zealand, the United Kingdom and the United States, and to over 70% in Korea. Of these countries, in Korea and the United Kingdom, most students are enrolled in private institutions (around 80% in private universities in Korea; 100% in government-dependent private institutions in the United Kingdom).

## *Sources*

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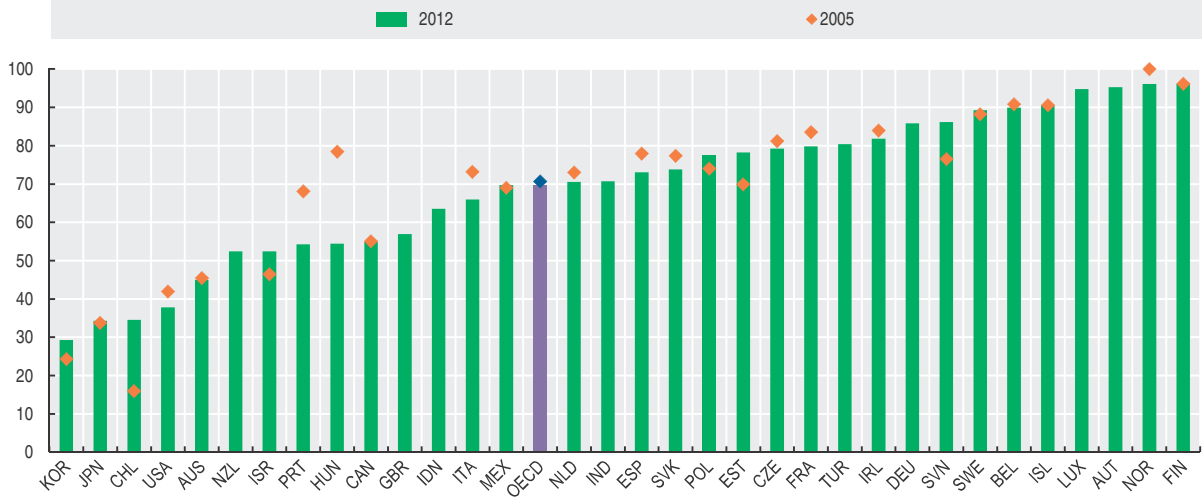
## Expenditure on tertiary institutions

| | Annual expenditure per student by educational institutions for all services (USD converted using PPPs for GDP) | | | | 2005 = 100 | | | | | | As a percentage of total expenditure | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tertiary (including R&D activities), 2012 | | | All tertiary excluding R&D activities | Change in expenditure | | Change in number of students | | Change in expenditure per student | | Public sources | Private sources |
| | Short-cycle tertiary | Bachelor's, master's, doctoral or equivalent level | All tertiary | 2012 | 2000 | 2012 | 2000 | 2012 | 2000 | 2012 | 2012 | 2012 |
| Australia | 8 267 | 18 795 | 16 859 | 10 455 | 83.5 | 132.6 | .. | 132.8 | .. | 99.8 | 44.9 | 55.1 |
| Austria | 15 071 | 15 641 | 15 549 | 11 616 | .. | .. | .. | .. | .. | .. | 95.3 | 4.7 |
| Belgium | 8 212 | 15 785 | 15 503 | 10 156 | .. | 123.6 | 94.4 | 119.4 | .. | 103.5 | 89.9 | 10.1 |
| Canada | 15 348 | 25 525 | 22 006 | 15 788 | 83.6 | 113.0 | .. | .. | .. | .. | 54.9 | 45.1 |
| Chile | 4 186 | 9 409 | 7 960 | 7 600 | 84.4 | 186.8 | 73.1 | 177.6 | 115.5 | 105.2 | 34.6 | 65.4 |
| Czech Republic | 16 645 | 10 304 | 10 319 | 6 807 | 65.3 | 172.2 | 72.3 | 129.6 | 90.2 | 132.9 | 79.3 | 20.7 |
| Denmark | .. | .. | .. | .. | 86.5 | .. | 97.8 | .. | 88.5 | .. | .. | .. |
| Estonia | .. | 8 206 | 8 206 | 4 690 | .. | 158.0 | 85.5 | 96.8 | .. | 163.3 | 78.2 | 21.8 |
| Finland | .. | 17 863 | 17 863 | 10 728 | 87.6 | 117.5 | 95.0 | 99.9 | 92.2 | 117.6 | 96.2 | 3.8 |
| France | 12 346 | 16 279 | 15 281 | 10 361 | 93.0 | 118.7 | 95.3 | 104.1 | 97.6 | 114.0 | 79.8 | 20.2 |
| Germany | 8 265 | 17 159 | 17 157 | 10 025 | .. | .. | .. | .. | .. | .. | 85.9 | 14.1 |
| Greece | .. | .. | .. | .. | 42.0 | .. | 67.5 | .. | 62.1 | .. | .. | .. |
| Hungary | 2 897 | 9 658 | 8 876 | 7 405 | 80.5 | 79.0 | 63.9 | 93.1 | 126.0 | 84.9 | 54.4 | 45.6 |
| Iceland | 9 665 | 9 373 | 9 377 | .. | 69.9 | 107.2 | 67.6 | 119.7 | 103.4 | 89.6 | 90.6 | 9.4 |
| Ireland | .. | .. | 14 922 | 11 418 | 102.4 | 125.3 | 85.2 | 113.6 | 120.2 | 110.3 | 81.8 | 18.2 |
| Israel | 6 366 | 13 777 | 12 338 | 7 710 | 82.7 | 117.1 | 80.2 | 114.4 | 103.1 | 102.4 | 52.4 | 47.6 |
| Italy | .. | 10 071 | 10 071 | 6 369 | 93.0 | 107.3 | 89.7 | 94.4 | 103.8 | 113.7 | 66.0 | 34.0 |
| Japan | 10 532 | 18 557 | 16 872 | .. | 93.7 | 114.2 | 98.9 | 96.0 | 94.8 | 119.0 | 34.3 | 65.7 |
| Korea | 5 540 | 11 173 | 9 866 | 8 026 | 78.6 | 142.1 | 93.4 | 103.1 | 84.2 | 137.9 | 29.3 | 70.7 |
| Luxembourg | 3 749 | 34 739 | 32 876 | 21 358 | .. | .. | .. | .. | .. | .. | 94.8 | 5.2 |
| Mexico | .. | .. | 8 115 | 6 647 | 73.5 | 135.3 | 82.8 | 133.3 | 88.8 | 101.5 | 69.7 | 30.3 |
| Netherlands | 11 580 | 19 305 | 19 276 | 12 505 | 84.6 | 124.9 | 85.3 | 122.5 | 99.2 | 101.9 | 70.5 | 29.5 |
| New Zealand | 10 289 | 14 543 | 13 740 | 10 841 | .. | .. | .. | .. | .. | .. | 52.4 | 47.6 |
| Norway | .. | 20 016 | 20 016 | 12 010 | 83.2 | 108.2 | 87.8 | 103.5 | 94.8 | 104.5 | 96.1 | 3.9 |
| Poland | 8 229 | 9 811 | 9 799 | 7 692 | 57.7 | 112.9 | 59.7 | 88.4 | 96.7 | 127.7 | 77.6 | 22.4 |
| Portugal | .. | 9 196 | 9 196 | 4 917 | 71.4 | 102.9 | 90.4 | 108.3 | 79.0 | 94.9 | 54.3 | 45.7 |
| Slovak Republic | .. | 9 022 | 9 022 | 6 191 | 66.9 | 151.7 | 71.3 | 117.0 | 93.8 | 129.6 | 73.8 | 26.2 |
| Slovenia | 6 874 | 11 615 | 11 002 | 8 888 | .. | 103.0 | .. | 94.8 | .. | 108.7 | 86.1 | 13.9 |
| Spain | 9 394 | 13 040 | 12 356 | 8 983 | 87.0 | 116.9 | 107.5 | 117.5 | 80.9 | 99.5 | 73.1 | 26.9 |
| Sweden | 5 897 | 24 025 | 22 534 | 10 589 | 86.7 | 121.0 | 82.3 | 101.9 | 105.3 | 118.7 | 89.3 | 10.7 |
| Switzerland | .. | .. | 25 264 | 11 632 | 76.4 | 111.2 | 75.6 | 128.0 | 101.1 | 86.9 | .. | .. |
| Turkey | .. | .. | 7 779 | 5 557 | 76.8 | 192.8 | 71.9 | 158.6 | 106.9 | 121.5 | 80.4 | 19.6 |
| United Kingdom | .. | .. | 24 338 | 18 593 | .. | .. | 93.4 | 105.1 | .. | .. | 56.9 | 43.1 |
| United States | .. | .. | 26 562 | 23 706 | 78.1 | 124.5 | 88.6 | 129.7 | 88.2 | 96.0 | 37.8 | 62.2 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 8 968 | 15 111 | 15 028 | 10 309 | 79.6 | 126.7 | 83.6 | 114.9 | 96.5 | 111.0 | 69.7 | 30.3 |
| Brazil | .. | .. | 10 455 | 9 595 | 78.9 | 148.8 | 70.4 | 160.5 | 112.1 | 92.7 | .. | .. |
| Indonesia | .. | .. | 2 089 | .. | .. | .. | .. | .. | .. | .. | 70.7 | 29.3 |
| Russian Federation | 5 183 | 9 115 | 8 363 | 7 641 | 44.3 | 141.9 | .. | 142.3 | .. | 99.7 | 63.5 | 36.5 |
| South Africa | .. | .. | 10 885 | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336062*

## Share of public expenditure on tertiary institutions

*Percentage*




1 2 *http://dx.doi.org/10.1787/888933334885*





# GOVERNMENT

## GOVERNMENT DEFICITS AND DEBT

GOVERNMENT EXPENDITURES, REVENUES AND DEFICITS
GOVERNMENT DEBT

## GENERAL GOVERNMENT

EXPENDITURES ACROSS LEVELS OF GOVERNMENT
GENERAL GOVERNMENT EXPENDITURES AND REVENUES PER CAPITA
GENERAL GOVERNMENT PRODUCTION COSTS

## PUBLIC EXPENDITURE

SOCIAL EXPENDITURE
PENSION EXPENDITURE
OFFICIAL DEVELOPMENT ASSISTANCE

## TAXES

TAXES ON THE AVERAGE WORKER
TOTAL TAX REVENUE

# GOVERNMENT EXPENDITURES, REVENUES AND DEFICITS

Net lending reflects the fiscal position of government after accounting for capital expenditures. Positive net lending means that government is providing financial resources to other sectors and negative net lending means that government requires financial resources from other economic sectors.

While general government net lending is an important concept in the *System of National Accounts* (SNA) accounting framework and provides the basis for sound international comparisons, net lending is not necessarily the key fiscal measure targeted by governments. Some countries for example manage their budgets using broader notions that incorporate the positions of public corporations and others focus on more narrow concepts such as central government.

## Definition

Total general government expenditures include the following items: intermediate consumption; compensation of employees, subsidies, social benefits and social transfers in kind (via market producers); other current transfers; property income; capital transfers (payable); the adjustment for the net equity of households in pension funds reserves; gross capital formation; and net acquisition of non-financial non-produced assets. It also includes taxes on income and wealth and other taxes on production that governments may be required to pay.

Revenues include taxes (on corporations and households, and those on income, wealth, production and imports), social security contributions, property income and other income.

## Comparability

The biggest issue affecting comparability across countries concerns the scope of the government sector. In many countries, hospitals, for example, are classified outside of the government sector and are instead recorded as public corporations on the grounds that they charge market prices for their services. EU countries have adopted a 50% rule, i.e. sales should cover at least 50% of the operating costs to qualify the relevant units as market producers outside government.

Another potential area where comparability may be affected relates to the determination of public ownership. The SNA requires that "control" be the determining factor for recording a non-market producer inside or outside government, and describes a number of criteria that can be used to assess this requirement. Recognising that this is non-trivial it includes a practical recommendation that a 50% rule relating to ownership should be adopted.

Generally however, the comparability of figures for countries is very high. For most general government expenditures there is little scope for ambiguity in treatment and the quality of underlying data is very good, so the level of comparability is good. Data for all countries are on a consolidated basis, except Canada (which consolidates only current transfers) and New Zealand.

### *Overview*

Since the onset of the financial crisis, most OECD countries have recorded fiscal deficits. In 2010, deficits larger than 10% of GDP were recorded for Ireland, the United States, Greece and Portugal. The large deficit in Ireland of 32.3% partly reflected one-off payments to support the financial system. In contrast, four countries recorded surpluses, most notably in Norway (at 11%). In 2014, fiscal balances improved in most OECD countries for which data are available. Two countries had deficits greater than 7.0%: Japan (minus 8.5%) and Portugal (minus 7.2%)

There is a big variation in the shares of government expenditure and revenue as a percentage of GDP across OECD countries. Looking at revenues in 2014, seven countries reported revenues as a percentage of GDP of less than 35.0%: the lowest were reported for Mexico (24.5%) and the United States (33.1%). On the other hand, six countries reported revenues as a percentage of GDP greater than 50.0%: the highest were recorded for Denmark (58.4%), Finland (54.9%), and Norway (54.7%).

### *Sources*

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### *Further information*

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#### *Methodological publications*

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#### *Online databases*

- *OECD National Accounts Statistics.*
- *OECD Economic Outlook: Statistics and Projections.*

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- Financial statistics, *www.oecd.org/std/fin-stats*.
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## General government revenues and expenditures

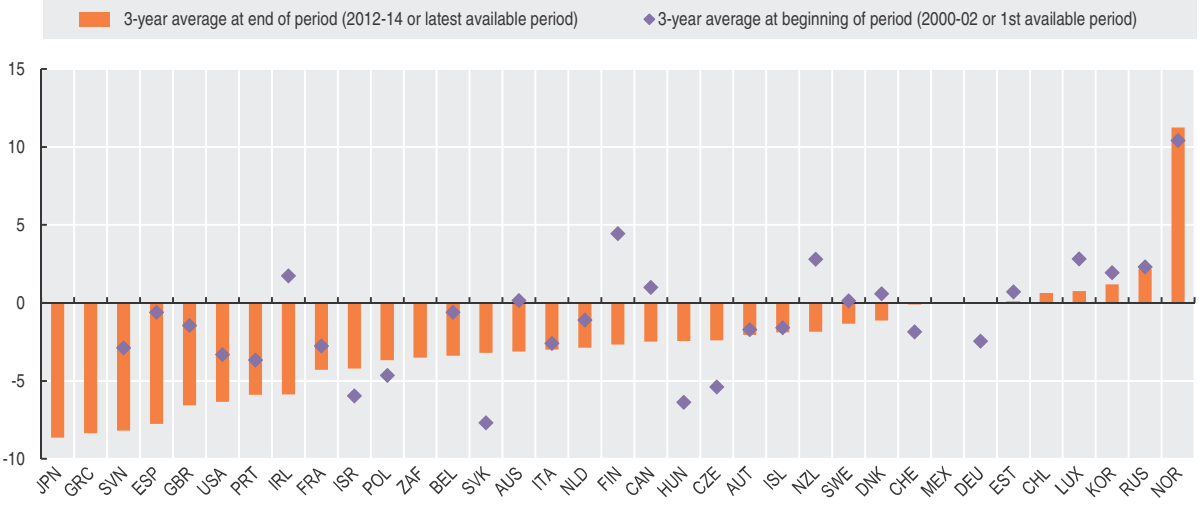
*As a percentage of GDP*

| | Net lending | | | | Revenues | | | | Expenditures | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2014 or latest available year | 2000 | 2005 | 2010 | 2014 or latest available year | 2000 | 2005 | 2010 | 2014 or latest available year |
| Australia | -1.1 | 1.6 | -4.6 | -2.6 | 35.1 | 36.3 | 32.2 | 34.0 | .. | .. | .. | .. |
| Austria | -2.0 | -2.5 | -4.4 | -2.7 | 48.3 | 48.5 | 48.3 | 50.0 | 50.3 | 51.0 | 52.7 | 50.9 |
| Belgium | -0.1 | -2.6 | -4.0 | -3.1 | 49.0 | 48.9 | 49.3 | 52.0 | 48.6 | 50.8 | 52.4 | 54.8 |
| Canada | 2.9 | 1.7 | -4.9 | -1.6 | 43.4 | 40.1 | 38.3 | 37.7 | .. | .. | .. | .. |
| Chile | .. | .. | 0.0 | -0.4 | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | -3.5 | -3.1 | -4.4 | -1.9 | 36.9 | 38.7 | 38.6 | 40.6 | 40.4 | 41.8 | 43.0 | 42.1 |
| Denmark | 1.9 | 5.0 | -2.7 | 1.5 | 54.6 | 56.2 | 54.3 | 58.4 | 52.7 | 51.2 | 57.1 | 56.9 |
| Estonia | -0.1 | 1.1 | 0.2 | 0.7 | 36.3 | 35.1 | 40.7 | 38.7 | 36.4 | 33.9 | 40.4 | 38.3 |
| Finland | 6.9 | 2.6 | -2.6 | -3.3 | 54.9 | 51.9 | 52.1 | 54.9 | 48.0 | 49.3 | 54.8 | 57.6 |
| France | -1.3 | -3.2 | -6.8 | -3.9 | 49.8 | 49.7 | 49.6 | 53.6 | 51.1 | 52.9 | 56.4 | 57.0 |
| Germany | 0.9 | -3.4 | -4.2 | 0.3 | 45.6 | 42.8 | 43.0 | 44.6 | 44.6 | 46.0 | 47.1 | 44.1 |
| Greece | .. | .. | -11.2 | -3.6 | .. | .. | 41.3 | 46.4 | .. | .. | .. | .. |
| Hungary | -3.0 | -7.8 | -4.5 | -2.5 | 44.2 | 41.7 | 45.0 | 47.4 | 47.2 | 49.6 | 49.6 | 49.4 |
| Iceland | 1.2 | 4.5 | -9.8 | -0.1 | 42.6 | 45.9 | 39.6 | 45.6 | .. | .. | .. | 44.1 |
| Ireland | 4.9 | 1.3 | -32.3 | -3.9 | 35.8 | 34.7 | 33.3 | 34.4 | 30.9 | 33.3 | 65.6 | 39.5 |
| Israel | -3.4 | -4.2 | -4.1 | -3.5 | 44.7 | 41.8 | 37.6 | 37.7 | 48.2 | 45.9 | 41.6 | 41.2 |
| Italy | -1.3 | -4.2 | -4.2 | -3.0 | 44.2 | 43.0 | 45.6 | 48.2 | 45.5 | 47.1 | 49.9 | 50.9 |
| Japan | -7.5 | -4.8 | -8.3 | -8.5 | 31.3 | 31.6 | 32.4 | 33.9 | .. | 36.4 | 40.6 | 42.4 |
| Korea | 4.4 | 1.6 | 1.0 | 1.2 | 29.1 | 31.0 | 32.0 | 33.2 | 24.7 | 29.5 | 31.0 | 31.8 |
| Luxembourg | 5.7 | 0.2 | -0.5 | 1.4 | 42.0 | 42.7 | 43.3 | 43.8 | 36.9 | 43.0 | 44.2 | 43.1 |
| Mexico | .. | 1.6 | -0.6 | 0.1 | .. | 21.1 | 23.0 | 24.5 | .. | .. | .. | .. |
| Netherlands | 1.9 | -0.3 | -5.0 | -2.4 | 43.6 | 42.1 | 43.2 | 43.9 | 41.8 | 42.3 | 48.2 | 46.2 |
| New Zealand | 1.7 | 4.6 | -6.7 | -0.4 | 39.3 | 42.1 | 40.7 | 39.7 | .. | .. | .. | .. |
| Norway | 15.1 | 14.8 | 11.0 | 9.1 | 57.1 | 56.9 | 56.0 | 54.7 | .. | 42.1 | 45.0 | 44.0 |
| Poland | -3.0 | -4.0 | -7.5 | -3.3 | 39.0 | 40.5 | 38.1 | 38.8 | .. | .. | .. | .. |
| Portugal | -3.2 | -6.2 | -11.2 | -7.2 | 39.4 | 40.5 | 40.6 | 44.5 | 42.6 | 46.7 | 51.8 | 50.4 |
| Slovak Republic | -12.0 | -2.9 | -7.5 | -2.8 | 40.0 | 36.7 | 34.5 | 38.9 | 51.8 | 39.4 | 41.9 | 40.9 |
| Slovenia | -3.6 | -1.3 | -5.6 | -5.0 | 42.5 | 43.6 | 43.6 | 44.8 | 46.1 | 44.9 | 49.2 | 60.1 |
| Spain | -1.0 | 1.2 | -9.4 | -5.9 | 38.1 | 39.5 | 36.2 | 38.6 | 39.1 | 38.3 | 45.6 | 45.1 |
| Sweden | 3.2 | 1.8 | 0.0 | -1.7 | 56.8 | 54.5 | 51.1 | 50.1 | 53.6 | 52.7 | 52.0 | 53.4 |
| Switzerland | -0.4 | -1.2 | 0.3 | -0.2 | 33.7 | 32.8 | 33.3 | 33.5 | .. | 34.0 | 32.9 | 33.5 |
| Turkey | .. | .. | -2.9 | -0.8 | .. | .. | 37.3 | 36.6 | .. | .. | 40.2 | 37.4 |
| United Kingdom | 1.2 | -3.5 | -9.7 | -5.7 | 39.0 | 39.2 | 39.1 | 38.2 | 37.8 | 42.7 | 48.7 | 45.0 |
| United States | 0.8 | -4.1 | -12.0 | -4.9 | 34.5 | 32.3 | 30.9 | 33.1 | 33.7 | 36.4 | 42.6 | 39.0 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | -2.8 | -2.2 | .. | .. | .. | .. | .. | .. | .. | .. |
| China | -7.0 | -0.2 | 1.5 | 1.2 | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | 6.0 | -1.2 | 0.3 | .. | 40.2 | 38.5 | 40.2 | .. | 34.2 | 39.3 | 38.7 |
| South Africa | .. | .. | -3.1 | -4.1 | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336228*

## General government net lending

*As a percentage of GDP*




1 2 *http://dx.doi.org/10.1787/888933335038*

# GOVERNMENT DEBT

The accumulation of government debt is a key determinant of the sustainability of government finance. Apart from net acquisitions of financial assets, changes in government debt over time reflect the accumulation of government deficits/surpluses.

The government debt-to-GDP ratio, calculated as the amount of total gross government debt of a country as a percentage of its Gross Domestic Product (GDP), is one of the indicators of the health of an economy.

## Definition

Generally, debt is defined as all liabilities that require payment or payments of interest or principal by the debtor to the creditor at a date or dates in the future.

Consequently, all debt instruments are liabilities, but some liabilities such as equity and investment fund shares and financial derivatives are not debt. Debt is thus obtained as the sum of the following liability categories: monetary gold and Special Drawing Rights (SDRs), currency and deposits; debt securities; loans; insurance, pension, and standardised guarantees; and other accounts payable. Importantly, debt securities are valued at market prices.

## Comparability

The comparability of data on general government debt can be affected by the delineation of the government sector. The degree of consolidation within the government sector may also have an impact on the international comparability of data. Consolidated data are provided by all OECD countries, except: Chile, Japan, and Mexico.

The status and treatment of government liabilities in respect of their employee pension plans in the national accounts is diverse, making international comparability of government debt difficult. In particular, the 2008 SNA recognises the importance of the liabilities of employers' pension schemes, regardless of whether they are funded or unfunded. However, for pensions provided by government to their employees, countries have some flexibility in the recording of the unfunded liabilities. A few OECD countries, such as Australia, Canada, Iceland, Sweden and the United States, record unfunded liabilities of government employee pension plans in general government debt data. To enhance the comparability across OECD countries, an adjusted debt-to-GDP ratio is calculated for all countries by excluding from the gross debt these unfunded pension liabilities. For the aforementioned five countries, a debt-to GDP ratio including unfunded pension liabilities, measures the impact of this recording on the ratio. For Australia, the difference between the two ratios accounts for 22.5% of GDP in 2014.

All countries compile data according to the 2008 SNA "System of National Accounts, 2008" with the exception of Chile, Japan, and Turkey, where data are compiled according to the 1993 SNA.

### *Overview*

In 2014, 19 OECD countries recorded adjusted debt-to-GDP ratios above 60% compared with 12 countries in 2007. In 2014, countries that recorded the highest debt-to-GDP ratios were Greece (180%), Italy (156%), and Portugal (150%). Japan recorded the highest debt ratio at 239% in 2013, the latest year available. In 2014, the lowest debt-to-GDP ratios were found in Estonia (14%) and Chile (23%).

Ireland recorded the highest increase in its debt-to-GDP ratio between 2007 and 2014 (98 percentage points), reaching a level of 125% in 2014. Other countries with a considerable increase of more than 50 percentage points in the period 2007-14 were Spain (76 percentage points), Portugal (72 percentage points) and Slovenia (68 percentage points). By contrast, Norway's government debt, as a percentage of GDP, declined by 23 percentage points between 2007 and 2014.

The rapid rise in debt-to-GDP ratios from 2007 reflects reduced tax revenues, increases in government budget deficits and the cost of government interventions to support the financial system.

## Sources

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- Financial statistics, *www.oecd.org/std/fin-stats*.

## Adjusted general government debt (excluding unfunded pension liabilities)

*As a percentage of GDP*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 23.9 | 20.9 | 21.4 | 21.0 | 19.7 | 19.5 | 20.7 | 25.4 | 28.5 | 33.1 | 36.6 | 37.0 | 40.7 |
| Austria | 73.4 | 72.0 | 71.3 | 75.8 | 72.4 | 68.7 | 74.0 | 86.3 | 90.3 | 91.3 | 97.5 | 93.6 | 102.2 |
| Belgium | 118.0 | 114.4 | 110.1 | 107.6 | 99.7 | 93.5 | 100.8 | 109.2 | 107.4 | 109.8 | 119.9 | 117.7 | 129.3 \| |
| Canada | 84.8 | 80.3 | 76.5 | 75.8 | 74.9 | 70.4 | 74.7 | 87.4 | 89.5 | 93.1 | 95.9 | 92.3 | 94.6 |
| Chile | .. | .. | .. | 17.4 | 14.1 | 12.2 | 12.4 | 13.4 | 15.6 | 18.3 | 18.8 | 19.4 | 23.1 |
| Czech Republic | 30.1 | 32.6 | 32.2 | 31.9 | 31.6 | 30.3 | 34.2 | 41.0 | 45.8 | 48.1 | 57.8 | 57.9 | 57.0 |
| Denmark | 58.1 | 56.1 | 52.4 | 45.1 | 40.5 | 34.6 | 42.0 | 49.5 | 53.8 | 60.6 | 61.5 \| | 58.0 | 60.6 |
| Estonia | 7.6 | 8.4 | 8.6 | 8.2 | 8.0 | 7.2 | 8.4 | 12.6 | 11.9 | 9.4 | 12.9 | 13.4 | 13.6 |
| Finland | 48.2 | 49.2 | 49.4 | 46.5 | 43.1 | 39.1 | 38.3 | 49.2 | 55.1 | 57.5 | 63.4 | 64.4 | 71.0 |
| France | 74.6 | 78.5 | 80.0 | 81.7 | 76.9 | 75.6 | 81.5 | 93.2 | 96.8 | 100.7 | 110.4 | 110.1 | 119.2 |
| Germany | 61.3 | 64.8 | 67.7 | 70.3 | 68.4 | 64.3 | 68.1 | 75.6 | 84.1 | 83.5 | 86.4 | 81.6 | 82.2 |
| Greece | 111.0 | 105.7 | 107.2 | 111.3 | 115.8 | 113.1 | 117.4 | 134.7 | 128.4 | 110.7 | 167.0 | 181.7 | 179.8 |
| Hungary | 60.0 | 60.7 | 64.1 | 67.1 | 70.7 | 71.5 | 75.0 | 84.1 | 86.0 | 95.0 | 97.9 | 95.9 | 99.3 |
| Iceland | .. | 39.9 | 34.8 | 26.5 | 32.1 | 30.2 | 70.9 | 85.6 | 90.9 | 97.5 | 95.5 | 87.8 | .. |
| Ireland | 34.1 | 32.9 | 31.5 | 31.4 | 27.6 | 27.4 | 47.5 | 67.8 | 84.6 | 109.2 | 129.7 | 133.0 | 125.4 |
| Israel | 94.9 | 100.2 | 98.0 | 95.7 | 85.4 | 81.3 | 81.0 | 84.0 | 80.3 | 78.6 | 79.0 | 77.0 | .. |
| Italy | 116.9 | 114.2 | 114.6 | 117.4 | 115.0 | 110.6 | 112.9 | 125.9 | 124.8 | 117.8 | 136.0 | 143.2 | 156.2 |
| Japan | 161.8 | 172.3 | 178.8 | 180.2 | 180.0 | 180.0 | 184.2 | 207.3 | 210.6 | 226.5 | 234.8 | 239.3 | .. |
| Korea | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Luxembourg | 12.3 | 13.2 | 14.1 | 12.4 | 11.9 | 11.6 | 19.2 | 18.9 | 26.2 | 27.0 | 30.6 | 30.0 | 33.7 |
| Mexico | .. | 42.5 | 38.0 | 35.5 | 34.9 | 37.9 | 41.9 | 44.3 | 40.8 | 46.4 | 49.6 | 48.7 | .. |
| Netherlands | 56.9 | 58.0 | 58.0 | 57.1 | 51.0 | 48.2 | 61.0 | 63.7 | 67.6 | 71.6 | 77.4 | 76.4 | 81.0 |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 38.7 | 48.0 | 49.9 | 46.9 | 57.8 | 55.6 | 54.2 | 48.1 | 48.4 | 33.8 | 34.5 | 34.8 | 32.4 |
| Poland | .. | 54.8 | 53.7 | 54.4 | 54.5 | 50.9 | 53.9 | 57.1 | 60.7 | 61.1 | 60.7 | 62.6 | 65.9 |
| Portugal | 66.8 | 70.6 | 76.7 | 80.0 | 79.4 | 78.1 | 82.8 | 96.1 | 104.1 | 107.8 | 136.9 | 140.7 | 149.9 |
| Slovak Republic | 49.4 | 47.5 | 45.1 | 38.1 | 36.0 | 34.5 | 33.5 | 42.0 | 46.9 | 49.4 | 57.7 | 60.7 | 60.1 |
| Slovenia | 34.0 | 33.5 | 34.3 | 33.4 | 33.3 | 29.1 | 28.3 | 42.5 | 46.8 | 50.4 | 60.6 | 79.5 | 97.3 |
| Spain | 59.3 | 54.4 | 52.5 | 50.0 | 45.7 | 41.7 | 47.1 | 61.7 | 66.5 | 77.5 | 92.0 | 103.8 | 117.7 |
| Sweden | 57.7 | 56.6 | 56.0 | 56.9 | 51.0 | 45.4 | 44.0 | 47.2 | 44.8 | 45.1 | 45.3 | 47.3 | 53.8 |
| Switzerland | 58.9 | 57.4 | 58.1 | 56.1 | 50.1 | 49.9 | 46.1 | 44.9 | 43.5 | 43.3 | 44.5 | .. | .. |
| Turkey | .. | .. | .. | .. | .. | .. | .. | 54.3 | 52.5 | 47.8 | 46.4 | 39.7 | .. |
| United Kingdom | 46.0 | 45.6 | 48.9 | 50.8 | 50.0 | 51.0 | 61.7 | 75.5 | 88.0 | 101.5 | 106.6 | 102.6 | 113.6 |
| United States | 55.2 | 58.2 | 65.1 | 64.3 | 63.0 | 63.1 | 71.7 | 84.8 | 93.4 | 97.6 | 101.0 | 103.2 | 103.4 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336216*

## General government debt-to-GDP (including unfunded pension liabilities)

*As a percentage of GDP*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 40.7 | 38.3 | 37.5 | 36.7 | 36.3 | 34.1 | 35.1 | 43.3 | 46.9 | 50.8 | 62.8 | 58.5 | 63.2 |
| Canada | 101.3 | 96.3 | 91.7 | 90.5 | 89.1 | 84.3 | 88.5 | 102.1 | 103.8 | 106.8 | 109.4 | 105.7 | 107.6 |
| Iceland | .. | 66.1 | 59.6 | 49.7 | 54.9 | 49.8 | 95.7 | 109.4 | 114.6 | 122.1 | 120.2 | 112.2 | .. |
| Sweden | 64.2 | 63.0 | 62.5 | 63.6 | 57.6 | 51.9 | 50.7 | 54.5 | 51.9 | 52.8 | 53.4 | 55.9 | 62.5 |
| United States | 70.5 | 71.4 | 79.2 | 78.5 | 76.2 | 76.5 | 92.3 | 105.7 | 116.0 | 121.6 | 124.7 | 123.8 | 123.2 |

1 2 *http://dx.doi.org/10.1787/888933336815*

# EXPENDITURES ACROSS LEVELS OF GOVERNMENT

The responsibility for the provision of public goods and services and redistribution of income is divided between different levels of government. In some countries, local and regional governments play a larger role in delivering services, such as providing public housing or running schools. Data on the distribution of government spending by both level and function can provide an indication of the extent to which key government activities are decentralised to sub-national governments.

## Definition

Data on government expenditures are derived from the *OECD Annual National Accounts*, which are based on the *System of National Accounts* (SNA), a set of internationally agreed concepts, definitions, classifications and rules for national accounting. The general government sector consists of central, state and local governments and the social security funds controlled by these units. Data on the distribution of general government expenditures across levels of government exclude transfers between levels of government and thus provide a rough proxy of the overall responsibility for providing goods and services borne by each level of government. For the central level of government, data on expenditures are shown here according to the *Classification of the Functions of Government*. Data on central government expenditures by function include transfers between the different levels of government.

## Comparability

Data for Australia, Korea, Japan and Turkey on the distribution of general government expenditures across levels of government include transfers between levels of government. The state government category is only applicable to the nine OECD countries that are federal states: Australia, Austria, Belgium, Canada, Germany, Mexico, Spain (considered a quasi-federal country), Switzerland and the United States. Local government is included in state government for Australia and the United States.

Social security funds are included in central government in Ireland, New Zealand, Norway, the United Kingdom and the United States. Australia does not operate government social insurance schemes. The OECD average does not include Chile and Turkey for general government expenditures across levels of government and does not include Canada, Chile, Mexico, New Zealand and Turkey for central government expenditures by function. Data for Australia refer to 2012 rather than 2013 for government expenditures across levels of government and data for Iceland refer to 2012 rather than 2013 for central government expenditures by function.

### *Overview*

Across the OECD, in 2013, 42.8% of general government expenditures were undertaken by central government. Sub-central governments (state and local) covered 37.8% and social security funds accounted for the remaining 19.4%. However, the level of fiscal decentralisation varies considerably across countries. In Ireland, for example, 90.4% of total expenditure is carried out by central government, representing an increase of 8.4 percentage points from 2007, by contrast, state and local governments in Belgium, Canada, Germany, Spain, Switzerland and Mexico (federal or quasi-federal states) account for a larger share of public expenditures than the central government.

In general, central governments spend a relatively larger proportion of their budgets on social protection (e.g. pensions and unemployment benefits), general public services (e.g. executive and legislative organs, public debt transactions) and defence than state and local governments. In half of OECD countries, expenditures on social protection represent the largest share of central government budgets. In Belgium and Spain, central governments allocate over 60% of their budgets to general public services.

## *Sources*

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## *Further information*

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## Structure of central government expenditures by function

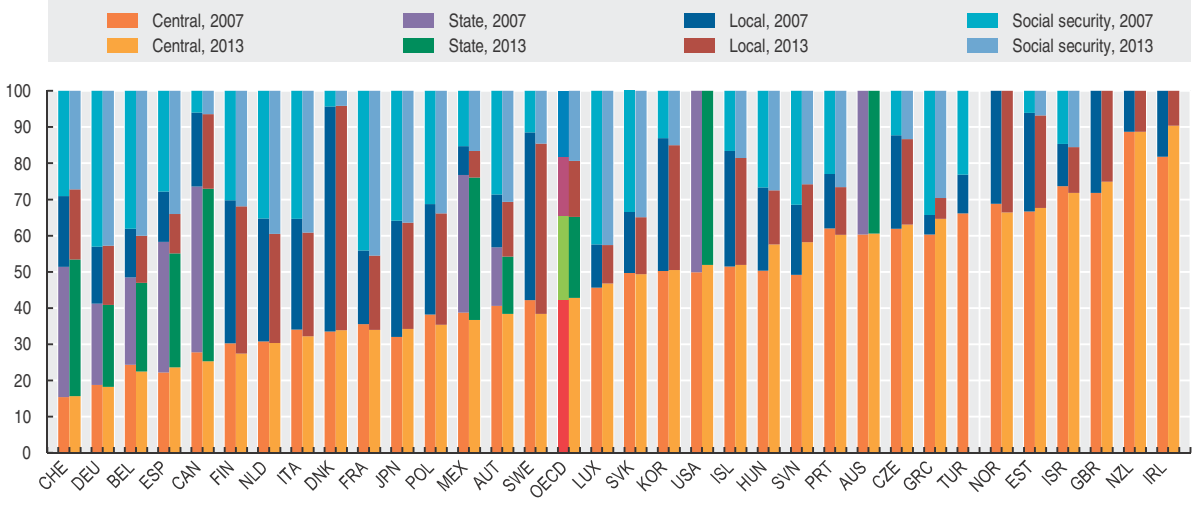
*Percentage, 2013 or latest available year*

| | General public services | Defence | Public order and safety | Economic affairs | Environmental protection | Housing and community amenities | Health | Recreation, culture and religion | Education | Social protection |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Austria | 35.7 | 1.8 | 3.4 | 10.8 | 0.8 | 0.1 | 4.0 | 1.0 | 9.9 | 32.5 |
| Belgium | 67.2 | 3.0 | 3.7 | 7.4 | 1.2 | 0.0 | 2.8 | 0.2 | 4.8 | 9.7 |
| Canada | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 12.4 | 2.5 | 5.4 | 14.1 | 0.8 | 0.9 | 5.0 | 1.2 | 14.0 | 43.7 |
| Denmark | 29.4 | 3.1 | 2.2 | 6.0 | 0.4 | 0.4 | 11.3 | 2.4 | 9.7 | 35.0 |
| Estonia | 17.4 | 6.4 | 6.5 | 12.1 | 1.5 | 0.0 | 7.4 | 4.0 | 9.0 | 35.8 |
| Finland | 22.7 | 5.2 | 3.9 | 11.6 | 0.7 | 0.7 | 11.4 | 2.5 | 12.6 | 28.7 |
| France | 31.2 | 7.6 | 5.6 | 12.8 | 0.5 | 1.7 | 1.1 | 1.4 | 16.8 | 21.3 |
| Germany | 30.1 | 8.3 | 1.2 | 9.4 | 1.1 | 0.5 | 1.6 | 0.5 | 1.4 | 45.9 |
| Greece | 40.4 | 4.3 | 3.7 | 29.4 | 0.5 | 0.1 | 5.0 | 0.7 | 8.4 | 7.4 |
| Hungary | 31.6 | 1.3 | 5.4 | 16.2 | 0.9 | 0.6 | 16.3 | 3.7 | 11.2 | 12.9 |
| Iceland | 24.1 | 0.1 | 4.0 | 11.2 | 1.0 | 2.2 | 22.1 | 3.3 | 9.3 | 22.7 |
| Ireland | 18.0 | 1.0 | 3.7 | 6.5 | 0.6 | 0.4 | 18.3 | 1.3 | 11.3 | 38.8 |
| Israel | 17.6 | 16.7 | 4.3 | 7.1 | 0.3 | 0.5 | 13.4 | 2.6 | 16.6 | 20.8 |
| Italy | 30.5 | 4.0 | 5.8 | 12.0 | 0.6 | 1.0 | 11.4 | 1.4 | 11.2 | 22.2 |
| Japan | 35.1 | 4.8 | 1.5 | 12.7 | 1.2 | 3.3 | 9.3 | 0.1 | 5.5 | 26.4 |
| Korea | 25.5 | 12.5 | 4.8 | 19.2 | 1.1 | 1.3 | 3.6 | 1.4 | 19.5 | 11.2 |
| Luxembourg | 19.5 | 1.2 | 3.1 | 11.1 | 1.6 | 1.9 | 2.0 | 2.0 | 15.8 | 42.0 |
| Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Netherlands | 28.4 | 4.5 | 6.8 | 9.4 | 0.7 | 0.3 | 6.0 | 1.3 | 18.4 | 24.4 |
| New Zealand | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norway | 22.9 | 3.8 | 2.4 | 9.4 | 0.8 | 0.1 | 15.5 | 1.7 | 3.9 | 39.4 |
| Poland | 22.1 | 7.0 | 8.9 | 9.0 | 0.8 | 0.9 | 5.1 | 1.0 | 16.7 | 28.5 |
| Portugal | 38.9 | 2.9 | 5.1 | 6.1 | 0.1 | 0.3 | 16.5 | 1.0 | 15.0 | 14.1 |
| Slovak Republic | 21.7 | 4.9 | 12.4 | 11.7 | 1.7 | 0.9 | 8.6 | 3.1 | 15.6 | 19.4 |
| Slovenia | 14.1 | 2.3 | 4.9 | 32.0 | 0.7 | 0.6 | 9.2 | 2.7 | 12.5 | 21.1 |
| Spain | 72.7 | 4.3 | 4.9 | 8.3 | 0.2 | 0.0 | 1.2 | 1.0 | 0.7 | 6.7 |
| Sweden | 32.1 | 4.8 | 3.8 | 9.8 | 0.5 | 0.3 | 4.1 | 1.1 | 5.8 | 37.8 |
| Switzerland | 25.7 | 7.4 | 1.6 | 20.7 | 1.7 | 0.0 | 0.5 | 0.8 | 9.9 | 31.9 |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 14.2 | 5.5 | 4.1 | 6.3 | 0.9 | 4.0 | 18.1 | 1.2 | 10.6 | 35.2 |
| United States | 13.5 | 16.3 | 1.5 | 5.6 | 0.0 | 1.8 | 25.8 | 0.1 | 2.7 | 32.8 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 23.9 | 9.8 | 3.1 | 8.9 | 0.5 | 1.7 | 15.3 | 0.7 | 7.2 | 28.9 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336171*

## Distribution of general government expenditures across levels of government

*Percentage, 2007-13*




1 2 *http://dx.doi.org/10.1787/888933334999*

# GENERAL GOVERNMENT EXPENDITURES AND REVENUES PER CAPITA

Governments spend money to provide goods and services and redistribute income. To finance these activities governments raise money in the form of revenues (e.g. taxation) and/or borrowing. The amount of revenues and expenditures per capita provide an indication of the importance of the public sector in the economy across countries. Variations across countries however can also reflect different approaches to the delivery of public services (e.g. such as the use of tax breaks rather than direct expenditures).

## Definition

Data are derived from the *OECD Annual National Accounts*, which are based on the *System of National Accounts* (SNA), a set of internationally agreed concepts, definitions, classifications and rules for national accounting. The general government sector consists of central, state and local governments and the social security funds controlled by these units. The underlying population estimates are based on the SNA notion of residency. They include persons who are resident in a country for one year or more, regardless of their citizenship, and also include foreign diplomatic personnel, and defence personnel; together with their families and students studying and patients seeking treatment abroad, even if they stay abroad for more than one year. The "one year" rule means that usual residents who live abroad for less than one year are included in the population, while foreign visitors (for example, vacationers) who are in the country for less than one year are excluded.

## Comparability

Differences in the amounts of government revenues and expenditures per capita in some countries can be related to the fact that individuals may feature as employees of one country (contributing to the GDP of that country via production), but residents of another (with their wages and salaries reflected in the Gross National Income of their resident country). The OECD average does not include Chile and Turkey.

### *Overview*

On average in the OECD area, governments collected on average USD 14 852 PPP per capita in revenues in 2013, while spending represented USD 16 491 PPP per capita in the same year.

Luxembourg and Norway collected the largest government revenues per capita in the OECD, above USD 30 000 PPP per capita reflecting the large number of cross-border workers and high corporate taxes in Luxembourg and oil revenues in Norway. These two countries also spent the most per citizen (above USD 26 000 PPP).

The governments of Mexico and Turkey collected the smallest revenues per capita; below USD 7 000 PPP. Likewise, government expenditures in these countries were also much lower than average (below USD 7 000 PPP per capita). In general, central European countries also collect comparatively less revenues per capita, and also spend less than most OECD countries.

On average across OECD countries revenues per capita increased, in real terms, at an annual rate of 2.4% between 2009 and 2013 whereas a slight decrease was recorded for expenditures per capita (0.2%) over the same period.

## *Sources*

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## *Further information*

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## General government revenues and expenditures per capita

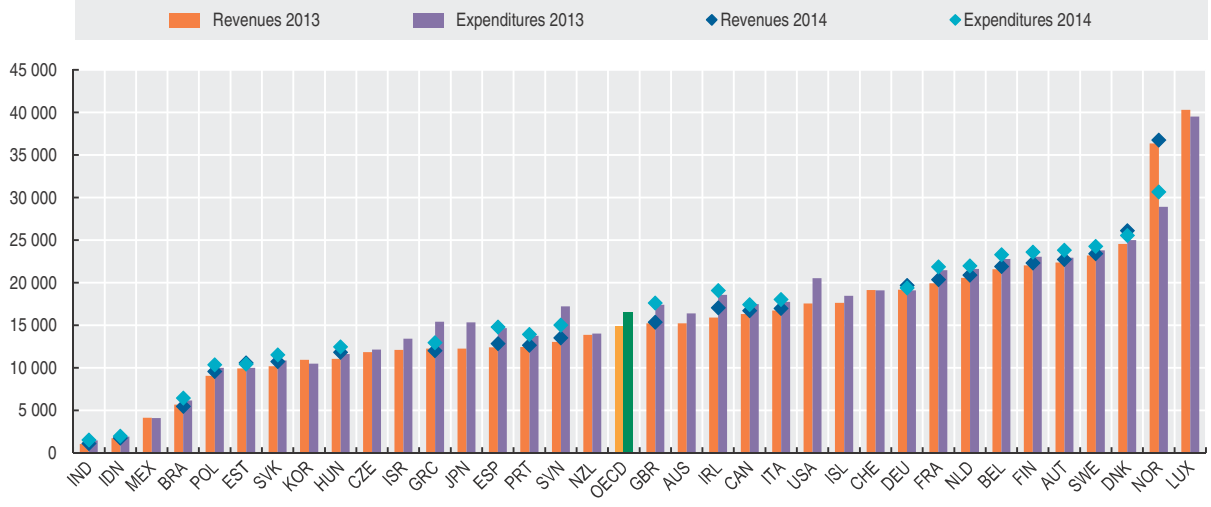
*US dollars, current prices and PPPs*

| | General government revenues per capita | | | | General government expenditures per capita | | | |
|---|---|---|---|---|---|---|---|---|
| | 2009 | 2011 | 2013 | 2014 | 2009 | 2011 | 2013 | 2014 |
| Australia | 13 402 | 14 279 | 15 216 | .. | 15 730 | 16 197 | 16 379 | .. |
| Austria | 19 824 | 21 247 | 22 352 | 22 733 | 21 985 | 22 375 | 22 931 | 23 830 |
| Belgium | 18 028 | 20 323 | 21 578 | 21 894 | 20 092 | 22 010 | 22 800 | 23 285 |
| Canada | 15 153 | 15 785 | 16 338 | 16 715 | 16 904 | 17 343 | 17 503 | 17 441 |
| Chile | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 10 248 | 11 364 | 11 832 | .. | 11 731 | 12 138 | 12 168 | .. |
| Denmark | 21 392 | 23 727 | 24 534 | 26 108 | 22 506 | 24 624 | 24 998 | 25 551 |
| Estonia | 8 850 | 9 221 | 9 938 | 10 589 | 9 288 | 8 941 | 9 993 | 10 422 |
| Finland | 19 610 | 21 470 | 22 022 | 22 308 | 20 561 | 21 879 | 23 033 | 23 576 |
| France | 17 279 | 18 982 | 19 913 | 20 340 | 19 774 | 20 886 | 21 448 | 21 851 |
| Germany | 16 465 | 18 393 | 19 171 | 19 695 | 17 590 | 18 756 | 19 107 | 19 400 |
| Greece | 11 791 | 11 683 | 12 257 | 12 011 | 16 443 | 14 408 | 15 422 | 12 942 |
| Hungary | 9 610 | 10 010 | 11 044 | 11 822 | 10 568 | 11 245 | 11 618 | 12 459 |
| Iceland | 15 394 | 15 845 | 17 636 | .. | 19 129 | 17 954 | 18 466 | .. |
| Ireland | 13 957 | 15 050 | 15 913 | 17 066 | 19 746 | 20 775 | 18 563 | 19 079 |
| Israel | 9 986 | 11 381 | 12 094 | .. | 11 525 | 12 377 | 13 424 | .. |
| Italy | 15 546 | 16 195 | 16 720 | 16 965 | 17 331 | 17 433 | 17 747 | 18 036 |
| Japan | 10 531 | 11 341 | 12 273 | .. | 13 349 | 14 364 | 15 338 | .. |
| Korea | 9 531 | 10 439 | 10 951 | .. | 9 905 | 10 133 | 10 509 | .. |
| Luxembourg | 35 569 | 38 995 | 40 295 | .. | 36 000 | 38 639 | 39 518 | .. |
| Mexico | 3 294 | 3 867 | 4 144 | .. | 3 380 | 3 880 | 4 128 | .. |
| Netherlands | 18 973 | 19 801 | 20 554 | 20 894 | 21 398 | 21 809 | 21 605 | 21 975 |
| New Zealand | 11 971 | 12 861 | 13 892 | .. | 12 835 | 13 982 | 14 036 | .. |
| Norway | 31 715 | 35 925 | 36 341 | 36 740 | 25 904 | 27 488 | 28 905 | 30 660 |
| Poland | 7 254 | 8 614 | 9 052 | 9 585 | 8 655 | 9 695 | 10 004 | 10 378 |
| Portugal | 10 597 | 11 478 | 12 446 | 12 665 | 13 167 | 13 461 | 13 774 | 13 935 |
| Slovak Republic | 8 274 | 9 136 | 10 186 | 10 732 | 10 100 | 10 167 | 10 871 | 11 524 |
| Slovenia | 11 636 | 12 415 | 13 033 | 13 539 | 13 322 | 14 193 | 17 232 | 15 010 |
| Spain | 11 420 | 11 773 | 12 418 | 12 834 | 15 014 | 14 851 | 14 668 | 14 805 |
| Sweden | 20 779 | 22 449 | 23 182 | 23 406 | 21 064 | 22 484 | 23 795 | 24 270 |
| Switzerland | 16 785 | 18 360 | 19 132 | .. | 16 409 | 17 948 | 19 086 | .. |
| Turkey | 5 306 | 6 470 | .. | .. | 6 249 | 6 612 | .. | .. |
| United Kingdom | 14 116 | 14 330 | 15 214 | 15 345 | 18 044 | 17 120 | 17 410 | 17 598 |
| United States | 14 188 | 15 354 | 17 564 | .. | 20 135 | 20 632 | 20 513 | .. |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 12 729 | 13 747 | 14 852 | .. | 15 683 | 16 214 | 16 491 | .. |
| Brazil | 4 521 | 5 291 | 5 685 | 5 471 | 4 946 | 5 663 | 6 173 | 6 474 |
| China | .. | .. | .. | .. | .. | .. | .. | .. |
| India | 756 | 921 | 1 079 | 1 134 | 1 155 | 1 313 | 1 473 | 1 553 |
| Indonesia | 1 222 | 1 537 | 1 736 | 1 768 | 1 352 | 1 591 | 1 938 | 1 997 |
| Russian Federation | 7 282 | 9 192 | .. | .. | 8 058 | 8 339 | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336180*

## General government revenues and expenditures per capita

*US dollars, current prices and PPPs, 2013 and 2014*




1 2 *http://dx.doi.org/10.1787/888933335009*

# GENERAL GOVERNMENT PRODUCTION COSTS

Decisions on the amount and type of goods and services governments produce, as well as on how to produce them, vary across countries. While some governments choose to outsource a large portion of their production of goods and services to non-governmental or private entities, others decide to produce the goods and services themselves.

## Definition

Governments use a mix of their own employees, capital and outside contractors (non-profit institutions or private sector entities) to produce goods and services. The latter is often referred to as "outsourcing".

This concept and methodology of production costs builds on the existing classification of public expenditures in the *System of National Accounts* (SNA), a set of internationally agreed concepts, definitions, classifications and rules for national accounting. Specifically, government production costs include: compensation costs of general government employees; goods and services used and financed by general government (including, in SNA terms, intermediate consumption and social transfer in kind via market producers paid for by government); and, other production costs (which include SNA terms, consumption of fixed capital, i.e. depreciation of capital, and other taxes on production less other subsidies on production). The data include government employment and expenditures for output produced by the government for its own use.

## Comparability

Data include some cross-country differences, for example, some countries do not record separately for social transfers in kind via market producers in their national accounts. Thus, the costs produced by non-government entities paid for by government may be understated in those countries. The OECD average for production costs does not include Chile and Turkey.

### *Overview*

In 2013, the production costs of government services and goods represented on average 21.3% of GDP in the OECD, ranging from 32.3% in Finland to 12.3% in Mexico.

Between 2007 and 2013, the share of government production costs in GDP increased on average by 1.1 percentage points across OECD countries. This increase was primarily driven by increases in the cost of goods and services produced by private and non-profit agencies (0.7 percentage points). Few countries experienced a reduction in production costs over the same period. In Israel and Greece the decline took place mainly through a lower share of costs of goods and services used and financed by government, whereas in Hungary, Poland and Portugal it took place through a lower share of compensation of government employees.

In terms of the structure of production costs, on average, production by governments' own employees is still somewhat higher than outsourcing: compensation of employees accounts for 45.2% of the cost of producing government goods and services, compared to 41.9% paid to non-governmental actors for intermediate goods and services or to deliver services directly to households. Other production costs represent the remaining 12.9% of total government production costs.

In 2013 government outsourcing represented, on average, 8.9% of GDP in the OECD. However, its importance varies greatly ranging from 3.0% of GDP in Mexico to 17.1% of GDP in the Netherlands. Among OECD countries, Belgium, Japan, Germany and the Netherlands dedicated the largest shares (over 60%) for their resources to outsourcing goods and services through direct third party provision. In contrast, Denmark, Israel and Switzerland spent the majority of outsourcing in intermediate consumption.

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## Production costs for general government

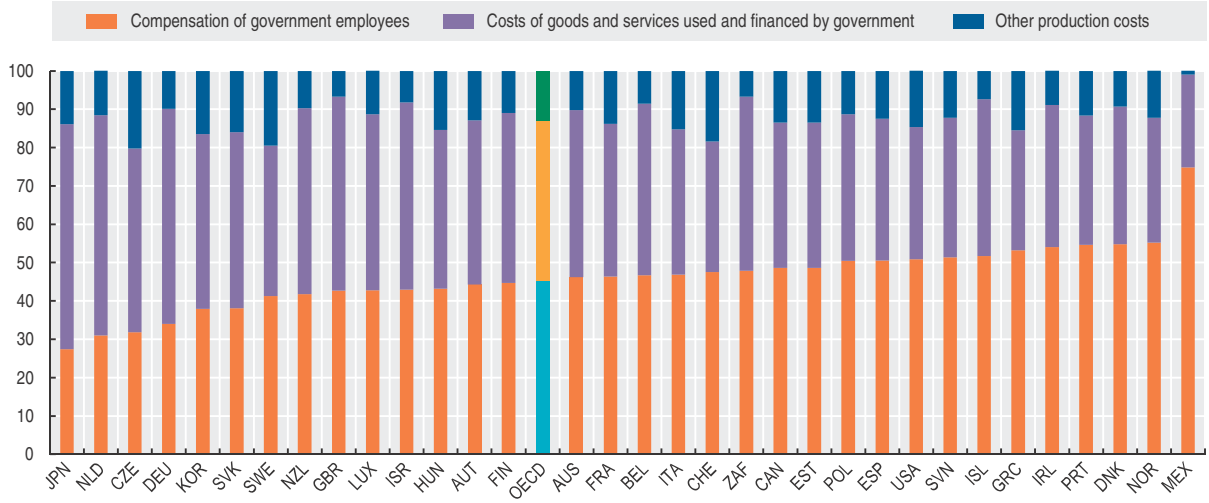
*As a percentage of GDP*

| | Compensation of employees | | | Costs of goods and services used and financed by general government | | | Other production costs | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2013 | 2014 | 2007 | 2013 | 2014 | 2007 | 2013 | 2014 | 2007 | 2013 | 2014 |
| Australia | 9.2 | 9.6 | .. | 8.9 | 9.1 | .. | 2.0 | 2.1 | .. | 20.2 | 20.8 | .. |
| Austria | 10.4 | 10.6 | 10.6 | 9.3 | 10.3 | 10.3 | 2.8 | 3.1 | 3.1 | 22.5 | 24.0 | 24.0 |
| Belgium | 11.4 | 12.5 | 12.5 | 10.3 | 11.9 | 12.0 | 2.1 | 2.3 | 2.4 | 23.7 | 26.7 | 26.9 |
| Canada | 11.4 | 12.1 | 11.8 | 8.5 | 9.5 | 9.3 | 2.8 | 3.4 | 3.3 | 22.7 | 24.9 | 24.5 |
| Chile | .. | 8.4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Czech Republic | 7.0 | 7.3 | 7.1 | 10.4 | 10.9 | 10.8 | 4.4 | 4.6 | 4.4 | 21.9 | 22.8 | 22.3 |
| Denmark | 15.3 | 16.8 | 16.9 | 9.6 | 11.0 | 11.0 | 2.9 | 2.9 | 2.8 | 27.8 | 30.6 | 30.7 |
| Estonia | 9.4 | 10.7 | 11.1 | 7.1 | 8.4 | 8.5 | 1.9 | 3.0 | 3.1 | 18.4 | 22.0 | 22.6 |
| Finland | 12.6 | 14.4 | 14.3 | 10.9 | 14.3 | 14.6 | 3.0 | 3.5 | 3.5 | 26.5 | 32.3 | 32.4 |
| France | 12.4 | 12.9 | 13.0 | 10.0 | 11.1 | 11.1 | 3.4 | 3.8 | 3.8 | 25.7 | 27.9 | 27.9 |
| Germany | 7.3 | 7.7 | 7.7 | 11.0 | 12.8 | 12.9 | 2.1 | 2.3 | 2.2 | 20.4 | 22.8 | 22.8 |
| Greece | 10.9 | 12.0 | 12.0 | 9.2 | 7.1 | 6.7 | 2.5 | 3.5 | 3.5 | 22.6 | 22.6 | 22.2 |
| Hungary | 11.5 | 10.2 | 10.6 | 9.2 | 9.7 | 9.9 | 3.4 | 3.6 | 3.5 | 24.1 | 23.5 | 24.0 |
| Iceland | 14.1 | 14.2 | .. | 10.3 | 11.2 | .. | 1.7 | 2.0 | .. | 26.1 | 27.4 | .. |
| Ireland | 10.1 | 10.7 | 10.0 | 6.8 | 7.3 | 7.4 | 1.8 | 1.8 | 1.6 | 18.7 | 19.8 | 19.0 |
| Israel | 10.5 | 10.5 | .. | 12.4 | 11.9 | .. | 2.2 | 2.0 | .. | 25.0 | 24.4 | .. |
| Italy | 10.2 | 10.3 | 10.1 | 7.5 | 8.3 | 8.3 | 3.0 | 3.3 | 3.3 | 20.7 | 21.9 | 21.7 |
| Japan | 6.2 | 6.0 | .. | 10.2 | 12.8 | .. | 2.8 | 3.0 | .. | 19.2 | 21.7 | .. |
| Korea | 6.9 | 6.8 | 6.8 | 7.3 | 8.1 | 8.1 | 2.4 | 2.9 | 3.0 | 16.6 | 17.8 | 17.9 |
| Luxembourg | 7.4 | 8.3 | 8.4 | 7.6 | 8.8 | 8.9 | 1.8 | 2.2 | 2.2 | 16.8 | 19.3 | 19.5 |
| Mexico | 8.0 | 9.2 | .. | 2.5 | 3.0 | .. | 0.1 | 0.1 | .. | 10.6 | 12.3 | .. |
| Netherlands | 8.6 | 9.3 | 9.2 | 15.2 | 17.1 | 16.8 | 3.1 | 3.5 | 3.4 | 26.9 | 29.9 | 29.4 |
| New Zealand | 9.2 | 9.4 | .. | 10.5 | 11.0 | .. | 2.3 | 2.2 | .. | 21.9 | 22.6 | .. |
| Norway | 12.1 | 13.6 | 13.9 | 7.4 | 8.0 | 8.3 | 2.5 | 3.0 | 3.1 | 22.0 | 24.7 | 25.3 |
| Poland | 10.4 | 10.3 | 10.2 | 7.8 | 7.8 | 8.1 | 2.4 | 2.3 | 2.4 | 20.7 | 20.4 | 20.6 |
| Portugal | 13.1 | 12.4 | 11.8 | 7.5 | 7.7 | 7.8 | 2.3 | 2.7 | 2.6 | 22.9 | 22.8 | 22.3 |
| Slovak Republic | 7.2 | 8.5 | 8.7 | 9.2 | 10.2 | 10.6 | 3.3 | 3.6 | 3.6 | 19.8 | 22.2 | 22.9 |
| Slovenia | 10.4 | 12.5 | 11.6 | 7.4 | 8.9 | 8.7 | 2.4 | 3.0 | 2.9 | 20.2 | 24.4 | 23.2 |
| Spain | 9.9 | 10.9 | 10.8 | 7.4 | 8.0 | 7.8 | 2.1 | 2.7 | 2.7 | 19.5 | 21.6 | 21.3 |
| Sweden | 12.3 | 12.6 | 12.7 | 10.4 | 12.0 | 12.0 | 5.7 | 6.0 | 6.0 | 28.4 | 30.6 | 30.6 |
| Switzerland | 6.9 | 7.5 | .. | 5.0 | 5.4 | .. | 2.6 | 2.9 | .. | 14.5 | 15.8 | .. |
| Turkey | 7.0 | .. | .. | 8.7 | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | 10.6 | 9.7 | 9.5 | 10.8 | 11.5 | 11.3 | 1.3 | 1.5 | 1.5 | 22.8 | 22.8 | 22.4 |
| United States | 10.1 | 10.0 | .. | 6.8 | 6.8 | .. | 2.6 | 2.9 | .. | 19.4 | 19.6 | .. |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 9.5 | 9.6 | .. | 8.3 | 8.9 | .. | 2.5 | 2.8 | .. | 20.2 | 21.3 | .. |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | 7.8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | 8.7 | .. | .. | 8.8 | .. | .. | 0.3 | .. | .. | 17.8 | .. | .. |
| South Africa | 11.7 | 14.3 | .. | 10.0 | 13.5 | .. | 2.0 | 2.0 | .. | 23.7 | 29.8 | .. |

1 2 *http://dx.doi.org/10.1787/888933336198*

## Structure of general government production costs

*Percentage, 2013*




1 2 *http://dx.doi.org/10.1787/888933335016*

# SOCIAL EXPENDITURE

Social expenditures are a measure of the extent to which countries assume responsibility for supporting the standard of living of disadvantaged or vulnerable groups.

## Definition

Social expenditure comprises cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. Benefits may be targeted at low-income households, the elderly, disabled, sick, unemployed, or young persons. To be considered "social", programmes have to involve either redistribution of resources across households or compulsory participation. Social benefits are classified as public when general government (that is central, state, and local governments, including social security funds) controls the relevant financial flows. All social benefits not provided by general government are considered private. Private transfers between households are not considered as "social" and not included. Net total social expenditure includes both public and private expenditure. It also accounts for the effect of the tax system by direct and indirect taxation and by tax breaks for social purposes.

## *Overview*

Gross public social expenditure increased from about 16% in 1980 to 18% in 1990 and to 22% of GDP in 2014 across OECD countries. Since 2009 and after the global financial crisis it has stayed around this level. Spending was highest, at over 30% of GDP, in France and Finland, and lowest, at 10% of GDP or below, in Chile, Korea and Mexico. Keeping measurement-related differences in mind, non-OECD countries have lower levels of social protection than OECD countries, particularly Indonesia and India. The three biggest categories of social transfers are pensions (on average 8% of GDP), health (6%) and income transfers to the working-age population (5%). Public spending on other social services exceeds 5% of GDP only in the Nordic countries, where the public role in providing services to the elderly, the disabled and families is the most extensive.

In 2011, gross private social spending was highest (at just over 10% of GDP) in the United States and lowest (at less than 1% of GDP) in the Czech Republic, Estonia, Hungary, Mexico, New Zealand, Poland, Spain and Turkey.

Moving from gross public to net total social expenditure not only leads to greater similarity in spending levels across countries it also changes the ranking among countries. Austria, Greece, Finland, Slovenia, Luxembourg, New Zealand and Poland drop 5 to 10 places in the rankings while Australia, Canada, Japan, the Netherlands and the United Kingdom move up the rankings by 5 to 10 places. As private social spending is so much larger in the United States compared with other countries its inclusion moves the United States from 23rd to 2nd place when comparing net total social spending across countries.

## Comparability

For cross-country comparisons, the most commonly used indicator of social support is gross (before tax) public social expenditure relative to GDP. Measurement problems do exist, particularly with regard to spending by lower tiers of government, which may be underestimated in some countries. Public social spending totals reflect detailed social expenditure programme data till 2011-12, national aggregated for 2012-13 and estimates for 2014.

Data on private social spending are often of lesser quality than for public spending.

No data on net expenditure are currently available for Switzerland. Net data for New Zealand and Poland have been estimated on the basis of information available for 2009.

For non-OECD countries, data are not strictly comparable with OECD countries.

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## Public, private and total net social expenditure

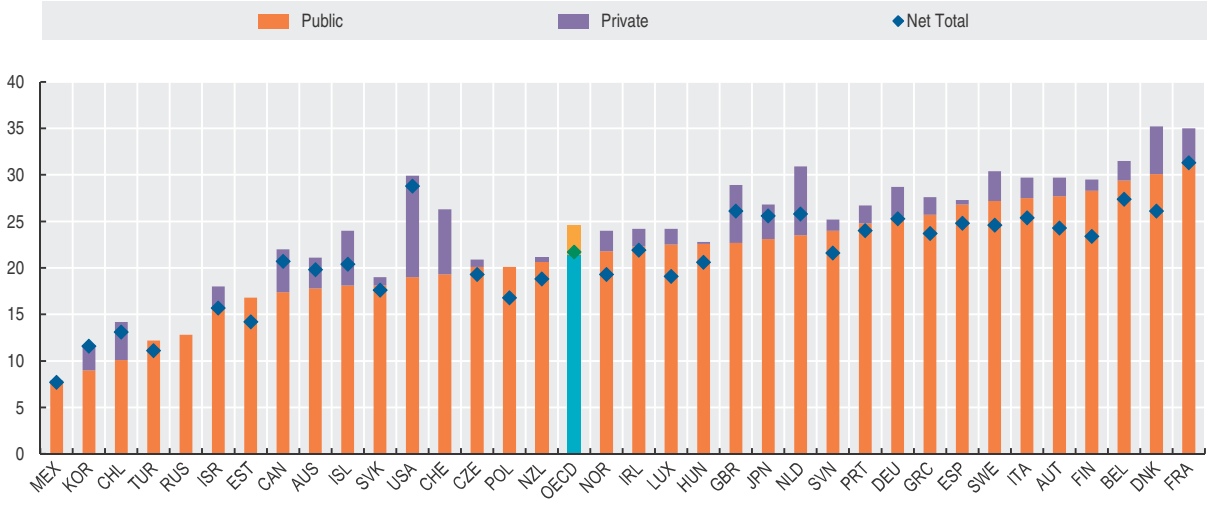
*As a percentage of GDP*

| | Public expenditure | | | | | | | | Private expenditure | | | | Total net expenditure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 2000 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 1990 | 2000 | 2010 | 2011 | 2011 |
| Australia | 13.1 | 17.2 | 17.4 | 17.2 | 17.8 | 18.3 | 19.0 | 19.0 | 0.9 | 4.4 | 3.1 | 3.3 | 19.8 |
| Austria | 23.4 | 26.1 | 28.6 | 28.6 | 27.7 | 27.9 | 28.3 | 28.4 | 2.2 | 1.9 | 2.0 | 2.0 | 24.3 |
| Belgium | 24.9 | 24.5 | 29.1 | 28.8 | 29.4 | 30.3 | 30.9 | 30.7 | 1.6 | 1.7 | 2.0 | 2.1 | 27.4 |
| Canada | 17.6 | 15.8 | 18.5 | 17.9 | 17.4 | 17.4 | 17.2 | 17.0 | 3.2 | 4.9 | 4.7 | 4.6 | 20.7 |
| Chile | 9.8 | 12.7 | 11.2 | 10.5 | 10.1 | 10.2 | 10.0 | .. | 0.5 | 1.2 | 4.0 | 4.1 | 13.1 |
| Czech Republic | 14.6 | 18.8 | 20.3 | 19.9 | 20.1 | 20.2 | 20.5 | 20.6 | .. | 0.3 | 0.7 | 0.8 | 19.3 |
| Denmark | 25.0 | 26.0 | 29.7 | 29.9 | 30.1 | 30.2 | 30.2 | 30.1 | 2.1 | 2.4 | 4.8 | 5.1 | 26.1 |
| Estonia | .. | 13.8 | 19.8 | 18.8 | 16.8 | 16.2 | 16.1 | 16.3 | .. | .. | 0.0 | 0.0 | 14.2 |
| Finland | 23.8 | 23.3 | 28.3 | 28.7 | 28.3 | 29.4 | 30.6 | 31.0 | 1.1 | 1.2 | 1.2 | 1.2 | 23.4 |
| France | 24.9 | 28.4 | 31.5 | 31.7 | 31.4 | 31.5 | 32.0 | 31.9 | 1.9 | 2.6 | 3.6 | 3.6 | 31.3 |
| Germany | 21.4 | 26.2 | 27.6 | 26.8 | 25.5 | 25.4 | 25.6 | 25.8 | 3.0 | 3.1 | 3.2 | 3.2 | 25.3 |
| Greece | 16.5 | 19.2 | 24.4 | 24.2 | 25.7 | 26.1 | 24.3 | 24.0 | 2.1 | 2.1 | 1.9 | 1.9 | 23.7 |
| Hungary | .. | 20.5 | 24.7 | 23.5 | 22.6 | 22.3 | 22.1 | 22.1 | .. | 0.0 | 0.3 | 0.2 | 20.6 |
| Iceland | 13.5 | 15.0 | 18.5 | 17.9 | 18.1 | 17.5 | 17.1 | 16.5 | 3.0 | 4.2 | 5.8 | 5.9 | 20.4 |
| Ireland | 17.2 | 13.1 | 23.4 | 23.3 | 22.3 | 22.0 | 21.9 | 21.0 | 1.4 | 1.3 | 1.9 | 1.9 | 21.9 |
| Israel | .. | 16.8 | 15.8 | 15.7 | 15.6 | 15.5 | 15.5 | .. | .. | 2.3 | 2.4 | 2.4 | 15.7 |
| Italy | 21.4 | 23.3 | 27.8 | 27.8 | 27.5 | 28.1 | 28.7 | 28.6 | 2.1 | 1.8 | 2.2 | 2.2 | 25.4 |
| Japan | 11.1 | 16.3 | 22.0 | 22.1 | 23.1 | .. | .. | .. | 0.2 | 3.6 | 3.5 | 3.7 | 25.6 |
| Korea | 2.8 | 4.8 | 9.4 | 9.0 | 9.0 | 9.6 | 10.2 | 10.4 | 0.4 | 2.7 | 2.4 | 2.7 | 11.6 |
| Luxembourg | 19.1 | 19.6 | 24.3 | 23.0 | 22.5 | 23.4 | 23.4 | 23.5 | .. | 0.1 | 1.7 | 1.7 | 19.1 |
| Mexico | 3.2 | 5.0 | 7.7 | 7.8 | 7.7 | 7.9 | .. | .. | 0.1 | 0.1 | 0.2 | 0.2 | 7.7 |
| Netherlands | 25.6 | 19.8 | 23.1 | 23.7 | 23.5 | 24.1 | 24.6 | 24.7 | 6.1 | 7.3 | 7.4 | 7.4 | 25.8 |
| New Zealand | 21.2 | 18.9 | 21.0 | 21.0 | 20.7 | 21.0 | 20.8 | .. | 0.2 | 0.5 | 0.5 | 0.5 | 18.8 |
| Norway | 21.9 | 20.8 | 22.8 | 22.4 | 21.8 | 21.7 | 22.0 | 22.0 | 1.9 | 2.0 | 2.1 | 2.2 | 19.3 |
| Poland | 14.9 | 20.3 | 20.7 | 20.7 | 20.1 | 20.1 | 20.7 | 20.6 | .. | .. | 0.0 | 0.0 | 16.8 |
| Portugal | 12.4 | 18.6 | 25.3 | 25.2 | 24.8 | 24.8 | 25.8 | 25.2 | 0.9 | 1.5 | 1.8 | 1.9 | 24.0 |
| Slovak Republic | .. | 17.8 | 18.5 | 18.4 | 18.1 | 18.3 | 18.7 | 18.4 | .. | 0.8 | 1.0 | 0.9 | 17.6 |
| Slovenia | .. | 22.8 | 23.0 | 23.9 | 24.0 | 24.0 | 23.8 | 23.7 | .. | 0.0 | 1.1 | 1.2 | 21.6 |
| Spain | 19.7 | 20.0 | 26.1 | 26.7 | 26.8 | 27.1 | 27.3 | 26.8 | 0.2 | 0.3 | 0.5 | 0.5 | 24.8 |
| Sweden | 28.5 | 28.2 | 29.4 | 27.9 | 27.2 | 27.7 | 28.2 | 28.1 | 1.2 | 2.6 | 3.2 | 3.2 | 24.6 |
| Switzerland | 12.8 | 17.2 | 19.7 | 19.5 | 19.3 | 19.7 | 19.9 | 19.4 | 4.4 | 6.6 | 7.0 | 7.0 | .. |
| Turkey | 5.5 | .. | 13.2 | 12.6 | 12.2 | 12.3 | 12.5 | .. | .. | .. | .. | .. | 11.1 |
| United Kingdom | 16.3 | 18.4 | 23.9 | 22.8 | 22.7 | 23.0 | 22.5 | 21.7 | 5.0 | 7.6 | 6.2 | 6.2 | 26.1 |
| United States | 13.1 | 14.2 | 18.5 | 19.3 | 19.0 | 18.7 | 18.6 | 19.2 | 7.3 | 8.8 | 10.8 | 10.9 | 28.8 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 17.5 | 18.6 | 21.9 | 21.7 | 21.4 | 21.6 | 21.7 | 21.6 | .. | 2.9 | 3.2 | 3.2 | 21.7 |
| Brazil | .. | .. | .. | 16.7 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | 7.0 | .. | .. | 9.0 | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | 2.7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | 2.0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | 12.8 | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | 8.7 | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336616*

## Public, private and total net social expenditure

*As a percentage of GDP, 2011*




1 2 *http://dx.doi.org/10.1787/888933335530*

# PENSION EXPENDITURE

Pension systems vary across countries and no single model fits all. Generally, there is a mix of public and private provision. Public pensions are statutory, most often financed on a pay-as-you-go (PAYG) basis – where current contributions pay for current benefits – and managed by public institutions. Private pensions are in some cases mandatory but more usually voluntary, funded, employment-based (occupational) pension plans or individual retirement savings plans (personal pensions).

## Definition

Old-age pension benefits are treated as public when relevant financial flows are controlled by general government (i.e. central and local governments or social security funds). Pension benefits provided by governments to their own employees and paid directly out of the government's current budget are also considered to be public. Public pensions are generally financed on a PAYG basis, but also include some funded arrangements. All pension benefits not provided by general government are within the private domain.

Private expenditures on pensions include payments made to private pension plan members (or dependants) after retirement. All types of plans are included (occupational and personal, mandatory and voluntary, funded and book reserved), covering persons working in both the public and private sectors.

## Comparability

Public pension expenditures come from the *OECD Social Expenditure* (SOCX) database while pension expenditures for private pension arrangements come from the *OECD Global Pension Statistics* (GPS) database. The GPS database provides information on funded pension arrangements, which includes both private and public pension plans that are funded.

Although the GPS database covers all types of private pension arrangements for most countries, private pension expenditure data for Austria, Canada, Germany, Greece, Hungary, Luxembourg, the Netherlands, Switzerland, the United Kingdom and the United States only relate to autonomous pension funds. A break in series for Mexico reflects the inclusion of occupational pension plans registered by CONSAR since 2005. The large increase in private pension expenditures between 2008 and 2009 for Iceland reflects the increase in the number of people retiring due to the unemployment peak after the bank crisis and the passing of a special temporary Act allowing people to withdraw limited amounts of money from personal pension plans.

### *Overview*

Public spending on old-age benefits averaged 7.9% of GDP in 2011, compared with private pension benefits of an average of 1.6% of GDP in the same year (in the countries for which data are available that year). Public spending on old-age pensions is highest – greater than 10% of GDP – in Austria, Belgium, Finland, France, Germany, Greece, Italy, Japan, Poland, Portugal, Slovenia and Spain. By contrast, Australia, Chile, Iceland, Korea and Mexico spend 4% of GDP or less on public old-age pensions.

Private expenditure on old-age benefits is the highest in Australia, Denmark, Iceland, the Netherlands, Switzerland and the United States, where it exceeds 4% of GDP in 2013. However, private benefit spending remains negligible in around a third of OECD countries.

The share of private pensions in total expenditures on old-age benefits exceeds 50% only in Australia and Iceland in 2011. The average share of private pensions in the total in 2011 is 19%.

Over time, public pension expenditures have grown a little faster than national income: from an average of 6.8% of GDP in 2000 to 7.9% in 2011.

Expenditure on private pensions has also grown over the last years, from an average of 1.4% of GDP in 2008 to 1.6% in 2013.

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## Public and private expenditure on pensions

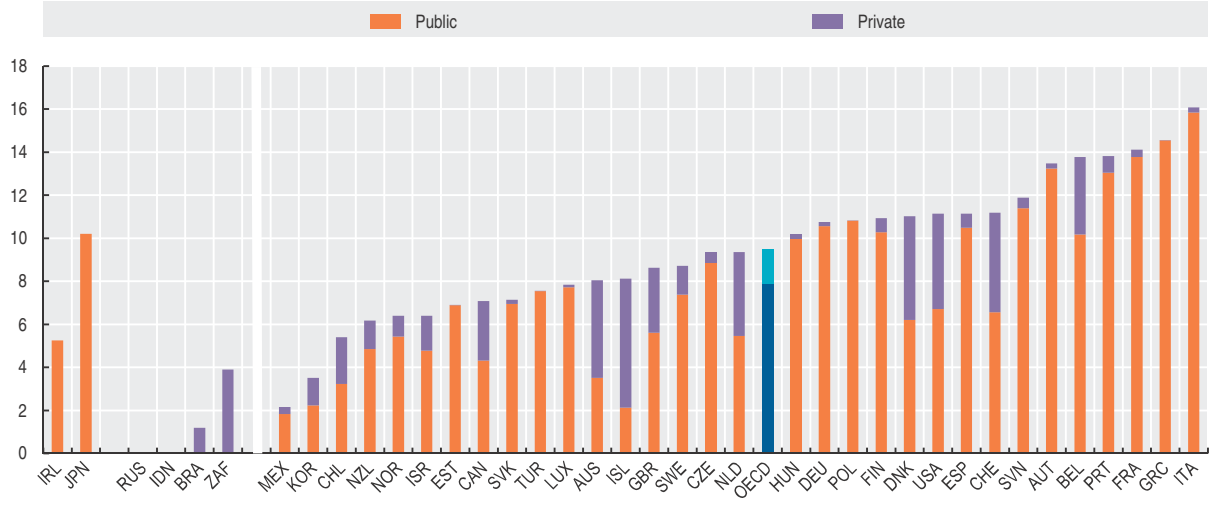
*As a percentage of GDP*

| | Public expenditure | | | | | | Private expenditure | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2008 | 2009 | 2010 | 2011 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Australia | 3.8 | 3.3 | 3.6 | 3.5 | 3.4 | 3.5 | 5.5 | 4.6 | 4.5 | 4.5 | 4.8 | 5.1 |
| Austria | 12.2 | 12.4 | 12.4 | 13.4 | 13.5 | 13.2 | 0.2 | 0.2 | 0.2 | .. | .. | 0.3 |
| Belgium | 8.9 | 9.0 | 9.4 | 10.0 | 10.0 | 10.2 | 2.5 | 3.1 | 2.8 | 3.6 | 1.2 | 1.2 |
| Canada | 4.2 | 4.0 | 4.1 | 4.4 | 4.3 | 4.3 | 2.2 | 2.5 | 2.8 | 2.8 | 2.9 | 3.0 |
| Chile | 7.3 | 3.7 | 3.3 | 3.6 | 3.4 | 3.2 | 2.0 | 1.7 | 1.9 | 2.2 | 2.3 | 2.3 |
| Czech Republic | 7.2 | 7.0 | 7.4 | 8.3 | 8.5 | 8.9 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.3 |
| Denmark | 5.3 | 5.4 | 5.2 | 5.8 | 5.9 | 6.2 | 4.0 | 4.1 | 4.4 | 4.8 | 5.0 | 5.9 |
| Estonia | 6.0 | 5.3 | 6.2 | 7.9 | 7.8 | 6.9 | .. | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Finland | 7.6 | 8.4 | 8.4 | 10.0 | 10.3 | 10.3 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 |
| France | 11.8 | 12.4 | 12.6 | 13.5 | 13.6 | 13.8 | .. | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 |
| Germany | 11.2 | 11.5 | 10.6 | 11.3 | 11.0 | 10.6 | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Greece | 10.8 | 11.8 | 12.4 | 13.1 | 13.6 | 14.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hungary | 7.6 | 8.5 | 9.7 | 10.8 | 9.8 | 10.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| Iceland | 2.2 | 2.0 | 1.8 | 1.7 | 1.7 | 2.1 | 3.6 | 6.0 | 5.2 | 6.0 | 5.4 | 5.2 |
| Ireland | 3.1 | 3.4 | 4.1 | 5.0 | 5.2 | 5.3 | .. | .. | .. | .. | .. | .. |
| Israel | 4.7 | 4.9 | 4.6 | 4.8 | 4.7 | 4.8 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 |
| Italy | 13.7 | 14.0 | 14.6 | 15.6 | 15.8 | 15.8 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 |
| Japan | 7.3 | 8.5 | 9.2 | 10.1 | 10.0 | 10.2 | .. | .. | .. | .. | .. | .. |
| Korea | 1.4 | 1.5 | 2.0 | 2.1 | 2.2 | 2.2 | 0.7 | 1.0 | 1.3 | 1.3 | 1.7 | 2.3 |
| Luxembourg | 7.5 | 7.2 | 7.0 | 8.0 | 7.6 | 7.7 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Mexico | 0.8 | 1.2 | 1.4 | 1.7 | 1.8 | 1.8 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| Netherlands | 5.0 | 5.0 | 4.8 | 5.3 | 5.4 | 5.5 | 3.3 | 3.6 | 3.7 | 3.9 | 4.0 | 4.1 |
| New Zealand | 4.9 | 4.2 | 4.4 | 4.6 | 4.7 | 4.9 | 1.4 | 1.9 | 1.4 | 1.3 | 1.4 | 1.7 |
| Norway | 4.8 | 4.8 | 4.6 | 5.2 | 5.3 | 5.4 | 0.9 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 |
| Poland | 10.5 | 11.4 | 10.9 | 11.4 | 11.3 | 10.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Portugal | 7.9 | 10.3 | 11.3 | 12.3 | 12.5 | 13.0 | 1.3 | 1.0 | 0.7 | 0.8 | 0.4 | 0.4 |
| Slovak Republic | 6.3 | 6.2 | 5.7 | 7.0 | 7.0 | 7.0 | .. | .. | 0.2 | 0.2 | 0.2 | 0.2 |
| Slovenia | 10.5 | 9.9 | 9.5 | 10.8 | 11.2 | 11.4 | 0.0 | 0.0 | 0.0 | 0.5 | 0.9 | 0.5 |
| Spain | 8.6 | 8.1 | 8.6 | 9.5 | 10.1 | 10.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.6 |
| Sweden | 7.2 | 7.6 | 7.4 | 8.2 | 7.7 | 7.4 | 1.2 | 1.2 | 1.3 | 1.3 | 1.5 | 1.6 |
| Switzerland | 6.5 | 6.6 | 6.1 | 6.6 | 6.5 | 6.6 | 4.8 | 5.0 | 4.6 | 4.6 | 4.7 | 4.8 |
| Turkey | 4.9 | 5.9 | 6.7 | 7.8 | 7.7 | 7.5 | 0.1 | 0.1 | 0.1 | 0.0 | .. | .. |
| United Kingdom | 5.3 | 5.5 | 5.6 | 5.9 | 5.6 | 5.6 | 2.7 | 3.0 | 3.1 | 3.0 | 3.1 | 3.1 |
| United States | 5.6 | 5.7 | 5.9 | 6.5 | 6.6 | 6.7 | 4.1 | 4.1 | 4.4 | 4.4 | 4.8 | 5.2 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 6.8 | 7.0 | 7.1 | 7.8 | 7.8 | 7.9 | 1.4 | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 |
| Brazil | .. | .. | .. | .. | .. | .. | 0.9 | 0.9 | 0.9 | 1.2 | .. | 0.6 |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0.1 | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0.1 | .. | 0.1 |
| South Africa | .. | .. | .. | .. | .. | .. | 6.2 | 5.7 | 5.3 | 3.9 | 3.9 | 4.3 |

1 2 *http://dx.doi.org/10.1787/888933336488*

## Public and private expenditure on pensions

*As a percentage of GDP, 2011*




1 2 *http://dx.doi.org/10.1787/888933335347*

# OFFICIAL DEVELOPMENT ASSISTANCE

Promoting economic and social development in partner countries has been a principal objective of the OECD since its foundation. The share of national income devoted to official development assistance (ODA) is a key indicator of a country's commitment to international development. A long-standing United Nations target is that developed countries should devote 0.7% of their gross national income (GNI) to ODA.

## Definition

ODA is defined as government aid designed to promote the economic development and welfare of developing countries. Loans and credits for military purposes are excluded. Aid may be provided bilaterally, from donor to recipient, or channelled through a multilateral development agency such as the United Nations or the World Bank. Aid includes grants, "soft" loans and the provision of technical assistance. Soft loans are those where the grant element is at least 25% of the total.

The OECD maintains a list of developing countries and territories; only aid to these countries counts as ODA. The list is periodically updated and currently contains over 150 countries or territories with per capita incomes below USD 12 745 in 2013. Data on ODA flows are provided by the 29 OECD members of the Development Assistance Committee (DAC).

## Comparability

Statistics on ODA are compiled according to directives drawn up by the DAC. Each country's statistics are subject to regular peer reviews by other DAC members.

As part of its overall engagement strategy, the DAC encourages donors that are not members of the Committee, to report their aid flows to the OECD/DAC Secretariat. This reporting is voluntary and currently about 20 non-DAC bilateral donors as well as about 35 multilateral agencies (regional development banks, UN agencies, international financial institutions, etc.) provide their data on their outflows to developing countries to the DAC.

## *Overview*

From 1960 to 1990, official development assistance (ODA) flows from the 29 OECD countries of the Development Assistance Committee (DAC) to developing countries rose steadily. By contrast, total ODA as a percentage of DAC countries' combined gross national income (GNI) fell between 1960 and 1970, and then oscillated between 0.27% and 0.36% for a little over twenty years. Between 1993 and 1997, ODA flows fell by 16% in real terms due to fiscal consolidation in donor countries after the recession of the early 1990s.

Aid then started to rise in real terms in 1998, but was still at its historic low as a share of GNI (0.22%) in 2001. Since then, a series of high-profile international conferences have boosted ODA flows. In 2002, the *International Conference on Financing for Development*, held in Monterrey, Mexico, set firm targets for each donor and marked the upturn of ODA after a decade of decline. In 2005, donors made further commitments to increase their aid at the Gleneagles G8 and UN Millennium + 5 summits. In 2005 and 2006, aid peaked due to exceptional debt relief operations for Iraq and Nigeria.

In the past 15 years, net ODA has been rising steadily and has increased by nearly 70% in real terms since 2000. In 2014, net ODA flows from DAC member countries totalled USD 137.2 billion, marking an increase of 1.2% in real terms over 2013 and surpassing the all-time high in 2013. As a share of GNI, ODA was 0.30%.

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## Net official development assistance

| | As a percentage of gross national income | | | | | | Millions of US dollars | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Australia | 0.29 | 0.32 | 0.34 | 0.36 | 0.33 | 0.31 | 2 762 | 3 826 | 4 983 | 5 403 | 4 846 | 4 382 |
| Austria | 0.30 | 0.32 | 0.27 | 0.28 | 0.27 | 0.28 | 1 142 | 1 208 | 1 111 | 1 106 | 1 171 | 1 235 |
| Belgium | 0.55 | 0.64 | 0.54 | 0.48 | 0.45 | 0.46 | 2 610 | 3 004 | 2 807 | 2 315 | 2 300 | 2 448 |
| Canada | 0.30 | 0.34 | 0.32 | 0.32 | 0.28 | 0.24 | 4 000 | 5 214 | 5 459 | 5 650 | 4 947 | 4 240 |
| Czech Republic | 0.12 | 0.13 | 0.13 | 0.12 | 0.11 | 0.11 | 215 | 228 | 250 | 220 | 211 | 212 |
| Denmark | 0.88 | 0.91 | 0.85 | 0.83 | 0.85 | 0.86 | 2 810 | 2 871 | 2 931 | 2 693 | 2 927 | 3 003 |
| Finland | 0.54 | 0.55 | 0.53 | 0.53 | 0.54 | 0.60 | 1 290 | 1 333 | 1 406 | 1 320 | 1 435 | 1 635 |
| France | 0.47 | 0.50 | 0.46 | 0.45 | 0.41 | 0.37 | 12 602 | 12 915 | 12 997 | 12 028 | 11 339 | 10 620 |
| Germany | 0.36 | 0.39 | 0.39 | 0.37 | 0.38 | 0.42 | 12 079 | 12 985 | 14 093 | 12 939 | 14 228 | 16 566 |
| Greece | 0.19 | 0.17 | 0.15 | 0.13 | 0.10 | 0.11 | 607 | 508 | 425 | 327 | 239 | 247 |
| Iceland | 0.35 | 0.29 | 0.21 | 0.22 | 0.25 | 0.22 | 34 | 29 | 26 | 26 | 35 | 37 |
| Ireland | 0.55 | 0.52 | 0.51 | 0.47 | 0.46 | 0.38 | 1 006 | 895 | 914 | 808 | 846 | 816 |
| Italy | 0.16 | 0.15 | 0.20 | 0.14 | 0.17 | 0.19 | 3 297 | 2 996 | 4 326 | 2 737 | 3 430 | 4 009 |
| Japan | 0.18 | 0.20 | 0.18 | 0.17 | 0.23 | 0.19 | 9 467 | 11 058 | 11 086 | 10 605 | 11 582 | 9 266 |
| Korea | 0.10 | 0.12 | 0.12 | 0.14 | 0.13 | 0.13 | 816 | 1 174 | 1 325 | 1 597 | 1 755 | 1 857 |
| Luxembourg | 1.04 | 1.05 | 0.97 | 1.00 | 1.00 | 1.06 | 415 | 403 | 409 | 399 | 429 | 423 |
| Netherlands | 0.82 | 0.82 | 0.75 | 0.71 | 0.67 | 0.64 | 6 426 | 6 357 | 6 344 | 5 523 | 5 435 | 5 573 |
| New Zealand | 0.28 | 0.26 | 0.28 | 0.28 | 0.26 | 0.27 | 309 | 342 | 424 | 449 | 457 | 506 |
| Norway | 1.06 | 1.05 | 0.96 | 0.93 | 1.07 | 1.00 | 4 081 | 4 372 | 4 756 | 4 753 | 5 581 | 5 086 |
| Poland | 0.09 | 0.08 | 0.08 | 0.09 | 0.10 | 0.09 | 375 | 378 | 417 | 421 | 487 | 452 |
| Portugal | 0.23 | 0.29 | 0.31 | 0.28 | 0.23 | 0.19 | 513 | 649 | 708 | 581 | 488 | 430 |
| Slovak Republic | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 75 | 74 | 86 | 80 | 86 | 83 |
| Slovenia | 0.15 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 71 | 59 | 63 | 58 | 62 | 62 |
| Spain | 0.46 | 0.43 | 0.29 | 0.16 | 0.17 | 0.13 | 6 584 | 5 949 | 4 173 | 2 037 | 2 348 | 1 877 |
| Sweden | 1.12 | 0.97 | 1.02 | 0.97 | 1.01 | 1.09 | 4 548 | 4 533 | 5 603 | 5 240 | 5 827 | 6 233 |
| Switzerland | 0.44 | 0.39 | 0.46 | 0.47 | 0.46 | 0.51 | 2 310 | 2 300 | 3 051 | 3 052 | 3 200 | 3 522 |
| United Kingdom | 0.51 | 0.57 | 0.56 | 0.56 | 0.71 | 0.70 | 11 283 | 13 053 | 13 832 | 13 891 | 17 871 | 19 306 |
| United States | 0.21 | 0.20 | 0.20 | 0.19 | 0.18 | 0.19 | 28 831 | 29 656 | 30 966 | 30 652 | 31 267 | 33 096 |
| DAC Countries total | 0.31 | 0.31 | 0.31 | 0.28 | 0.30 | 0.30 | 120 558 | 128 369 | 134 971 | 126 911 | 134 832 | 137 222 |

1 2 *http://dx.doi.org/10.1787/888933336440*

## Distribution of net ODA from all sources by income group and by region

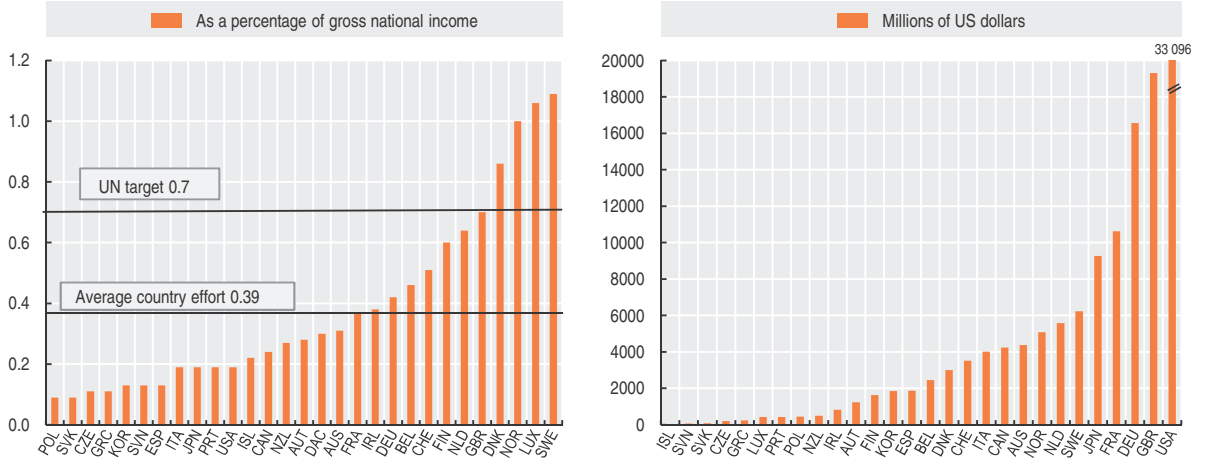
*Million US dollars*

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| By income group | | | | | | | | | | | |
| Least developed countries | 25 560 | 25 911 | 28 847 | 33 953 | 39 068 | 40 222 | 44 268 | 45 204 | 42 722 | 47 968 | 43 726 |
| Other low-income countries | 1 262 | 1 471 | 1 521 | 2 126 | 2 473 | 2 986 | 2 849 | 3 670 | 4 143 | 4 635 | 3 933 |
| Lower middle-income countries | 17 100 | 27 111 | 31 985 | 23 155 | 24 958 | 30 512 | 29 607 | 29 753 | 30 072 | 37 035 | 37 549 |
| Upper middle-income countries | 14 946 | 32 461 | 20 333 | 20 613 | 23 562 | 15 814 | 13 615 | 18 514 | 16 566 | 15 221 | 17 687 |
| More advanced developing countries | 540 | 377 | 641 | 715 | 858 | 883 | 754 | 16 | 27 | 37 | .. |
| By region | | | | | | | | | | | |
| Europe | 3 627 | 4 062 | 5 082 | 4 334 | 5 379 | 5 794 | 5 892 | 8 945 | 8 076 | 7 437 | 8 613 |
| North of Sahara | 3 176 | 2 667 | 2 854 | 3 370 | 4 226 | 3 176 | 2 660 | 4 068 | 4 740 | 8 784 | 7 354 |
| South of Sahara | 26 222 | 32 415 | 40 869 | 34 720 | 39 627 | 42 465 | 43 483 | 45 467 | 44 418 | 46 014 | 44 321 |
| North and Central America | 3 437 | 3 271 | 3 497 | 3 484 | 4 322 | 4 352 | 6 809 | 5 890 | 4 706 | 4 616 | 4 439 |
| South America | 2 938 | 2 855 | 3 322 | 2 940 | 3 754 | 3 773 | 2 780 | 4 252 | 4 259 | 3 924 | 4 212 |
| Far East Asia | 6 006 | 8 391 | 6 529 | 7 286 | 7 019 | 8 249 | 7 489 | 5 316 | 6 133 | 5 858 | 6 173 |
| South and Central Asia | 9 340 | 11 655 | 11 430 | 14 090 | 15 982 | 18 465 | 18 708 | 20 238 | 17 627 | 20 628 | 19 754 |
| Middle East | 7 620 | 25 512 | 14 203 | 14 518 | 19 914 | 10 379 | 9 486 | 11 363 | 8 736 | 16 904 | 25 081 |
| Oceania | 939 | 1 161 | 1 199 | 1 309 | 1 533 | 1 560 | 1 868 | 2 240 | 2 179 | 2 149 | 1 863 |

1 2 *http://dx.doi.org/10.1787/888933336823*

## Net official development assistance

*2014*




1 2 *http://dx.doi.org/10.1787/888933335308*

# TAXES ON THE AVERAGE WORKER

Taxes on the average worker measure the ratio between the amount of taxes paid by the worker and the employer on the country average wage and the corresponding total labour cost for the employer. This tax wedge measures the extent to which the tax system on labour income may discourage employment.

## Definition

The taxes included are personal income taxes, employees' social security contributions and employers' social security contributions. For the few countries that have them, it also includes payroll taxes. The amount of these taxes paid in relation to the employment of one average worker is expressed as a percentage of their labour cost (gross wage plus employers' social security contributions and payroll tax).

An average worker is defined as somebody who earns the average income of full-time workers of the country concerned in Sectors B-N of the *International Standard Industrial Classification* (ISIC Rev.4). The average worker is considered single without children, meaning that he or she does not receive any tax relief in respect of a spouse, unmarried partner or child.

## Comparability

The types of taxes included are fully comparable across countries. They are based on common definitions agreed by all OECD countries.

While the income levels of workers in Sectors B-N differ across countries, they can be regarded as corresponding to comparable types of work in each country.

The information on the average worker's income level is supplied by the Ministries of Finance in all OECD countries and is based on national statistical surveys. The amount of taxes paid by the single worker is calculated by applying the tax laws in each country. These tax wedge measures are therefore derived from a modelling exercise rather than from the direct observation of taxes actually paid by workers and their employers.

### *Overview*

In 2014, taxes on an average single worker without children represented 36% of their total labour costs across OECD countries on average. This tax wedge ranged between 7% in Chile to around 56% in Belgium.

The average tax wedge has decreased by 0.7 percentage points since 2000. However, there are important differences between countries. Of the 34 OECD countries, 11 countries have experienced an overall increase in the taxes on an average worker since 2000. The countries with the largest increases were Iceland, Japan, Korea and Mexico. Of the 25 countries that have experienced an overall decline, the largest decreases were in Denmark, Hungary, Israel and Sweden.

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## Taxes on the average worker

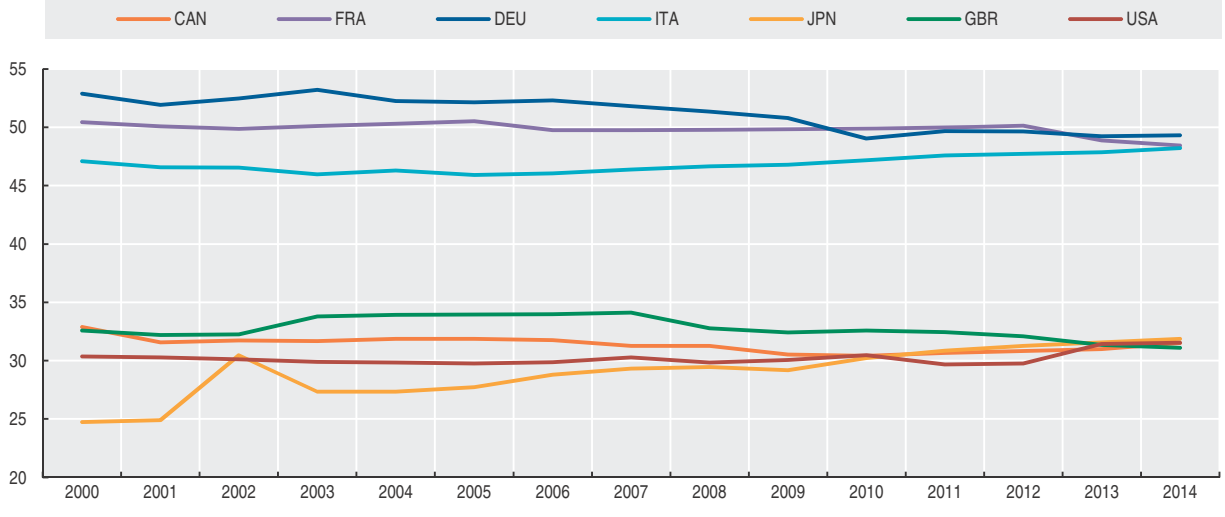
*As a percentage of labour cost*

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 28.2 | 28.2 | 28.5 | 28.3 | 27.7 | 26.9 | 26.7 | 26.8 | 26.7 | 27.2 | 27.4 | 27.7 |
| Austria | 47.4 | 48.3 | 48.1 | 48.5 | 48.8 | 49.0 | 47.9 | 48.2 | 48.5 | 48.8 | 49.2 | 49.4 |
| Belgium | 55.7 | 55.4 | 55.5 | 55.5 | 55.6 | 55.9 | 55.7 | 55.9 | 56.1 | 56.0 | 55.7 | 55.6 |
| Canada | 31.7 | 31.9 | 31.9 | 31.8 | 31.3 | 31.3 | 30.5 | 30.4 | 30.7 | 30.8 | 31.0 | 31.5 |
| Chile | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Czech Republic | 43.2 | 43.5 | 43.7 | 42.5 | 42.9 | 43.4 | 42.0 | 42.1 | 42.6 | 42.5 | 42.5 | 42.6 |
| Denmark | 42.4 | 41.0 | 40.9 | 41.0 | 41.1 | 40.9 | 39.5 | 38.3 | 38.4 | 38.5 | 38.2 | 38.1 |
| Estonia | 42.3 | 41.5 | 39.9 | 39.0 | 39.0 | 38.4 | 39.2 | 40.1 | 40.3 | 40.4 | 39.9 | 40.0 |
| Finland | 44.8 | 44.2 | 44.4 | 44.0 | 43.9 | 43.8 | 42.5 | 42.3 | 42.3 | 42.5 | 43.1 | 43.9 |
| France | 50.1 | 50.3 | 50.5 | 49.7 | 49.7 | 49.8 | 49.8 | 49.9 | 50.0 | 50.1 | 48.9 | 48.4 |
| Germany | 53.2 | 52.2 | 52.1 | 52.3 | 51.8 | 51.3 | 50.8 | 49.1 | 49.7 | 49.6 | 49.2 | 49.3 |
| Greece | 39.9 | 41.4 | 41.2 | 42.3 | 42.1 | 41.5 | 41.3 | 40.1 | 43.2 | 42.9 | 41.6 | 40.4 |
| Hungary | 50.8 | 51.7 | 51.1 | 51.9 | 54.5 | 54.1 | 53.1 | 46.6 | 49.5 | 49.5 | 49.0 | 49.0 |
| Iceland | 31.5 | 31.9 | 32.1 | 31.8 | 30.5 | 30.9 | 30.5 | 33.4 | 34.1 | 33.8 | 34.1 | 33.5 |
| Ireland | 24.4 | 24.1 | 23.5 | 23.0 | 22.2 | 22.3 | 24.7 | 25.8 | 25.8 | 25.9 | 27.1 | 28.2 |
| Israel | 27.7 | 26.4 | 25.5 | 24.3 | 24.9 | 22.9 | 21.3 | 20.7 | 20.8 | 20.4 | 20.4 | 20.5 |
| Italy | 46.0 | 46.3 | 45.9 | 46.1 | 46.4 | 46.6 | 46.8 | 47.2 | 47.6 | 47.7 | 47.9 | 48.2 |
| Japan | 27.4 | 27.3 | 27.7 | 28.8 | 29.3 | 29.5 | 29.2 | 30.2 | 30.8 | 31.3 | 31.6 | 31.9 |
| Korea | 16.4 | 17.0 | 17.3 | 18.2 | 19.7 | 20.0 | 19.5 | 20.1 | 20.5 | 21.0 | 21.3 | 21.5 |
| Luxembourg | 33.5 | 33.9 | 34.7 | 35.3 | 36.3 | 34.7 | 33.9 | 34.3 | 36.3 | 36.0 | 37.2 | 37.6 |
| Mexico | 16.7 | 15.2 | 14.7 | 15.0 | 15.9 | 15.1 | 15.3 | 15.5 | 18.7 | 19.0 | 19.2 | 19.5 |
| Netherlands | 37.2 | 38.8 | 38.9 | 38.4 | 38.7 | 39.2 | 38.0 | 38.1 | 38.0 | 38.8 | 37.0 | 37.7 |
| New Zealand | 19.5 | 19.7 | 20.0 | 20.4 | 21.1 | 20.5 | 18.1 | 17.0 | 15.9 | 16.4 | 16.9 | 17.2 |
| Norway | 38.1 | 38.1 | 37.2 | 37.4 | 37.5 | 37.6 | 37.3 | 37.3 | 37.6 | 37.4 | 37.3 | 37.0 |
| Poland | 38.2 | 38.4 | 38.7 | 39.0 | 38.2 | 34.7 | 34.1 | 34.2 | 34.3 | 35.5 | 35.6 | 35.6 |
| Portugal | 37.4 | 37.4 | 36.8 | 37.5 | 37.3 | 36.9 | 36.5 | 37.1 | 38.0 | 37.6 | 41.4 | 41.2 |
| Slovak Republic | 42.5 | 42.2 | 38.0 | 38.3 | 38.4 | 38.8 | 37.7 | 37.9 | 38.8 | 39.6 | 41.1 | 41.2 |
| Slovenia | 46.2 | 46.3 | 45.6 | 45.3 | 43.3 | 42.9 | 42.2 | 42.5 | 42.6 | 42.5 | 42.4 | 42.5 |
| Spain | 38.6 | 38.8 | 39.0 | 39.1 | 39.0 | 38.0 | 38.3 | 39.7 | 40.0 | 40.6 | 40.7 | 40.7 |
| Sweden | 48.2 | 48.4 | 48.1 | 47.8 | 45.3 | 44.8 | 43.2 | 42.8 | 42.8 | 42.9 | 43.0 | 42.5 |
| Switzerland | 22.4 | 22.2 | 22.2 | 22.1 | 22.4 | 21.9 | 22.0 | 22.1 | 22.3 | 22.1 | 22.1 | 22.2 |
| Turkey | 42.2 | 42.8 | 42.8 | 42.7 | 42.7 | 39.9 | 37.4 | 37.4 | 37.4 | 37.4 | 37.6 | 38.2 |
| United Kingdom | 33.8 | 33.9 | 33.9 | 34.0 | 34.1 | 32.8 | 32.4 | 32.6 | 32.5 | 32.1 | 31.4 | 31.1 |
| United States | 29.9 | 29.8 | 29.8 | 29.9 | 30.3 | 29.8 | 30.1 | 30.5 | 29.7 | 29.8 | 31.4 | 31.5 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 36.3 | 36.3 | 36.1 | 36.1 | 36.1 | 35.7 | 35.1 | 35.1 | 35.6 | 35.7 | 35.9 | 36.0 |
| Brazil | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336653*

## Taxes on the average worker

*As a percentage of labour cost*




1 2 *http://dx.doi.org/10.1787/888933335585*

# TOTAL TAX REVENUE

Total tax revenue as a percentage of GDP indicates the share of a country's output that is collected by the government through taxes. It can be regarded as one measure of the degree to which the government controls the economy's resources.

## Definition

Taxes are defined as compulsory, unrequited payments to general government. They are unrequited in the sense that benefits provided by government to taxpayers are not normally in proportion to their payments. Data on total tax revenue refer to the revenues collected from taxes on income and profits, social security contributions, taxes levied on goods and services, payroll taxes, taxes on the ownership and transfer of property, and other taxes.

Taxes on incomes and profits cover taxes levied on the net income or profits (gross income minus allowable tax reliefs) of individuals and enterprises. They also cover taxes levied on the capital gains of individuals and enterprises, and gains from gambling.

Taxes on goods and services cover all taxes levied on the production, extraction, sale, transfer, leasing or delivery of goods, and the rendering of services, or on the use of goods or permission to use goods or to perform activities. They consist mainly of value added and sales taxes. Note that the sum of taxes on goods and services and taxes on income and profits is less than the figure for total tax revenues.

## Comparability

The tax revenue data are collected in a way that makes them as internationally comparable as possible. Country representatives have agreed on the definitions of each type of tax and how they should be measured in all OECD countries, and they are then responsible for submitting data to the OECD that conform to these rules.

### *Overview*

The tax burden continued to rise in OECD countries in 2014, increasing by 0.2 percentage points to an average 34.4% of GDP. The increase is calculated by applying the unweighted average percentage change for 2014 in the 30 countries providing data for that year to the overall average tax to GDP ratio in 2013. The rate of increase was lower than in 2013 and 2012 when the average tax burdens were 34.2% and 33.8%. Of those 30 countries, the total tax revenues as a percentage of GDP rose in 16 and fell in 14 compared with 2013.

The 2014 tax burden is the highest ever recorded OECD average tax to GDP ratio since the OECD began compiling this measure in 1965. Historically, the tax burden reached its previous peak of 34.2% of GDP in the year 2000. It then fell back slightly between 2001 and 2004 but rose again between 2005 and 2007 to an average of 34.1%. During the financial crisis, the OECD tax burden declined sharply to 32.7% in 2009 (a fall of 1.4 percentage points) before rising over the next 5 years to 34.4% in 2014 (an increase of 1.7 percentage points).

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## Total tax revenue

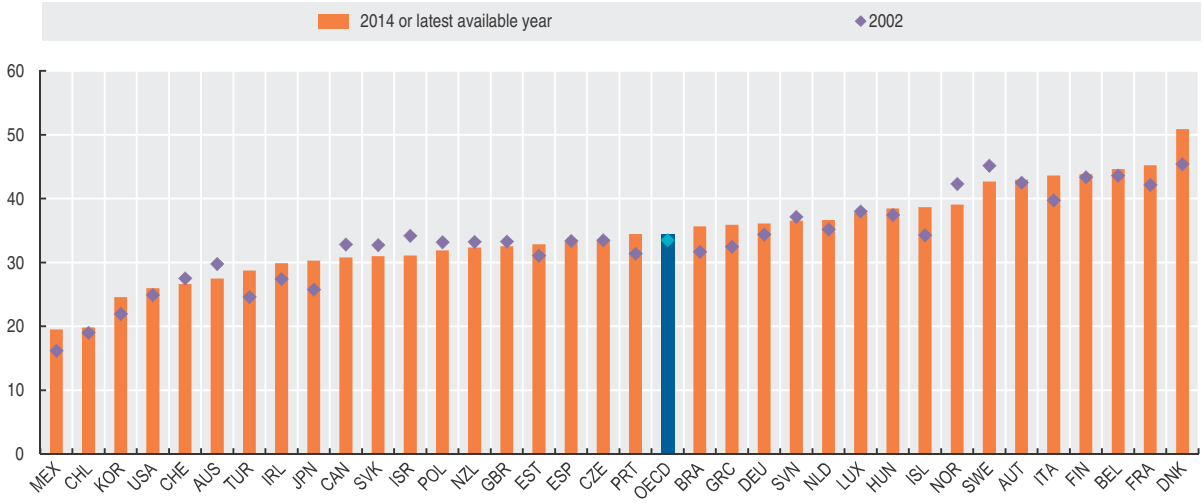
*As a percentage of GDP*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 29.8 | 29.9 | 30.3 | 29.9 | 29.5 | 29.7 | 27.0 | 25.8 | 25.6 | 26.3 | 27.3 | 27.5 | .. |
| Austria | 42.5 | 42.3 | 41.8 | 40.9 | 40.4 | 40.5 | 41.4 | 41.0 | 40.8 | 41.0 | 41.7 | 42.5 | 43.0 |
| Belgium | 43.6 | 43.1 | 43.2 | 43.1 | 42.8 | 42.6 | 43.0 | 42.1 | 42.4 | 43.0 | 44.0 | 44.7 | 44.7 |
| Canada | 32.8 | 32.7 | 32.5 | 32.3 | 32.6 | 32.3 | 31.5 | 31.4 | 30.4 | 30.2 | 30.7 | 30.5 | 30.8 |
| Chile | 19.0 | 18.7 | 19.1 | 20.7 | 22.0 | 22.8 | 21.4 | 17.2 | 19.5 | 21.2 | 21.5 | 20.0 | 19.8 |
| Czech Republic | 33.5 | 34.4 | 34.7 | 34.5 | 34.1 | 34.3 | 33.5 | 32.4 | 32.5 | 33.4 | 33.8 | 34.3 | 33.5 |
| Denmark | 45.4 | 45.6 | 46.4 | 48.0 | 46.4 | 46.4 | 44.9 | 45.2 | 45.3 | 45.4 | 46.4 | 47.6 | 50.9 |
| Estonia | 31.1 | 30.8 | 31.1 | 29.9 | 30.4 | 31.1 | 31.3 | 34.9 | 33.2 | 31.9 | 32.1 | 31.8 | 32.9 |
| Finland | 43.3 | 42.4 | 41.8 | 42.1 | 42.2 | 41.5 | 41.2 | 40.9 | 40.8 | 42.0 | 42.7 | 43.7 | 43.9 |
| France | 42.1 | 42.0 | 42.2 | 42.8 | 43.1 | 42.4 | 42.2 | 41.3 | 41.6 | 42.9 | 44.1 | 45.0 | 45.2 |
| Germany | 34.4 | 34.6 | 33.9 | 33.9 | 34.5 | 34.9 | 35.4 | 36.1 | 35.0 | 35.7 | 36.4 | 36.5 | 36.1 |
| Greece | 32.5 | 31.0 | 30.0 | 31.2 | 30.3 | 31.2 | 31.0 | 30.8 | 32.0 | 33.5 | 34.5 | 34.4 | 35.9 |
| Hungary | 37.4 | 37.4 | 37.2 | 36.8 | 36.7 | 39.6 | 39.5 | 39.0 | 37.3 | 36.5 | 38.6 | 38.4 | 38.5 |
| Iceland | 34.3 | 35.6 | 36.6 | 39.4 | 40.4 | 38.7 | 35.1 | 32.0 | 33.3 | 34.4 | 35.2 | 35.9 | 38.7 |
| Ireland | 27.4 | 28.3 | 29.1 | 29.2 | 31.0 | 30.4 | 28.6 | 27.6 | 27.5 | 27.4 | 27.9 | 29.0 | 29.9 |
| Israel | 34.2 | 33.5 | 33.5 | 33.8 | 34.4 | 34.3 | 31.9 | 29.7 | 30.4 | 30.8 | 29.7 | 30.6 | 31.1 |
| Italy | 39.7 | 40.1 | 39.3 | 39.1 | 40.6 | 41.7 | 41.6 | 42.1 | 41.8 | 41.9 | 43.9 | 43.9 | 43.6 |
| Japan | 25.8 | 25.3 | 26.1 | 27.3 | 28.1 | 28.5 | 28.5 | 27.0 | 27.6 | 28.6 | 29.4 | 30.3 | .. |
| Korea | 22.0 | 22.7 | 22.0 | 22.5 | 23.6 | 24.8 | 24.6 | 23.8 | 23.4 | 24.2 | 24.8 | 24.3 | 24.6 |
| Luxembourg | 38.0 | 38.1 | 37.0 | 38.3 | 36.3 | 36.6 | 37.2 | 39.0 | 38.1 | 37.9 | 38.8 | 38.4 | 37.8 |
| Mexico | 16.2 | 17.1 | 16.8 | 17.7 | 17.9 | 17.6 | 20.7 | 17.2 | 18.5 | 19.5 | 19.5 | 19.7 | 19.5 |
| Netherlands | 35.2 | 34.6 | 34.8 | 36.1 | 36.4 | 36.1 | 36.5 | 35.4 | 36.2 | 35.9 | 36.1 | 36.7 | .. |
| New Zealand | 33.2 | 33.1 | 34.1 | 36.0 | 35.4 | 34.0 | 33.3 | 30.5 | 30.6 | 30.9 | 32.4 | 31.4 | 32.4 |
| Norway | 42.3 | 41.6 | 42.3 | 42.6 | 42.8 | 42.1 | 41.5 | 41.2 | 41.9 | 42.0 | 41.5 | 40.5 | 39.1 |
| Poland | 33.2 | 32.6 | 32.2 | 33.3 | 33.9 | 34.8 | 34.5 | 31.5 | 31.4 | 32.0 | 32.3 | 31.9 | .. |
| Portugal | 31.4 | 31.5 | 30.3 | 30.9 | 31.5 | 32.0 | 31.9 | 30.0 | 30.6 | 32.5 | 32.0 | 34.5 | 34.4 |
| Slovak Republic | 32.7 | 32.4 | 31.4 | 31.2 | 29.3 | 29.2 | 29.1 | 28.9 | 28.1 | 28.7 | 28.5 | 30.4 | 31.0 |
| Slovenia | 37.2 | 37.3 | 37.4 | 38.0 | 37.6 | 37.1 | 36.4 | 36.2 | 36.9 | 36.5 | 36.8 | 36.8 | 36.6 |
| Spain | 33.4 | 33.3 | 34.3 | 35.3 | 36.1 | 36.5 | 32.3 | 29.8 | 29.9 | 31.3 | 32.1 | 32.7 | 33.2 |
| Sweden | 45.2 | 45.5 | 45.6 | 46.6 | 46.0 | 45.0 | 44.0 | 44.1 | 43.2 | 42.5 | 42.6 | 42.8 | 42.7 |
| Switzerland | 27.5 | 26.8 | 26.5 | 26.5 | 26.4 | 26.1 | 26.7 | 27.1 | 26.5 | 27.0 | 26.9 | 26.9 | 26.6 |
| Turkey | 24.6 | 25.9 | 24.1 | 24.3 | 24.5 | 24.1 | 24.2 | 24.6 | 26.2 | 27.8 | 27.6 | 29.3 | 28.7 |
| United Kingdom | 33.3 | 32.9 | 33.4 | 33.8 | 34.4 | 34.1 | 34.0 | 32.3 | 32.8 | 33.6 | 33.0 | 32.9 | 32.6 |
| United States | 24.9 | 24.4 | 24.6 | 25.9 | 26.6 | 26.7 | 25.2 | 23.0 | 23.2 | 23.6 | 24.1 | 25.4 | 26.0 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 33.5 | 33.5 | 33.4 | 33.9 | 34.1 | 34.1 | 33.6 | 32.7 | 32.8 | 33.3 | 33.8 | 34.2 | 34.4 |
| Brazil | 31.7 | 31.2 | 32.1 | 33.1 | 33.1 | 33.4 | 33.8 | 33.1 | 33.2 | 35.0 | 35.6 | 35.7 | .. |
| China | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| India | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Indonesia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Russian Federation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Africa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

1 2 *http://dx.doi.org/10.1787/888933336702*

## Total tax revenue

*As a percentage of GDP*




1 2 *http://dx.doi.org/10.1787/888933335636*





# HEALTH

## HEALTH STATUS

LIFE EXPECTANCY
INFANT MORTALITY
SUICIDES

## RISK FACTORS

SMOKING
ALCOHOL CONSUMPTION
OVERWEIGHT AND OBESITY

## RESOURCES

DOCTORS
NURSES
HEALTH EXPENDITURE

# LIFE EXPECTANCY

Life expectancy at birth continues to increase steadily in OECD countries, going up on average by 3 to 4 months each year, with no sign of slowing down. These gains in longevity can be attributed to a number of factors including improved lifestyle and better education, and progress in health care.

Higher national income (as measured by GDP per capita) is generally associated with higher life expectancy at birth, although the relationship is less pronounced at higher levels of national income.

Life expectancy in OECD countries varies not only by gender, but also by socio-economic status as measured, for instance, by education level. A higher education level not only provides the means to improve the socio-economic conditions in which people live and work, but may also promote the adoption of healthier lifestyles and facilitate access to appropriate health care.

## *Overview*

In 2013, life expectancy on average across OECD countries reached 80.5 years, an increase of more than ten years since 1970. Japan, Spain and Switzerland lead a large group of 25 OECD countries in which life expectancy at birth now exceeds 80 years.

Although the life expectancy in emerging economies such as India, Indonesia, Brazil and China remains well below the OECD average, these economies have achieved considerable gains in longevity over the past decades, with the level converging rapidly towards the OECD average. There has been much less progress in countries such as South Africa (due mainly to the epidemic of HIV/AIDS), and Russia (due mainly to the impact of the economic transition in the 1990s and a rise in risk increasing behaviours among men, notably rising alcohol consumption).

The gender gap in life expectancy stood at 5.3 years on average across OECD countries in 2013, with life expectancy reaching 77.8 years among men and 83.1 years among women. While the gender gap in life expectancy increased substantially in many OECD countries during the 1970s and early 1980s to reach a peak of almost seven years in the mid-1980s, it has narrowed during the past 25 years, reflecting higher gains in life expectancy among men than among women.

On average among 16 OECD countries for which recent data are available, people with the highest level of education can expect to live six years longer than people with the lowest level of education at age 30 (53 years versus 47 years). These differences in life expectancy by education level are particularly pronounced for men, with an average gap of almost eight years. The differences are especially large in Central and Eastern European countries (Slovak Republic, Estonia, Czech Republic, Poland and Hungary), where the life expectancy gap between higher and lower educated men is more than ten years. This is largely explained by the greater prevalence of risk factors among lower educated men, such as tobacco and alcohol use. Differences in other countries such as Sweden, Italy, the Netherlands and Norway are less pronounced.

## Definition

Life expectancy at birth measures how long, on average, people would live based on a given set of age-specific death rates. However, the actual age-specific death rates of any particular birth cohort cannot be known in advance. If age-specific death rates are falling (as has been the case over the past decades), actual life spans will be higher than life expectancy calculated with current death rates.

## Comparability

The methodology used to calculate life expectancy can vary slightly between countries. This can change a country's estimates by a fraction of a year. Life expectancy at birth for the total population is calculated by the OECD Secretariat for all OECD countries, using the unweighted average of life expectancy of men and women.

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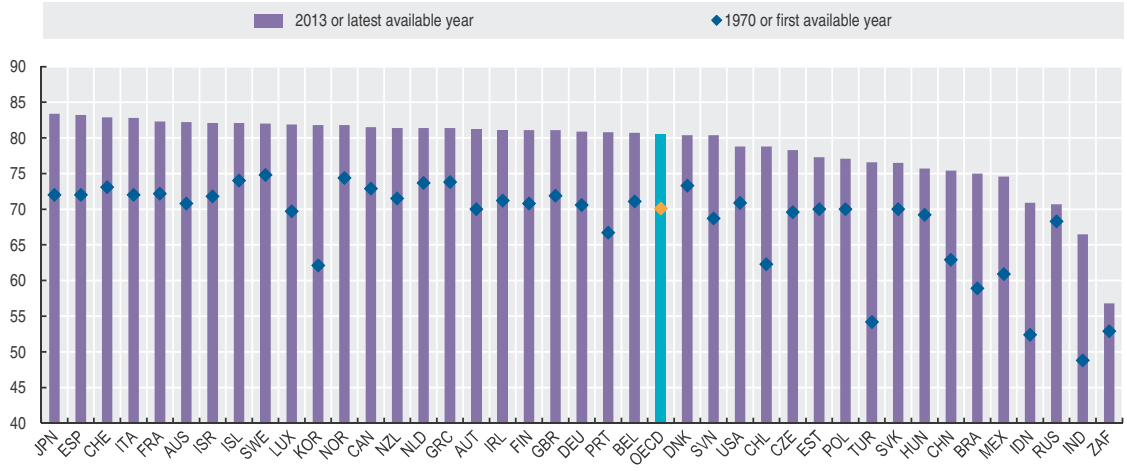
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## Life expectancy at birth

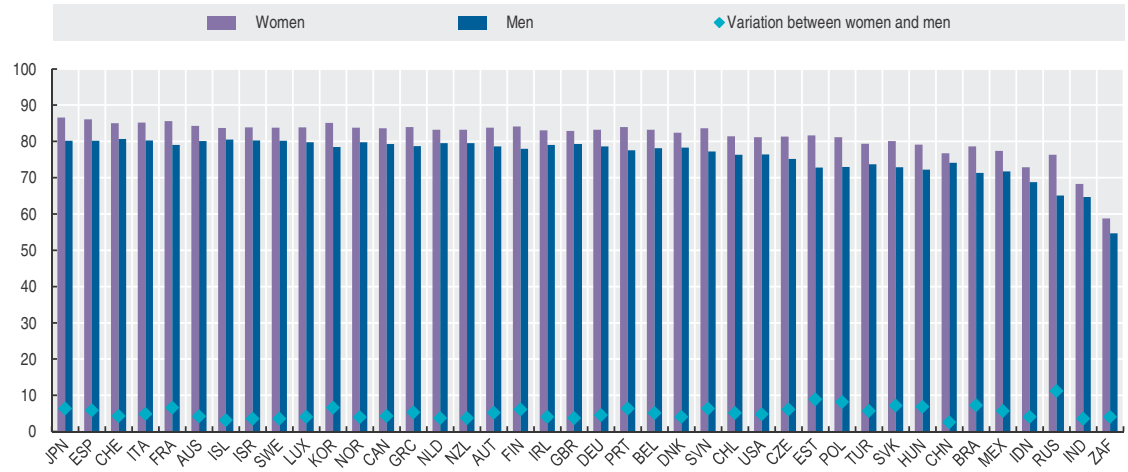
*Number of years*




1 2 http://dx.doi.org/10.1787/888933335172

## Variation in life expectancy by sex

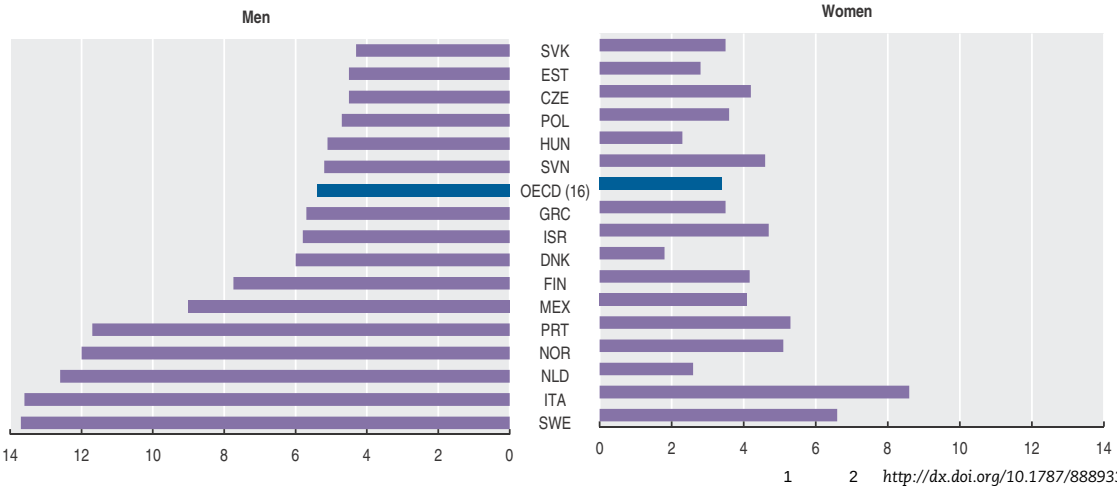
*Number of years, 2013 or latest available year*




1 2 http://dx.doi.org/10.1787/888933335784

## Gap in life expectancy at age 30 by sex and educational level

*Gap in years, 2012 or latest year*




1 2 http://dx.doi.org/10.1787/888933335925

# INFANT MORTALITY

Infant mortality, the rate at which babies and children of less than one year of age die, reflects the effect of economic and social conditions on the health of mothers and newborns, the social environment, individual lifestyles as well as the characteristics and effectiveness of health systems.

Many studies use infant mortality as a health outcome to examine the effect of a variety of medical and non-medical determinants of health. Although most analyses show that higher health spending tends to be associated with lower infant mortality, the fact that some countries with a high level of health expenditure do not exhibit low levels of infant mortality suggests that more health spending is not necessarily required to obtain better results.

## *Overview*

In most OECD countries, infant mortality is low and there is little difference in rates. In 2013, the average in OECD countries was less than four deaths per 1 000 live births, with rates being the lowest in Iceland, Slovenia, Finland, Estonia and Japan. A small group of OECD countries still have comparatively high infant mortality (Mexico, Turkey and Chile), although in these three countries infant mortality has reduced considerably over the past few decades.

In some of the emerging economies (India, South Africa and Indonesia), infant mortality remains above 20 deaths per 1 000 live births. In India, one-in-twenty-five children die before their first birthday, although the rates have fallen sharply over the past few decades. Infant mortality rates have also reduced greatly in Indonesia.

In the United States, the reduction in infant mortality has been slower than in most other OECD countries. In 2000, the US rate was below the OECD average, but it is now higher.

In OECD countries, around two-thirds of the deaths that occur during the first year of life are neonatal deaths (i.e., during the first four weeks). Birth defects, prematurity and other conditions arising during pregnancy are the main factors contributing to neonatal mortality in developed countries. With an increasing number of women deferring childbearing and a rise in multiple births linked with fertility treatments, the number of pre-term births has tended to increase. In a number of higher-income countries, this has contributed to a levelling-off of the downward trend in infant mortality over the past few years. For deaths beyond a month (post-neonatal mortality), there tends to be a greater range of causes – the most common being SIDS (sudden infant death syndrome), birth defects, infections and accidents.

## Definition

The infant mortality rate is the number of deaths of children under one year of age, expressed per 1 000 live births.

## Comparability

Some of the international variation in infant mortality rates is related to variations in registering practices for very premature infants. While some countries register all live births including very small babies with low odds of survival, several countries apply a minimum threshold of a gestation period of 22 weeks (or a birth weight threshold of 500 grams) for babies to be registered as live births. To remove this data comparability limitation, the data are based on a minimum threshold of 22 weeks of gestation period (or 500 grams birth weight) for a majority of OECD countries that have provided these data. However, the data for some countries (e.g. Canada and Australia) continue to be based on all registered live births, resulting in some over-estimation.

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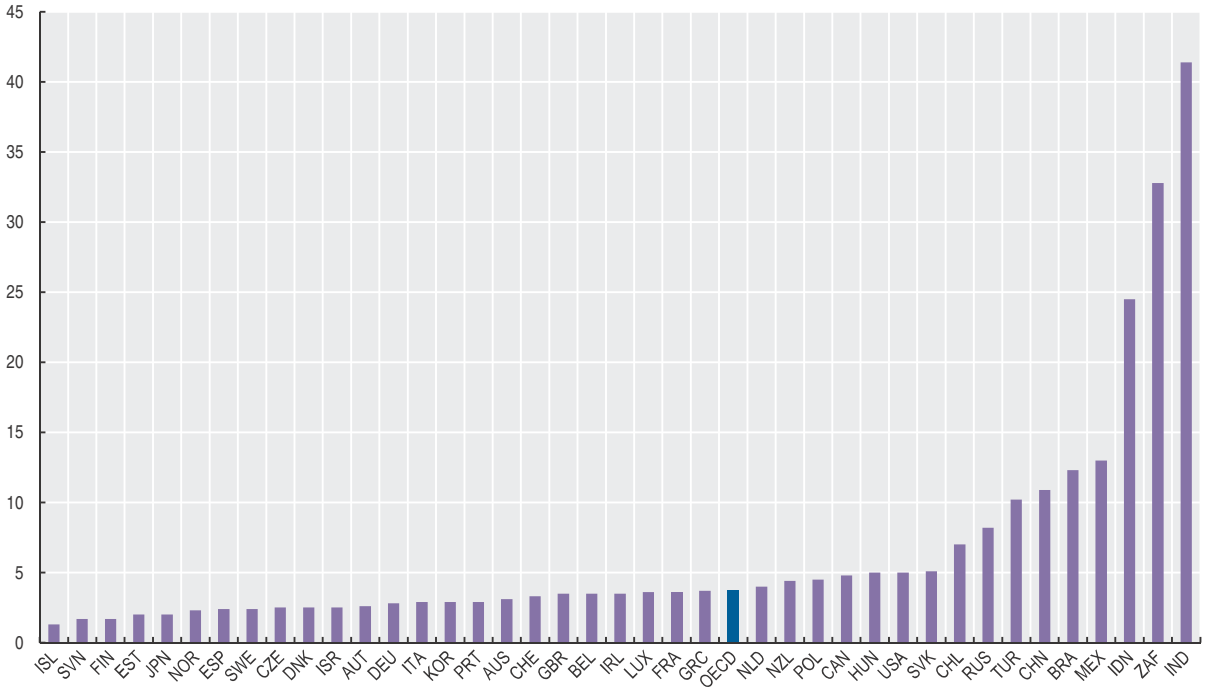
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## Infant mortality rates

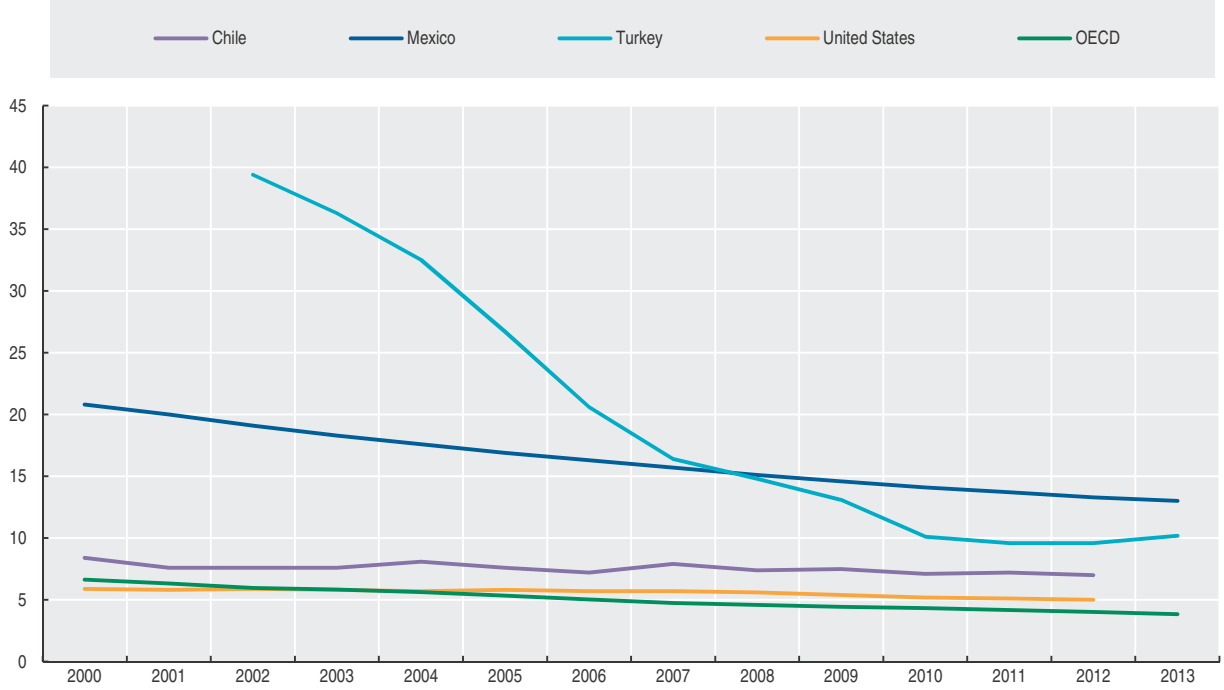
*Deaths per 1 000 live births, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335136*

## Trend in infant mortality in selected OECD countries

*Deaths per 1 000 live births, 2000-13 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335775*

# SUICIDES

Suicide is a significant cause of death in many OECD countries, accounting for over 150 000 deaths in 2013. A complex set of reasons may explain why some people choose to attempt or commit suicide. A high proportion of people who have attempted or committed suicide are suffering from psychiatric disorders such as severe depression, bipolar disorder and schizophrenia. The social context in which an individual lives is also important. Low income, alcohol and drug abuse, unemployment and social isolation are all associated with higher rates of suicide.

Early detection of psycho-social problems in high-risk groups by families and health professionals is an important part of suicide prevention campaigns, together with the provision of effective support and treatment. Many countries are developing national strategies for prevention, focusing on at-risk groups.

## *Overview*

Suicide rates in 2013 were lowest in Turkey, Greece, Mexico, Italy and Israel, at seven or fewer deaths per 100 000 population, although the number of suicides in certain countries may be under-reported because of the stigma associated with the act or data unreliability associated with reporting criteria. Suicide rates are also low in South Africa and Brazil. Korea had the highest suicide rate with nearly 30 deaths per 100 000 population, followed by Russia, Hungary, Japan and Slovenia with nearly 20 deaths per 100 000 population.

Mortality rates from suicide are three-to-four times greater for men than for women across OECD countries. In Poland and the Slovak Republic, men are seven times more likely to commit suicide than women. The gender gap is narrower for attempted suicides, reflecting the fact that women tend to use less fatal methods than men. Suicide is also related to age, with young people aged under 25 and elderly people especially at risk. While suicide rates among the latter have generally declined over the past two decades, less progress has been observed among younger people.

Since 1990, suicide rates have decreased by around 30% across OECD countries, with the rates being halved in countries such as Hungary, Denmark, Luxembourg and Finland. In Estonia, after an initial rise in the early 1990s, the rates have also fallen sharply. On the other hand, death rates from suicides have increased in Korea, Chile, Mexico, Russia, Greece, Poland, Japan and the Netherlands. In Japan, there was a sharp rise in the mid-to-late 1990s, coinciding with the Asian financial crisis, but rates have started to come down in recent years. In Korea, suicide rates rose steadily over the past two decades peaking around 2010, before starting to come down. Suicide is the number one cause of death among teenagers in Korea.

## Definition

The World Health Organization defines suicide as an act deliberately initiated and performed by a person in the full knowledge or expectation of its fatal outcome.

Mortality rates have been directly age-standardised to the 2010 OECD population to remove variations arising from differences in age structures across countries and over time. The source is the WHO Mortality Database. Deaths from suicide are classified to ICD-10 codes X60-X84.

## Comparability

Comparability of data between countries is affected by a number of reporting criteria, including how a person's intention of killing themselves is ascertained, who is responsible for completing the death certificate, whether a forensic investigation is carried out, and the provisions for confidentiality of the cause of death. The number of suicides in certain countries may be under-estimated because of the stigma that is associated with the act, or because of data issues associated with reporting criteria. Caution is required therefore in interpreting variations across countries.

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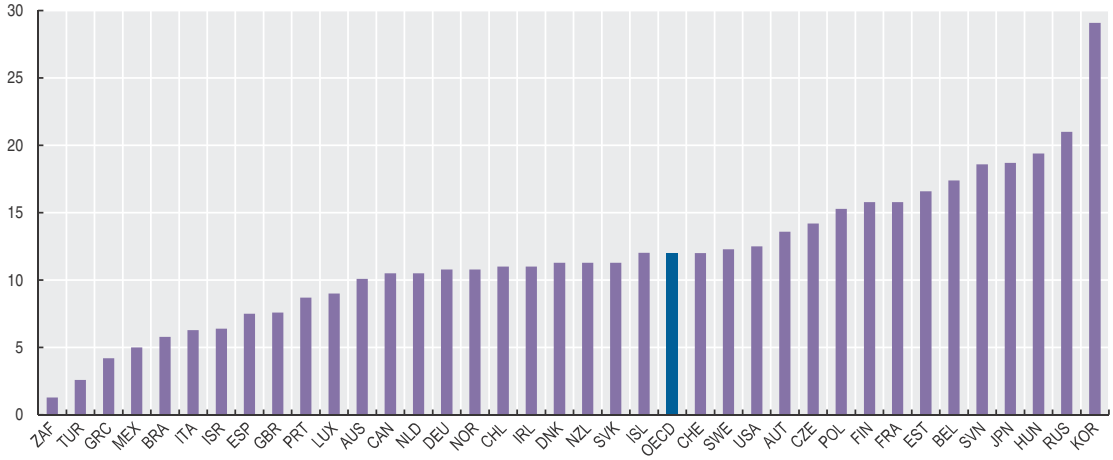
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## Suicide rates

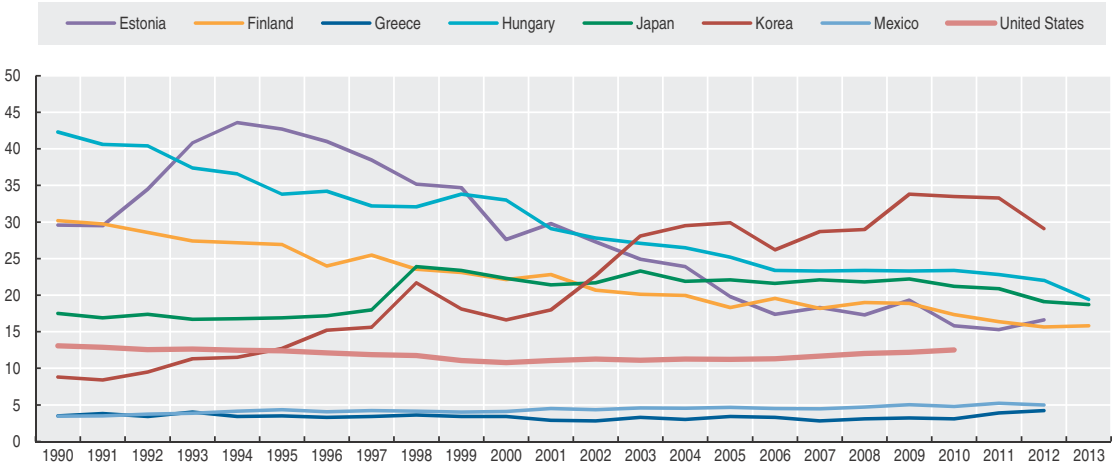
*Age-standardised rates per 100 000 population, 2013 or latest available year*




1 2 http://dx.doi.org/10.1787/888933335565

## Trends in suicide rates

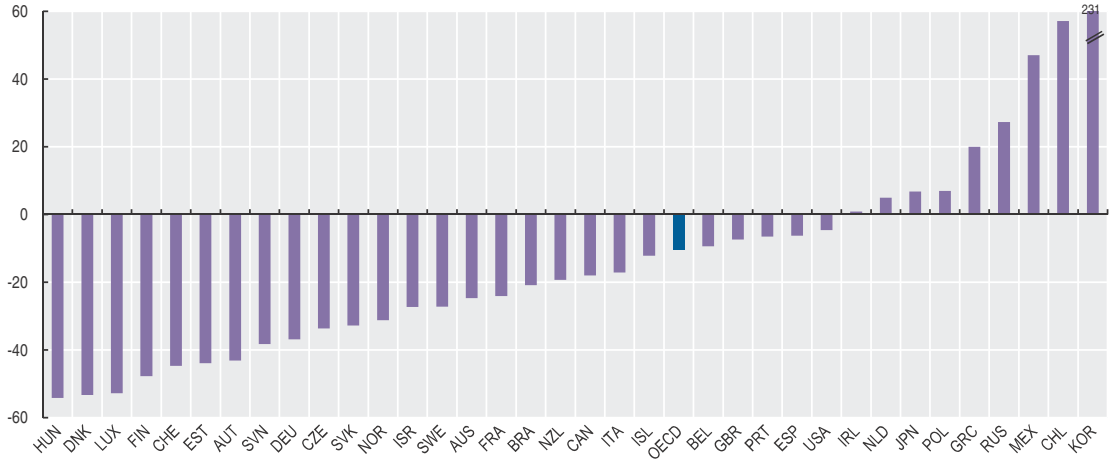
*Age-standardised rates per 100 000 population*




1 2 http://dx.doi.org/10.1787/888933335880

## Change in suicide rates

*Percentage, 1990-2013 or latest available period*




1 2 http://dx.doi.org/10.1787/888933336003

# SMOKING

Tobacco kills nearly 6 million people each year, of whom more than 5 million are from direct tobacco use and more than 600 000 are non-smokers exposed to second-hand smoke. Tobacco is a major risk factor for at least two of the leading causes of premature mortality – cardiovascular diseases and cancer, increasing the risk of heart attack, stroke, lung cancer, cancers of the larynx and mouth, and pancreatic cancer, among others. In addition, it is a dominant contributing factor for respiratory diseases such as chronic obstructive pulmonary disease. Smoking in pregnancy can lead to low birth weight and illness among infants. Smoking remains the largest avoidable risk factor for health in OECD countries and worldwide.

## *Overview*

The proportion of daily smokers in the adult population varies greatly, even between neighbouring countries. Nineteen of 34 OECD countries had less than 20% of the adult population smoking daily in 2013. Rates were lowest in Sweden, Iceland, Mexico and Australia (less than 13%). Rates were also less than 13% in Brazil and India, although the proportion of smokers among men is high in India at 23%. On the other hand, smoking rates remain high in Greece in both men and women, and in Indonesia where more than one in two men smoke daily. Smoking prevalence is higher among men than among women in all OECD countries except in Sweden and Iceland. The gender gap in smoking rates is particularly large in Korea, Japan and Turkey, as well as in Russia, India, Indonesia, South Africa and China.

Since 2000, smoking rates across most OECD countries have continued to decline, although other forms of smokeless tobacco use, such as snuff in Sweden, are not taken into account. On average, smoking rates have decreased by about one fourth since 2000, from 26% to 20% in 2013. Large reductions occurred in Norway, Iceland, Denmark, Sweden and Ireland, as well as in India.

Much of the decline in tobacco use can be attributed to policies aimed at reducing tobacco consumption through public awareness campaigns, advertising bans, increased taxation, and restriction of smoking in public spaces and restaurants, in response to rising rates of tobacco-related diseases. As governments continue to reinforce their anti-tobacco policies, new strategies such as plain packaging for tobacco products aimed to restrict branding have been implemented (e.g. in Australia) and are being adopted by an increasing number of countries.

There is strong evidence of socio-economic differences in smoking and mortality. People in less affluent social groups have a greater prevalence and intensity of smoking and a higher all-cause mortality rate and lower rates of cancer survival.

## Definition

The proportion of daily smokers is defined as the percentage of the population aged 15 years and over who report smoking every day.

## Comparability

International comparability is limited due to the lack of standardisation in the measurement of smoking habits in health interview surveys across OECD countries. Variations remain in the age groups surveyed, the wording of questions, response categories and survey methodologies (e.g. in a number of countries, respondents are asked if they smoke regularly, rather than daily; and if they smoke cigarettes rather than all types of tobacco). In addition, self-reports of behaviours may suffer from social desirability bias that may potentially limit cross-country comparisons.

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## Adult population smoking daily

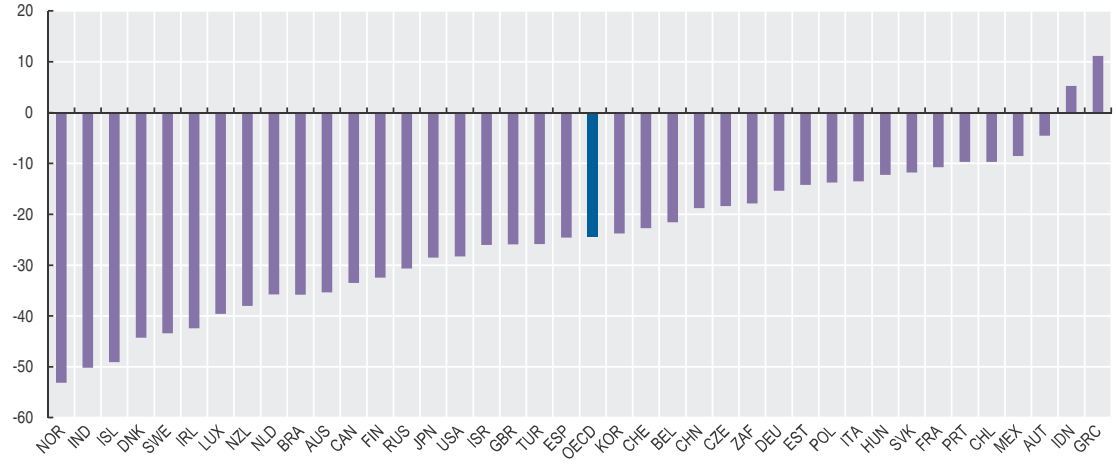
*As a percentage of adult population, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335510*

## Change in smoking rates

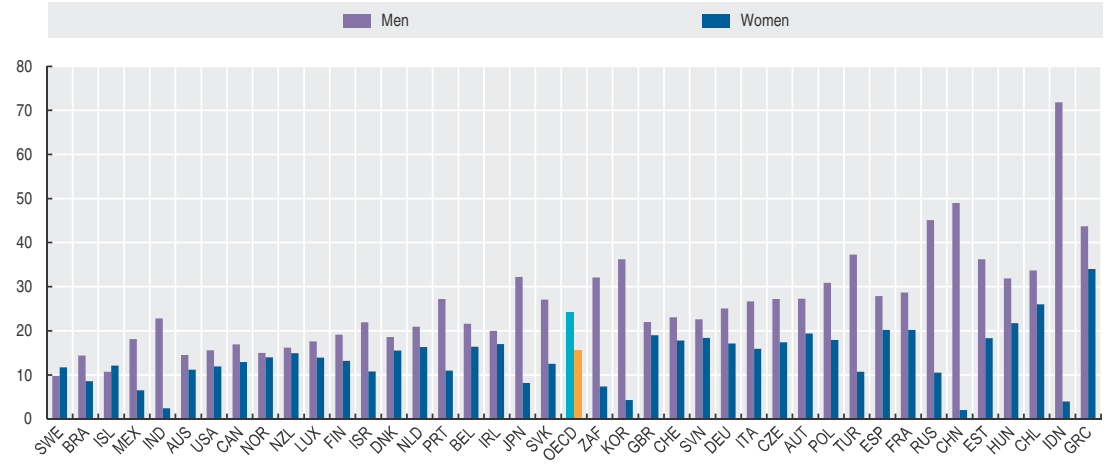
*Percentage change over the period 2000-13 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335872*

## Adult population smoking daily by gender

*Percentage of adult population, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335998*

# ALCOHOL CONSUMPTION

The health burden related to harmful alcohol consumption, both in terms of morbidity and mortality, is considerable. Alcohol use is associated with numerous harmful health and social consequences, including an increased risk of a range of cancers, stroke, and liver cirrhosis, among others. Foetal exposure to alcohol increases the risk of birth defects and intellectual impairment. Alcohol also contributes to death and disability through accidents and injuries, assault, violence, homicide and suicide.

## Definition

Alcohol consumption is defined as annual sales of pure alcohol in litres per person aged 15 years and over. Survey-based estimates of the amount of alcohol drunk by the 20% heaviest drinkers rely on the data analysis of the latest available national health surveys for 13 OECD countries.

## Comparability

The methodology to convert alcoholic drinks to pure alcohol may differ across countries. Official statistics do not include unrecorded alcohol consumption, such as home production.

### *Overview*

Alcohol consumption stands at 8.9 litres per adult per year, on average, across OECD countries, based on the most recent data available. Austria, Estonia and the Czech Republic, reported the highest consumption of alcohol with 11.5 litres or more per adult per year in 2013. The lowest alcohol consumption was recorded in Turkey and Israel, as well as in Indonesia and India, where religious and cultural traditions restrict the use of alcohol in some population groups.

Although average alcohol consumption has gradually fallen in many OECD countries since 2000, it has risen in Poland, Chile, Sweden, Mexico, Norway, the United States, Finland, Canada, Iceland and New Zealand, as well as in China, India, Indonesia, Russia and South Africa.

However, national aggregate data does not permit to identify individual drinking patterns and the populations at risk. OECD analysis based on individual-level data show that hazardous drinking and heavy episodic drinking are on the rise among young people and women especially. Men of low socioeconomic status are more likely to drink heavily than those of a higher socioeconomic status, while the opposite is observed in women. Alcohol consumption is highly concentrated, as the large majority of alcohol is consumed by the 20% of the population who drink the most, with some variation across countries. The 20% heaviest drinkers in Hungary consume about 90% of all alcohol, while in France the share is about 50%.

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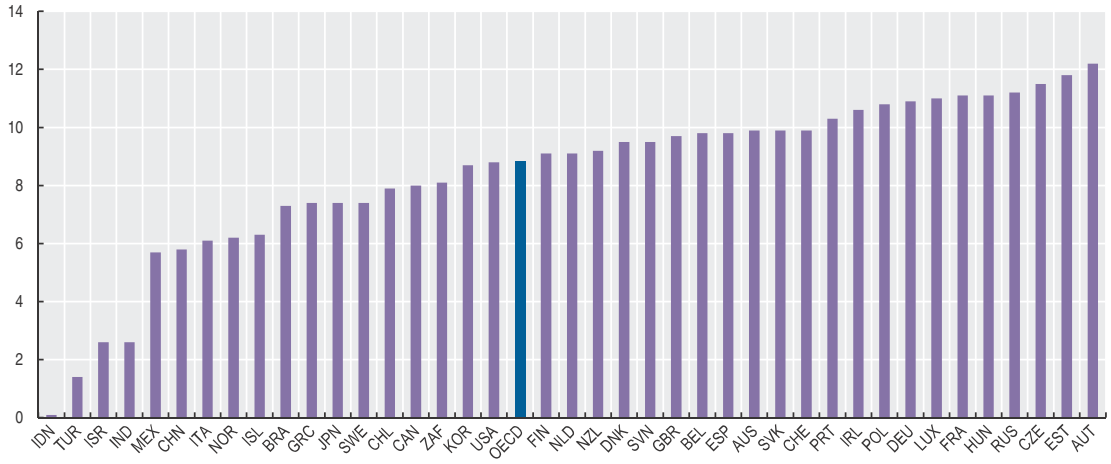
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## Alcohol consumption among population aged 15 and over

*Litres per capita, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933334837*

## Change in alcohol consumption among population aged 15 and over

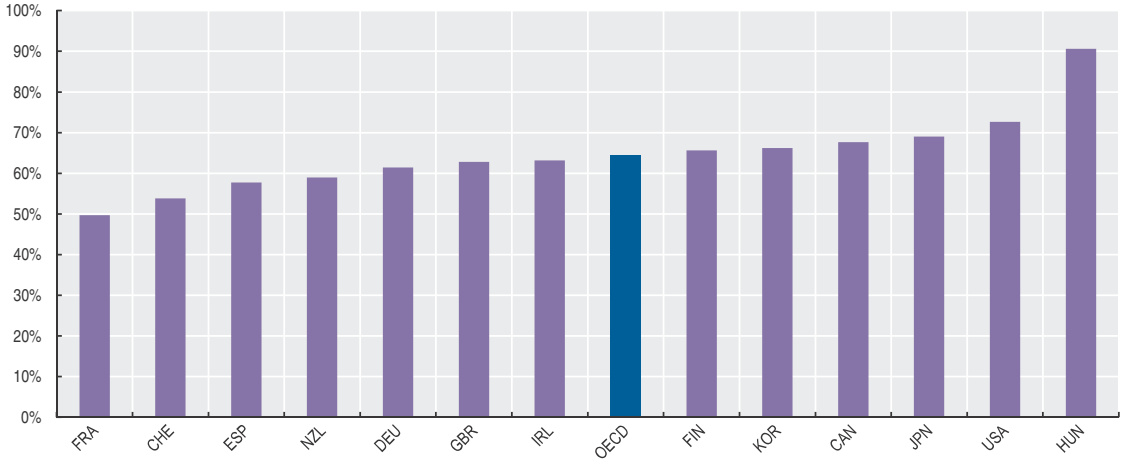
*Percentage change in litres per capita over the period 2000-2013 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335756*

## Share of total alcohol consumed by the 20% of the population who drink the most

*Share, 2012 or latest year available*




1 2 *http://dx.doi.org/10.1787/888933335903*

# OVERWEIGHT AND OBESITY

Obesity is a known risk factor for numerous health problems, including hypertension, high cholesterol, diabetes, cardiovascular diseases, respiratory problems (asthma), musculoskeletal diseases (arthritis) and some forms of cancer. The rise in overweight and obesity is a major public health concern, threatening progress in tackling cardiovascular diseases.

A number of behavioural and environmental factors have contributed to the long-term rise in overweight and obesity rates in OECD countries, including the widespread availability of energy dense foods and more time spent being physically inactive. These factors have created obesogenic environments, putting people, and especially those socially vulnerable, more at risk of obesity.

### *Overview*

Based on the latest available surveys, more than half (53.8%) of the adult population in OECD countries report that they are overweight or obese. In countries where height and weight were measured (as opposed to self-reported), this proportion is even greater, at 57.5%. The prevalence of overweight and obesity among adults exceeds 50% in no less than 22 of 34 OECD countries. In contrast, overweight and obesity rates are much lower in Japan and Korea and in some European countries (France and Switzerland), although even in these countries rates have been increasing.

The prevalence of obesity, which presents even greater health risks than overweight, varies about six fold across OECD countries, from a low of less than 5% in Japan and Korea, to over 32% in Mexico and the United States. Across OECD countries, 19% of the adult population is obese. Obesity rates in men and women are similar in most countries. However, in Chile, Mexico and Turkey, as well as Russia and South Africa, a greater proportion of women are obese, while the reverse is true in Slovenia.

The prevalence of obesity has increased over the past decade in all OECD countries. In 2013, at least one in five adults was obese in twelve OECD countries, compared to one in eight a decade ago. Since 2000, obesity rates have increased by a third or more in 14 countries. The rapid rise occurred regardless of where levels stood a decade ago. Obesity increased by around 45% in both Denmark and Australia, even though the current rate in Denmark is less than half that of Australia.

The rise in obesity has affected all population groups, regardless of sex, age, race, income or education level, but to varying degrees. Evidence from Canada, the United Kingdom, France, Italy, Mexico, Spain, Switzerland and the United States shows that obesity tends to be more common in lower educated groups, especially in women.

## Definition

Overweight and obesity are defined as excessive weight presenting health risks because of the high proportion of body fat. The most frequently used measure is based on the body mass index (BMI), which is a single number that evaluates an individual's weight in relation to height (weight/height2, with weight in kilograms and height in metres). Based on the WHO classification, adults with a BMI from 25 to 30 are defined as overweight, and those with a BMI of 30 or over as obese.

## Comparability

The BMI classification may not be suitable for all ethnic groups, who may have equivalent levels of risk at lower or higher BMI. The thresholds for adults are also not suitable to measure overweight and obesity among children.

For half of the countries, overweight and obesity rates are self-reported through estimates of height and weight from population-based health interview surveys. However, the other half of OECD countries derives their estimates from health examinations. These differences limit data comparability. Estimates from health examinations are generally higher, and more reliable than estimates from health interviews. The OECD average is based on both types of estimates (self-reported and measured) and, thus, may be underestimated.

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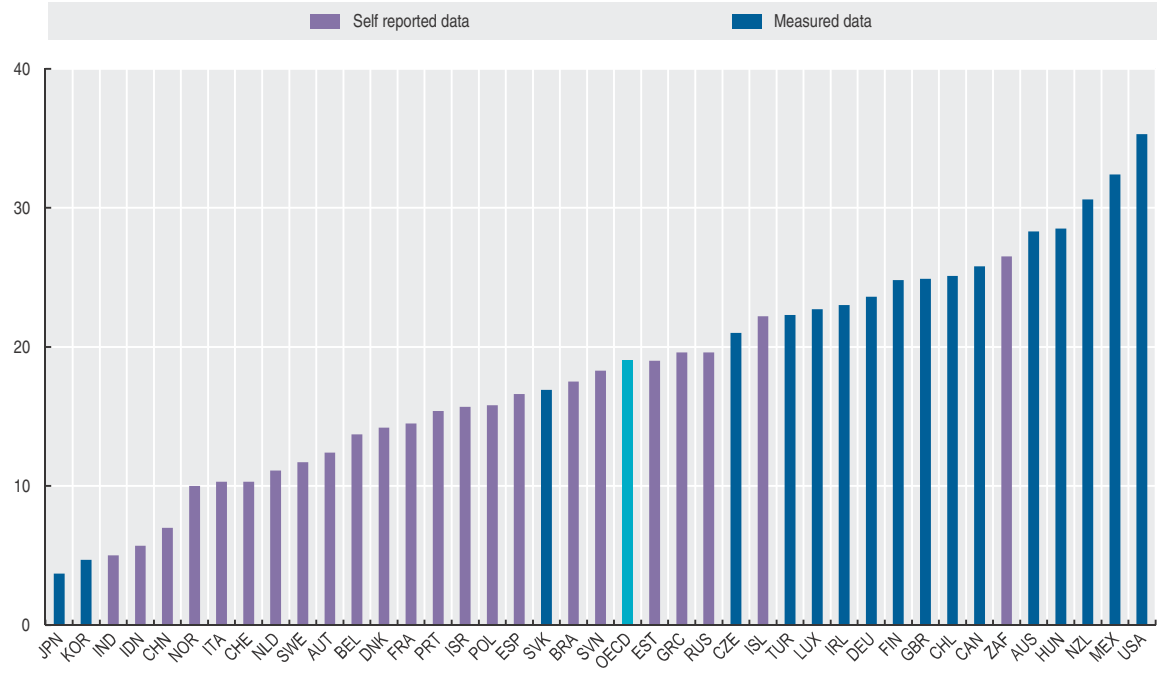
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## Obesity rates among the adult population

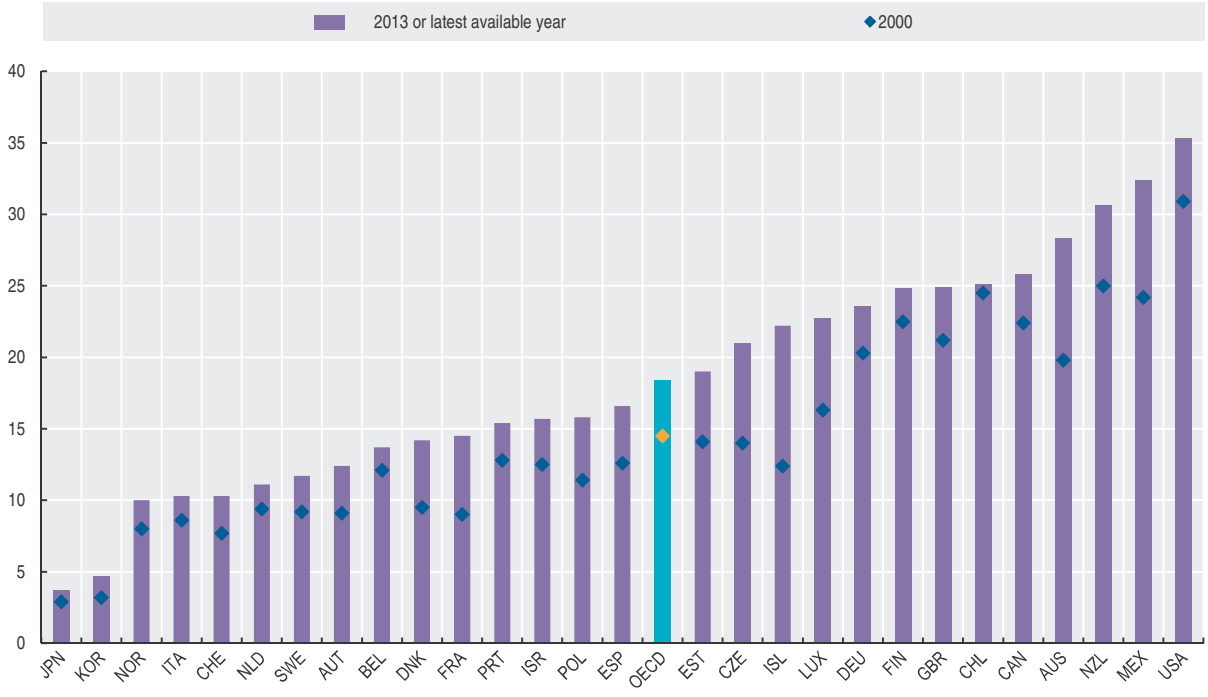
*Percentage of population aged 15 and over, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335299*

## Increasing obesity rates among the adult population

*Percentage of population aged 15 and over, 2000-13 or latest available period*




1 2 *http://dx.doi.org/10.1787/888933335819*

# DOCTORS

Doctors play a central role in health systems. There are concerns in many OECD countries about current or future shortages of doctors, in particular of general practitioners and doctors practising in rural regions or deprived urban areas.

Projecting the future supply and demand of doctors is difficult because of high levels of uncertainties regarding their retirement patterns, migration patterns on the supply side, and changing health needs of ageing populations and health spending growth on the demand side.

## Definition

Practising physicians are defined as the number of doctors providing care for patients. Generalists include doctors assuming responsibility for the provision of continuing care to individuals and families, as well as other generalist/non-specialist practitioners. Specialists include paediatricians, obstetricians/gynaecologists, psychiatrists, medical specialists and surgical specialists. Medical doctors not further defined include interns/residents if they are not reported in the field in which they are training, and doctors not elsewhere classified. The numbers are based on head counts.

## Comparability

In several countries (Canada, France, Greece, Iceland, the Netherlands, the Slovak Republic and Turkey), the data include not only physicians providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc. This can add another 5-10% of doctors. Data for Chile and Portugal refer to all physicians licensed to practice (resulting in a large overestimation of the number of practising doctors in Portugal, of around 30%). Data for Spain include dentists up to 2010, while data for Belgium include stomatologists. Data for India are likely over-estimated as they are based on medical registers that are not regularly updated to account for migration, death, retirement, and people registered in multiple states.

Not all countries are able to report all their physicians in the two broad categories of specialists and generalists because of missing information.

### *Overview*

Between 2000 and 2014, the number of physicians has grown in most OECD countries, both in absolute number and on a per capita basis. The growth rate was particularly rapid in countries which started with lower levels in 2000 (Turkey, Korea and Mexico), but also in countries which already had a large number such as Greece and Austria. In Greece, the number of doctors per capita increased strongly between 2000 and 2008, but has stabilised since then. The number of doctors has also increased strongly in Australia and the United Kingdom, driven mainly by a strong rise in the number of graduates from domestic medical education programmes. On the other hand, the number of physicians per capita remained fairly stable since 2000 in Estonia, France, Israel and the Slovak Republic.

In nearly all countries, the balance between generalist and specialist doctors has changed over the past few decades, with the number of specialists increasing much more rapidly. As a result, there were more than two specialists for every generalist in 2013, on average across OECD countries. In many countries, specialists earn more and have seen their earnings grow faster than generalists. This creates a financial incentive for doctors to specialise, although other factors such as working conditions and professional prestige also influence choices.

Nearly all OECD countries exercise some control over medical school intakes, often by limiting the number of training places, for example in the form of a *numerus clausus*. Ireland and Denmark had the highest number of medical graduates per 100 000 population in 2014. Graduation rates were the lowest in Israel, Japan and Turkey. In most OECD countries, the number of new medical graduates has gone up since 2000.

## *Sources*

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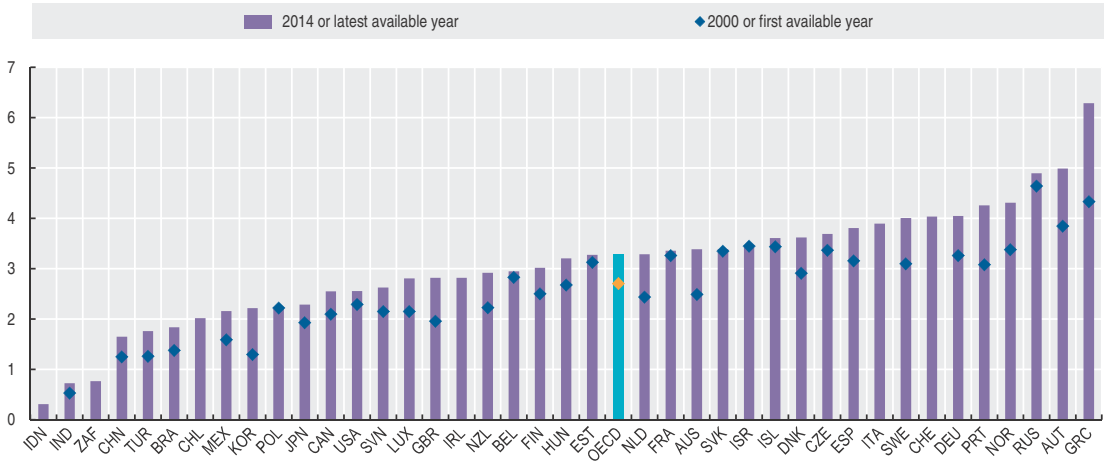
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## Practising physicians

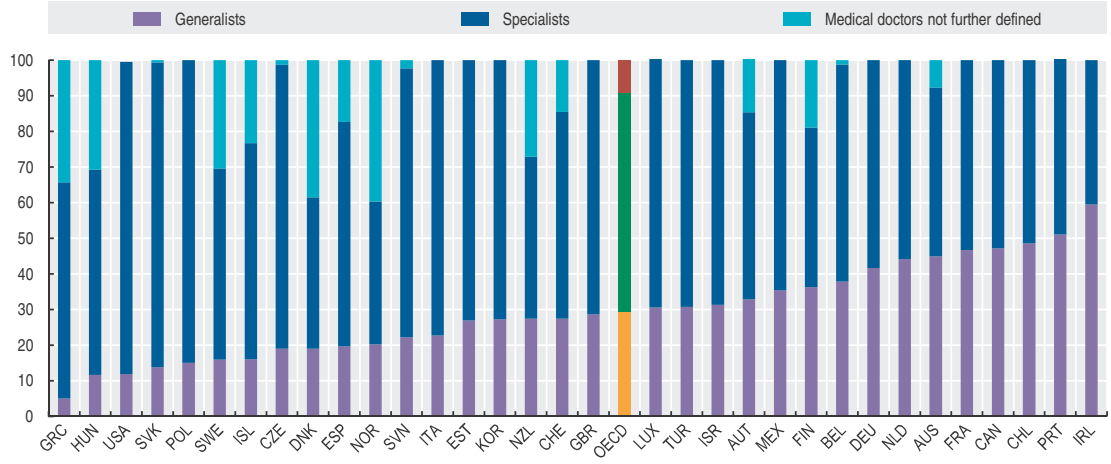
*Per 1 000 inhabitants*




1 2 *http://dx.doi.org/10.1787/888933334872*

## Categories of physicians

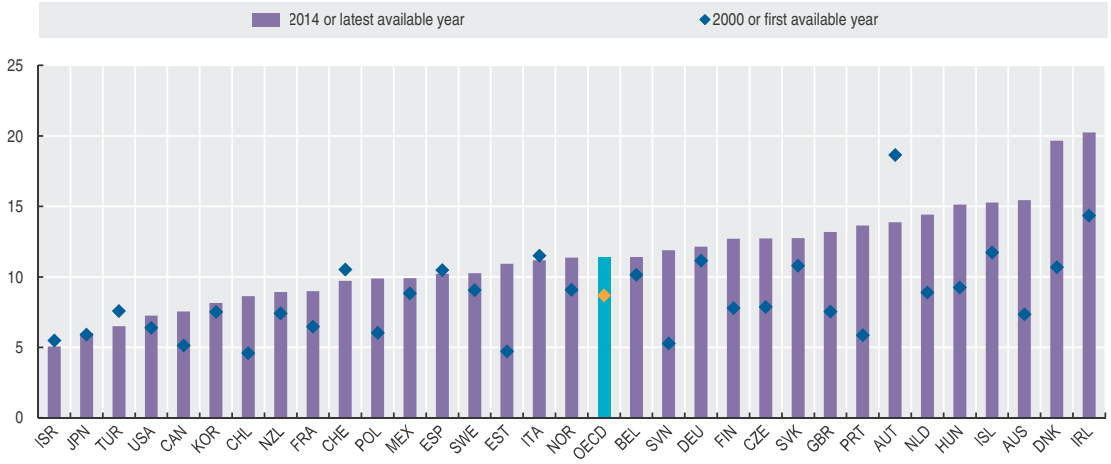
*As a percentage of total physicians, 2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335765*

## Medical graduates

*Per 100 000 inhabitants*




1 2 *http://dx.doi.org/10.1787/888933335914*

# NURSES

Nurses are usually the most numerous health profession, outnumbering physicians on average across OECD countries by almost three to one. However, there are concerns in many countries about shortages of nurses, and these concerns may well intensify in the future as the demand for nurses continues to increase and the ageing of the "baby-boom" generation precipitates a wave of retirements among nurses. These concerns have prompted actions in many countries to increase the training of new nurses combined with efforts to increase the retention of nurses in the profession.

## *Overview*

On average across OECD countries, there were around 9 nurses per 1 000 population in 2014. The number of nurses per capita was highest in Switzerland, Norway, Denmark, Iceland and Finland, with more than 14 nurses per 1 000 population. The number of nurses per capita in OECD countries was lowest in Turkey, Mexico and Greece. The number of nurses per capita was also low compared with the OECD average in the emerging economies, such as Indonesia, India, South Africa, and Brazil where there were fewer than 1.5 nurses per 1 000 population in 2013, although numbers have been growing quite rapidly in Brazil in recent years.

The number of nurses per capita increased in almost all OECD countries over the past decade. This was the case in countries that already had a high density of nurses in 2000 such as Switzerland, Norway and Denmark, but also in Korea, Portugal and France which used to have a relatively low density of nurses. The number of nurses per capita declined between 2000 and 2014 only in Israel and the Slovak Republic.

In 2013, there were about three nurses per doctor on average across OECD countries, with about half of the countries reporting between two to four nurses per doctor. The nurse-to-doctor ratio was highest in Finland, Japan, Ireland and Denmark (with at least 4.5 nurses per doctor). It was lowest in Greece (with only about half a nurse per doctor) and in Turkey and Mexico (with only about one nurse per doctor).

There were 47 newly graduated nurses per 100 000 population on average across OECD countries in 2014. The number was highest in Korea, Denmark and Switzerland, and lowest in Mexico, Luxembourg, the Czech Republic, Spain, Turkey, Israel and Italy, with less than half the OECD average. Nurse graduation rates have traditionally been low in Mexico, Turkey, Israel and Spain, four countries which report a relatively low number of nurses per capita. In Luxembourg, nurse graduation rates are also low, but many nurses are foreign-trained.

## Definition

The number of nurses includes all those employed in public and private settings providing services to patients ("practising"), including the self-employed. In those countries where there are different levels of nurses, the data include both "professional nurses" who have a higher level of education and perform higher level tasks and "associate professional nurses" who have a lower level of education but are nonetheless recognised and registered as nurses. Midwives and nursing aids who are not recognised as nurses are normally excluded.

## Comparability

In several countries (France, Greece, Iceland, Ireland, Italy, the Netherlands, Portugal, the Slovak Republic, Turkey and the United States), the data include not only nurses providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc. Data for Chile refer to all nurses who are licensed to practice (less than one-third are professional nurses with a university degree). About half of OECD countries include midwives because they are considered as specialist nurses.

Austria reports only nurses employed in hospitals, resulting in an under-estimation.

## *Sources*

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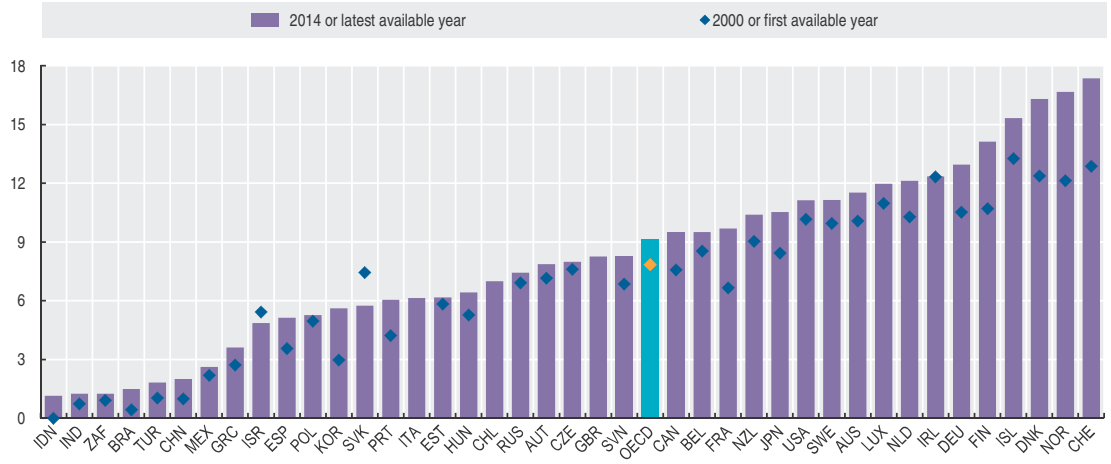
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## Practising nurses

*Per 1 000 inhabitants*




1 2 *http://dx.doi.org/10.1787/888933335283*

## Ratio of nurses to physicians

*2013 or latest available year*




1 2 *http://dx.doi.org/10.1787/888933335801*

## Nursing graduates

*Per 100 000 inhabitants*




1 2 *http://dx.doi.org/10.1787/888933335941*

# HEALTH EXPENDITURE

In most OECD countries, spending on health is a large and growing share of both public and private expenditure. Health spending as a share of GDP had been rising over recent decades but has stagnated or fallen in many countries in the last couple of years as a consequence of the global economic downturn. The financial resources devoted to health care vary widely across countries, reflecting the relative priority assigned to health as well as the diverse financing and organisational structures of the health system in each country.

For a more comprehensive assessment of health spending, the health spending to GDP ratio should be considered together with *per capita* health spending. Countries having a relatively high health spending to GDP ratio might have relatively low health expenditure *per capita*, while the converse also holds.

## Definition

Expenditure on health measures the final consumption of health goods and services (i.e. current health expenditure). This includes spending by both public and private sources (including households) on medical services and goods, public health and prevention programmes and administration, but excludes spending on capital formation (investments). Medical services can be provided in inpatient and outpatient settings or in some cases in day care facilities or at the home of the patient.

## Comparability

OECD countries are at varying stages of reporting health expenditure data according to the definitions proposed in the 2011 manual *A System of Health Accounts* (SHA). While the comparability of health expenditure data has improved recently, some limitations do remain, in particular on the measurement of long-term care expenditure and administrative services.

The data generally refer to current health expenditure and therefore exclude capital formation (investments). However, data for Brazil, China, India, Indonesia, Russia and South Africa include investments. Public and private expenditure for the United Kingdom include investments, whereas total expenditure does not. The Netherlands report compulsory co-payments by patients to health insurers under social security rather than under households' out-of-pocket payments, resulting in an overestimation of the public spending share and an underestimation of the private spending share. In Luxembourg, health expenditure is for the insured population rather than the resident population.

For Australia, Ireland and Luxembourg 2013 data refer to 2012.

### *Overview*

Trends in the health spending-to-GDP ratio are the result of the combined effect of changes in GDP and health expenditure. The 2000s were characterised by a period of health spending growth above that of the overall economy so that health expenditure as a share of GDP rose sharply in many OECD countries. As a result, the average share of GDP allocated to health climbed from 7.2% in 2000 to 8.3% in 2008. The health spending-to-GDP ratio jumped sharply in 2009 to reach 9.0% on average as overall economic conditions rapidly deteriorated but health spending continued to grow or was maintained in many countries. In the context of reducing public deficits, the subsequent reductions in (public) spending on health have resulted in the share of GDP first falling and since stabilising as health expenditure growth has become aligned to economic growth in many OECD countries. In 2013, health spending accounted for 8.9% of GDP on average across OECD countries.

There remain large variations in how much OECD countries spend on health as a share of GDP. In 2013, the share of GDP allocated to health was the largest by far in the United States (16.4%), followed by the Netherlands and Switzerland (both 11.1%). Turkey, Estonia and Mexico spent 6% or less of their GDP on health.

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## Public and private expenditure on health

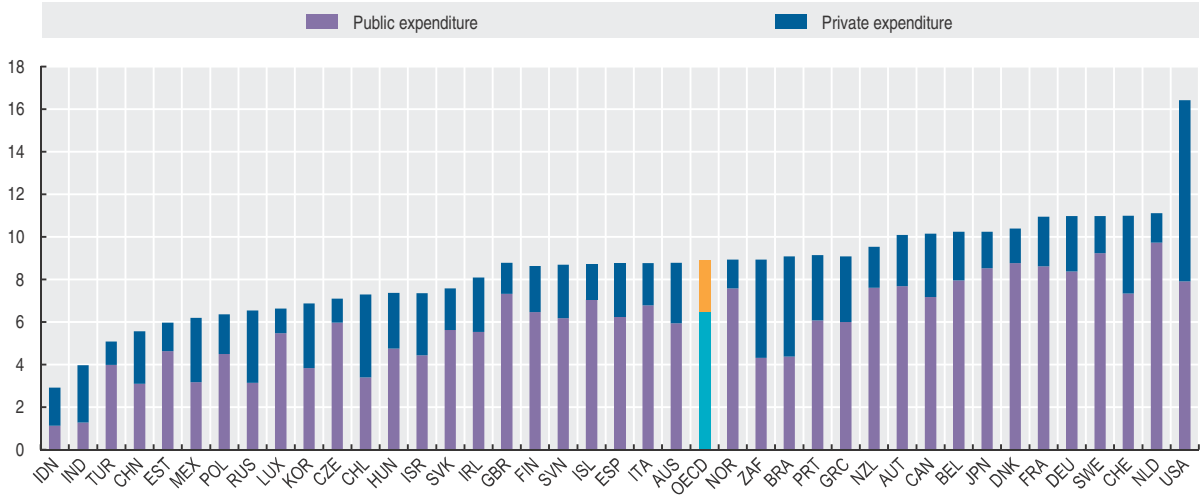
*As a percentage of GDP*

| | Public expenditure | | | | Private expenditure | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2005 | 2010 | 2013 or latest available year | 2000 | 2005 | 2010 | 2013 or latest available year | 2000 | 2005 | 2010 | 2013 or latest available year |
| Australia | 5.2 | 5.5 | 5.8 | 5.9 | 2.4 | 2.5 | 2.7 | 2.8 | 7.6 | 8.0 | 8.5 | 8.8 |
| Austria | 7.0 | 7.2 | 7.7 | 7.7 | 2.3 | 2.4 | 2.4 | 2.4 | 9.2 | 9.6 | 10.1 | 10.1 |
| Belgium | 5.9 | 6.9 | 7.7 | 8.0 | 2.0 | 2.1 | 2.2 | 2.3 | 8.0 | 9.0 | 9.9 | 10.2 |
| Canada | 5.8 | 6.4 | 7.4 | 7.2 | 2.5 | 2.7 | 3.2 | 3.0 | 8.3 | 9.1 | 10.6 | 10.2 |
| Chile | 3.3 | 2.4 | 3.0 | 3.4 | 3.1 | 4.1 | 3.7 | 3.9 | 6.4 | 6.6 | 6.7 | 7.3 |
| Czech Republic | 5.1 | 5.6 | 5.8 | 6.0 | 0.6 | 0.8 | 1.2 | 1.1 | 5.7 | 6.4 | 6.9 | 7.1 |
| Denmark | 6.7 | 7.6 | 8.8 | 8.8 | 1.4 | 1.5 | 1.6 | 1.6 | 8.1 | 9.1 | 10.4 | 10.4 |
| Estonia | 4.0 | 3.8 | 4.9 | 4.6 | 1.2 | 1.1 | 1.3 | 1.3 | 5.2 | 5.0 | 6.1 | 6.0 |
| Finland | 4.8 | 5.7 | 6.1 | 6.5 | 1.9 | 2.0 | 2.1 | 2.2 | 6.7 | 7.7 | 8.2 | 8.6 |
| France | 7.5 | 8.0 | 8.4 | 8.6 | 2.0 | 2.2 | 2.4 | 2.3 | 9.5 | 10.2 | 10.8 | 10.9 |
| Germany | 7.7 | 7.8 | 8.3 | 8.4 | 2.1 | 2.5 | 2.7 | 2.6 | 9.8 | 10.3 | 11.0 | 11.0 |
| Greece | 4.4 | 5.6 | 6.2 | 6.0 | 2.8 | 3.4 | 3.0 | 3.1 | 7.2 | 9.0 | 9.2 | 9.2 |
| Hungary | 4.7 | 5.6 | 5.0 | 4.8 | 2.1 | 2.5 | 2.7 | 2.6 | 6.8 | 8.1 | 7.7 | 7.4 |
| Iceland | 7.3 | 7.4 | 7.1 | 7.1 | 1.7 | 1.7 | 1.7 | 1.7 | 9.0 | 9.2 | 8.8 | 8.7 |
| Ireland | 4.2 | 5.2 | 5.9 | 5.5 | 1.4 | 1.7 | 2.6 | 2.6 | 5.6 | 6.9 | 8.5 | 8.1 |
| Israel | 4.3 | 4.3 | 4.4 | 4.4 | 2.4 | 2.7 | 2.5 | 2.9 | 6.8 | 7.2 | 7.0 | 7.5 |
| Italy | 5.5 | 6.5 | 7.0 | 6.8 | 2.1 | 1.9 | 1.9 | 2.0 | 7.6 | 8.4 | 8.9 | 8.8 |
| Japan | 5.9 | 6.6 | 7.8 | 8.5 | 1.4 | 1.5 | 1.7 | 1.7 | 7.4 | 8.1 | 9.5 | 10.2 |
| Korea | 2.0 | 2.8 | 3.7 | 3.8 | 2.0 | 2.3 | 2.7 | 3.0 | 4.0 | 5.0 | 6.5 | 6.9 |
| Luxembourg | 4.8 | 6.0 | 6.1 | 5.5 | 1.1 | 1.2 | 1.1 | 1.2 | 5.9 | 7.2 | 7.2 | 6.6 |
| Mexico | 2.2 | 2.5 | 2.9 | 3.2 | 2.7 | 3.4 | 3.3 | 3.0 | 4.9 | 5.9 | 6.2 | 6.2 |
| Netherlands | 4.7 | 6.7 | 9.1 | 9.7 | 2.4 | 2.8 | 1.4 | 1.4 | 7.0 | 9.5 | 10.4 | 11.1 |
| New Zealand | 5.8 | 6.6 | 7.9 | 7.6 | 1.6 | 1.7 | 1.9 | 1.9 | 7.5 | 8.2 | 9.7 | 9.5 |
| Norway | 6.3 | 6.9 | 7.5 | 7.6 | 1.4 | 1.4 | 1.4 | 1.3 | 7.7 | 8.3 | 8.9 | 8.9 |
| Poland | 3.6 | 4.0 | 4.6 | 4.5 | 1.6 | 1.8 | 1.8 | 1.9 | 5.3 | 5.8 | 6.5 | 6.4 |
| Portugal | 5.9 | 6.8 | 6.9 | 6.1 | 2.4 | 2.7 | 2.9 | 3.1 | 8.3 | 9.4 | 9.8 | 9.1 |
| Slovak Republic | 4.7 | 5.0 | 5.6 | 5.6 | 0.6 | 1.6 | 2.2 | 2.0 | 5.3 | 6.6 | 7.8 | 7.6 |
| Slovenia | 6.0 | 5.9 | 6.3 | 6.2 | 2.1 | 2.1 | 2.3 | 2.5 | 8.1 | 8.0 | 8.6 | 8.7 |
| Spain | 4.9 | 5.5 | 6.7 | 6.3 | 2.0 | 2.2 | 2.3 | 2.5 | 6.8 | 7.7 | 9.0 | 8.8 |
| Sweden | 6.3 | 6.8 | 6.9 | 9.2 | 1.1 | 1.5 | 1.5 | 1.7 | 7.4 | 8.3 | 8.5 | 11.0 |
| Switzerland | 5.2 | 6.1 | 6.7 | 7.3 | 4.2 | 4.2 | 3.7 | 3.7 | 9.3 | 10.3 | 10.5 | 11.1 |
| Turkey | 2.9 | 3.5 | 4.2 | 4.0 | 1.8 | 1.7 | 1.2 | 1.1 | 4.7 | 5.1 | 5.3 | 5.1 |
| United Kingdom | 5.3 | 6.4 | 7.6 | 7.3 | 1.4 | 1.5 | 1.5 | 1.5 | 6.3 | 7.4 | 8.6 | 8.5 |
| United States | 5.5 | 6.6 | 7.9 | 7.9 | 7.0 | 8.0 | 8.5 | 8.5 | 12.5 | 14.6 | 16.4 | 16.4 |
| EU 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OECD | 5.2 | 5.8 | 6.4 | 6.5 | 2.1 | 2.3 | 2.4 | 2.4 | 7.2 | 8.1 | 8.8 | 8.9 |
| Brazil | 2.8 | 3.4 | 4.1 | 4.4 | 4.2 | 4.8 | 4.6 | 4.7 | 7.0 | 8.3 | 8.7 | 9.1 |
| China | 1.8 | 1.8 | 2.7 | 3.1 | 2.9 | 2.9 | 2.3 | 2.5 | 4.6 | 4.7 | 5.0 | 5.6 |
| India | 1.2 | 1.0 | 1.2 | 1.3 | 3.2 | 3.3 | 2.7 | 2.7 | 4.3 | 4.3 | 3.8 | 4.0 |
| Indonesia | 0.6 | 0.7 | 1.0 | 1.1 | 1.1 | 1.8 | 1.7 | 1.8 | 1.8 | 2.5 | 2.7 | 2.9 |
| Russian Federation | 3.3 | 3.2 | 3.7 | 3.1 | 2.2 | 2.0 | 3.2 | 3.4 | 5.4 | 5.2 | 6.9 | 6.5 |
| South Africa | 3.4 | 3.4 | 4.0 | 4.3 | 4.9 | 5.4 | 4.6 | 4.6 | 8.3 | 8.8 | 8.7 | 8.9 |

1 2 *http://dx.doi.org/10.1787/888933336500*

## Public and private expenditure on health

*As a percentage of GDP, 2013*




1 2 *http://dx.doi.org/10.1787/888933335371*

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