How's Life? 2020

MEASURING WELL-BEING

OECD

OECD Better Life Initiative

How's Life? 2020

MEASURING WELL-BEING

OECD
BETTER POLICIES FOR BETTER LIVES

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Please cite this publication as:
OECD (2020), *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, *https://doi.org/10.1787/9870c393-en*.

ISBN 978-92-64-65467-9 (print)
ISBN 978-92-64-72844-8 (pdf)
ISBN 978-92-64-97671-9 (HTML)
ISBN 978-92-64-78116-0 (epub)

How's Life?
ISSN 2308-9660 (print)
ISSN 2308-9679 (online)

Corrigenda to publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

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Foreword

How's Life? is part of the OECD Better Life Initiative, which aims to promote "Better Policies for Better Lives", in line with the OECD's overarching mission. It is a statistical report released every two to three years that documents a wide range of well-being outcomes and how they vary over time, between population groups, and across countries. This assessment is based on a multi-dimensional framework covering 11 dimensions of current well-being and four different types of systemic resources that help to support well-being over time. This fifth edition of the OECD's *How's Life?* report charts whether life is getting better for people in 37 OECD countries and 4 partner countries, and presents the latest evidence from an updated set of over 80 well-being indicators. For the first time, *How's Life?* 2020 is also accompanied by a publically accessible well-being database, available online at OECD.Stat (http://stats.oecd.org/wbos/default.aspx?datasetcode=HSL).

The report was prepared by the Household Statistics and Progress Measurement Division of the OECD Statistics and Data Directorate. Lead authors for each of the chapters were: Lara Fleischer (Chapter 1, 5, 12 and 16), Anil Aplman and Carlotta Balestra (Chapter 10 and 11), Carrie Exton (Chapter 8 and 14), Hae Ryun Kim (Chapter 3 and 13), Jessica Mahoney (Chapter 6 and 15), Joshua Monje-Jelfs Chapter 9) and Elena Tosetto (Chapter 2, 4 and 7). Lara Fleischer led the project, which was supervised by Carrie Exton, edited by Marco Mira d'Ercole and Martine Durand, and published under the direction of Paul Schreyer. Martine Zaida is the communications coordinator for *How's Life?* and has provided essential support throughout. Christine Le Thi provided excellent statistical support and led the development of the well-being database. Sonia Primot designed the new Well-being Framework diagram featured in this report, and Mayank Sharma created the infographics in the country profiles.

We are grateful to many colleagues around the OECD for their help, comments and insights, either on draft text, or on specific queries. They include, but are not limited to: Willem Adema, Aimée Aguilar Jaber, Christine Arndt-Bascle, Mario Barreto, Simon Buckle, Marie-Clemence Canaud, Philip Chan, Michele Cecchini, Richard Clarke, Paul Davidson, Veronique Feypell, Michael Förster, Pauline Fron, Ivan Hascic, Emily Hewett, Alexander Hijzen, Katia Karousakis, Nicolaas Sieds Klazinga, Sebastian Königs, Maxime Ladaique, Gaetan Lafortune, Myriam Linster, Pascal Marianna, Mauro Migotto, Fabrice Murtin, Stephen Perkins, Marissa Plouin, Sonia Primot, Alexandre Santacreu, Bettina Wistrom, Isabelle Ynesta and Jorrit Zwijnenburg.

The in-house publications and production team consisted of Carmen Fernandez Biezma, Vincent Finat-Duclos, Audrey Garrigoux, Kate Lancaster and Janine Treves while Patrick Hamm provided editorial guidance, and Paul Gallagher provided advice on the executive summary. Anne-Lise Faron prepared and formatted the manuscript for publication. All are very gratefully acknowledged for their work and support.

The report has benefited from helpful comments on early drafts provided by national delegates to the OECD Committee on Statistics and Statistical Policy (CSSP). Their contributions and advice are kindly acknowledged and we hope the resulting product can be useful for their work.

Finally, *How's Life? 2020* has benefitted from several revisions to the OECD Well-being Framework laid out in the working paper "The future of the OECD Well-being Dashboard". We wish to thank all internal and external participants, including the national delegates to CSSP, who participated.

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Reader's guide

On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia appears in the list of OECD Members and is included in the OECD averages reported in this publication, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Conventions

- In each figure, data labelled "OECD" are simple mean averages of the OECD countries displayed, unless otherwise indicated. Whenever data is available for fewer than all 37 OECD countries, the number of countries included in the calculation is specified in the figure (e.g. OECD 33).
- A weighted OECD average (or OECD total) is shown in instances where the OECD convention is to provide this type of average. Where used, this is specified in the figure notes along with details of the weighting methodology. For example, when data are population-weighted this is done according to the size of the population in different countries, as a proportion of the total OECD population. The OECD total considers all the OECD countries as a single entity, to which each country contributes proportionally to the sum.
- In analysis of change over time and trendlines, the OECD averages refer to only those countries with data available for every year shown, since the sample of countries needs to be held constant across all years. Since this means that only countries with a complete time series can be included, this can sometimes lead to different OECD averages for trendlines (shown in Chapter 1) versus the those for the latest and earliest available time points (shown in Reference Chapters 2 to 16).
- Each figure specifies the time period covered, and figure notes provide further details when data refer to different years for different countries. Countries are denoted by their ISO codes (Table 1).
- Data for key partner countries (Brazil, Costa Rica, the Russian Federation, South Africa), where available, are presented in a separate part of the figure to OECD countries.

Table 1. ISO codes for countries and word regions

AUS	Australia	**FIN**	Finland	**MEX**	Mexico
AUT	Austria	**FRA**	France	**NLD**	Netherlands
BEL	Belgium	**GBR**	United Kingdom	**NOR**	Norway
BRA	Brazil	**GRC**	Greece	**NZL**	New Zealand
CAN	Canada	**HUN**	Hungary	**OECD**	OECD average
CHE	Switzerland	**IRL**	Ireland	**POL**	Poland
CHL	Chile	**ISL**	Iceland	**PRT**	Portugal
COL	Colombia	**ISR**	Israel	**RUS**	Russian Federation
CRI	Costa Rica	**ITA**	Italy	**SVK**	Slovak Republic
CZE	Czech Republic	**JPN**	Japan	**SVN**	Slovenia
DEU	Germany	**KOR**	Korea	**SWE**	Sweden
DNK	Denmark	**LTU**	Lithuania	**TUR**	Turkey
ESP	Spain	**LUX**	Luxembourg	**USA**	United States
EST	Estonia	**LVA**	Latvia	**ZAF**	South Africa

How's Life? indicator dashboard

Following a thorough review of the OECD Well-being Framework (Exton and Fleischer, 2020[1]) *How's Life? 2020* features an extended dashboard of over 80 well-being indicators. These reflect the 11 dimensions of current well-being and the four capitals for future well-being of the OECD Well-being Framework. Relative to *How's Life? 2017*, this edition includes new data on the environment, mental health, time use, unpaid work and satisfaction with personal relationships and how time is spent.

Headline indicator selection

For more concise communication and to highlight key findings, Chapter 1 uses three sets of headline indicators: 12 headline indicators of current well-being averages, 12 indicators of current well-being inequalities, and 12 indicators of resources for future well-being (see Chapter 1 Annex).

The headline indicators have been chosen from the extended dashboard to jointly satisfy conceptual and practical criteria to the best possible extent:

- They reflect a balance across all components of the Well-being Framework and include at least one average and one inequality indicator for each dimension of current well-being, and three indicators for each type of capital. The headline inequalities also follow the framework for measuring well-being inequalities introduced in *How's Life? 2017* – i.e. they include examples of gaps between the top and bottom of the distribution ("vertical inequalities"), differences between population groups ("horizontal inequalities") and deprivations (the share of the population falling below a given minimum threshold).
- They frequently appear in various national well-being initiatives led by OECD countries and mirror the strategic priorities emerging from other OECD policy work, indicating some consensus about their importance. For example, the gender wage gap features in many national initiatives and in the OECD Framework for Policy Action on Inclusive Growth (OECD, 2018[2]).
- They perform particularly strongly on a range of statistical quality criteria: many act as broad summary indicators of their respective dimensions, cover the large majority of OECD countries, and are more frequently collected and produced in a timelier manner than other indicators of the extended dashboard. However, much better data exists for some dimensions than for others. For example, some headline indicators for Work-Life Balance and Social Connections come from Time Use surveys that are only conducted every 5-10 years, and only for a subset of OECD countries. By contrast, several indicators for Work and Job Quality come from annually conducted labour force surveys.

The introduction of headline indicator sets for communication purposes should not be interpreted as implying they are more important than other indicators in the extended dashboard, or that this smaller set is sufficient to analyse well-being fully.

Change over time

To identify the areas of well-being which call for closer monitoring and policy attention, it is essential to know with some degree of confidence whether an outcome is genuinely improving or worsening over time. *How's Life? 2020* uses two types of analysis to classify trends (since 2010, unless otherwise indicated):

- For indicators with sufficient time series (a minimum of 3 observations per country), *movement over the entire period* since 2010 is taken into account to detect whether the overall trend is positive or negative. This is because restricting the analysis to change between the start and end points of an indicator (i.e. 2010 and 2018) carries the risk of catching an unusual year and over- or under-estimating actual change. Whenever there are sufficient time series for at least 75% of all countries

for which data exists, *How's Life* therefore uses the Spearman (rank) correlation coefficient between the observed values of each indicator and time (expressed in years). Countries are classified as "**consistently improving**" or "**consistently deteriorating**" if the Spearman correlation is significant at least at the 10% level, and as "**no clear trend**" otherwise

- For indicators with fewer than 3 observations per country for at least 75% of all countries for which data exists, change over time has been assessed as the simple point change between 2010 (or the closest available year) and 2018 (or the latest available year). A country is classified as "improving", "deteriorating" or "no clear trend" with reference to indicator-specific thresholds (Table 2). These thresholds take a number of factors into consideration, including: the total magnitude of change observed among OECD countries, both in absolute unit values and in relative percentage change terms; the univariate distribution of values among OECD countries; and the likely margin of error in the estimated values.

Table 2. Thresholds used to assess changes in well-being for selected indicators

Indicator	Unit of measurement	Threshold
Income and Wealth		
Household wealth	Median net wealth, USD at 2016 PPPs	+/-9 000 USD
Work and Job Quality		
Job strain	Proportion of employees who experience a number of job demands that exceeds the number of job resources	+/-3.0 percentage points
Health		
Deaths from suicide, alcohol, drugs	Combined deaths from suicide, acute alcohol abuse and drug overdose, per 100 000 population	+/-1.9 deaths
Knowledge and Skills		
Student skills	OECD Programme on International Students Assessment (PISA) – mean score for mathematics, reading, and science	Based on confidence intervals provided by the OECD Education Directorate
Subjective Well-being		
Life satisfaction	Mean values on an 11-point scale, with responses ranging from 0 (not at all satisfied) to 10 (completely satisfied)	+/-0.2 scale points
Safety		
Gender gap in feeling safe	Percentage difference that women feel less safe than men when walking alone at night	+/-5.0 percentage points
Work-Life Balance		
Time off	Time allocated to leisure and personal care, hours per day	+/- 20 min
Social Connections		
Social interactions	Time spent interacting with friends and family as primary activity, hours per week	+/- 20 min
Civic Engagement		
Voter turnout	Share of registered voters who cast votes	+/- 3 percentage points
Natural Capital		
Natural and semi-natural land cover	Natural and semi-natural vegetated land cover (tree-covered area, grassland, wetland, shrubland and sparse vegetation) as a percentage of total land area	Any change different from zero
Intact forest landscapes	Square kilometres	Any change different from zero
Human Capital		
Smoking prevalence	Share of people aged 15 and over who report smoking every day	+/-1 percentage point
Obesity prevalence	Share of people aged 15 and older who are obese, either self-reported or measured through health interviews	+/-1 percentage point
Social Capital		
Government stakeholder engagement	0-4 scale, based on the OECD Regulatory Indicators Survey	Any change different from zero
Corruption	Corruption Perception Index score on a scale of 0 (highly corrupt) to 100 (very clean)	Based on confidence intervals provided by Transparency International

Breakdowns considered in inequalities analyses

The education and age ranges considered in the inequalities sections throughout this report have been selected to maximise international comparability with what is readily available in aggregate statistics.

- Education ranges refer to the highest level of education completed.
  - In most cases, they correspond to ISCED levels 0-2 for "below upper secondary" level (i.e. less than primary, primary and lower secondary); 3-4 for "upper secondary" level (i.e. secondary and post-secondary non-tertiary education); and 5-8 for "tertiary" level. For individual country-level mappings to the ISCED 2011 classifications, please see http://uis.unesco.org/en/isced-mappings.
  - Indicators sourced from the Gallup World Poll correspond to: completed elementary education or less (up to eight years of basic education) for "primary" level; completed some secondary education up to three years tertiary education (9 to 15 years of education) for "secondary" level; and completed four years of education beyond "high school" and/or received a four-year college degree for "tertiary" level.
- The age ranges considered can differ between indicators and are reported in the respective figure notes.

References

Exton, C. and L. Fleischer (2020), "The Future of the OECD Well-being Dashboard", *OECD Statistics Working Papers*, No. forthcoming, OECD Publishing, Paris. [1]

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Executive summary

In many ways, life is getting better…

The good news is that well-being has, in some respects, improved relative to 2010 – a year when the impacts of the financial crisis continued to be deeply felt in many OECD countries. We are living longer, safer lives. Across OECD countries, life expectancy has increased by more than one year, with the average baby born today living to over 80 years of age. The OECD average homicide rate has fallen by one-third since 2010, road deaths are down, and people feel safer when walking alone at night in their neighbourhoods. One in eight households live in overcrowded conditions, 3 percentage points fewer than in 2010. Income and jobs are on the rise - with both the employment rate and average household incomes increasing since 2010 by over 5 percentage points. Today, almost eight in every ten adults are in paid employment. Recent surveys suggest people are more satisfied with their lives, relative to how they felt in 2013.

…but different OECD countries face very different realities

How's Life? shows that OECD averages hide as much as they highlight: what is true on average is not always true for every member country - and even less for different population groups within those countries. Even the most persistent "good news story" in this report - the rise in life expectancy – is faltering for some OECD countries where it is plateauing. Since 2010, housing affordability, relative income poverty, voter turnout, and social support have each worsened in roughly as many OECD countries as they have improved. The greatest gains in current well-being have often been concentrated in countries that had weaker well-being at the start of the decade, many of them in eastern Europe. By contrast, resources for future well-being – such as Economic, Natural and Social Capital – have often seen a widening of the gap across OECD countries, with top-performers pulling further away, and problems deepening among those already struggling. While some well-being gains since 2010 have gone hand-in-hand with recent GDP growth, this is far from guaranteed in all cases – especially for health outcomes, inequalities and the environment.

…and insecurity, disconnection and despair affect some parts of the population

Despite some gains in current well-being since 2010, there is still room for much more improvement. Life remains financially precarious in many homes. Almost 40% of OECD households are financially insecure, meaning they would be at risk of falling into poverty if they had to forgo three months of their income. While 12% of the population across the OECD live in relative income poverty, the share of those reporting difficulties making ends meet in European OECD countries is almost twice as high, at 21%. Median household wealth decreased by 4%, on average, since around 2010, in those countries where data exist. One in five low income households spend more than 40% of their disposable income on housing costs – leaving little for life's other essentials.

Quality of life is also about relationships. Across OECD countries, people spend around six hours per week interacting with friends and family – a tiny fraction of the time they spend working, particularly when unpaid household work is factored in. Although few trend data exist in this area, *How's Life? 2020* shows worrying signs of decline, with people spending almost half an hour less with family and friends than they did roughly ten years ago. Moreover, 1 in 11 people say they do not have relatives or friends they can count on for

help in times of need. Older people are almost three times more likely to lack social support, relative to younger people, underscoring the importance of addressing old-age loneliness.

Many also struggle with low emotional well-being and despair: A significant minority of men (12%) and women (15%) experience more negative than positive feelings in a typical day. While life satisfaction has improved on average since 2010, a sizeable share of the population (7%) in OECD countries report very low levels of life satisfaction. In European OECD countries, almost 1 in 15 adults say they experienced depressive symptoms within the last two weeks, such as having little interest in doing things, feeling tired, overeating or having no appetite. Finally, "deaths of despair" from suicide, acute alcohol abuse and drug overdose, while a very small share of overall deaths, have risen in some countries. The OECD average toll of such deaths is three times higher than for road deaths, and six times higher than deaths from homicide.

Inequalities in well-being persist

How's Life? highlights enduring differences by gender, age and education, and between the top and bottom performers in well-being outcomes. For example, while average household incomes have risen, income inequality has barely changed since 2010: people in the top 20% of the income distribution still earn more than five times more than people in the bottom 20%. While women in OECD countries have more social connections, they earn 13% less than men, and every day they work almost half an hour longer when both paid and unpaid work (such as housework and caring responsibilities) are taken into account.

OECD countries with higher average levels of well-being tend to have greater equality between population groups and fewer people living in deprivation. On the whole, people in countries traditionally associated with high well-being, such as Nordic countries, the Netherlands, New Zealand and Switzerland, enjoy both higher levels of current well-being and lower inequalities compared to other countries. Yet some of the most equal countries have experienced little change, or even widening inequalities, in the last decade. Sweden and Denmark, renowned for their high quality of life, have recently experienced rising income inequality, falls in social support and an increase in those reporting very low life satisfaction.

Risks across natural, economic and social systems threaten future well-being

Looking forward, there is no room for complacency. As storm clouds gather on the horizon, mainly from environmental and social challenges, all OECD countries need to take action if they are to maintain today's well-being for future generations. Nearly two-thirds of people in OECD countries are exposed to dangerous levels of air pollution. In 2018 the average OECD resident consumed less carbon than in 2010 but used more of the Earth's materials. Reductions in greenhouse gas emissions (GHG) in the OECD are far from sufficient to meet climate policy goals and, in almost half of OECD countries, more species are at risk of extinction. Household debt in almost two-thirds of the OECD exceeds annual household disposable income and has deepened in a third of member states since 2010. While trust in government has improved by 3 percentage points on average since 2010, less than half of the population across OECD countries trust their institutions, and only 1 in 3 people feel they have a say in what the government does. Women hold just one-third of all seats in OECD parliaments, and hence, inclusive decision-making remains a distant goal.

Overall, recent advances in well-being have not been matched by improvements in the resources needed to sustain well-being over time. From financial insecurity in households, through to climate change, biodiversity loss and threats to how democratic institutions perform their functions, we need to look beyond maximising well-being today. Ensuring continued prosperity for people and the planet will require bold and strategic investments in the resources that underpin well-being in the longer run.

1 How's Life? in OECD countries

In many respects, people's well-being has improved in OECD countries since 2010. However, progress has been slow or deteriorated in some dimensions of life, including how people connect with each other and with their government. Large gaps by gender, age and education persist across well-being outcomes. Generally, OECD countries that do better on average tend to have greater equality between population groups and fewer people living in deprivation. The greatest gains in current well-being have often been concentrated in countries that had weaker well-being at the start of the decade. While these gains have sometimes gone hand in hand with recent GDP growth, this has not always been so, underscoring the need to look beyond GDP when measuring progress. Gains in current well-being have often not been matched by improvements in the resources needed to sustain it over time, with systemic risks emerging across Natural, Human, Economic and Social Capital.

To understand how people and societies are doing, and to design effective public policies to improve well-being, governments need to look beyond the functioning of the economy, to also consider a diverse range of living conditions. For this, we need data and statistics that reflect people's lives in areas such as income, health, life satisfaction, safety and social connections. It requires looking beyond average numbers to understand not only whether life is getting better, but also where it is getting better and for whom. Finally, it requires measuring not just well-being today, but also the resources that will help to sustain well-being into the future.

The OECD Well-being Framework, which charts whether life is getting better for people (Box 1.1), has never been more relevant. Concerns around data gaps, and the absence of statistics which speak to the full range of people's living conditions, were already evident during the decade of moderate GDP growth and low inflation ("the Great Moderation") prior to 2007. The 2008 financial crisis and the ensuing political disruptions, social dissatisfaction and civil unrest in several OECD countries has further amplified the need for better data about people's experiences and circumstances. The United Nations Sustainable Development Goals have brought new impetus to policy efforts to put people, their prosperity, peace, partnerships and the long-term health of the planet at the forefront. The importance of well-being is increasingly being recognised by national governments, several of which have designed well-being frameworks similar to the OECD's. Some OECD governments have also started to develop tools for the integration of people's well-being into their strategic objectives and agenda-setting, policy analysis and budgetary processes (Durand and Exton, 2019[1]; OECD, 2019[2]; Fleischer, Frieling and Exton, 2020[3]).

So, is life getting better for people in OECD countries? *How's Life? 2020* (Box 1.2) shows that well-being has, in some respects, improved relative to 2010, a year when the impacts of the financial crisis were still being felt in most OECD countries. Across the OECD, people now have a higher disposable income and are more likely to be employed. People are also living longer, are more satisfied with their lives and are less likely to inhabit crowded households. Homicide rates have fallen, and in general, people report that they feel safer.

Yet progress has been slow, or has even deteriorated in other areas, many of which pertain to the quality of personal relationships and to how people connect with each other and with their government. These developments call for closer monitoring and, more fundamentally, policy action: income inequality, the share of income that households in OECD countries spend on housing costs, whether people feel supported in times of need, and voter turnout have stagnated since 2010. Household median wealth, students' performance on the Programme for International Student Assessment (PISA) science tests, and the time people spend interaction with friends and family have all decreased. Furthermore, stark differences by gender, age and education persist across most aspects of well-being.

OECD countries that are more successful in terms of achieving high levels of average well-being also evidence greater equality between socio-demographic groups (such as by gender, age or education), and between top and bottom performers in each well-being dimension, and they have fewer people living in deprivation. Generally speaking, people in the countries traditionally associated with high well-being, i.e. the Nordic countries, the Netherlands, New Zealand and Switzerland, enjoy both comparatively higher levels of current well-being and lower inequalities. Yet some of the most equal countries have experienced little change, or even widening inequalities since 2010.

The good news is that many OECD countries that initially evidenced poorer well-being have been catching up in the last decade: these countries, many of them in eastern Europe, have experienced the largest number of improvements across the well-being indicators considered in this chapter, and the largest number of reductions in inequalities since 2010. While some of these well-being gains have gone hand in hand with higher GDP growth, this has not always been the case, underscoring the need to look beyond GDP growth as the sole indicator of progress (Box 1.5).

Looking forward, there is no room for complacency and all OECD countries will need to take a more future-oriented approach in order to sustain the well-being of people and the planet in the longer run. This is

critical given the challenges that OECD governments are currently facing, in particular warnings of prolonged economic stagnation and the potential for further natural and social disruptions ahead (OECD, 2019[4]). There are clear warning signs with respect to both *Economic* and *Natural Capital*, and there has been virtually no progress with respect to *Social Capital* since 2010. For example, government and household debt have deepened in countries where both were already well below the OECD average. Climate change poses a formidable threat to future well-being, with global greenhouse gas emissions from energy use reaching their highest level ever in 2018. OECD countries are consuming more of Earth's materials, per capita, than in 2010, and more species are threatened. Trust in government remains low, and gender parity in politics, while creeping forward, continues to be a distant goal.

Despite these risks to future well-being, there have been some gains in *Human Capital* across the OECD. Since 2010, a growing share of young adults completed upper secondary education (even though performance in test scores points to some declines in the quality of education), fewer workers are unemployed, discouraged or underemployed[1], and premature mortality has been reduced. But overall, countries' advances in current well-being have not always been matched by improvements in resources needed to sustain it over time. In the years to come, OECD countries will need to look beyond maximising well-being today and take a more holistic approach in balancing investments across all facets of well-being.

Box 1.1. The OECD Well-being Framework

How's Life? provides key statistics on whether life is getting better for people living in OECD countries. Current well-being data focus on living conditions at the individual, household and community levels, and describe how people experience their lives "here and now". These data are complemented by statistics on the resources needed to sustain well-being in the future: specifically, via "capitals", countries' investments in (or depletions of) these capitals, and risk and resilience factors that will shape future changes in well-being. Separate reporting of current well-being and its sustainability helps to assess whether maximising the former comes at the cost of compromising the latter (or vice versa), which can inform intertemporal trade-offs in policy design and indicate the intergenerational outlook of a country's well-being.

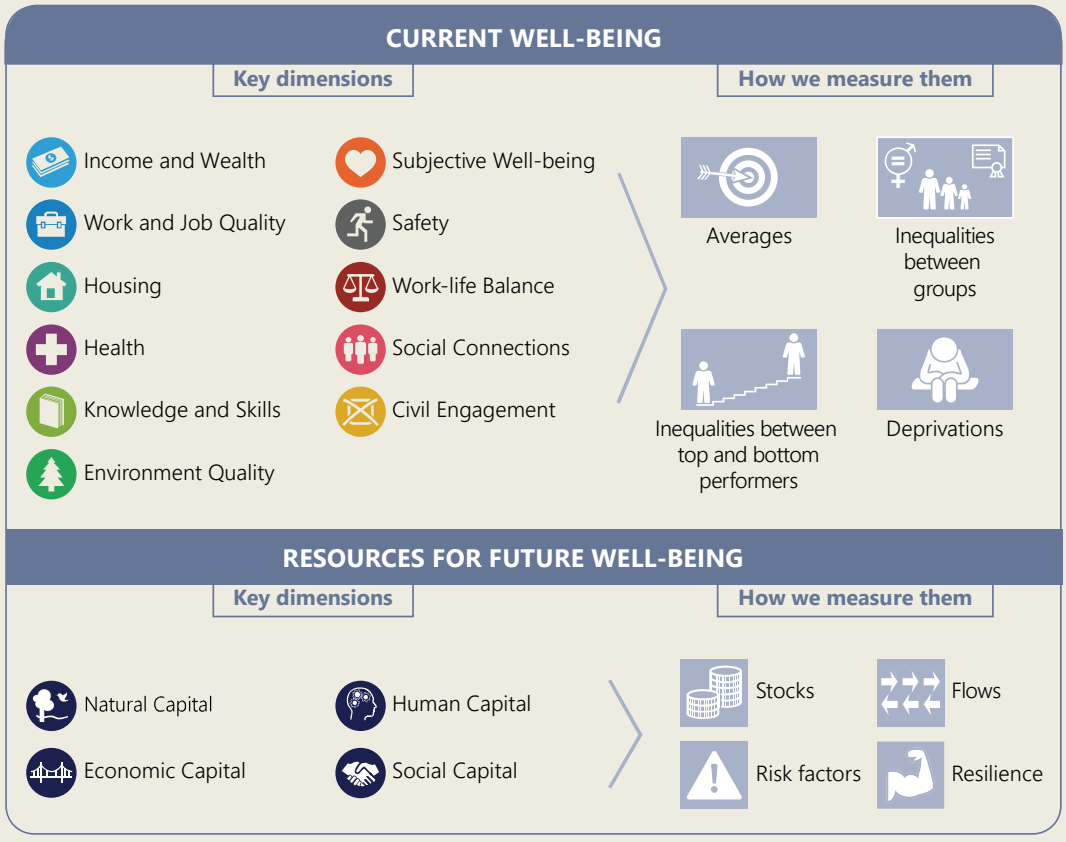
In the OECD Well-being Framework (Figure 1.1), current well-being is comprised of 11 dimensions. These dimensions relate to material conditions that shape people's economic options (*Income and Wealth, Housing, Work and Job Quality*) and quality-of-life factors that encompass how well people are (and how well they feel they are), what they know and can do, and how healthy and safe their places of living are (*Health, Knowledge and Skills, Environmental Quality, Subjective Well-being, Safety*). Quality of life also encompasses how connected and engaged people are, and how and with whom they spend their time (*Work-Life Balance, Social Connections, Civic Engagement*).

As national averages often mask large inequalities in how different parts of the population are doing, the distribution of current well-being is taken into account by looking at three types of inequality: gaps between population groups (e.g. between men and women, old and young people, etc., collectively described as horizontal inequalities); gaps between those at the top and those at the bottom of the achievement scale in each dimension (e.g. the income of the richest 20% of individuals compared to that of the poorest 20%, referred to as vertical inequalities); and deprivations (i.e. the share of the population falling below a given threshold of achievement, such as a minimum level of skills or health).

The systemic resources that underpin future well-being over time are expressed in terms of four types of capital, i.e. stocks that last over time but are also affected by decisions taken (or not taken) today. *Economic Capital* includes both man-made and financial assets; *Natural Capital* encompasses natural assets (e.g. stocks of natural resources, land cover, species biodiversity) as well as ecosystems and their services (e.g. oceans, forests, soil and the atmosphere); *Human Capital* refers to the skills and

future health of individuals; and *Social Capital* refers to the social norms, shared values and institutional arrangements that foster co-operation. Many of these capital stocks and flows stretch well beyond those "owned" by private agents and are, effectively, public goods: for example, an individual's beliefs in how much others can be trusted contributes to the overall atmosphere of interpersonal trust in a country or community, while greenhouse gas emissions in one country influence the world's overall climate. In addition to considering capital stocks and flows, *How's Life?* also highlights some key risk and resilience factors that might affect the well-being value of those stocks and flows in future. For example, household debt poses risks to future economic prospects, while the inclusiveness of decision-making in politics can be a protective factor for well-being.

Figure 1.1. The OECD Well-being Framework



How's Life? over time

How's Life? 2020 is the 5th edition in the series, which started with the launch of the OECD's Better Life Initiative in 2011. Since then the OECD's work on well-being has evolved significantly, with several improvements following a thorough review of the Well-being framework and indicators in 2019 (Exton and Fleischer, 2020[5]). These are reflected in *How's Life 2020* and include a cleaner distinction between well-being today and the resources needed to sustain it in the future (i.e. eliminating the indicator overlap that existed previously between these two categories[2]); the rebranding of some dimensions of current well-being; and the extension of the Well-being Dashboard to over 80 indicators, including new data on the environment, mental health, time use, unpaid work and satisfaction with personal relationships and with how time is spent.

Box 1.2. How to read this book

How's Life? 2020 consists of three parts:

- "How's Life in OECD countries?" – an overview of well-being (Chapter 1)
- Detailed information on each well-being dimension, showing averages, inequalities and changes over time, indicator-by-indicator (Reference Chapters 2 to16)
- Key statistics on well-being performance for each OECD and partner country (country profiles available online-only at http://oecd.org/howslife).

The present chapter presents an overall analysis of well-being trends since 2010, based on a small set of headline indicators. It provides a high-level perspective on the more in-depth evidence provided in the Reference Chapters 2 to 16, which include the full range of results for the more than 80 indicators in the OECD Well-being Dashboard. Readers interested in more information about a specific dimension of well-being, such as Health, can turn to the respective Reference Chapter and find country-by-country data on different health outcomes, how these have changed over time, and how health differs between various groups in society. These chapters also contain information on measurement methods and on the critical data gaps that still need to be filled to provide a more comprehensive picture of people's well-being.

The **headline indicators** used in Chapter 1 have been chosen for more concise communication and to highlight key findings: 12 headline indicators of current well-being averages, 12 indicators of current well-being inequalities and 12 indicators of resources for future well-being (see Annex 1.A). Unless otherwise indicated, Chapter 1 refers only to these headline sets.

How's Life in the OECD?

Income and Wealth, Housing, Work and Job Quality

Material aspects shape people's economic conditions and can have wide-ranging consequences for other aspects of life, such as education and health. Key dimensions are *Income and Wealth*, which together determine people's consumption possibilities; *Housing,* which provides shelter, safety, privacy and personal space; and *Work and Job Quality*, which are about both the availability of job opportunities and people's working conditions in paid employment.

According to 2017 or the latest available data, average annual household income in the OECD is approximately USD 28 000, and median household wealth is around USD 162 000. On average, the 20% of people at the top of the distribution have an annual income which is 5.4 times higher than that of people in the bottom 20%. Households in OECD countries spend just over 21% of their disposable income on housing, and 12% of households live in overcrowded conditions. Almost eight in ten adults aged 25-64 in the OECD are in paid employment. Overall, 7% of paid employees routinely work very long hours (i.e. 50 hours or more each week), and women earn almost 13% less than men annually (Table 1.1).

Table 1.1. Well-being today: Income and Wealth, Housing, Work and Job Quality

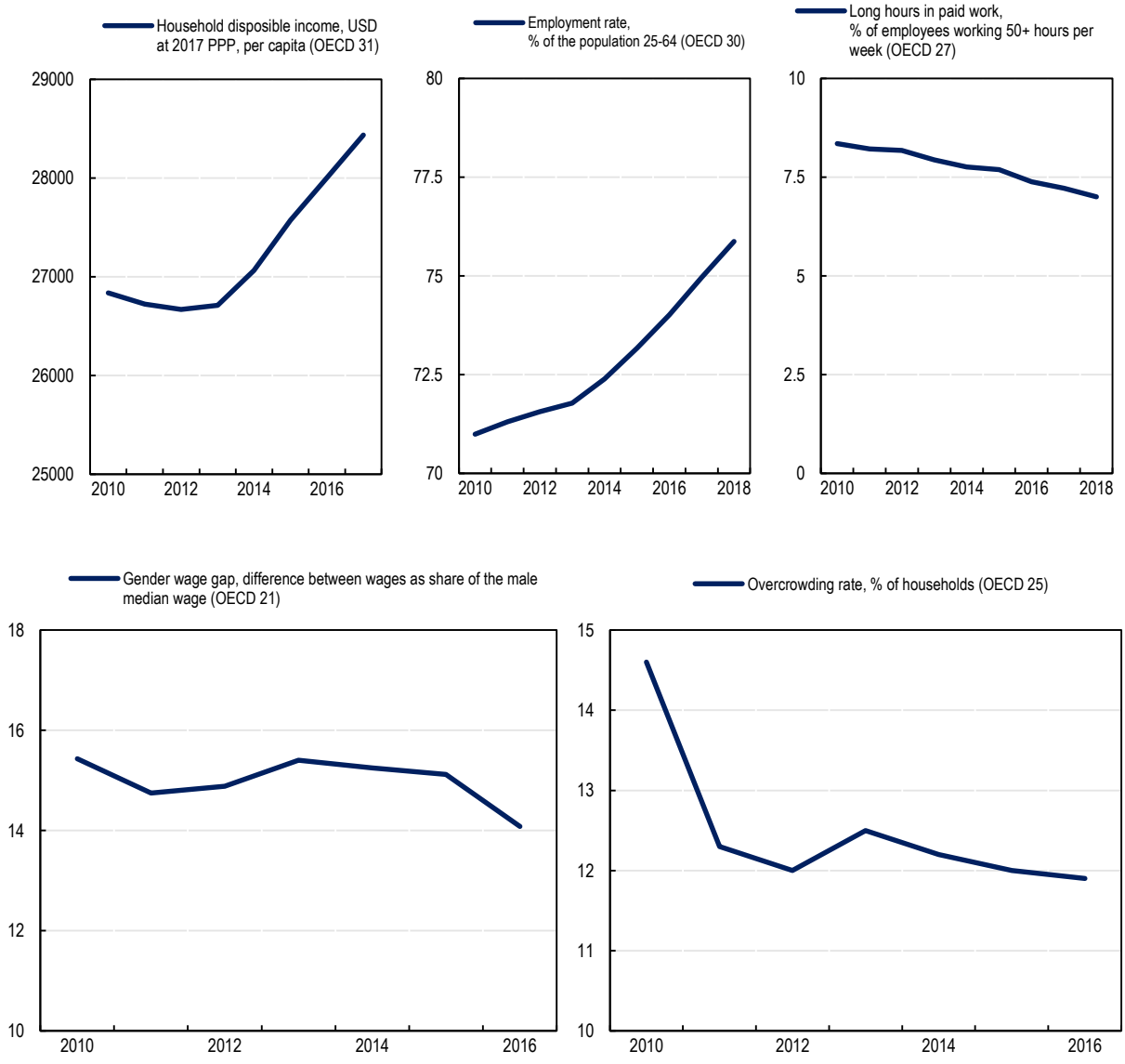
	Headline indicator	Type	OECD average and range, 2018 or latest available year	OECD average change since 2010	No. of countries consistently improving	No. of countries consistently deteriorating
Income and wealth	**Household income** (household net adjusted disposable income, USD at 2017 PPPs*, per capita)	Average	MEX ~16 500; OECD 32 ~ 28 000; USA ~47 500	6%	20	2
	Household wealth (median net wealth, USD at 2016 PPPs)	Average	NLD ~19 500; OECD 18 ~162 000; LUX ~450 000	-4%	3	6
	S80/S20 income share ratio (the household income for the top 20%, divided by the household income for the bottom 20%)	Inequality	CHL, MEX 10.3; OECD 34 5.4; CZE, SVN, SVN 3.6	- 0.03 ratio points	6	11
Housing	**Housing affordability** (share of disposable income remaining after housing costs)	Average	NZL 74; OECD 34 79.2; KOR 89	+0.1 percent. points	11	9
	Overcrowding rate (share of households living in overcrowded conditions)	Inequality	MEX 34; OECD 31 12; IRL 1.4	-2.6 percent. points	10	6
Work and Job Quality	**Employment rate** (employed people aged 25-64, as a share of the population of the same age)	Average	TUR 57; OECD 36 76.5; ISL 87	+4.8 percent. points	31	1
	Gender wage gap (difference between male and female median wages expressed as a share of male wages)	Inequality	KOR 34.6; OECD 12.9; LUX 3.4	-1.2 percent. points	10	2
	Long hours in paid work (share of employees usually working 50+ hours per week)	Inequality	TUR 30; OECD 33 7; CHE 0.4	-1.7 percent. points	16	2

Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: consistent improvement is shown in blue, consistent deterioration in orange, no clear trend in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average (in black, and unless all 37 members are included detailing the number of countries in the average). See Box 1.3 for details on how trends are assessed. * Unpaid work includes routine housework, shopping for goods and services (mainly food, clothing and items related to accommodation), caring for household members (children and adults) and non-household members, volunteering, travel related to household activities and other unpaid work.
Source: OECD calculations, based on the sources listed in Annex 1.A.

Compared to 2010, people in OECD countries have, on average, experienced improvement in some aspects of their material conditions, as several economies recovered from crisis. Specifically, household disposable income and employment rates both picked up between 2013 and 2017, increasing by approximately 6 and 5 percentage points, respectively. The overcrowding rate fell by nearly 3 percentage points, mainly due to a steep drop between 2010 and 2011. Close to one-third of OECD countries made consistent progress on reducing the gap between male and female earnings between 2010 and 2017. However, the average gender wage gap only shrank by only just over 1 percentage point over this time, and at nearly 13% remains far from parity (Figure 1.2).

Figure 1.2. Since 2010, the OECD average improved for household disposable income, the employment rate, the gender wage gap, long working hours and housing overcrowding

OECD average, 2010 to 2018 or latest available year



Note: Due to incomplete time series and/or breaks, the OECD average for household income excludes Chile, Colombia, Iceland, Israel, New Zealand and Turkey; that for the employment rate excludes Chile, Colombia, Germany, New Zealand, Norway, Portugal and Switzerland; that for long hours of paid work excludes Chile, Colombia, Germany, Iceland, Japan, Korea, New Zealand, Norway, Portugal and Switzerland; that for the gender wage gap excludes Chile, Estonia, France, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Slovenia, Spain, Switzerland and Turkey; and that for the overcrowding rate excludes Australia, Canada, Chile, Colombia, Estonia, Germany, Israel, Japan, Korea, Mexico, New Zealand and Turkey.
Source: See Annex 1.A.

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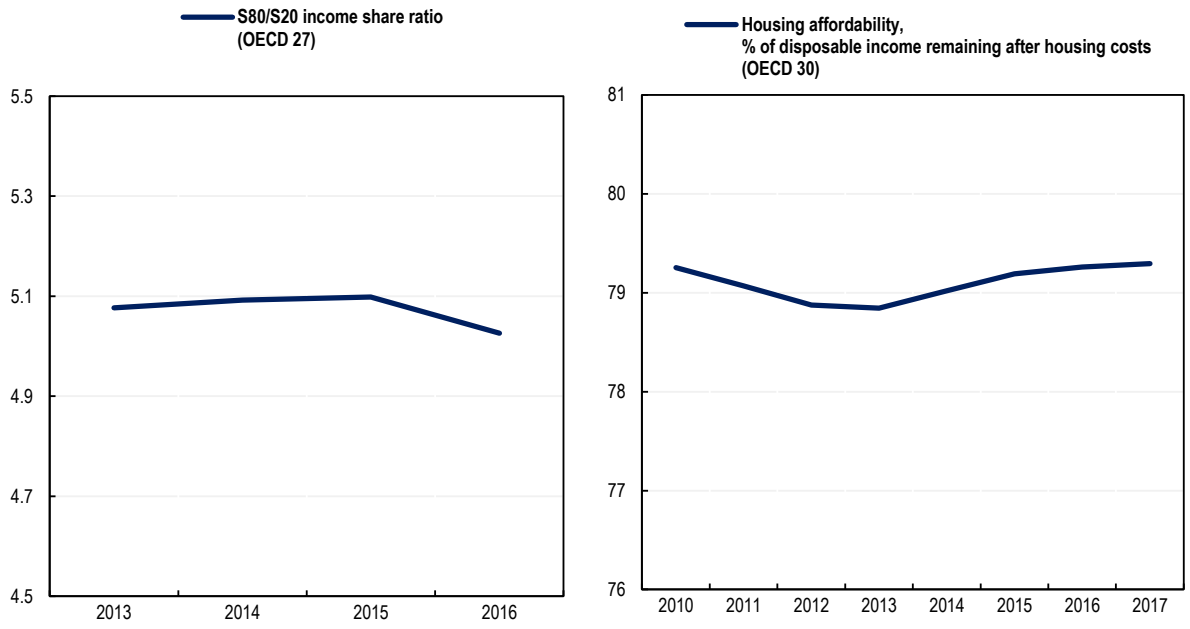
Little progress has been achieved since 2010 with respect to reducing average income inequality or improving housing affordability (despite increasing household incomes) (Figure 1.3). Moreover, for the

15 countries with available data, median household wealth decreased by 4%, on average, since around 2010. In some OECD countries, part of this decrease in household wealth can be attributed to rising house prices (OECD, 2017[6]).

Figure 1.3. Since 2010, there has been no progress in reducing income inequality and improving housing affordability when looking at the OECD average

OECD average, 2010 to 2017 or latest available year



Note: Due to incomplete time series and/or breaks, the OECD average for the S80/S20 income share ratio excludes Australia, Chile, Colombia, Iceland, Japan, Korea, Mexico, New Zealand, Switzerland and Turkey; and that for housing affordability excludes Chile, Colombia, Iceland, Israel, New Zealand, Switzerland and Turkey.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080428

There are key statistics worth highlighting beyond the headline indicators on material conditions shown here (see Reference Chapters 2 to 4). For example, the wealthiest 10% of households own more than half of all household wealth. While 12% of the population in OECD countries live in relative income poverty (based on a threshold of half the national median), the share of those reporting difficulties making ends meet in European OECD countries is almost twice as high (21%). Since 2010, people's ability to make ends meet has improved on average, while relative income poverty remained stable. Meanwhile, more than 1 in 3 people in those OECD countries with available data can be considered as financially insecure, meaning they do not have enough liquid financial wealth to support their household at the income-poverty level for more than three months in the event of an income shock. Among low-income households, around one in five spend over 40% of their disposable income on rent and mortgage costs. Furthermore, 1 in 10 youth (aged 15-24) are not in employment, education or training (compared to the overall employment rate of 76%), a rate that has fallen only slightly (by 2 percentage points) since 2010.

Health, Knowledge and Skills, Environmental Quality, Subjective Well-being, Safety

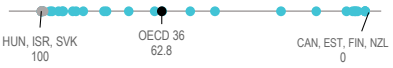
Quality of life is about personal experiences and environmental conditions: how well people are and how well they feel, and how healthy and safe their surroundings are. This includes the well-being dimensions of *Health* (a long life unencumbered by physical or mental illness, and the ability to participate in activities that people value), *Knowledge and Skills* (what people know and can do), *Environmental Quality* (free from pollution and including access to amenities), *Subjective Well-being* (good mental states and how people experience their lives) and *Safety* (freedom from harm).

A newborn in 2017 can expect to live 80.5 years, on average, across all OECD countries. As life goes on, strong education and income-related inequalities come into play: on average, a man aged 25 who has completed tertiary education can expect to live 7.6 years longer than a peer with low education, i.e. no schooling or up to lower secondary educational attainment. In the case of women, the same gap is 4.8 years. On average, approximately one of every eight 15 year-old students has skills below "baseline" levels, meaning they score low in all three subjects of maths, reading and science, as assessed by the OECD's PISA survey. In European OECD countries, 93% of the urban population can walk to a park or other green spaces within 10 minutes of their home. As of 2017, over 60% of the population across all OECD countries are exposed to a level of fine particulate matter ($PM_{2.5}$) air pollution above 10 micrograms/m^3, the threshold considered as harmful to human health by the World Health Organisation (WHO). Across the OECD, the number of deaths due to assault is 2 per 100 000 people, with most of these deaths being young men in the Americas and men aged 30-44 in European and Asian countries (UNODC, 2019[7]). On average in the OECD, men report feeling safer than women: eight in ten men compared with six in ten women say they feel safe when walking alone at night in the neighbourhoods where they live. When people are asked how satisfied they are with their lives on a scale from 0 (not at all satisfied) to 10 (completely satisfied), the average evaluation in OECD countries is 7.4. Approximately 1 in 8 people experience more negative (anger, sadness, worry) than positive (enjoyment, laughing or smiling a lot, well-rested) feelings in a typical day (Table 1.2).

Compared to 2010, homicide rates fell on average by 0.8 deaths for 100 000 people, and the gender gap in feeling safe when walking alone at night narrowed by 3.5 percentage points. Moreover, newborns in OECD countries are expected to live about 1 year and 2 months longer, people aged 15 and over are slightly more satisfied with their lives (compared to 2013), and fewer people are exposed to harmful air pollution (Figure 1.4). However, there are important qualifications: in some countries with already high levels of longevity (such as Iceland, Germany, Greece and the United Kingdom), life expectancy is starting to plateau, and there have been no net gains since 2010 in the United States. Levels of air pollution have decreased by almost 12 percentage points since 2005, but improvements have not always occurred where the situation was most critical: in 10 OECD countries (the Czech Republic, Greece, Hungary, Israel, Korea, Mexico, the Netherlands, Poland, the Slovak Republic and Slovenia) almost the entire population continues to be exposed to dangerous levels of $PM_{2.5}$.

Little progress has been achieved for negative affect balance (the share of the population reporting more negative than positive feelings and states in a typical day), which has remained relatively stable since 2010-12. Student's cognitive skills in science have meanwhile declined overall (Table 1.2).

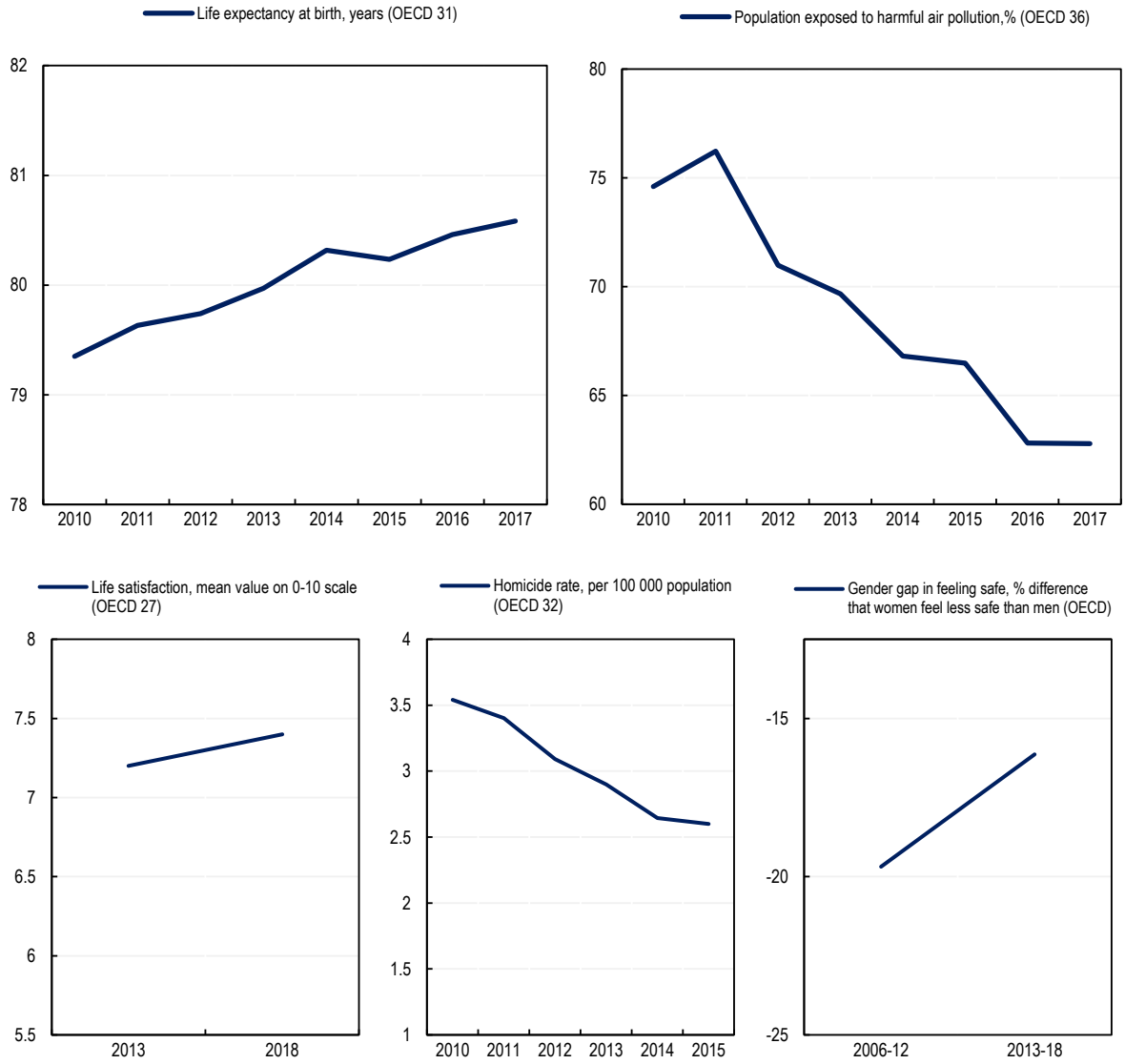
Table 1.2. Well-being today: Health, Knowledge and Skills, Environmental Quality, Subjective Well-being, Safety

	Headline indicator	Type	OECD average and range, 2018 or latest available year	OECD average change since 2010	No. of countries consistently improving	No. of countries consistently deteriorating
Health	**Life expectancy** (number of years a newborn can expect to live)	Average		+14 months (1.5%)	35	0
	Gap in life expectancy by education (among men at age 25)	Inequality		No time series		
Knowledge and Skills	**Student skills in science** (PISA mean scores)	Average			3	18
	Students with low skills (share with low scores in maths, reading and science)	Inequality		No time series		
Environmental Quality	**Access to green space** (share of urban population with access within 10 minutes' walking)	Average		No time series		
	Exposure to outdoor air pollution (share of population > WHO threshold)	Inequality		-11.6 percent. points	32	0
Subjective Well-being	**Life satisfaction** (mean value on a 0-10 scale)	Average		+0.2 scale points	15	2
	Negative affect balance (share of population reporting more negative than positive feelings and states yesterday)	Inequality		-0.1 percent. points	9	8
Safety	**Homicides** (per 100 000 population)	Average		-0.8	18	0
	Gender gap in feeling safe (percentage difference that women feel less safe than men when walking alone at night)	Inequality		-3.5 percent. points	13	0

Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: consistent improvement is shown in blue, consistent deterioration in orange, no clear trend in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average (in black, and unless all 37 members are included detailing the number of countries in the average). See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

Figure 1.4. Relative to 2010, people live longer and have higher life satisfaction, a smaller proportion are exposed to harmful air pollution, and a larger proportion are and feel more safe

OECD average, 2010 to 2018 or latest available year



Note: Due to incomplete time series, methodological differences and/or breaks, the OECD average for life expectancy excludes Colombia, Belgium, Hungary, Luxembourg, Switzerland and Turkey; that for exposure to air pollution excludes Turkey; that for life satisfaction excludes Australia, Colombia, Chile, Ireland, Israel, Japan, Korea, Mexico, Turkey and the United States; and that for the homicide rate excludes Australia, New Zealand, Portugal, the Slovak Republic and Turkey.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080447

Social Connections, Civic Engagement, Work-Life Balance

Quality of life is also about the quality of relationships: how connected and engaged people are, and how and with whom they spend their time. Key dimensions include *Social Connections* (both the quantity and quality of time spent with others, and how supported people feel), *Civic Engagement* (whether or not citizens can and do take part in important civic activities that enable them to shape the society in which they live) and *Work-Life Balance* (being able to balance family commitments, leisure time and work – whether paid or unpaid[3]).

Table 1.3. Well-being today: Social Connections, Civic Engagement, Work-Life Balance

	Headline indicator	Type	OECD average and range, 2018 or latest available year	OECD average change since 2010	No. of countries consistently improving	No. of countries consistently deteriorating
Work-Life Balance	**Time off** (time allocated to leisure and personal care, hours per day)	Average	JPN 14; OECD 22 15; ITA 16.5	-6 minutes/ day for 6 countries (BEL, CAN, ITA, JPN, KOR, USA)	0	0
	Gender gap in hours worked (minutes of paid and unpaid work per day that women work more)	Inequality	ITA 89; OECD 24 25; NOR -24	No time series		
Social Connections	**Social interactions** (hours per week)	Average	JPN 2; OECD 24 6; AUT 9.5	-24 minutes/ week for 7 countries (BEL, CAN, ITA, JPN, KOR, TUR, USA)	0	4
	Lack of social support (share of people who report having no friends or relatives whom they can count on in times of trouble)	Inequality	GRC 21.7; OECD 8.6; ISL 2.4	0.2%	9	10
Civic Engagement	**Voter turnout** (share of registered voters who cast votes)	Average	CHL 47; OECD 69; AUS* 91	-0.5 percent. points	8	7
	Having no say in government (share of people who feel they have no say in what the government does)	Inequality	LTU 12; OECD 31 45.5; SVN 74	No time series		

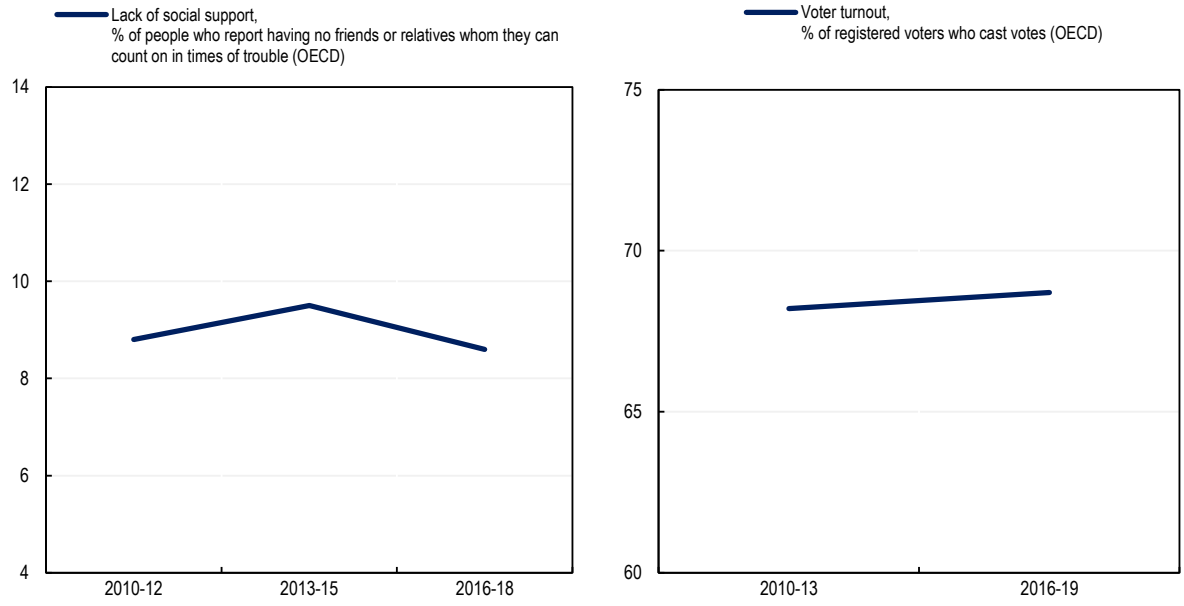
Note: The snapshot depicts data for 2019, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: consistent improvement is shown in blue, consistent deterioration in orange, no clear trend in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average (in black, and unless all 37 members are included detailing the number of countries in the average). See Box 1.3 for details on how trends are assessed.* for voter turnout signifies compulsory voting.
Source: OECD calculations, based on the sources listed in Annex 1.A.

On average across OECD countries, people spend approximately 6 hours per week in social interactions (such as talking with family members or going out with friends[4]). Overall, almost 1 in 10 people express a lack of social support, i.e. say they do not have relatives or friends they can count on for help in times of need. Nearly 70% of the population registered to vote cast a ballot in the last election, but almost half (46%) of people report feeling they have no say in what their government does. Full-time employees have on average 15 hours per day of "time off" – i.e. time spent on leisure and personal care (including sleep). If both paid and unpaid work are taken into account, women work longer hours than men in almost every OECD country, on average by almost 25 minutes per day, or 12.5 hours per month (Table 1.3).

The overall trend across these relational dimensions is stable or slightly negative, in contrast with the tendency towards improvement for well-being indicators related to material conditions and the individual-level aspects of quality of life. Trends in time use for many relational facets of well-being are not available for most countries, however, with only six OECD countries (Belgium, Canada, Italy, Korea, Japan and the United States) having conducted at least two time-use surveys over the past two decades. The data that are available show that, among these countries, people's time off for leisure and personal care has not increased since the mid-2000s. Meanwhile, average weekly time spent in social interactions has fallen by 20 minutes or more in four of these countries: by around half an hour in Canada, Italy and the United States, and by a little more than 40 minutes in Belgium (Table 1.3). The average share of people lacking social support and voter turnout in OECD countries have remained stable since 2010-13 (Figure 1.5).

Figure 1.5. Feelings of lacking social support and voter turnout have changed little, on average

OECD average, 2010 to 2019 or latest available year



Source: See Annex 1.A.

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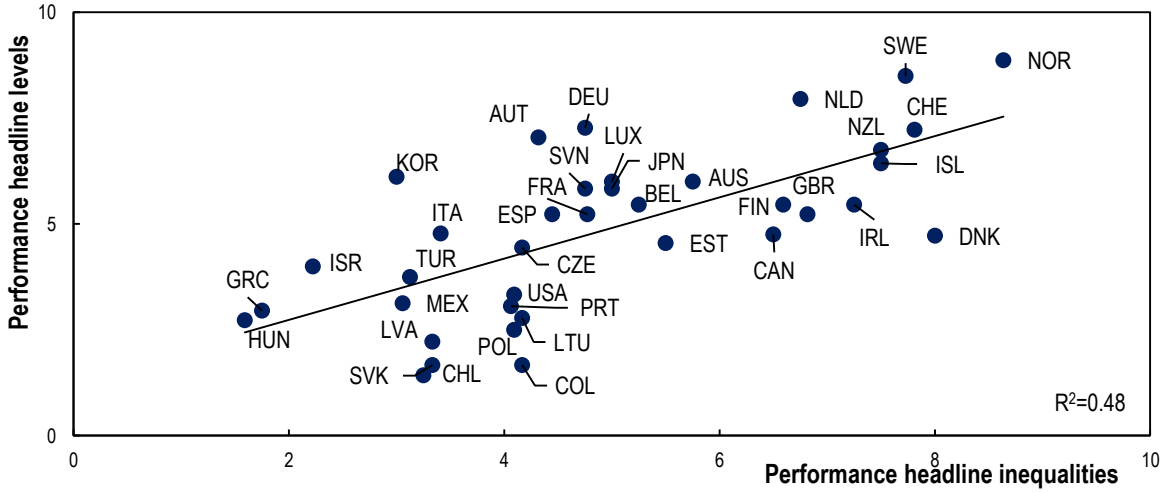
In which countries is life getting better or worse?

Across the headline indicators considered here, OECD countries with higher average current well-being also tend to be more equal, i.e. they have a lower share of people who are deprived, and there are smaller gaps in the distribution of well-being outcomes and fewer differences between population groups (Figure 1.6). Generally speaking, people in the Nordic countries, the Netherlands, New Zealand and Switzerland enjoy both comparatively higher levels of current well-being and lower inequalities. On the other hand, people in eastern European and Latin American countries as well as Turkey and Greece experience relatively lower levels of current well-being and are exposed to comparatively deeper inequalities. There are exceptions: Denmark performs better on inequalities compared to its well-being levels, while Austria, Korea and Germany are relatively unequal, given their average well-being scores.

Figure 1.6. Countries with greater average well-being also tend to be more equal

Comparative performance on current well-being averages and inequalities, 2018 or latest available year (with missing data excluded)



Note: OECD countries' performance in terms of average well-being levels are based on 12 headline indicators: household disposable income, household median wealth, housing affordability, employment rate, life expectancy, student skills in science, access to green spaces, life satisfaction, homicide rate, time off, social interactions and voter turnout. Performance in terms of inequalities in current well-being are based on 12 headline indicators: S80/S20 income ratio, overcrowding rate, gender wage gap, long hours in paid work, gap in life expectancy by education among men at age 25, students with low skills, exposure to air pollution, negative affect balance, gender gap in feeling safe, gender gap in hours worked, share of the population lacking social support and share of the population with no say in what the government does. To assess their comparative performance, OECD countries are "scored" based on the values of each indicator in 2010 or the earliest available year (0 for the bottom third of the OECD league, 5 for the middle third and 10 for the top third).Scores are then averaged within dimensions (applying equal weights to each indicator), before then being averaged across dimensions (applying equal weights to each dimension). Missing data points are excluded from each country's score, implying that scores may be under- or over-estimated in the case of data gaps.
Source: OECD calculations, based on the sources listed in Annex 1.A.

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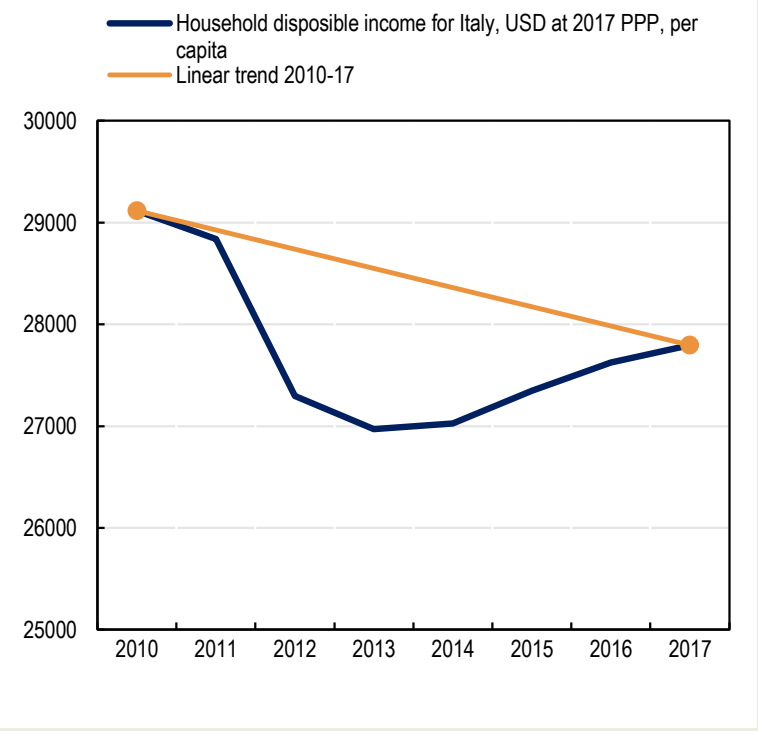
Average trends for the OECD area as a whole often mask what happens at the country level. When considering member states' development since 2010, it becomes clear that no country has consistently improved, or consistently deteriorated, in every aspect of current well-being captured by the headline indicators (Box 1.3). Rather, there are visible differences in well-being stories.

Box 1.3. Assessing trends in well-being: A note on methodology

To identify the areas of well-being which call for closer monitoring and policy attention, it is essential to know with some degree of confidence whether an outcome is genuinely improving or worsening over time. How's Life? 2020 uses two types of analysis to classify trends:

- For indicators with sufficient time series (a minimum of 3 observations per country), *movement over the entire period* since 2010 is taken into account to detect whether the overall trend is positive or negative. This is because restricting the analysis to change between the start and end points of an indicator (i.e. 2010 and 2018) carries the risk of catching an unusual year and over- or under-estimating actual change. Whenever there are sufficient time series for at least 75% of all countries for which data exists, *How's Life* therefore uses the Spearman (rank) correlation coefficient between the observed values of each indicator and time (expressed in years). Countries are classified as "**consistently improving**" or "**consistently deteriorating**" if the Spearman correlation is significant at least at the 10% level, and as "**no clear trend**" otherwise. Figure 1.7 illustrates this: Even though household disposable income in Italy was lower in 2017 than in 2010, it has actually declined for 3 years over this period and increased for 4. The results of the Spearman method thus render this as "no clear trend".

Figure 1.7. Italy's household disposable income, 2010-17



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- For indicators with insufficient time series (i.e. fewer than 75% of all countries for which data exists have at least 3 observations), change over time has been assessed as the simple point change between 2010 (or the closest available year) and 2018 (or the latest available year). A country is classified as "improving", "deteriorating" or "no clear trend" with reference to indicator-

specific thresholds (Table 1.4). These thresholds take a number of factors into consideration, including the total magnitude of change observed among OECD countries (both in absolute unit values and in percentage terms), the univariate distribution of values among OECD countries, and the likely margin of error in the estimated values.

Limitations

Missing data limit the ability to fully assess changes over time in many countries and underscores the need for more frequent collection of official well-being statistics. For example, more than half of OECD countries (23) have insufficient information to determine trends for at least one-third of the 12 headline indicators for averages in current well-being. Half of these metrics are missing for Australia, Iceland, Turkey and New Zealand, and almost 60% for Colombia and Israel. There are even more gaps in terms of inequalities in current well-being, where all OECD countries are missing information for at least one-third of the 12 headline indicators. For some headline measures, no OECD country has more than one data point: access to green space, gaps in life expectancy by education, the share of students with low skills, the gender gap in hours worked, and the share of people who feel they have no say in what the government does. Across the wider OECD well-being dataset (Reference Chapters 2 to 16), there are many more gaps that hinder meaningful analysis.

Table 1.4. Thresholds for assessing change in well-being headline indicators with insufficient time series

Indicator	Unit of measurement	Threshold
Income and Wealth		
Household wealth	Median net wealth, USD at 2016 PPPs	+/-9 000 USD
Knowledge and Skills		
Student skills in science	PISA mean scores	Based on confidence intervals provided by the OECD Education Directorate
Subjective Well-being		
Life satisfaction	Mean value on a 0-10 scale	+/-0.2 scale points
Safety		
Gender gap in feeling safe	Percentage difference that women feel less safe than men when walking alone at night	+/-5.0 percentage points
Work-Life Balance		
Time off	Hours per day	+/-20 min
Social Connections		
Social interactions	Hours per week	+/-20 min
Civic Engagement		
Voter turnout	Share of registered voters who cast votes	+/-3 percentage points

Trends in average well-being headline indicators since 2010, by country

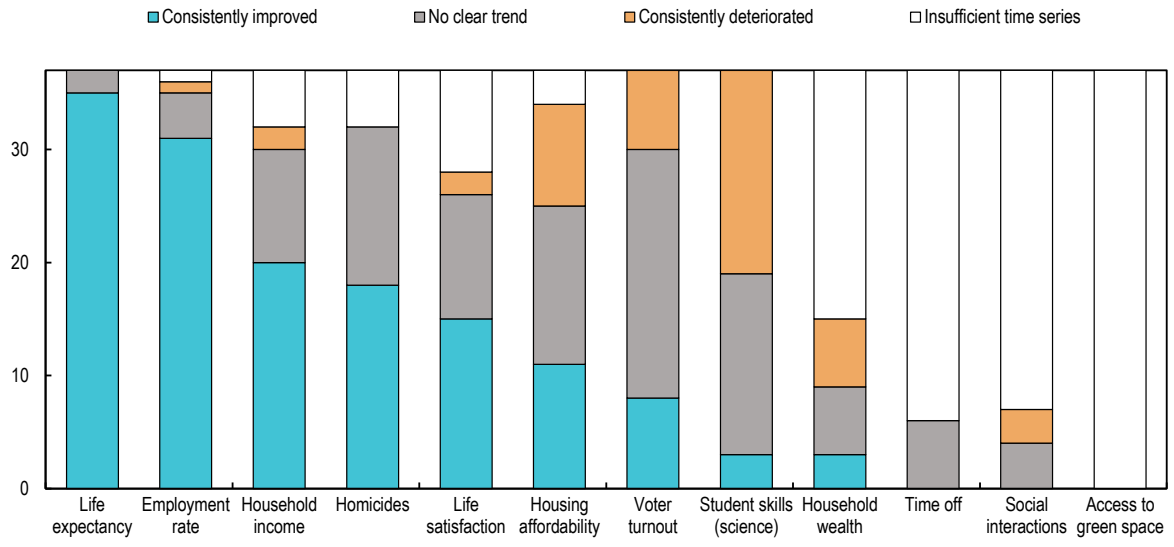
Across most of the headline indicators of current well-being, average scores have either improved or shown no clear change since 2010 (Figure 1.8). Life expectancy, employment rates and disposable household income have consistently improved for more than half of OECD countries. Norway is the only country for which employment rates have significantly declined, and Austria and Greece are the only two countries with consistent falls in household net adjusted disposable income. Homicide rates have consistently declined in 18 out of 37 OECD countries, and life satisfaction has risen for 15 out of 27 OECD countries. In other aspects, trends diverge: relative to 2010-12, most OECD members experienced no clear change

for voter turnout while, among the remaining countries, there were increases in eight but falls in seven (with Latvia and Slovenia experiencing drops exceeding 10 percentage points). Housing affordability has improved in 11 OECD countries, but consistently worsened in 10. In Finland, Ireland and Portugal, households now spend over 2 percentage points more of their income on housing than they did in 2010.

Several outcomes worsened between 2010 and 2018 for a majority of OECD countries with available data. For example, students' scores on the PISA science tests have significantly deteriorated for a slight majority of OECD countries. Among the subset of countries with available information, household median wealth fell in twice as many countries as where it improved. In Greece, median household wealth decreased by 40% since 2010. No OECD country has improved in terms of time use, i.e. the time spent on leisure and personal care, or on social interactions compared with 2010 or the latest available year. Indeed, the amount of people's time spent in social interactions has fallen by around half an hour in Canada, Italy and the United States, and by a little over 40 minutes in Belgium.

Figure 1.8. Only a few well-being averages have deteriorated

Trends for headline indicators of current well-being averages since 2010, per number of OECD countries



Note: See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

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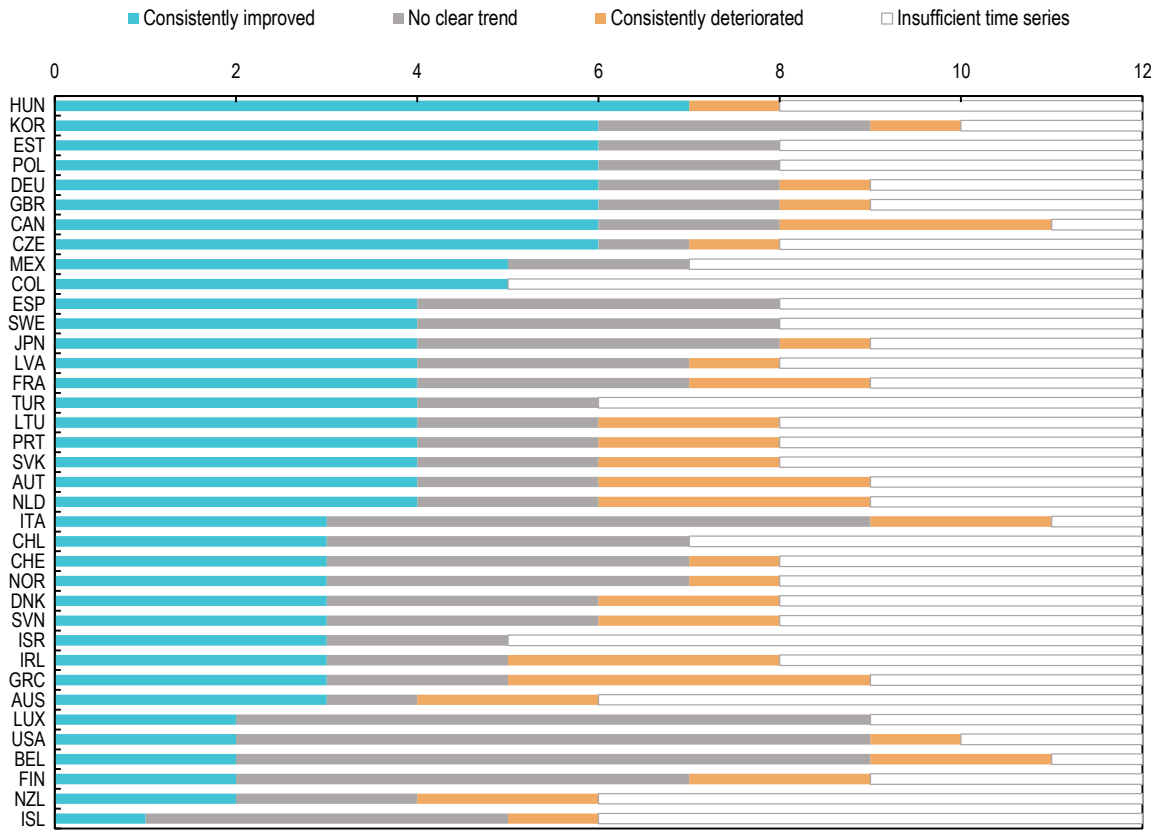
Canada, the Czech Republic, Estonia, Hungary, Korea, Germany, Poland and the United Kingdom experienced the highest number of gains in current well-being averages (i.e. the largest number of headline indicators improving since 2010) (Figure 1.9). Some of these top performers, e.g. Germany, started from a position of comparatively high well-being in 2010. But often progress has been concentrated among those countries that started from a lower baseline level, and therefore have more room to rise (Figure 1.10). For example, Hungary is the only OECD country where more than half of well-being averages improved: household disposable income, the employment rate, housing affordability, life expectancy, life satisfaction and voter turnout have all risen, while homicide rates have fallen. Nevertheless, Hungary remains in the bottom third of the OECD on these indicators, as does the other top improver, Poland (Figure 1.6).

On the other hand, the countries with the lowest number of gains in well-being since 2010 include Belgium, Finland, Iceland, Luxembourg, New Zealand and the United States (Figure 1.9). While generally strong performers on average well-being, in Iceland only the employment rate steadily rose, while in New Zealand only household incomes and life expectancy consistently improved.[5]

Figure 1.9. Hungary is the only OECD country where more than half of all well-being averages improved

Trends for headline indicators of current well-being averages, relative to 2010



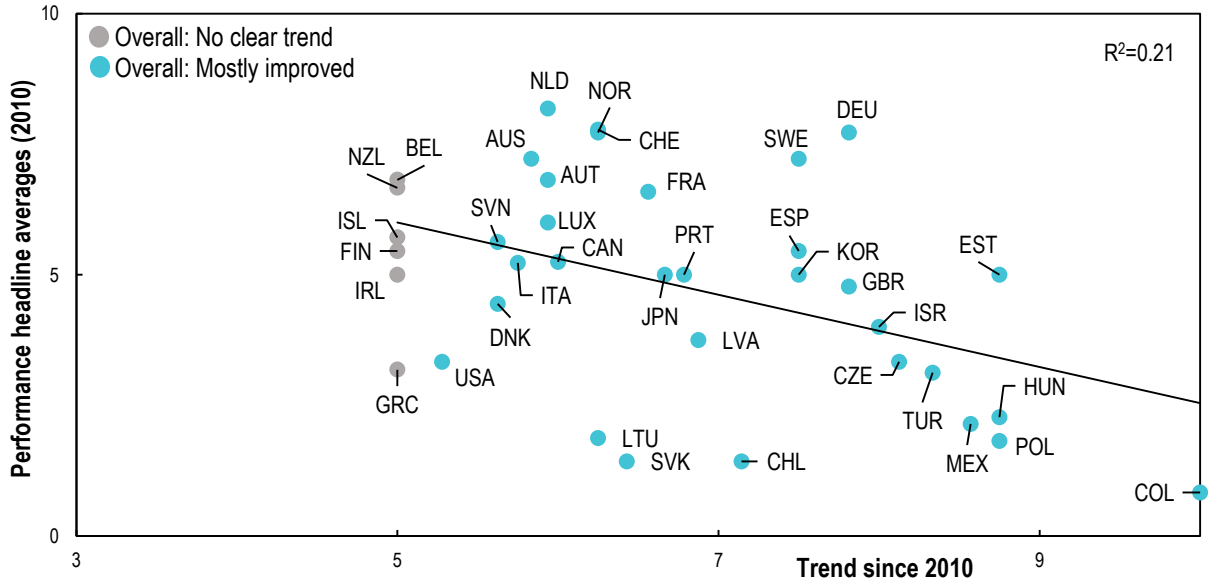
Note: Sufficient information on changes over time is available for the majority of OECD countries on the following headline indicators: household adjusted disposable income, household median wealth, housing affordability, employment rate, life expectancy, student skills in science, life satisfaction, homicide rate, time off, social interactions and voter turnout. No data on changes over time are available for access to green space, thus all countries are marked as missing. See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

StatLink https://doi.org/10.1787/888934080542

Positive developments in some aspects of life do not automatically translate into improvements in others. For example, while Canada is among the top OECD countries that have improved across half of their headline indicators of average well-being, the share of income that households devote to housing costs, students' cognitive skills in science, and time spent interacting with friends and family have all deteriorated there since 2010. Greece experienced the largest number of falls in average well-being (Figure 1.9), with a consistent worsening since 2010 in student skills, voter turnout, disposable income and median household wealth.

Figure 1.10. OECD countries with lower average well-being in 2010 have been catching up

Comparative performance on headline indicators for current well-being averages in 2010 (or earliest available year) and trends since then (with missing data excluded)



Note: OECD countries' performance in terms of current well-being levels are based on 12 headline indicators: household disposable income, household median wealth, housing affordability, employment rate, life expectancy, student skills in science, access to green spaces, life satisfaction, homicide rate, time off, social interactions and voter turnout. Time series since 2010 are available for all indicators except access to green spaces. To assess their comparative performance, OECD countries are "scored" based on the values of each indicator in 2010 or the earliest available year (0 for the bottom third of the OECD league, 5 for the middle third and 10 for the top third). To assess trends since 2010 (or the earliest available year), countries are "scored" with 0 when indicators have been consistently deteriorating, 5 in the case of no clear change and 10 when indicators have been consistently improving. See Box 1.3 for details on how trends are assessed. Both comparative performance and trend-over-time country scores are first averaged within dimensions (applying equal weights to each indicator), and then averaged across dimensions (applying equal weights to each dimension). Missing data are excluded from the analysis, implying that scores may be under- or over-estimated in the case of data gaps.
Source: OECD calculations, based on the sources listed in Annex 1.A.

StatLink https://doi.org/10.1787/888934080561

Trends in inequalities in well-being headline indicators since 2010, by country

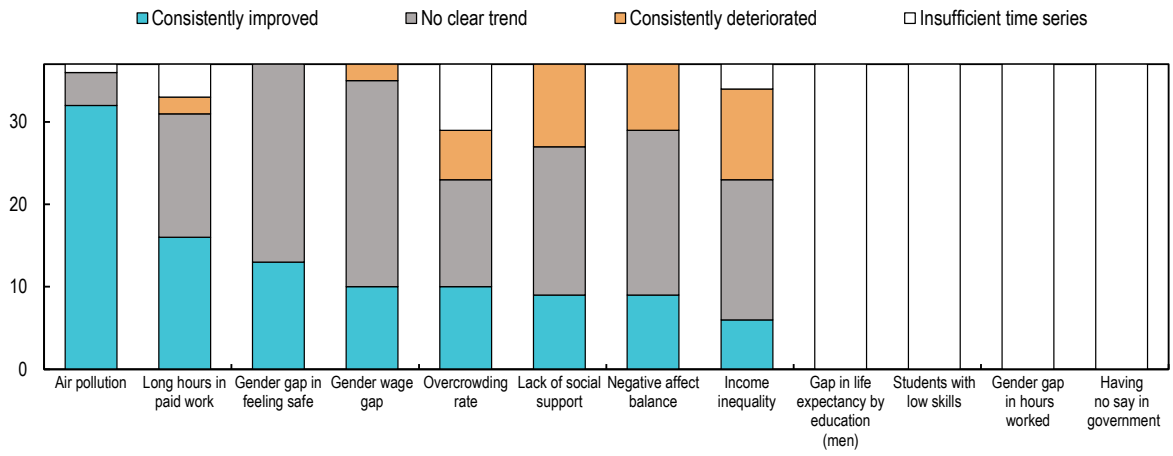
In contrast to the overall rise in current well-being, OECD countries have been somewhat less successful at reducing inequalities, with progress across the board less evident (Figure 1.11). The share of employees regularly working long hours and exposure to harmful air pollution are the only headline measures in which most (i.e. half or more) OECD countries have consistently reduced the level of deprivation since 2010. Yet while 32 countries consistently reduced exposure to fine particulate matter ($PM_{2.5}$) in 10 OECD countries (the Czech Republic, Greece, Hungary, Israel, Korea, Mexico, the Netherlands, Poland, the Slovak Republic and Slovenia) almost the entire population continues to be exposed to dangerous levels.

For all other inequalities in the headline set, the typical pattern is one of "no clear change". Often, the patterns for the subset of countries that do show a consistent trend since 2010 point in different directions. For example, the share of people lacking social support has risen in roughly as many countries (9) as where it has declined (10). One of these countries is Greece, where almost 1 in 5 people say they have no one to count on for help in times of need. At the same time, while 5 OECD countries have consistently reduced the income gap between the richest and poorest 20% of the population since 2010, this measure

of income inequality has increased in over twice as many countries as it has declined (11). Compared to other OECD countries, it increased most – by over 30% – in Lithuania, where the richest 20% of the population now earn almost 8 times more than the bottom 20%.

Figure 1.11. Most headline indicators of well-being inequalities display no clear trend

Trends for headline indicators of inequalities in current well-being since 2010, per number of OECD countries



Note: See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

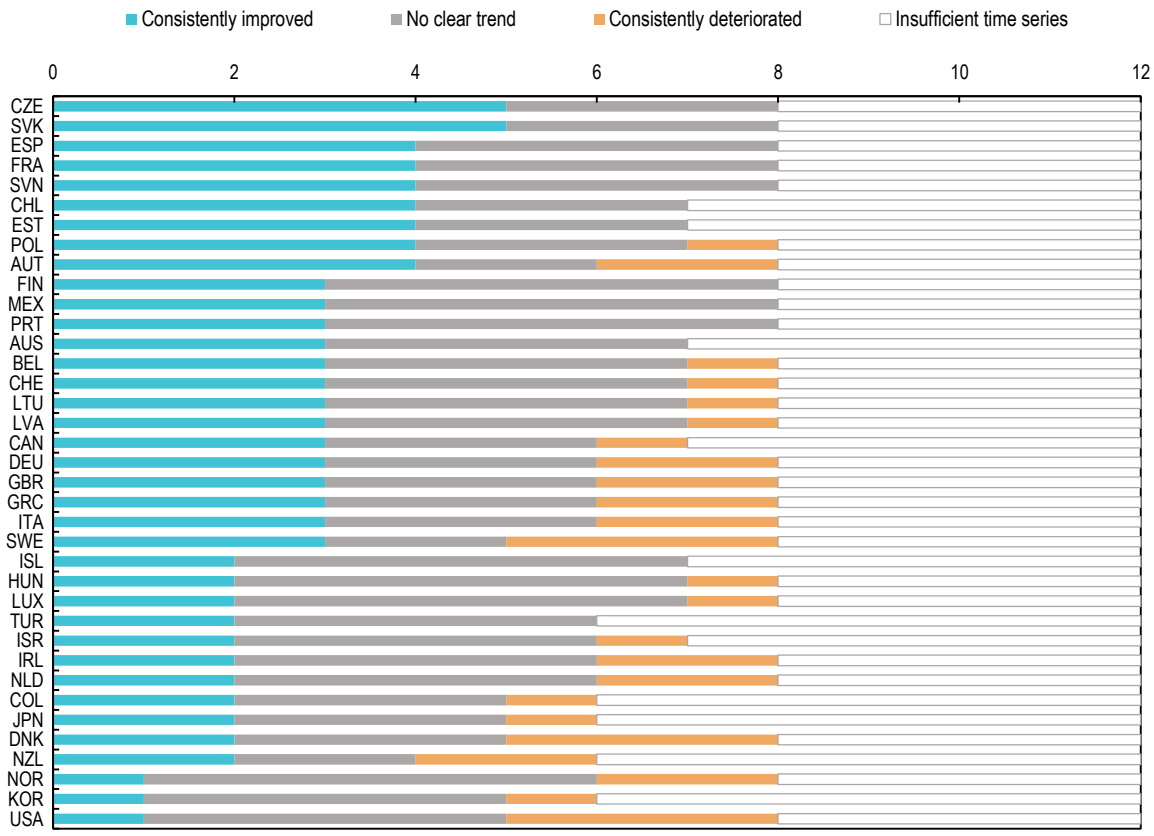
StatLink https://doi.org/10.1787/888934080580

Relative to other OECD countries, the Czech Republic and the Slovak Republic made good progress in reducing inequalities, with 40% of indicators consistently improving between 2010 and 2018 (Figure 1.12). In both countries, the share of employees working long hours, the number of households living in overcrowded conditions, and those reporting more negative than positive feelings and states (or those with a negative affect balance) have fallen. In addition, income inequality and air pollution fell in the Czech Republic, while the gender gap in feeling safe when walking alone at night narrowed, and there are fewer people expressing lack of social support in the Slovak Republic.

By contrast, Korea, Norway and the United States each consistently improved in only one type of inequality since 2010: gender gaps in feeling safe in Korea and exposure to harmful air pollution in Norway and the United States. Inequalities have widened on the largest number of headline measures (3 in total) in Denmark, Sweden and the United States. In all three countries, a consistently larger share of households now live in overcrowded conditions, and more people feel they have no one to ask for help in times of need. In addition, the two Nordic countries have also seen consistently higher income inequality, while in the United States the share of the population reporting more negative than positive feelings in a typical day steadily increased.

Figure 1.12. Among OECD countries since 2010, the Czech Republic and the Slovak Republic reduced the largest number of inequalities

Trends for headline indicators of inequalities in current well-being, relative to 2010



Note: Sufficient information on changes over time in vertical inequalities is available for the S80/S20 income ratio, and in the case of horizontal inequalities for the gender wage gap and the gender gap in feeling safe, and in the case of deprivations for the overcrowding rate, long hours in paid work, exposure to $PM_{2.5}$ air pollution rates above WHO threshold levels, negative affect balance, and the population share lacking social support. No data on changes over time are available for the gap in life expectancy by education among men aged 25, for the gender gap in hours worked, for students with low skills and for the share of people without say in government. See Box 1.3 for details on how trends are assessed.

Source: OECD calculations, based on the sources listed in Annex 1.A.

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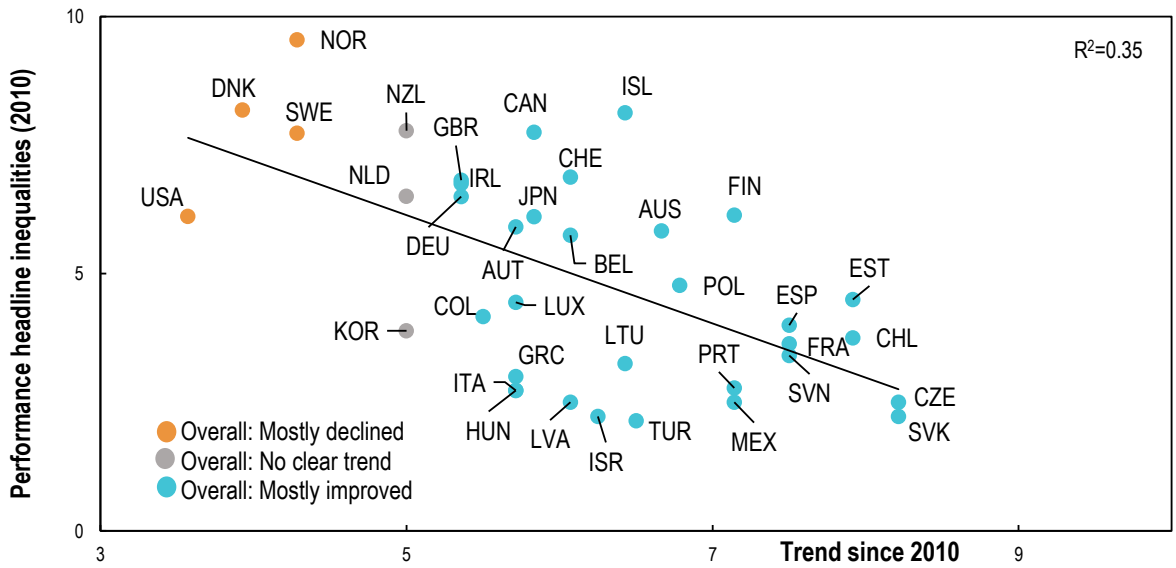
The countries with the largest number of improvements in inequalities since 2010 are sometimes those where the gaps were widest in the first instance (Figure 1.13). For example, while income inequality has steadily narrowed in Mexico, the richest 20% still earn ten times more than those at the bottom of the income distribution – the highest level of income inequality among OECD countries, alongside Chile. Likewise, Japan's gender wage gap has contracted since 2010, but remains within the bottom third of OECD countries.

At the other end of the spectrum, some of the Nordic and Anglophone countries that have traditionally fared very well on international comparisons of inequality experienced a fall in their rankings. For example, when taking into account both improvements and areas of no clear change, Denmark, Norway and Sweden (although top performers in terms of both inequalities and average well-being) have overall become less equal since 2010, together with the United States. Similarly, New Zealand and the Netherlands have overall stagnated in terms of inequality reduction when all headline inequalities are considered together.

Figure 1.13. Some of the most equal countries have experienced little change, or even widening inequalities, since 2010

Comparative performance on headline indicators of inequalities in current well-being (2010 or earliest available year) and trends since then (with missing data excluded)



Note: OECD countries' performances in inequalities are based on 12 headline indicators: S80/S20 income ratio, overcrowding rate, gender wage gap, long working hours in paid work, gap in life expectancy by education among men aged 25, students with low skills, exposure to air pollution, negative affect balance, gender gap in feeling safe, gender gap in hours worked, share of the population lacking social support and share of the population without say in what the government does. No time series to determine trends since 2010 are available for the gap in life expectancy by education among men aged 25, the gender gap in hours worked, students with low skills and share of people without say in government. To assess their comparative performance, OECD countries are "scored" based on the values of each indicator in 2010 or the earliest available year (0 for the bottom third of the OECD league, 5 for the middle third and 10 for the top third). To assess trends since 2010 (or the earliest available year), countries are "scored" with 0 when indicators have been consistently deteriorating, 5 in the case of no clear change and 10 when indicators have been consistently improving. See Box 1.3 for details on how trends are assessed. Both comparative performance and trends-over-time country scores are first averaged within dimensions (applying equal weights to each indicator), and then averaged across dimensions (applying equal weights to each dimension). Missing data are excluded from the analysis, implying that scores may be under- or over-estimated in the case of data gaps.
Source: OECD calculations, based on the sources listed in Annex 1.A.

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Who has a good life?

Inequalities are about going beyond averages and zooming in on "who gets what?" Horizontal inequalities highlight the well-being achievements and disadvantages faced by different groups (e.g. women and men, and people of different ages and education).

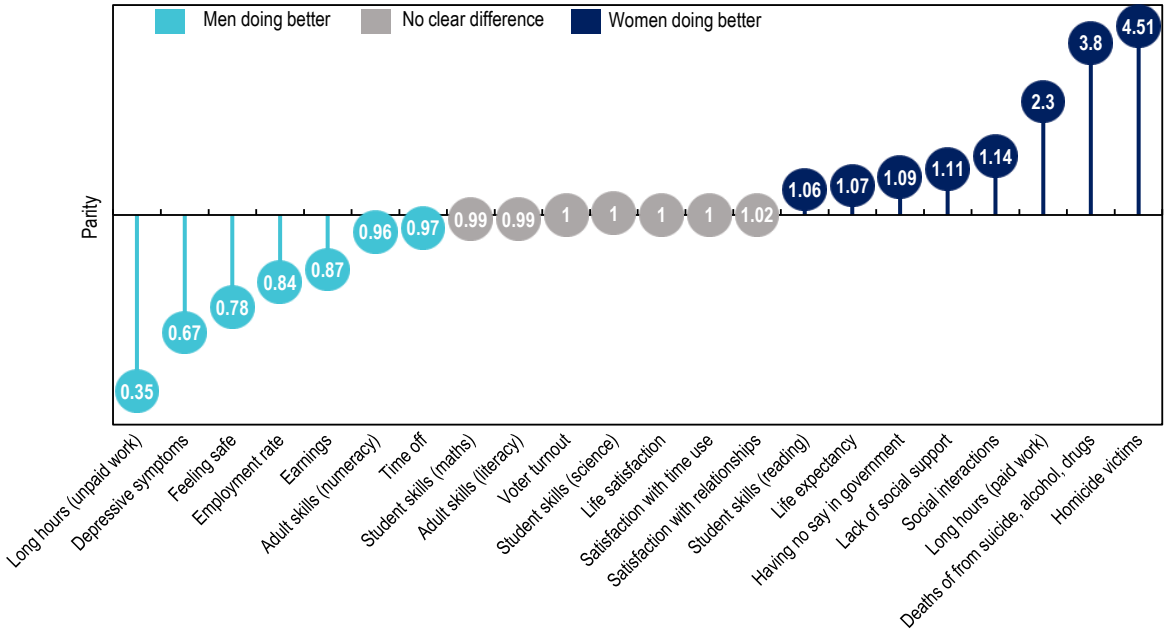
Well-being inequalities between women and men

Average differences between women and men for life satisfaction, voter turnout, time off, and adults' skills in reading and numeracy are generally very small (Figure 1.14). In 2018, 15 year-old girls and boys achieved similar test scores in maths and science – a first since the launch of OECD's PISA studies in 2000 – while girls continue to slightly outperform boys in reading (see Reference Chapter 6).[6]

There are large gender differences in experiences of work. Men are more likely to be employed – the OECD average employment rate is 83% for men versus 70% for women – and earn 13% more. However, men are also more than twice as likely to work long hours regularly (50 or more hours per week). Yet, when both paid and unpaid work (i.e. time spent doing routine housework, care work for children and adults, shopping for goods and services for the household, and travel related to household activities) are taken into account, women work longer hours than men in almost every OECD country, on average by almost 25 minutes per day, or 12.5 hours per month (see Reference Chapter 10). Indeed, in every OECD country, men with a paid job spend longer hours at work than women do (90 minutes more per day on average), but even in the most equal countries with available data, women systematically spend longer hours than men in unpaid work (around 2 hours more per day for the OECD average). Even in countries where gender differences in time spent on paid work are small (e.g. Estonia), women still do the lion's share of unpaid work. On the other hand, population-wide measures of satisfaction with time use (among people aged 16 or over) show few clear gender differences, and their direction differs across countries.

Figure 1.14. Women in OECD countries have more social connections and are less likely to die due to homicide or a death of despair than men, but they also earn less and work more unpaid hours

OECD average gender ratios (distance from parity)



Note: Earning gaps refer to hourly earnings; voter turnouts are based upon people's self-reports. "No clear difference" between men and women is defined as gender ratios within 0.03 points distance to parity.
Source: OECD calculations, based on the sources listed in Reference Chapters 2 to 12.

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In terms of social connections, men spend on average 40 minutes less per week in social interactions relative to women, and are 10% more likely to say they lack social support. Experiences of safety also contrast strongly between women and men: on the one hand, men in OECD countries are 4.5 times more likely to die due to assault, mainly reflecting the high values observed in Colombia (where men are more than ten times more likely than women to be homicide victims) and Mexico (where the same ratio is above

eight). On the other hand, on average eight in ten men but only six in ten women report feeling safe when walking alone at night, possibly reflecting women's greater risk of contact crimes and sexual assault.

Regarding health, newborn girls can expect to live on average five years longer than boys. Men are also around four times more likely to die from "deaths of despair" (i.e. fatalities from suicide and acute substance abuse). Nevertheless, compared to 2010, deaths of despair among women are on the rise, having increased in one-third of OECD countries. Overall, the OECD toll of deaths of despair for both genders – while still a small share of overall deaths – is three times higher than road deaths, and six times higher than deaths from homicide (see Reference Chapter 5).

Well-being inequalities by age

In all OECD countries, there are notable well-being differences between younger people (aged 15-24/29), the middle-aged (aged 25/30 to 45/50) and older people (aged 50 and over) (Figure 1.15). On average, younger people are more satisfied with their lives and are just over half as likely to lack social support compared to their middle-aged peers. Gaps in well-being outcomes related to work and time-use partly reflect life cycle factors and labour market experiences of different age groups: middle-aged people are twice as likely to be employed (employment rates are 81% for middle-aged people compared to 41% for young adults) and earn on average USD 8 (at 2018 PPPs) more per hour. Meanwhile, they are also almost 50% more likely to work very long hours in paid employment, and time off is lowest during middle age. For the 13 OECD countries with available and harmonised data, younger and older full-time employed people enjoy, on average, around 50 and 25 additional minutes of time off per day, respectively, compared to those aged 30-49. Across age groups, those aged 30-49 are also the least satisfied with how they spend their time (see Reference Chapter 10).

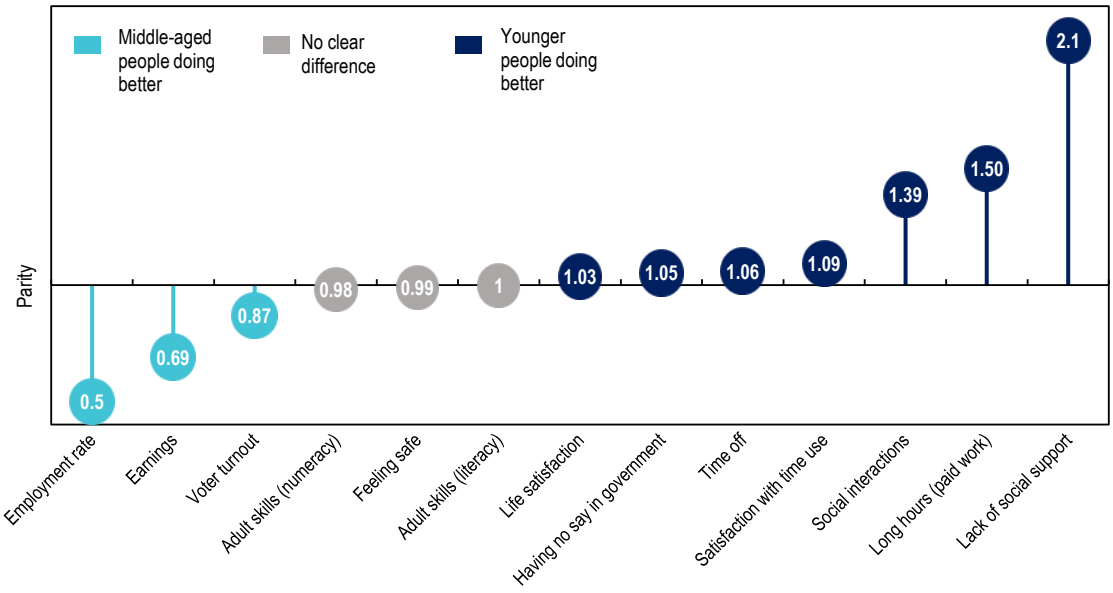
Voter turnout among older people (people aged 50 and over) is 17 percentage points higher than among younger people, with elderly people also faring better in the labour-market related aspects of well-being (i.e. being employed and earning more). However, younger people score better on skills tests and are more satisfied with their lives, and a larger share report that they feel safe when walking alone and night and that they have a say in what the government does (though patterns for the latter vary, depending on the country – see Reference Chapter 12). Older people are almost three times more likely than young people to say they have no friends or family members to turn to for help in case of an emergency, underscoring the importance of addressing old-age loneliness.

Well-being inequalities by education

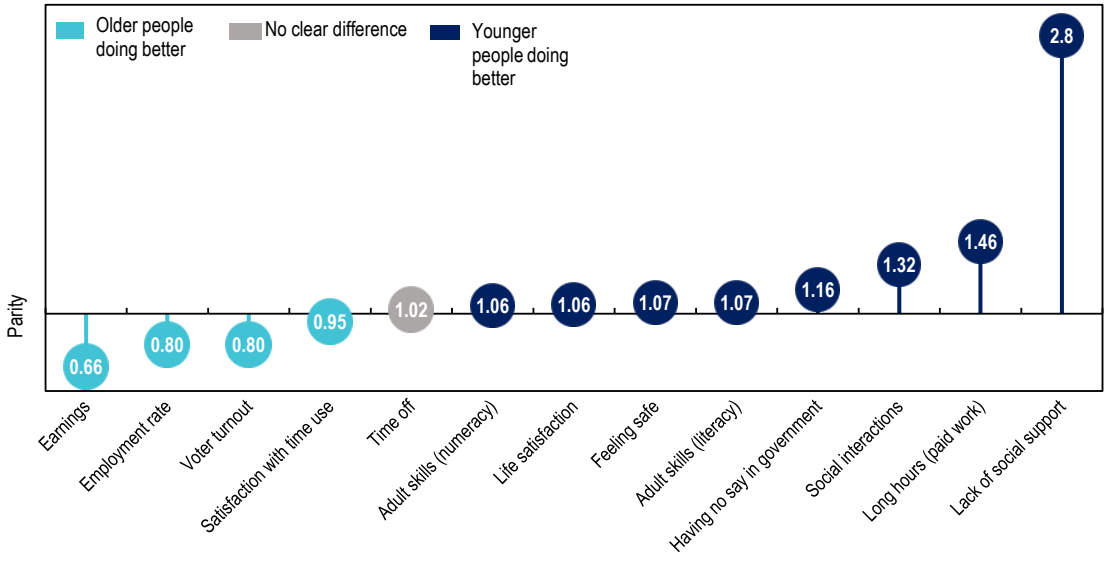
Positive returns to education and the individual characteristics and socio-economic circumstances of those who pursue higher degrees can translate into better well-being outcomes. People who completed tertiary education fare better in most areas of well-being compared to those with only an upper-secondary education, with the exception of regularly working long hours in paid employment (Figure 1.16). For example, voter turnout among more educated people is more than 6 percentage points higher, and 43% of people with a tertiary degree feel they have a say in what the government does compared to only 32% among their less educated peers.

Figure 1.15. Younger people in OECD countries fare worse than older and middle-aged people in work-related outcomes, but have more social connections and time off

A. OECD average age ratios (distance from parity) for younger people relative to their middle-aged peers



B. OECD average age ratios (distance from parity) for younger people relative to their older peers



Note: Earning gaps refer to hourly earnings; voter turnout refers to people' self-reports. No clear difference between age groups is defined as gender ratios within 0.03 points distance to parity. Several indicators display distinct age patterns (e.g. earnings, the employment rate), even if the data used here do not allow distinguishing between genuine age differences and differences between different birth cohorts at the same age. Age ranges differ according to each indicator and are only broadly comparable: Young people are those aged 15 to 24 for the employment rate, long hours from paid work and voter turnout; 16 to 24 for adult skills and share of people without say in what the government does; and 15 to 29 for earnings, life satisfaction, feeling of safety, time off, social interactions and lack of social support. Middle-aged people are those aged 25 to 44 for adult skills and share of people without say in government; 25 to 54 for the employment rate, long hours in paid work and voter turnout; and 30 to 49 for earnings, life satisfaction, feeling of safety, time off, social interactions and lack of social support. Older people are those aged 45 to 64 for adult skills and share of people without say in government; 50 to 64 for earnings; 55 to 65 for employment rate and long hours in paid work; 50 and over for life satisfaction, feeling of safety, time off, social interactions; and 54 and over for voter turnout.
Source: OECD calculations, based on the sources listed in Reference Chapters 2 to 12.

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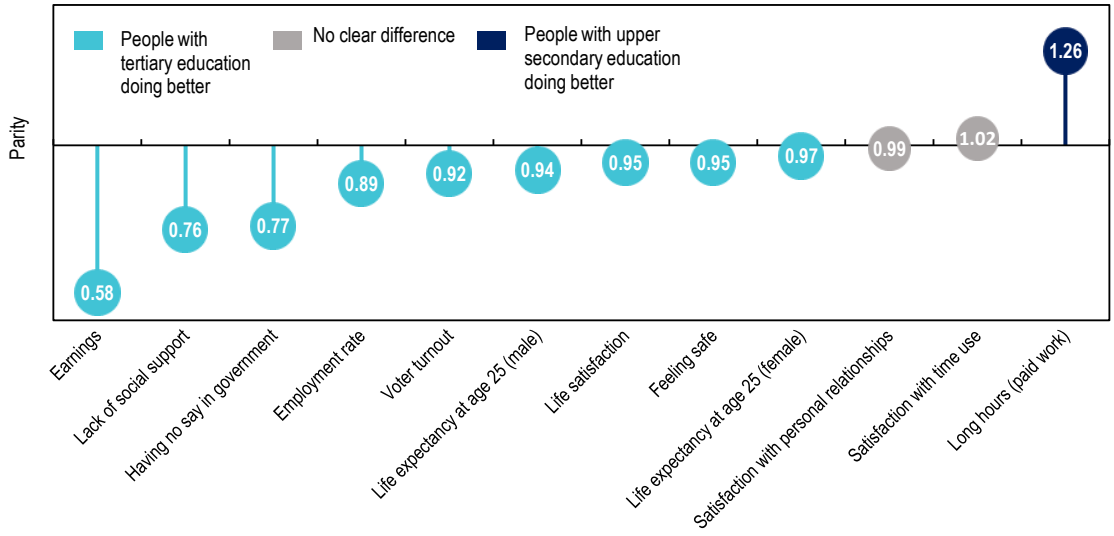
Figure 1.16. More educated people do better in most areas of well-being except long working hours

OECD average education ratios (distance from parity)



Note: Earning gaps refer to hourly earnings; voter turnout refers to people' self-reports.
Source: OECD calculations, based on sources listed in Reference Chapters 2 to 12.

StatLink https://doi.org/10.1787/888934080675

How sustainable is well-being going forward?

Good lives for all can only last over time if the resources that sustain well-being are maintained, and if risks to the economic, natural and societal systems are recognised and appropriately managed (Box 1.4). Overall, trends since 2010 indicate progress for *Human Capital*, several causes for concern in *Natural Capital*, and room for improvement in *Economic* and *Social Capital. Economic Capital* includes both man-made and financial assets; *Natural Capital* encompasses natural assets (e.g. stocks of natural resources, land cover, species biodiversity) as well as ecosystems and their services (e.g. oceans, forests, soil and the atmosphere); *Human Capital* refers to the skills and future health of individuals; and *Social Capital* refers to the social norms, shared values and institutional arrangements that foster co-operation.

Developments in *Economic Capital* headline indicators since 2010 have generally been positive, yet slow. The OECD average of stock of produced fixed assets (such as buildings, machinery and infrastructure) per person is close to USD 119 000 (Table 1.5), having increased by nearly 11% cumulatively between 2010 and 2018 – though at an annual pace that is significantly lower than the one recorded in previous years (2005-10). While government financial liabilities exceed financial assets to the tune of 27 percentage points of GDP in 2018, households had debt equivalent to 126% of their disposable income in 2017. The average financial net worth of OECD governments fell by 4 percentage points of GDP overall since 2010, having declined sharply up to 2014 (when liabilities exceeded assets by over 30% of GDP) and only partially recovering since then. Over the same period, household debt has fallen by around 3 percentage points of household income for OECD countries on average (Figure 1.17), though 13 countries have seen indebtedness rise.

Table 1.5. Resources for future well-being

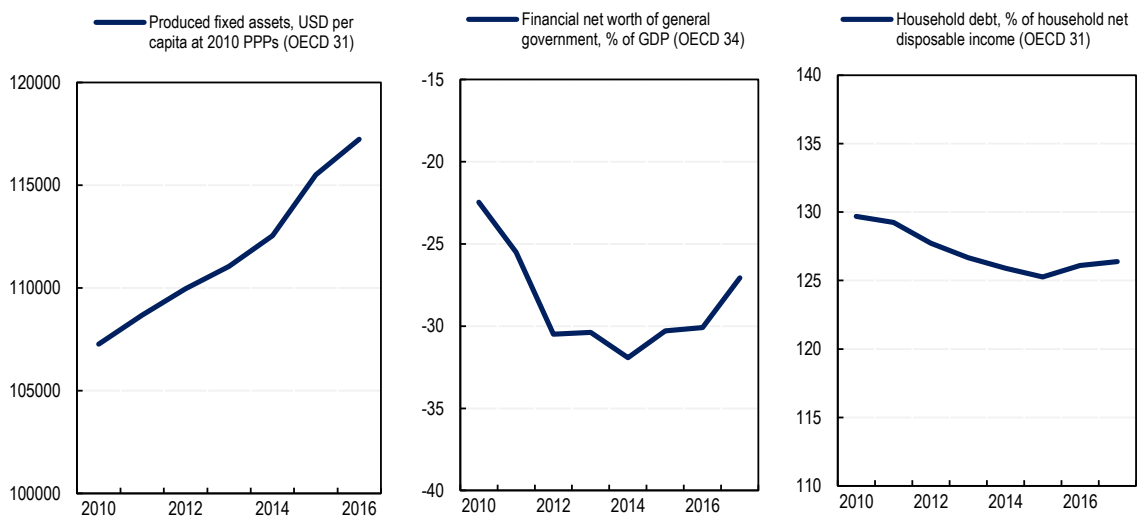
	Headline indicator	OECD average and range, 2018 or latest available year	OECD average change since 2010	No. of countries consistently improving	No. of countries consistently deteriorating
Economic Capital	**Produced fixed assets** (USD per capita at 2010 PPPs)	POL ~36 500; OECD 31 ~119 000; NOR ~195 000	+11 percent points	23	3
	Financial net worth of general government (percentage of GDP)	GRC -143; OECD 36 -27; NOR 280	-4 percent. points	5	13
	Household debt (as a share of household net disposable income)	DNK 281; OECD 33 126; HUN 43	-3 percent. points	12	13
Natural Capital	**Greenhouse gas emissions** (CO^2 equivalent, domestic production, tonnes per capita)	AUS 22.5; OECD Total 11.9; COL 3.2	-1 tonne/ capita	22	2
	Material footprint (used raw material extracted to meet the economy's final demand, tonnes per capita)	LUX 102; OECD Total 25; MEX 9	+1.2 tonne/capita	3	16
	Red List Index of threatened species (0 = all species extinct; 1 = all species qualifying as least concern)	NZL 0.62; OECD 0.89; SWE 0.99	-0.01	13	2
Human Capital	**Educational attainment among young adults** (share of people aged 25-34 years with at least upper secondary education)	MEX 50; OECD 35 85; KOR 98	+2 percent. points	26	3
	Labour underutilization (share of unemployed, discouraged or underemployed workers in the labour force)	GRC 28; OECD 26 12; CZE 4	-4.8 percent. points	15	2
	Premature mortality (potential years of life lost due to medical conditions and fatal accidents per 100 000 inhabitants)	LVA ~8700; OECD 36 ~4600; CHE ~3000	-620 years lost	29	2
Social Capital	**Trust in others** (mean score on a scale from 0 – 10)	TUR 4.5; OECD 28 6.1; DNK 8.3	No time series		
	Trust in government (share of the population responding positively)	GRC 14; OECD 43; CHE 82	+3 percent. points	9	6
	Gender parity in politics (share of women in national parliament)	JPN 9; OECD 28; ISL 48	+2.6 percent. points	11	2

Note: The snapshot depicts data for 2019, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: consistent improvement is shown in blue, consistent deterioration in orange, no clear trend in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average (in black, and unless all 37 members are included detailing the number of countries in the average). See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

There are multiple warning signs related to climate change and biodiversity loss in *Natural Capital*. Total OECD GHG emissions from domestic production fell by 4.3% between 2010 and 2017 – though they have stabilised in recent years, and may rise again in future due to recent increases in energy use and CO_2-related emissions (OECD, 2019[8]). On a per capita basis, OECD average GHG emissions have fallen by around one tonne from 2010, to 11.9 tonnes annually in 2017 (Table 1.5). However, these efforts are unlikely to put most countries on track to reach the emission reduction targets of the 2015 Paris Agreement, with population growth partially offsetting reductions in emissions per capita. Beyond emissions from their own production, OECD countries are also partly responsible for growing emissions in non-OECD countries through emissions embedded in their imports. On a global scale, total atmospheric carbon concentrations are still rising rapidly: global emissions have increased 1.5-fold since 1990, and CO_2 emissions from energy use reached a historic high in 2018 (see Reference Chapter 14). OECD countries are also consuming more of the Earth's materials than in 2010: the total OECD material footprint increased by 1.2 tonnes/capita to 25 (Table 1.5). Biodiversity in OECD countries is also at higher risk. An increasing number of species are classified as threatened compared to 2010, resulting in an average worsening of 0.01 on the Red List Index for threatened species (Figure 1.18).

Figure 1.17. OECD countries' produced assets increased and household debt fell, on average, since 2010

OECD average, 2010 to 2017 or latest available year

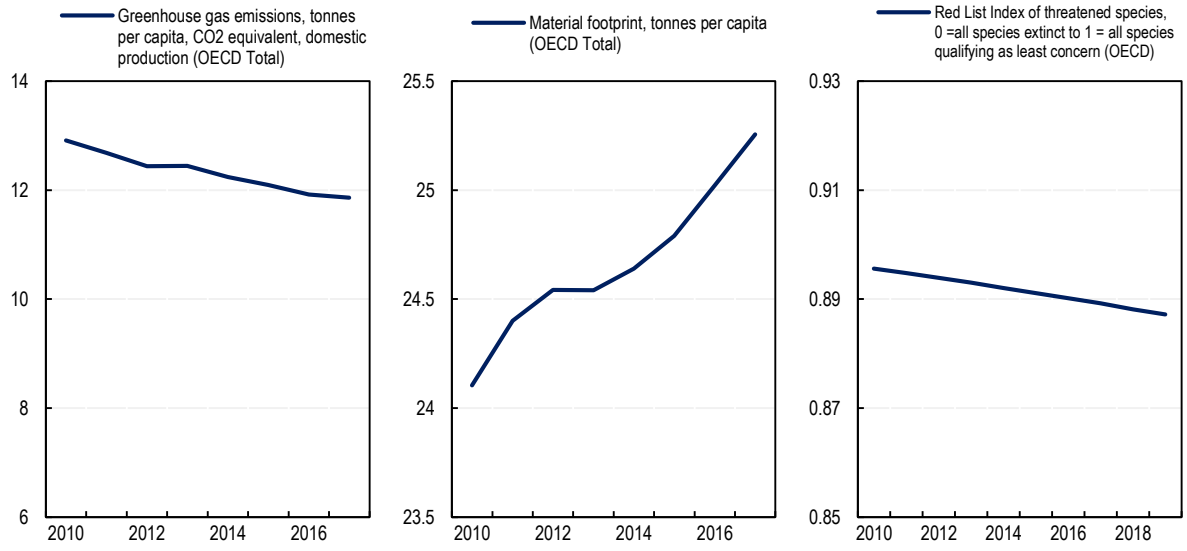


Note: Due to incomplete time series and/or breaks, the OECD average for produced fixed assets excludes Colombia, Iceland, Mexico, Spain, Switzerland and Turkey; that for financial net worth of general government excludes Colombia, Iceland and Mexico; and that for household debt excludes Colombia, Iceland, Israel, Mexico, Switzerland and Turkey.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080694

Figure 1.18. The outlook has worsened for the threat to species and raw materials consumption, and greenhouse gas emissions, though falling, are insufficient to meet global reduction targets

OECD average/ total, 2010 to 2019 or latest available year



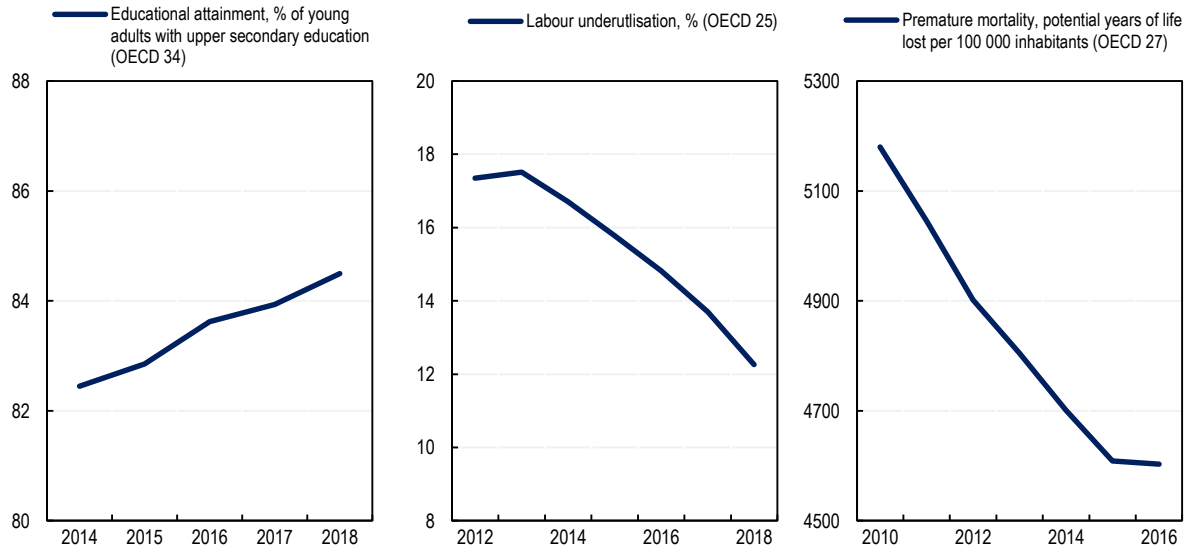
Note: Due to incomplete time series, the OECD total for greenhouse gas emissions excludes Colombia, and that for the material footprint excludes the Czech Republic and Colombia.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080713

Developments are more encouraging for aspects of *Human Capital* (Table 1.5, Figure 1.19). 85% of today's young adults aged 25 to 34 (the OECD's future labour force) have completed at least their upper secondary education, an increase of 2 percentage points since 2010. Nevertheless, questions remain about the quality of cognitive skills gained, given declining PISA test scores in most OECD countries (see Reference Chapter 6). On average, 12% of the labour force is unemployed, discouraged or underemployed (which taken together are referred to as the labour underutilisation rate) – a potential source of lower *Human Capital* in the future, since labour market slack can reduce people's skills, confidence and learning opportunities. In line with rising employment rates, the labour underutilisation rate has dropped by almost 5 percentage points on average. Premature mortality due to a range of medical conditions or fatal accidents in OECD countries is at around 4 600 years of potential life lost per 100 000 inhabitants; this has also improved since 2010, with potential years of life lost falling by 620 on average. Despite these improvements, the wider set of Human Capital indicators covered in Reference Chapter 15 suggests that rising obesity in almost all OECD countries poses risks to future health status: One in every five people are obese in OECD countries, on average (where obesity is defined as a Body Mass Index of 30 or higher). Of the 27 countries with time series data, none showed a fall in obesity rates, and only 2 maintained the same rate over the past 15 years.

Figure 1.19. Human Capital is the only resource for future well-being with overall positive trends in headline indicators since 2010

OECD average, 2010 to 2018 or latest available year



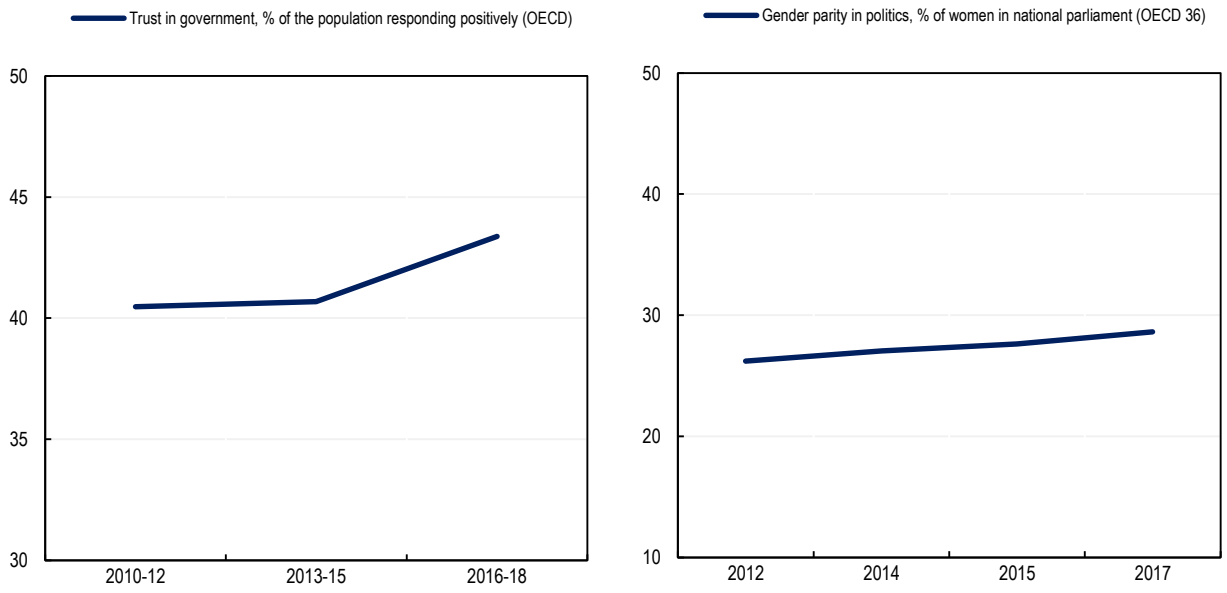
Note: Due to incomplete time series and/or breaks, the OECD average for educational attainment of young adults excludes Chile, Colombia, Japan and Ireland; that for labour market underutilisation excludes Belgium, Chile, Colombia, Denmark, France, Ireland, Israel, Luxembourg, Korea, Mexico, the Netherlands and Turkey; and that for premature mortality excludes Canada, Colombia, Denmark, France, Ireland, Italy, Latvia, New Zealand, the Slovak Republic and Slovenia.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080732

There is wide room for improvement in *Social Capital*. When people are asked whether they trust other people (0 meaning no trust and 10 meaning complete trust), the average score in OECD countries is 6.1 (Table 1.5). After a general deterioration in the aftermath of the 2007-08 financial crisis, trust in public institutions has improved by 3 percentage points for the OECD on average since 2010, although still less than half of the population (43%) trusts their national government. This could weigh on countries' capacity to put in place collective responses to the challenges that loom ahead. Gender parity in politics is far from being achieved: women hold one-third of parliamentary seats in OECD countries on average, with no country reaching parity. Progress in this measure of the inclusiveness of decision-making has been slow, rising by only 2.6 percentage points on average since 2010 (Figure 1.20).

Figure 1.20. Trust in government and gender parity in politics have improved only slowly

OECD average, 2010 to 2018 or latest available year



Note: Due to incomplete time series, the OECD average for gender parity in politics excludes Colombia.
Source: See Annex 1.A.

StatLink https://doi.org/10.1787/888934080751

Box 1.4. The relationship between current well-being and resources for the future

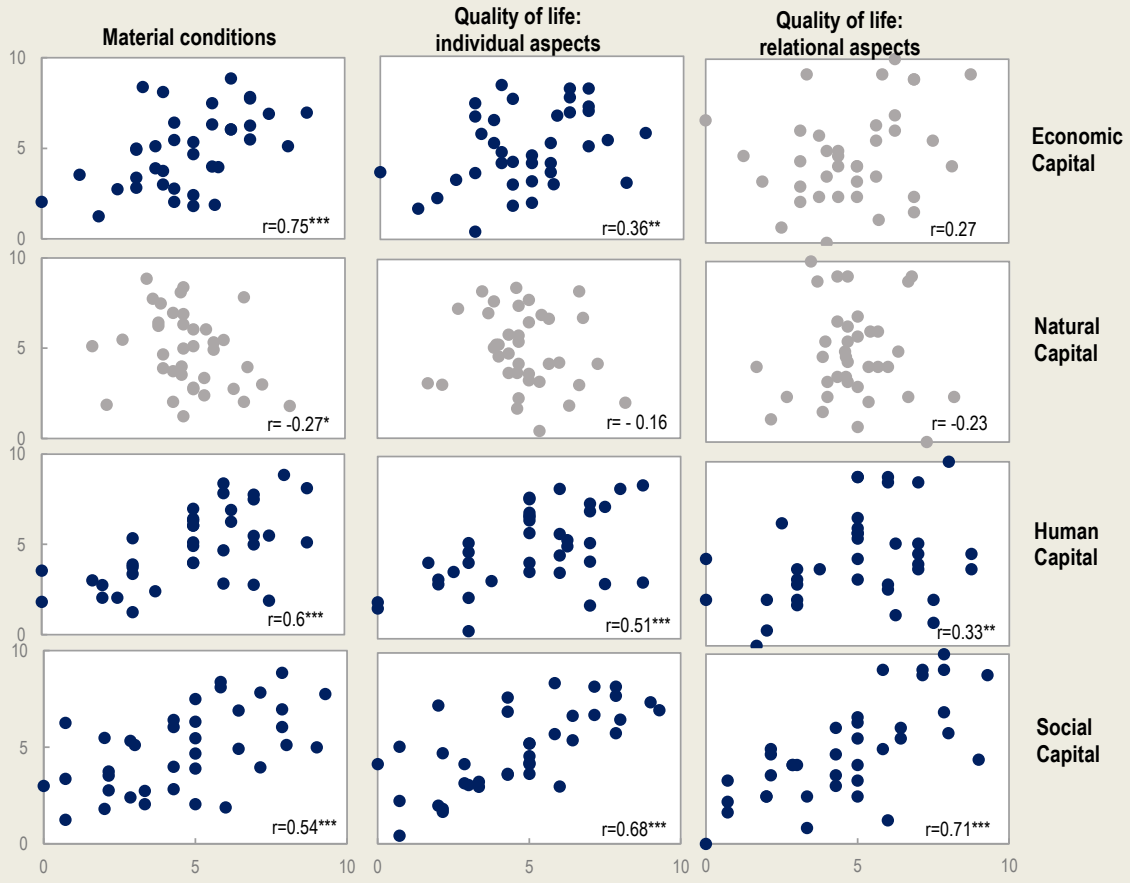
While more work is needed to disentangle how the stocks and flows of economic, natural, human and social capital combine to produce current well-being outcomes, and to understand which other factors might be at play, the basic correlations suggest some co-dependency (Figure 1.21).

OECD countries with strong performance in *Economic Capital* also achieve good comparative outcomes in aspects of current well-being related to material conditions (i.e. *Income and Wealth, Housing, Work and Job Quality*) and the individual and environmental aspects of quality of life (i.e. *Health, Knowledge and Skills, Environmental Quality, Subjective Well-being and Safety).*Similarly, achievements in both *Human Capital* and *Social Capital* significantly correlate with high well-being related to material conditions, as well as all aspects of quality of life including relational ones (i.e. *Work-Life Balance, Social Connections, Civic Engagemen*t).

Country-specific relationships between current well-being and *Natural Capital* are more complex to unpack, since much of the natural capital that is critical to well-being refers to global common goods. In the short run, high current well-being within a country can co-exist with threats to natural capital stocks, both nationally and globally, that may affect well-being tomorrow. However, the use of natural resources to enhance well-being today depletes the stocks available to future generations – and indeed, the association between good outcomes in current well-being and *Natural Capital* is negative, albeit non-significant.

Figure 1.21. Higher resources for future well-being tend to be associated with a good life today

Association between OECD countries' performance in different aspects of current well-being and resources for future well-being, 2018 or latest available year



Note: This figure visualises the association between performance in different aspects of current and future well-being. Non-significant pairwise correlations are shown in grey. Each OECD country is "scored" according to its comparative performance (with values of 0 when in the bottom third of the OECD rankings, of 5 when in the middle third and of 10 when in the top third) in different areas of current well-being (pertaining to both average values and inequalities) and resources for future well-being. Unlike most of Chapter 1, this analysis is based on the entire *How's Life?* well-being dashboard beyond headline indicators For each country, scores are first averaged within dimensions of current well-being (applying equal weights to each indicator), and then across dimensions. The same procedure is used for the headline indicators for *Economic, Natural, Human* and *Social Capital*. Missing data points are excluded from each country's score, implying that countries' scores may be under- or over-estimated in the case of data gaps.
Source: OECD calculations, based on the sources listed in the Reader's Guide.

StatLink https://doi.org/10.1787/888934080770

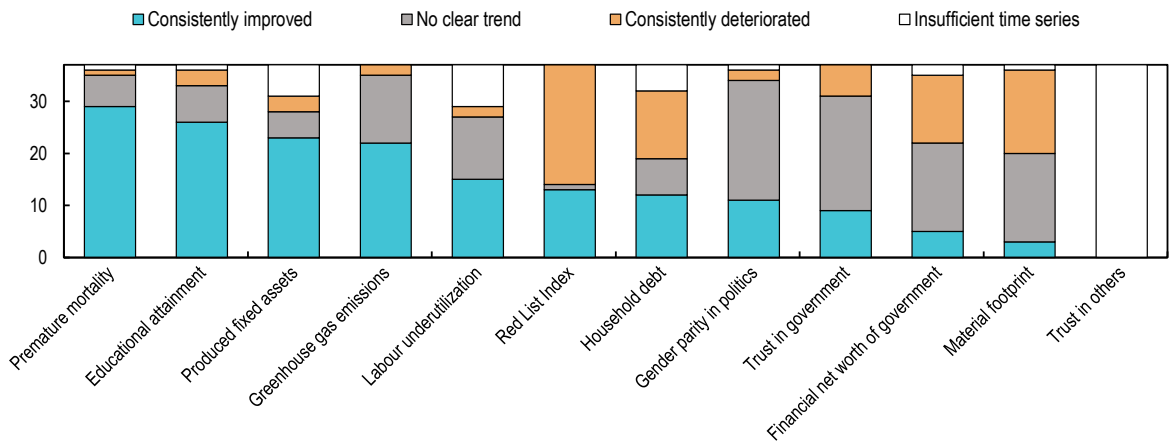
Trends in resources for future well-being headline indicators since 2010, by country

Trends in resources for future well-being since 2010 have diverged, depending on the resource considered (Figure 1.22). On the one hand, more than half of all OECD countries have consistently improved in terms of premature mortality, educational attainment of young adults, labour underutilisation, greenhouse gas emissions per capita and produced fixed assets. Bucking the general trend, Greece, the Netherlands and Portugal are the only countries where produced fixed assets have consistently declined since 2010, and

the United States is the only country experiencing higher premature mortality, mirroring trends in life expectancy at birth. Greenhouse gas emissions per capita have consistently increased in Chile and Turkey, countries where per capita emissions still remain among the lowest in the OECD. On the other hand, the majority of countries have seen "no clear change" when it comes to *Social Capital*, in particular gender parity in politics and trust in government. Among the countries where trend have a clear direction, trust has increased in more (9) countries than where it has deteriorated (6). In some cases, drops in the share of the population trusting public institutions have been substantial, exceeding 10 percentage points in Chile and Sweden, and 20 percentage points in Colombia. Aspects of *Economic Capital* – household debt and financial net worth of government – have consistently deteriorated in a third of OECD countries, with the largest falls in government net worth occurring in countries already well below the OECD average (e.g. Greece, Portugal and Spain).

Figure 1.22. Progress in resources for future well-being is mixed

Trends for headline indicators of resources for future well-being since 2010 per number of OECD countries



Note: See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

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Biodiversity has consistently been lost in many OECD countries (23) since 2010. The largest declines in the Red List Index for threatened species have generally occurred in those countries with already high at-risk rates – including New Zealand, Mexico, Korea, Colombia, Chile, the United Kingdom, Japan and Australia, as well as France. Similarly, despite lower greenhouse gas emissions per capita, 16 out of 37 OECD countries have consistently increased their material footprint per capita. The largest increases (by 3 tonnes or more) were recorded in Lithuania, Latvia, Estonia, the Slovak Republic and Australia – countries with footprints above the OECD average. This raises questions around the trade-off between sustainability and improving living standards, since many of these countries are among the ones that have recorded stronger gains in current well-being since 2010. By contrast, three OECD countries with below-average footprints bucked the overall trend and consistently improved their consumption of the Earth's materials: material footprints fell by more than 3 tonnes per capita in Greece, Ireland and Portugal.

Despite mixed progress at the indicator level, overall, most OECD countries achieved progress in at least 50% of their headline indicators of resources for future well-being (Figure 1.23). Relative to other countries, Canada recorded the largest number of improvements, with consistent gains in 8 out of its 11 headline indicators since 2010 (fixed produced assets, net worth of government, greenhouse gas emissions per

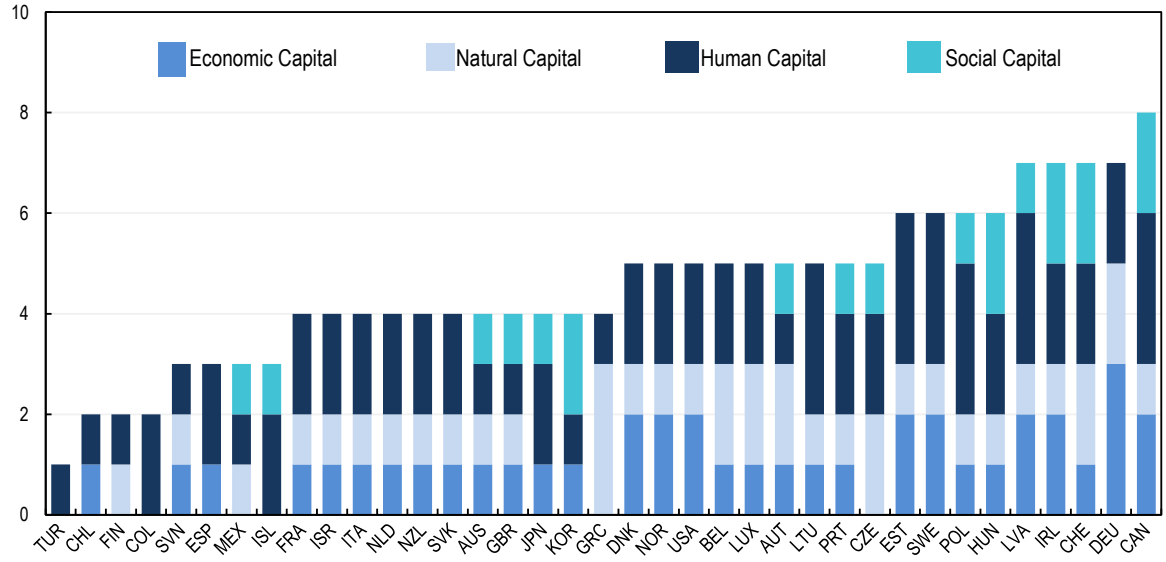
capita, and all three indicators of *Human Capital*, i.e. premature mortality, educational attainment of young adults, labour underutilisation, as well as trust in government and gender parity in politics). By contrast, Turkey improved in fewest systemic resources and only consistently increased the share of young adults with upper secondary education. Chile, Colombia and Finland also improved on only 2 out of 11 aspects of future well-being, with Chile as the country with the largest number of reductions in resources for future well-being.

Some OECD countries recorded deteriorations in their resources for the future only for one headline indicator or not at all. This is the case of Austria, Belgium, Iceland, Luxembourg, Israel and several eastern European countries that experienced improvements in a large number of current well-being indicators (the Czech Republic, Estonia, Hungary and Lithuania) (Figure 1.23).

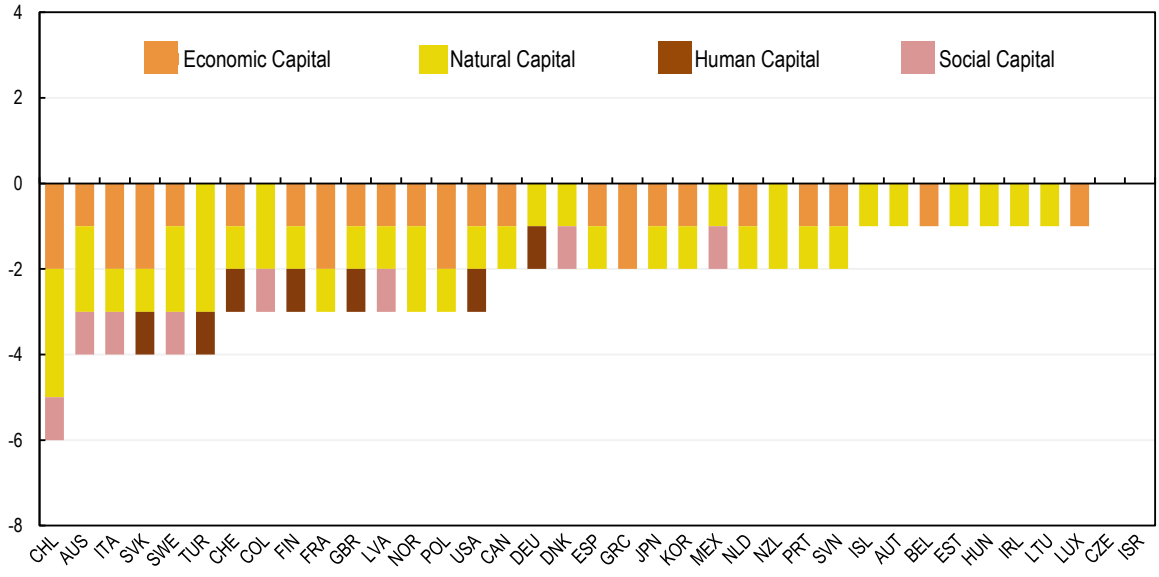
Though related, the speed of progress in current well-being has not always matched that in resources for the future well-being. Indeed, the countries that experienced many improvements in well-being outcomes today have not always matched them with a similar improvement in their resources for the future (Figure 1.24). Some OECD members, such as Ireland, Switzerland and the United States, gained comparatively much more in the resources for their future well-being than they improved in well-being outcomes “here and now”. Others, like Colombia, Turkey and the Slovak Republic increased people’s well-being today much more than they invested in future resources. This implies that, in order to balance well-being between generations, countries need to consider both current and future aspects of well-being separately to minimise the risk of neglecting one at the cost of the other – a risk that appears to be particularly acute in the case of *Natural Capital* (Box 1.4). Further, while some well-being gains have gone hand in hand with higher GDP growth, this is not always the case, underscoring the need to look beyond GDP growth as the sole indicator of progress (Box 1.5).

Figure 1.23 Overall, among OECD countries, gains in resources for future well-being have been more frequent than reductions

A. Number of headline indicators of resources for future well-being consistently improving since 2010



B. Number of headline indicators of resources for future well-being consistently deteriorating since 2010

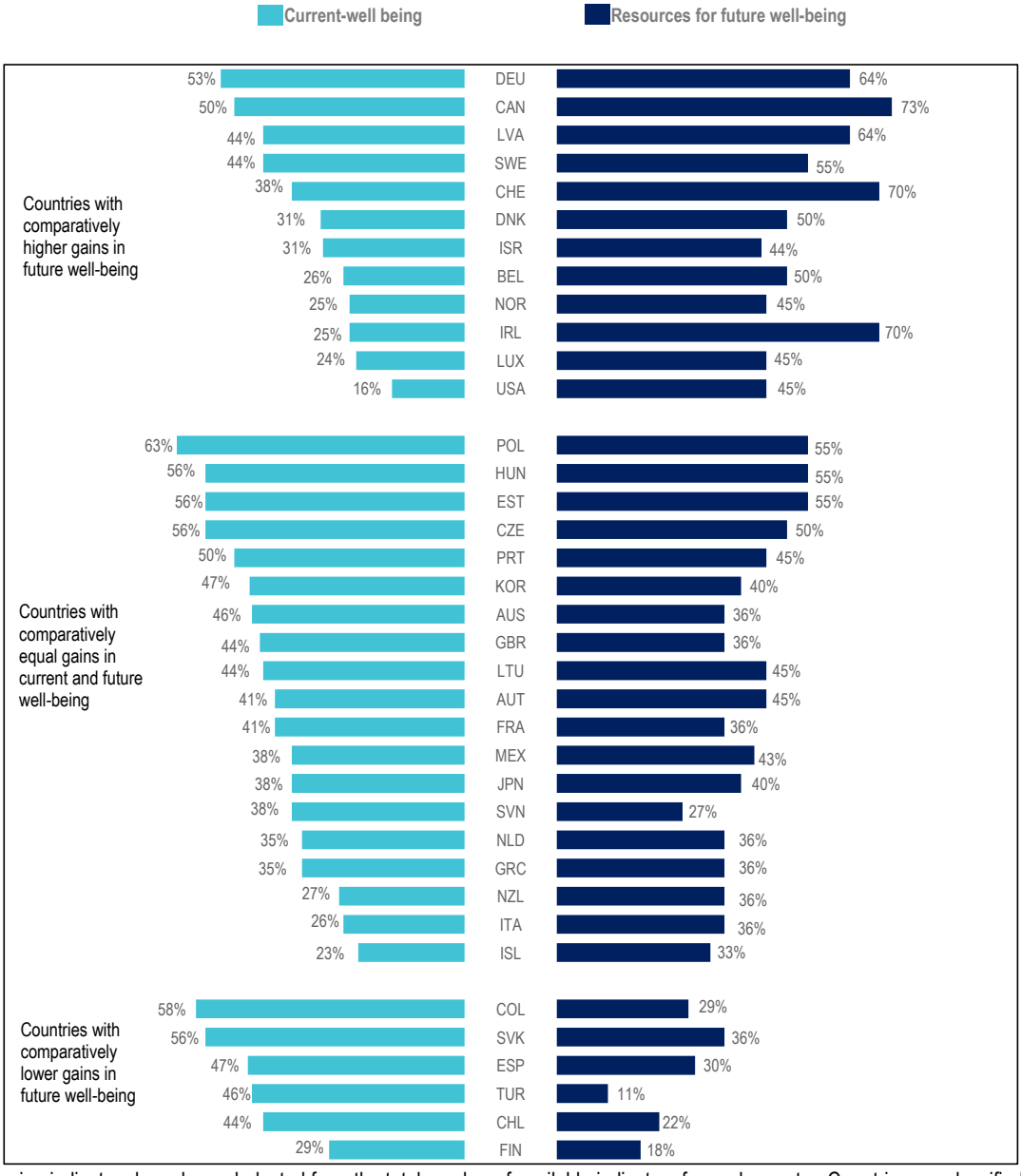


Note: Sufficient information on change over time in headline indicators of *Economic Capital* is available for produced fixed assets, financial net worth of general government and household debt; in the case of *Natural Capital* for greenhouse gases per capita and the Red List Index of threatened species and material footprint; in the case of *Human Capital* for educational attainment of young adults, labour underutilisation rate and potential years of life lost; and on *Social Capital* for trust in government and gender parity in politics. No time series are available for the *Social Capital* indicator on trust in others. See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

StatLink https://doi.org/10.1787/888934080808

Figure 1.24. Gains in well-being today and resources for the future are not always balanced

Share of headline indicators of current well-being (left-hand side) and future well-being (right-hand side) consistently improving since 2010, out of 24 and 12 possible indicators, respectively (with missing data excluded)



Note: Missing indicators have been deducted from the total number of available indicators for each country. Countries are classified as having achieved higher gains in current well-being/ future resources if the difference in improvements between each is >10%. Headline indicators with sufficient information on trends since 2010 for current well-being (averages and inequalities combined) are household income, household median wealth, housing affordability, employment rate, life expectancy, student skills in science, life satisfaction, the homicide rate, leisure and personal care time, social interactions, voter turnout, S80/S20 income ratio, overcrowding rate, gender wage gap, long working hours in paid work, exposure to harmful air pollution, negative affect balance, gender gap in feeling safe and the share of the population lacking social support. Headline indicators with sufficient information on trends since 2010 for future well-being are produced fixed assets, financial net worth of government and household debt for *Economic Capital;* greenhouse gas emissions (domestic production) per capita, the Red List index of threatened species and material footprint for *Natural Capital;* educational attainment of young adults, labour underutilisation rate and premature mortality for *Human Capital;* and trust in government and gender parity in politics for *Social Capital*. There is insufficient information on trust in others under *Social Capital* to determine trends over time for any country. See Box 1.3 for details on how trends are assessed.
Source: OECD calculations, based on the sources listed in Annex 1.A.

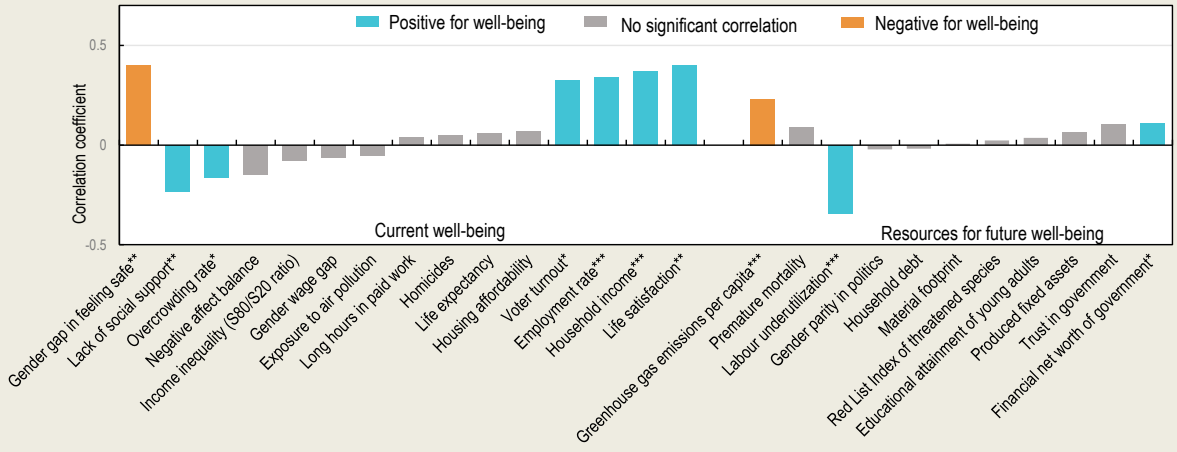
StatLink https://doi.org/10.1787/888934080827

Box 1.5. The relationship between GDP growth and well-being

A well-being approach is useful to identify, at a glance, countries' relative strengths and weaknesses across a wide range of outcomes that matter to people. These can help to identify priorities for action and make trade-offs in policy explicit. Data on well-being can also be useful to see which areas are particularly at risk of being neglected when GDP growth is taken as the main indicator of progress. GDP growth fares reasonably well as a leading indicator for changes in some aspects of both current and future well-being since 2012 (the year from which comparable data on GDP growth in the latest OECD calculations is available). Yet not all well-being indicators have shared a positive relationship with GDP growth, and many others would be overlooked entirely if GDP were the only yardstick used to judge success (Figure 1.25).

Figure 1.25. GDP growth in the OECD since 2012 is associated with some but not all changes in well-being

Pairwise correlations between GDP growth rates and changes in well-being indicators, 2012-18



Note: The analysis is based on a panel dataset covering all 37 OECD members. The symbol * appearing next to an indicator name indicates that correlations are significant at the p<0.10 level; ** at the p<0.05 level, and *** at the p<0.01 level. Non-significant correlations are in grey.
Source: OECD calculations based on *OECD National Accounts* (database), https://stats.oecd.org/ and the sources listed in Annex 1.A.

StatLink https://doi.org/10.1787/888934080846

Since 2012, GDP growth at the country level has been significantly related to growth in several aspects of material conditions, such as higher household incomes, employment rates and lower labour underutilisation (i.e. unemployed, discouraged or underemployed). In countries where economies grew, people's evaluations of their lives have also improved, more people turned out to vote, fewer people live in overcrowded housing conditions, a smaller share of the population felt they have no friends or family members to count on for help, and the financial net worth of government rose. However, greenhouse gas emissions per capita improved and gender gaps in feeling safe when walking alone at night have narrowed as economies contracted (mainly because countries that did not experience strong GDP growth were more successful in reducing the gender gap in feeling safe).

At the same time, progress on other well-being outcomes appears unrelated to GDP growth. Changes in current well-being indicators on income inequality, the prevalence of long hours in paid employment, the gender wage gap, housing affordability, air pollution, the homicide rate and life expectancy are not significantly associated with changes in GDP. The same applies to changes in several resources for future well-being (household debt, produced fixed assets, premature mortality, the educational attainment of young adults, the protection of threatened species, countries' material footprint, trust in government and gender parity in politics). Thus, while a growing economy can be associated with rising well-being in some aspects of life, it is insufficient to capture everything that matters to people today and in the future.

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Annex 1.A. Headline well-being indicators

Annex Table 1.A.1. Headline indicators: Current well-being averages

Dimension	Label	Indicator	Unit	Latest available year	Source
Income and Wealth	Household income	Household net adjusted disposable income	USD at 2017 PPPs, per capita	2017	*OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en
	Household wealth	Household median net wealth	USD at 2016 PPPs	2016	*OECD Wealth Distribution* (database), http://stats.oecd.org/Index.aspx?DataSetCode=WEALTH
Housing	Housing affordability	Disposable income after housing costs	Share of household gross adjusted disposable income remaining, after deductions for housing rents and maintenance	2018	*OECD National Accounts Statistics* (database), http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE5 and http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE14A
Work and Job Quality	Employment rate	Employment rate	Employed people aged 25-64, as a share of the population of the same age	2018	*OECD Labour Force Statistics by Sex and Age – Indicators* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R
Health	Life expectancy	Life expectancy at birth	Number of years a newborn can expect to live	2017	*OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Knowledge and Skills	Student skills in science	Cognitive skills of 15-year-old students in science	OECD Programme on International Students Assessment (PISA) – mean score for science	2018	OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en
Environmental Quality	Access to green space	Access to green space	Share of urban population with access within a 10 minutes' walk	2012	Poelman (2018), "A walk to the park? Assessing access to green areas in Europe's cities, update using completed Copernicus urban atlas data", European Commission, Regional and urban policy, https://ec.europa.eu/regional_policy/sources/docgener/work/2018_01_green_urban_area.pdf
Subjective Well-being	Life satisfaction	Life satisfaction	Mean values on an 11-point scale, with responses ranging from 0 (not at all satisfied) to 10 (completely satisfied)	2018	*European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; Australian General Social Survey; Canadian Community Health Survey; Colombia's National Quality of Life Survey; Korean Social Integration Survey; Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey

Dimension	Label	Indicator	Unit	Latest available year	Source
Safety	Homicides	Deaths due to assault	Age-standardised rate, per 100 000 population	2016	*OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Work-Life Balance	Time off	Time allocated to leisure and personal care	Hours per day, people in full-time employment	Around 2018	OECD calculations based on public-use time-use survey microdata when available; *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices
Social Connections	Social interactions	Time spent interacting with friends and family as primary activity	Hours per week	Around 2018	OECD calculations based on public-use time-use survey microdata when available; *Eurostat's Harmonised European Time Use Survey database*, https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices
Civic Engagement	Voter turnout	Voter turnout	Share of votes cast among the population registered to vote	2016-19	*Institute for Democracy and Electoral Assistance (IDEA)* (database), https://www.idea.int/

Annex Table 1.A.2. Headline indicators: Current well-being inequalities

Dimension	Label	Indicator	Unit	Latest available year	Sources	Type of inequality
Income and Wealth	S80/S20 income share ratio	Ratio of average (equivalised) household disposable income of the top 20% of the income distribution to the average income of the bottom 20%	S80/S20 ratio of household disposable income	2017	*OECD Income Distribution Database*, https://stats.oecd.org/Index.aspx?DataSetCode=IDD	Vertical
Housing	Overcrowding rate	Overcrowding rate	Share of households living in overcrowded conditions (EU- definition)	2017	*OECD Affordable Housing Database*, http://oecd.org/social/affordable-housing-database/	Deprivation
Work and Job Quality	Gender wage gap	Gender wage gap	Difference between male and female median wages expressed as a share of male wages	2018	*OECD Indicators of gender equality in employment* (database), https://stats.oecd.org/Index.aspx?DataSetCode=GENDER_EMP	Horizontal
	Long hours in paid work	Employees working very long (paid) hours	Share of employees usually working 50+ hours per week	2018	*OECD Labour Force Statistics by Sex and Age – Indicators (database)*, https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R	Deprivation

Dimension	Label	Indicator	Unit	Latest available year	Sources	Type of inequality
Health	Gap in life expectancy by education	Gap in life expectancy among men with low (no schooling, primary and lower secondary educational attainment) and high (tertiary) education at age 25	Years	2011	Murtin et al. (2017), "Inequalities in longevity by education in OECD countries: Insights from new OECD estimates", *OECD Statistics Working Papers*, No. 2017/2, OECD Publishing, Paris, https://dx.doi.org/10.1787/6b64d9cf-en	Horizontal
Knowledge and Skills	Students with low skills	Share of 15-year-old students with low scores in maths, reading and science	Share of 15- year-old students below OECD Programme on International Students Assessment (PISA) level 2 in reading, maths, and science	2018	OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en	Deprivation
Environmental Quality	Exposure to outdoor air pollution	Population exposure to outdoor air pollution by fine particulate matter above World Health Organisation (WHO) Guidelines	Share of population exposed to more than 10g/m^3 of $PM^{2.5}$	2017	*OECD Exposure to $PM_{2.5}$ in countries and regions* (database), http://dotstat.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5	Deprivation
Subjective Well-being	Negative affect balance	Negative affect balance	Share of population reporting more negative than positive feelings and states in a typical day	2016-18	*Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx	Deprivation
Safety	Gender gap in feeling safe	Gender gap in feeling safe at night	Percentage difference that women feel less safe than men when walking alone at night in the city or area where they live	2013-18	*Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx	Horizontal
Work-Life Balance	Gender gap in hours worked	Extra minutes of total time spent working (paid and unpaid) that women work, relative to men (aged 15-64)	Minutes per day	Between 2005-18	*OECD Time Use* (database), https://stats.oecd.org/Index.aspx?DataSetCode=TIME_USE	Horizontal
Social Connections	Lack of social support	Perceived lack of social support	Share of people who report having no friends or relatives whom they can count on in times of trouble	2016-18	*Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx	Deprivation

Dimension	Label	Indicator	Unit	Latest available year	Sources	Type of inequality
Civic Engagement	Having no say in government	Having no say in government	Share of people aged 16-65 who feel they have no say in what the government does	Around 2012	*OECD Survey of Adult Skills (PIAAC)* (database), https://oecd.org/skills/piaac	Deprivation

Annex Table 1.A.3. Headline indicators: Resources for future well-being

Dimension	Label	Indicator	Unit	Latest available year	Source	Type of capital
Economic Capital	Produced fixed assets	Produced fixed assets	USD at 2010 PPPs, per capita	2018	*OECD National Accounts Statistics* (database), http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE9B	Stock
	Financial net worth of general government	Adjusted financial net worth of general government	Percentage of GDP	2018	*OECD Financial Indicators – Stocks* (database), http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS	Risk factor
	Household debt	Household debt	Share of household net disposable income	2018	*OECD Financial Indicators – Stocks* (database), http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS	Risk factor
Natural Capital	Greenhouse gas emissions	Total greenhouse gas emissions from domestic production, excluding those from land use, land-use change and forestry (LULUCF)	Tonnes per capita, CO_2 equivalent	2017	*OECD Greenhouse gas emissions* (database), https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG	Risk factor
	Material footprint	Used raw material extracted to meet the economy's final demand	Tonnes per capita	2017	*OECD Material resources* (database), https://stats.oecd.org/Index.aspx?DataSetCode=MATERIAL_RESOURCES	Flow
	Red List Index of threatened species	Red List Index of threatened species	Combined indicator of extinction risk for birds, mammals, amphibians, cycads and corals. A value of 1.0 equates to all species qualifying as Least Concern (i.e. not expected to become extinct in the near future). A value of 0 equates to all species having gone extinct	2019	*UN DESA Global SDG Indicator Database*, indicator 15.5.1 http://unstats-undesa.opendata.arcgis.com/datasets/indicator-15-5-1-red-list-index-2/data?orderBy=seriesCode – sourced from International Union for the Conservation of Nature (IUCN)	Risk factor

Dimension	Label	Indicator	Unit	Latest available year	Source	Type of capital
Human Capital	Educational attainment among young adults	Upper secondary educational attainment among young adults	Share of people aged 25-34 who have attained at least an upper secondary education	2018	*OECD Educational attainment and labour-force status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=EAG_NEAC	Stock
	Labour underutilisation	Broad labour underutilisation rate	Share of unemployed, discouraged (persons not in the labour force who did not actively look for work during the past four weeks but who wish and are available to work) and underemployed (full-time workers working less than usual during the survey reference week for economic reasons and part-time workers who wanted but could not find full-time work) workers in the total labour force	2018	*OECD Household Dashboard* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HH_DASH	Risk factor
	Premature mortality	Potential years of life lost due to a range of medical conditions and fatal accidents	Years of potential life lost per 100 000 population (age standardised)	2017	OECD (2020), "Potential years of life lost" (indicator), https://doi.org/10.1787/193a2829-en (accessed on 04 February 2020)	Flow
Social Capital	Trust in others	Interpersonal trust	Mean score on a scale from 0 (you do not trust any other person) to 10 (most people can be trusted)	2013	*European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions, Stats NZ	Stock
	Trust in government	Trust in national government	Share of the population responding "yes" to a question about confidence in the national government	2016-18	*Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx	Stock
	Gender parity in politics	Women in national parliament	Share of women in the national lower or single houses of parliament	2017	*OECD Women in politics* (database), https://data.oecd.org/inequality/women-in-politics.htm, Statistics Lithuania	Resilience factor

Notes

[1] The labour underutilisation rate includes unemployed people, discouraged workers (i.e. persons not in the labour force who did not actively look for work during the past four weeks but who wish and are available to work) and underemployed workers (i.e. full-time workers working less than usual during the survey reference week for economic reasons, and part-time workers who wanted but could not find full-time work).

[2] The 2017 edition of the *How's Life?* dashboard listed several indicators under both current well-being and resources for future well-being. This double listing was a conscious decision when the indicators for resources for future well-being were operationalised in 2015, since knowledge, health and wealth are clearly both intrinsically valuable to individuals, but also determine well-being outcomes later in life and for society as a whole. However, the multiple listing of indicators has proven to be challenging when communicating the logic of the Framework to stakeholders. In order to improve its overall clarity and interpretability, *How's Life? 2020* reduces the overlap of indicators as much as possible while maintaining the spirit and integrity of the well-being dimensions and capitals. For example, the cognitive skills of adults and (15 year old) youth were previously included under both the *Knowledge and Skills* dimension in current well-being and *Human Capital* in future well-being. While they are important for well-being today and drive outcomes tomorrow, they are competencies that are intrinsically valuable to people (i.e. what they know and can do), and hence only retained under *Knowledge and Skills*. *Human Capital* continues to feature a (future-oriented) measure of education through an indicator on the educational attainment of young adults.

[3] Unpaid work includes routine housework, shopping for goods and services (mainly food, clothing and items related to accommodation), caring for household members (children and adults) and non-household members, volunteering, travel related to household activities and other unpaid work.

[4] The measure excludes interactions that occur while doing other primary activities (e.g. when eating or caring for household members).

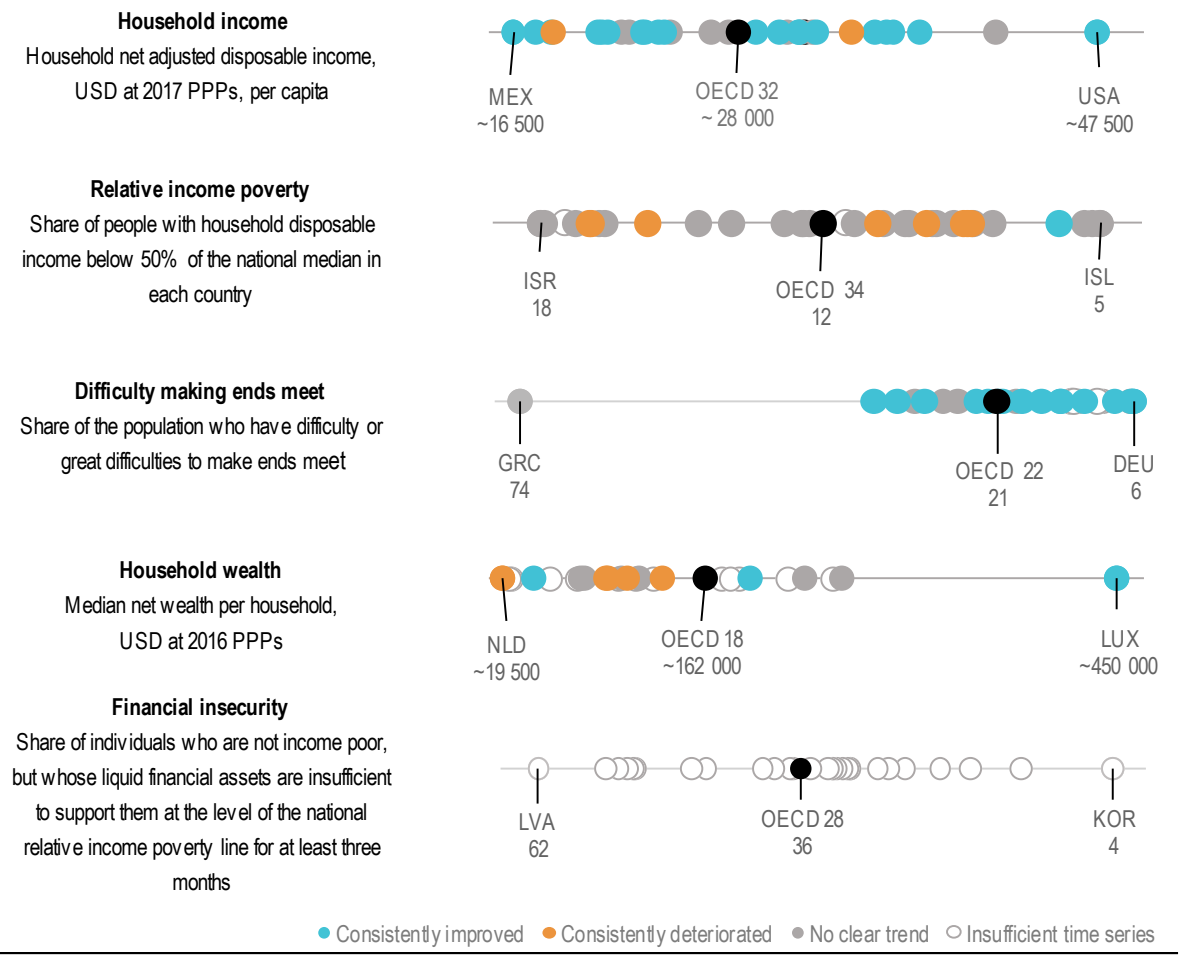
[5] Data on trends for half of the headline indicators for current well-being averages are missing for these two countries, which might negatively bias their comparative assessment.

[6] However, gender stereotyping continues to act as a powerful barrier to career choices, and is a powerful driver of future occupational segregation for women: only 1% of 15-years girls assessed by PISA across OECD countries report that they envisage working in Information and Communication Technology (ICT)-related occupations in the future, compared with 8% of boys (OECD, 2019[9]).

2 Income and Wealth

Together, income and wealth shape households' economic well-being. Since 2010, OECD average household disposable income per capita has increased by 6%, cumulatively. Meanwhile, household median net wealth has fallen by 4%. In European OECD countries, 1 in 5 households find it difficult to make ends meet, and across the OECD nearly 1 in 8 live in relative income poverty. Additionally, more than 1 in 3 households are financially insecure, meaning that, while not currently income poor, they would be at risk of falling into poverty if they had to forgo 3 months of income. On average, people in the top 20% of the income distribution earn 5.4 times more than people in the bottom 20%. The wealthiest 10% of households own more than half of all household wealth. Younger people are more likely to live in households with lower income and wealth, and are at greater risk of poverty.

Figure 2.1. Income and Wealth snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: OECD calculations based on *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en; *OECD Wealth Distribution* (database), http://stats.oecd.org/Index.aspx?DataSetCode=WEALTH; *OECD Income Distribution Database*, https://stats.oecd.org/Index.aspx?DataSetCode=IDD; and Eurostat's database *European Union Statistics on Income and Living Conditions (EU-SILC)*, https://ec.europa.eu/eurostat/web/income-and-living-conditions/data/database.

Household income

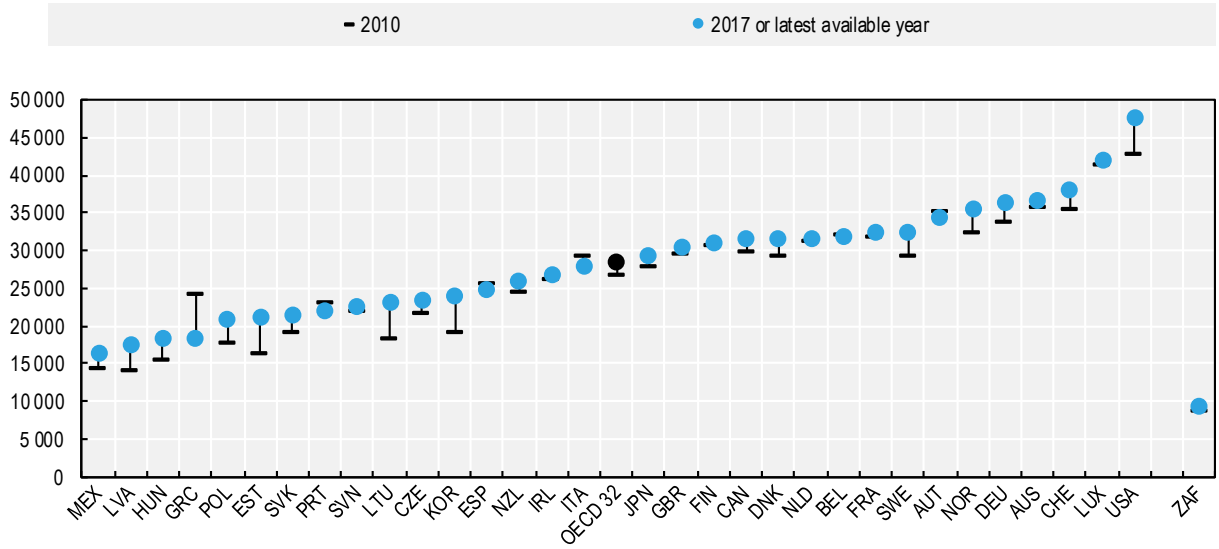
Mean household net adjusted disposable income

The mean household net adjusted disposable income per capita was around USD 28 000 in 2017 in OECD countries, on average. This is based on a measure from the System of National Accounts (SNA), and reflects income after taxes and current transfers, as well as in-kind services that households receive for free or at subsidised prices from governments and non-profit institutions (for more details please refer to Box 2.1). The figure was lowest in Mexico and Latvia (at around USD 17 000) and highest in the United States and Luxembourg (where it exceeded USD 42 000). Since 2010, OECD average household net adjusted disposable income per capita has increased by 6%, cumulatively (Figure 2.2). Gains since 2010

have been largest in Estonia (up 29%, cumulatively), followed by the other Baltic States and Korea (26-27%). At the same time, the figure has fallen in Italy and, especially, in Greece, where it has dropped by -23% (i.e. by USD 5 500).

Figure 2.2. Since 2010, household income has increased by 6% for OECD countries on average

Household net adjusted disposable income, per capita, USD at 2017 PPPs



Note: The latest available year is 2015 for New Zealand. The OECD average excludes Chile, Colombia, Iceland, Israel and Turkey, as data are not available.
Source: OECD calculations based on *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en.

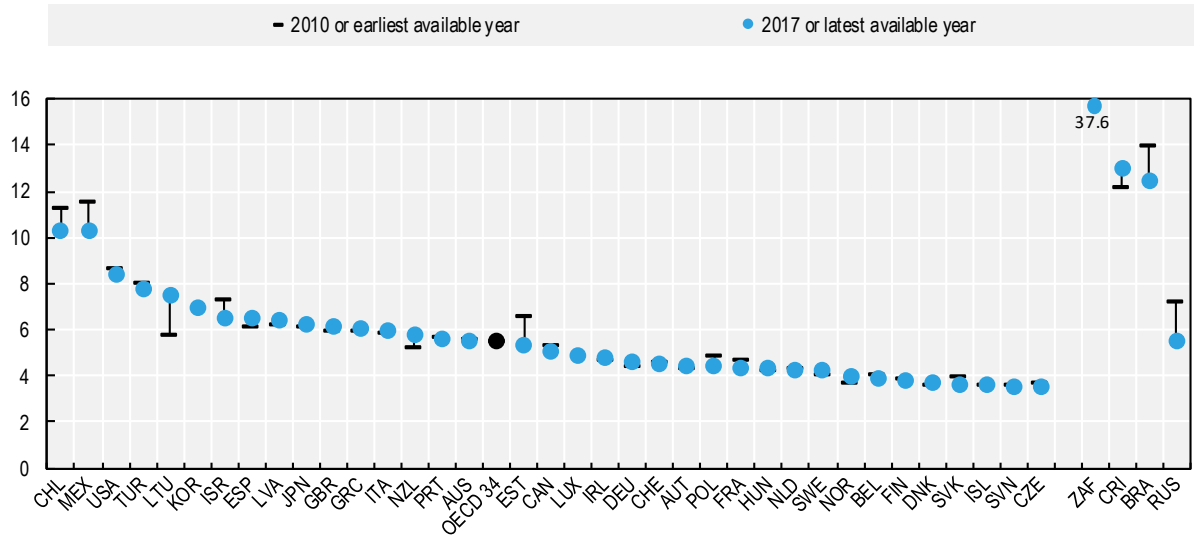
StatLink https://doi.org/10.1787/888934080865

Income gaps between the top 20% and the bottom 20%

Data describing the distribution of the SNA measure of household adjusted disposable income (above) are still experimental, and available only for a limited number of countries. However, information on the distribution of household disposable income (a more restricted income concept that does not account for social transfers in kind), "equivalised" (i.e. "adjusted" by an equivalence scale to account for economies of scale in the household) is available from the *OECD Income Distribution Database*, which is based on national household surveys and administrative records (for more on all this see Box 2.1). These data suggest that, on average among OECD countries, the income of those in the top 20% of the distribution is 5.4 times higher than that of the bottom 20% (Figure 2.3). Inequalities are smallest in some Central and Eastern European countries (i.e. the Czech Republic, the Slovak Republic, Slovenia) as well as in Iceland, Denmark, Finland and Belgium, where the ratio never exceeds 4. Conversely, in Chile, Mexico and the United States, people in the top 20% of the income distribution receive between 8 and 10 times more than what is received by the bottom 20%. Compared to 2010, the ratio was broadly stable on average across OECD countries, although it fell by 1.2 points in Estonia and Mexico and almost 1 point in Chile, while it increased by almost 1.8 points in Lithuania.

Figure 2.3. The richest 20% receive 5.4 times more income than the poorest 20%, on average in OECD countries

Ratio of average (equivalised) household disposable income of the top 20% to the average income of the bottom 20% of the income distribution (S80/S20 income share ratio)



Note: The latest available year is 2018 for Costa Rica; 2017 for Canada, Chile, Finland, Israel, Korea, Norway, Sweden, the United Kingdom and the United States; 2015 for Germany, Iceland, Japan, Switzerland, Turkey, and South Africa; 2014 for New Zealand; 2013 for Brazil; and 2016 for all the other countries. The earliest available year is 2011 for Chile, Denmark, Germany, Israel, the Netherlands, New Zealand, Turkey, Brazil and the Russian Federation; 2012 for Australia, France, Japan, and Mexico; and 2013 for Estonia, Sweden and the United States. The OECD average excludes Colombia, Korea and Luxembourg, due to incomplete time series. Household disposable income is "equivalised", i.e. adjusted by an equivalence scale that divides the income of each household by the square root of household size, to account for economies of scale in household needs (i.e. the notion that any additional household member needs a less than proportionate increase of household income in order to maintain a given level of welfare).
Source: *OECD Income Distribution Database*, https://stats.oecd.org/Index.aspx?DataSetCode=IDD.

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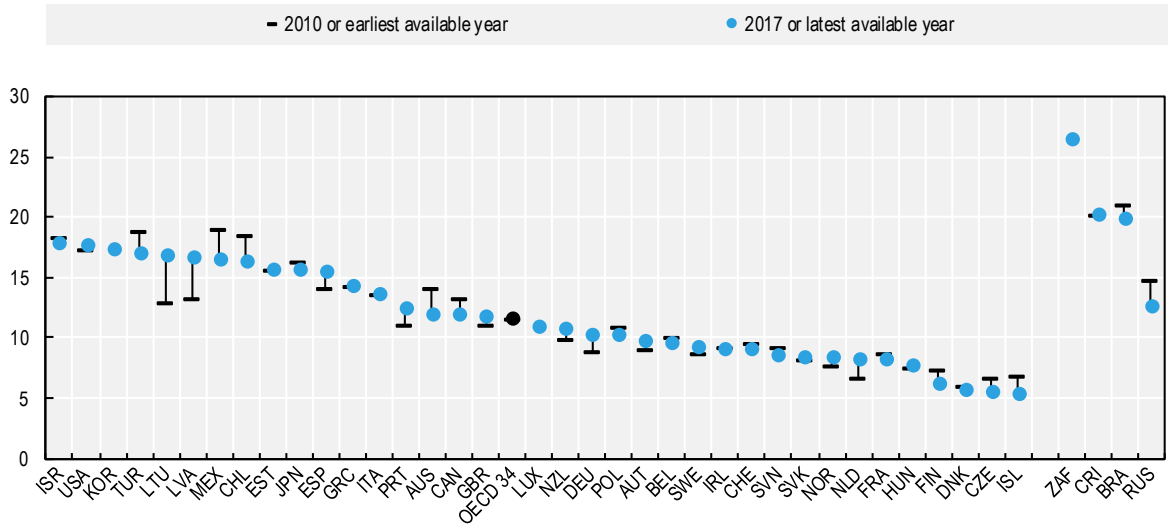
Relative income poverty

Relative income poverty, defined as a disposable income below half the national median, affects 12% of people in OECD countries, on average (Figure 2.4). The share is lowest (below 6%) in Iceland, the Czech Republic and Denmark, and highest (above 17%) in Israel, the United States, Korea and Turkey. Compared to 2010, income poverty rates have remained broadly stable in the majority of OECD countries. However, the rate increased by 4 percentage points in Latvia and Lithuania, and fell by 2 percentage points in Mexico, Chile and Australia. These changes in relative income poverty reflect year-on-year changes in national median income – thus, in countries where national income has been rapidly rising (e.g. Latvia and Lithuania), the poverty threshold has risen with it, while in countries where national income has fallen (e.g. Greece and Italy) the poverty threshold has fallen with it. Changes in income poverty anchored to a specific year (e.g. 2005) are larger and affect more countries (OECD, 2015[1]).

Figure 2.4. On average, among OECD countries, 12% of people live in relative income poverty

Share of people with (equivalised) household disposable income below 50% of the national median, percentage



Note: The latest available year is 2018 for Costa Rica; 2017 for Canada, Chile, Finland, Israel, Korea, Norway, Sweden, and the United Kingdom; 2015 for Denmark, Germany, Iceland, Japan, Switzerland, and Turkey; 2014 for Hungary and New Zealand; and 2016 for all the other countries. The earliest available year is 2011 for Chile, Denmark, Germany, Israel, the Netherlands, New Zealand, Turkey, Brazil and the Russian Federation; 2012 for Australia, France, Hungary, Japan, and Mexico; and 2013 for Estonia, Sweden and the United States. The OECD average excludes Colombia, Korea and Luxembourg, due to incomplete time series. Household disposable income is "equivalised", i.e. adjusted by an equivalence scale that divides the income of each household by the square root of household size, to account for economies of scale in household needs (i.e. the notion that any additional household member needs a less than proportionate increase of household income in order to maintain a given level of welfare).
Source: *OECD Income Distribution Database*, https://stats.oecd.org/Index.aspx?DataSetCode=IDD.

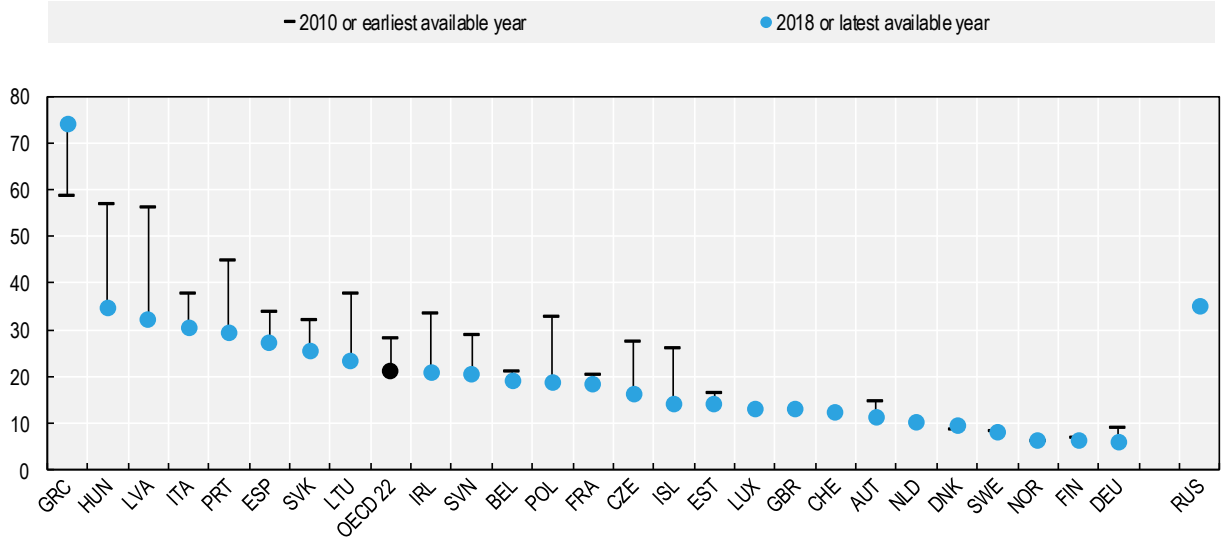
StatLink https://doi.org/10.1787/888934080903

Difficulty making ends meet

A different perspective on the economic strain experienced by households is provided by (self-reported) data on people who find it difficult to make ends meet. Based on this measure, which is available only for European countries, 21% of people have difficulty or great difficulty in making ends meet on average (Figure 2.5). This rate is well above the share of people counted as poor, based on the relative income poverty threshold (Figure 2.4), with the difference between the two measures ranging from less than one percentage point in Finland to 60 percentage points in Greece. Compared to 2010, the share of people who find it difficult to make ends meet has fallen by almost 7 percentage points on average in European OECD countries, with the largest decreases in Latvia and Hungary (more than 20 points). By contrast, it has increased by almost 16 percentage points in Greece.

Figure 2.5. One in five people report having difficulty in making ends meet in European OECD countries

Share of the population who have difficulty or great difficulty in making ends meet, percentage



Note: The latest available year is 2016 for Iceland. The earliest available year is 2011 for Poland, and 2015 for Estonia. 2018 data are preliminary for Ireland and the United Kingdom.
Source: OECD calculations based on Eurostat's database *European Union Statistics on Income and Living Conditions (EU-SILC)*, https://ec.europa.eu/eurostat/web/income-and-living-conditions/data/database and a survey of household income and participation in social programs for the Russian Federation.

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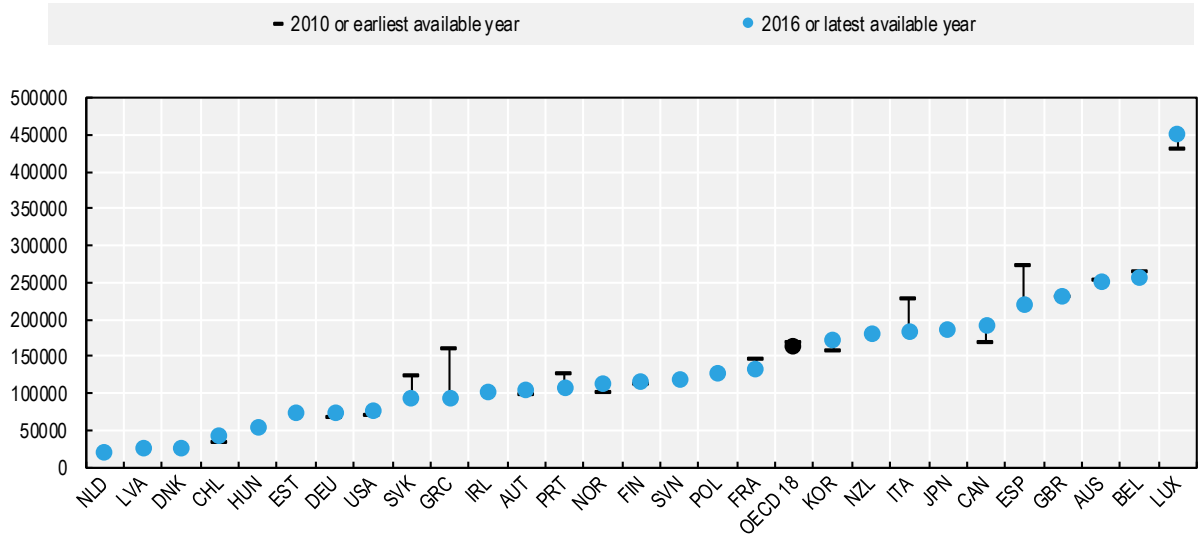
Household wealth

Median wealth per household

Household wealth is the difference between all financial and non-financial assets (such as dwellings, land, currency and deposits, shares and equity) owned by households and all their financial liabilities (such as mortgages and consumer loans). This measure is reported for the household exactly in the middle of the distribution (with 50% of households having wealth above, and 50% below, the median). On average, among OECD countries, median wealth per household is around USD 162 000. Values range between less than one-fifth of the OECD average in the Netherlands, Latvia and Denmark, to almost three times the OECD average in Luxembourg (Figure 2.6). The variation in median wealth levels across countries is strongly related to outright homeownership rates (i.e. the share of people who own their homes without mortgage debt), as well as to the existence of generous social security benefits in old age. When compared to households' relative position in terms of their mean disposable income (Figure 2.2), median wealth per household is relatively low in Denmark, the Netherlands and the United States – countries where the share of people who own their homes outright is among the lowest in the OECD (Balestra and Tonkin, 2018[2]). Since 2010, median wealth has fallen by 4% (about USD 6 000) across OECD countries, on average. It has increased the most in Chile (32%), largely driven by rising real-estate prices (Balestra and Tonkin, 2018[2]), followed by Canada (16%), Germany and the United States (13%), mainly reflecting higher financial wealth (Balestra and Tonkin, 2018[2]). The largest fall since 2010 occurred in Greece (-41%), followed by the Slovak Republic (-25%), Italy and Spain (-19%), mainly reflecting falls in the value of real-estate wealth (Balestra and Tonkin, 2018[2]).

Figure 2.6. Across OECD countries, household median wealth can differ by a factor of 23

Median net wealth per household, USD at 2016 PPPs



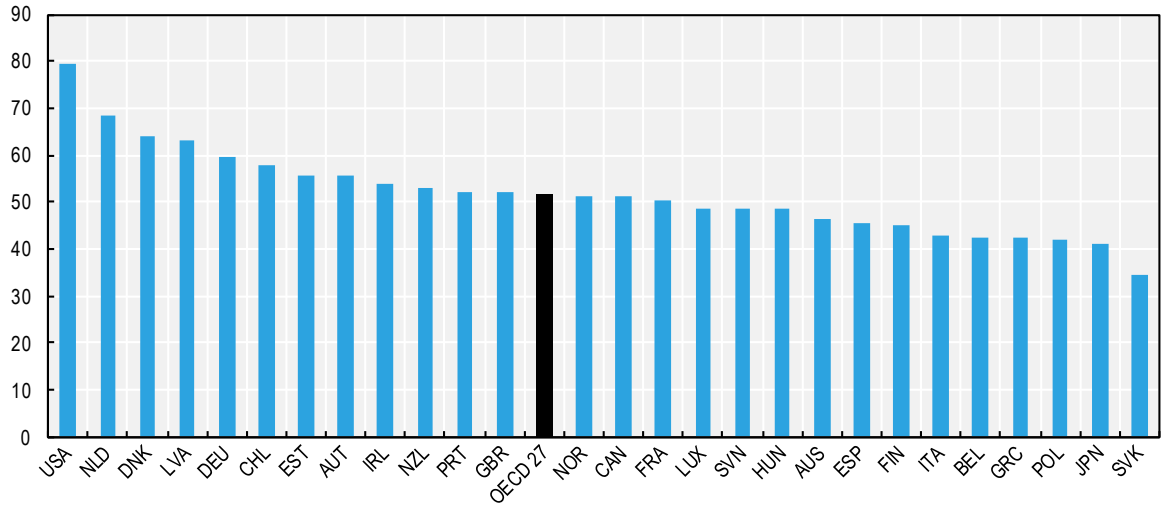
Note: The latest available year is 2016 for Canada and the United States; 2015 for Denmark, Korea, the Netherlands, Norway and the United Kingdom; 2013 for Estonia, Finland, Ireland and Portugal; 2012 for Spain, and 2014 for all other countries. The earliest available year is 2009 for Finland, France, Greece and Spain; 2010 for Belgium, the Slovak Republic, Portugal and the United States; 2012 for Australia, Canada and Norway; 2013 for Korea, and 2011 for all other countries. The OECD average is limited to the 18 countries with data available for two time points. Data for the United Kingdom are limited to Great Britain.
Source: *OECD Wealth Distribution* (database), http://stats.oecd.org/Index.aspx?DataSetCode=WEALTH.

StatLink https://doi.org/10.1787/888934080941

The distribution of household wealth is much more concentrated than that of household income. Among OECD countries on average, the wealthiest 10% of households own 52% of total household net wealth (Figure 2.7). This ranges from 34% in the Slovak Republic to nearly 80% in the United States. While these differences partly reflect the accuracy of measures for the top end of the distribution, which is challenging to measure particularly when using household surveys (Balestra and Tonkin, 2018[2]), alternative (tax-based) sources also suggest that wealth inequality is significantly higher in the United States than in Europe (Alvaredo et al., 2017[3]).

Figure 2.7. On average, the wealthiest 10% own more than half of total household wealth

Share of wealth owned by the top 10%, percentage, 2016 or latest available year



Note: The latest available year is 2016 for Canada and the United States, 2015 for Denmark, the Netherlands and Norway, 2013 for Estonia, Finland, Ireland and Portugal, 2012 for Canada and Spain, and 2014 for all other countries. Data for the United Kingdom are limited to Great Britain. The OECD average excludes Colombia, the Czech Republic, Iceland, Israel, Korea, Lithuania, Mexico, Sweden, Switzerland and Turkey, as comparable data are not available.
Source: *OECD Wealth Distribution* (database), http://stats.oecd.org/Index.aspx?DataSetCode=WEALTH.

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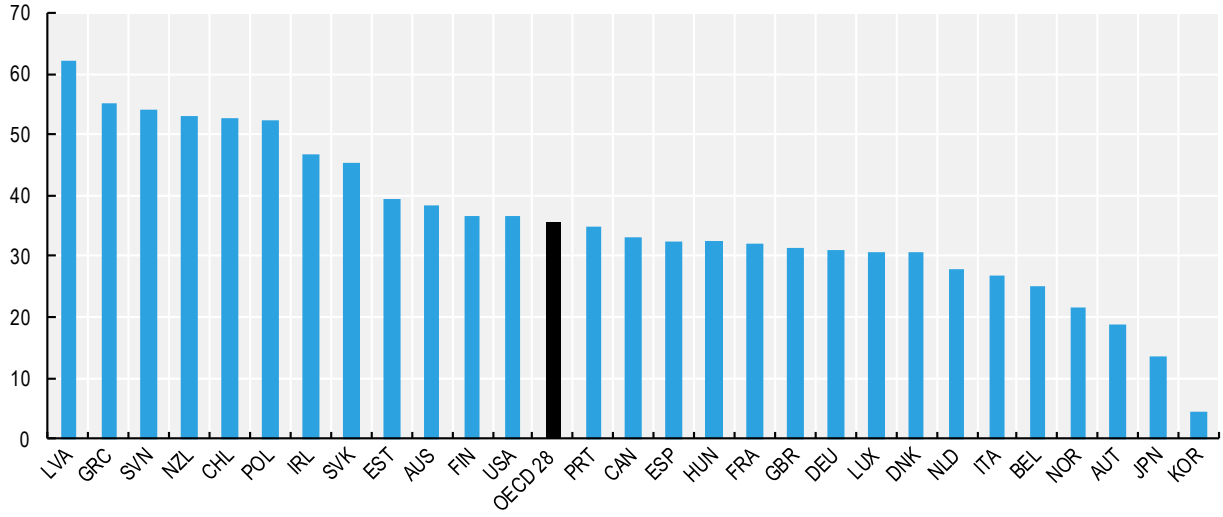
Financial insecurity

Across the 28 OECD countries with available data, 36% of people are financially insecure (Figure 2.8) – i.e. while not currently income poor, they risk falling into this condition in the event of a sudden loss of income, e.g. through unemployment, family breakdown or disability. In other words, if their income were to suddenly stop, such people would not have enough liquid assets to keep living above the poverty line for more than 3 months (see Box 2.1 and the figure note below for further details). More than half of the population meets this definition of financial insecurity in Latvia, Greece, Slovenia, New Zealand, Chile and Poland. By contrast, only 4% of people in Korea, and fewer than 15% in Japan, are financially insecure.

Figure 2.8. More than one-third of people in the OECD are at risk of falling into poverty

Share of individuals who are financially insecure, percentage, 2016 or latest available year



Note: The latest available year is 2016 for Canada and the United States, 2015 for Denmark, Korea, the Netherlands, Norway and the United Kingdom, 2014 for Australia, Austria, Belgium, Chile, France, Germany, Greece, Hungary, Italy, Japan, Latvia, Luxembourg, Poland, the Slovak Republic and Slovenia, 2013 for Estonia, Finland, Ireland and Portugal, and 2012 for Spain. Financially insecure people are those who are not income poor, but have insufficient liquid financial wealth to support them at the level of the income poverty line for more than three months – i.e. they have equivalised liquid financial assets below 25% of the national median income. Liquid financial wealth is defined as cash, quoted shares, mutual funds and bonds net of liabilities of own unincorporated enterprises. The income definition used follows as much as possible that used for reporting income poverty, i.e. household disposable income. However, in most cases, information on household disposable income is not available in the data sources used for computing wealth statistics; in these cases, (i.e. Austria, Belgium, Estonia, France, Germany, Greece, Hungary, Ireland, Latvia, Luxembourg, Poland, Portugal, the Slovak Republic, Slovenia and Spain) the income concept used is that of gross income (i.e. the total sum of wages and salaries, self-employment income, property income and current transfers received, all recorded before payment of taxes). Data for the United Kingdom are limited to Great Britain. The OECD average excludes Colombia, the Czech Republic, Iceland, Israel, Lithuania, Mexico, Sweden, Switzerland and Turkey, as comparable data are not available.
Source: *OECD Wealth Distribution* (database), https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH.

StatLink https://doi.org/10.1787/888934080979

Income and Wealth inequalities: gaps between population groups

Strictly speaking, the income and wealth profiles of different population groups (defined based on their gender, age or education) cannot be assessed for the indicators considered in this chapter because the data are collected at the household level. Survey data usually provide information on the composition of a household (e.g. by gender and age), but not on how income and wealth are distributed across the members of that household. An implicit assumption made when reporting household-level data is that of a full and equal sharing of resources across all household members. When working with such data, the only insights into inequality that can be gained concern the different average characteristics of households (i.e. the average for households that include people aged 65+ and those that do not), or households headed by different individuals (such as men and women, young and old, and people of differing levels of education). This risks substantially under- or over-estimating the size of the gaps between these different groups. Results are also shaped by complex factors, such as the demographic structure of a country, and the types of households that are more prevalent (for example, households headed by single parents are generally more economically disadvantaged than other types of household, and their prevalence varies across OECD countries). Beyond the immediate measurement challenges, the concept of "personal" income or wealth is not simple to define, as some income and wealth components belong to the entire household (e.g. social transfers and taxes, which are typically paid or received according to the type of household considered, e.g. number of children), while others are individually held. The income inequalities described

below refer to individuals grouped by age (whatever the household they belong to), while wealth inequalities refer to the age and the educational level of the household reference person.

Younger people are more likely to live in households with lower income and less wealth

When compared to children and young people (aged below 26) and to older adults (aged 51 and above), middle-aged people (26-50 years) live in households with higher equivalised disposable income, and are less likely to be income-poor. In OECD countries, on average, both children and young people, on one side, and older adults, on the other, live in households where equivalised disposable income is, respectively, 10% and 4% lower than the average household equivalised disposable income for middle-aged people. Young people and older adults are also, respectively, 35% and 20% more likely to live in an income-poor household.

In terms of wealth, households headed by people aged 55 and older have higher household median wealth and are less likely to be financially insecure (i.e. at risk of falling into poverty if they had to forgo 3 months of income). The median wealth of households with heads aged 55 and older is 53% higher than that of those headed by the middle-aged (in this case 35-54 years), while the median wealth of households headed by individuals aged under 35 is around one-third of that of households headed by middle-aged individuals. Households headed by older people are also 25% less likely to be financially insecure, relative to those headed by middle-aged individuals, while households headed by under-35s are 7% more likely to be financially insecure.

Wealth is twice as high in households headed by tertiary-educated individuals

Median wealth in households headed by individuals without a tertiary education is, on average, around half that of households headed by a person with a tertiary education. More specifically, median wealth values for the OECD on average stand at USD 91 000 for households headed by a person with below upper secondary education; USD 130 000 for households headed by a person with upper secondary education only; and USD 203 000 for households headed by a person with a tertiary education.

Rates of financial insecurity also vary according to the highest educational attainment level of the household head. On average across 28 OECD countries, the share of financially insecure households is 36% for those headed by a person with less than an upper secondary education; 37% for those headed by a person with an upper secondary education only; and 26% for households headed by a person with a tertiary education.

Box 2.1. Measurement and the statistical agenda ahead

Together, income and wealth shape households' consumption possibilities. Income after taxes and transfers indicates what households have available to spend, while direct measures of household consumption expenditure inform about "realised" material conditions (rather than possibilities). Wealth meanwhile provides a buffer that can help to smooth consumption and enable longer-term investments (such as in housing). While related to the concept of financial vulnerability, the broader concept of economic insecurity has been identified as a priority for well-being measurement (Stiglitz, Fitoussi and Durand, 2018[4]). While economic insecurity can be defined and measured through objective methods, people's perceptions of their economic situation offer a useful complement. Lastly, it is essential to consider the joint distribution of income, consumption and wealth, as none of the measures used in this chapter, taken alone, provides a full picture of a household's economic situation. For example, households that own much wealth but are income poor have higher consumption and saving possibilities

than their income alone would suggest, and vice versa. The indicators used in this chapter (Table 2.1) provide insights into some but not all of the elements of the Income and Wealth dimension.

Table 2.1. Income and Wealth indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups by gender, age and education)	Deprivation
Household income	Mean household net adjusted disposable income per person (SNA based)	n/a	n/a	n/a
	Household disposable income, equivalised (based on microdata from survey sources and administrative records)	S80/S20 ratio of household disposable income	Limited information only, based on individual characteristics (ignoring intra-household inequalities)	Relative income poverty (share of individuals with household disposable income below the relative income poverty line, set at 50% of the national median)
Difficulty in making ends meet	n/a	n/a	n/a	Share of individuals who declare to have difficulty or great difficulty to make ends meet
Household wealth	Median household net wealth per household (based on microdata)	Share of household wealth held by the 10% wealthiest households	Gaps in median household net wealth, and in financial insecurity based on characteristics of the household reference person	Financial insecurity (share of individuals with equivalised liquid financial assets below 3 months of the annual national relative income poverty line)

Mean household adjusted disposable income is obtained by summing all the (gross) income flows (earnings, self-employment and capital income, current transfers received from other sectors) paid to the (SNA) household sector and then subtracting current transfers (such as taxes on income and wealth) paid by households to other sectors of the economy. The term "adjusted", in National Accounts vocabulary, denotes the inclusion of the social transfers in-kind (such as education and health care services) that households receive from government. The measure used here also takes into account the amount needed to replace the capital assets of households (i.e. dwellings and equipment of unincorporated enterprises), which is deducted from their income. Household adjusted disposable income is shown in per capita terms and expressed in US dollars (USD) using 2017 purchasing power parities (PPPs) for actual individual consumption. The source is the OECD National Accounts Statistics database.

Income inequality refer to the ratio of the shares of household disposable income of the top and bottom 20% of the distribution and to the gaps between the average income of different population groups (e.g. by age). **Relative income poverty** refers to the share of people whose household disposable income is below 50% of the national median (i.e. relative income poverty), and to the difference in this measure across different population groups. All these indicators are based on the concept of household disposable income, as measured in microdata – i.e. the market income received by all household members (gross earnings, self-employment income, capital income), plus current cash transfers received, net of income and wealth taxes and social security contributions paid by workers, and net of current transfers paid to other households. Household disposable income is "adjusted" by an equivalence scale that divides household income by the square root of household size, to account for economies of scale in household needs (i.e. the notion that any additional household member needs less than a proportionate increase of household income in order to maintain a given level of welfare). Data are drawn from the *OECD Income Distribution Database*, which relies on estimates supplied by National Statistical Offices and other producers of official statistics (based on household surveys or tax

and administrative records), or produced by the OECD based on public use data from the *European Union Statistics on Income and Living Conditions* (EU-SILC). The data comply as much as possible with the 2011 Canberra Handbook (United Nations Economic Commission for Europe, 2011[5]). Negative household income values are set to zero, through special treatments as described in the Terms of Reference of the *OECD Income Distribution Database* (OECD, 2017[6]). Survey data can suffer from under-coverage and underreporting at both ends of the distribution.

Difficulty in making ends meet refers to the share of people who report having difficulty or great difficulty in making ends meet. The question is asked to the household reference person, and the information is available at household level only. Data come from the European Union Statistics on Income and Living Conditions, a nationally representative survey with large samples (from around 4 000 individuals in the smallest member states, to around 16 000 in the largest) covering all members of private households aged 16 or older and available for EU countries, as well as Norway and Switzerland.

Household wealth refers to the sum of non-financial (e.g. dwellings) and financial assets (e.g. deposits, shares and equity), net of their financial liabilities (e.g. loans), held by private households resident in the country, as measured in microdata (household surveys and, more rarely, administrative records). Household wealth is reported for the median household (rather than as the mean across all households) to reduce the impact of differences across countries in measuring the top end of the distribution (where most wealth is concentrated). Inequalities are measured by the share of household wealth held by the 10% of wealthiest households, and by gaps in median wealth across households headed by people with different characteristics. Values are expressed in USD using purchasing power parities (PPPs) for household private consumption; when analysing changes over time, these values are adjusted for changes in the consumer price index (CPI). The concept of household wealth used corresponds to the one presented in the *OECD Guidelines for Micro Statistics on Household Wealth* (OECD, 2013[7]) and excludes private and occupational pensions, whose size and distribution differ markedly across countries depending on the characteristics of their social security systems. Data are shown per household (rather than per person or per adult), with no adjustment made to reflect differences in household size. They are drawn from the *OECD Wealth Distribution Database*, which includes estimates that are supplied by National Statistical Offices and other producers of official statistics, or that are produced by the OECD based on public use data from the Euro-System Household Finance and Consumption Survey (for 17 European countries except the Netherlands). Differences in the extent to which rich households are oversampled in different countries (ranging from no oversampling in Australia and Austria, to large oversampling for the United States and Spain) affect cross-country differences in average wealth per household (and their inequality).

Financial insecurity, a measure of wealth deprivation, refers to the share of people who are not currently income-poor, but who have liquid financial wealth below three months of the annual national relative income poverty line. Liquid financial wealth includes cash, quoted shares, mutual funds and bonds net of liabilities. These people are considered as “financially insecure” as, in the event of a shock, their liquid financial wealth would be insufficient to support them at the level of the income poverty line for more than three months. The indicator is compiled by the OECD following the *OECD Guidelines for Micro Statistics on Household Wealth* (OECD, 2013[7]). Data are drawn from the *OECD Wealth Distribution Database*. The income concept used to compute this indicator follows as much as possible that used for reporting income poverty, i.e. household disposable income. However, for most countries, information on household disposable income is not available in the data sources used for the computation of wealth statistics; for this reason, the choice made here has been to rely on the concept of gross income (i.e. the total sum of wages and salaries, self-employment income, property income and current transfers received, all recorded before payment of taxes) when information on disposable income was not available. The poverty line is hence based on household disposable income for Australia, Canada, Chile, Denmark, Finland, Japan, Korea, Italy, the Netherlands, New Zealand,

Norway, the United Kingdom and the United States, and on household gross income for the remaining countries.

Correlations among Income and Wealth indicators

Across OECD countries, the correlations among the Income and Wealth indicators are generally in the expected direction – i.e. OECD countries with higher mean income also feature lower rates of relative income poverty, lower shares of people reporting difficulty making ends meet, higher median wealth, and less financial insecurity. These correlations, however, are rarely strong, suggesting that each indicator adds something to the picture (Table 2.2).

Table 2.2. Income and Wealth indicators are meaningfully correlated, but convey different information

Bivariate correlation coefficients among the Income and Wealth indicators

	Mean adjusted household disposable income per person	Relative income poverty	Difficulty making ends meet	Median wealth, per household	Financial insecurity
Mean adjusted household disposable income per person					
Relative income poverty	**-0.36**** (35)				
Difficulty making ends meet	**-0.67***** (23)	**0.42**** (25)			
Median wealth, per household	**0.33*** (28)	0.08 (29)	-0.13 (20)		
Financial insecurity	**-0.43**** (28)	0.02 (29)	**0.53**** (20)	-0.28 (29)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries).
* Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

The indicators used in this chapter could be strengthened in several ways:

- SNA-based measures of household net adjusted disposable income only refer to the total value received by the household sector. Work is currently ongoing at the OECD to produce experimental measures of inequalities in the distribution of this aggregate.
- Income and wealth data are currently collected at household level, which makes it difficult to assess intra-household differences in economic resources (e.g. those associated with different gender roles). The inclusion of survey questions probing respondents on who owns the assets or earns the income stream, whether part of these streams are not shared with other household members, and who makes the major financial decisions could help to better assess how economic resources are pooled and shared among household members (OECD, 2017[8])
- Subjective evaluations of people's material living conditions (e.g. difficulty in making ends meet) are currently limited to European OECD countries. International guidance should be developed to produce harmonised data with geographical coverage extending beyond Europe.
- Developing better measures of economic security. Three partial measures of economic security are included in this report: financial insecurity and difficulty making ends meet (in this chapter), and labour market insecurity in the Work and Job Quality chapter. Stiglitz, Fitoussi and Durand

(2018[4]) recommend that national statistical agencies and key international organisation work together to improve existing measures and agree on a small number of core measures of economic security.

- More information on the joint distribution of household income, consumption and wealth at the micro-level would allow a better understanding of households' economic well-being and inequalities. Experimental work in this direction is currently being undertaken jointly by the OECD and Eurostat.

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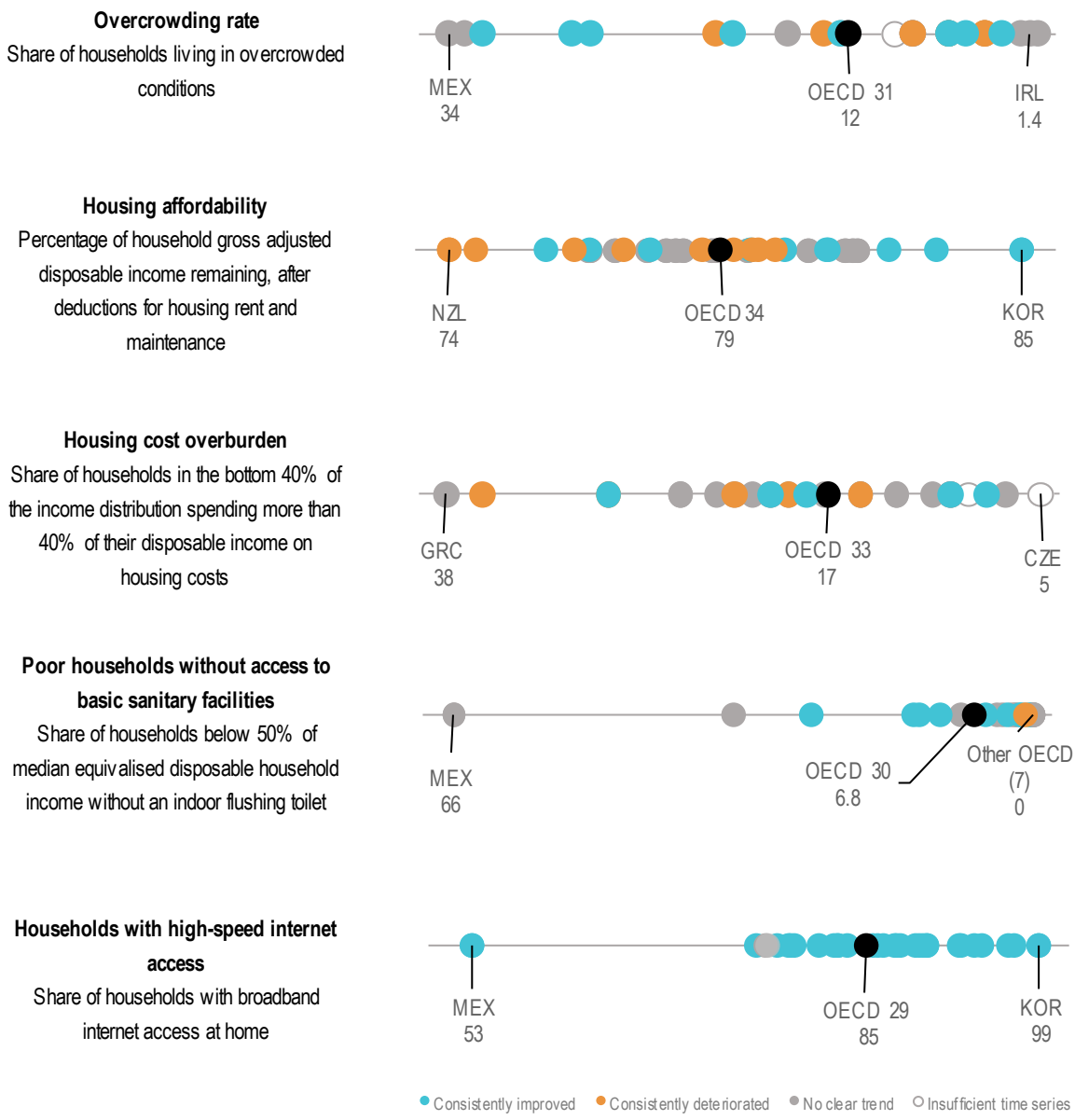
3 Housing

Housing provides shelter, safety, privacy and personal space. The area where people live also determines their access to many different services. Since 2010, there have been some improvements in OECD average housing conditions. Both the extent of overcrowding and the share of poor households lacking basic sanitation have fallen, though large differences across countries persist. The share of households living in overcrowded conditions in 2017 was 30% or higher in Mexico, Latvia and Poland, but 2% or less in Ireland and Japan. The share of poor households lacking access to basic sanitation in OECD countries ranges from over 25% to almost zero. OECD households spend, on average, around 21% of their disposable income on housing costs, but nearly 1 in 5 lower-income households spend more than 40%. Since 2010, the share of households with high-speed internet access has risen markedly, from 63% to 85%.

Figure 3.1. Housing snapshot: current levels, and direction of change since 2010



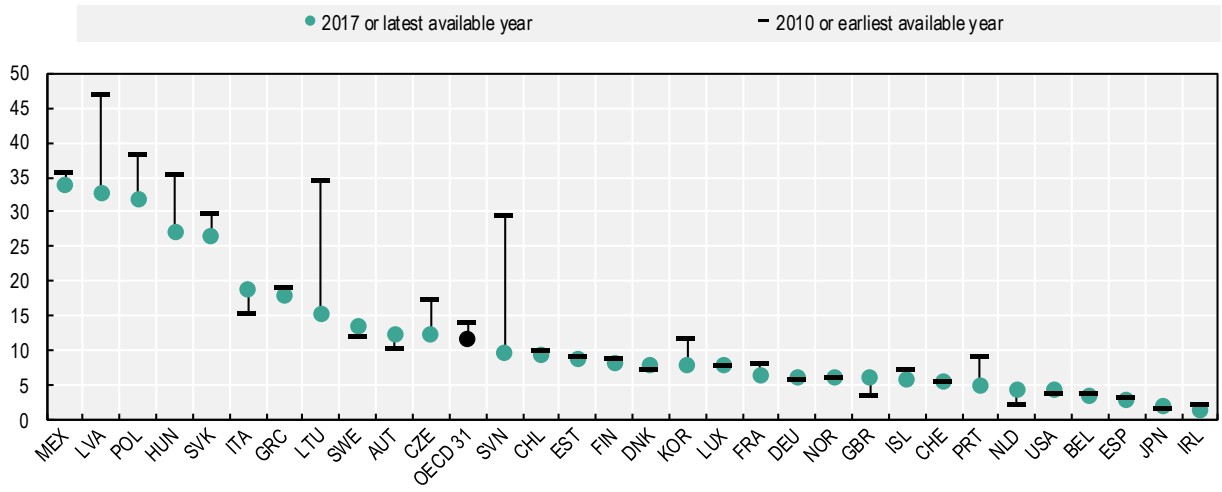
Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: OECD (2019), *OECD Affordable Housing Database*, http://oecd.org/social/affordable-housing-database; *OECD National Accounts* (database), http://dx.doi.org/10.1787/na-data-en and *OECD ICT Access and Usage by Households and Individuals* (database), http://stats.oecd.org/Index.aspx?DataSetCode=ICT_HH2.

Overcrowding rate

People need sufficient space in their homes for privacy and health, and to fulfil all the functions that a home should provide, such as space to study, spend time with family or entertain (OECD, 2011[1]). In 2017, 11.6% of OECD households were living in overcrowded conditions, on average (Figure 3.2) – based on a definition that takes into account the different needs of different household members (see Box 3.1). Overcrowding rates exceed 30% in Mexico, Latvia and Poland, falling to 2% or less in Ireland and Japan. Between 2010 and 2017, overcrowding rates fell by 1 percentage point or more in around one-third of OECD countries, and by 2.6 percentage points for the OECD average. The most significant falls occurred in Slovenia (-19.8 percentage points), Lithuania (-19.1) and Latvia (-14.2). By contrast, overcrowding increased by one percentage point or more in Italy (3.4 percentage points), the United Kingdom (2.6), the Netherlands (2.2) and Austria (2.0).

Figure 3.2. Overcrowding rates range from less than 2% to more than 30% across OECD countries

Share of households living in overcrowded conditions, percentage



Note: A house is considered overcrowded if less than one room is available for each couple in the household; for each single person aged 18 or more; for each pair of people of the same gender between 12 and 17; for each single person between 12 and 17 not included in the previous category; and for each pair of children under age 12 (Eurostat, 2019[2]). The latest available year is 2016 for Iceland, Japan, Mexico, Switzerland, the United Kingdom and the United States, 2014 for Germany and 2013 for Chile. The earliest available year is 2011 for Chile and Estonia. The OECD average excludes Australia, Canada, Colombia, Israel, New Zealand and Turkey, due to a lack of data.
Source: *OECD Affordable Housing Database*, http://oecd.org/social/affordable-housing-database.

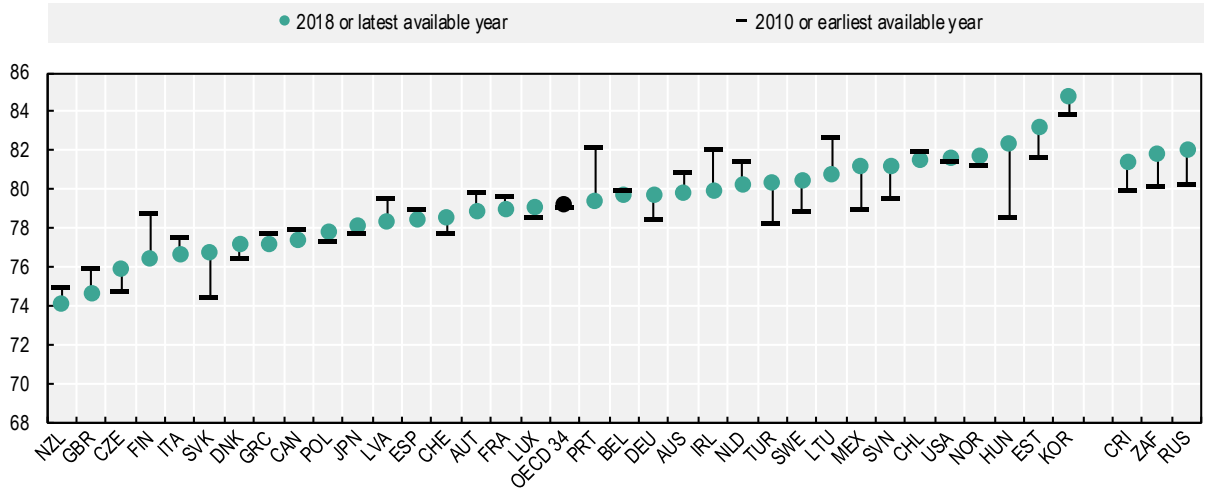
StatLink https://doi.org/10.1787/888934080998

Housing affordability

When a high share of disposable income is spent on housing, this reduces what households can afford to consume and save to support other aspects of their well-being. In 2018, households in 34 OECD countries had, on average, 79.2% of their disposable income available after housing costs (Figure 3.3). This falls below 76% in New Zealand, the United Kingdom and the Czech Republic, but is above 82% in Korea, Estonia and Hungary. Since 2010 there has been little movement in the OECD average, but this masks divergent country trends. For example, housing affordability fell in Portugal (-2.7 percentage points) and Finland (-2.3), but improved in Hungary (up 3.8 percentage points) and the Slovak Republic (2.3).

Figure 3.3. The average OECD household has 79% of disposable income left after housing costs

Share of household gross adjusted disposable income remaining after deducting housing rents and maintenance, percentage



Note: The latest available year is 2018 for Denmark and Norway, 2016 for Costa Rica and Switzerland, 2015 for New Zealand, the Russian Federation and Turkey and 2014 for South Africa. The earliest available year is 2013 for Chile, 2012 for Costa Rica, 2011 for the Russian Federation and 2010 for South Africa. The OECD average excludes Colombia, Iceland and Israel, due to a lack of data.
Source: OECD calculations based on *OECD National Accounts Statistics* (database): "5. Final consumption expenditure of households", http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE5 and "14A. Non-financial accounts by sectors", http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE14A.

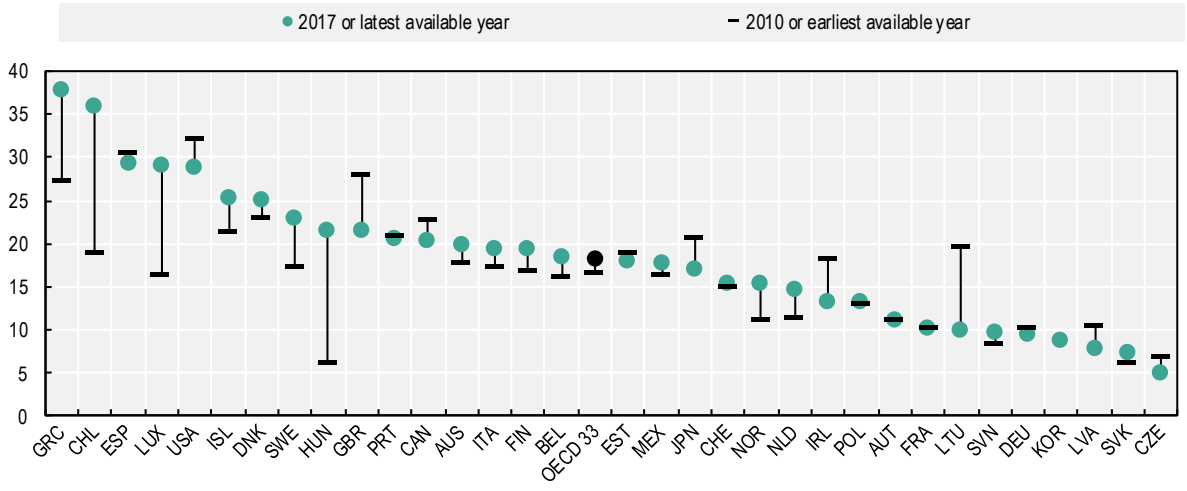
StatLink https://doi.org/10.1787/888934081017

Housing cost overburden

Low-income households are particularly vulnerable when a high share of their income is devoted to housing costs, since this limits spending on other basic essentials, such as food, health care and education. The measure of housing cost overburden shown below focuses on the share of households in the bottom 40% of the income distribution who spend more than 40% of their disposable income on housing (i.e. rent and mortgage costs). In the average OECD country, 18.2% of lower-income households were overburdened by housing costs in 2017 (Figure 3.4). Greece, Chile, Spain and Luxembourg had the highest overburden rates (over 29%), while rates were lowest in Korea, Latvia, the Slovak Republic and Switzerland (below 9%). Between 2010 and 2017, the OECD average overburden rate was broadly stable. However, changes varied across countries: the largest increase in overburden rates occurred in Chile (17.0 percentage points), Hungary (15.3), Luxembourg (12.7) and Greece (10.5), whereas Lithuania, the United Kingdom and Ireland experienced the largest falls (of more than 5 percentage points).

Figure 3.4. Nearly 1 in 5 lower-income households in OECD countries spend over 40% of their income on housing

Share of households in the bottom 40% of the income distribution spending over 40% of their disposable income on housing costs, percentage



Note: The latest available year is 2016 for Canada, Iceland, Japan, Switzerland and the United States, 2015 for the Slovak Republic, 2014 for Mexico and 2012 for Korea. The earliest available year is 2016 for the Czech Republic, 2015 for France, 2012 for Belgium, Ireland, Sweden and Switzerland, and no data for Korea. The OECD average excludes Colombia, Israel, New Zealand and Turkey, due to a lack of data.
Source: *OECD Affordable Housing Database*, http://oecd.org/social/affordable-housing-database.

StatLink https://doi.org/10.1787/888934081036

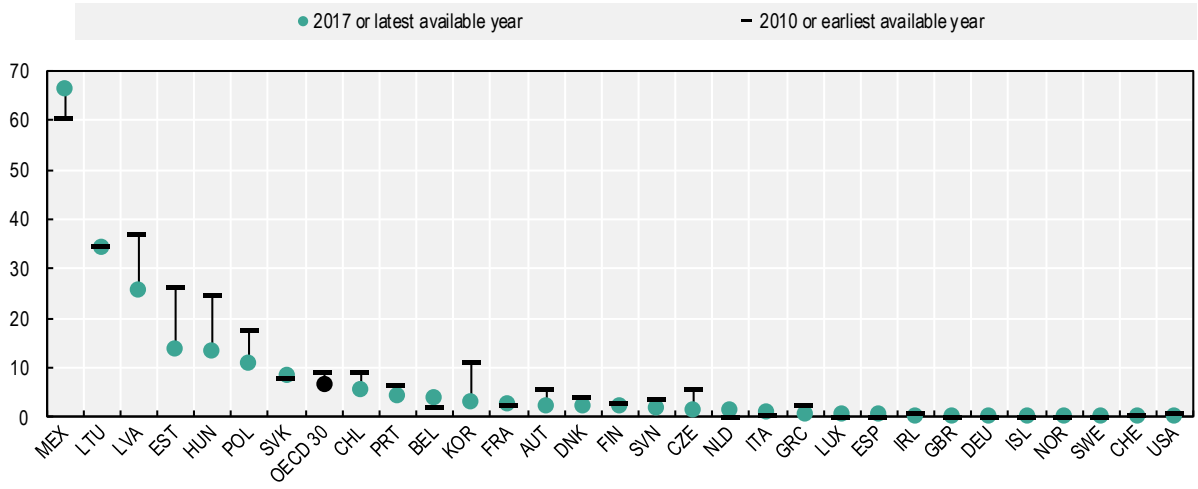
Poor households without access to basic sanitary facilities

A lack of basic sanitary facilities, such as an indoor flushing toilet, is a clear sign of poor quality of housing and poses a high risk to health (Eurofound, 2016[3]). Since the majority (95.6%) of households in OECD countries have an indoor flushing toilet for their sole use (OECD, 2019[4]), the indicator shown below focuses on poorer households – defined as those having an income below 50% of the median equivalised disposable household income of their country. In 2017, fewer than 3% of poor households lacked basic sanitation in around two-thirds of OECD countries (Figure 3.5). However, in Mexico, Lithuania and Latvia, over 25% of poor households lived without indoor flushing toilets. By contrast, nearly all poor households in Germany, Iceland, Norway, Sweden, Switzerland, the United Kingdom and the United States had such facilities in their dwelling.

Between 2010 and 2017, access to basic facilities for poor households improved in most OECD countries. The OECD average share of poor households lacking an indoor flushing toilet fell from 8.8% in 2010 to 6.8% in 2017. The greatest improvements occurred in Estonia (a fall of 12.5 percentage points), Latvia (-11.4), Hungary (-11.3) and Korea (-8.0). However, in Mexico and Belgium, the share of poor households lacking an indoor flushing toilet for their sole use increased by 1.5 percentage points or more.

Figure 3.5. The share of poor households lacking basic sanitation in OECD countries ranges from less than 1% to more than 60%

Share of households below 50% of median equivalised disposable household income without an indoor flushing toilet, percentage



Note: The latest available year is 2016 for Iceland, Mexico, Switzerland and the United States. The earliest available year is 2011 for Chile. The OECD average excludes Australia, Canada, Colombia, Israel, Japan, New Zealand and Turkey, due to a lack of data.
Source: *OECD Affordable Housing Database,* http://oecd.org/social/affordable-housing-database.

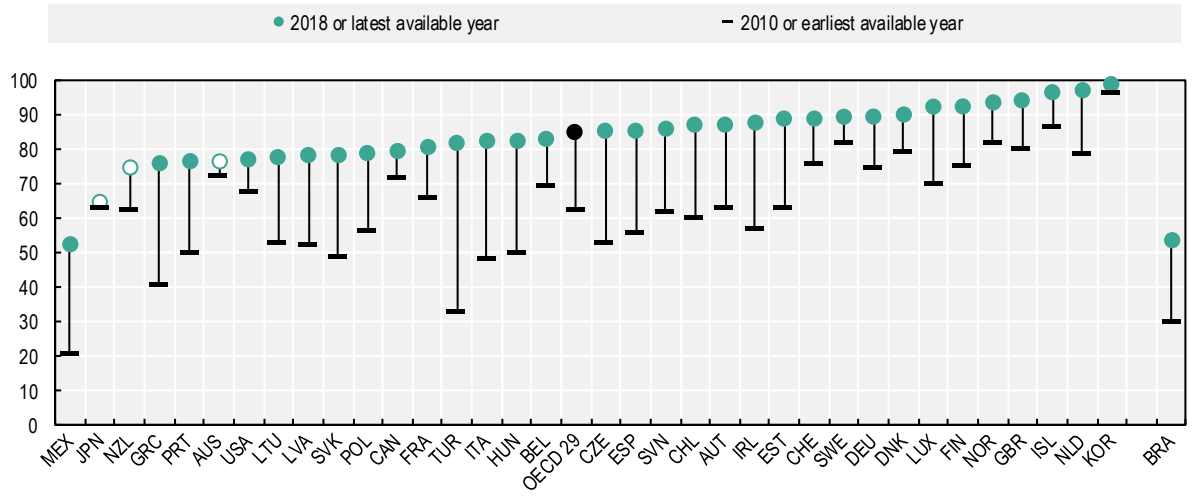
StatLink https://doi.org/10.1787/888934081055

Households with high-speed internet access

Internet access in the home can support social connections, provide access to job opportunities and to both public and private goods and services, and support the development of human capital among household members. In 2018, more than 80% of households in 29 OECD countries had access to broadband internet services, on average (Figure 3.6). Overall, the range was from fewer than 60% in Mexico, to more than 95% in Korea, the Netherlands and Iceland. Between 2010 and 2018, almost all OECD countries experienced a large increase in internet access. The OECD average rose by more than 20 percentage points, up from 63.1% in 2010 to 85.2% in 2018. The largest gains took place in Turkey (49 percentage points) and Greece (35). By contrast, Korea and Sweden started from a relatively high base in 2010, and as a consequence experienced only small increases (2.6 and 7.3 percentage points, respectively).

Figure 3.6. More than 80% of households in OECD countries have access to high-speed internet

Share of households with broadband internet access at home, percentage



Note: The latest available year is 2017 for Chile, Switzerland and the United States, 2013 for Canada, 2012 for Australia and New Zealand, and 2011 for Japan. The earliest available year is 2012 for Chile, 2011 for the United Kingdom, and 2009 for Canada and New Zealand. The OECD average excludes Colombia and Israel, due to a lack of data; Australia, Japan and New Zealand, due to a difference in methodology and inconsistencies compared to other countries (marked in white on the figure); and Luxembourg, Switzerland and the United States, due to a break in the series.

Source: *OECD ICT Access and Usage by Households and Individuals* (database), http://stats.oecd.org/Index.aspx?DataSetCode=ICT_HH2.

StatLink https://doi.org/10.1787/888934081074

Housing inequalities: gaps between population groups

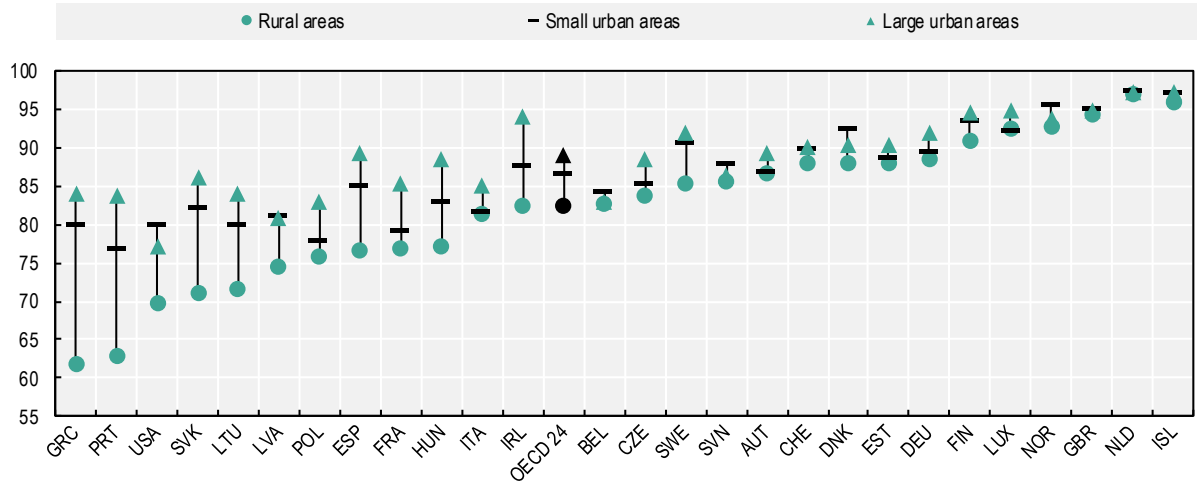
Urban households have greater access to high-speed internet than those in rural areas

Several of the measures explored in this chapter, such as housing cost overburden and poor households without access to basic sanitary facilities, are deprivation measures. Since they are measured at the household level, it is challenging to calculate differences in deprivation rates between population groups (such as men and women, the young and old, or people of different education levels). Where data have sufficient spatial resolution, however, regional differences in housing conditions can be assessed.

The differences in high-speed internet access between urban and rural areas are large in most OECD countries (Figure 3.7). In Greece, Portugal, the Slovak Republic, Spain, Lithuania, Hungary and Ireland, the gap in high-speed internet access between large urban areas and rural areas exceeds 11 percentage points. By contrast, the smallest differences (below 1 percentage point) are in Iceland, the Netherlands and the United Kingdom. A similar pattern exists when comparing small urban areas and rural locations – though these gaps tend to be less pronounced than those for large urban areas.

Figure 3.7. The gap in high-speed internet access between urban and rural areas is large in many OECD countries

Share of households with broadband internet access at home, percentage, 2018



Note: See Box 3.1 for the definitions of rural, small urban and large urban areas. Data refer to 2017 for Switzerland and the United States.
Source: *OECD ICT Access and Usage by Households and Individuals* (database), http://stats.oecd.org/Index.aspx?DataSetCode=ICT_HH2.

StatLink https://doi.org/10.1787/888934081093

Box 3.1. Measurement and the statistical agenda ahead

Housing provides shelter, safety, privacy and personal space. The area where people live also determines their access to many different services. An ideal set of measures for housing conditions would provide information on the quality of housing (e.g. living space, the presence of damp, mould, leaks, etc., sanitary conditions, and access to electricity and clean water), on aspects of housing affordability, and on the amenities and characteristics of neighbourhoods (e.g. access to electricity and clean water, exposure to noise, access to services such as internet access, transport, medical centres, and schools). The indicators considered in this chapter (Table 3.1) capture some but not all of these elements.

Table 3.1. Housing indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by age, education, gender)	Deprivation
Overcrowding rate	Share of households living in overcrowded conditions (EU definition)	n/a	n/a	This indicator is a deprivation measure
Housing affordability	Share of household gross adjusted disposable income remaining, after deductions for housing rents and maintenance	n/a	n/a	n/a – see housing cost overburden
Housing cost overburden	Share of households in the bottom 40% of the income distribution spending more than 40% of their disposable income on housing costs	n/a	n/a	This indicator is a deprivation measure
Poor households without access to basic sanitary facilities	Share of households below 50% of median equivalised disposable household income without indoor flushing toilet for the sole use of their household	n/a	n/a	This indicator is a deprivation measure
Households with high-speed internet access	Share of households with broadband internet access at home	n/a	n/a	n/a

The overcrowding rate adopts the EU-agreed definition (Eurostat, 2019[2]), which takes into account different needs for living space according to the age and gender composition of the household. A household is considered as living in overcrowded conditions if less than one room is available in each household: for each couple in the household; for each single person aged 18 or more; for each pair of people of the same gender between 12 and 17; for each single person between 12 and 17 not included in the previous category; and for each pair of children under age 12 (Eurostat, 2019[2]). Data are sourced from the OECD Affordable Housing Database, which uses household survey data.

Housing affordability refers to the share of household gross adjusted disposable income that is available to the household after deducting housing costs. Housing costs include rent (including imputed rentals for housing held by owner-occupiers) and maintenance (expenditure on the repair of the dwelling, including miscellaneous services, water supply, electricity, gas and other fuels, as well as expenditure on furniture, furnishings, household equipment and goods and services for routine home maintenance). Data are sourced from the *OECD National Accounts* database, and refer to both households and non-profit institutions serving households.

Housing cost overburden refers to the share of households in the bottom 40% of the income distribution devoting more than 40% of their disposable income to housing costs, where the 40% threshold is based on the methodology used by Eurostat for EU member countries (Eurostat, 2019[5]). Housing costs include actual rents and mortgage costs (both principal repayment and mortgage interest); in contrast to the housing affordability measure sourced from National Accounts, no imputed rentals for owner-occupied homes are included. No data on mortgage principal repayments are available for Denmark. For Chile, Mexico, Korea and the United States, gross income instead of disposable income is used. Data are drawn from the OECD Affordable Housing Database, which is sourced from household survey data.

Poor households lacking access to basic sanitary facilities refers to the share of households with equivalised disposable household income below 50% of the national median without an indoor flushing toilet for the sole use of the household. Flushing toilets exclude toilets outside the dwelling, but include flushing toilets in a room where there is also a shower unit or a bath. For Chile, Mexico, Korea and the United States, gross income instead of disposable income is used. Data for Korea refer to a flushing toilet regardless of the type of toilet (Asian or European style). Data are drawn from the OECD Affordable Housing Database, which is sourced from household survey data.

Households with high-speed internet access at home refers to the share of households with broadband internet access at home. Broadband internet is defined as subscriptions with a download speed of at least 256 Kbit/s. The definition of rural and urban areas is provided below. Data are sourced from the OECD database on ICT Access and Usage by Households and Individuals.

	EU countries	Non-EU countries
Rural areas	More than 50% of the population lives in rural grid cells	Definitions differ by countries. For more detailed information see *OECD ICT Access and Usage by Households and Individuals* (database), http://stats.oecd.org/Index.aspx?DataSetCode=ICT_HH2
Small Urban areas	- Less than 50% of the population lives in rural grid cells and - Less than 50% lives in high-density clusters	
Large Urban areas	At least 50% lives in high-density clusters	

Note: Rural grid cells are defined as grid cells outside urban clusters; urban clusters are defined as clusters of contiguous grid cells of 1 km^2 with a density of at least 300 inhabitants per km^2 and a minimum population of 5 000; high-density clusters are defined as contiguous grid cells of 1 km^2 with a density of at least 1 500 inhabitants per km^2 and a minimum population of 50 000.

Correlations among Housing indicators

Across OECD countries, there are only three highly significant correlations among the housing indicators used in this chapter (Table 3.2), which suggests that the indicators capture different facets of the dimension. In countries with a higher overcrowding rate, there also are more poor households lacking access to basic sanitation, and fewer households with high-speed internet access. Housing affordability and housing cost overburden are not significantly correlated, suggesting that each contributes different information about housing costs.

Table 3.2. Sanitation, overcrowding and internet access are correlated across OECD countries

Bivariate correlation coefficients among the Housing indicators

	Housing affordability	Overcrowding rate	Housing cost overburden	Poor households without access to basic sanitary facilities	Households with high-speed internet access
Housing affordability					
Overcrowding rate	-0.07 (30)				
Housing cost overburden	-0.02 (32)	-0.19 (31)			
Poor households lacking access to basic sanitary facilities	0.22 (29)	**0.66*** ** (30)	-0.18 (30)		
Households with high-speed internet access	0.12 (34)	**-0.50*** ** (31)	-0.01 (33)	**-0.75*** ** (30)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

Further harmonisation is needed for calculating the housing overcrowding rate: cross-country differences exist in how rooms are defined, in particular the treatment of kitchens, and in how minimum space restrictions are applied. Kitchens are counted as rooms in Chile, Japan, Korea, Mexico and the United States; by contrast, in all European countries rooms exclude kitchens used exclusively for cooking (while including "kitchen-cum-dining rooms"). European countries exclude spaces of less than 4 square meters; Germany excludes spaces of less than 6 square meters; the United States specifies that rooms "must extend out at least 6 inches and go from floor to ceiling". These two features imply that overcrowding rates may be biased upwards in European sources, relative to those from Chile, Japan, Korea, Mexico and the United States (since fewer household spaces are counted as rooms).

For the calculation of housing cost overburden, no data on mortgage repayments are currently available for Denmark and Iceland. No information on reduced rent is available for Australia, Canada, Chile, Mexico, New Zealand, the United States, Denmark and the Netherlands. Thus, further methodological harmonisation is needed.

Several aspects of housing quality, such as the provision of living space and the presence of damp, mould and leaks, are not captured in a consistent way across international data sources. Internationally harmonised data on access to services and amenities (such as transport, medical centres, schools, etc.) are being developed, but are not yet available on an OECD-wide basis. Internationally comparable data on homelessness (a measure of extreme housing deprivation) and people's perceptions of their housing conditions are also lacking.

Capturing housing inequalities among different population groups (such as by sex, age, or education) is challenging, because these data are typically reported at the household level. One possibility would be to consider differences between groups according to the status of the head of the household, as done for the Income and Wealth dimension (see Chapter 2). Regional inequalities are particularly important in the housing domain, not least given the important role that location plays in determining access to services.

References

Eurofound (2016), "Inadequate housing in Europe: Costs and consequences", http://dx.doi.org/10.2806/810142. [3]

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Eurostat (2019), *Statistics Explained: Overcrowding rate*, https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Overcrowding_rate (accessed on 23 December 2019). [2]

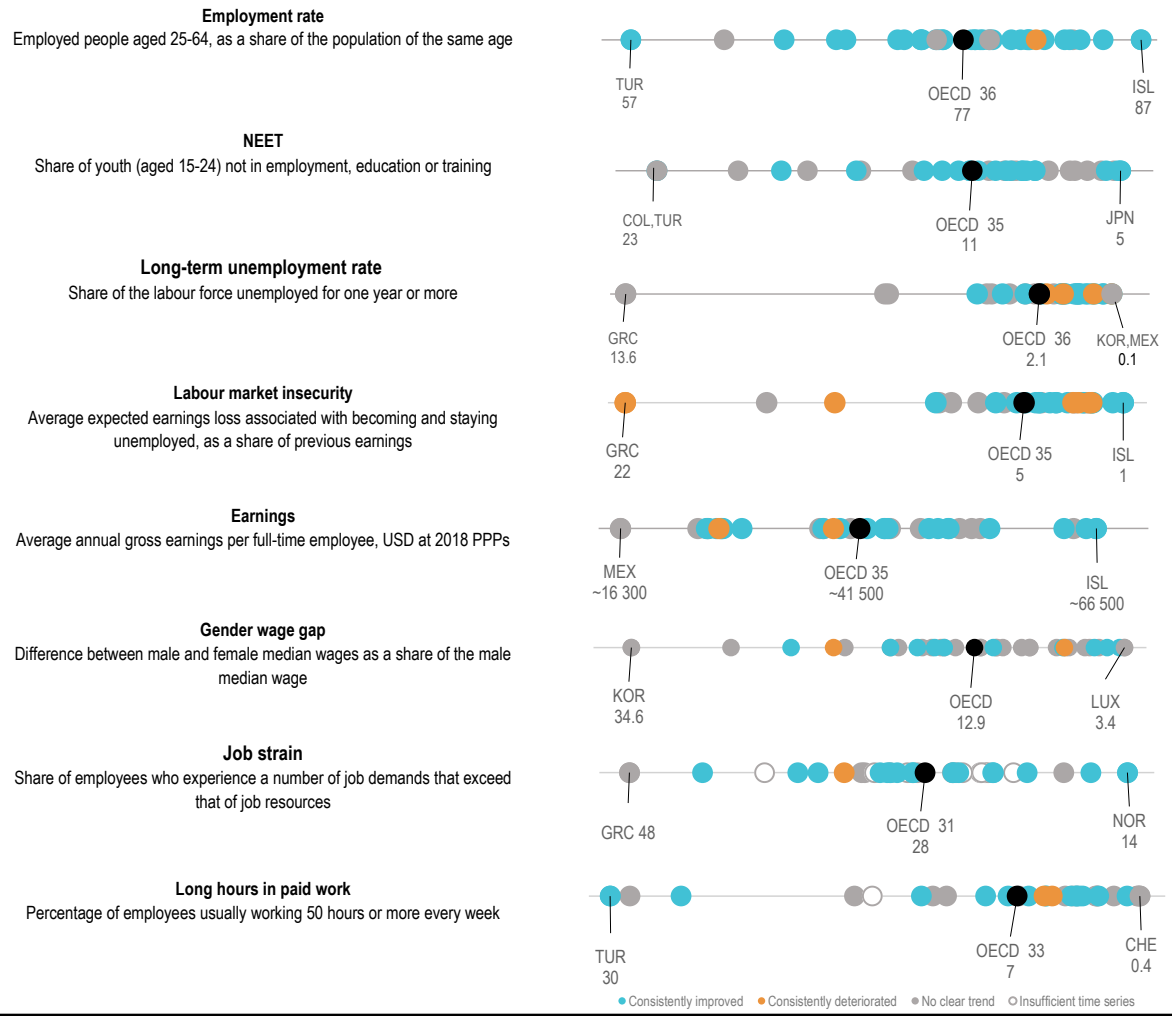
OECD (2019), *Better Life Index*, http://www.oecdbetterlifeindex.org/topics/housing/. [4]

OECD (2011), *How's Life?: Measuring Well-being*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264121164-en. [1]

4 Work and Job Quality

This chapter addresses both the quantity of jobs and their quality – i.e. the material and non-material aspects of people's working conditions. Since 2010, Work and Job Quality has generally improved across OECD countries: employment rates among adults have risen by 5 percentage points, and real earnings have increased, on average, by 7%, cumulatively. Long-term unemployment, the share of youth not in employment, education or training (NEET), labour market insecurity, the number of employees working long hours and job strain have each improved for the OECD on average – though not for all countries. Women are less likely to be employed and more likely to be long-term unemployed or NEET, relative to men. Men earn 13% more than women, but have higher rates of job strain and are more likely to regularly work long hours. Young adults and those without a tertiary education fare less well than older and more educated workers.

Figure 4.1. Work and Job Quality snapshot: current levels, and direction of change since 2010



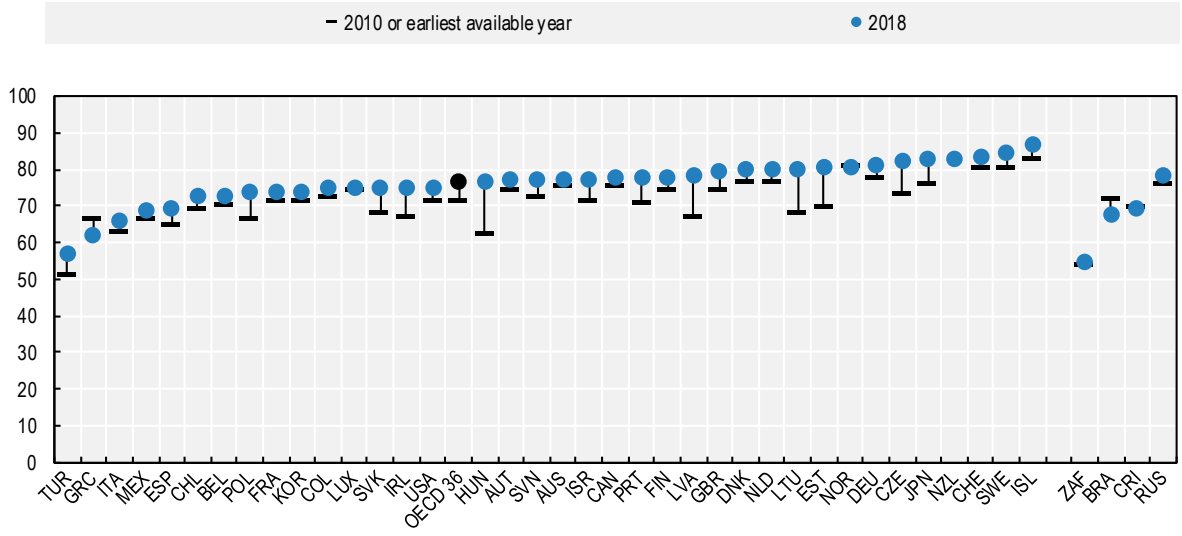
Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: OECD calculations based on *OECD Labour Force Statistics by Sex and Age – Indicators* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R; *OECD Transition from school to work* (database), https://stats.oecd.org/Index.aspx?DataSetCode=EAG_TRANS; *OECD Unemployment by duration* (database), https://stats.oecd.org/Index.aspx?DataSetCode=DUR_I; *OECD Average annual wages* (database), https://stats.oecd.org/Index.aspx?DataSetCode=AV_AN_WAGE; *OECD Indicators of gender equality in employment* (database), https://stats.oecd.org/Index.aspx?DataSetCode=GENDER_EMP and *OECD Job quality* (database), http://stats.oecd.org/Index.aspx?DataSetCode=JOBQ.

Employment rate (ages 25 to 64)

On average, across OECD countries, 77% of the adult population (aged 25 to 64) is employed (Figure 4.2), ranging from 87% in Iceland to less than 60% in Turkey. Broadly speaking, employment is lower in southern European countries and in Latin America, and higher in northern and central Europe, Japan and New Zealand. Compared to 2010, in the aftermath of the crisis, the share of employed adults in the OECD has increased by 5 percentage points, with the largest increases occurring in Hungary (14 percentage points), followed by the Baltic States (around 10 percentage points). The share of employed adults is, however, still below its 2010 level in Greece and Brazil (by 4 percentage points).

Figure 4.2. Employment among those aged 25-64 has rebounded following the financial crisis

Employed people aged 25-64, as a share of the population of the same age, percentage



Note: The earliest available year is 2011 for Portugal, Germany and Brazil. The OECD average excludes New Zealand, due to breaks in the time series.
Source: *OECD Labour Force Statistics by Sex and Age – Indicators* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R.

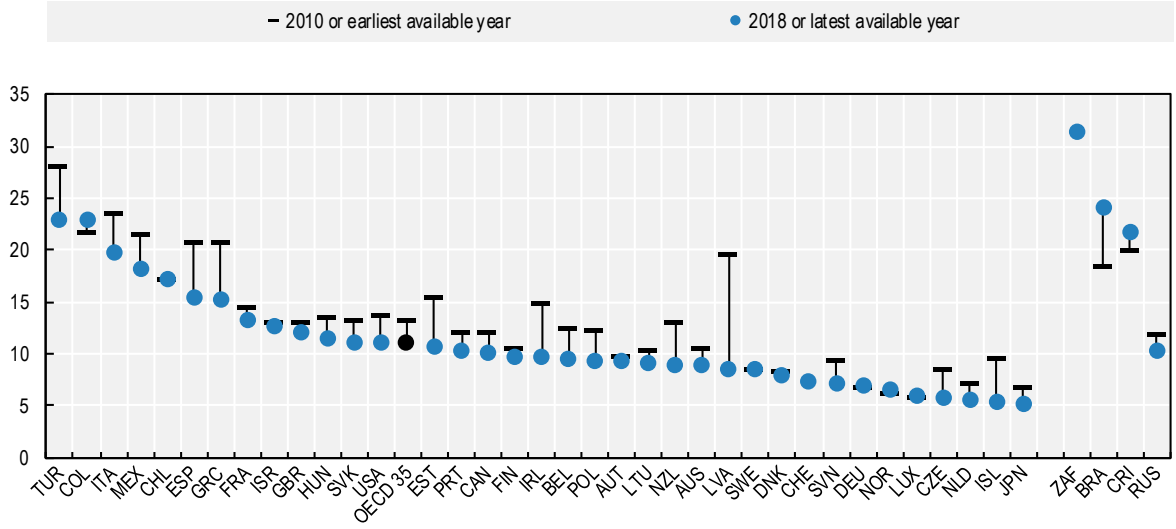
StatLink https://doi.org/10.1787/888934081112

Youth not in employment, education or training (ages 15-24)

The employment figures shown above exclude youths and young adults (aged 15-24), since many people in this age group are in full-time education or training. Thus, countries with high participation rates in upper secondary and tertiary education, or vocational study, are penalised when a 15-64 age range is considered for employment. Nevertheless, the availability of jobs for youths who are not in full-time study is an important issue. Across OECD countries on average, one youth in every 10 is not in employment, education or training (NEET) (Figure 4.3). Around 5% of youths in Japan and Iceland are NEET, but this contrasts with more than 20% in Turkey and Colombia. Compared to 2010, the NEET share has fallen by 2 percentage points on average across OECD countries. Much larger falls occurred in Latvia (by 11 percentage points), Greece (by 6 points), Ireland, Spain and Turkey (by 5 points). At the same time, the NEET rate remained stably high in Chile, and increased slightly in Colombia.

Figure 4.3. One youth in ten is not in employment, education or training across OECD countries

Share of youth (aged 15-24) not in employment, education or training, percentage



Note: The OECD average excludes Korea and Switzerland, due to incomplete time series.
Source: *OECD Transition from school to work* (database), https://stats.oecd.org/Index.aspx?DataSetCode=EAG_TRANS.

StatLink https://doi.org/10.1787/888934081131

Long-term unemployment rate

Long-term unemployment refers to people who have been out of work for one year or more, but who have been actively seeking employment within the last four weeks, and would be available to take up a job within two weeks. While most spells of unemployment tend to be short, long-term unemployment weighs heavily on the well-being of individuals and their families. On average, 2.1% of the total labour force in OECD countries have been unemployed for one year or more (Figure 4.4). The long-term unemployment rate is highest in Greece (at almost 14%) and South Africa (where it is almost 17%), while it is lowest in Mexico and Korea (close to zero). Compared to 2010, the share of people in long-term unemployment has fallen by about 1 percentage point for the average OECD country, with the largest falls (between 6 to 8 percentage points) recorded in the Baltic States and Ireland. The long-term unemployment rate has increased since 2010, however, in Greece (by 7 points), in South Africa (by 3 points) and in Italy (by 2 points).

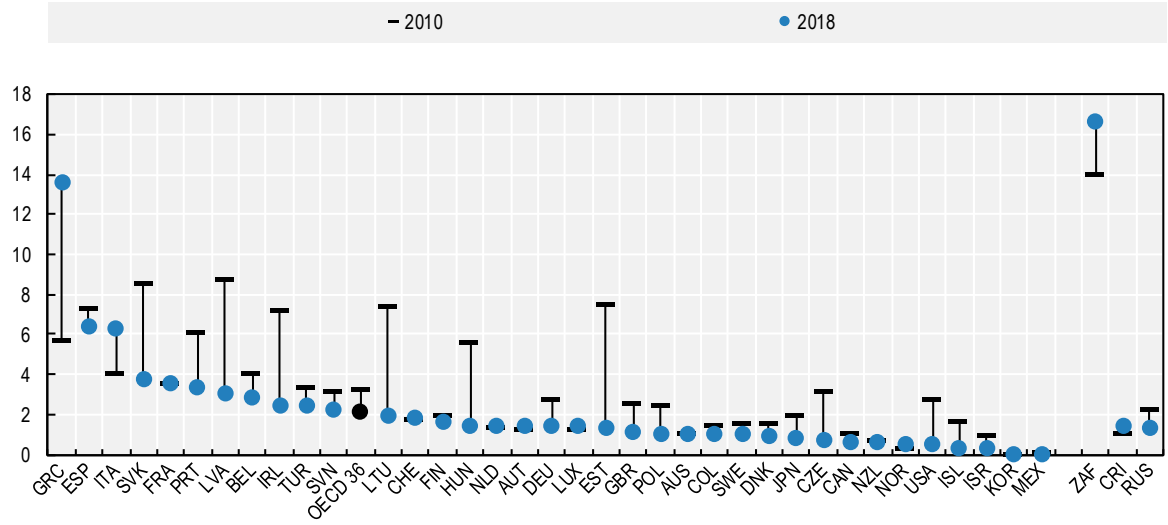
Labour market insecurity

The risk of job loss impacts all workers, albeit often unequally. On average across OECD countries, the expected monetary loss associated with becoming and staying unemployed, as a share of previous earnings, was around 5% in 2016 (Figure 4.5). This measure reflects both the risk of losing one's job and the protections available in case this risk materialises, in the form of social programmes available to the unemployed. This figure ranged from 8% in southern Europe, the Slovak Republic and Turkey (and exceeds 20% in Greece), to just 2% in Iceland and Germany. Between 2010 and 2016, the OECD average measure of labour market insecurity fell by 1 percentage point, with much larger falls in Estonia, Latvia and Hungary (between 7 and 8 percentage points). However, over the same period, labour market insecurity

increased in several countries with already high rates, including in Greece (by 11 percentage points), Spain (5.1) Italy (2.3) and Portugal (1). Although starting from a lower base, it also increased in Norway (by 1.2 percentage points).

Figure 4.4. Long-term unemployment has fallen since 2010 in most OECD countries

Share of the labour force unemployed for one year or more, percentage



Note: The earliest available year is 2011 for Germany, Portugal and Brazil. The OECD average excludes Chile, as data are not available.
Source: *OECD Labour Force Statistics by Sex and Age – Indicators* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R.

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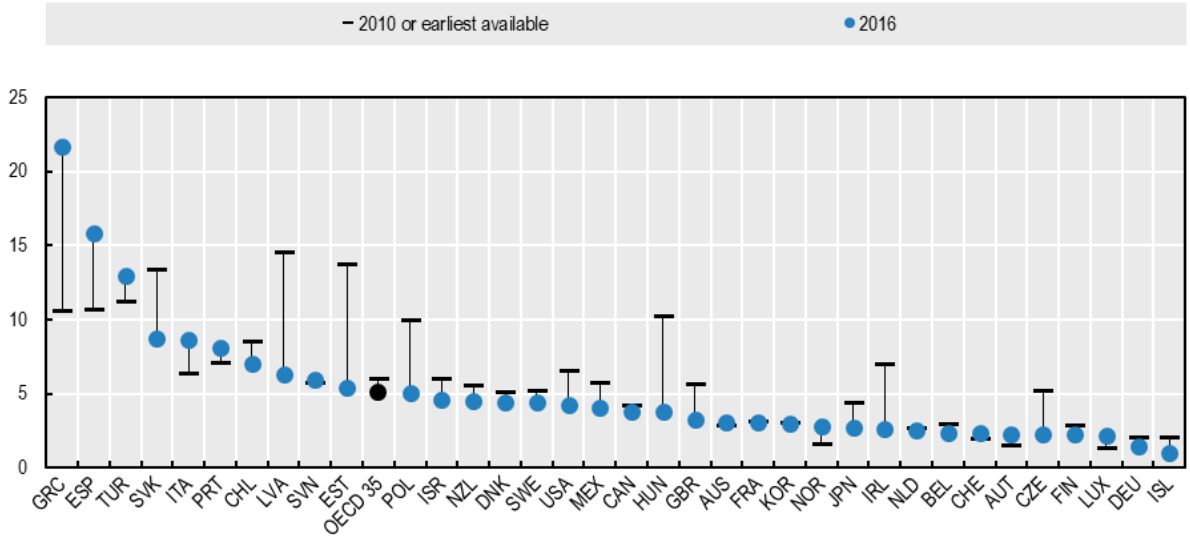
Figure 4.5. A slight fall in labour market insecurity hides big differences across OECD countries

Average expected monetary loss associated with becoming and staying unemployed, as a share of previous earnings



Note: The earliest available year is 2011 for Chile. The OECD average excludes Colombia and Lithuania, as comparable data are not available.
Source: *OECD Job quality* (database), http://stats.oecd.org/Index.aspx?DataSetCode=JOBQ.

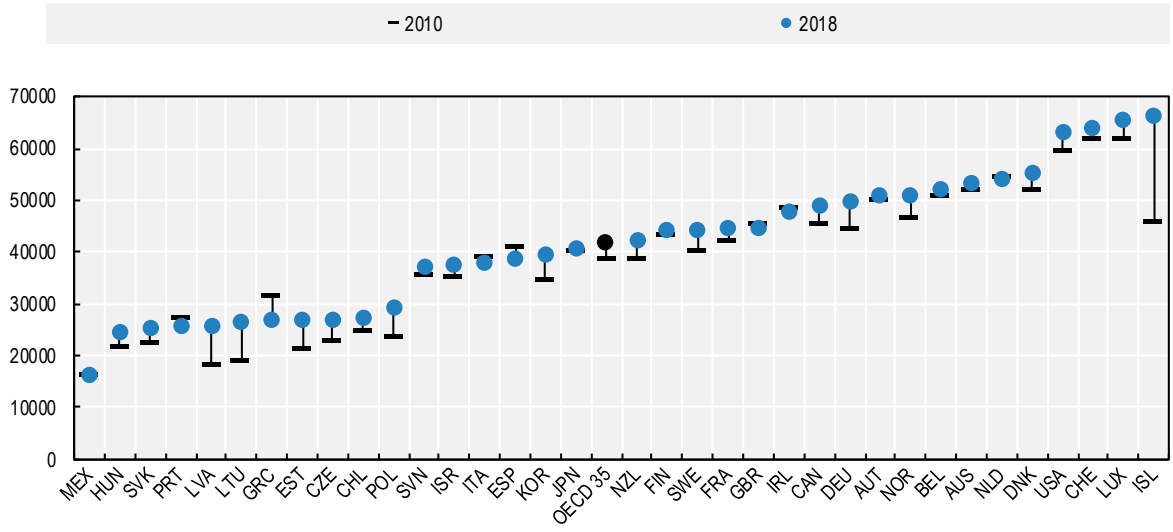
StatLink https://doi.org/10.1787/888934081169

Earnings

Earnings are an important component of job quality. The average annual gross earnings of full-time employees stand at USD 41 500 in the OECD (Figure 4.6), ranging from less than USD 20 000 in Mexico to more than USD 60 000 in Iceland, Luxembourg, Switzerland and the United States. Between 2010 and 2018, this earnings measure increased by 7%, cumulatively (about USD 2 700) in real terms, on average across OECD countries. The largest increases occurred in Iceland (by 45%), followed by the Baltic States and Poland (between 23% and 41%), while the measure declined the most in Greece (-15%), followed by other southern European countries: Spain, Portugal (-6%) and Italy (-3%).

Figure 4.6. In the best-paid OECD countries, full-time workers earn four times more than in the worst-paid, on average

Average annual gross earnings per full-time employee, USD at 2018 PPPs



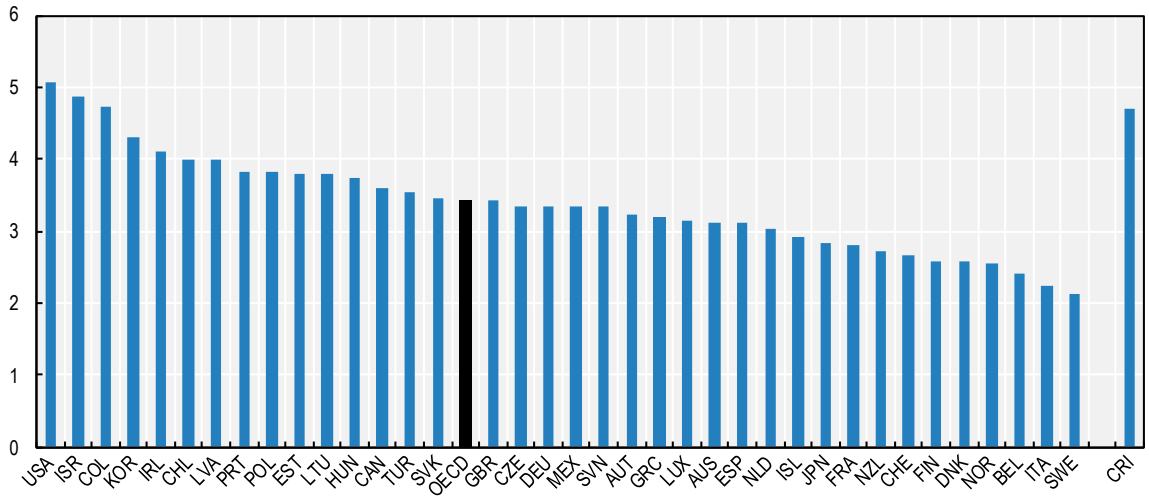
Note: The OECD average excludes Colombia and Turkey, as comparable data are not available.
Source: *OECD Average annual wages* (database), https://stats.oecd.org/Index.aspx?DataSetCode=AV_AN_WAGE.

StatLink https://doi.org/10.1787/888934081188

The distribution of earnings within countries can be assessed by looking at the ratio between earnings at the 90th percentile (i.e. at the beginning of the top 10%), and those at the 10th percentile (i.e. at the beginning of the bottom 10%). On average across OECD countries, earners at the 90th percentile earn more than 3 times those at the 10th percentile (Figure 4.7). The ratio ranges from 5 in the United States and Israel, to 2 in Sweden and Italy.

Figure 4.7. Earners at the 90th percentile earn more than 3 times those at the 10th percentile, on average across OECD countries

Ratio of earnings at the 90th percentile to earnings at the 10th percentile, full-time employees, 2018 or latest available year



Note: The latest available year is 2018 for Australia, Colombia, the Czech Republic, Mexico, New Zealand, the United Kingdom and Costa Rica, 2016 for Belgium, Hungary, Iceland, Italy, Poland and Switzerland, 2015 for Norway, 2014 for Estonia, France, Latvia, Lithuania, Luxembourg, the Netherlands, Slovenia, Spain and Turkey, and 2017 for all the other countries.
Source: *OECD Decile ratios of gross earnings* (database), https://stats.oecd.org/Index.aspx?DataSetCode=DEC_I.

StatLink https://doi.org/10.1787/888934081207

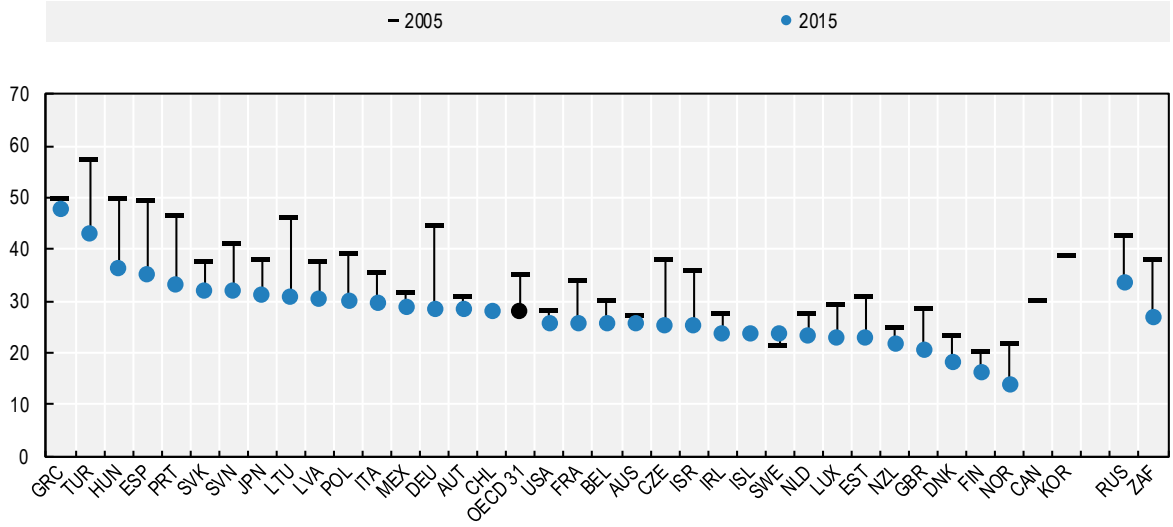
Full-time employees earning less than two-thirds of gross median earnings for all full-time employees are considered to experience low pay. Across OECD countries, on average, 15% of full-time employees experience low pay, ranging from 25% in Latvia and in the United States, to fewer than 5% in Belgium and Turkey.

Job strain

Job strain is about the quality of the working environment. It is defined as a situation where the job demands experienced by workers (i.e. physical demands, work intensity, inflexible working hours) exceed the resources available to them (i.e. task discretion, training, career advancement). On average, almost one-third of employees in OECD countries experienced job strain in 2015 (Figure 4.8). This share is generally higher in central and southern European countries (peaking at almost 50% in Greece), while affecting around 20% of employees in northern Europe and New Zealand. Between 2005 and 2015, the number of employees experiencing job strain fell by almost 8 percentage points on average across OECD countries, with the largest falls (between -15 and -16 percentage points) in northern and central Europe.

Figure 4.8. Job strain affects almost 1 in every 3 employees in OECD countries

Share of employees who experienced a number of job demands exceeding that of job resources, percentage



Note: The OECD average excludes Canada, Chile, Colombia, Iceland, Korea and Switzerland, due to incomplete time series. Data for Korea and Canada refer to 2005 only.
Source: *OECD Job quality* (database), http://stats.oecd.org/Index.aspx?DataSetCode=JOBQ.

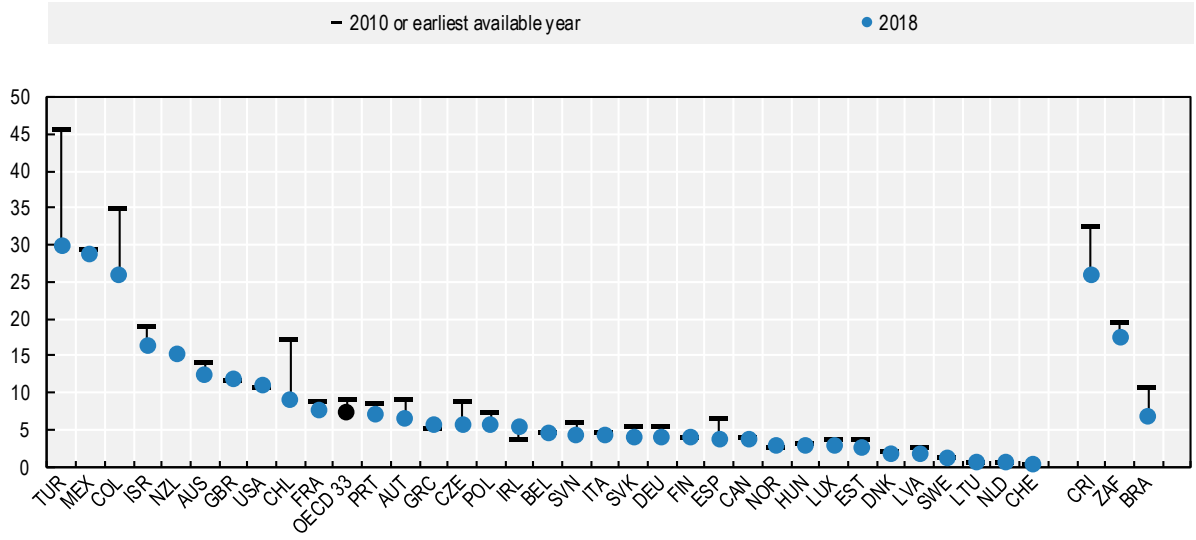
StatLink https://doi.org/10.1787/888934081226

Long hours in paid work

Long hours spent in paid work can impinge on leisure time, personal care, and a person's ability to contribute to unpaid work (such as housework and caring for family members) within a household. On average, around 7% of employees in OECD countries routinely work 50 hours or more each week (Figure 4.9). This rises to more than 25% in Turkey, Mexico and Colombia, but is almost zero in Switzerland, the Netherlands and Lithuania. Relative to 2010, the share of employees who spend long hours in paid work has fallen by 1.7 percentage point, on average, with much larger falls in Turkey (-16 percentage points), Colombia (-9) and Chile (-8). However, it increased slightly in a few countries, with the strongest increase (of 2 percentage points) occurring in Ireland.

Figure 4.9. Since 2010, the share of employees working long hours has fallen in most OECD countries

Share of employees usually working 50 hours or more every week, percentage



Note: The earliest available year is 2011 for Portugal, Germany and Brazil. The OECD average excludes Iceland, Japan, Korea and New Zealand, due to breaks in the time series or incomplete time series.
Source: *OECD Labour Force Statistics by Sex and Age – Indicators* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R.

StatLink https://doi.org/10.1787/888934081245

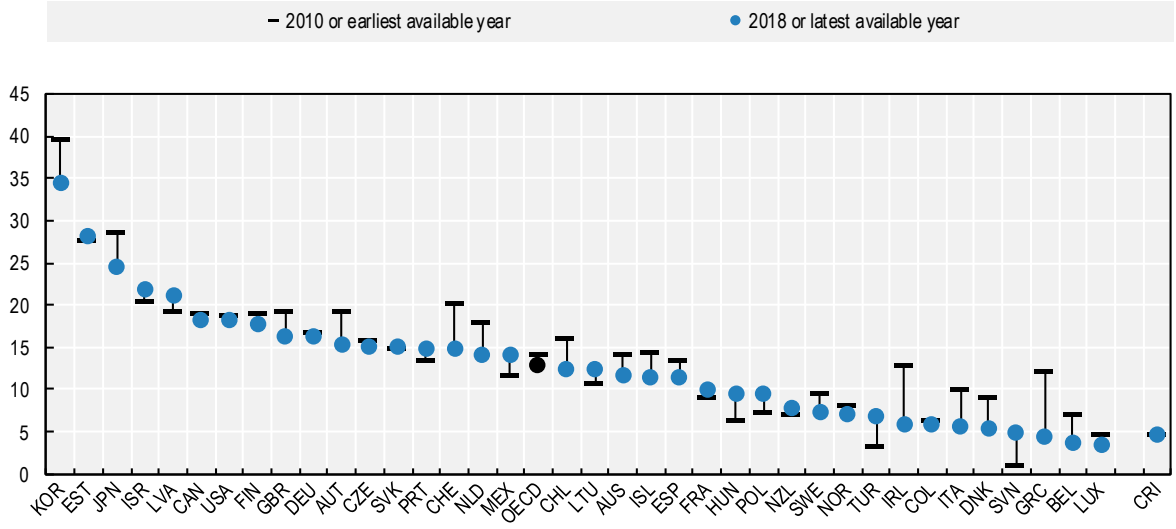
Inequalities in Work and Job Quality: gaps between population groups

Work and Job Quality are generally better for men

Across OECD countries, men aged 25-64 are more likely than women of the same age to be employed (83% to 70%, respectively, on average). Gender differences in long-term unemployment are much smaller, but still favour men (2%, compared to 2.2% for women). When aged 15-24, young men are less likely to be NEET (not in employment, education or training) than young women (10% compared to 12%). Men's hourly earnings are also 13% higher than women's (Figure 4.10). When accounting for differences in working time, employment rates and the gender wage gap, men's labour income overall is 40% higher than for women (OECD, 2018[1]). However, men are 20% more likely than women to experience job strain, and they are also more likely to spend long hours in paid employment (10% of male employees usually work 50 hours or more per week, compared to only 4% female employees). This contrasts with the pattern that emerges when both paid and unpaid working time are combined (see Reference Chapter 10 on Work-Life Balance), which shows women in OECD countries working 25 minutes per day longer than men, on average.

Figure 4.10. Across OECD countries, men still earn 13% more than women

Difference between male and female median wages, as a share of the male median wage



Note: The latest available year is 2018 for Australia, Colombia, Costa Rica, the Czech Republic, Mexico, New Zealand and the United Kingdom; 2016 for Belgium, Hungary, Iceland, Italy, Portugal and Switzerland; and 2014 for Estonia, France, Latvia, Lithuania, Luxembourg, the Netherlands, Slovenia, Spain and Turkey. The earliest available year is 2011 for Chile and Costa Rica.
Source: *OECD Indicators of gender equality in employment* (database), https://stats.oecd.org/Index.aspx?DataSetCode=GENDER_EMP.

StatLink https://doi.org/10.1787/888934081265

Middle-aged adults enjoy more and better jobs

Across OECD countries, on average, young adults (aged 15 to 24) are 50% less likely to be employed than middle-aged adults (aged 25 to 54). They are also 20% more likely to be in long-term unemployment, 20% more likely to experience job strain, and their hourly earnings are 30% lower when compared to middle-aged adults. However, only 5% of young adults usually work 50 hours or more per week (compared to 8% of middle-aged adults). At the other hand of the age spectrum, older adults (aged 55-64) are 20% less likely to be employed than middle-aged adults, and 30% more likely to be long-term unemployed. However, when employed, their hourly earnings are 4% higher. Similarly to middle-aged workers, 27% of older employees experience job strain and 8% of them usually work 50 hours or more per week.

Tertiary-educated adults generally enjoy better Work and Job Quality

On average across OECD countries, adults aged 25 to 64 with less than an upper secondary education are 30% less likely to be employed than adults with a tertiary education. When employed, their hourly earnings are 40% lower; the share experiencing job strain is more than twice the rate among the tertiary educated; and they are more than three times as likely to be in long-term unemployment. By contrast, adults with an upper secondary education are almost as likely as adults with tertiary education to be employed – although their hourly earnings are 30% lower, and their incidence of job strain is 4 times higher. Adults with an upper secondary education are also 70% more likely to be in long-term unemployment, when compared to tertiary-educated adults.

Box 4.1. Measurement and the statistical agenda ahead

Work refers to productive activity (whether paid or unpaid), and job quality is about both material and non-material aspects of people's working conditions. This chapter focuses on paid work, and is complemented by the Reference Chapter 10 on Work-Life Balance, which also considers unpaid work. Material aspects of working conditions include issues such as remuneration (e.g. salary), the availability of jobs, and the risk of job loss. Non-material aspects relate to the quality of the working environment, measured through workers' self-reports about their physical safety, the content of their job, how well this matches their skills and abilities, the autonomy afforded, their learning opportunities, working time arrangements (including the length of working hours and the possibility of working flexibly), and relationships with co-workers (such as the level of social support at work). Some, but not all, of these aspects of Work and Job Quality are reflected in the indicators used in this chapter (Table 4.1).

Table 4.1. Work and Job Quality indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age and education)	Deprivation
Work quantity	Employment rate (25-64)	n/a	Gaps in employment rate by group; Gaps in long-term unemployment rate by group; Gaps in the share of youths who are not in employment, education or training by group	Long-term unemployment rate; NEET (Share of people aged 15 to 24 who are not in employment, education or training)
	Labour market insecurity due to the risk of becoming unemployed (for employed people)	n/a	[available but not used]	n/a
Job quality	Average annual earnings for full-time equivalent employees	P90/P10 ratio of earnings for full-time equivalent employees	Gaps in hourly earnings for full-time equivalent employees	Full-time employees earning less than two-thirds of gross median earnings of all full-time employees
	Job strain – a composite measure of the quality of the working environment	n/a	Gaps in share of employees facing job strain by group	Incidence of job strain (i.e. the share of employees facing a higher number of job demands than the job resources available to them in the survey reference week)
	Long hours in paid work	n/a	Gaps in the share of employees usually working very long hours by group	Long hours in paid work (employees usually working 50 hours or more in paid work each week)

Employment rate refers to the share of the adult population (people aged 25 to 64) who report having worked in gainful employment for at least one hour in the previous week. It also includes persons who, having already worked in their present job, were temporarily absent from work during the reference period of the survey while having retained a formal attachment to their job (e.g. due to parental leave, sickness, or annual leave). The data come from national Labour Force Surveys (LFSs) as compiled in the *OECD Annual Labour Force Statistics (ALFS)* Database, and are consistent with the standards set by the International Conference of Labour Statisticians.

Long-term unemployment rate refers to the number of people who have been unemployed for one year or more, as a share of the labour force (i.e. the sum of employed and unemployed persons). Unemployed persons are those who did not perform any paid work in the survey reference week, but

who actively searched for work within the last 4 weeks, and would be available to start work within the next 2 weeks. The data are drawn from national Labour Force Surveys, as available in the *OECD Employment Outlook Database,* and are consistent with the standards set by the International Conference of Labour Statisticians.

Youth not in employment, education or training (NEET) refers to the number of youth (i.e. people aged 15-24) who are not in employment, education or training, as a share of the population of the same age. The transition of younger individuals from education to working life varies with educational opportunities and social and economic contexts. In low-income countries, this indicator should be analysed in combination with the share of youth in vulnerable and informal jobs to better grasp the marginalization of young people on the labour market (ILO, 2015[2]). Education and training refer to courses currently being attended in the regular educational system, either during the previous four weeks or over a shorter period. Some OECD countries may include some people who are not classified as being in formal education, but who are in training (or education) for employment or for tertiary entrance examinations (OECD, 2017[3]). The data are compiled from National Labour Force Surveys by the OECD Labour Market and Social Outcomes of Learning Network though an annual questionnaire.

Labour market insecurity refers to the expected monetary loss that an employed person would incur upon becoming and staying unemployed, expressed as a share of previous earnings. This loss depends on the risk of becoming unemployed, the expected duration of unemployment and the mitigation against these losses provided by unemployment benefits (effective insurance). Data on unemployment duration are used to measure the probability of entering unemployment (people who report having been unemployed for 1 month or less are assumed to have been employed in the previous month), as well as the average expected duration of completed unemployment spells (in months). Unemployment insurance is calculated as the product of the coverage of unemployment insurance/assistance (the share of the unemployed who declare receiving an unemployment benefit) and (model-based estimates of) the replacement rates (the ratio of public transfers received by recipients of unemployment benefits and previous earnings). These replacement rates include benefits from unemployment insurance and unemployment assistance but exclude social assistance benefits; they are computed by averaging replacement rates for different configurations of earnings levels and family types. The indicator combines data from the *OECD Unemployment Duration Database*, the *OECD Benefit Recipients Database*, the *OECD Labour Market Programmes Database* and the *OECD Taxes and Benefits Database.*

Earnings refer to the average annual earnings of employees working in all sectors of the economy and in all types of dependent employment, expressed on a full-time and full-year equivalent basis. The earnings concept used, which is sourced from the National Accounts, includes employees' gross remuneration (i.e. including employers' social security contributions) before any deductions are made by the employer in respect of taxes, contributions to social security and pension schemes, life insurance premiums, union dues and other employee obligations. This value ("Wages and salaries") is divided by the number of full-time equivalent employees in the economy (obtained by multiplying data on the number of employees by the ratio of hours worked by all employees and by those working full-time, in order to correct for the prevalence of part-time work). This indicator hence combines data from the *OECD National Accounts Database*, the *OECD Earnings Distribution Database* and the *OECD Average Annual Earnings per Full-time* and *Full-year Equivalent Dependent Employee Database,* which are based on data from the National Accounts, Labour Force Surveys, establishment/employer surveys, household income surveys and administrative registers from tax files. The gender wage gap and the risk of low pay indicator (deprivation) are calculated for full-time employees (not in full-year equivalent terms, as all the other indicators). Earnings are expressed in US dollars (USD) using purchasing power parities (PPPs) for private consumption.

Job strain considers the incidence of job strain among employees. Job strain is defined as a situation in which the job demands reported by employees (e.g. time pressure, and exposure to physical health risks) exceed their job resources (e.g. work autonomy, opportunities for learning and good workplace relationships). The data used to compute this indicator refer to three types of job demands (namely a) *physical demands* related to hard physical work such as carrying and moving heavy loads; b) *work intensity,* which relates to longer-than-average working hours; and c) *working time inflexibility*); and three types of job resources (namely 1) *work autonomy,* which includes workers' freedom to choose and change their work tasks and methods; 2) *training and learning opportunities,* which include training and informal learning opportunities at work; and 3) *perceived opportunity for career advancement*, which is linked to workers' motivation at work). Job strain refers to instances where employees report more job demands than job resources. As no single data source covers all OECD countries, the job strain index is obtained by combining data from the European Working Conditions Survey (EWCS) and the Work Orientations modules of the International Social Survey Program (ISSP).

Long hours in paid work refers to the share of employees (of all ages) whose usual working hours are 50 hours or more per week. The threshold is set at 50 hours because, after commuting, unpaid work and basic needs (such as sleeping and eating) are taken into account, workers routinely working more than 50 hours per week are likely to be left with very few hours (one or two per day) for other activities. Moreover, in countries where there is a regulation on maximum working time, this is generally limited to 48 hours per week. Data are sourced from national Labour Force Surveys and are broadly comparable across countries.

Correlations among Work and Job Quality indicators

There are moderate-to-strong correlations among many of the Work and Job Quality indicators (Table 4.2). The main exception is long hours in paid work, which has a strong positive correlation only with the NEET rate (0.7) and a negative one with employment (-0.5). There is little evidence of a trade-off between job quantity and job quality: on the contrary, countries with better outcomes for job quantity (employment, long-term unemployment, NEETs) tend to also have better outcomes for job quality (earnings, labour market insecurity, long working hours, job strain).

Table 4.2. Indicators of Work and Job Quality correlate as expected

Bivariate correlation coefficients among the Work and Job Quality indicators

	Employment rate	NEET	Long-term unemployment rate	Labour market insecurity	Earnings	Job strain	Long hours in paid work
Employment rate							
NEET	**-0.84*** (41)						
Long-term unemployment rate	**-0.70*** (40)	**0.58*** (39					
Labour market insecurity	**-0.70*** (36)	**0.61*** (35)	**0.84*** (35)				
Earnings	**0.35** (36)	**-0.48*** (35)	-0.28 (35)	**-0.45*** (36)			
Job strain	**-0.52*** (38)	**0.36** (37)	**0.37** (37)	**0.69*** (35)	**-0.50*** (35)		
Long hours in paid work	**-0.51*** (38)	**0.66*** (38)	0.01 (36)	0.16 (33)	-0.23 (33)	0.20 (34)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

The current indicator set is aligned with the international concept of "decent work" (ILO, 2013[4]) and "job quality" (OECD, 2018[1]). However, it can be strengthened in a number of ways:

- Broadening the frequency, timeliness and scope of job quality data in order to cover other dimensions and characteristics of the working environment. Missing elements include the relationships with co-workers (e.g. social support at work), organisational culture and workers' motivation, as defined in the *OECD Guidelines on measuring the quality of the working environment* (OECD, 2017[5]).
- Broadening the scope of job quality to better account for the self-employed (or more broadly, the informally employed). Methodological work on how to tailor the job strain indicator to the self-employed is currently ongoing (Cazes, Hijzen and Saint-Martin, 2015[6]).
- Including a measure of job satisfaction: some national well-being frameworks include a measure of job satisfaction (i.e. Australia, Germany, Israel, Italy, Japan, Korea, New Zealand, the United Kingdom, Wales), but measures are not harmonised across countries.
- Better accounting for the impacts of the digital transformation on work (e.g. platform work). An ILO-EU-OECD Technical Expert Group on measuring platform work was created in September 2019 to provide guidance on concepts and measurement approaches. The conceptual work by the Technical Expert Group will inform the pilot testing planned by several European Statistical Offices in the context of the Eurostat Labour Market Statistics Task Force.
- The long-term unemployment indicator used here follows a relatively narrow definition – i.e. people who have been actively seeking work within the last 4 weeks, and who are available to take up work within 2 weeks. It thus excludes the long-term jobless who wish to work, but have not sought work recently (e.g. due to a perceived lack of suitable job opportunities). These "discouraged workers" form one component of the labour underutilisation indicator included in the Reference Chapter 15 on Human Capital.

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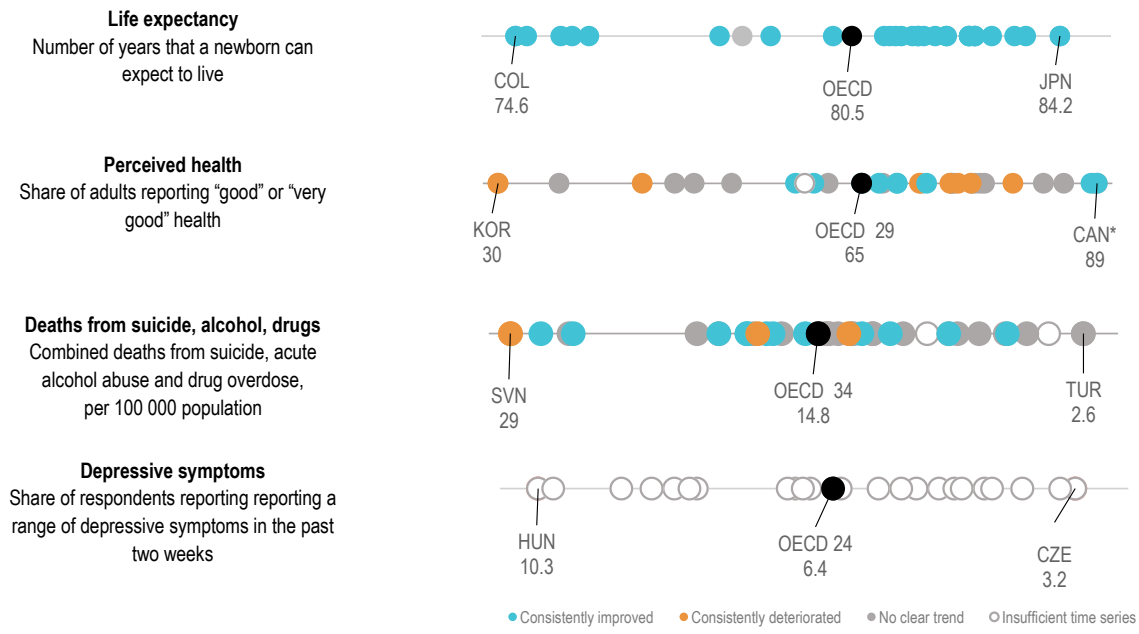
5 Health

Health is about being and feeling well: a long life unencumbered by physical or mental illness, and the ability to participate in activities that people value. Average life expectancy at birth in OECD countries is 80.5 years, and two-thirds of adults report good health. Suicide, acute alcohol abuse and drug overdose cause 2% of all deaths. In European OECD countries, 6% of adults recently experienced depressive symptoms. Since 2010, life expectancy has increased almost everywhere, but is showing signs of plateauing in some countries. Trends in perceived health, suicide and substance abuse deaths diverged between countries. Women live longer than men, but report worse health and higher rates of depressive symptoms. Four times more men than women die from suicide and substance abuse, although female deaths from these causes have risen in more than one-third of OECD countries since 2010. There are large education- and income-related inequalities in health.

Figure 5.1. Health snapshot: current levels, and direction of change since 2010



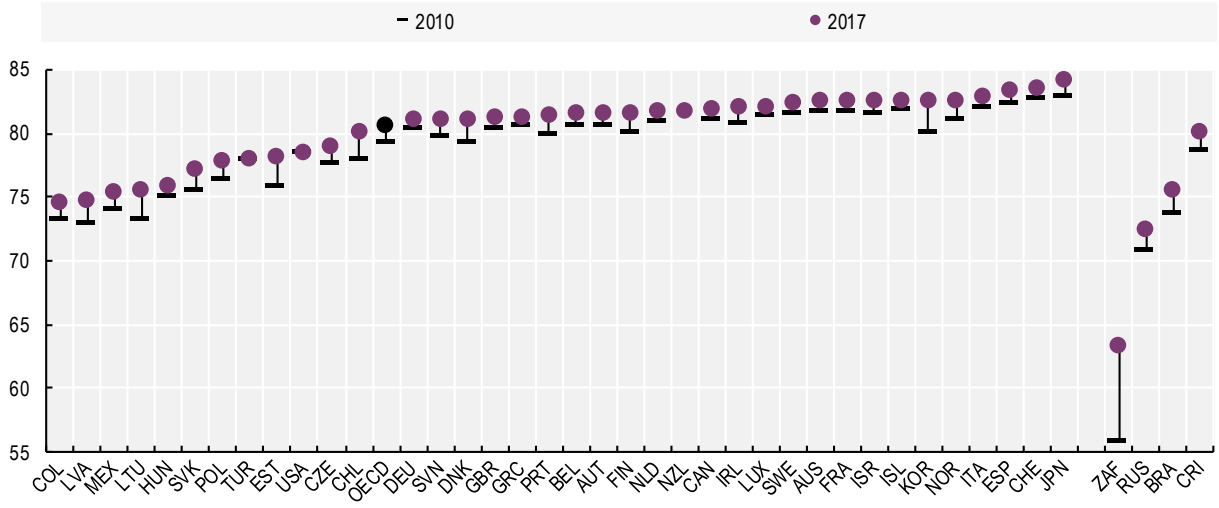
Note: The snapshot depicts data for 2017, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: consistent improvement is shown in blue, consistent deterioration in orange, no clear trend in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average in black. For full details of the methodology, see the Reader's Guide. * for perceived health signifies a different reporting scale, which may lead to an upward bias in their reported estimates.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT; *Eurostat's European Health Interview Survey* (database), https://ec.europa.eu/eurostat/web/microdata/european-health-interview-survey.

Life expectancy at birth

Newborns in more than two-thirds of OECD countries can expect to live beyond 80 years (80.5 years on average for the OECD as a whole), and up to 84.2 in Japan (Figure 5.2). Life expectancy has increased in all OECD countries over the last few decades and was over ten years higher in 2017 than it was in 1970 (OECD, 2019[1]). Compared to 2010, average life expectancy has increased by about 1 year and 2 months (1.5%). Yet growth has slowed in some countries: for Iceland, Germany, Greece and the United Kingdom, life expectancy is plateauing, with gains of less than 9 months between 2010 and 2017. In the United States, already below the OECD average at 78.6 years, net gains in life expectancy over this time have been nil, after a temporary decrease over 2014-17. The causes of the slowdown in life expectancy gains are multifaceted: Improvements in heart disease and stroke have slowed as populations age and levels of obesity and diabetes rise, a comparatively large number of people died from influenza and pneumonia in the recent decade, and drug-related accidental poisoning rose in some countries in the context of the opioid crisis (OECD, 2019[1]; Raleigh, 2019[2]). But there is also good news: many countries with comparatively lower levels of life expectancy are converging towards the OECD average. For example, life expectancy has risen by more than 2 years since 2010 in Chile, Estonia, Korea and Lithuania.

Figure 5.2. Longevity gains since 2010 have slowed in some countries, and are often larger in countries below the OECD average level

Life expectancy at birth, years



Note: The latest available year is 2016 for Chile. The earliest available year is 2011 for Belgium and Switzerland, 2012 for Hungary and Luxembourg, 2013 for Turkey and 2014 for the Russian Federation.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

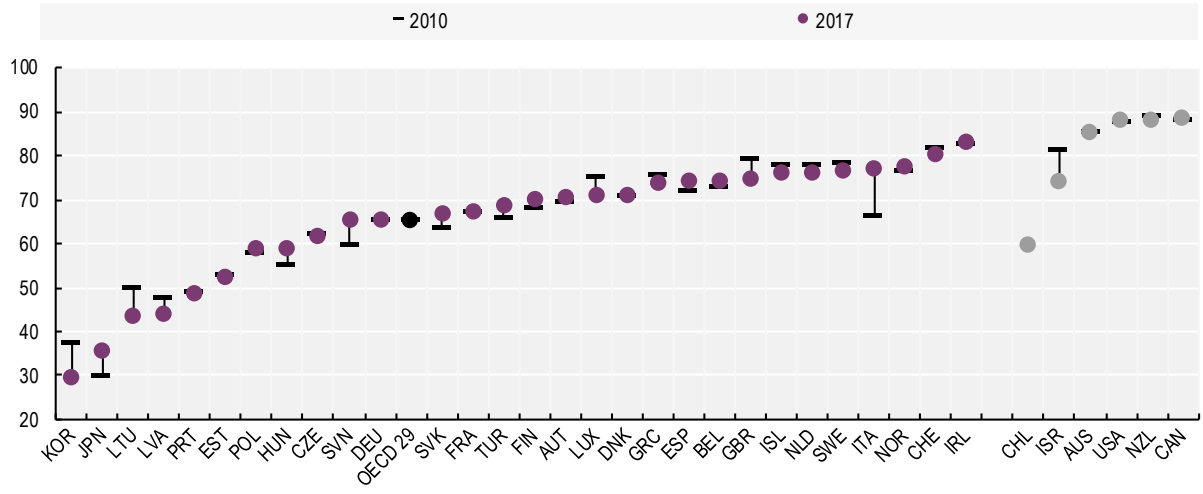
StatLink https://doi.org/10.1787/888934081283

Perceived health

On average, between 6 and 7 out of 10 people in OECD countries say their health is in good shape (Figure 5.3). However, there are notable country differences: in Asian and eastern European OECD members, as well as in Portugal, fewer than 60% of adults view their health as good. By contrast, more than 80% in Australia, Canada, Ireland, New Zealand, Switzerland and the United States do so (though differences in the way survey questions are phrased in some of these countries might bias results upwards). While the OECD average has remained relatively stable, trends since 2010 have diverged between countries. Perceived health has improved most in Slovenia (5.7 percentage points), and declined most in Lithuania (-6.5) and Korea (-8.1).

Figure 5.3. Around two-thirds of people in OECD countries say their health is good

Share of the population aged 15 and over reporting "good" or "very good" health, percentage



Note: The latest available year is 2016 for Iceland and Japan. The earliest available year is 2011 for Australia and 2012 for New Zealand. Respondents in European OECD countries are generally aged 16 years+, those in Australia, Canada, Costa Rica, Chile, Japan, Korea, Lithuania, New Zealand, Turkey and the United States 15 years+, and those in Israel 20 years+. Australia, Canada, Chile, Israel, New Zealand and the United States (shown in grey) use a different reporting scale, which leads to an upward bias in the results. The OECD average excludes Mexico, due to a lack of available data, Chile, due to a break in the series, and Australia, Canada, Israel, New Zealand and the United States, due to differences in methodology.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081302

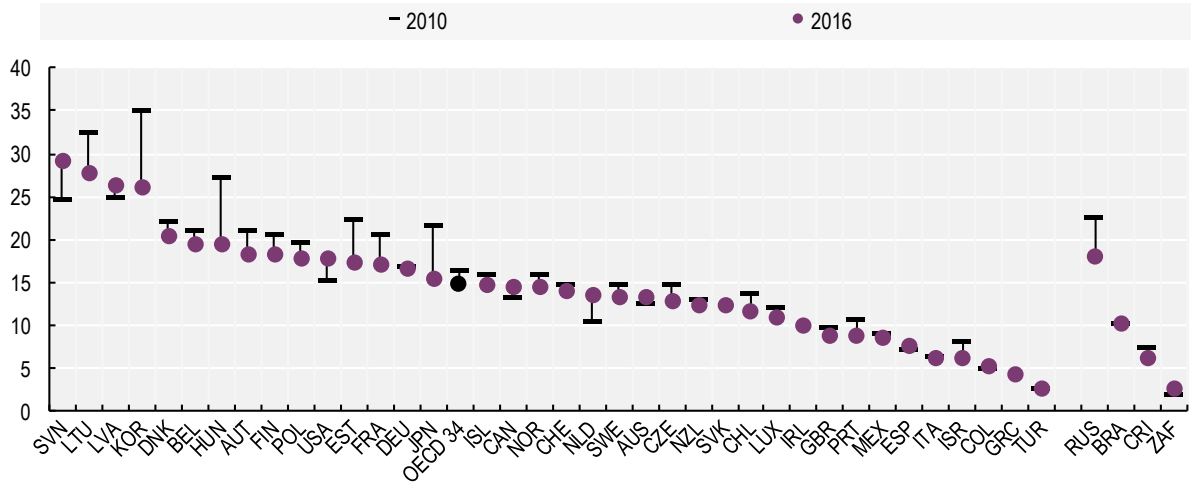
Deaths from suicide, acute alcohol abuse and drug overdose

Fatalities from suicide, acute alcohol abuse and drug overdose have recently been coined as "deaths of despair" (Case and Deaton, 2017[3]). On average, 14.8 people per 100 000 in OECD countries die from such causes, which is only a small share (1.8%) of overall deaths (Figure 5.4). Nevertheless, these deaths represent an important measure of severe mental illness and addiction among the population (OECD, 2019[4]). Slovenia, Lithuania and Latvia, as well as Korea and Denmark, record the highest death rates from suicide and substance abuse in the OECD, above 20 per 100 000 population. Among these, deaths of despair are mainly from suicide in Korea and Lithuania, whereas fatalities from acute alcohol abuse represent at least a third of overall deaths of despair in Latvia, Denmark and Slovenia (Figure 5.4). By contrast, overall rates are very low in Turkey (2.6), Greece (4.2) and Colombia (5.2). Yet these estimates should be interpreted with some caution, since death registries are likely to underrepresent the phenomena due to different reporting practices and stigma (Box 5.1).

Since 2010, deaths from suicide (the most common form of deaths of despair, Figure 5.5) and substance abuse have fallen in a third of OECD countries, driven mainly by reductions in suicides. Some of the countries with the greatest challenges have made the most progress: Hungary, Japan and Korea reduced these fatalities by over 25%, Estonia by 23% and Lithuania by 15%. The situation worsened elsewhere: since 2010, deaths of despair increased by 16% in the United States, 18% in Slovenia (with the highest level in the OECD) and 30% in the Netherlands. In these three countries, deaths from both acute alcohol abuse and drug overdose rose substantially.

Figure 5.4. Deaths of despair have fallen in some of the OECD countries where rates are highest, but increased elsewhere

Combined deaths from suicide, acute alcohol and drug use abuse, per 100 000 population (age-standardized)



Note: For each of the causes of death, the closest available datapoint to 2016 and 2010 is considered separately: The latest available year is 2015 for Canada, Denmark, France, Ireland, Italy, Latvia and South Africa (all types of deaths), as well as Slovenia (suicide and acute alcohol abuse), Colombia (acute alcohol and drug abuse), Brazil, Estonia, Greece, Iceland and Japan (drug abuse); 2014 for Costa Rica, the Slovak Republic, New Zealand (all types of deaths), Brazil (acute alcohol and drug abuse) and the Russian Federation (suicides); and 2013 for Korea and Slovenia (drug abuse). The earliest available year is 2011 for Ireland (acute alcohol abuse) and Estonia (drug abuse), 2009 for Iceland (drug abuse), 2008 for Slovenia (drug abuse) and 2006 for Luxembourg (drug abuse). The OECD average excludes Greece, Ireland and the Slovak Republic, for which data on acute alcohol and drug abuse is missing for the earliest available year. Data for the Russian Federation refer to suicides only.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

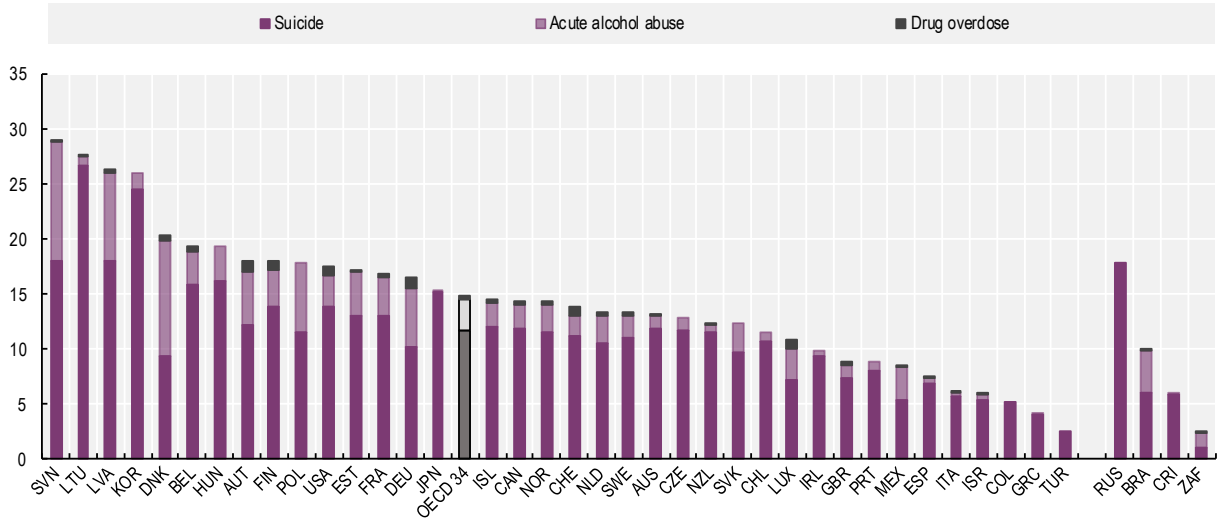
StatLink https://doi.org/10.1787/888934081321

Depressive symptoms

Data on self-reported depressive symptoms are available only for European OECD countries, where, on average, 6% of adults experienced a range of depressive symptoms in the past two weeks (e.g. having little interest in doing things, feeling tired, overeating or having no appetite) (Figure 5.6). Slightly more people, 8% on average, self-report having suffered from chronic depression (the most common mental disorder after anxiety disorder in the EU) in the past year (OECD/EU, 2018[5]).

Figure 5.5. Suicide is the most common death of despair, followed by alcohol-related fatalities

Deaths from suicide, acute alcohol abuse and drug overdose, per 100 000 population, 2016

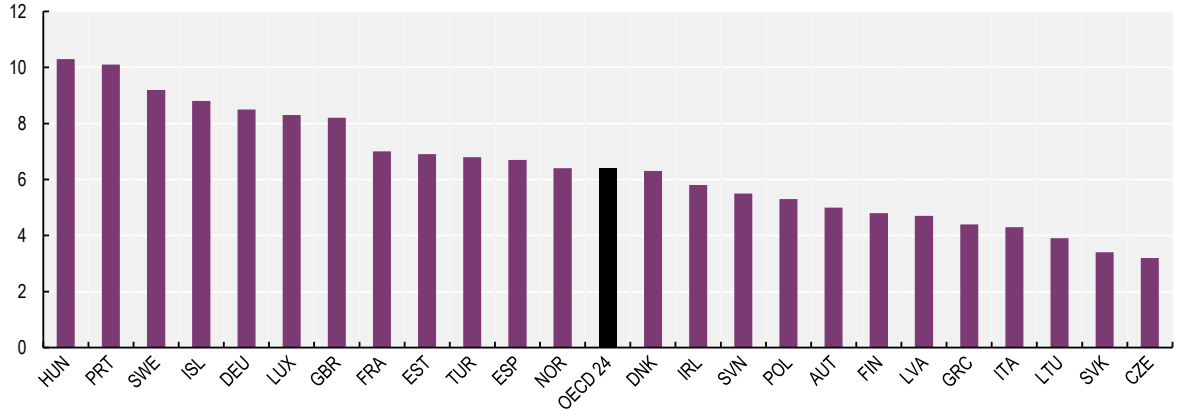


Note: See the note of Figure 5.4 for reference years and further details. Data for the Russian Federation refer to suicides only.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081340

Figure 5.6. 6% of adults in European OECD countries recently experienced depressive symptoms

Share of respondents reporting depressive symptoms in the past two weeks, percentage, 2014



Source: *Eurostat's European Health Interview Survey* (database), https://ec.europa.eu/eurostat/web/microdata/european-health-interview-survey.

StatLink https://doi.org/10.1787/888934081359

Health inequalities: gaps between population groups

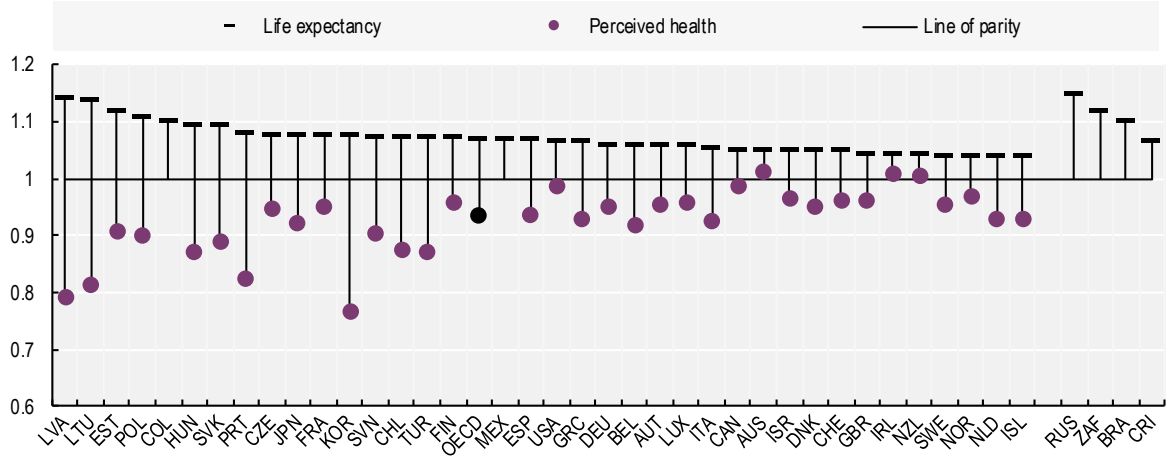
Men live shorter lives and suffer more deaths of despair, but report better health and fewer depressive symptoms than women

Life expectancy at birth is higher for women (83.2 years, on average) than for men (77.9 years) in all OECD countries. Conversely, 70% of men report their health to be good, but only 66% of women do, on average.

These gender gaps vary in size across countries, but the direction remains consistent in almost all cases (Figure 5.7). Eastern European countries are furthest from gender parity on both measures.

Figure 5.7. Women live longer than men, but perceive their overall health to be worse

Gender ratio for life expectancy at birth and percentage of adults reporting "good" or "very good" health, 2017



Note: The gender ratio is calculated by dividing average values for women by average values for men. Thus, values above 1 always indicate better outcomes for women, and values below 1 always indicate better outcomes for men. See the notes of Figure 5.2 and Figure 5.3 for reference years and further details. The OECD average for perceived health excludes Mexico, due to a lack of available data.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081378

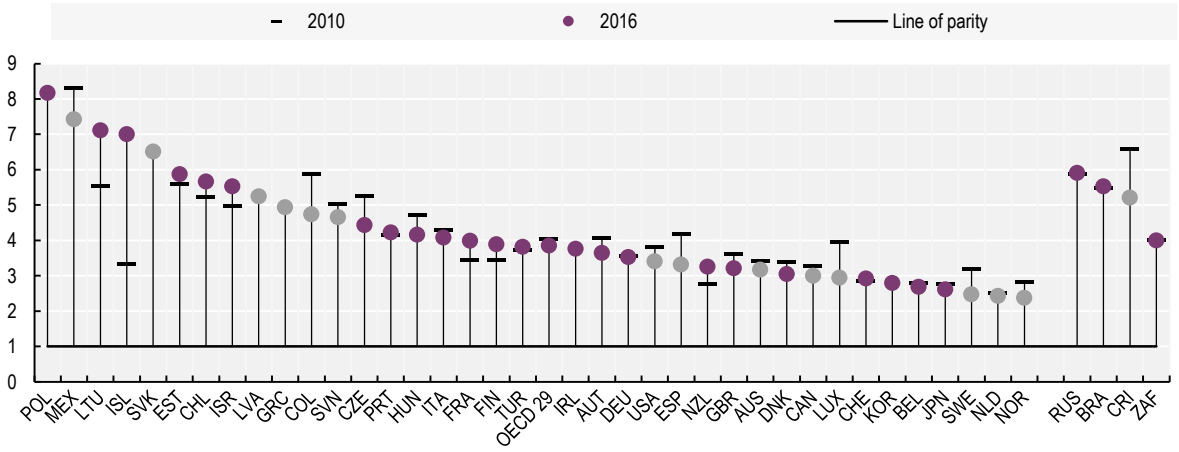
Throughout OECD countries, men are much more likely to die from suicide, acute alcohol abuse or a drug overdose – on average, almost 4 men for every woman (Figure 5.8). This gender gap is largest in Poland, at 8.2. Even in the country with the smallest gender gap (Luxembourg), the rate of deaths among men is double the rate for women.

The size of the gender gap in deaths of despair has narrowed in 20 OECD countries since 2010. In more than half of these, this has been driven by a higher or stagnant female death rate alongside fewer male deaths. Overall, female deaths from suicide or substance abuse increased in more than one-third of OECD countries (14) since 2010. Nevertheless, in two of the most unequal countries (Iceland, Lithuania), the gap between the sexes widened further, as deaths among women decreased at a faster pace than those for men.

In the European OECD countries where data are available, more women (8%) than men (5%) have experienced recent depressive symptoms (OECD/EU, 2018[5]).

Figure 5.8. Gender gaps in deaths of despair have narrowed, but many more men than women continue to die from suicide and acute substance abuse

Gender ratio for combined deaths from suicide, acute alcohol abuse and drug overdose, per 100 000 population



Note: Gender ratios are calculated by dividing average values for men by average values for women. Thus, values above 1 indicate higher relative deaths of despair rates for men, and those below 1 indicate higher relative deaths of despair rates for women. See the note of Figure 5.4 for reference years and further details. In addition, for women, the latest available year is 2014 for Colombia and Japan and 2015 for Portugal and Turkey. The earliest available year for women is 2011 for Israel, Japan, Portugal and Turkey. The OECD average excludes Estonia, Greece, Iceland, Ireland, Korea, Latvia, Poland and the Slovak Republic due to a lack of available data by gender for at least one of the time points. Data for Costa Rica and the Russian Federation refer to suicides only. Countries where women's deaths have increased are marked in grey.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081397

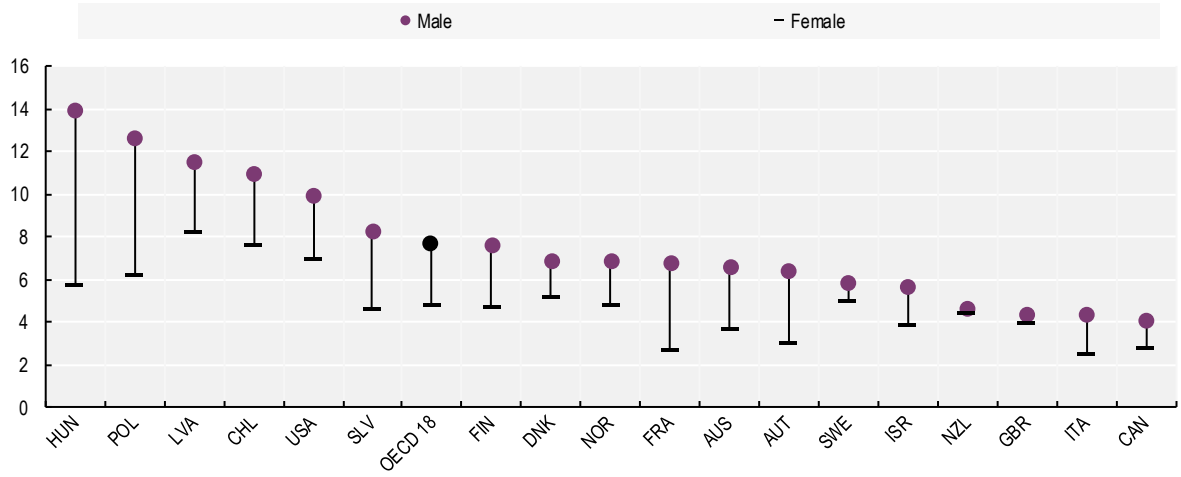
People with less education and income have worse health

There are marked inequalities in life expectancy and self-reported health that are related to differences in education and income. In the 18 OECD countries for which data are available, the average gap in life expectancy at age 25 between high- and low-educated people is 7.6 years for men and 4.8 years for women (Figure 5.9). At age 65, these gaps are 3.6 and 2.6 years, respectively (Murtin et al., 2017[6]). Similarly, across all OECD countries, better educated people experience better physical and mental health: on average, 78% of those with a tertiary education say their health is good, compared to 65% of people with a secondary degree (*OECD Health Status* database). In European OECD countries, 4% of people with tertiary degrees versus 6% with secondary degrees have experienced recent depressive symptoms (OECD/EU, 2018[5]).

Without exception, people with higher income also report better health. On average, 79% of those in the top income quintile in OECD countries say their health is good, compared to only 60% in the bottom quintile (Figure 5.10). Eastern European countries show the largest income-related differences, with gaps in perceived health exceeding 25 percentage points. In the Czech Republic, Latvia and Estonia, income-related differences in self-reported health also widened by more than 10 percentage points since 2010.

Figure 5.9. Better educated people live much longer

Gap in life expectancy between people with low and high education at age 25, in years, 2011

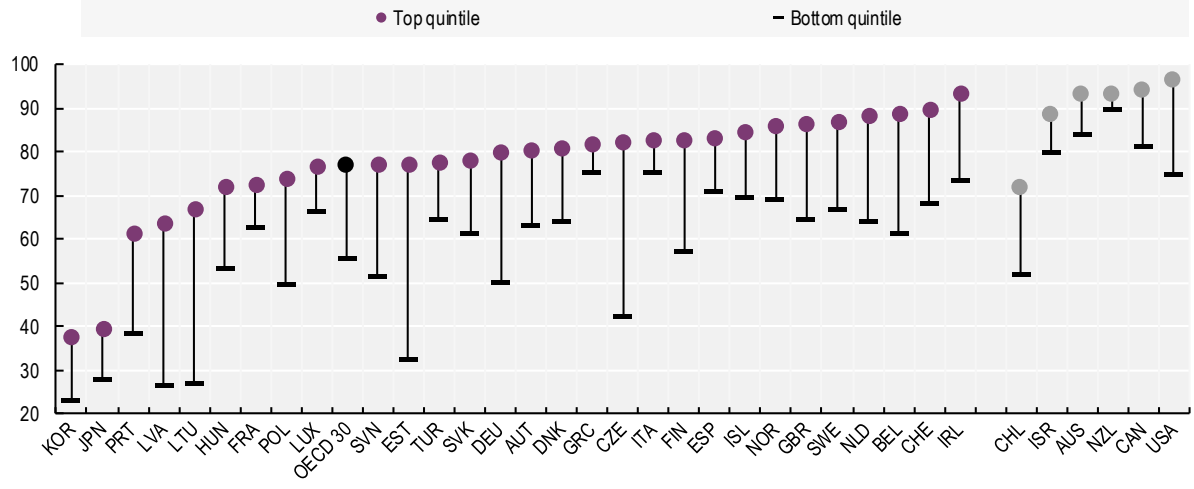


Note: Data for the United Kingdom refer to England and Wales. Low education refers to people with no schooling and those with primary and lower secondary educational attainment. High education refers to people who have completed tertiary education.
Source: (Murtin et al., 2017[6]), "Inequalities in longevity by education in OECD countries: Insights from new OECD estimates", *OECD Statistics Working Papers*, No. 2017/2, OECD Publishing, Paris, https://dx.doi.org/10.1787/6b64d9cf-en.

StatLink https://doi.org/10.1787/888934081416

Figure 5.10. People with higher income say their health is better

Share of adults reporting "good" or "very good" health, by income quintile, percentage, 2017



Note: See the note of Figure 5.3 for reference years and further details. Data for Australia, Canada, Chile, Israel, New Zealand and the United States (shown in grey) use a different reporting scale, which may lead to an upward bias in their reported estimates. The OECD average excludes them, due to differences in methodology, and Mexico, due to a lack of available data.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081435

Box 5.1. Measurement and the statistical agenda ahead

Health is about being and feeling well: a long life unencumbered by physical or mental illness, and the ability to participate in activities that people value. An ideal set of outcome indicators of health would provide information about good health states (feeling well; functioning well) alongside the most important diseases and conditions causing poor health, disability or death – including their prevalence, chronicity and intensity. Capturing both physical and mental aspects of health outcomes is vital – and although the latter have proved challenging to measure (particularly in international contexts), they are gaining increased recognition from policy makers, the medical community and the business world (Patel et al., 2018[7]; OECD, 2019[8]). The present chapter considers four indicators of physical and mental health (Table 3.1), as well as their distribution across the population in OECD countries.

Table 5.1. Health indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age, education)	Deprivation
Life expectancy	Number of years that a newborn can expect to live	Standard deviation of age at death	Gaps in life expectancy	n/a
Perceived health	Share of the population 16 years or over reporting "good" or "very good" health	n/a	Gaps in perceived health	Share of adults reporting "bad" or "very bad" health
Deaths from suicide, alcohol, drugs	Combined deaths from suicide, acute alcohol abuse and drug overdose, per 100 000 population (age-standardised based on the 2010 OECD population structure)	n/a	Gaps in death rates due to suicide, acute alcohol abuse and drug overdose	n/a
Depressive symptoms	Share of the population 15 years and over reporting having experienced a range of depressive symptoms in the past two weeks	n/a	Gaps in depressive symptoms	n/a

Life expectancy at birth is a summary measure of mortality rates, and refers to the number of years a child born today could expect to live based on the age-specific death rates currently prevailing. It is only an estimate of the expected life span of a given cohort, as the age-specific death rates of a particular birth cohort cannot be known in advance. The OECD computes the unweighted average of life expectancy for men and women. Education-related inequalities in longevity exist for a sub-set of countries, produced by matching census and death registry data (Murtin et al., 2017[6]).

Perceived health refers to people's overall self-reported health status. Data are based on general household surveys or on more detailed health interviews. The indicator is based on questions such as: "How is your health in general?", with answers usually classified as "very good", "good", "not very good" and "poor" – although in some non-European countries (Australia, Canada, Chile, Israel, New Zealand, the United States) different response scales are used, which may lead to an upward bias in the estimates. In the *OECD Health Status* database, the response categories from different surveys are rescored to fit into three broad categories of "good/very good" (all positive response categories), "fair" (neither good nor bad), "bad/very bad" (all negative response categories). Respondents are generally 16 years or over, though the specific age range varies across countries.

Deaths from suicide, acute alcohol abuse and drug overdose is an objective measure of severe mental illness and addiction. The indicator reported here is drawn from official death registries and refers to combined deaths from suicides, acute alcohol abuse and drug overdose (ICD-10 codes X60-X84,Y87.0, F10, F11-16, F18-19) per 100 000 population (standardised to 2010).

Self-reported depressive symptoms is a measure of mental (ill)health. It refers to the share of people 15 years or over who report experiencing a range of depressive symptoms in the past two weeks: little interest or pleasure in doing things; feeling down, depressed or hopeless; trouble falling or staying asleep, or sleeping too much; feeling tired or having little energy; poor appetite or overeating; feeling bad about yourself or that you are a failure or have let yourself or your family down; trouble concentrating on things, such as reading the newspaper or watching television; moving or speaking so slowly that other people could have noticed, or being so fidgety or restless that you have been moving around a lot more than usual. In line with the criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), a respondent is characterised as having depressive symptoms if one of the first two items (little interest or pleasure in doing things, feeling down, depressed or hopeless) and five or more of the total list (major depression) or one of the first two items and two to four of the total list (other depressive symptoms) are reported for at least half of the reference period. The measure is limited to European OECD countries and sourced from the European Health Interview Survey.

Correlations among Health indicators

Several objective and subjective aspects of health are significantly correlated (Table 5.2). Countries where people perceive their health to be good tend to have somewhat higher levels of life expectancy (0.35) and death rates from suicide and substance abuse tend to be lower (-0.46). Depressive symptoms are not significantly correlated with the other health outcomes addressed here, suggesting this indicator provides information about mental states that is not captured through the other indicators.

Table 5.2. Objective and subjective measures of Health are related at the country level

Bivariate correlation coefficients among the Health indicators

	Life expectancy	Perceived health	Deaths from suicide, alcohol, drugs	Depressive symptoms
Life expectancy				
Perceived health	**0.35**** (35)			
Deaths from suicide, alcohol, drugs	0.09 (41)	**-0.46***** (35)		
Depressive symptoms	0.07 (24)	0.26 (24)	-0.15 (24)	

Note: Values in parenthesis refer to the number of observations. * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

While administrative data on specific disease conditions (e.g. cancer, diabetes, circulatory diseases) are available, they do not address issues of co-morbidity (i.e. the presence of different conditions affecting the same individual), which is also important for understanding people's health-related quality of life, and the prevailing rates of disease incidence across the population (e.g. the share of people living with a serious health condition).

Life expectancy refers only to length of life, not to whether those years are spent in good health. Alternative measures of "healthy" life expectancy (based on disability weights associated with different health states, used to compute the number of years of good health that a newborn can expect to live) are not internationally comparable (except for Europe), and methods for computing disability weights remain contested. Measures of perceived health exist for the majority of the OECD, but with considerable scope to harmonise question wording and response scales.

Comparable measures of mental health outcomes are available only for European OECD countries through the European Health Interview Survey, run every 5 years. It remains challenging to identify internationally comparable mental health outcome measures at the population level (versus people diagnosed or treated by medical professionals). Measures focusing on the latter can penalise countries with good medical systems and awareness programmes, where people are more likely to seek treatment. The stigma attached to mental health may lead to underreporting, affecting cross-country comparability and the interpretation of changes in prevalence rates. Data on suicides are also likely to underrepresent the scale of the phenomenon due to stigma, and do not account for the (much higher) rate of suicide attempts.

Measures of people's functioning (i.e. whether they can perform daily activities, including self-care) have long been recommended, e.g. by the Washington Group (Washington Group on Disability Statistics, 2016[9]). Despite international guidance (e.g. the Budapest Initiative survey module for measuring health state, prepared by the Joint UNECE/ WHO/ Eurostat Task Force on Measuring Health Status), harmonised measures are not yet available (United Nations, 2005[10]).

To make health systems more people-centred, in 2017 the OECD started an ambitious programme of work to benchmark the experiences and outcomes reported by patients themselves in the context of the PaRIS program (Patient-reported Indicator Surveys) (OECD, 2019[1]). In the future, such exercises could be extended beyond the subset of people in contact with health care to the population as a whole.

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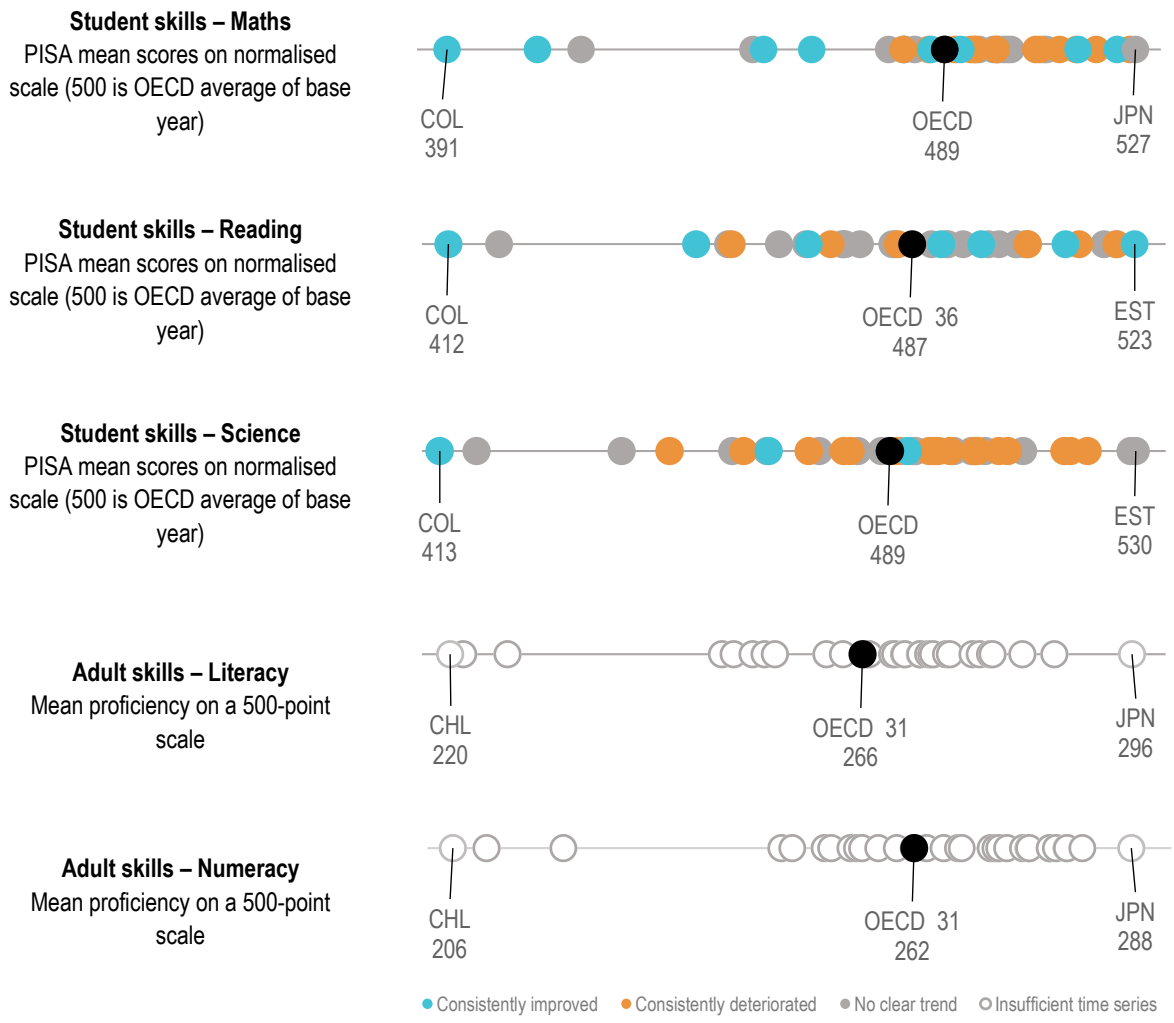
6 Knowledge and Skills

Knowledge and Skills are about what people know and can do. This chapter discusses the results of the OECD's PISA tests of cognitive skills in maths, reading and science at age 15; and adult numeracy and literacy, as assessed through the OECD's PIAAC study. Over the last decade or so, average scores in maths, reading and science for students at 15 have fallen in around one-quarter of OECD countries. Around 1 in every 8 students has a very low score in all three PISA subjects, and around 16% of adults have very low scores in both literacy and numeracy. Among both youths and adults, men perform better than women in mathematics, while girls tend to outperform boys in reading. There are large inequalities in skills at age 15 by socio-economic background. Older adults (aged 45-65) fare worse in literacy and numeracy tests compared to younger cohorts (aged 16-44).

Figure 6.1. Knowledge and Skills snapshot: current levels, and direction of change over the last decade or so



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: Data drawn from the *OECD Programme for International Student Assessments (PISA)* in reading, mathematics and science, and the *OECD Program for the International Assessment of Adult Competencies (PIAAC)* assessments in literacy and numeracy.

Cognitive skills at age 15: PISA scores in maths, reading and science

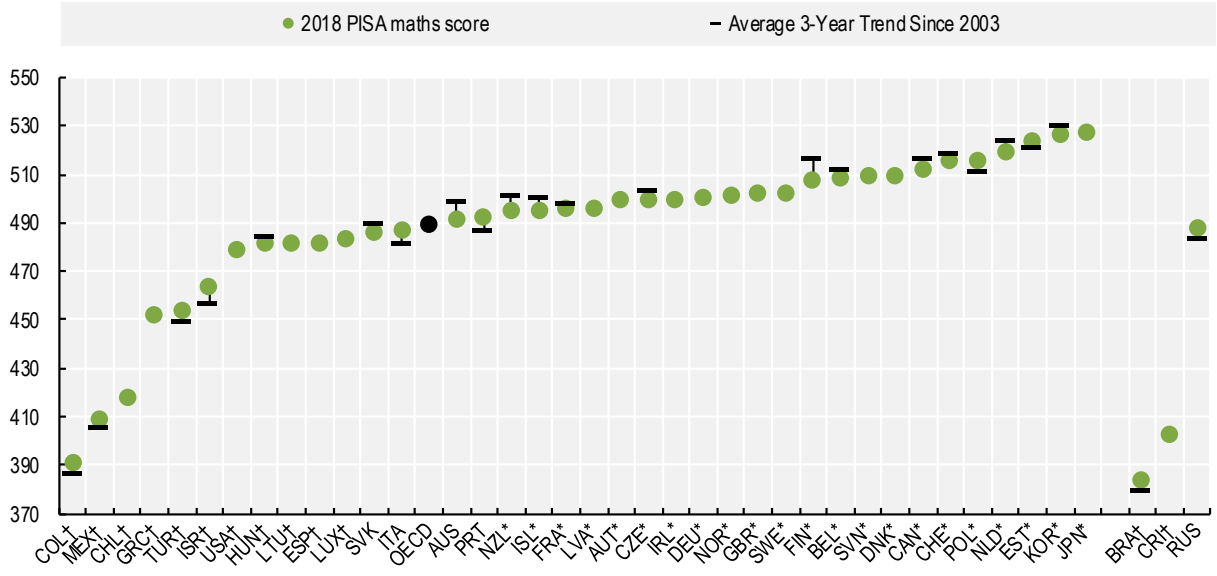
The OECD Programme for International Student Assessment (PISA) tests the abilities of 15-year-old students in mathematics, reading and science. Scores are measured on a scale that is standardised to 500 for the OECD average. This standardisation is established in the first year a subject is introduced as the major testing domain (e.g. 2003 for mathematics), to enable comparisons over time. For this reason, the OECD average may not exactly equal 500 in any given year. Also, the reference year used for assessing changes over time varies by subject.

PISA mathematics scores

Japanese students have the highest average mathematics scores in the OECD, followed by Korea, Estonia and the Netherlands (Figure 6.2). At the other end of the scale, Colombia has the lowest average score, with Mexico and Chile just above. Since 2003, the average maths score of students aged 15 has significantly improved in just 8 OECD countries, but worsened in 13. The largest gains occurred in Israel (over 6 points), while Finland experienced the largest falls (almost 10 points).

Figure 6.2. Maths skills of students aged 15 have declined in more than one-third of OECD countries since 2003

PISA mean scores in mathematics, 15-year-old students



Note: † indicates that the country falls below the OECD average, * indicates that the country is above average. Countries with no accompanying mark are not statistically different from the OECD average. The PISA mathematics scores are measured on a scale that is normalised to 500 for the OECD average. Normalisation is established in the first year a subject is introduced as the major testing domain – 2003 for mathematics – to allow for year-on-year comparability. For this reason, the OECD average may not exactly equal 500 in any given year. The trend is reported only for countries that have recorded significant improvements or deteriorations since 2003, i.e. no starting point is shown for countries whose change in test scores is not significant. See Box 6.1 for more details on the calculation of average trends.

Source: (OECD, 2019[1]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

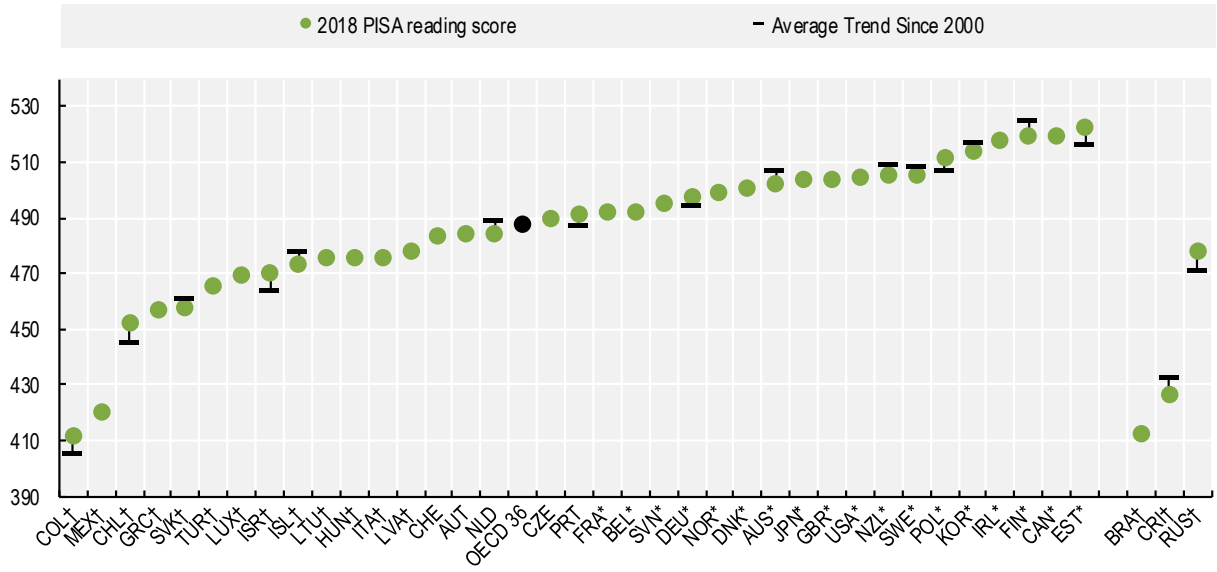
StatLink https://doi.org/10.1787/888934081454

PISA reading scores

In Estonia, Canada, Finland and Ireland, 15-year-old students have the highest average PISA reading scores among OECD countries, followed very closely by Korea and Poland (Figure 6.3). As in the case of maths, Colombia, Mexico and Chile have the lowest average scores. Since 2000, students' average reading scores fell significantly in 8 OECD countries, but increased in 7. The largest increases occurred in countries falling below the OECD average (Chile, Colombia, Israel and the Russian Federation), as well as Estonia and Germany, whose performance is above average. Significant declines in reading performance primarily occurred in countries already faring relatively well (e.g. Finland, Australia and the Netherlands).

Figure 6.3. Reading skills of students aged 15 have declined in one-quarter of OECD countries since 2000

PISA mean scores in reading, 15-year-old students



Note: † indicates that the country falls below the OECD average, * indicates that the country is above. Countries with no accompanying mark are not statistically different from the OECD average. The PISA reading scores are measured on a scale that is normalised to 500 for the OECD average. Normalisation is established the in the first year a subject is introduced as the major testing domain – 2000 for reading – to allow for year-on-year comparability. For this reason, the OECD average may not exactly equal 500 in any given year. The OECD average does not include Spain, due to missing data. The trend is reported only for countries that have recorded significant improvements or deteriorations since 2000, i.e. no starting point is shown for countries whose change in test scores is not significant. See Box 6.1 for more details on the calculation of average trends.

Source: (OECD, 2019[1]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

StatLink https://doi.org/10.1787/888934081473

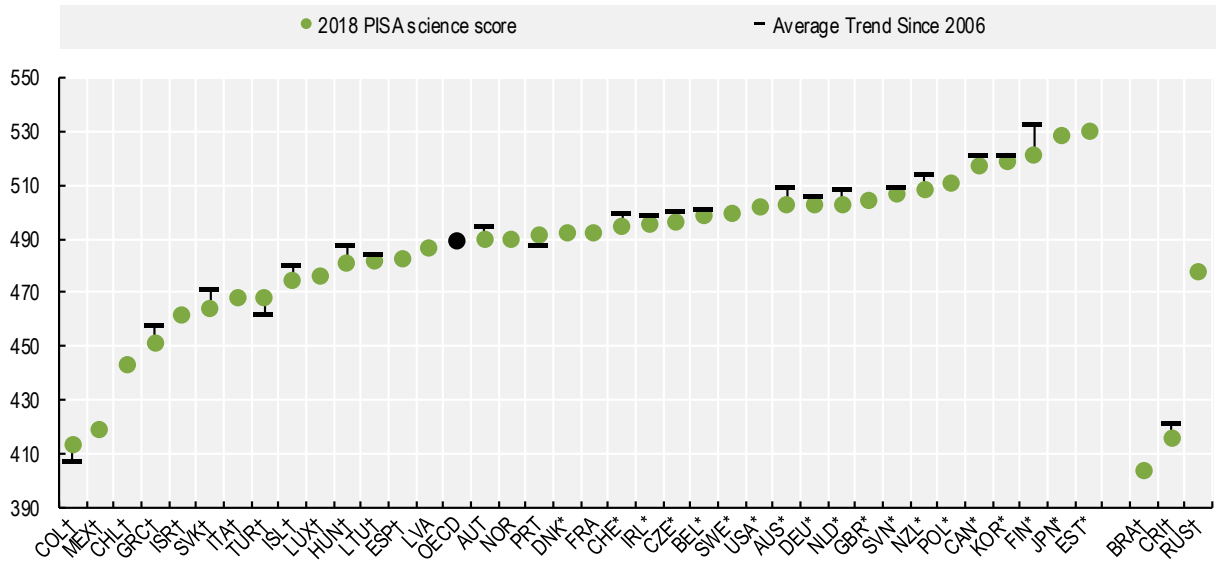
PISA science scores

For science, average PISA scores are highest in Estonia, Japan, Finland, Korea and Canada, and lowest in Colombia, Mexico and Chile (Figure 6.4). Since 2006, science scores have increased in only three OECD countries (Colombia, Portugal and Turkey), while they have fallen in around half, a pattern that mirrors (with greater intensity) the one already observed for maths and reading.

Overall, only two OECD countries – Colombia and Portugal – have improved their scores in all three subjects over the past decade or so. An additional four (Estonia, Israel, Poland and the Russian Federation) have improved their scores in both reading and maths. Seven countries have seen their scores deteriorate in all three subjects: Australia, Finland, Iceland, Korea, the Netherlands, New Zealand and the Slovak Republic.

Figure 6.4. Science skills of students aged 15 have declined in 18 OECD countries and improved in 3, since 2006

PISA mean scores in science, 15-year-old students



Note: † indicates that the country falls below the OECD average, * indicates that the country is above. Countries with no accompanying mark are not statistically different from the OECD average. The PISA science scores are measured on a scale that is normalised to 500 for the OECD average. Normalisation is established the in the first year a subject is introduced as the major testing domain – 2006 for science – to enable comparisons over time. For this reason, the OECD average may not exactly equal 500 in any given year. The trend is reported only for countries that have recorded significant improvements or deteriorations since 2006, i.e. no starting point is shown for countries whose change in test scores is insignificant. See Box 6.1 for more details on the calculation of average trends.

Source: (OECD, 2019[1]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

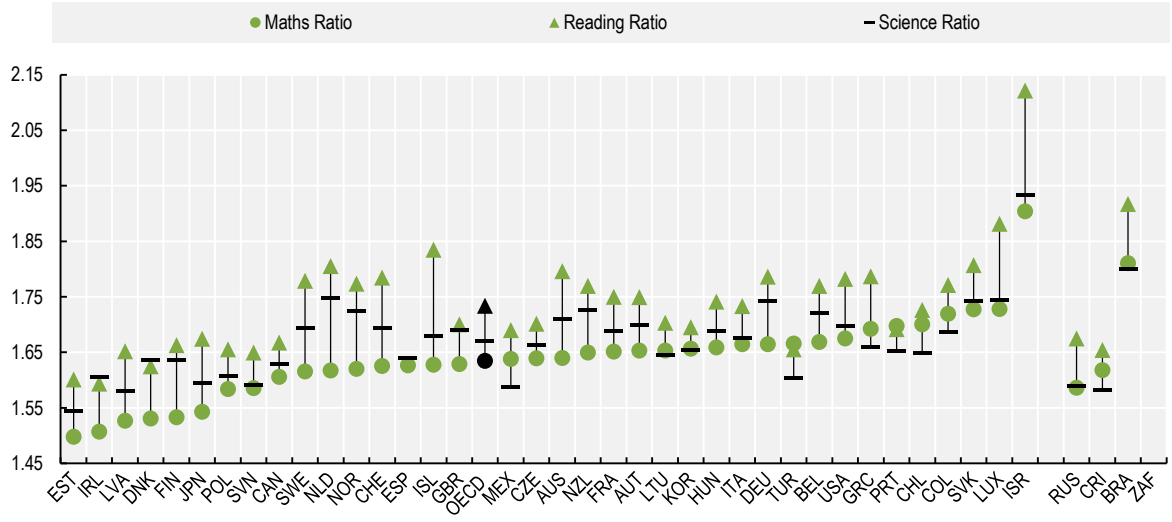
StatLink https://doi.org/10.1787/888934081492

The distribution of cognitive skills among students at age 15

On average, across OECD countries, the top-performing students (those who score in the 90th percentile) have PISA scores more than 60% higher than the lowest-performing ones (those in the 10th percentile) (Figure 6.5). Inequalities are typically larger in OECD countries with comparatively poor average performance in all subject areas. Looking across reading, maths and science tests combined, Israel has the highest inequalities between high and low achievers in the OECD (followed by Luxembourg and the Slovak Republic), while several countries with strong performances on average skills (e.g. Estonia, Ireland, Denmark, Finland Japan, Poland and Canada) all have below average inequalities. Korea is an exception, with strong average performance, but also larger inequalities than in other countries performing at that level (Figure 6.6). In Colombia and Mexico, over 30% of students have low scores in all fields, while only 4.2% of students in Estonia do.

Figure 6.5. On average, 15-year-old students at the 90th percentile have cognitive skills around 65% higher than those at the 10th

Ratio of mean score at the 90th percentile relative to the 10th percentile, PISA 2018



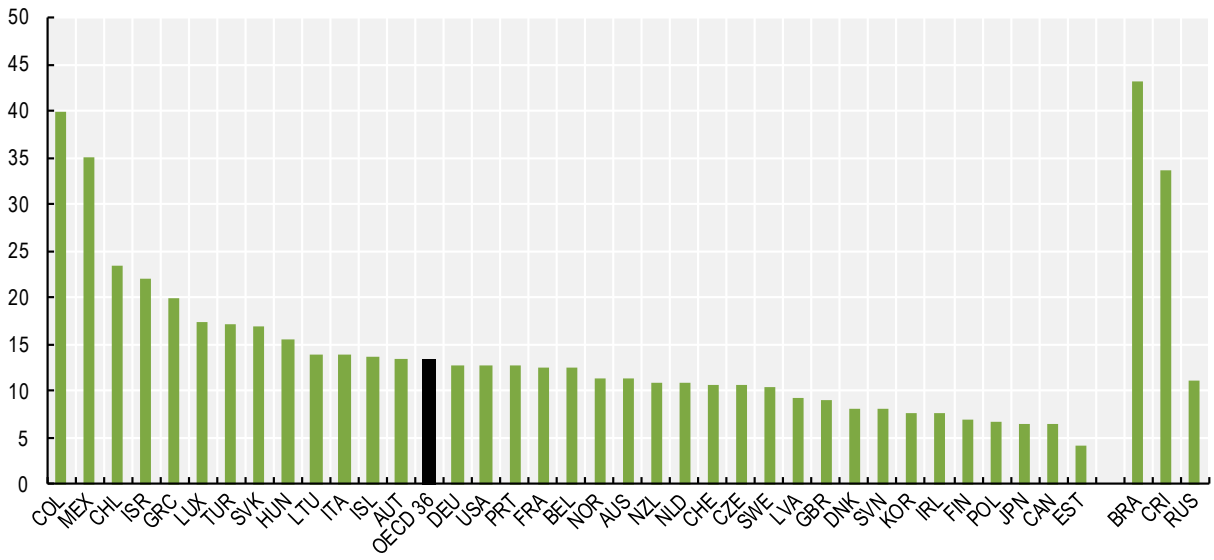
Note: Vertical inequalities are measured by the ratio of cognitive skills among top performers (those above the 90th percentile) to bottom performers (those below the 10th percentile), for each of the three PISA subject areas. The closer the ratio is to 1, the lower the gap between top and bottom students. The OECD average for reading excludes Spain, due to missing data; the OECD average for maths and science includes all 37 OECD countries.

Source: (OECD, 2019[1]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

StatLink https://doi.org/10.1787/888934081511

Figure 6.6. In the average OECD country, 1 in 8 students have low scores on all 3 PISA subjects

Share of 15-year-olds with low scores in maths, reading and science, percentage, 2018



Note: Low achievers are those with cognitive skills below Level 2 in all three subjects. The OECD average does not include Spain, due to missing reading score data.

Source: (OECD, 2019[1]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

StatLink https://doi.org/10.1787/888934081530

Cognitive skills of adults: PIAAC mean scores in literacy and numeracy

The OECD Programme for the International Assessment of Adult Competencies (PIAAC) assesses the cognitive skills of adults in numeracy, literacy and problem-solving. Unlike PISA, PIAAC results are not standardised to a fixed OECD average level, but measured on a scale from 0 to 500.

Adult literacy and numeracy

The first (and latest available) wave of the OECD Adult Skills Survey was fielded in around 2012. Numeracy scores among adults were highest in Japan, followed by Finland, Belgium (Flanders) and the Netherlands. Chile, Mexico and Turkey have the lowest scores among OECD countries. Cross-country differences in literacy scores across OECD countries generally mirror those in numeracy (Figure 6.7).

As in the case of students' cognitive skills, OECD countries with high average numeracy scores among adults also have a more equal distribution of scores, i.e. the gap between the top (90th percentile) and bottom (10th percentile) performers is smaller. Japan, for example, has both the highest mean numeracy score among adults and the lowest gap between high and low performers. Conversely, countries with low mean scores – such as Chile and Turkey – have high levels of inequality.

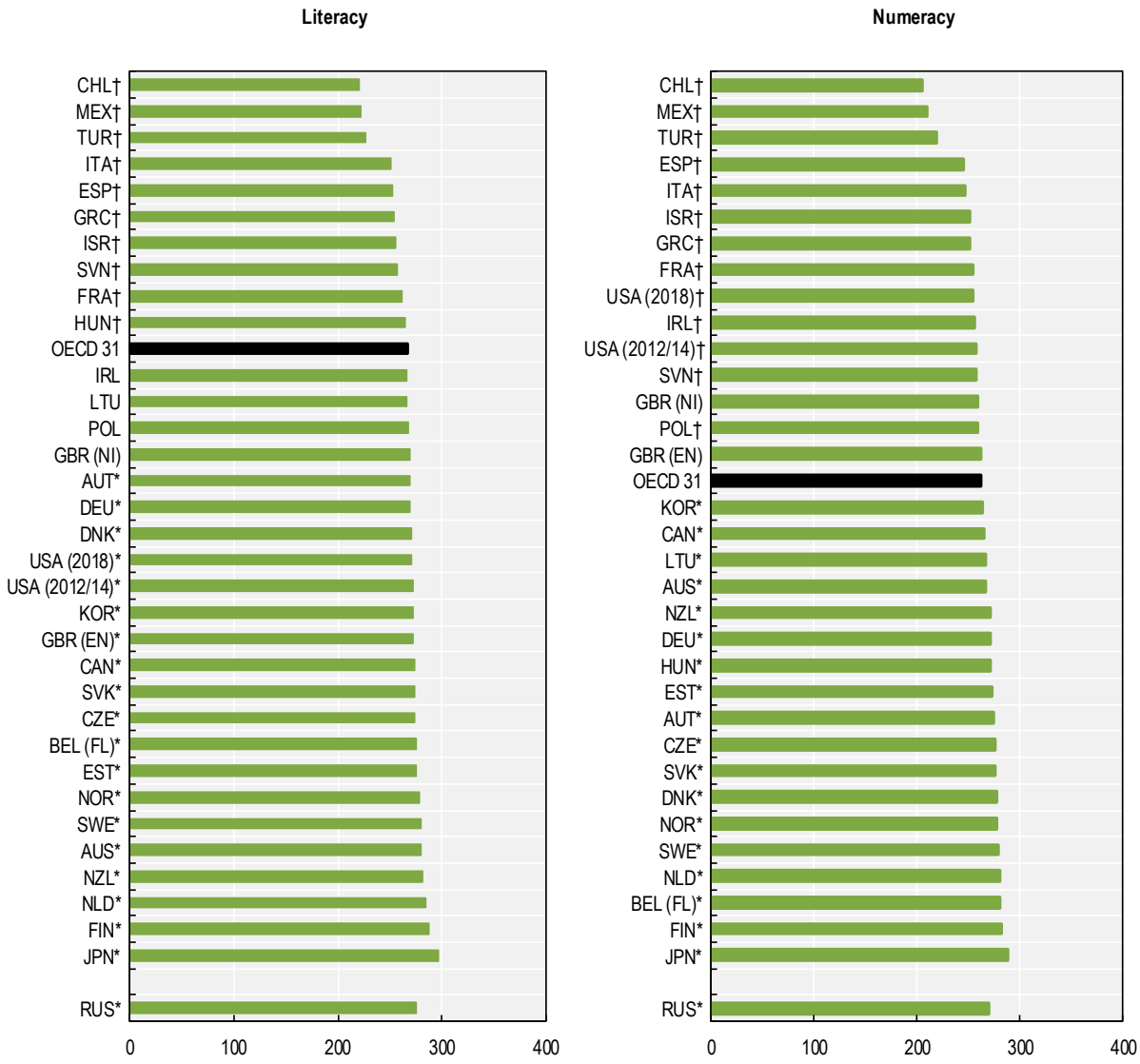
The gap between the top (90th percentile) and bottom (10th percentile) performers is smaller in literacy than it is for numeracy, but the general cross-country pattern holds, and countries with lower mean literacy scores also have larger gaps in performance between top and bottom achievers, as in the case of Chile, Mexico and Turkey. Israel has the third-highest inequality in adult skills, following only Chile and Turkey. Japan has both the highest average literacy score and the lowest level of inequality.

Deprivations in adult literacy and numeracy

In OECD countries, on average, 16% of the adult population have very low levels of literacy and numeracy, defined as scoring at Level 1 or below on both literacy and numeracy assessments (Figure 6.8). High-performing countries tend to have low levels of deprivation – for example, Japanese adults have both the highest average scores in the OECD for literacy and numeracy, and the smallest share of low achievers, at only 3.9%. Similarly, Chile, Mexico and Turkey have some of the lowest average test scores among OECD countries and some of the largest shares of low achievers – 48.2%, 46.1% and 39%.

Figure 6.7. Differences in literacy scores across OECD countries generally mirror those in numeracy

Mean proficiency in numeracy and literacy, on a scale from 0 to 500, around 2012



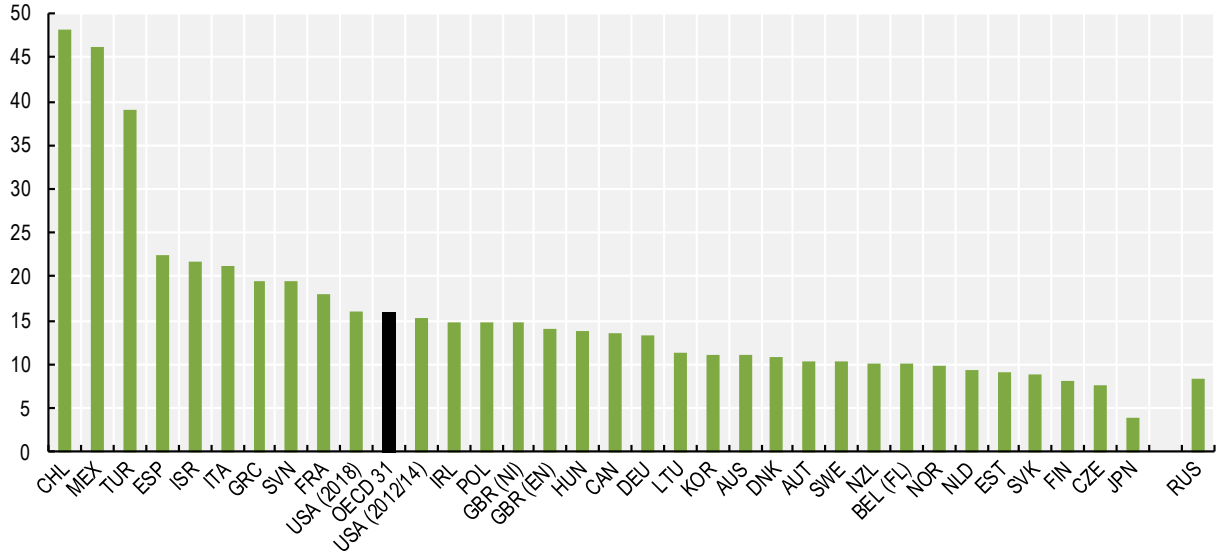
Note: * indicates that the PIAAC score is significantly above the OECD average; † indicates that the PIAAC score is significantly below the OECD average. Countries with no mark are not statistically different from the OECD average. Data refer to 2011-12 for Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Poland, the Russian Federation, the Slovak Republic, Spain, Sweden, the United Kingdom and the United States; 2012 for France; and 2014-15 for Chile, Greece, Israel, Lithuania, New Zealand, Slovenia and Turkey. Data for Belgium refer to Flanders; those for the United Kingdom distinguish between England and Northern Ireland, and those for the Russian Federation exclude the Moscow municipal area. The OECD average excludes Colombia, Iceland, Latvia, Luxembourg, Portugal, and Switzerland, due to a lack of data. England and Northern Ireland are both included in the OECD average, as is a simple average of both United States time series (2012/14 and 2018).

Source: (OECD, 2016[2]), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264258051-en.

StatLink https://doi.org/10.1787/888934081549

Figure 6.8. Almost 50% of the adult population performs at or below level 1 in the worst-performing OECD countries

Share of adults scoring at or below level 1 in both PIAAC literacy and numeracy assessments, percentage, around 2012



Note: The OECD average excludes Colombia, Iceland, Latvia, Luxembourg, Portugal, and Switzerland, due to a lack of data. England and Northern Ireland are both included in the OECD average, as is a simple average of both United States time series (2012/14 and 2018).
Source: (OECD, 2016[2]), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264258051-en.

StatLink https://doi.org/10.1787/888934081568

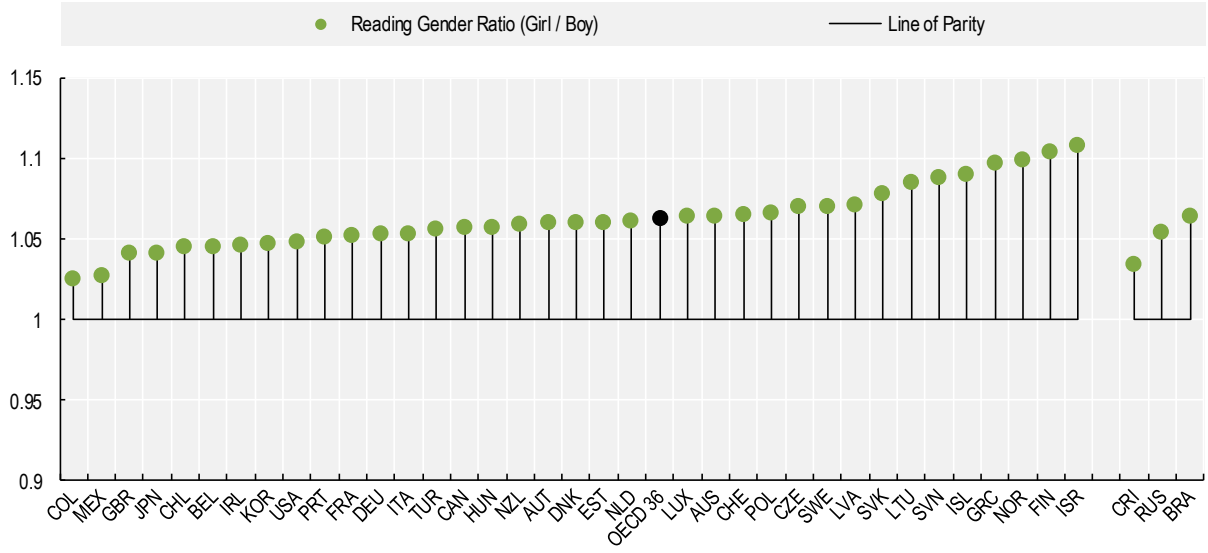
Knowledge and Skills inequalities: gaps between population groups

There are persistent gender differences in knowledge and skills

In the large majority of OECD countries, the average PISA mathematics score for boys is higher than for girls. Although this difference is not statistically significant in many countries, girls are underrepresented among high-achieving maths students, especially in the lowest-performing countries overall (Breda, Jouini and Napp, 2018[3]). Conversely, average reading scores are consistently higher for girls than for boys (Figure 6.9) – though this gap has been narrowing over time, due to deteriorations in the average scores of girls rather than to improvements in the average scores of boys (OECD, 2019[4]).

Figure 6.9. Girls outperform boys on reading in all OECD countries

Gender ratio in mean reading scores, PISA 2018



Note: Gender ratios with values above 1 indicate better outcomes for girls. The OECD average does not include Spain, due to missing data.
Source: (OECD, 2019[4]), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/b5fd1b8f-en.

StatLink https://doi.org/10.1787/888934081587

The gender differences in cognitive skills among adults tell a similar, though not identical, story. Men's numeracy scores (268) exceed those for women (256) in all OECD countries, with gender gaps that are usually much larger than those for 15-year-old students. Inequalities in adult literacy are more diverse: the OECD average scores for both men and women are very similar (267 and 265, respectively); women's scores exceed those of men by at least five points only in Poland, while men's scores exceed those of women by at least five points in seven countries.

Older adults do less well on literacy and numeracy tests

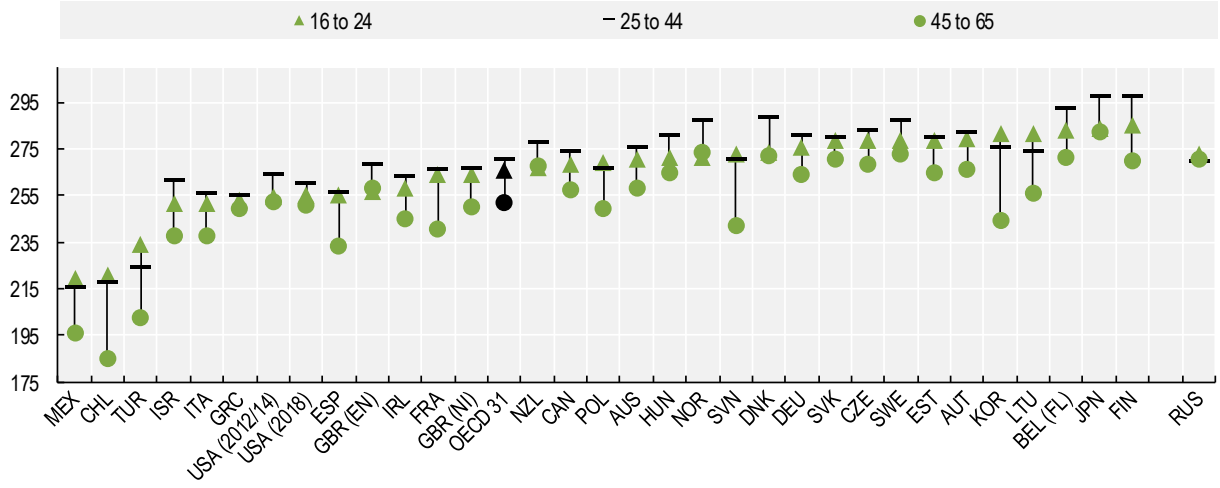
Older adults (aged 45 to 65) perform worse on numeracy assessments (with an OECD average of 251 points) than either middle-aged (25 to 44) or youth (16 to 24) cohorts (who score 270 and 266, respectively) (Figure 6.10). A similar pattern holds for the literacy tests.

Parents' educational attainment is associated with cognitive skills at age 15

Fifteen year-old students whose parents have only attained a primary level of education perform worse on PISA assessments in reading (OECD average of 417), as compared to their classmates whose parents have a secondary (463) or tertiary (489) education (Figure 6.11). This pattern of results also holds for maths and science performance.

Figure 6.10. Older adults perform worse on numeracy than their younger peers in all OECD countries

PIAAC numeracy assessments, around 2012



Note: The OECD average excludes Colombia, Iceland, Latvia, Luxembourg, Portugal, and Switzerland, due to a lack of data. England and Northern Ireland are both included in the OECD average, as is a simple average of both United States time series (2012/14 and 2018).
Source: (OECD, 2016[2]), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264258051-en.

StatLink https://doi.org/10.1787/888934081606

Figure 6.11. Fifteen year-old students with primary educated parents perform worse than their peers with better educated parents

Mean reading scores, by parental education level, PISA 2018

Note: Parental education is classified according to the International Standard Classification of Education (ISCED) framework: primary education includes no education, ISCED 1 and ISCED 2; secondary education includes ISCED 3B and ISCED 3A, 4; tertiary education includes ISCED 5B and ISCED 5A/6. The OECD average does not include Spain due to missing data.
Source: (OECD, 2019[4]), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/b5fd1b8f-en.

StatLink https://doi.org/10.1787/888934081625

Box 6.1. Measurement and the statistical agenda ahead

Knowledge and skills are about what people know and can do. Literacy and numeracy are foundational skills that enable full participation in daily activities such as work and leisure, but other skills such as science and digital skills are increasingly becoming a basic requirement for inclusion in economic and social activities. Beyond these core building blocks, the range of knowledge and skills that can contribute to well-being is wide, from job-specific skills to parenting. Non-cognitive abilities, such as social and emotional skills – including resourcefulness, perseverance, adaptability and team-working – can also be considered as essential competencies. The indicators used in this chapter (Table 6.1) are limited to cognitive skills; an important priority for future statistical work is to assess additional aspects of people's knowledge and skills (below).

Table 6.1. Knowledge and skills indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age, education)	Deprivation
Student skills	PISA mean scores in mathematics, reading and science (presented separately)	P90/P10 ratio of PISA scores in mathematics, reading and science (presented separately)	Gaps in average PISA scores in mathematics, reading and science	Share of 15-year-old students who score below Level 2 in mathematics, reading and science (i.e. all subjects combined)
Adult skills	PIAAC mean scores in numeracy and literacy (presented separately)	P90/P10 ratio of PIAAC ratio in numeracy and literacy (presented separately)	Gaps in average PIAAC scores in numeracy and literacy	Share of adults who score at or below Level 1 in both literacy and numeracy (both in combination)

Student cognitive skills are measured using the 2018 OECD Programme for International Student Assessment (PISA) test scores. PISA assessments are conducted once every three years, with the focal subject cycling between mathematics, reading and science. The most recent PISA round focused on reading. In 2018, PISA tested around 600 000 15-year-old students, representing 32 million students across 79 countries. PISA assessments are normalised such that the OECD average is 500 points, with a standard deviation of 100 points. The normalisation is done in the first year a subject is a focal subject, implying that the value of the OECD average in any given year may not be equal to 500. PISA trends over time are measured as an average of each three-year period (given that assessments are implemented every three years), from the first time a given subject was the focal subject to the present-day assessment. Therefore, for PISA 2018, trends over time are calculated as the average trend from 2003 for mathematics, from 2006 for science and from 2000 for reading. Because PISA assessments are conducted within schools, they capture the cognitive ability only of 15-year-olds who are currently enrolled in school. These tests thus do not include drop-outs, or home-schooled students.

Adult cognitive skills are measured using the OECD Programme for the International Assessment of Adult Competencies (PIAAC) assessments in literacy and numeracy. The first cycle of PIAAC comprised three rounds, running from 2011 to 2017, covering over 220 000 adults in 38 countries. Adults are administered assessments of numeracy, literacy and problem-solving skills, with possible scores ranging from 0 to 500 (unlike PISA, PIAAC results are not normalised, meaning that the highest possible score is 500). At present, no time series is available for adult skills: Cycle 2 of PIAAC is planned for 2021-22, with results expected in 2023. Data for Belgium are limited to Flanders, and those for the United Kingdom to England and Northern Ireland.

Correlations among Knowledge and Skills indicators

Knowledge and skills are highly correlated across subjects, and across age groups: countries with higher levels of maths, reading and science for students aged 15 also have higher literacy and numeracy among adults (Table 6.2). Correlations are particularly high (above 0.94) among maths, science and reading skills at age 15, and between numeracy and literacy in adulthood. The weakest association (0.64) is between reading skills at age 15 and adult numeracy.

Table 6.2. Knowledge and Skills indicators are strongly correlated

Bivariate correlation coefficients among the Knowledge and Skills indicators

	Student skills - Maths	Student skills - Reading	Student skills – Science	Adult skills - Numeracy	Adult skills - Literacy
Student skills – Maths					
Student skills – Reading	**0.91*** **				
	(36)				
Student skills – Science	**0.95*** **	**0.96*** **			
	(37)	(36)			
Adult skills – Numeracy	**0.83*** **	**0.64*** **	**0.72*** **		
	(29)	(28)	(29)		
Adult skills – Literacy	**0.85*** **	**0.72*** **	**0.79*** **	**0.96*** **	
	(29)	(28)	(29)	(29)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

In the current indicator set, Knowledge and Skills for both 15-year-old students and adults are primarily measured through literacy and numeracy measures. However, there are a number of other measures that capture knowledge and skills – including ability to problem solve, logical reasoning and non-cognitive skills – that are not captured by the indicators used in this chapter. PIAAC has rolled out an adaptive problem-solving component of its assessments that will be included in forthcoming rounds. The OECD Study on Social and Emotional Skills (SSES) aims to capture non-cognitive abilities in childhood and adolescence: the project began in mid-2017, thus data are not yet available for this publication.

References

Breda, T., E. Jouini and C. Napp (2018), "Societal inequalities amplify gender gaps in math", *Science*, Vol. 359/6381, pp. 1219-1220, http://dx.doi.org/10.1126/science.aar2307. [3]

OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/5f07c754-en. [1]

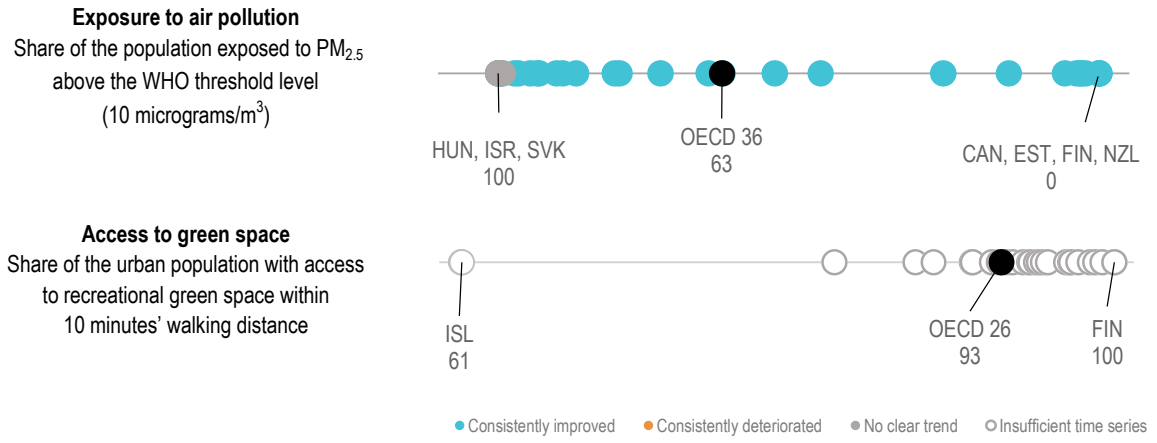
OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/b5fd1b8f-en. [4]

OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264258051-en. [2]

7 Environmental Quality

Environmental Quality is about environmental hazards and amenities – illustrated here by air quality and access to green space. Nearly two-thirds of people in OECD countries are exposed to dangerous levels of fine particulate matter ($PM_{2.5}$) air pollution. Although levels have generally improved since 2005, this has not always occurred where the situation was most critical: in one-quarter of OECD countries, all (or almost all) of the population remains exposed to dangerous levels of $PM_{2.5}$. Differences within countries can be as large as differences between countries: dangerous levels of $PM_{2.5}$ exposure can concern less than 1% of the population in one region, while affecting 100% in another. Almost 7% of people living in European cities lack access to green areas in their neighbourhood; comparable data for other OECD countries still need to be developed.

Figure 7.1. Environmental Quality snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2017, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide. For access to green space, urban areas refer to cities with 50 000 inhabitants or more: This means that data for Iceland refer only to the capital.
Source: *OECD Exposure to $PM_{2.5}$ in countries and regions* (database), http://dotstat.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5 and (Poelman, 2018[11]), "A walk to the park? Assessing access to green areas in Europe's cities, update using completed Copernicus urban atlas data", European Commission, Regional and urban policy, https://ec.europa.eu/regional_policy/sources/docgener/work/2018_01_green_urban_area.pdf.

Exposure to outdoor air pollution

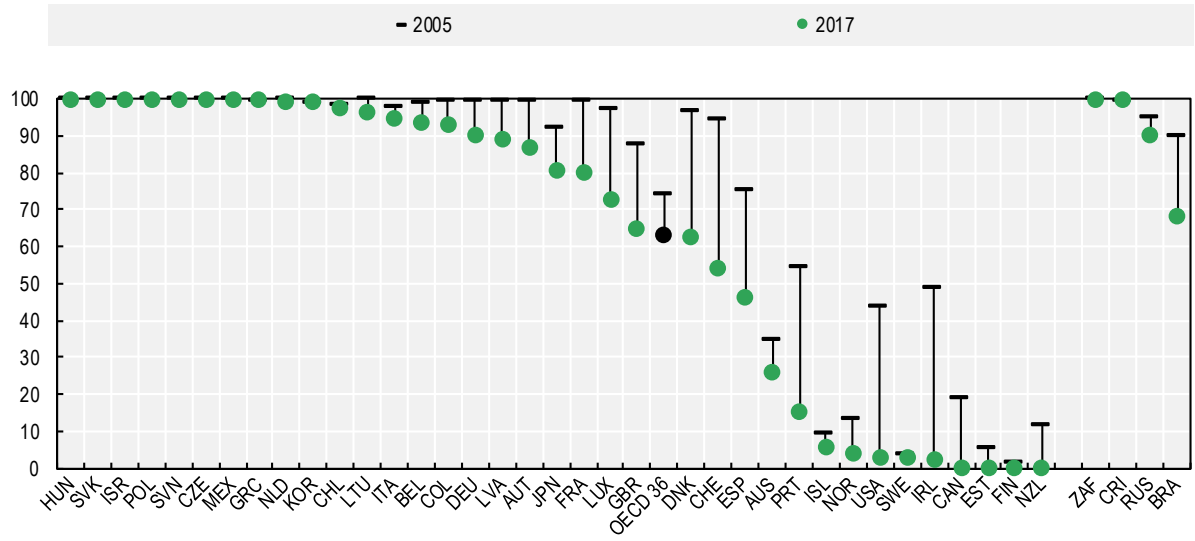
Fine particulate matter ($PM_{2.5}$) is an air pollutant that can be inhaled and cause serious health problems, including both respiratory and cardiovascular diseases. Nearly two-thirds of the population across OECD countries (63%) are exposed to levels of $PM_{2.5}$ air pollution above the WHO threshold level (10 micrograms per cubic metre) thought to be dangerous to human health (Figure 7.2). In Canada, Estonia, Finland and New Zealand, fewer than 1% of people have an average annual exposure above the threshold level, while in the Czech Republic, Greece, Hungary, Israel, Korea, Mexico, the Netherlands, Poland, the Slovak Republic and Slovenia all (or almost all) of the population are exposed to dangerous levels of air pollution. Among OECD Partner countries, the same is true also for Costa Rica and South Africa.

Between 2005 and 2017, the share of the population exposed to $PM_{2.5}$ above 10 micrograms/m^3 fell by 12 percentage points on average across OECD countries (Figure 7.2). The largest improvements occurred in Ireland, the United States, Portugal and Switzerland, where the share fell by 40 percentage points or more. There were no improvements in the Czech Republic, Greece, Hungary, Israel, Korea, Mexico, the Netherlands, Poland, the Slovak Republic or Slovenia, where all (or almost all) the population remain exposed to $PM_{2.5}$ above 10 micrograms/m^3. This is again also the case for Costa Rica and South Africa.

Different threshold measures can be used to look at air pollution of different levels of severity (Figure 7.3). These reveal a more nuanced picture than a single threshold. For example, some countries with very high exposure rates at 10 and 15 micrograms/m^3 (e.g. Hungary, Slovenia and the Slovak Republic) have almost no one exposed at the more severe 20 micrograms/m^3 threshold. By contrast, in Chile and Korea, more than 40% of the population are exposed even at the more severe threshold level.

Figure 7.2. Compared to 2005, fewer people are exposed to $PM_{2.5}$ above the WHO threshold level

Share of the population exposed to $PM_{2.5}$ above 10 micrograms/m^3, percentage

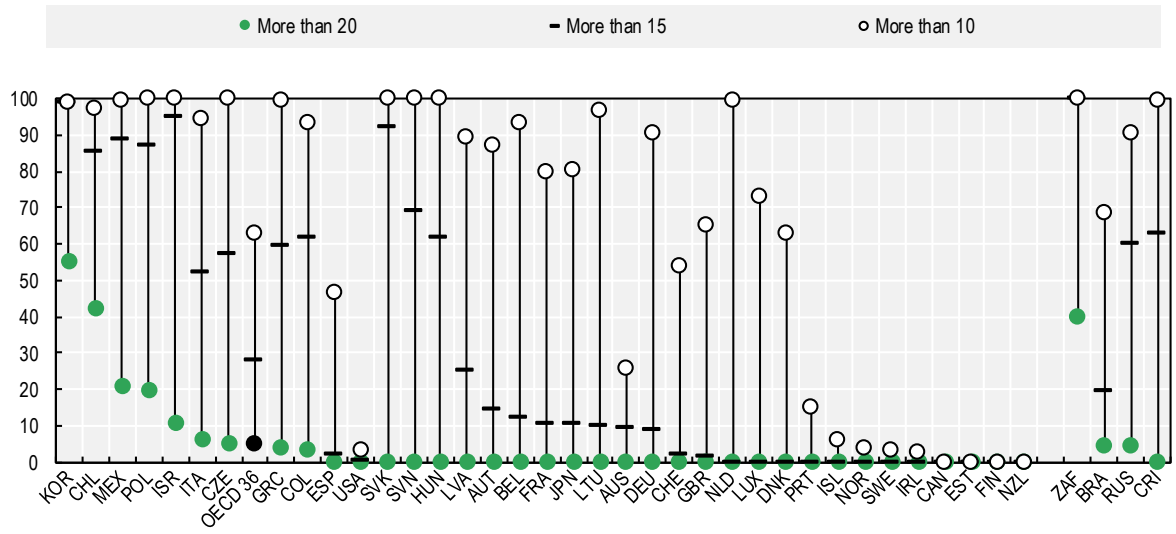


Note: The OECD average excludes Turkey, as data are not available. For this indicator only, 2005 is used as the reference point for change over time instead of 2010, because the heterogeneous geographical and temporal coverage of available ground monitoring station and satellite observations are insufficient to reliably resolve shorter-term local trends. See (Shaddick et al., 2018[2]) for more information on the concentration estimation methodology.
Source: *OECD Exposure to $PM_{2.5}$ in countries and regions* (database), http://dotstat.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5.

StatLink https://doi.org/10.1787/888934081644

Figure 7.3. More than 20% of people are exposed to severe air pollution in some OECD countries

Share of the population exposed to $PM_{2.5}$ above 10, 15 and 20 micrograms/m^3, percentage, 2017



Note: Countries are subsequently ranked by the share of the population exposed to $PM_{2.5}$ above 20 micrograms/m^3, above 15 micrograms/m^3 and above 10 micrograms/m^3. The OECD average excludes Turkey, as data are not available.
Source: *OECD Exposure to $PM_{2.5}$ in countries and regions* (database), http://dotstat.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5.

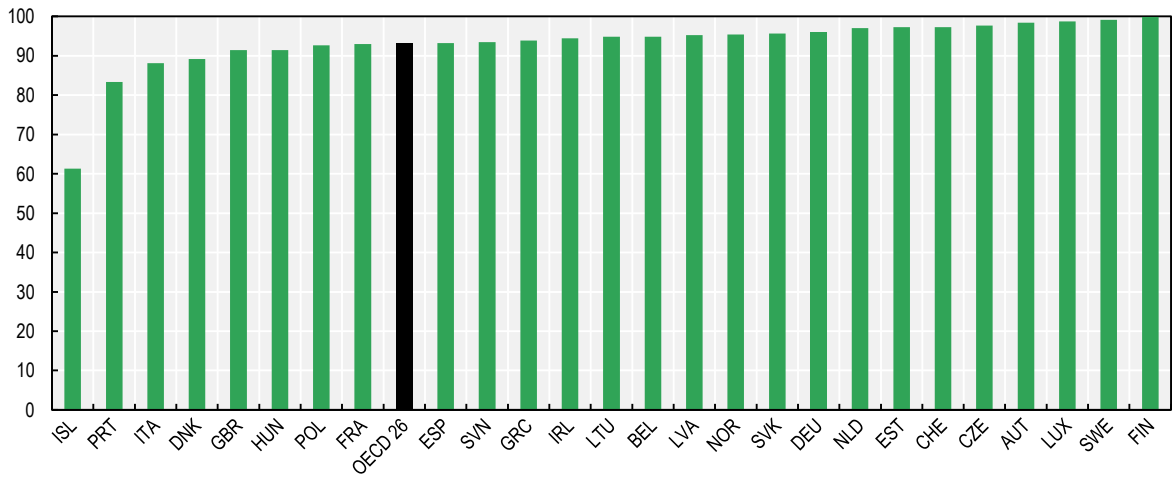
StatLink https://doi.org/10.1787/888934081663

Access to recreational green space in urban areas

On average in European urban areas, 93% of people have access to public parks, forests or other recreational green spaces within 10 minutes' walking distance from their home (Figure 7.4). In Austria, Finland, Luxembourg and Sweden, this share exceeds 98% of the urban population, while in Iceland it is only two-thirds.

Figure 7.4. The majority of the urban population in Europe has access to recreational green space

Share of the urban population with access to recreational green space within 10 minutes' walking distance, percentage, 2012



Note: Green space refers to green areas with a minimum mapping unit of 0.25 hectares. They are predominantly areas for recreational use such as gardens, zoos, parks, castle parks, and suburban natural areas that have become and are managed as urban parks. Forests at the fringe of cities are also included. Urban areas are defined as (greater) cities with an urban centre of at least 50 000 inhabitants, meaning that data for Iceland refers to the capital city only, where many green areas do not meet the definition of recreational use applied in this methodology. The OECD average excludes Australia, Canada, Chile, Colombia, Israel, Japan, Korea, Mexico, New Zealand, Turkey and the United States, as data are not available.

Source: (Poelman, 2018[1]), "A walk to the park? Assessing access to green areas in Europe's cities, update using completed Copernicus urban atlas data", European Commission, Regional and urban policy, https://ec.europa.eu/regional_policy/sources/docgener/work/2018_01_green_urban_area.pdf.

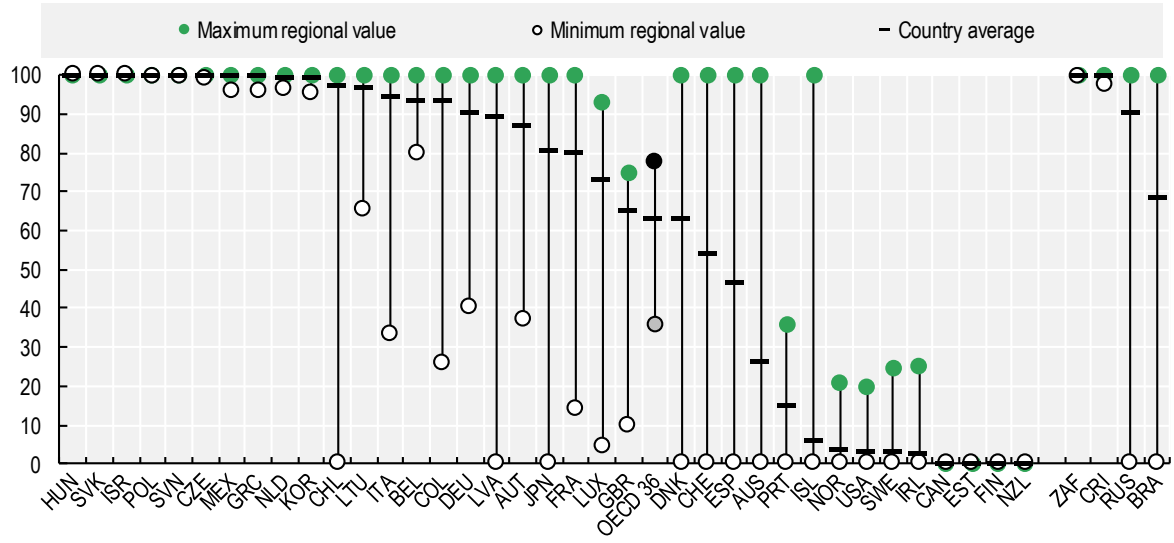
StatLink https://doi.org/10.1787/888934081682

Environmental inequalities: gaps between population groups

It remains challenging to measure horizontal inequalities, such as differences between men and women, by age and by education, in relation to Environmental Quality. However, information on exposure to air pollution is available at the regional (subnational) level, revealing stark differences within countries. For example, in Australia, Chile, Denmark, Iceland, Japan, Spain and Switzerland, the least polluted region has fewer than 1% of the population exposed to dangerous levels of $PM_{2.5}$, while the most polluted region has 100% of the population exposed. Among OECD partner countries, this is also the case for Brazil and the Russian Federation (Figure 7.5).

Figure 7.5. Regional differences in exposure to air pollution can be as large as country differences

Share of the population exposed to $PM_{2.5}$ above 10 micrograms/m^3, 2017



Note: The OECD average excludes Turkey, as data are not available.
Source: *OECD Exposure to $PM_{2.5}$ in countries and regions* (database), http://dotstat.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5.

StatLink https://doi.org/10.1787/888934081701

Box 7.1. Measurement and the statistical agenda ahead

Environmental Quality affects human health through the quality of air, water and soil, which is related to the presence and density of hazardous substances. Environmental Quality also matters intrinsically to people who value natural beauty and the amenities that affect their life choices (e.g. a place to live) (Balestra and Dottori. Davide, 2012[3]). Finally, people benefit from environmental services and assets. For example, access to green space is associated with numerous health and well-being benefits, including psychological relaxation, stress reduction, enhanced physical activity, the mitigation of exposure to air pollution, excessive heat and noise, improved social capital and pro-environmental behaviours (WHO Regional Office for Europe, 2016[4]) (Engemann et al., 2019[5]). The indicators included in this chapter (Table 7.1) are complemented by a broader range of Natural Capital indicators in Reference Chapter 14.

Table 7.1. Environmental Quality indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (by gender, age and education)	Deprivation
Exposure to outdoor air pollution (above WHO threshold level)	Exposure to outdoor air pollution	n/a	Gaps in exposure to outdoor air pollution (by macroregion only)	n/a
Access to green space	Access to green spaces	n/a	n/a	n/a

Exposure to outdoor air pollution refers to the share of the population living in areas with annual concentrations of fine particulate matter less than 2.5 microns in diameter (known as $PM_{2.5}$) exceeding the WHO Air Quality Guideline value of 10 micrograms per cubic metre (WHO, 2006[6]). Fine particulate

matter is an air pollutant that can be inhaled and cause serious health problems, including both respiratory and cardiovascular disease, having its most severe effects on children and elderly people. The $PM_{2.5}$ concentration estimates shown here are taken from the Global Burden of Disease 2017 project. They are derived by integrating satellite observations, chemical transport models and measurements from ground monitoring station networks. The concentration estimates are population-weighted using gridded population datasets from the EU Joint Research Center's Global Human Settlement project. These are produced by distributing census-derived population estimates from the Gridded Population of the World, version 4 from the NASA Socioeconomic Data and Applications Center, according to the density and distribution of built-up areas. The underlying boundary geometries are taken from the Global Administrative Unit Layers developed by the UN FAO, and the OECD Territorial Classification, when available. The accuracy of these exposure estimates varies considerably by location. Accuracy is generally good in regions with dense networks of monitoring stations (such as most advanced economies), while it is particularly poor in areas with few monitoring stations and in areas with very high population concentrations, such as Africa, the Middle East and South Asia (Shaddick et al., 2018[2]). For some regions, particularly snow-covered areas, small islands and coastal areas, there are no $PM_{2.5}$ concentration estimates for part of the region because satellite-based aerosol optical depth measurements are not reliable in areas where the dominant land cover is very reflective (Mackie, Haščič and Cárdenas Rodríguez, 2016[7]).

Access to recreational green space in urban areas refers to the share of the urban population who lack access to recreational green space within 10 minutes' walking distance from their home. Urban areas are defined as (greater) cities with an urban centre of at least 50 000 inhabitants (Dijkstra and Poelman, 2012[8]). Green space refers to green areas with a minimum mapping unit of 0.25 hectares. They are predominantly areas for recreational use such as gardens, zoos, parks, castle parks, and suburban natural areas that have become and are managed as urban parks. Forests at the fringe of cities are also included. The underlying method consists of determining an area of easy walking distance – around 10 minutes' walking time (with an average speed of 5 km per hour) – around an inhabited Urban Atlas polygon. Data have been calculated by Poelman (Poelman, 2018[1]; Poelman, 2016[9]), using the European (Copernicus) Urban Atlas polygons (i.e. satellite data).

There is currently no universally accepted definition of green space. However, with regard to its impacts on people's health and well-being, the WHO Regional Office for Europe recommends a proximity-based indicator of green space accessibility, based on the European Urban Atlas, as the most appropriate and feasible international source of urban green space data in the EU (WHO Regional Office for Europe, 2016[4]). This indicator is not currently scheduled for regular updates.

Correlations among indicators of Environmental Quality

There is no correlation between air pollution and access to green space for the 26 OECD countries with data on both (Table 7.2). This implies that each indicator discussed in this chapter captures a different facet of Environmental Quality.

Table 7.2. There is no correlation between air pollution and access to green space

Bivariate correlation coefficients among Environmental Quality indicators

	Air pollution ($PM_{2.5}$)	Access to recreational green space in urban areas
Air pollution ($PM_{2.5}$)		
Access to recreational green space in urban areas	0.22 (27)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parenthesis refer to the number of observations (countries). * indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

An ideal set of indicators of Environmental Quality would inform on the impact of environmental hazards on human health, on people's access to environmental services and amenities, and on people's own feelings and evaluations of their environmental conditions and amenities. However, currently, internationally comparable information is limited. The *How's Life?* measurement set could be further strengthened by defining and developing internationally harmonised data in relation to:

- Indicators on people's access to environmental services and amenities – particularly on water quality and recreational green space (the latter is currently available only for urban centres in European OECD countries and can be considered a "placeholder" until better data are available).
- Indicators that reflect people's own feelings and evaluations of their environmental conditions and amenities. Environmental Quality is valued by people, who attach importance to natural beauty and the healthiness of their environment (Balestra and Dottori. Davide, 2012[3]). Perceptions of environmental amenities (and disamenities) also affect the choices that people make, such as when choosing a place to live (Stiglitz, Sen and Fitoussi, 2009[10]).
- Horizontal inequalities beyond regional and other spatial inequalities (for example, by gender, age and education). The evidence is currently patchy. In 2018, the OECD Environment Directorate launched "The Geography of Well-Being", a project aimed at building a comprehensive database of exposure to environmental risks disaggregated by socioeconomic status, using metrics that are harmonised across countries and which can be considered a first step in this direction.
- Damage from environmental disasters, which has been conceptually associated with Environmental Quality (Stiglitz, Sen and Fitoussi, 2009[10]).
- Information on mortality and morbidity (i.e. Disability-Adjusted Life Years (DALY)) from exposure to a selection of environmental risks (air pollution, lead, residential radon, unsafe water, sanitation, handwashing) is available, and could be considered for inclusion in the future.

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Poelman, H. (2016), "A walk to the park? Assessing access to green areas in Europe's cities", No. 01/2016, European Commission, Regional and Urban Policy, https://ec.europa.eu/regional_policy/sources/docgener/work/2016_03_green_urban_area.pdf (accessed on 18 July 2019). [9]

Shaddick, G. et al. (2018), "Data Integration for the Assessment of Population Exposure to Ambient Air Pollution for Global Burden of Disease Assessment", *Environmental Science & Technology*, Vol. 52/16, pp. 9069-9078, http://dx.doi.org/10.1021/acs.est.8b02864. [2]

Stiglitz, J., A. Sen and J. Fitoussi (2009), *Report by the Commission on the Measurement of Economic Performance and Social Progress*, http://stiglitz-sen-fitoussi.fr (accessed on 18 July 2019). [10]

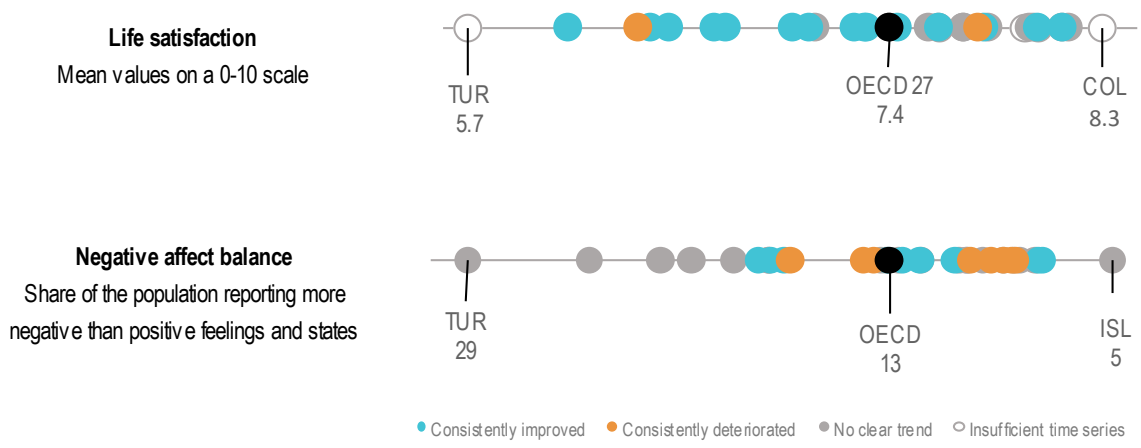
WHO (2006), *WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide*, https://apps.who.int/iris/bitstream/handle/10665/69477/WHO_SDE_PHE_OEH_06.02_eng.pdf?sequence=1 (accessed on 18 July 2019). [6]

WHO Regional Office for Europe (2016), *Urban green spaces and health*, http://euro.who.int/__data/assets/pdf_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf?ua=1 (accessed on 18 July 2019). [4]

8 Subjective Well-being

Subjective Well-being is about good mental states, and how people experience their lives. Average life satisfaction (measured on a 0-10 scale) ranges from below 6 to above 8 across OECD countries. Between 2013 and 2018, average levels of life satisfaction increased slightly, from 7.2 to 7.4 (based on data from 27 OECD countries). Nevertheless, a sizeable share of the population (around 7% on average) still report very low levels of life satisfaction, and around 1 in 8 people experience more negative than positive feelings in a typical day. Average life satisfaction is very similar for men and women, but in close to half of OECD countries the share of women reporting more negative than positive feelings is higher than the share of men. There are age- and education-related inequalities in Subjective Well-being, and countries with larger inequalities tend to also experience lower average scores.

Figure 8.1. Subjective Well-being snapshot: Current levels and direction of change since 2010



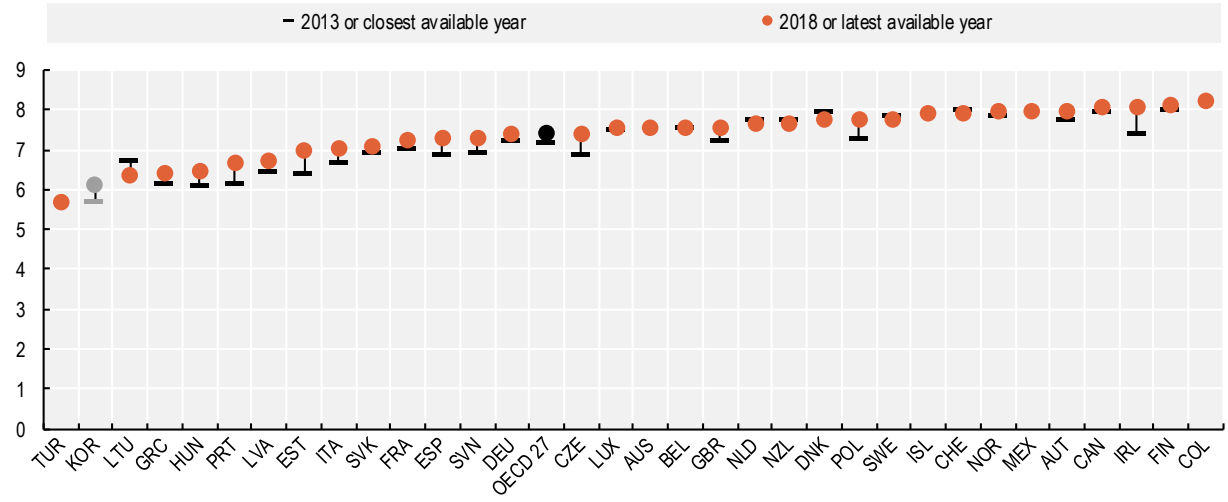
Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Expenditure (Socioeconomic Conditions Module); the New Zealand General Social Survey; and the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

Life satisfaction

When people are asked to rate their lives on a scale from 0 (not at all satisfied) to 10 (completely satisfied), average evaluations across OECD countries range from below 6.5 in Turkey, Korea, Lithuania and Greece to above 8 in Canada, Ireland, Finland and Colombia (Figure 8.2). Since 2013, life satisfaction has either remained stable or increased in most of the 27 OECD countries with available data, and the OECD average rose from 7.2 to 7.4. Ten countries (Ireland, Portugal, Estonia, the Czech Republic, Korea, Hungary, Poland, Spain, Italy and Slovenia) experienced life satisfaction gains of 5% or more between 2013 and 2018. The largest falls in life satisfaction occurred in Lithuania (-5%) and Denmark (-3%).

Figure 8.2. OECD average life satisfaction has increased slightly since 2013

Mean values for life satisfaction, reported on a scale from 0 "not at all" to 10 "completely" satisfied



Note: The latest available year refers to 2014 for Australia and Mexico and to 2013 for Iceland and Turkey. The earliest available year refers to 2014 for New Zealand. The OECD average excludes Chile, Israel, Japan and the United States, due to a lack of available data; Korea, due to methodological differences; and Australia, Colombia, Iceland, Mexico and Turkey, as only one observation is available. Data refer to the population aged 19-69 in Korea; 18 and older in Mexico; 15 and older in Australia, Canada, Colombia and New Zealand; and 16 and older in all other cases. Data for Korea (shown in grey) have limited comparability due to the age range considered and the response format used (see Box 8.1). 2018 data for Ireland and the United Kingdom are provisional.

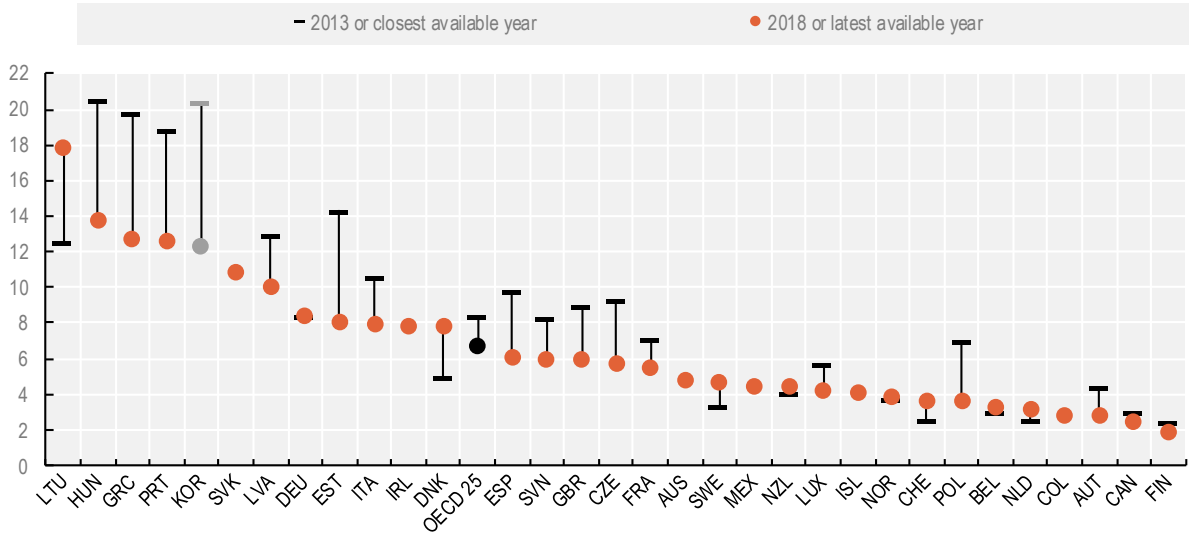
Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

StatLink https://doi.org/10.1787/888934081720

Very low levels of life satisfaction (a score of 4 or lower out of 10) are reported by 6.7% of the population in OECD countries on average (Figure 8.3). This share ranges from more than 12.5% in Lithuania, Hungary, Greece and Portugal to fewer than 3% in Finland, Canada, Austria and Colombia. The incidence of very low life satisfaction has fallen by 1.6 percentage points, on average, since 2013, from 8.3% to 6.7% in the 25 OECD countries with available data. Generally, the OECD countries experiencing the largest falls in the share of people reporting low life satisfaction had comparatively high deprivation levels in 2013. Conversely, a small number of countries (Switzerland, Sweden and Denmark) that began with low deprivation rates in 2013, and have high average scores overall, saw a rise in deprivation rates of more than 1 percentage point. In Lithuania, deprivation rates were high in 2013 and had climbed further by 2018.

Figure 8.3. Across OECD countries the share of people reporting very low life satisfaction has fallen by 1.6 percentage points since 2013

Share of the population rating their life satisfaction as 4 or lower (on a 0-10 scale), percentage



Note: The latest available year is 2014 for Australia and Mexico, and 2013 for Iceland, Ireland, and the Slovak Republic. The earliest available year is 2014 for New Zealand. The OECD average excludes Chile, Israel, Japan, Turkey and the United States, due to a lack of available data; Korea, due to methodological differences in the data collection; and Australia, Colombia, Mexico, Ireland, Iceland, and the Slovak Republic as only one observation is available. Data refer to the population aged 19-69 in Korea; 18 and older in Mexico; 15 and older in Australia, Canada, Colombia and New Zealand; and 16 and older in all other cases. Data for Korea (shown in grey) have limited comparability due to the age range considered and the response format used (see Box 8.1).

Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

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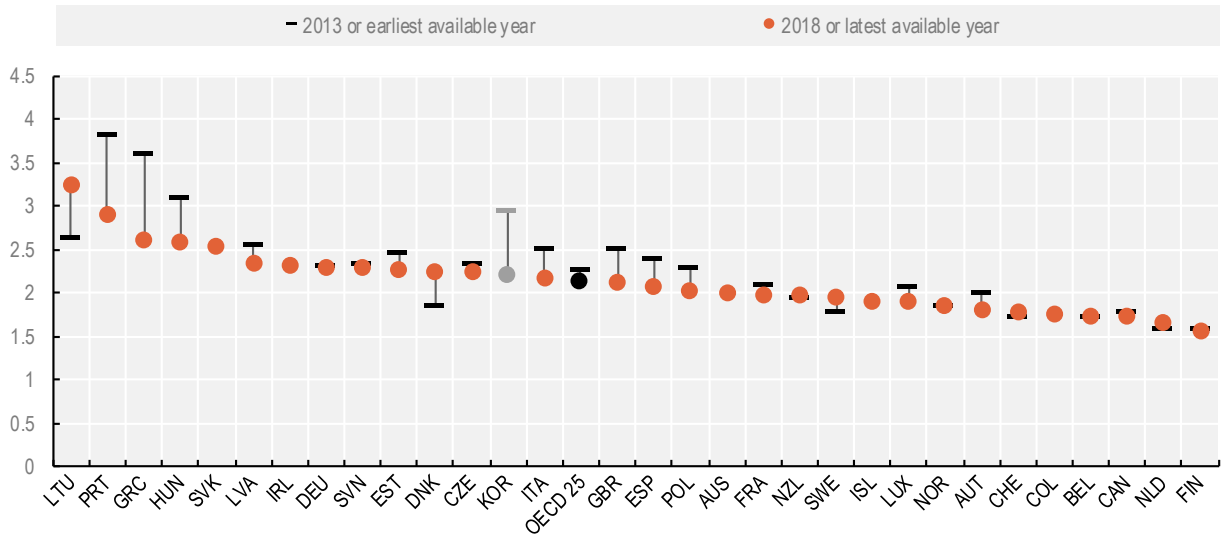
The overall dispersion (i.e. "vertical inequality") of life satisfaction varies substantially across OECD countries. In Lithuania, Portugal, Greece, Hungary and the Slovak Republic, average scores for people in the top 20% of the distribution are at least 2.5 times higher than the average scores for those in the bottom 20% (Figure 8.4). By contrast, the most equal distributions are observed in Finland, the Netherlands, Canada, Belgium, Colombia, Switzerland and Austria, where average scores for the top 20% are around 1.5-1.8 times higher than the average scores for the bottom 20%.

Consistent with the picture for deprivation (Figure 8.3), the data overall indicate that OECD countries faring better on average levels of life satisfaction tend to have narrower gaps between population groups, while countries with lower average levels tend to experience larger inequalities. In addition, the gap between the top 20% and bottom 20% has narrowed since 2013 for several OECD countries. The most sizeable reductions in inequality have occurred in Greece, Portugal, Korea and Hungary. Nevertheless, the gap between the top and bottom has widened in Lithuania, Denmark and Sweden since 2013 – and in all cases this was due to a fall in the average score for the bottom 20%, rather than an increase among the top 20%.

Figure 8.4. In the most unequal OECD countries, people in the top 20% of the distribution have average life satisfaction scores more than 2.5 times higher than those in the bottom 20%

S80/S20 ratio of life satisfaction



Note: The S80/S20 ratio is a measure of dispersion or "vertical inequality"; it is calculated by dividing the average score for the top 20% of the overall distribution of life satisfaction by the average score for the bottom 20%. The latest available year is 2014 for Australia and Mexico, and 2013 for Iceland, Ireland, and the Slovak Republic. The earliest available year is 2014 for New Zealand. The OECD average excludes Chile, Israel, Japan, Turkey and the United States, due to a lack of available data; Korea, due to methodological differences in the data collection; and Australia, Colombia, Mexico, Ireland, Iceland, and the Slovak Republic as only one observation is available. Data refer to the population aged 19-69 in Korea; 18 and older in Mexico; 15 and older in Australia, Canada, Colombia and New Zealand; and 16 and older in all other cases. Data for Korea (shown in grey) have limited comparability due to the age range considered and the response format used (see Box 8.1).
Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

StatLink https://doi.org/10.1787/888934081758

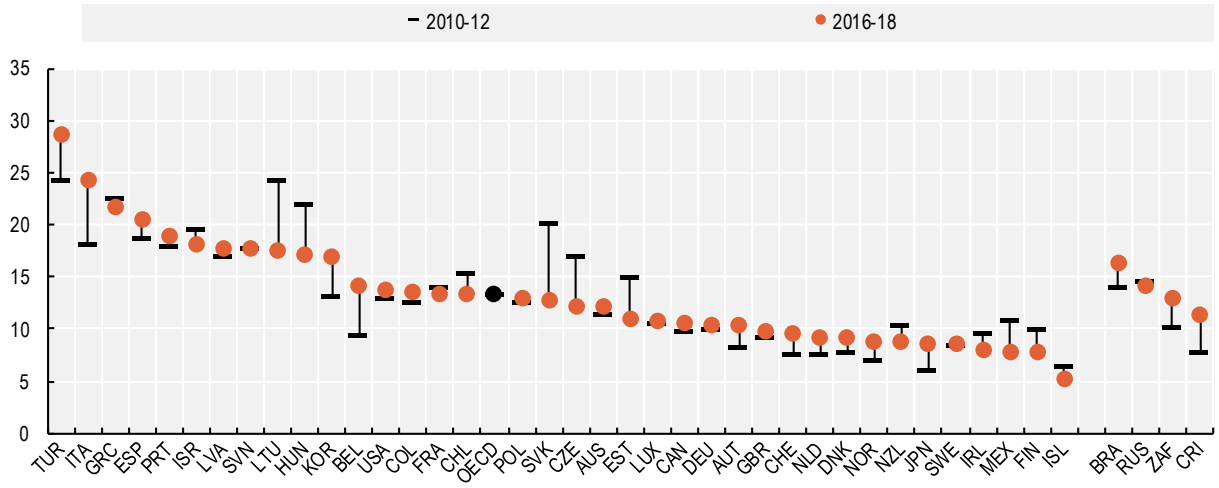
Negative affect balance

Just over 13% of people in the OECD on average report more negative feelings (anger, sadness, worry) than positive feelings (enjoyment, laughing or smiling a lot, well-rested) – a measure described here as a negative affect balance. This rate ranges from more than 20% in Turkey, Italy, Greece and Spain to 8% or less in Ireland, Mexico and Finland, and just 5% in Iceland (Figure 8.5).

Negative affect balance has worsened for some countries, but improved for others, since 2010. The incidence of negative affect balance increased (implying a worsening of the situation) the most in Italy (up 6 percentage points), Belgium (nearly 5 percentage points), Turkey, Korea and Costa Rica (all more than 3.5 percentage points). By contrast, the rate of negative affect balance fell (implying an improvement in the situation) by at least 4 percentage points in the Slovak Republic, Lithuania, Hungary, the Czech Republic and Estonia.

Figure 8.5. Around 13% of people report experiencing more negative than positive feelings

Share of the population experiencing a negative affect balance on the previous day



Note: Negative states refer to experiencing anger, sadness or worry; positive states refer to feeling well-rested, enjoyment, or laughing or smiling a lot yesterday. A negative affect balance is recorded when a respondent reports more negative than positive feelings or states in the previous day.
Source: OECD calculations based on the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

StatLink https://doi.org/10.1787/888934081777

Subjective Well-being inequalities: gaps between population groups

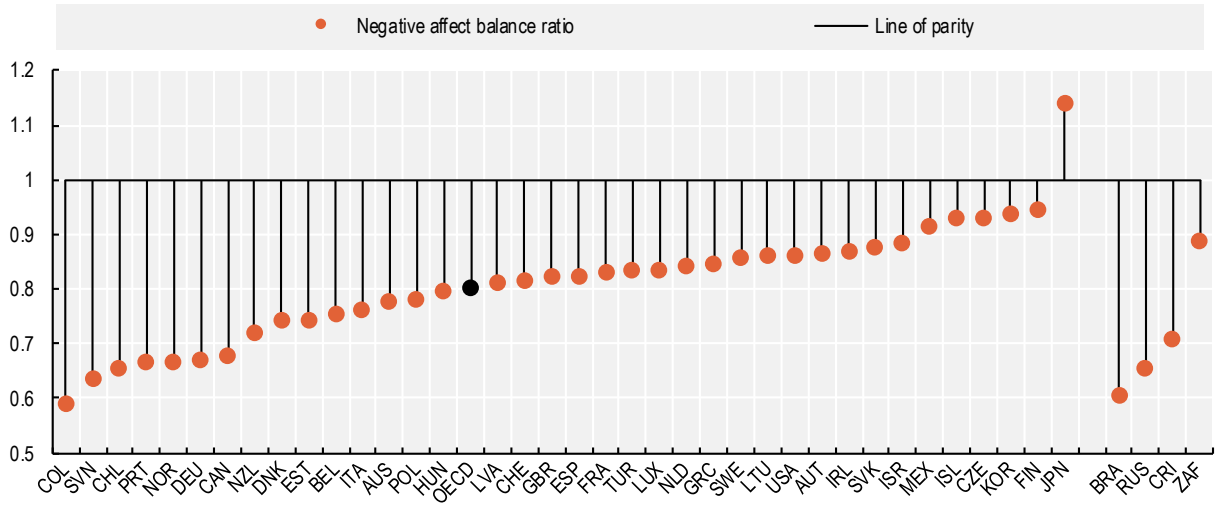
Gender gaps are negligible for life satisfaction, but women experience higher rates of negative affect balance than men

For the 32 OECD countries with available data, gender differences in life satisfaction are negligible. In 2018, the OECD average life satisfaction rating was 7.4 for both men and women, measured on a 0 to 10 scale. The gender gap exceeded 0.2 scale points only in Estonia and Korea (where women rate their life satisfaction more positively than men) as well as Lithuania and Portugal (where men rate their life satisfaction more positively than women).

When it comes to negative affect balance, there is a clearer gender gap in favour of men (Figure 8.6). For OECD countries on average, 15% of women report experiencing more negative than positive feelings, while only 12% of men do, implying a gender ratio of around 0.80. Rates of negative affect balance are at least 3 percentage points higher for women than for men in close to half of OECD countries. Japan is the only country where men experience higher rates of negative affect balance (7.9%) than women do (6.9%), but in this case both genders fall well below the OECD average rate (13%).

Figure 8.6. Women experience higher rates of negative affect balance, relative to men

Gender ratios for negative affect balance, 2010-18 pooled data



Note: The gender ratio is calculated by dividing average values for men by average values for women. Thus, values above 1 always indicate better relative outcomes for women, and values below 1 always indicate better relative outcomes for men.
Source: OECD calculations based on the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

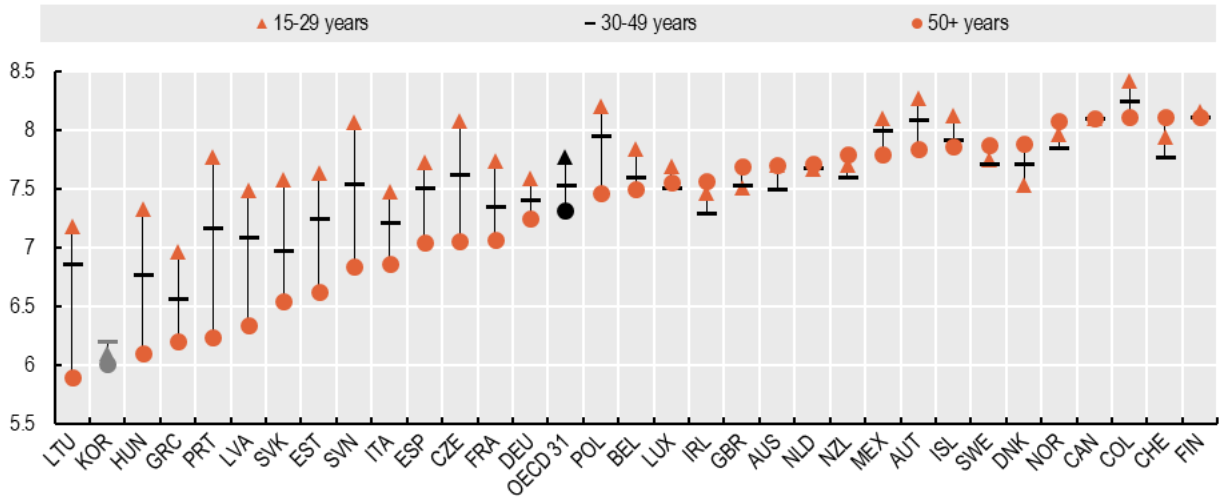
StatLink https://doi.org/10.1787/888934081796

People under age 30 have higher life satisfaction and better affect balance than their older peers

Younger people generally report higher life satisfaction (Figure 8.7), and lower negative affect balance (Figure 8.8) than those at older ages. Among OECD countries, average life satisfaction is 7.8 for people aged 15-29, 7.5 for those aged 30-49, and 7.3 for those aged 50 and over. The prevalence of negative affect balance for the three age groups is, respectively, 9.2%, 14.3% and 15.4%. Nevertheless, exceptions to these average patterns are widespread. In northern Europe, New Zealand, Australia and Canada, both life satisfaction and rates of negative affect balance are reasonably good across all age groups, and few age-related differences exist – and where they do, they often favour the over-50s. Older people fare comparatively poorly in southern and eastern Europe (e.g. Lithuania, Hungary, Greece, Portugal and Latvia) as well as in Latin American OECD countries. In the majority of wealthier OECD countries, middle-aged people have the highest prevalence of negative affect balance.

Figure 8.7. Countries with lower age-related inequalities have higher levels of life satisfaction overall

Mean values of life satisfaction on a 0-10 scale, by age, 2018 or latest available year



Note: The latest available year is 2014 for Australia and Mexico and 2013 for Iceland, Ireland and the Slovak Republic. The OECD average excludes Chile, Israel, Japan, Turkey and the United States, due to a lack of available data; and Korea, due to methodological differences. Data refer to the population aged 19-69 in Korea; 18 and older in Mexico; 15 and older in Australia, Canada, Colombia and New Zealand; and 16 and older in all other cases. Data for Korea (shown in grey) have limited comparability due to the age range considered and the response format used (see Box 8.1).

Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

StatLink https://doi.org/10.1787/888934081815

Figure 8.8. Negative affect balance is worse after 30, but bounces back after 50 in northern Europe

Share of the population experiencing a negative affect balance yesterday, by age, 2010-18 pooled data

Source: OECD calculations based on the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

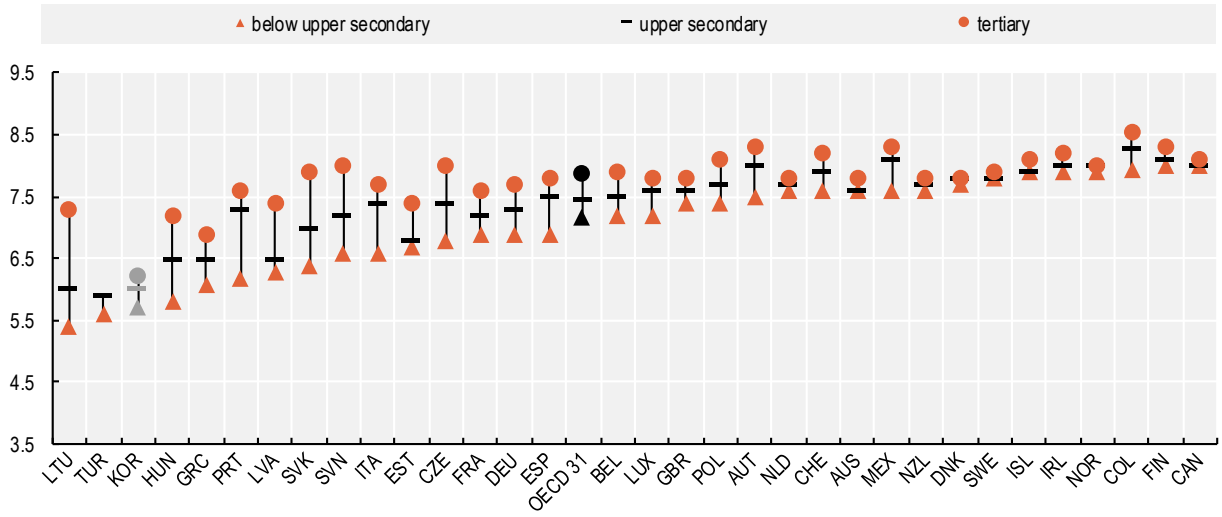
StatLink https://doi.org/10.1787/888934081834

Education-related gaps are larger in countries with lower Subjective Well-being overall

Higher educational attainment is generally associated with higher life satisfaction (Figure 8.9) and lower prevalence of negative affect balance (Figure 8.10). OECD average life satisfaction is 7.1 for people without an upper secondary education, 7.5 for those who have completed upper secondary education, and 7.8 for the tertiary-educated. The prevalence of negative affect balance across the same educational categories are, respectively, 17.6%, 13.3% and 10.3%. However, education-related inequalities are larger in countries that generally have lower overall scores on these measures; among the countries that perform well on Subjective Well-being in general, differences by education tend to be much smaller.

Figure 8.9. OECD countries with higher mean life satisfaction have smaller education-related gaps

Mean values on a 0-10 scale, by highest level of educational attainment, 2018 or latest available year



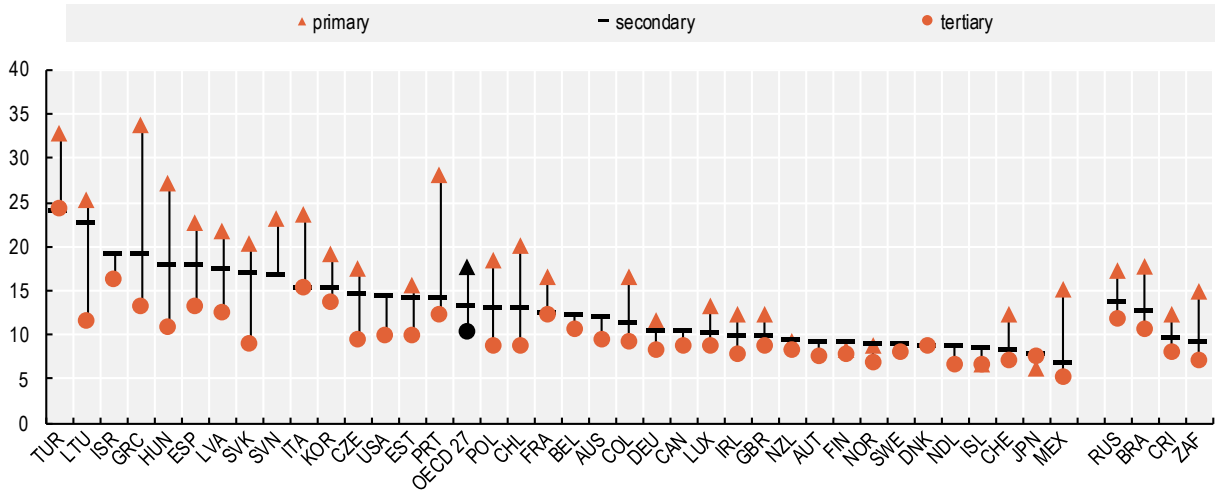
Note: The latest available year is 2014 for Australia and Mexico and 2013 for Iceland and Turkey. The OECD average excludes Turkey, due to missing data for tertiary education; Korea, due to methodological differences; and Chile, Israel, Japan and the United States, due to a lack of available data. Data for Ireland and the United Kingdom are provisional.

Source: OECD and national statistical office calculations, based on the *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/data/database; the Australian General Social Survey; the Canadian Community Health Survey; Colombia's National Quality of Life Survey; the Korean Social Integration Survey; the Mexican National Survey of Household Income and Expenditure (Socioeconomic Conditions Module) and New Zealand General Social Survey.

StatLink https://doi.org/10.1787/888934081853

Figure 8.10. Higher education is associated with a lower prevalence of negative affect balance

Share of the population experiencing a negative affect balance yesterday, by highest level of educational attainment, 2010-18 pooled data



Note: Data are not shown for countries where the sample size in a given education category is fewer than 500 observations (i.e. data for primary education are omitted for Australia, Austria, Belgium, Canada, Denmark, Israel, the Netherlands, Sweden and the United States; data for tertiary education are omitted for Slovenia). These countries are also excluded from the OECD averages shown.
Source: OECD calculations based on the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

StatLink https://doi.org/10.1787/888934081872

Box 8.1. Measurement and the statistical agenda ahead

Subjective Well-being is about good mental states, and how people experience their lives. The *OECD Guidelines on Measuring Subjective Well-Being* (OECD, 2013[1]) emphasise three distinct elements: life evaluations (an overall assessment of life, such as life satisfaction); affect (feelings, emotions and states); and eudaimonia (meaning and purpose; a sense that the things you do in life are worthwhile). The present chapter captures only the first two elements (Table 8.1), due to the absence of high quality and internationally comparable data on eudaimonia.

Table 8.1. Subjective Well-being indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by age, education, gender)	Deprivation
Life satisfaction	Mean average life satisfaction, based on a 0-10 scale	S80/S20 life satisfaction scores (i.e. average score among the top 20% of the distribution, divided by average score among the bottom 20%)	Gaps in mean average life satisfaction	Share of the population reporting life satisfaction of 4 or below on a 0-10 scale
Negative affect balance	Share of the population reporting more negative than positive feelings and states on the previous day	n/a	Gaps in the share of people with a negative affect balance	n/a

Life satisfaction is measured through survey questions concerning overall satisfaction with life on a 0-10 scale. Consistent with the *OECD Guidelines on Measuring Subjective Well-being* (OECD, 2013[1]), the question format typically used in OECD countries is: "Overall, how satisfied are you with your life as a whole these days", with a response scale ranging from 0 to 10, anchored by 0 ("not at all satisfied") and 10 ("completely satisfied").

Despite progress in harmonisation, methodological differences continue to hamper the comparability of life satisfaction data across OECD countries. These include minor differences in the question wording, such as the scale anchors used (e.g. "very dissatisfied" to "very satisfied" in Canada; "completely dissatisfied" and "completely satisfied" in New Zealand) or more substantial differences (e.g. identification of the scale mid-point, 5, as "neutral" in Korea). Differences in the population sampled also limit comparability. In the majority of OECD countries, data refer to the population 16 years and older, with minor variations in Australia, Canada, Colombia and New Zealand (where data refer to those aged 15 and older), and Mexico (those aged 18 and older). In Korea, a significantly narrower age range (19-69 years) is considered.

Negative affect balance is measured through a battery of items, to which respondents indicate "yes" or "no" to having felt a lot of each emotion or state on the previous day. The negative items considered here relate to anger, sadness and worry, and the positive affect items to enjoyment, feeling well-rested and laughing or smiling. A negative affect balance refers to respondents who report more negative than positive feelings or states on the previous day.

For country averages, data are pooled over all available years for a three-year period (e.g. 2016-18) to improve the accuracy of the estimates; for reporting inequalities, data are pooled over a longer time period (2010-18). Data are sourced from the *Gallup World Poll,* which samples around 1 000 people per country, each year. The sample is ex ante designed to be nationally representative of the population aged 15 and over (including rural areas); the sample data are weighted to the population using weights supplied by Gallup.

Correlations among Subjective Well-being indicators

There is a strong negative correlation (-0.79) between life satisfaction and the prevalence of negative affect balance: across the 33 OECD countries with data available on both measures, where negative affect balance is lower, people rate their life satisfaction higher, and vice versa (Table 8.2).

Table 8.2. Life satisfaction and negative affect balance are related, but different

Bivariate correlation coefficients between the Subjective Well-being indicators

	Life satisfaction	Negative affect balance
Life satisfaction		
Negative affect balance	**-0.79*** **	
	(33)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries).
* Indicates that correlations are significant at the p<0.10 level, ** at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

A majority of OECD national statistical offices are now collecting life satisfaction measures in an internationally harmonised manner, though some methodological variation persists (see above). In Japan and the United States, no official life satisfaction data are available; in Chile and Israel, life

satisfaction data have been collected by national statistical offices, but using a response scale format that is not comparable with that used in other OECD countries.

Despite progress towards harmonisation, life satisfaction data collections in OECD countries tend to be infrequent (e.g. a five-year lapse between the EU Statistics on Income and Living Conditions data collections) and long time series are still lacking for almost all countries.

The negative affect balance data reported in this chapter are sourced from the *Gallup World Poll*, due to the lack of harmonised data across statistical offices in OECD countries (Stiglitz, Fitoussi and Durand, 2018[2]). The World Poll offers a standardised measurement approach covering all OECD countries, and provides a consistent time series, collected on an annual basis in most OECD countries since 2005/6. To reduce the risk of retrospective recall bias, the World Poll measure is based on people's feelings and affective states "yesterday", rather than over a longer time period. When adopted in conjunction with very large sample sizes, the "yesterday" framing should be sufficient to establish a typical day's experiences, but estimates can be more volatile over smaller samples or disaggregations across population groups. Data shown in this chapter are pooled over several years' surveys to improve accuracy. An alternative framing of survey questions (adopted in several European countries) is to ask respondents about feelings and states over a period of several weeks, thereby reducing the impact of unusual events, but increasing the risk of retrospective recall bias and the role of dispositional tendencies in influencing the data. Data on affective experiences collected through Time Use Surveys are likely to yield the most accurate and useful results (OECD, 2013[1]), but are currently available in very few OECD countries (e.g. Canada, France, Luxembourg, Poland, the United Kingdom and the United States), and substantially different methods are currently deployed across these surveys.

Eudaimonia measures are absent from this chapter, due to a lack of internationally harmonised data collected at regular time intervals. The 2013 ad hoc module of the EU Statistics on Income and Living Conditions data collection included a measure of eudaimonia that was roughly equivalent to measures used outside of Europe (i.e. feeling that the things you do in life are worthwhile) and was featured in the 2015 edition of *How's Life?* (OECD, 2015[3]). However, these data have not been updated since, and no time series is available.

References

OECD (2015), *How's Life? 2015: Measuring Well-being*, OECD Publishing, Paris, https://dx.doi.org/10.1787/how_life-2015-en. [3]

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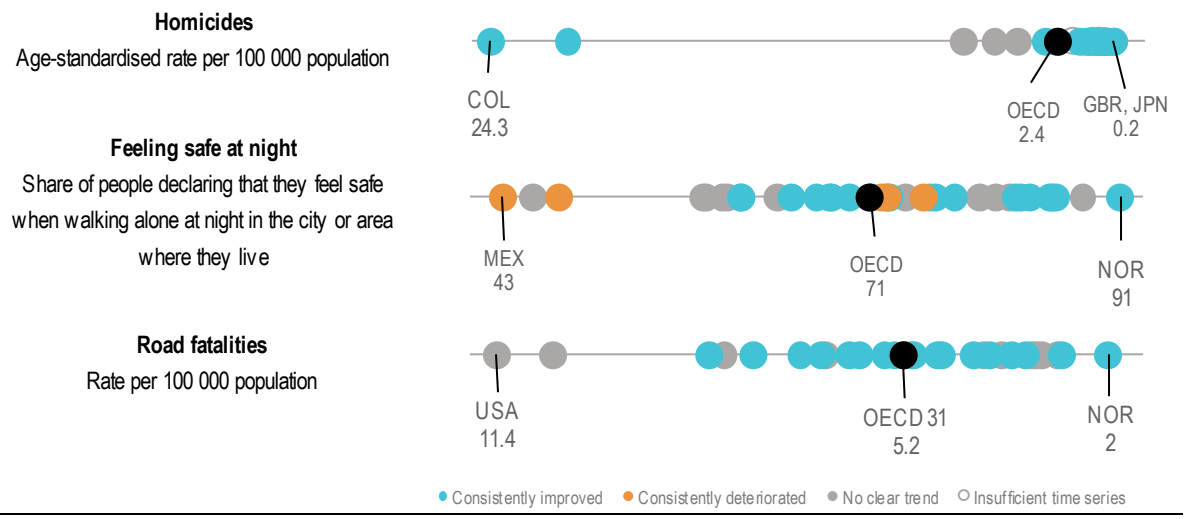
Stiglitz, J., J. Fitoussi and M. Durand (eds.) (2018), *For Good Measure: Advancing Research on Well-being Metrics Beyond GDP*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264307278-en. [2]

9 Safety

Safety is about freedom from harm – whether that harm comes in the form of crime, conflict, violence, terrorism, accidents or natural disasters. Across OECD countries, the homicide rate has fallen by one-third since 2010, to just over 2 per 100 000 people. 71% of people in OECD countries report feeling safe when walking alone at night, up from 67% in 2010-12. Among the 31 OECD countries with available data, road deaths have fallen by over 20%, on average since 2010. While 79% of men feel safe when walking alone at night, only 62% of women do. Nevertheless, the gap between men and women has narrowed since 2006-12. The middle-aged and tertiary-educated tend to feel safer, on average, than groups of other ages and education. Men are at higher risk of homicide than women in all but four OECD countries.

Figure 9.1. Safety snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: *OECD Health Status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT; *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx and *International Traffic Safety Data and Analysis Group* (IRTAD) database, https://itf-oecd.org/irtad-road-safety-database.

Homicides

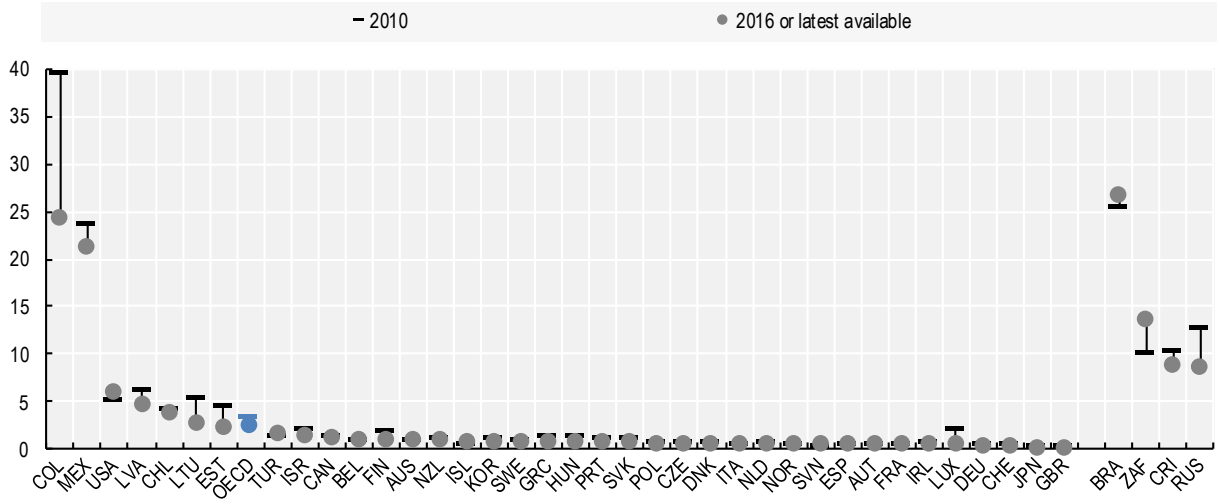
In nearly two-thirds of OECD countries, the homicide rate is below 1 per 100 000 population (Figure 9.2). However, the rate is more than three times higher than this in the United States and more than 20 times higher in Mexico and Colombia. Since 2010, the homicide rate has fallen by at least 33% in more than one-third of OECD countries, and the OECD average has fallen by around one-third. Nevertheless, rates have risen by more than 15% in the United States and Turkey, as well as (from a relatively low base) in Iceland and Slovenia.

Feelings of safety when walking alone at night

More than 85% of people in Finland, Switzerland, Iceland, Slovenia and Norway feel safe when walking alone at night where they live, but fewer than 50% do in Chile, Colombia and Mexico (Figure 9.3). The share of people in OECD countries who feel safe has increased by 4 percentage points, on average, since 2010, up from 67% to 71%. The largest improvements occurred in Lithuania (up by 20 percentage points) the Czech Republic and Portugal (15 points), Estonia (13) and the Slovak Republic (11). Nevertheless, feelings of safety have fallen in Mexico (-7 percentage points), Germany (-6), Chile (-5) and Sweden (-3).

Figure 9.2. The OECD average homicide rate has fallen by around one-third since 2010

Age-standardised rate per 100 000 population

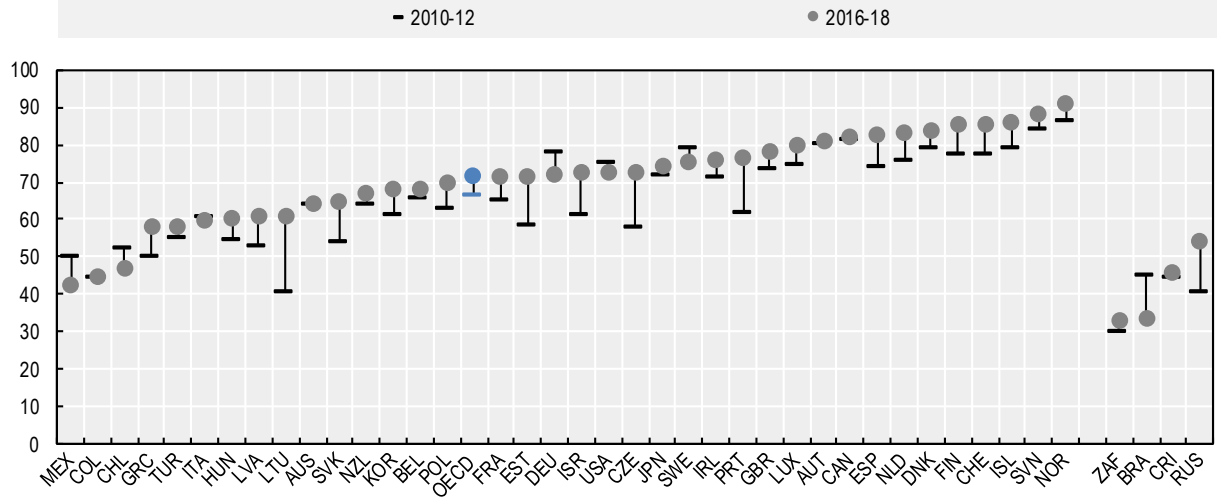


Note: The latest available year is 2017 for Austria, the Czech Republic, Hungary, Iceland and Lithuania; 2015 for Canada, Colombia, Denmark, France, Ireland, Italy, Latvia, Slovenia and South Africa; 2014 for New Zealand, the Slovak Republic, Costa Rica and the Russian Federation; and 2016 for all other countries.
Source: *OECD Health Status: Causes of Mortality* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081891

Figure 9.3. The share of people who feel safe has increased since 2010-12 in more than half of OECD countries

Share of people declaring that they feel safe when walking alone at night in the city or area where they live, percentage



Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

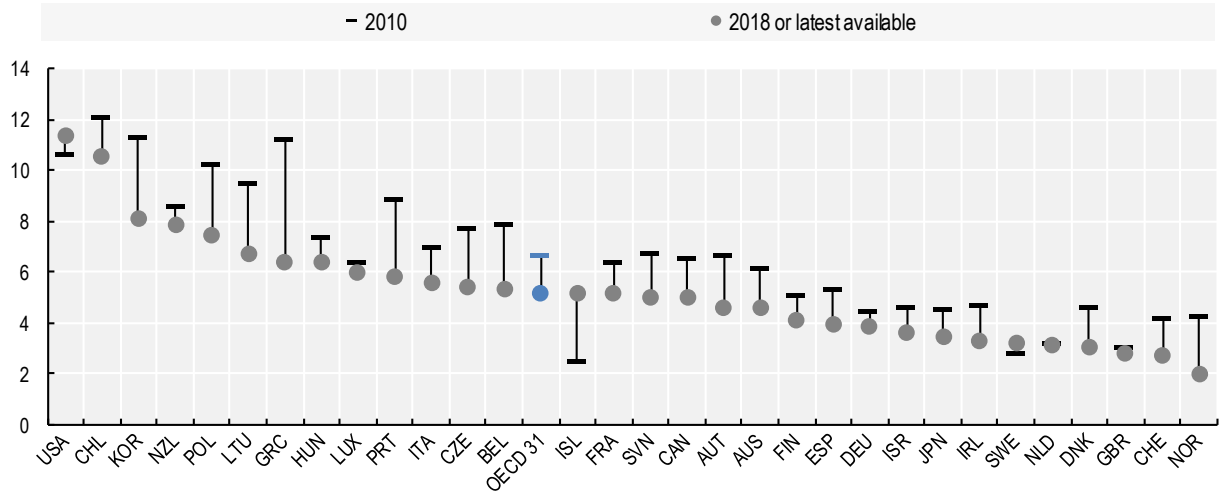
StatLink https://doi.org/10.1787/888934081910

Road deaths

Road deaths are lowest in Norway, Switzerland and the United Kingdom at fewer than 3 per 100 000 population (Figure 9.4). By contrast, deaths are between 3 and 4 times higher in Korea, Chile and the United States. The United Nations General Assembly declared 2011-2020 as a "Decade of Action for Road Safety" (WHO, 2010[1]), in an effort to focus countries' efforts towards meeting the road accident target of the 2030 Agenda (Target 3.6, to halve global road deaths by 2020) (OECD, 2019[2]). Among the 31 OECD countries with available data, road deaths have fallen by over 20%, on average, since 2010. Five countries (Norway, Greece, Switzerland, Portugal and Denmark) have reduced road deaths by over one-third. Despite these improvements, progress to date is still far from sufficient to meet Target 3.6.

Figure 9.4. Road deaths have fallen since 2010 in most OECD countries

Rate per 100 000 population



Note: The latest available year is 2017 for all countries, except for Australia, Austria, Belgium, Chile, Finland, Greece, Iceland, Luxembourg, Sweden and Switzerland, where the latest year is 2018. The OECD average excludes Colombia, Estonia, Latvia, Mexico, the Slovak Republic and Turkey, due to a lack of available data.
Source: *International Traffic Safety Data and Analysis Group (IRTAD)* database, https://itf-oecd.org/irtad-road-safety-database.

StatLink https://doi.org/10.1787/888934081929

Safety inequalities: gaps between population groups

Gender gaps are high across most Safety indicators

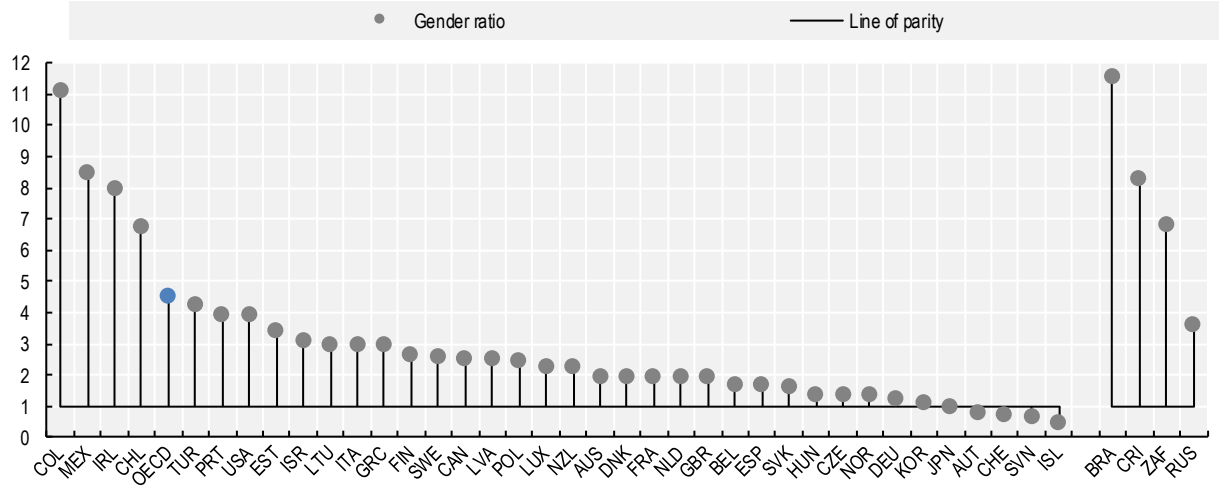
In all but four OECD countries, men are much more likely to be victims of homicide than women: the OECD average homicide rate for men is 4 deaths per 100 000 population, compared to 0.9 women (Figure 9.5). Nevertheless, in Iceland, Slovenia, Switzerland and Austria, women are either equally or more likely than men to be homicide victims.

Men feel safer than women when walking alone at night in all OECD countries. The gap is particularly high in Australia and New Zealand, where around 80% of men report feeling safe, while only around 50% of women do. Despite this, existing evidence suggests that the gender gap in feelings of safety narrowed slightly between 2006-12 and 2013-18 in several OECD countries (Figure 9.6), and notably in France, the United Kingdom, Italy, Spain and the Slovak Republic. In two cases, this was because overall feelings of

safety improved among both genders, but especially so for women (Spain, Slovak Republic), while in others it was due to a combination of strong improvements for women coupled with slight declines for men (France, United Kingdom, Italy).

Figure 9.5. With few exceptions, homicide rates are higher for men than for women

Gender ratios for homicide rates, 2017 or the latest available year

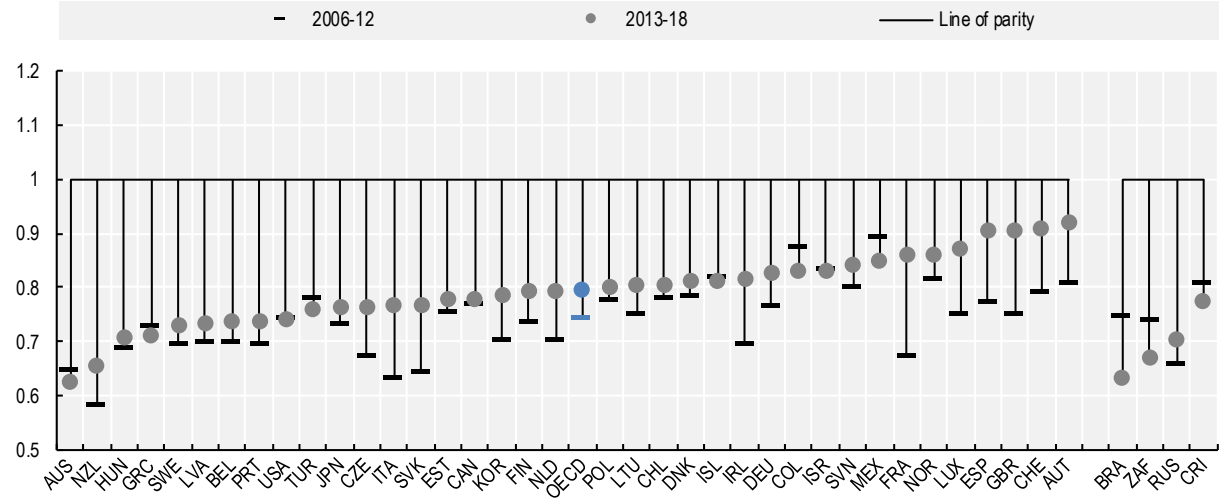


Note: Gender ratios are calculated by dividing the homicide rate for men by the homicide rate for women. Thus, values above 1.0 indicate higher relative homicide rates for men, and those below 1.0 higher relative homicide rates for women. Data refer to 2017 for Austria, the Czech Republic, Hungary, Iceland and Lithuania; to 2015 for Canada, Colombia, Denmark, France, Ireland, Italy, Latvia, Brazil and South Africa; to 2014 for New Zealand, the Slovak Republic, Costa Rica and the Russian Federation; and to 2016 for all other countries.
Source: *OECD Health Status: Causes of Mortality* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT.

StatLink https://doi.org/10.1787/888934081948

Figure 9.6. The large gender gap in feelings of safety has narrowed slightly since 2006-12

Gender ratios for people who feel safe walking alone at night in the area where they live



Note: Gender ratios are calculated by dividing the share of women who feel safe walking alone at night, by the share of men who feel safe. Thus, values above 1.0 indicate higher relative feelings of safety for women, and those below 1.0 lower relative feelings of safety among women.
Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

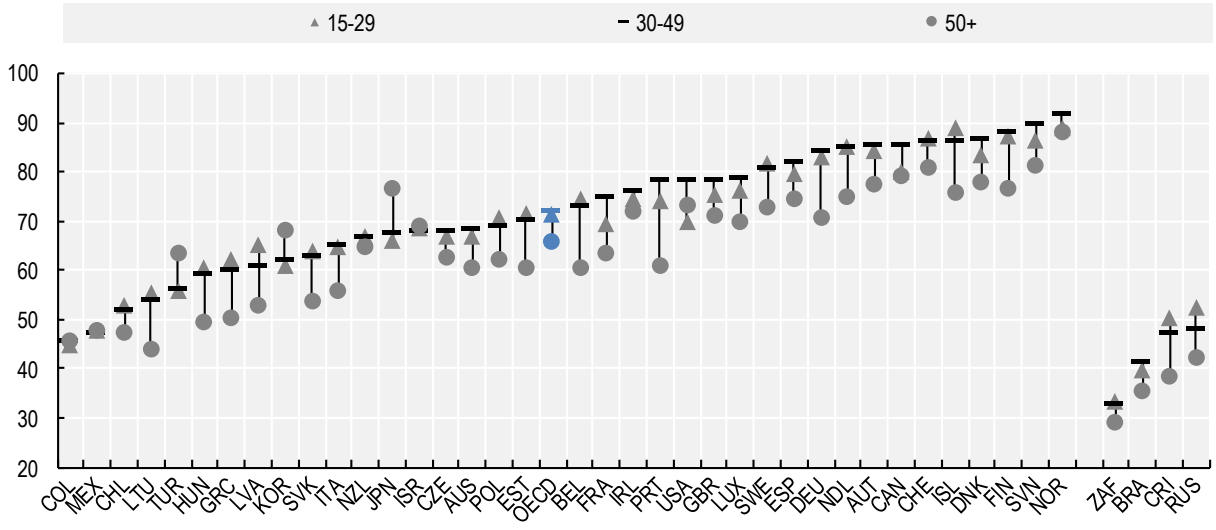
StatLink https://doi.org/10.1787/888934081967

The middle-aged and tertiary educated are more likely to feel safe when walking alone at night

People aged 30-49 generally report higher feelings of safety than both young adults and those aged 50 and over (Figure 9.7). Exceptions include Japan, Korea and Turkey, where older people (aged 50 and over) feel safer than all other age groups; and Latvia, Iceland, Costa Rica and the Russian Federation, where people aged 15-29 report slightly higher feelings of safety than the 30-49 age group.

Figure 9.7. People aged 50 and over feel less safe when walking alone at night than other age groups

Share of people declaring that they feel safe when walking alone at night in the city or area where they live, by age, percentage, 2010-18 pooled data



Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

StatLink https://doi.org/10.1787/888934081986

Feelings of safety also vary by education level: on average in OECD countries, 64% people with only a primary education, 69% of those with a secondary education, and 73% of those with a tertiary degree said they felt safe walking alone at night during the years 2010 to 2018.

Box 9.1. Measurement and the statistical agenda ahead

Safety is about freedom from harm, whether that harm comes in the form of crime, conflict, violence, terrorism, oppression, accidents or natural disasters. An ideal set of Safety indicators would inform about the various crimes and offenses experienced by individuals, including crimes against property (e.g. car theft, burglary); contact crimes (e.g. assault, mugging, domestic violence); and non-conventional crimes (e.g. hate crimes, emotional abuse, corruption, money-laundering, terrorism). Cybercrime and incidents of privacy breaches and consumer fraud online present new forms of criminal activities associated with the digital transformation (OECD, 2019[3]). Other threats to people's safety include traffic accidents, natural disasters and conflicts such as wars. People's freedom to express personal, political and social objectives without fear is another element of personal safety. However, the disparity in data sources and in approaches used in different countries' criminal legislation complicates the task of creating a consistent and internationally comparable definition of a variety of criminal acts. The present chapter therefore considers three key aspects of Safety where internationally comparable data are available (Table 9.1).

Table 9.1. Safety indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age, education)	Deprivation
Homicides	Deaths due to assault, rate per 100 000 population	n/a	By gender	n/a
Feeling safe	Share of people declaring that they feel safe when walking alone at night in the city or area where they live	n/a	By gender, age and education	Share of people not feeling safe when walking alone at night in the city or area where they live
Road deaths	Rate per 100 000 population	n/a	By age	n/a

Homicides: Cause-of-death statistics come from civil registration systems, compiled by national authorities and collated by the World Health Organisation (WHO). Only medically certified causes of death are included. The data shown here are available in the OECD Causes of Mortality Database.

Feelings of safety: This indicator is based on the survey question: "*Do you feel safe walking alone at night in the city or area where you live?*" The data shown here reflect the share of all respondents who replied "yes" to this question, averaged over a three-year period. Data are sourced from the Gallup World Poll, which samples around 1 000 people per country, each year. For country averages, data are pooled over all available years for a three-year period (e.g. 2016-18) to improve the accuracy of the estimates; for reporting inequalities, data are pooled over a longer time period (e.g. 2010-18). The sample is ex ante designed to be nationally representative of the population aged 15 and over (including rural areas); the sample data are weighted to the population using weights supplied by Gallup (OECD, 2017[4]).

Road deaths: A road fatality is any person killed immediately or dying within 30 days because of a road accident, excluding suicides. Data shown here are sourced from the *International Road Traffic and Accident Database* (IRTAD). All data is collected directly from relevant national data providers in IRTAD participating countries. It is provided in a common format, based on definitions developed and agreed by the IRTAD Group. Access is via the OECD statistics portal (ITF/OECD, 2019[5]).

Correlations among Safety indicators

There are strong correlations between the objective and subjective measures of Safety included in this chapter: in countries with higher rates of homicide, there are more road deaths, and people feel less safe when walking alone at night (Table 9.2).

Table 9.2. Objective and subjective measures of Safety are strongly correlated

Bivariate correlation coefficients among the Safety indicators

	Homicides	Feelings of safety	Road deaths
Homicides			
Feelings of safety	**-0.75*** (41)**		
Road deaths	**0.75*** (31)**	**-0.60*** (31)**	

Note: The table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

The statistical agenda ahead

The homicide rate is often considered to be a key indicator of violent crime, but it represents the "tip of the iceberg". It should be complemented by data from police registers and crime victimisation surveys to cover a wider range of experiences – including crimes against property (e.g. theft, burglary), contact crimes (e.g. assault, mugging) and non-conventional crimes (e.g. hate crimes, fraud). Nevertheless, the cross-country comparability of both official registers and survey data remains limited, and no central repository of international data currently exists.

Feelings of safety can affect people's well-being and their behaviour. However, one of the limits of the current indicator, sourced from the Gallup World Poll, is the relatively narrow scope (feelings of safety when walking alone at night). There is also no indication of the types of threats that people might fear. This can be particularly constraining from the view of identifying potential policy levers. This indicator is therefore considered as a placeholder until better quality and more harmonised data become available from official sources.

Domestic violence is an important aspect of safety highlighted in both the Sustainable Development Goals (Target 5.2.1 refers to women and girls subject to intimate partner violence) and national well-being frameworks (Australia, Italy, Israel, New Zealand). However, existing data often come from specialised surveys that are conducted infrequently and focus mainly on women (rather than on the entire population) (UN DESA, 2019[6]). National surveys that have contributed to a better understanding of domestic violence include Canada's General Social Survey on Victimization (conducted every 5 years), the Encuesta Nacional de Victimización y Percepción sobre Seguridad Pública (ENVIPE) in Mexico and the Crime Survey for England and Wales (CSEW) in the United Kingdom.

The scope of the road safety indicator could be improved by extending it to (non-fatal) road injuries. In developing countries, the institutional capacity to monitor road deaths and crash data in general is still lacking. Deaths from conflict is also an important omission from the current data set.

The ongoing digital transformation also implies risks for people's safety. In the absence of effective regulatory, legal and ethical frameworks, Internet users and organisations can be exposed to substantial economic, social, emotional and even physical risks. Measuring cybersecurity risks is challenging, however, as online criminal activity may go unnoticed by internet users, and no centralised reporting mechanism for small-scale online security incidents currently exists. Self-reports of cybercrime remain

the most practical technique at present, though corrections may also be necessary for different rates of Internet use across population groups and OECD countries (since higher prevalence of these incidents may simply imply higher exposure to them) (OECD, 2019[3]). Greater effort is therefore needed to develop a more general, and more objective, measure of cybersecurity risks.

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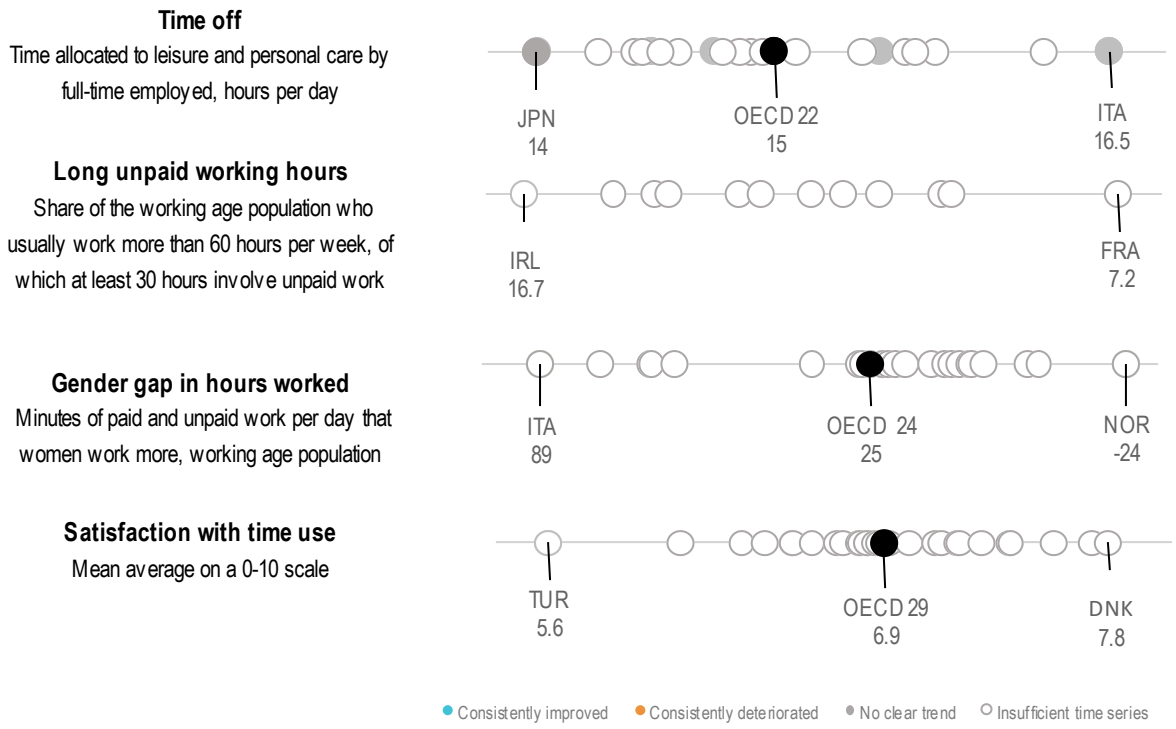
10 Work-Life Balance

Work-Life Balance is about being able to combine family commitments, leisure and work – including both paid and unpaid work. Across OECD countries, the average time spent on leisure and personal care by full-time employed people ranges from around 14 to 16.5 hours per day. Full-time employed men enjoy 30 minutes more leisure and personal care time relative to women, while the young and old spend 50 and 25 minutes more than the middle-aged, respectively. In the 13 OECD countries with available data, the share of the population working long hours in unpaid work ranges from 7% to 17%. When considering both paid and unpaid working time together, women work, on average, 25 minutes longer per day than men do. Average satisfaction with time use, measured on a 0-10 scale, never exceeds 8 and can be as low as 5.6. Middle-aged people are consistently the least satisfied with their time use.

Figure 10.1. Work-Life Balance snapshot: current levels, and direction of change since 2010



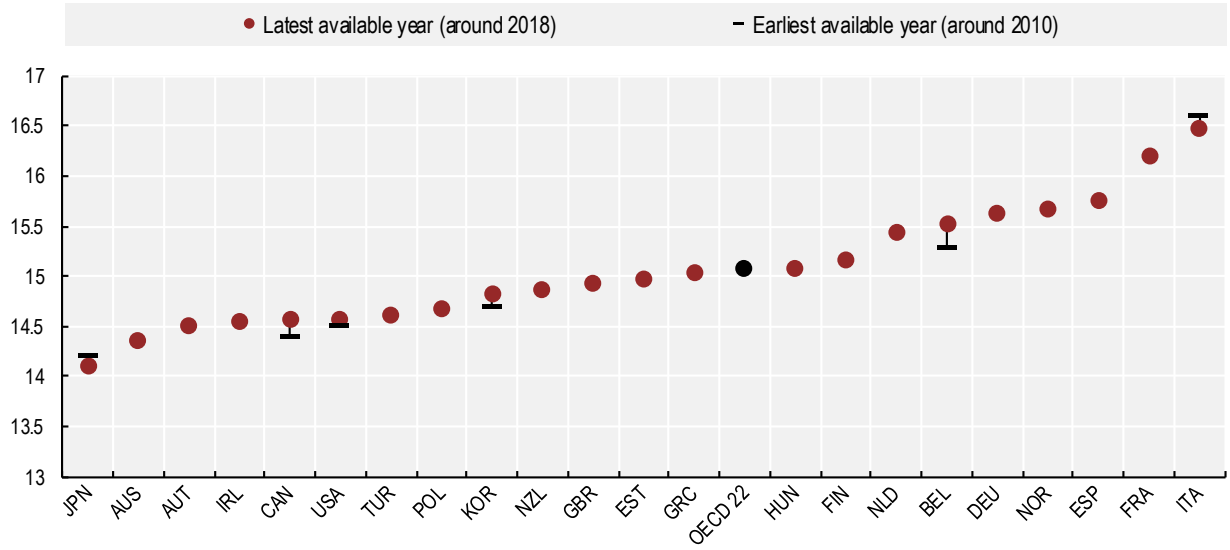
Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: OECD calculations based on public-use time use survey microdata when available, *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices; *European Union Statistics on Income and Living Conditions* (EU-SILC) (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw01) for Turkey; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng and INEGI, Subjective well-being in Mexico, https://sinegi.page.link/p1SS.

Time off

Professional obligations and unpaid work can leave individuals with little time for themselves, their family and their friends. While time crunches can affect a wide range of people, this indicator focuses on full-time employed people to enable a consistent comparison across countries (see Box 10.1). The average time off (i.e. time spent on leisure and personal care, which includes sleeping) is around 15 hours per day for full-time employed people in OECD countries, ranging from just over 14 hours in Japan to 16.5 hours in Italy (Figure 10.2). In European countries, the full-time employed generally have more time off than elsewhere. Changes in time use over the past decade or so can be assessed for just six OECD countries: Belgium, Canada, Italy, Korea, Japan and the United States. Time off in these countries has changed relatively little since the mid-2000s.

Figure 10.2. In OECD countries, full-time employed people devote 15 hours per day, on average, to leisure and personal care

Time off for full-time employed people, hours per day



Note: The data refer to full-time employed people. For surveys where the full-time/part-time status was not directly asked, the full-time employed were identified as those working 30 hours or more per week. The OECD average is provided only for the latest available year, and excludes Chile, Colombia, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Luxembourg, Mexico, Portugal, the Slovak Republic, Slovenia, Sweden and Switzerland due to a lack of recent data (2005 or later), methodological differences in data collection, or because tabulations from National Statistical Offices are not detailed enough to allow focusing on the full-time employed only. The latest available year refers to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for Turkey and the United Kingdom; 2014 for Korea; 2013-14 for Greece and Italy; 2012-13 for Belgium, Germany and Poland; 2010-11 for Norway; 2009-10 for Estonia, Finland, France, Hungary, New Zealand and Spain; 2008-09 for Austria; 2006 for Australia; and 2005 for Ireland. The previous available year refers to 2011 for Japan; 2010 for Canada and the United States; 2009 for Korea; 2008-09 for Italy; and 2005-06 for Belgium. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Source: OECD calculations based on public-use time use survey microdata when available; *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices.

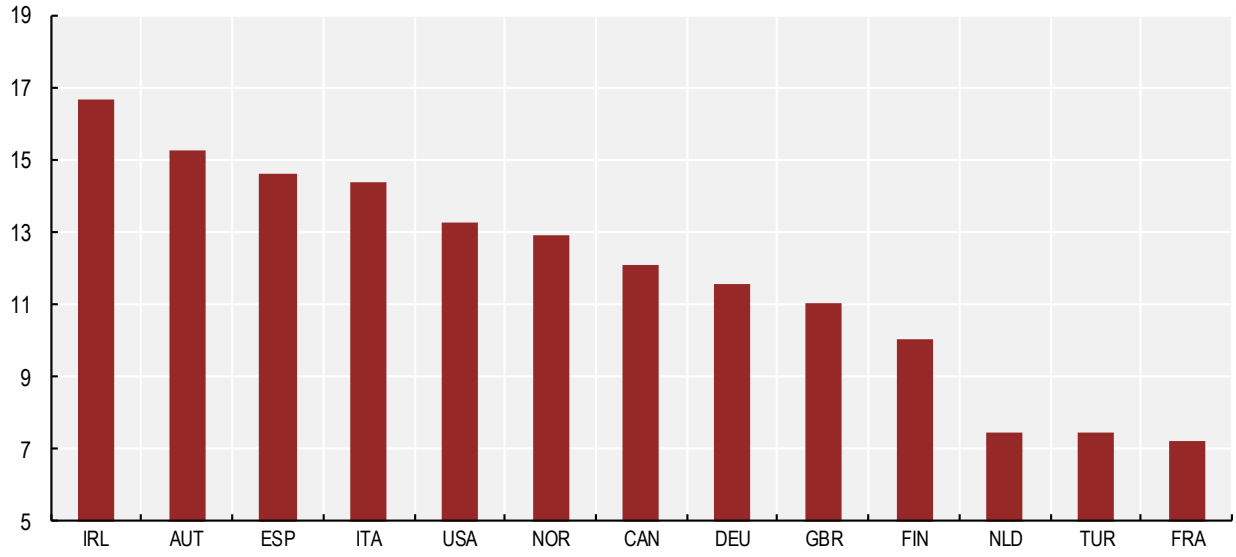
StatLink https://doi.org/10.1787/888934082005

Long unpaid working hours

Long working hours matter for well-being whether they involve paid work (e.g. in salaried employment) or unpaid work (e.g. caring responsibilities, cooking, and cleaning in the home). While long paid working hours were discussed in the Reference Chapter on Work and Job Quality, long hours of unpaid work are considered in Figure 10.3. This indicator captures long unpaid working hours for both people whose primary activity is domestic production and for those who face a "double day" burden of both paid work and long unpaid working hours (see Box 10.1 for more details). Long unpaid hours affect less than 10% of the working-age population in France, the Netherlands and Turkey but more than 15% in Ireland and Austria.

Figure 10.3. Between 7% and 17% of people work long unpaid hours in OECD countries

Proportion of the population aged 15-64 who work more than 60 hours per week, of which at least 30 hours is unpaid work, percentage, latest available year



Note: Country coverage is limited to those countries in which time use microdata files were available (2005 or after) and comparable data collection methodologies were used. The latest available year refers to 2018 for the United States; 2016 for the Netherlands; 2015 for Canada; 2014-15 for Turkey and the United Kingdom; 2013-14 for Italy; 2012-13 for Germany; 2010-11 for Norway; 2009-10 for Finland, France and Spain; 2008-09 for Austria; and 2005 for Ireland. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Source: OECD calculations based on public-use time use survey microdata when available; *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys.

StatLink https://doi.org/10.1787/888934082024

Gender gap in total hours worked

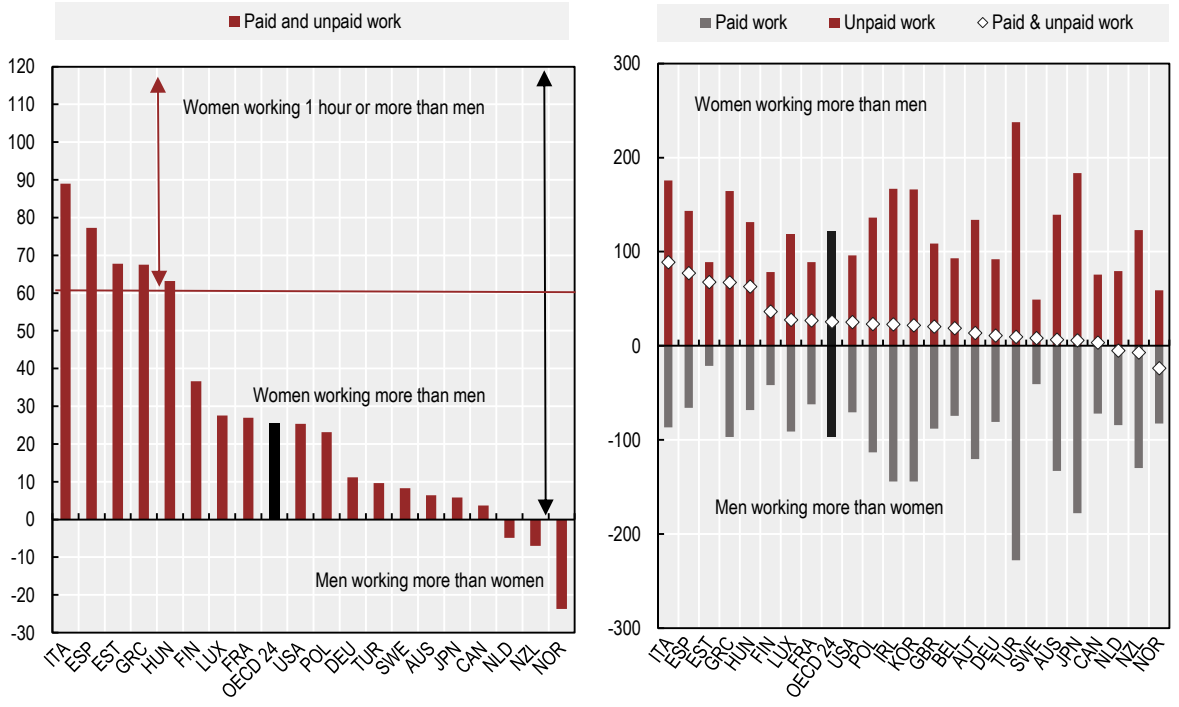
When both paid and unpaid work are taken into account, women work longer hours than men in almost every OECD country (Figure 10.4, panel A). In the average OECD country, women work 25 minutes per day more than men. Gender gaps are largest in Italy, Spain, Estonia, Greece and Hungary, where women spend over 1 hour per day more than men in total work. By contrast, men in Norway, New Zealand and the Netherlands spend slightly more time in total work than women (between 5 and 24 minutes per day).

Most of the gender differences in total working hours are driven by long hours spent in unpaid work by women (Figure 10.4, panel B), i.e. time spent doing routine housework, care work (for children and adults), shopping for goods and services for the household, and travel related to household activities. Across the OECD, men spend longer hours in paid work than women do (almost 1 hour and 40 minutes more per day, for the OECD on average), while women spend longer hours in unpaid work (around 2 hours more per day, for the OECD on average). Even in countries such as Estonia, where gender differences in time spent on paid work are small, women still do the lion's share of unpaid work.

Figure 10.4. On average, women work 25 minutes a day more than men

Panel A: Total time spent working (paid and unpaid), difference between women and men aged 15-64, minutes per day, latest available year

Panel B: Amount of time women work more than men in unpaid work, and amount of time they work less in paid work, minutes per day, latest available year



Note: In both Panels, countries are ranked in descending order of the gender gaps in time spent in paid and unpaid work combined. The latest available year refers to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for Luxembourg, Turkey and the United Kingdom; 2014 for Korea; 2013-14 for Greece and Italy; 2012-13 for Belgium, Germany and Poland; 2010-11 for Norway; 2010 for Sweden; 2009-10 for Estonia, Finland, France, Hungary, New Zealand and Spain; 2008-09 for Austria; 2006 for Australia; and 2005 for Ireland. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were proportionally distributed across all activities. Data refer to the population aged 15-64, except for Australia (aged 15 and more) and New Zealand (12 and more). Data for the OECD average exclude Chile, Colombia, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Mexico, Portugal, the Slovak Republic, Slovenia and Switzerland due to the lack of recent data (2005 or after), or methodological differences in data collection.

Source: *OECD Time Use* (database), https://stats.oecd.org/Index.aspx?DataSetCode=TIME_USE.

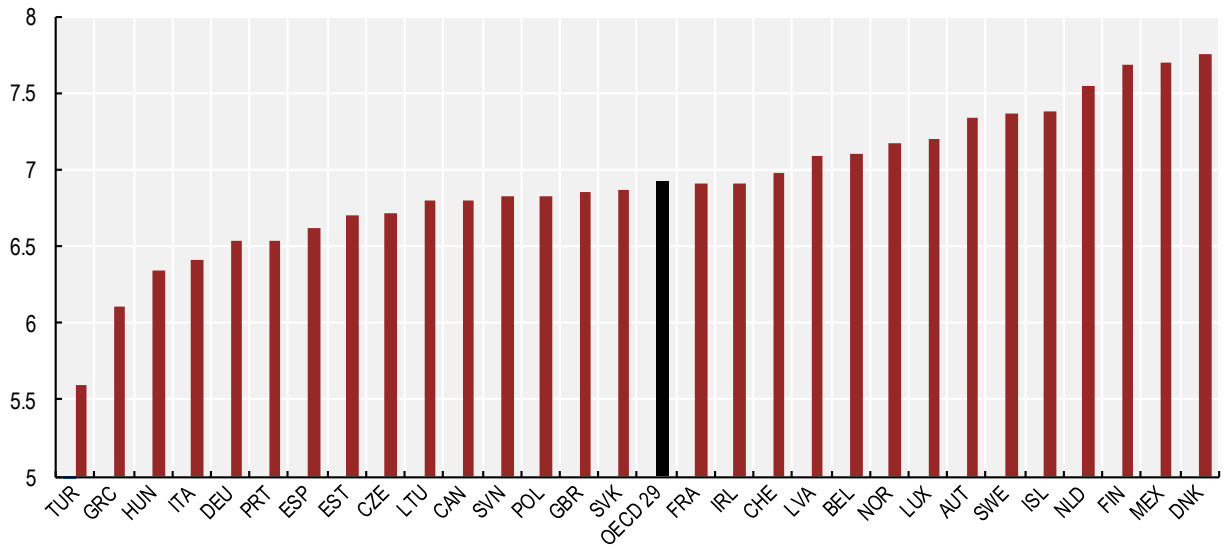
StatLink https://doi.org/10.1787/888934082043

Satisfaction with time use

Satisfaction with time use can offer some insight into whether people are achieving the balance of activities that they themselves consider desirable. In the 29 OECD countries with available data, average satisfaction with time use is 6.9 on a 0-10 scale, with the highest ratings found in Denmark (7.8), Finland and Mexico (7.7 each) and the Netherlands (7.5), and the lowest in Hungary (6.3), Greece (6.1) and Turkey (5.6) (Figure 10.5).

Figure 10.5. Average satisfaction with time use is below 8 out of 10 in all OECD countries with data

Mean values for satisfaction with time use on a 0-10 scale, 2013 or latest available year



Note: The data refer to 2013 for all the countries except Canada and Mexico, where data were collected in 2016 and 2014, respectively. The OECD average excludes Australia, Chile, Colombia, Israel, Japan, Korea, New Zealand and the United States due to a lack of available data. The data refer to people aged 16 or more except for Canada (15 or more) and Mexico (18 or more).
Source: OECD calculations based on *European Union Statistics on Income and Living Conditions* (EU-SILC) (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw01) for Turkey; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng and INEGI, Subjective well-being in Mexico 2014, https://sinegi.page.link/p1SS.

StatLink https://doi.org/10.1787/888934082062

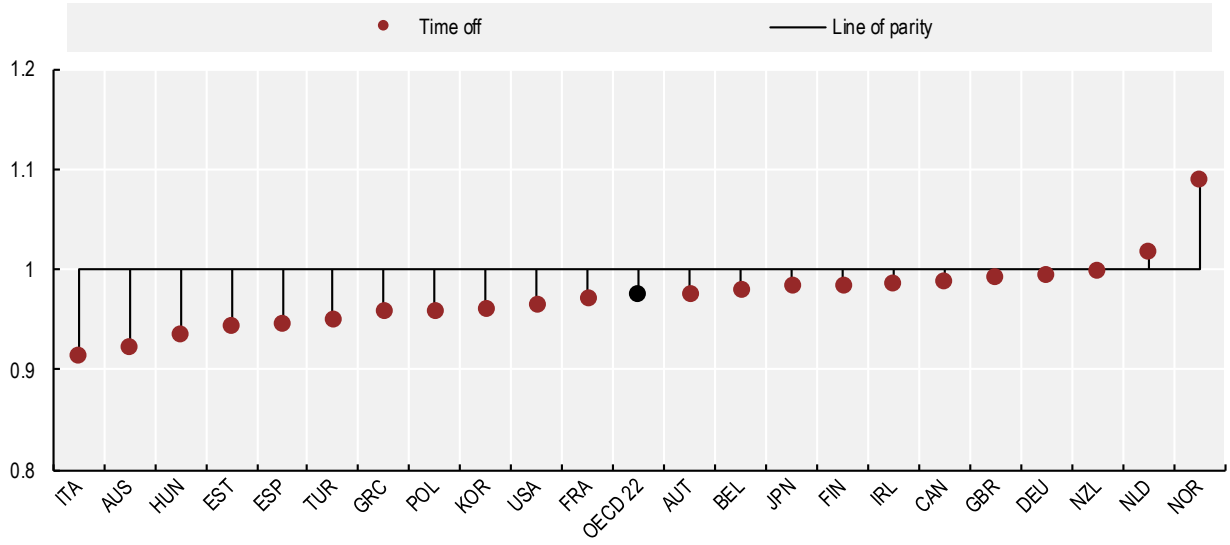
Work-Life Balance inequalities: gaps between population groups

Men have more time off than women and work fewer long hours in unpaid work

Among the full-time employed, men generally spend more time on leisure and personal care than women do (Figure 10.6). Across OECD countries, the average gender gap in time off is around 45 minutes, but goes up to almost 1 hour 30 minutes in Italy. The Netherlands and Norway are the only countries where full-time employed women spend longer time on leisure and personal care than their male counterparts. Moreover, working-age women are systematically more likely to spend long hours in unpaid work, relative to their male counterparts (Figure 10.7). Women are 1.7 times more likely than men to work long unpaid hours in Norway, but almost 17 times more likely in Turkey. On the other hand, population-wide measures of satisfaction with time use (ages 16 or over) show few clear gender differences, and their direction is not consistent among OECD countries.

Figure 10.6. Among the full-time employed, men have more time off than women

Gender ratios, latest available year



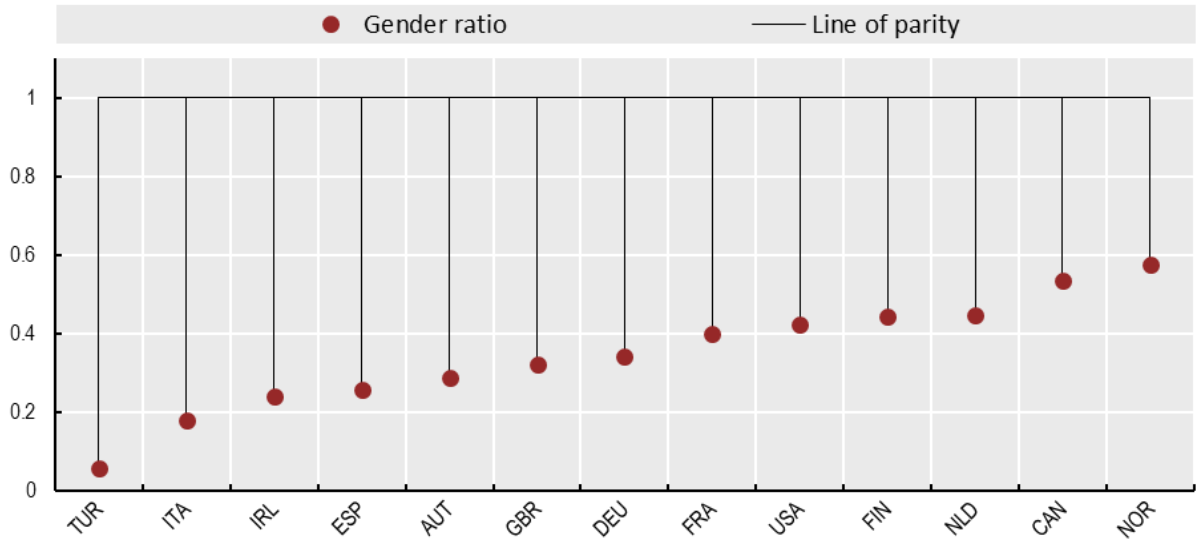
Note: The gender ratio is calculated by dividing average values for women by average values for men. Thus, values above 1.0 always indicate better outcomes for women, and values below 1.0 always indicate better outcomes for men. For surveys where the full-time/part-time status was not directly asked, the full-time employed were identified as those working 30 hours or more per week. Latest available year refers to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for Turkey and the United Kingdom; 2014 for Korea; 2013-14 for Greece and Italy; 2012-13 for Belgium, Germany and Poland; 2010-11 for Norway; 2009-10 Estonia, Finland, France, Hungary, New Zealand and Spain; 2008-09 for Austria; 2006 for Australia; and 2005 for Ireland. The OECD average excludes Chile, Colombia, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Luxembourg, Mexico, Portugal, the Slovak Republic, Slovenia, Sweden and Switzerland, due to a lack of recent data (2005 or later), methodological differences in data collection, or because tabulations from National Statistical Offices are not detailed enough to allow focusing on full-time employed only. Data on time use have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Source: OECD calculations based on public-use time use survey microdata when available; *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices.

StatLink https://doi.org/10.1787/888934082081

Figure 10.7. Women consistently work longer hours in unpaid work than men

Gender ratios, latest available year



Note: The gender ratio (ratio of the percentage share of men to women who work more than 60 hours per week, of which at least 30 hours is unpaid work) is calculated by dividing average values for men by average values for women. Thus, values above 1.0 always indicate better outcomes for women, and values below 1.0 always indicate better outcomes for men. Country coverage is limited to those countries where time use microdata files were available (2005 or after) and comparable data collection methodologies were used. Data are restricted to individuals aged 15-64. Latest available year refers to 2018 for the United States; 2016 for the Netherlands; 2015 for Canada; 2014-15 for Turkey and the United Kingdom; 2013-14 for Italy; 2012-13 for Germany; 2010-11 for Norway; 2009-10 for Finland, France and Spain; 2008-09 for Austria; and 2005 for Ireland. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.
Source: OECD calculations based on public-use time use survey microdata, *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys.

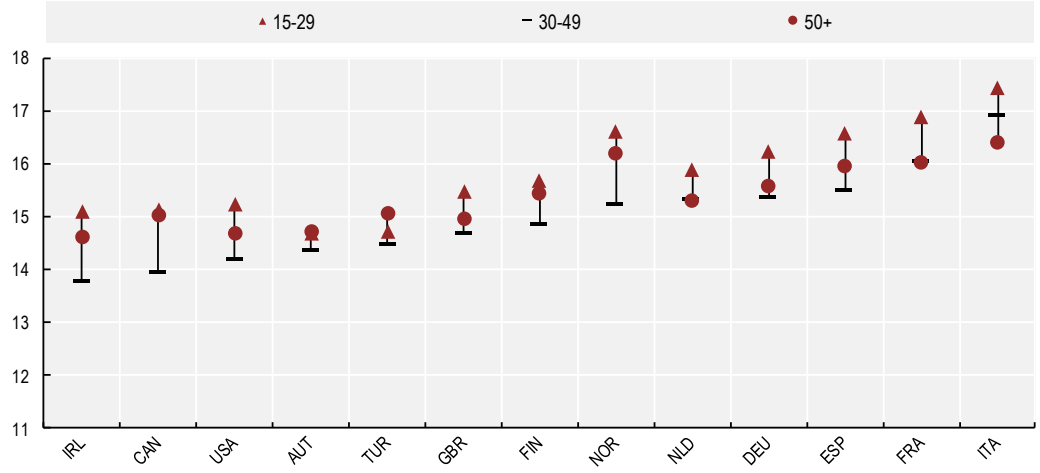
StatLink https://doi.org/10.1787/888934082100

The middle-aged have the least leisure time, and are least satisfied with their time use

Time off is lowest during middle-age (Figure 10.8). For the 13 OECD countries with available and harmonised data, younger and older full-time employed people enjoy, on average, around 50 and 25 additional minutes of time off per day, respectively, compared to those aged 30-49. Across age groups, those aged 30-49 are also the least satisfied with their time use (Figure 10.9). The OECD average satisfaction with time use is 7 for people aged 16-29 and 7.4 for people aged 50 and plus, compared to 6.4 for people aged 30-49.

Figure 10.8. Middle-aged full-time employed people have the least time off

Time off for full-time employed people, by age, hours per day, latest available year

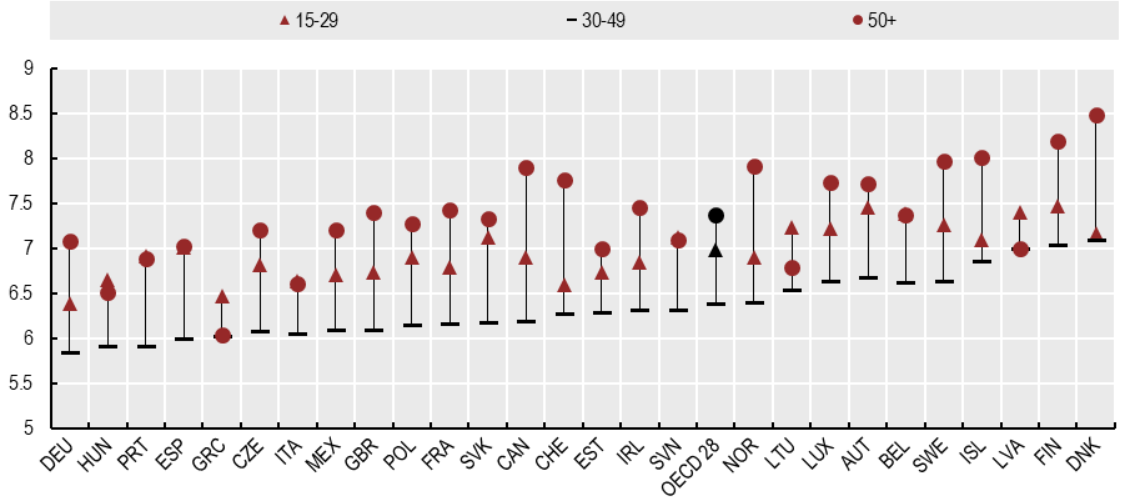


Note: Countries are ranked in ascending order of time spent on leisure and personal care by middle-aged full-time employed persons. For surveys where the full-time/part-time status was not directly asked, the full-time employed were identified as those working 30 hours or more per week. Country coverage is limited to those countries in which time use microdata files were available (2005 or after) and comparable data collection methodologies were used. Latest available year refers to 2018 for the United States; 2016 for the Netherlands; 2015 for Canada; 2014-15 for Turkey and the United Kingdom; 2013-14 for Italy; 2012-13 for Germany; 2010-11 for Norway; 2009-10 for Finland, France and Spain; 2008-09 for Austria; and 2005 for Ireland. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.
Source: OECD calculations based on public-use time use survey microdata.

StatLink https://doi.org/10.1787/888934082119

Figure 10.9. Middle-aged people are the least satisfied with their time use

Satisfaction with time use on a 0-10 scale, by age, 2013 or latest available year



Note: Countries are ranked in ascending order of average satisfaction with time use among middle-aged people. Data refer to 2013 for all the countries except Canada and Mexico, where data have been collected in 2016 and 2014, respectively. The OECD average excludes Australia, Chile, Colombia, Israel, Japan, Korea, New Zealand, Turkey and the United States due to a lack of available data. The data refer to people aged 16 or more except for Canada (15 or more) and Mexico (18 or more).
Source: OECD calculations based on *European Union Statistics on Income and Living Conditions* (EU-SILC) (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng and INEGI, Subjective well-being in Mexico 2014, https://sinegi.page.link/p1SS.

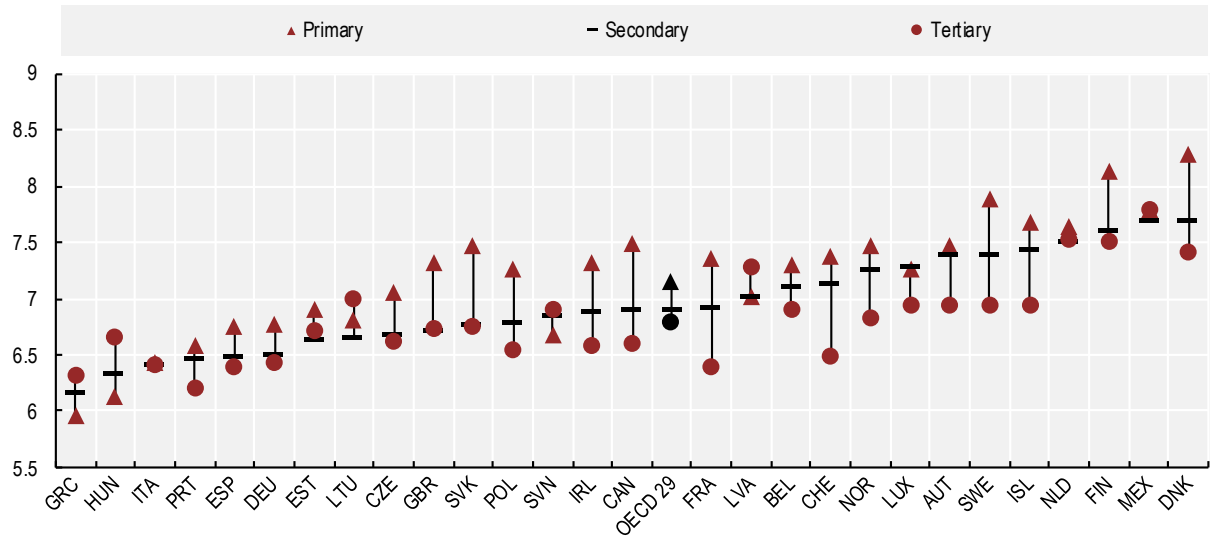
StatLink https://doi.org/10.1787/888934082138

People with higher education are less satisfied with their time use

In the average OECD country, satisfaction with time use falls slightly as educational attainment increases: satisfaction with time use is on average 7.1 out of 10 for people with primary education, 6.9 for individuals with secondary education and 6.8 for people with tertiary education (Figure 10.10). The education gradient in the average satisfaction with time use is steeper in France, Sweden and Canada, while it is almost flat in in Italy and Mexico.

Figure 10.10. Satisfaction with time use decreases with educational attainment

Mean values for satisfaction with time use on a 0-10 scale, by education level, 2013 or latest available year



Note: Countries are ranked in ascending order of average satisfaction with time use among those with a secondary degree. The data refer to 2013 for all the countries except Canada and Mexico, where data have been collected in 2016 and 2014, respectively. The OECD average excludes Australia, Chile, Colombia, Israel, Japan, Korea, New Zealand and the United States due to a lack of available data. The data refer to people aged 16 or more except in Canada (15 or more) and Mexico (18 or more).
Source: OECD calculations based on *European Union Statistics on Income and Living Conditions* (EU-SILC) (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw01) for Turkey; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng and INEGI, Subjective well-being in Mexico 2014, https://sinegi.page.link/p1SS.

StatLink https://doi.org/10.1787/888934082157

Box 10.1. Measurement and the statistical agenda ahead

Work-Life Balance is about being able to combine family commitments, leisure, and work. Ideally, the scope of this dimension would include aspects such as the quantity of time devoted to leisure and personal care as well as people's satisfaction with their time use, and some sense of the balance between both paid and unpaid work (Table 10.1). Time use that is negatively associated with well-being, such as time spent commuting, also belongs in the scope, as this constrains time available for other activities. This dimension overlaps with aspects of Job Quality currently included in the Reference Chapter on Work and Job Quality – for example, the share of people routinely working long hours (50+ per week) in paid work. The Reference Chapter on Social Connections also considers one specific aspect of leisure time: time spent on social interactions.

Table 10.1. Leisure and culture indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age, education)	Deprivation
Time off	Daily time allocated to leisure and personal care by full-time employed people	n/a	Gaps in the average amount of time off	n/a
Gender gap in hours worked	Gender gap in total hours worked per week for both paid and unpaid work	n/a	n/a	n/a
Satisfaction with time use	Mean average satisfaction with time use, 0-10 scale	n/a	Gaps in average satisfaction with time use	Share of people reporting a score equal to or below 5 on a 0-10 scale (defined by Eurostat as those with "low" satisfaction levels with time use).
Long unpaid working hours	Share of the total working-age population who usually work more than 60 hours per week, of which at least 30 hours involve unpaid work	n/a	Gender differences in long unpaid working hours	n/a

Time off is the sum of personal care time (i.e. the amount of time spent sleeping, eating and drinking, on other personal care activities and on travel time associated with personal care) and leisure time (i.e. the amount of time spent practicing sports, interacting with friends and relatives, attending or participating in events, watching TV or listening to music, on other leisure activities, and on travel time associated with leisure). Only time spent on main or primary activities is included and as such, it is likely to underestimate especially the time spent on leisure activities, which are often performed in combination with other tasks (e.g. chatting on the phone with a friend while cooking). Time off is measured through Time Use Surveys (TUS), in which participants record, in a diary, the nature and the duration of the activities they have performed over 24 hours.

Some countries (e.g. Colombia, Mexico) use a simplified variant of a time-use diary, which results in estimates that are less precise than for other countries. In addition, in the Mexican time-use survey, respondents are asked about their time use during the seven days prior to the interview. Given the large time lapse between the activity and the interview, responses are likely to be rougher estimates of the true time use. For this reason, time-use estimates for Colombia and Mexico are not shown in this chapter.

Ideally, data collection for time-use surveys would be spread over the whole year, and thus contain a representative proportion of weekdays and weekend days, as well as public and school holidays. Some countries, however, only cover particular periods in the week or year: this is the case, to varying degrees, for Australia, Ireland, Japan, and Korea. Differences in activity coding is an additional issue that may limit comparability. The indicator is restricted to full-time employed people only, as they have fewer margins to change how they allocate their time, and comparing a well-defined population group also facilitates cross-country comparability. For surveys where full-time/part-time work status was not directly asked, full-time employed people were identified as those working 30 or more hours per week. The data shown here have been harmonised ex post by the OECD, drawing on the Harmonised European Time Use Surveys, the Eurostat time use database, public-use time use survey micro-data, and tabulations from National Statistical Offices. These sources are available in the OECD Gender Database. In those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Long unpaid working hours corresponds to the share of the working-age (15-64) population who work more than 60 hours in total (paid and unpaid work) per week, of which at least 30 hours is unpaid work. 60 hours per week is the equivalent of two full-time jobs when the lower bound definition of full-time employment is considered (30 hours per week). This indicator captures long unpaid working hours both for people whose primary activity is domestic production and for those who face a “double day” burden of both paid work and long unpaid working hours. Unpaid work includes routine housework, shopping for goods and services (mainly food, clothing and items related to accommodation), caring for household members (children and adults) and non-household members, volunteering, travel related to household activities and other unpaid work. Paid work, on the other hand, includes time spent in all jobs and all commuting time. Time spent commuting to and from the workplace and to and from school could not be separated out in a number of countries, and thus time spent commuting includes both work- and school-related commuting. The information is collected through national Time Use Surveys (see above).

Gender gap in total hours worked refers to the difference (in minutes) between men and women in the total time worked per day, including both paid and unpaid work (as defined above). The information is collected through national Time Use Surveys (see above). The data for this indicator have been restricted to the working-age population (15-64).

Satisfaction with time use is a measure of how individuals rate their satisfaction with time use on an 11-point scale, from 0 (not at all satisfied) to 10 (completely satisfied). Respondents are asked to provide a broad, reflective appraisal of all areas of their time use. This question was asked to people aged 16 and over in 27 European OECD countries (including Iceland and Turkey) in the 2013 EU-SILC survey, and to people aged 18 and over in Mexico (INEGI, Subjective well-being in Mexico). A similar question has been asked to people aged 15 and over in Canada (2016 General Social Survey). The Canadian question, however, is about satisfaction with the amount of time available to do the things one like doing.

Correlations among Work-Life Balance indicators

The gender gap in total hours worked has a reasonably strong negative correlation (-0.6) with satisfaction with time use: in countries where women work much longer hours than men in total (considering both paid and unpaid work), satisfaction with time use among the total population is lower (Table 10.2). Disaggregated data suggest that this is as true for men as it is for women – i.e. both genders are less satisfied in countries where the gap between them is larger. By contrast, among the 15 OECD countries with available data for both, time spent on leisure and personal care (for full-time employees) is not related to satisfaction with time use (for the total population aged 16 and older).

Table 10.2. Where women work much longer hours than men, satisfaction with time use is lower

Bivariate correlation coefficients among Work Life Balance indicators

	Leisure time	Satisfaction with time use	Gender gap in total hours worked	Long unpaid working hours
Leisure time				
Satisfaction with time use	0.11 (15)			
Gender gap in total hours worked	0.31 (21)	**-0.59***** (23)		
Long unpaid working hours	-0.21 (11)	-0.09 (10)	0.31 (11)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level; ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

Recent years have witnessed a growing number cross-country initiatives on Time Use data (e.g. the Multinational Time Use Study (MTUS) and the Harmonised European Time Use Surveys (HETUS)), guidelines (e.g. UNECE (2013[1]) and UNSD (2005[2])) and international classifications (e.g. the UN International Classification of Activities for Time-Use Statistics (ICATUS)). Nevertheless, greater harmonisation is needed across data collection methods, including the length of diary timeslots, and the number of days on which diaries are completed. A more consistent approach to the treatment of weekdays/ weekends is particularly important for assessing activities such as leisure and personal care, where there may be large average differences between weekdays and weekends. Moreover, due to the relatively resource-intensive nature of TUS, these are generally conducted at about five- or ten-yearly intervals (with the exception of the United States). In interim years or where their implementation is not feasible, data on the use of time could be collected through survey instruments with lower collection and response burden, for example, "light" diaries with pre-coded time use categories (UNECE, 2013[1]).

While TUS are the primary source of information on the quantity of their leisure time, people may also be asked to rate, for instance, the quality of their free time or their work-life balance. However, such questions are not harmonised in TUS (satisfaction with time use, free time and work-life balance are not completely analogous concepts). Questions on satisfaction with time use, limited to European countries, Mexico and Canada, are included in the 2013 ad hoc module of EU-SILC 2013, in the 2014 Survey on Subjective Well-being in Mexico and in the 2016 Canadian General Social Survey, but no comparable data are available for other OECD countries.

References

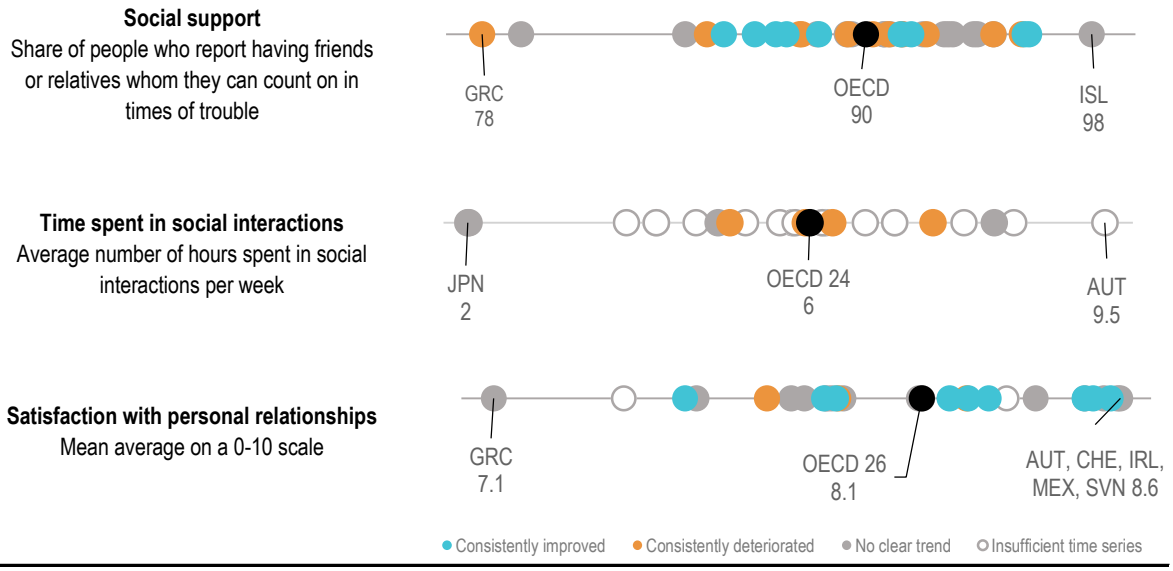
UNECE (2013), *Guidelines for Harmonizing Time-Use Surveys*, United Nations Economic Commission for Europe, Geneva, http://unece.org/index.php?id=34496. [1]

UNSD (2005), *Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work*, United Nations Statistics Division, New York, http://unstats.un.org/unsd/pubs/gesgrid.asp?id=347 (accessed on 12 December 2019). [2]

11 Social Connections

Social Connections address both the quantity and quality of time spent with others, and how much support people feel they have. Despite differences in the amount of time spent socialising, people's own evaluations of their social connections are mostly positive and fairly similar across OECD countries. On average, people are highly satisfied with their social relationships (8.1 on a 0-10 scale), and 90% feel that they have someone they can count on in times of need. Even though men spend, on average, 40 minutes less than women in social interactions per week, gender differences in satisfaction with social relationships are negligible. Older people spend less time in social interactions and have less social support, but their satisfaction with social relationships is not significantly lower than for younger people. People with lower educational attainment are more likely than their more educated peers to lack social support.

Figure 11.1. Social Connections snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.

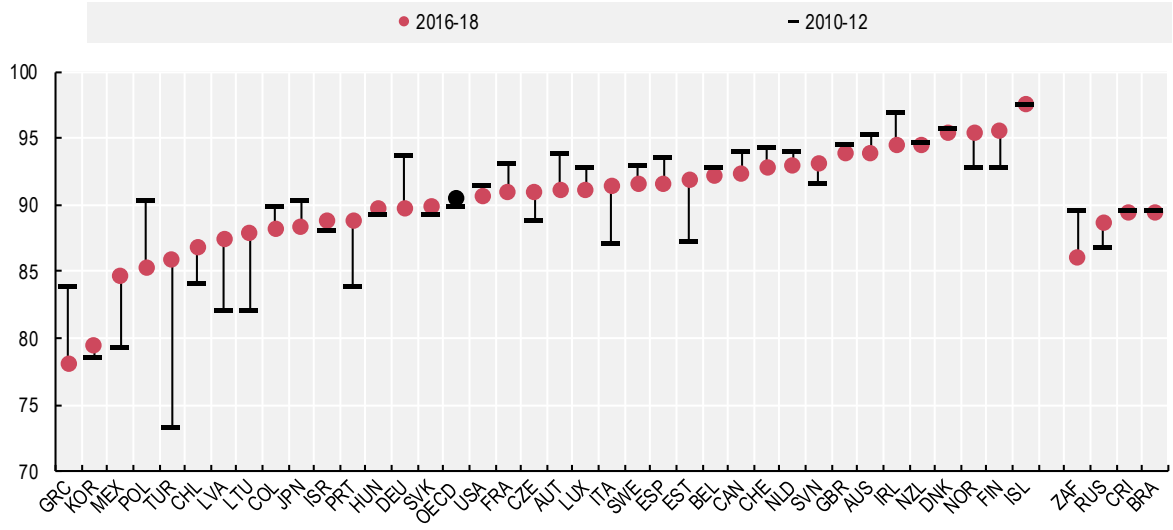
Source: OECD calculations based on the *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx; *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys; tabulations from National Statistical Offices, *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw01) for Germany, Ireland, the Slovak Republic and the United Kingdom; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng; and INEGI, Subjective well-being in Mexico, https://sinegi.page.link/p1SS.

Social support

Around 9 out of 10 individuals in OECD countries report having relatives or friends who can help them in times of need, ranging from 78% in Greece, to 98% in Iceland (Figure 11.2). The OECD average level in 2016-18 is almost unchanged from 2010-12. However, the share of the population who feel supported fell in Greece (by nearly 6 percentage points), Poland (-5) and Germany (-4), while over the same time period it rose by more than 4 percentage points in Italy and Estonia, and by 5 points or more in Portugal, Mexico, Latvia, Lithuania and Turkey.

Figure 11.2. 90% of people in OECD countries, on average, have someone they can count on

Share of people reporting that they have relatives or friends they can count on to help them in times of need, percentage



Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

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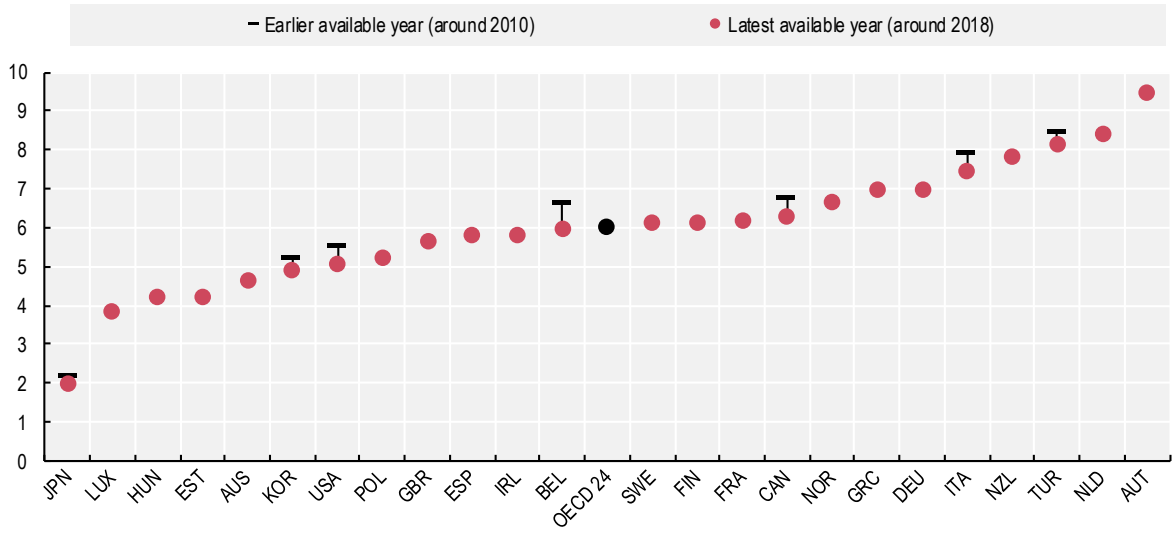
Time spent in social interactions

Time spent in social interactions considers the number of hours per week spent interacting with family and friends as a primary activity (i.e. it excludes interactions that occur alongside other focal activities such as paid work, caring or studying). Across the OECD, people aged 15 or more spend, on average, 6 hours per week interacting with family and friends (Figure 11.3). This ranges from 2 hours per week in Japan, and around 4 hours in Luxembourg, Hungary and Estonia, to above 7 hours in Italy, New Zealand Turkey and the Netherlands, and more than 9 hours in Austria. Changes in time use since 2005 can be assessed for just seven OECD countries: Belgium, Canada, Italy, Japan, Korea, Turkey and the United States. Over time, average weekly time spent in social interactions has fallen by around half an hour in Canada, Italy and the United States, and by little more than 40 minutes in Belgium.

Figure 11.3. Time spent socialising in OECD countries ranges from 2 to 9+ hours per week

Average time allocated to social interactions, hours per week



Note: Only the time spent interacting with family and friends as a main or primary activity is considered. Time spent in social interactions as a secondary activity is therefore excluded. Due to methodological differences in data collection, data for Colombia and Mexico are not presented. The OECD average also excludes Chile, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Portugal, the Slovak Republic, Slovenia and Switzerland due to a lack of recent data (2005 or after). Latest available year refers to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for Luxembourg, Turkey and the United Kingdom; 2014 for Korea; 2013-14 for Greece and Italy; 2012-13 for Belgium, Germany and Poland; 2010-11 for Norway; 2010 for Sweden; 2009-10 for Estonia, Finland, France, Hungary, New Zealand and Spain; 2008-09 for Austria; 2006 for Australia; and 2005 for Ireland. When available, data for the earlier period refer to 2011 for Japan; 2010 for Canada and the United States; 2009 for Korea; 2008-09 for Italy; 2006 for Turkey; and 2005-06 for Belgium. Data refer to people aged 15 or more except for Korea (2014) and Sweden, where data refer to people aged 15-64, while data refer to people aged 12 or more for New Zealand. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.
Source: OECD calculations based, when available, on *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices.

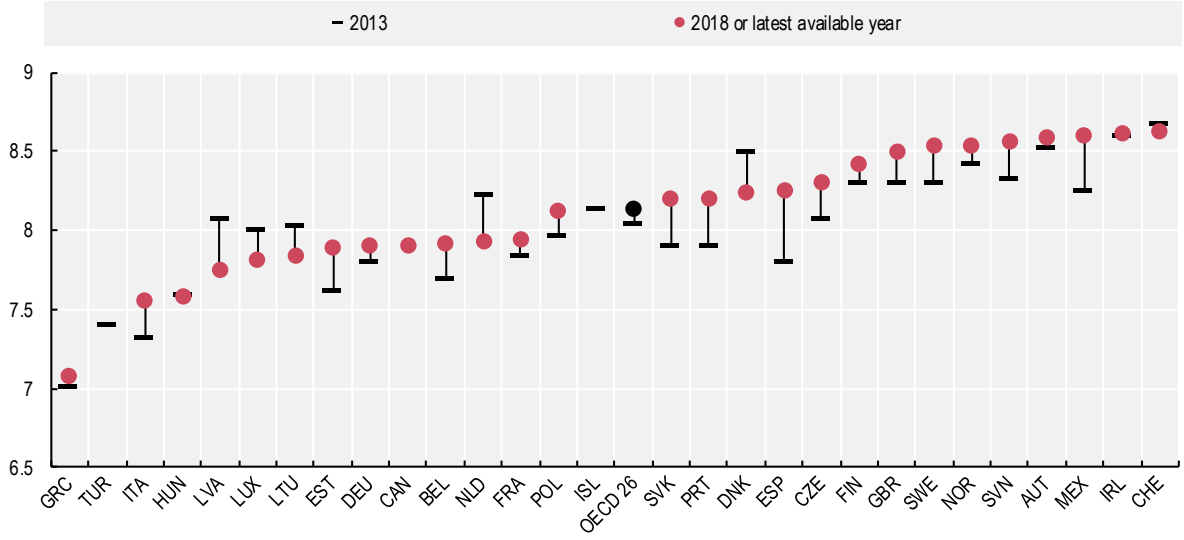
StatLink https://doi.org/10.1787/888934082195

Satisfaction with personal relationships

Satisfaction with personal relationships provides a measure of the perceived quality of social connections. Across the OECD countries with available data, people are generally satisfied with the quality of their personal relations, reporting an average rating (on a 0-10 scale) of 8.1. Cross-country variation spans a fairly limited range, with national averages ranging from just above 7 in Greece to 8.6 in Switzerland, Ireland, Mexico, Austria and Slovenia (Figure 11.4).

Figure 11.4. Satisfaction with personal relationships spans a narrow range in OECD countries

Mean values for satisfaction with personal relationships, 0-10 scale



Note: Data refer to individuals aged 16 or more, except for Canada (15 or more) and Mexico (18 or more). The latest available year is 2016 for Canada, and 2013 for Iceland and Turkey. The OECD average excludes Australia, Chile, Colombia, Israel, Japan, Korea, New Zealand and the United States, due to the lack of available data; and Canada, Iceland and Turkey as only one observation is available. 2018 data for Ireland and the United Kingdom are provisional.

Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw01) for Germany (2018), Ireland (2018), the Slovak Republic (2018), Turkey (2013) and the United Kingdom (2018); Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng; and INEGI, Subjective well-being in Mexico, https://sinegi.page.link/p1SS.

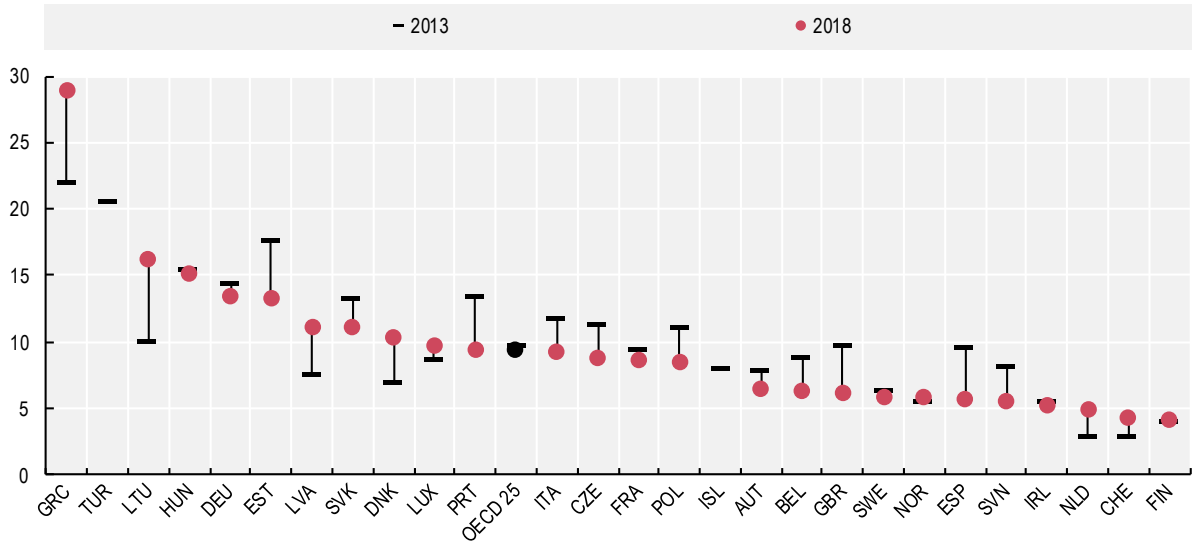
StatLink https://doi.org/10.1787/888934082214

Since 2013, average satisfaction with relationships has increased slightly, but this masks diverging patterns across countries – for example, gains of 0.3 scale points or more in Spain, Mexico, Portugal, the Slovak Republic and Estonia, and losses of 0.3 scale points in Latvia, the Netherlands and Denmark.

Despite the relatively high average levels of satisfaction with personal relationships in OECD countries, around 10% of people rate their satisfaction at 5 or below (on a 0-10 scale). This proportion ranges from around 5% in Finland, Switzerland, the Netherlands and Ireland, to above 15% in Hungary, Lithuania and Turkey, and almost 30% in Greece (Figure 11.5).

Figure 11.5. 10% of people in OECD countries, on average, report a low satisfaction with their relationships

Share of people aged 16 or more reporting a low satisfaction with their personal relationships (i.e. 5 or below in a 0-10 scale), percentage



Note: The OECD average excludes Australia, Chile, Colombia, Israel, Japan, Korea, New Zealand and the United States, due to the lack of available data; and Iceland and Turkey as only one observation is available. Canada and Mexico are not presented because tabulations from National Statistical Offices are not detailed enough to provide distributional information. 2018 data for Ireland and the United Kingdom are provisional.

Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions, *Eurostat database* (ilc_pw05) for Germany (2018), Ireland (2018), the Slovak Republic (2018), Turkey (2013) and the United Kingdom (2018).

StatLink https://doi.org/10.1787/888934082233

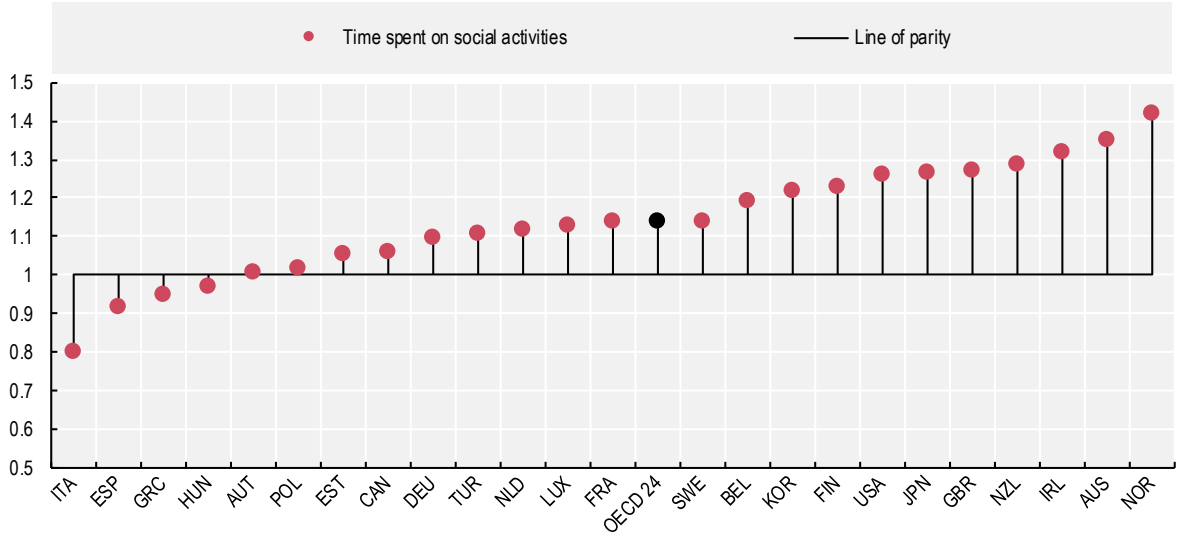
Social Connections inequalities: gaps between population groups

Women spend more time in social interactions than men, but there are no gender differences in support or satisfaction

There are no substantial gender differences in social support, or in satisfaction with personal relationships. However, large gender inequalities emerge in time spent in social interactions (Figure 11.6). In the average OECD country, women spend 40 minutes more than men per week in social interactions (6 hours and 20 minutes vs. 5 hours and 40 minutes for men, respectively). The gap in favour of women is especially large in Norway (around 2 hours 20 minutes per week), Australia, Ireland, New Zealand and the United Kingdom (all above 1 hour). Conversely, men spend more time socialising than women in Italy (8 hours 20 minutes per week for men vs. 6 hours 40 minutes for women), and to a smaller extent in Spain and Greece.

Figure 11.6. In the majority of OECD countries, women spend more time in social interactions than men do

Gender ratios, latest available year



Note: The gender ratio is calculated by dividing average values for women by average values for men. Thus, values above 1.0 always indicate better outcomes for women, and values below 1.0 always indicate better outcomes for men. Only the time spent interacting with family and friends as a main or primary activity is considered. Time spent in social interactions as a secondary activity is therefore excluded. Due to methodological differences in data collection, data for Colombia and Mexico are not presented. The OECD average excludes Chile, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Portugal, the Slovak Republic, Slovenia and Switzerland due to the lack of recent data (2005 or after). Data refer to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for Luxembourg, Turkey and the United Kingdom; 2014 for Korea; 2013-14 for Greece and Italy; 2012-13 for Belgium, Germany and Poland; 2010-11 for Norway; 2010 for Sweden; 2009-10 for Estonia, Finland, France, Hungary, New Zealand and Spain; 2008-09 for Austria; 2006 for Australia; and 2005 for Ireland. Data refer to people aged 15 or more except for Korea and Sweden, where data refer to people aged 15-64, and New Zealand where data refer to people aged 12 or more. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Source: OECD calculations based, when available, on *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys and tabulations from National Statistical Offices.

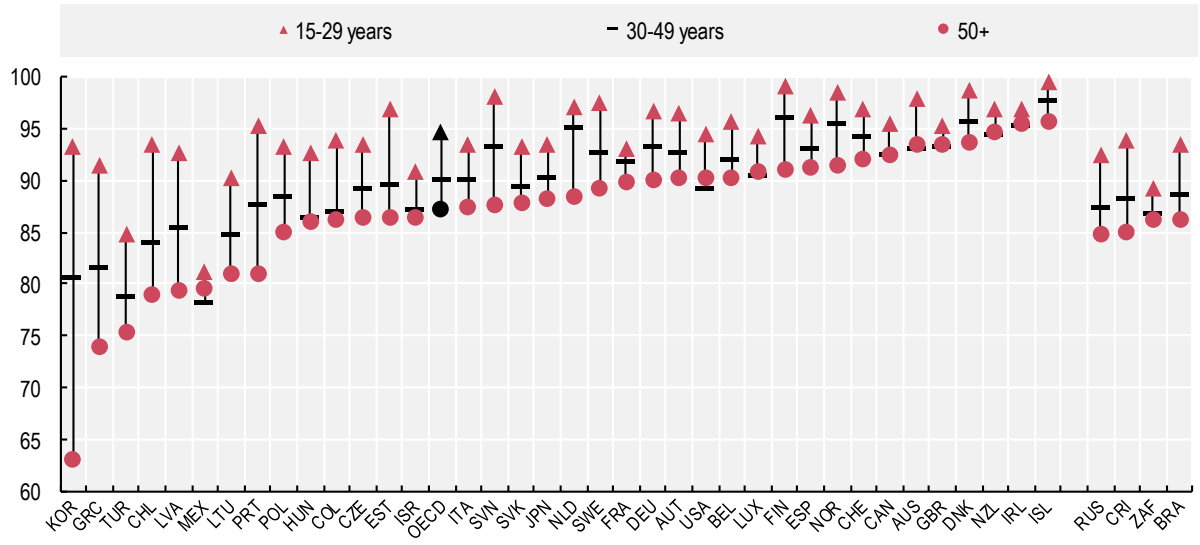
StatLink https://doi.org/10.1787/888934082252

Older people feel less supported and often spend less time in social interactions than younger age groups

In most OECD countries, perceived social support declines with age. In Korea, Greece, Chile, Latvia and Portugal, the age gradient in social support is particularly steep (Figure 11.7). For instance, 93% of people aged 15-29 in Korea report having relatives or friends they can count on in times of need, compared to only 63% of those aged 50 or over. By contrast, in France, Iceland, Ireland, New Zealand and the United Kingdom, gaps in social support across age groups are small.

Figure 11.7. Older people have less social support

Share of people reporting that they have relatives or friends they can count on to help them in times of need, by age, percentage, 2010-18 pooled data



Note: Countries are ranked in ascending order of social support among those aged 50 and above.
Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

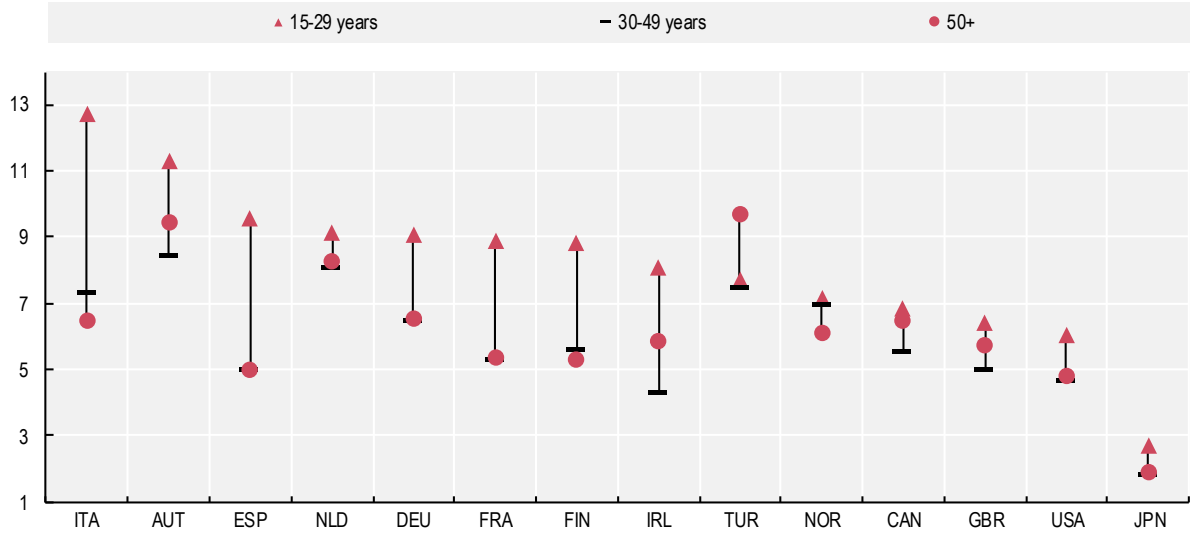
StatLink https://doi.org/10.1787/888934082271

In the 14 countries with available data, young people (aged 15-29) spend, on average, nearly 2 hours 20 minutes per week more in social interactions than middle-aged people (30-49) (Figure 11.8). The gap is small in Norway and Turkey, but widens in Italy, Ireland and Spain, where young people spend between 3 hours 50 minutes and 5 hours 20 minutes more in social interactions than the middle-aged. On average, in the countries with available data, middle-aged (30-49 years) and older people (aged 50+) tend to spend similar amount of time socialising, although divergent cross-country patterns exist. For example, in Finland, Italy and Norway people aged 30-49 allocate more time to social interactions than those aged 50 and over. By contrast, in Ireland older people spend nearly 1 hour and 40 minutes more per week socialising than those aged 30-49, with this difference being as large as 2 hours 20 minutes in Turkey.

Despite large age gaps in both social support and time spent in social interactions, age differences in satisfaction with social relationships are comparatively small. For the average OECD country, satisfaction with social relationships is 8.3 for people aged 16-29 (ranging from 7.4 in Greece to 8.9 in Slovenia); 8 for the age group 30-49 (ranging from 7.1 in Greece to 8.5 in Austria and Slovenia); and 8 for people aged 50 or above (ranging from 7 in Greece to 8.8 in Sweden).

Figure 11.8. Younger people spend more time in social interactions

Average time spent in social interactions, hours per week, by age, latest available year



Note: Countries are ranked in descending order of time spent socialising among those aged 15-29 years. Only the time spent interacting with family and friends as a main or primary activity is considered. Time spent in social interactions as a secondary activity is therefore excluded. Due to methodological differences in data collection, data for Colombia and Mexico are not presented. Australia, Belgium, Estonia, Greece, Hungary, Korea, Luxembourg New Zealand, Poland and Sweden are also excluded because tabulations from National Statistical Offices are not detailed enough to compute age breakdowns. Dara for Chile, the Czech Republic, Denmark, Iceland, Israel, Latvia, Lithuania, Portugal, the Slovak Republic, Slovenia and Switzerland are not shown, due to a lack of recent data (2005 or after). The latest available year refers to 2018 for the United States; 2016 for Japan and the Netherlands; 2015 for Canada; 2014-15 for, Turkey and the United Kingdom; 2013-14 for Italy; 2012-13 for Germany; 2010-11 for Norway; 2009-10 for Finland, France and Spain; 2008-09 for Austria; and 2005 for Ireland. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.
Source: *Eurostat's Harmonised European Time Use Surveys* (database), https://ec.europa.eu/eurostat/web/time-use-surveys.

StatLink https://doi.org/10.1787/888934082290

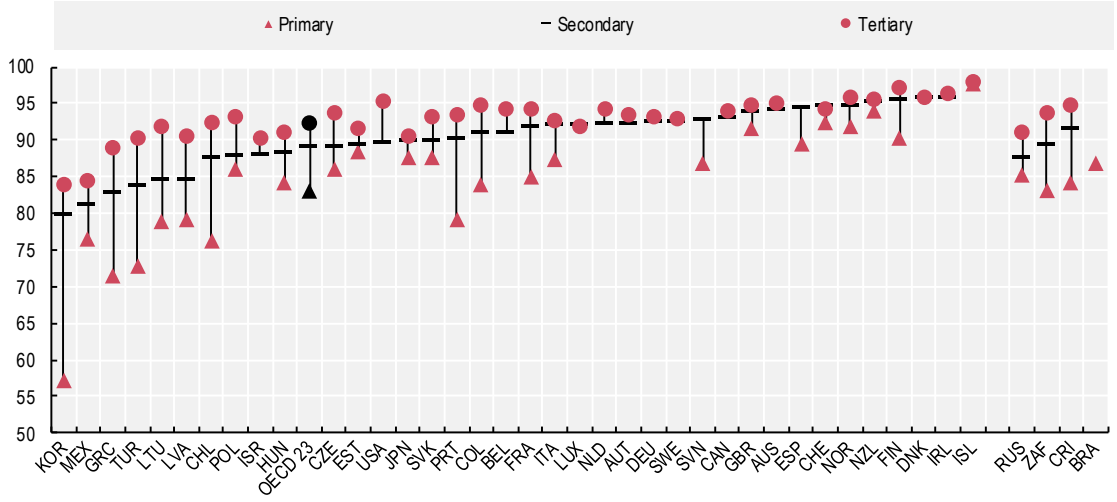
People with higher education report better access to social support

For the average OECD country, the proportion of people with only a primary education reporting they have someone to count on in times of need is 9 percentage points lower than for those with a tertiary education (Figure 11.9). In Switzerland, New Zealand and Iceland, the gap is below 2 percentage points, but it exceeds 15 percentage points in Korea, Greece, Turkey and Chile.

Similarly, in the average OECD country, people with a primary education are generally less satisfied with their personal relationships than their more educated peers (Figure 11.10). On average, the difference between people with tertiary and primary education is around 0.5 points (on a 0-10 scale), with the gap being larger for countries with low levels of satisfaction with personal relationships (e.g. Lithuania, Hungary and Italy). By contrast, in Norway, Sweden and Switzerland, where the average satisfaction with personal relationships is high, gaps by education are small.

Figure 11.9. People with lower educational attainment have less social support

Share of people reporting that they have relatives or friends they can count on to help them in times of need, by educational attainment, percentage, 2010-18 pooled data

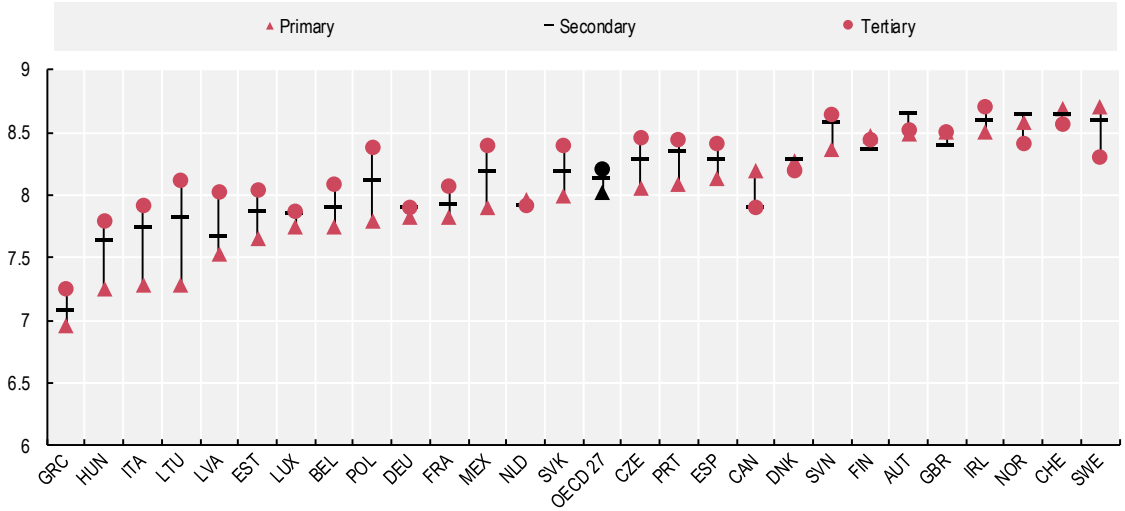


Note: Countries are ranked in ascending order of social support among those with a secondary education. Data are not shown for countries where the sample size in a given category is fewer than 500 observations. The OECD average includes only countries for which the three educational attainment levels are observed: Austria, Australia, Belgium, Canada, Denmark, Germany, Iceland Ireland, Israel, Luxembourg, the Netherlands, Slovenia, Sweden and the United States are thus excluded from the OECD average.
Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

StatLink https://doi.org/10.1787/888934082309

Figure 11.10. People with a lower education level are on average less satisfied with their personal relationships

Satisfaction with personal relationships, by educational attainment, latest available year



Note: Countries are ranked in ascending order of satisfaction with personal relationships among those with a primary education. The data refer to individuals aged 16 or more, except in Canada (15 or more) and Mexico (18 or more). The OECD average excludes Australia, Chile, Colombia, Iceland, Israel, Japan, Korea, New Zealand, Turkey and the United States due to a lack of available data. The latest available year refers to 2018 except for Canada (2016) and Mexico (2014). Data for Ireland and the United Kingdom are provisional.
Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; *Eurostat database* (ilc_pw05) for Germany, Ireland, the Slovak Republic and the United Kingdom; Statistics Canada, General Social Survey 2016, https://doi.org/10.25318/1310010601-eng and INEGI, Subjective well-being in Mexico 2014, https://sinegi.page.link/p1SS.

StatLink https://doi.org/10.1787/888934082328

Box 11.1. Measurement and the statistical agenda ahead

An ideal indicator set for Social Connections would provide information about the quantity of social interactions (e.g., frequency and amount of time individuals spend with household members, their family, friends, colleagues, and other known persons), their quality (e.g. satisfaction with social interactions, perceived loneliness), and the support (e.g. emotional and financial) provided by these connections. Measuring both the quantity and quality of social connections is particularly relevant, as the two do not necessarily capture the same phenomena: spending a considerable amount of time interacting with people does not necessarily prevent loneliness or a lack of support. Each of these concepts is captured, to some extent, by the indicators included in this chapter (Table 11.1).

Table 11.1. Social Connections indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by gender, age, education)	Deprivation
Social support	Share of people who report having friends or relatives whom they can count on in times of trouble	n/a	Gaps in social support	Share of people who report that they do not have friends or relatives whom they can count on in times of trouble
Time spent in social interactions	Average number of hours spent in social interactions per week	n/a	Gaps in average hours spent in social interactions per week	
Satisfaction with personal relationships	Mean satisfaction with personal relationships, measured on a 0-10 scale	S80/S20 ratio in mean satisfaction with personal relationships	Gaps in mean satisfaction with personal relationships	Proportion of people reporting a score equal to or below 5 on a 0-10 scale (defined by Eurostat as those with "low" satisfaction levels with personal relationships)

Social support refers to the proportion of people responding "yes" to the (yes/no) question: "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?" For country averages, data are pooled over all available years for a three-year period (e.g. 2016-18) to improve the accuracy of the estimates; for reporting inequalities, data are pooled over a longer time period (2010-2018). The source for these data is the Gallup World Poll, which samples around 1 000 people per country, per year. The sample is ex ante designed to be nationally representative of the population aged 15 or over (including rural areas).

Time spent in social interactions includes the amount of time allocated to interacting with friends or relatives as a primary activity (e.g. talking with family members or going out with friends) in a typical day (the averages in this chapter were converted into weekly estimates). Therefore, country averages do not exclude people who did not spend any time in social interactions during the surveyed day. Since only the time spent interacting with family and friends as the main or primary activity is considered, time estimates presented in this chapter are likely to underestimate the total amount spent on social activities, as they exclude those interactions that occur alongside a primary activity (e.g. talking around the dinner table, or chatting on the phone while performing unpaid work). These data are sourced from national Time Use Surveys (TUS), which provide detailed information on the amount of time individuals allocate to their daily activities. Respondents typically keep a 24-hour diary during one or more days in which they precisely record each activity.

Some countries (e.g. Colombia, Mexico and, to a smaller extent, Ireland) use a simplified variant of a time-use diary, which results in estimates that are less precise than for other countries. In addition, in the Mexican time-use survey, respondents are asked about their time use during the seven days prior

to the interview. Given the large time lapse between the activity and the interview, responses are likely to be rougher estimates of the true time use. For this reason, time-use estimates for Colombia and Mexico are not shown in this chapter.

Ideally, data collection for time-use surveys would be spread over the whole year, and thus contain a representative proportion of weekdays and weekend days, as well as public and school holidays. Some countries, however, cover only particular periods in the week or year: this is the case, to varying degrees, for Australia, Ireland, Japan, Korea and Mexico. Additionally, differences in activity coding may limit cross-country comparability, especially when access to microdata is restricted, as statistical agencies may aggregate very detailed activities into broader categories that may differ, to some extent, across countries. Finally, as the time-use surveys considered in this chapter were administered in different years, with countries at different stages in the economic cycle, this may affect the observed variations between countries. The data shown here have been harmonised ex post by the OECD drawing on the Harmonised European Time Use Surveys, the *Eurostat Time Use* database, public-use time use survey microdata, and tabulations from National Statistical Offices. These sources are available in the *OECD Gender Database*. In those countries for which daily time use did not sum up to 1 440 minutes, the missing or extra minutes (around 30-40 minutes usually) were equally distributed across all activities.

Satisfaction with personal relationships: Survey respondents rate their satisfaction with their personal relationships on an 11-point scale, from 0 (not at all satisfied) to 10 (completely satisfied). The variable refers to the respondent's opinion/feeling about the degree of satisfaction with his/her personal relationships. The respondent is expected to make a broad, reflective appraisal of all areas of his/her personal relationships (e.g. relatives, friends, colleagues from work etc.) in a particular point in time (these days). The sources for this indicator are Statistics Canada (General Social Survey 2016), INEGI (Subjective well-being in Mexico) and Eurostat (EU-SILC, 2018 and 2013). This indicator refers to individuals aged 16 or more, except for Canada (15 or more) and Mexico (18 or more).

Correlations among Social Connections indicators

At country level, there is a positive and significant correlation (0.5) between social support and satisfaction with personal relationships (Table 11.2): in those countries where social support is higher, people tend to rate their satisfaction with personal relationships higher. By contrast, time spent in social interactions is not significantly correlated either with satisfaction with personal relationships or with social support, implying that each metric captures a different aspect of Social Connections.

Table 11.2. Satisfaction with relationships and social support are not correlated

Bivariate correlation coefficients among the Social Connections indicators

	Social support	Time spent in social interactions	Satisfaction with personal relationships
Social support			
Time spent in social interactions	0.09 (26)		
Satisfaction with personal relationships	**0.51***** (29)	-0.00 (20)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level; ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

The measure of social support included here suffers from a number of limitations: as a simple yes/no question, it provides no information about the frequency, intensity or quality of support received, nor the type of support (e.g. financial or emotional support). It is also not possible to compute vertical inequalities

(i.e. the gap between the top and the bottom of the distribution) from a yes/no question, and in several OECD countries, the measure appears to be reaching a ceiling (e.g. 95% of the population or more reporting support), meaning it lacks sensitivity for assessing group differences. Finally, the small sample sizes of the Gallup World Poll raise issues regarding measurement errors, especially when exploring inequalities among population groups and change over time. An extensive psychological literature dating back several decades exists on social support measurement, and National Statistical Offices are taking increasing interest in such measures, but beyond Europe there is little consistency across NSO practices in collecting these types of measures at present (Fleischer, Smith and Viac, 2016[1]).

Time use surveys (TUS) are among the main sources of information on the quantity of time spent in social activities. Despite a growing number of cross-country initiatives (e.g. the Multinational Time Use Study (MTUS) and the Harmonised European Time Use Surveys (HETUS)), guidelines (e.g. UNECE (2013[2]) and UNSD (2005[3])) and international classifications (e.g. the UN International Classification of Activities for Time-Use Statistics (ICATUS)), which all aim to improve the harmonisation of time use surveys, several pending issues still prevent full cross-country comparability. Greater harmonisation is needed across data collection methods, including the length of diary timeslots, and the number of days on which diaries are completed. Moreover, due to the relatively resource-intensive nature of TUS, these are generally conducted at intervals of about five or ten years (with the exception of the United States). In interim years or where their implementation is not feasible, data on the use of time could be collected through survey instruments with a lower collection and response burden, for example, “light” diaries with pre-coded time use categories (UNECE, 2013[2]).

Harmonised surveys on satisfaction with personal relationships are also conducted on an infrequent and ad-hoc basis. Moreover, information on whether social interactions take place face-to-face or via social networks is sparse. However, the frequency of the latter has risen and is likely to continue to do so with increasing digitalisation. Since computer technology may foster a wider network with weak ties, rather than a smaller network with strong ties, its impact on social interactions is likely substantial (OECD, 2019[4]). Most recent time use surveys ask respondents to report the use of technology but, for the time being, this indicator can be computed for only a limited number of countries.

References

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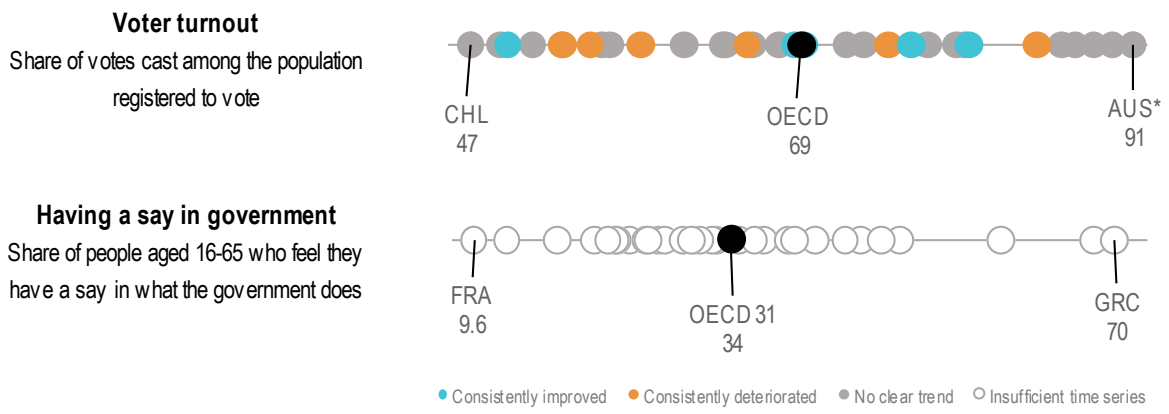
12 Civic Engagement

Civic Engagement is about whether citizens can and do take part in important civic activities that enable them to shape the society they live in. Voter turnout in OECD countries has remained relatively stable since 2010-13, and was around 69% between 2016-19. By contrast, only 1 in 3 people in OECD countries feel that they have a say in what the government does. While older people are more likely to vote, the middle-aged are most likely to feel they have a say – though these patterns vary across OECD countries. 84% of people who have finished tertiary education say they voted, compared to 78% of those educated to secondary level. Gender differences are generally small – and parity has been reached for the OECD on average in both voter turnout and having a say in government. Nevertheless, some countries still have gender gaps in this domain, and these tend to favour women.

Figure 12.1. Civic Engagement snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2019, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
* for voter turnout signifies that compulsory voting is practiced.
Source: *Institute for Democracy and Electoral Assistance (IDEA)* (database) (2019), https://www.idea.int/; *OECD Survey of Adult Skills (PIAAC)* (database) (2019), https://oecd.org/skills/piaac/.

Voter turnout

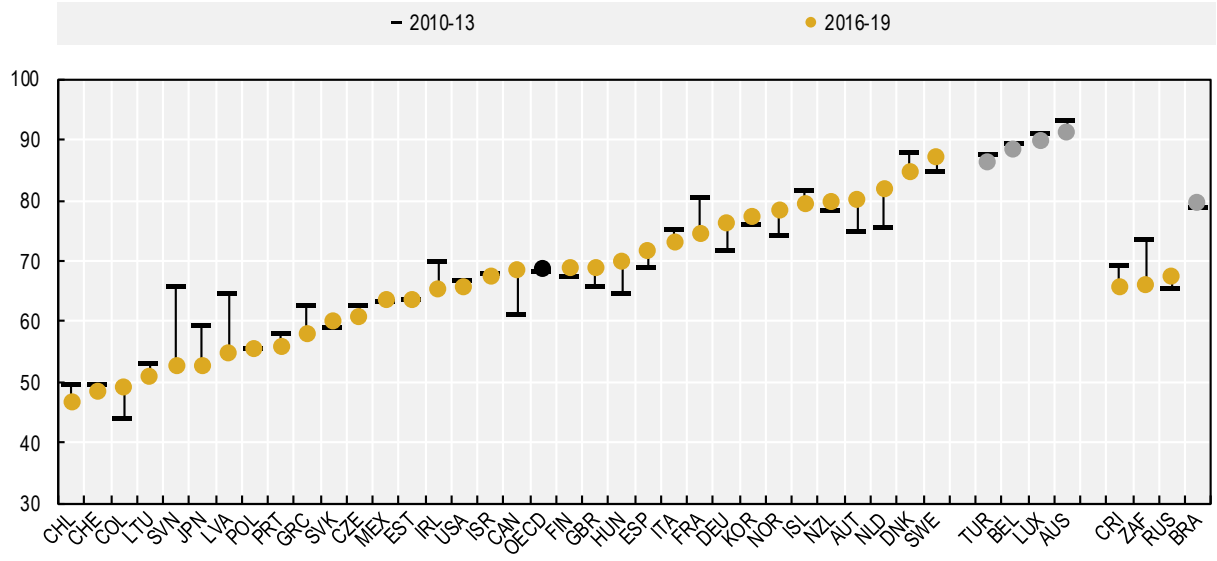
Voter turnout in 2016-19 ranges from 91% in Australia, where electoral participation is compulsory, to 46.5% in Chile (Figure 12.2). On average, about two-thirds of people registered to vote in OECD countries cast a ballot in the last election (68.7%), a share that has remained stable since 2010-13. This stability masks gains of 5 or more percentage points in Austria, Canada, Colombia, Hungary and the Netherlands (mostly countries with above-average voter turnout rates already), and more substantial falls exceeding 7 percentage points in Japan, and 10 percentage points in Latvia and Slovenia.

Having a say in what the government does

The share of people who feel that they have a say in what the government does ranges from 9.6% in France to almost 70% in Lithuania and Greece, and is 34% for OECD countries on average (Figure 12.3). Conversely, 46% of people, on average, feel they have no say, and the remaining 20% are ambivalent. Nordic countries, Chile, Lithuania, Greece and the United States are the only OECD countries where the share of people declaring that they have a say in government exceeds the share of those who report having no say.

Figure 12.2. Substantial falls in voter turnout since 2010-13 are concentrated in a few countries

Votes cast among the population registered to vote, percentage



Note: The latest available year is 2019 for Belgium, Denmark, Estonia, Finland, Greece, Israel, Spain and South Africa; 2018 for Brazil, Colombia, Costa Rica, Hungary, Italy, Latvia, Luxembourg, Mexico, Slovenia, Sweden, Turkey and the Russian Federation; 2017 for Austria, Chile, the Czech Republic, France, Germany, Korea, the Netherlands, New Zealand, Norway and the United Kingdom; 2016 for Australia, Iceland, Ireland, Lithuania, the Slovak Republic and the United States; 2015 for Canada, Poland, Portugal and Switzerland; and 2014 for Japan. The earliest available year is 2010 for Australia, Belgium, Brazil, Colombia, Costa Rica, the Czech Republic, Hungary, Latvia, the Netherlands, Poland, the Slovak Republic, Sweden and the United Kingdom; 2011 for Canada, Denmark, Estonia, Finland, Ireland, Latvia, New Zealand, Portugal, Slovenia, Spain, Switzerland and Turkey; 2012 for France, Greece, Japan, Korea, Lithuania, Mexico, the United States and the Russian Federation; and 2013 for Austria, Chile, Germany, Iceland, Israel, Italy, Luxembourg and Norway. National elections refer to presidential elections in Brazil, France, Korea, Mexico, Poland, the Russian Federation and the United States, and to parliamentary elections for other countries. Australia, Belgium, Brazil, Luxembourg and Turkey (shown in grey) enforce compulsory voting.
Source: *International Institute for Democracy and Electoral Assistance (IDEA)* (database) (2019), https://www.idea.int/.

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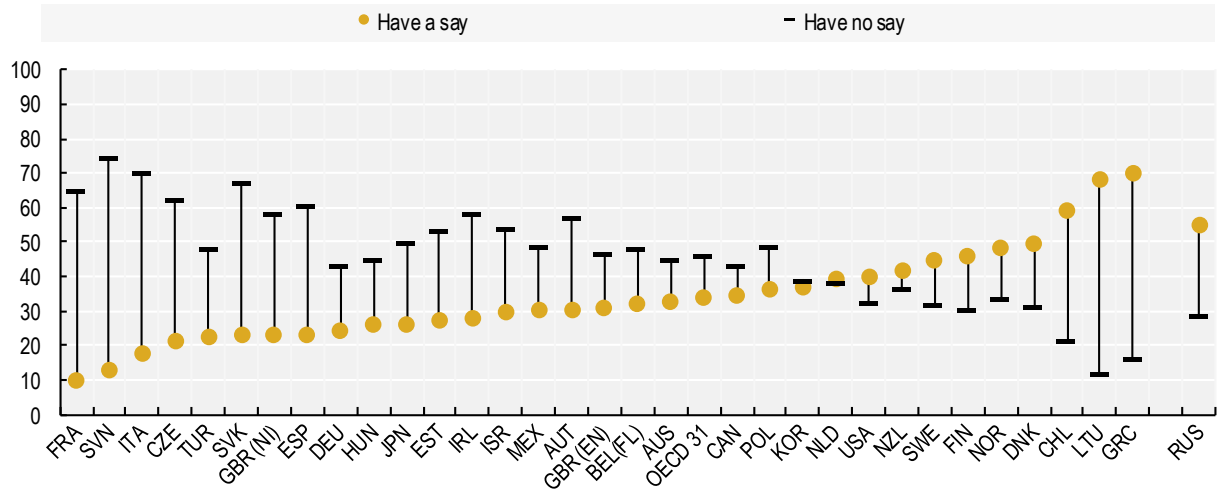
Figure 12.3. Only one in three people feel they have a say in what government does

Share of people aged 16-65 who feel they have a say/no say in government, percentage, around 2012



Note: Data refer to 2011-12 for Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Poland, the Russian Federation, the Slovak Republic, Spain, Sweden and the United Kingdom; 2012 for France; 2014-15 for Chile, Greece, Israel, Lithuania, New Zealand, Slovenia and Turkey; and 2017 for Mexico, Hungary and the United States. Data for Belgium refer to Flanders; those for England and Northern Ireland are reported separately. Data for the Russian Federation exclude the Moscow municipal area. The OECD average includes both England and Northern Ireland, and a simple average of the 2012-14 (41.6% for have a say, 35.2% for have no say, not shown here) and 2017 data collection waves for the United States. It excludes Colombia, Iceland, Latvia, Luxembourg, Portugal and Switzerland, due to a lack of available data.
Source: *OECD Survey of Adult Skills (PIAAC)* (database), https://oecd.org/skills/piaac/.

StatLink https://doi.org/10.1787/888934082366

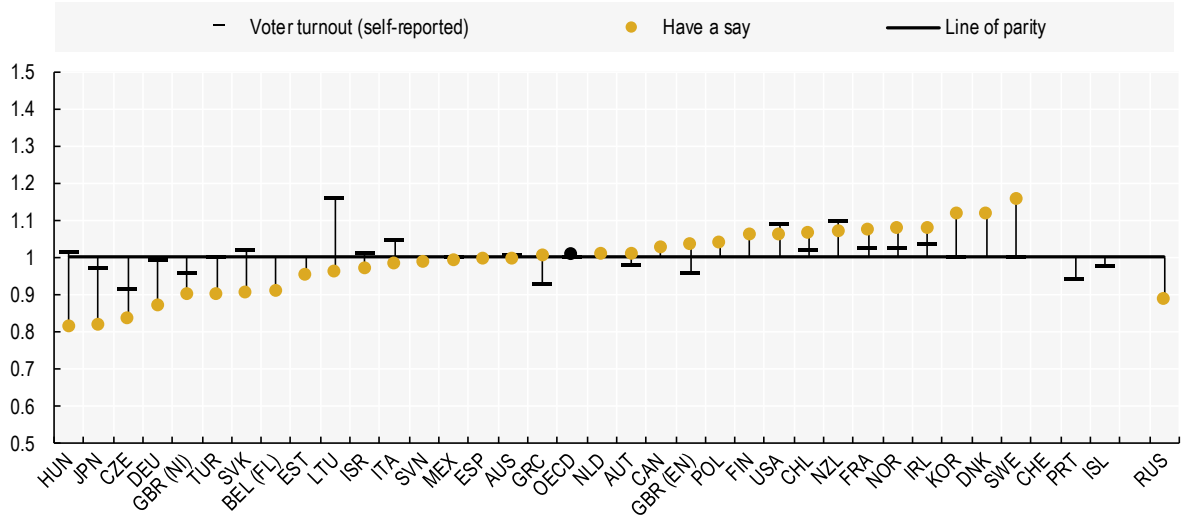
Civic Engagement inequalities: gaps between population groups

Gender gaps in Civic Engagement outcomes are small and marginally favour women

For most OECD countries, differences between men and women in voting behaviour and in feelings of having a say in what the government does are very small. Indeed, gender parity has been achieved for the OECD, on average. Where differences do exist, women tend to do better in a small majority of countries (Figure 12.4). The gender gap in favour of women is largest in Nordic countries and Korea, with Sweden recording the largest difference (where 47.9% of women, and 41.3% of men, feel they have a say in government). The Czech Republic, Japan and Hungary have the largest gender gaps in favour of men. In half of the 24 OECD countries for which data on self-reported voter turnout is available, slightly more women report going to the polls, ranging from less than 1 percentage point difference in Australia, Israel and Hungary up to 9 points in Lithuania. Gender gaps in Civic Engagement are not related: in countries in which more women vote, women's sense of having a say in government is not necessarily higher than men's, and vice versa.

Figure 12.4. In a small majority of OECD countries, the share of women voting and feeling like they have a say in government is slightly higher than that of men

Gender ratio for self-reported voter turnout, 2015-18, and having a say in government, around 2012



Note: The gender ratio is calculated by dividing average values for women by average values for men. Thus, values above 1 always indicate better outcomes for women, and values below 1 better outcomes for men. For self-reported voter turnout, data refer to 2012 for France; 2013 for Australia, the Czech Republic, Iceland, Japan, Norway and the United Kingdom; 2014 for New Zealand and Sweden; 2015 for Greece, Portugal, and Turkey; 2016 for Ireland, Korea, Lithuania, Slovakia and the United States; 2017 for Austria, Chile and Germany; and 2018 for Hungary and Italy. Self-reported voter turnout for Northern Ireland and England refers to values for the entire United Kingdom, and to parliamentary elections, lower house, except for Chile and the United States (presidential elections) and Italy (parliamentary elections, both lower and upper houses). For having a say in government, see the note of Figure 12.3 for reference years and further details. The OECD average refers to the 24 countries shown for self-reported turnout, and the 31 countries shown for having a say.
Source: *Comparative Study of Electoral Systems* (database), https://cses.org/ and the *OECD Survey of Adult Skills (PIAAC)* (database), https://oecd.org/skills/piaac/.

StatLink https://doi.org/10.1787/888934082385

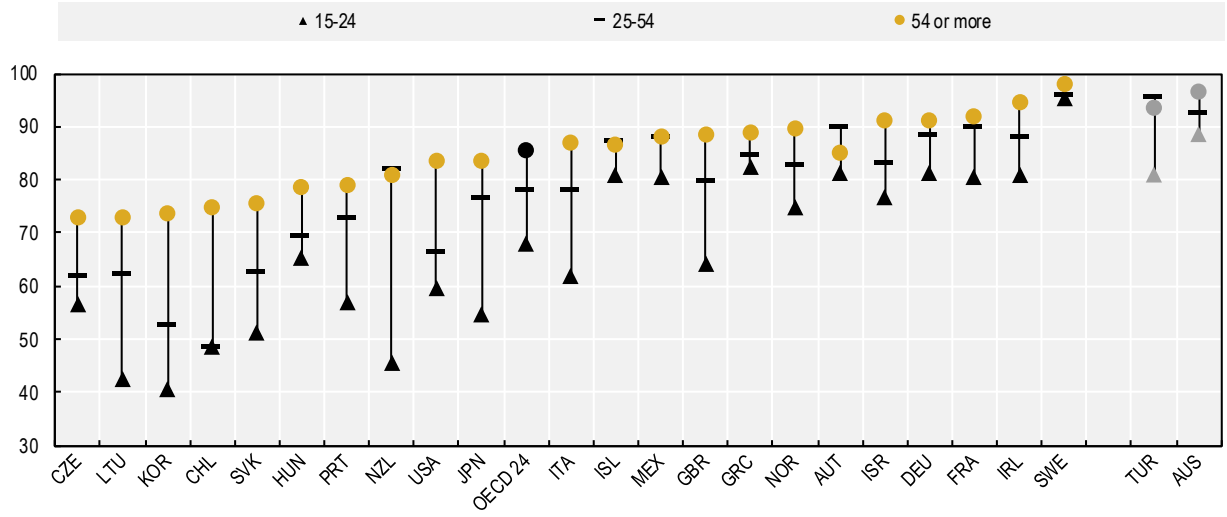
There are notable age- and education-related differences in Civic Engagement

Self-reported voter turnout among older people is higher than among their younger and middle-aged peers. In all countries for which data are available, young people aged 15-24 have the lowest share of voter turnout: 68% for OECD countries on average, versus 85% for people aged 54 or more (Figure 12.5). The age gap is larger in countries with lower overall levels of voter turnout, implying that country differences in political participation among youth account for most of the observed differences across countries.

For the OECD on average, age differences in feelings of having a say in government decisions are very small. Nevertheless, some countries do have sizeable age gaps (Figure 12.6). In some cases, older people are less likely to feel that they have a say in government, relative to younger age groups (e.g. Korea, Estonia, Poland, Slovenia, the Slovak Republic and Austria). By contrast, there are countries in which older generations are the most likely to feel that they have a say (e.g. New Zealand, Lithuania, Greece, the United States, the United Kingdom (England), and Australia). In Chile, the middle-aged are the most likely to feel that they have a say in government decisions.

Figure 12.5. Compared to their younger peers, older people vote more

Self-reported voter turnout by age, percent, 2012-18



Note: See note of Figure 12.4 for reference years and further details. Australia and Turkey (shown in grey) enforce compulsory voting.
Source: *Comparative Study of Electoral Systems* (database), https://cses.org/.

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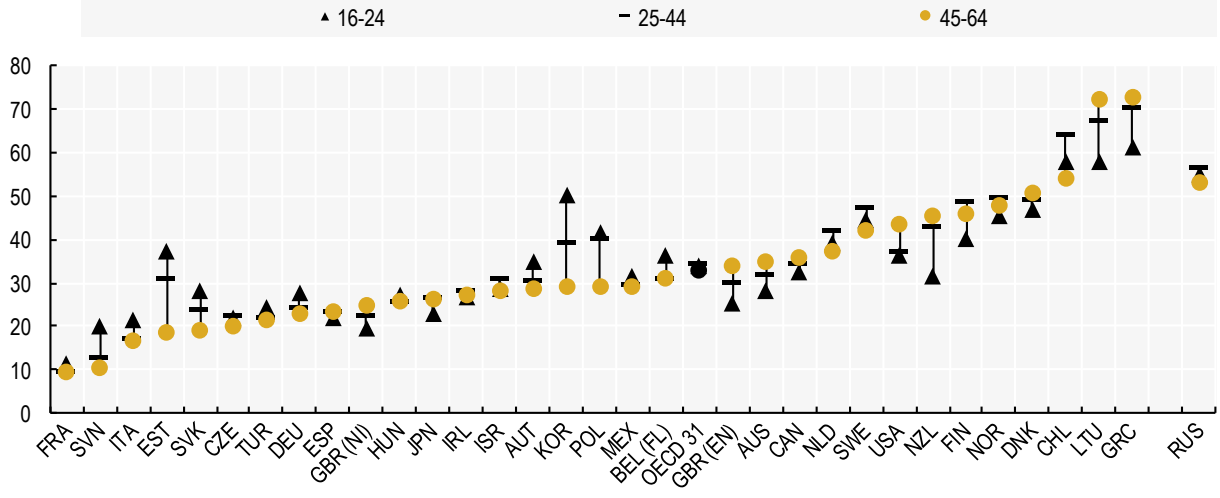
Figure 12.6. The oldest and youngest generations report the lowest share of having a say, depending on the country

Share of people aged 16-65 who feel they have a say in what the government does, by age, percentage, around 2012



Note: See note of Figure 12.3 for reference years and further details.
Source: *OECD Survey of Adult Skills (PIAAC)* (database): https://oecd.org/skills/piaac/.

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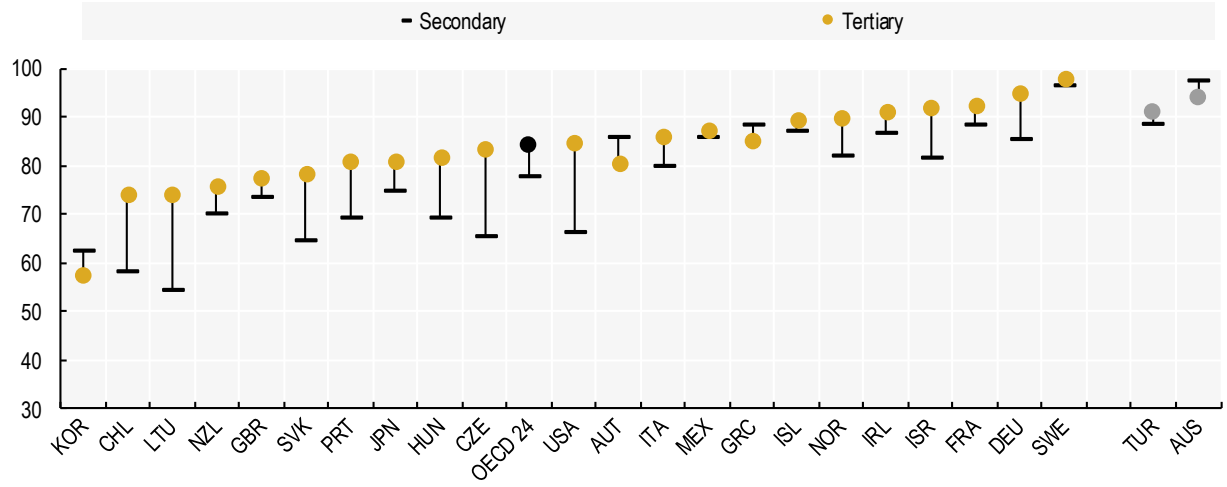
In 20 out of 24 OECD countries, people with higher levels of education are more likely to vote (Figure 12.7). On average, 84% of people who have completed tertiary education say they voted, compared to 78% of those educated to secondary level only.

Figure 12.7. People with higher levels of education are more likely to vote

Self–reported voter turnout by level of educational attainment, percent, 2012-18



Note: See the note of Figure 12.4 for reference years and further details. Australia and Turkey (shown in grey) enforce compulsory voting.
Source: OECD calculations, based on the *Comparative Study of Electoral Systems* (database), https://cses.org/.

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Box 12.1. Measurement and the statistical agenda ahead

Civic Engagement is about whether people can and do take part in a range of important civic activities that enable them to shape the society they live in. An ideal set of indicators would address whether individuals have opportunities to engage; whether they perceive that they have the skills, ability and other resources needed to engage; whether they actually take up and realise the opportunities that they have; and whether doing so makes a difference in practice. This chapter presents data on the expression of people's political rights and preferences (voter turnout) and their perceived empowerment in this process (feeling like one has a say in what the government does) (Table 12.1). It is complemented by Reference Chapter 16 on Social Capital, which addresses some relevant institutional factors (e.g. government stakeholder engagement) and social norms (e.g. trust in institutions).

Table 12.1. Civic Engagement indicators considered in this chapter

	Average	Vertical inequality (gap between top and bottom of the distribution)	Horizontal inequality (difference between groups, by age, education, gender)	Deprivation
Voter turnout	Share of votes cast among the population registered to vote	n/a	Gaps in self-reported voter turnout	n/a
Having a say in what the government does	Share of people aged 16-65 who feel they have a say in what the government does	n/a	Gaps in the share of people who feel they have a say in what government does	Share of people aged 16-65 who feel they have no say in what government does

Voter turnout is measured as the number of votes cast, as a share of the population registered to vote (i.e. the number of people listed in the electoral register). This information is gathered from National Statistical Offices and electoral management bodies, compiled by the International Institute for Democracy and Electoral Assistance, and refers to major national elections (i.e. parliamentary or presidential). Estimates of the distribution of voter turnout (by age, gender and education) are obtained through post-election self-reported survey data from the Comparative Study of Electoral Systems.

Having a say in what the government does is measured through a question in the OECD Survey of Adult Skills (PIAAC), which asks respondents to what extent they agree with the statement, "People like me don't have any say in what the government does". Response options are "strongly disagree, disagree, neither agree nor disagree, agree, or strongly agree". Having a say in government refers to the share of respondents who either disagree or strongly disagree with this statement; not having a say refers to the share of respondents who either agree or strongly agree.

Correlations among Civic Engagement indicators

There is no correlation between having a say in government and voter turnout, thus implying that feelings of being able to influence politics do not necessarily translate into voting behaviour, and vice versa (Table 12.2).

Table 12.2. There is no correlation between having a say in government and voter turnout

Bivariate correlation coefficients among the Civic Engagement indicators

	Voter turnout (registered)	Having a say in government
Voter turnout (registered)		
Having a say in government	-0.15 (31)	

Note: Values in parenthesis refer to the number of observations. * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level. See the Statlink for an extended correlations table.

Statistical agenda ahead

Data on having a say in what the government does are sourced from PIAAC, which is only run every 10 years and whose main waves were last conducted by the OECD in 2012. The European Social Survey (ESS), conducted every three years, includes a similar question (positively worded, i.e. "How much would you say the political system in [country] allows people like you to have a say in what the government does?"), but covers only European countries. In future rounds, PIAAC will also use a positive question wording to increase comparability. As of now, the measure of having a say in government included in *How's Life?* refers only to a belief in the (external) responsiveness of public institutions and government officials to citizens' demands, while excluding (internal) feelings of having the personal competence to participate in politics (Hoskins, Janmaat and Melis, 2017[1]). In the 2019 revision of the Inter-Agency and Expert Group list of Sustainable Development indicators, both internal and external aspects were added under Goal 16 (Peace, Justice and Strong Institutions) (United Nations Department of Economic and Social Affairs Statistics Division, 2019[2]).

Voting is the most traditional form of political voice. However, other forms of political activity such as signing a petition, attending a political meeting or a demonstration, contacting public officials, and participating in campaigns and protest via social media are also important methods of civic expression (Boarini and Diaz, 2015[3]).Comparable measures of these forms of participation are available only for European countries (via the European Quality of Life Survey) and are not included here.

References

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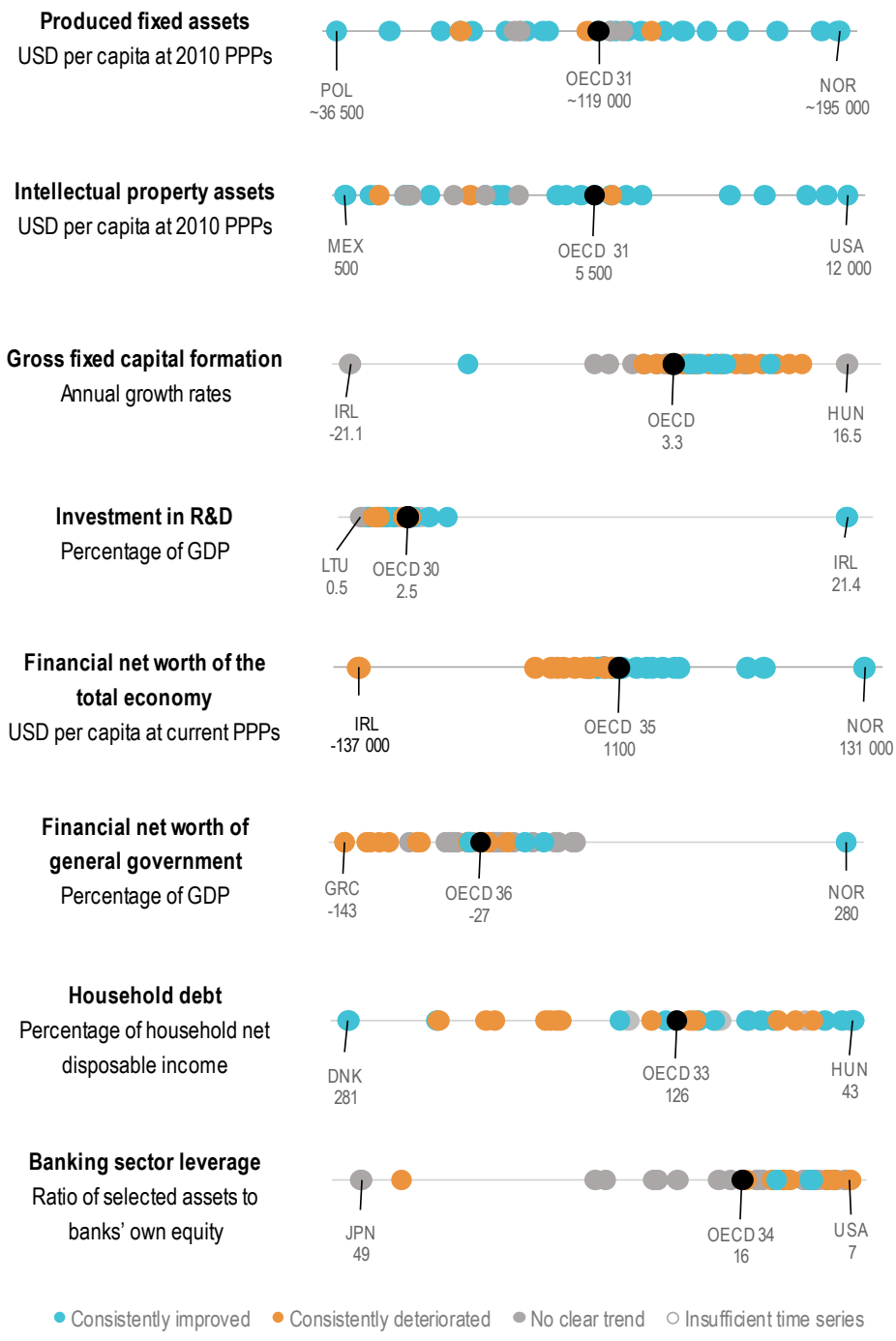
United Nations Department of Economic and Social Affairs Statistics Division (2019), *SDG Indicators: Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*, http://unstats.un.org/sdgs/indicators/indicators-list/ (accessed on 12 February 2019). [2]

13 Economic Capital

Economic capital includes both produced (man-made) and financial assets. While the OECD average situation since 2010 has improved slightly for several (but not all) Economic Capital indicators, large disparities persist across OECD countries, and have in some cases widened. The OECD average stock of produced fixed assets increased by 11%, cumulatively, between 2010 and 2018, and intellectual property assets by 16%. However, annual growth in gross fixed capital formation in 2018 was lower than in 2010 for around one-third of OECD countries, and rates of R&D investment have only increased in around half. OECD countries' net financial positions have diverged further since 2010, and the gap between the top and bottom OECD countries has widened for the financial net worth of the general government sector. Household debt levels across OECD countries range from 200% of disposable income to less than 50%.

Figure 13.1. Economic Capital snapshot: current levels, and direction of change since 2010



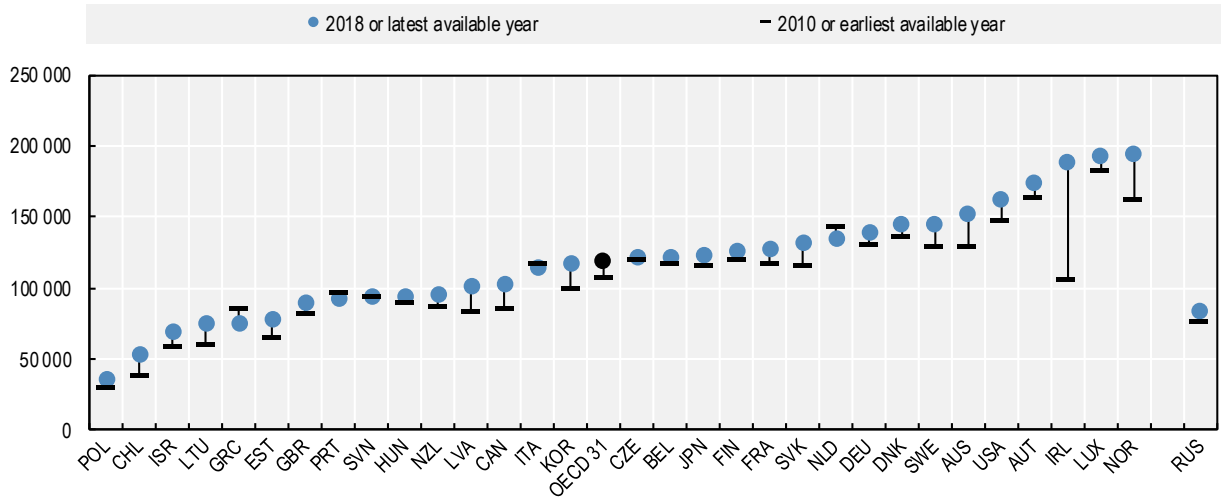
Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en and *OECD Wealth Distribution* (database), https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH.

Produced fixed assets

Produced fixed assets, such as buildings, machinery and infrastructure, play an important role in a country's capacity to produce goods and services. In 2018, the OECD average of stock of produced fixed assets per person was close to USD 119 000 (Figure 13.2). The stock of produced fixed assets per capita is highest (over USD 189 000) in Norway, Luxembourg and Ireland, and lowest (below USD 76 000) in Poland, Chile, Israel, Lithuania and Greece. Between 2010 and 2018, the OECD average value of produced fixed assets increased by nearly 11%, cumulatively (up from around USD 107 000 per capita in 2010). The largest increases occurred in Ireland (up 78.6%), Chile (37.4%) and Lithuania (22.5%), with the largest falls in Greece (-12.0%), Portugal (-5.5%) and the Netherlands (-5.4%).

Figure 13.2. Cumulative growth in produced fixed assets since 2010 ranges from -12% to +79% across OECD countries

Produced fixed assets, USD per capita at 2010 PPPs



Note: The latest available year is 2018 for Canada, Chile, the Czech Republic, France and Israel; 2016 for Estonia, Greece, Hungary, Latvia, Lithuania, Norway, Poland and Portugal; 2015 for the Russian Federation; and 2017 for the other countries. The earliest available year is 2011 for the Russian Federation. The OECD average excludes Colombia, Iceland, Mexico, Spain, Switzerland and Turkey, due to a lack of data.
Source: *OECD National Accounts Statistics* (database): 9B. Balance sheets for non-financial assets, http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE9B.

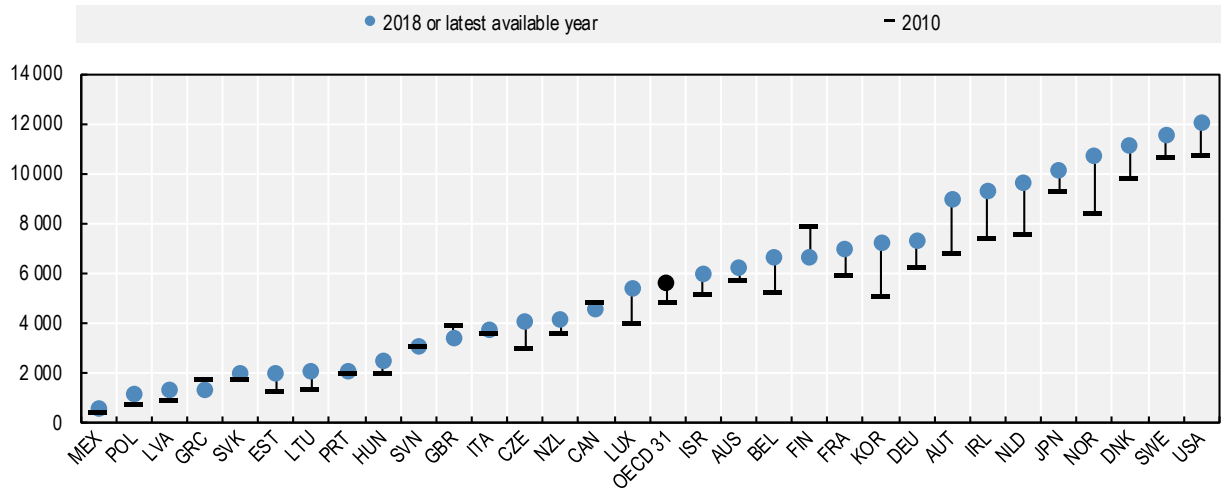
StatLink https://doi.org/10.1787/888934082461

Intellectual property assets

Knowledge capital can play an important role in productivity growth, and contribute to improvements in future quality of life, including through a more efficient use of resources than at present. In 2018, the OECD average stock of intellectual property assets was worth USD 5 556 per capita (Figure 13.3). Levels were highest in the United States, Sweden, Denmark, Norway and Japan (at over USD 10 000 per capita) and lowest in Mexico, Poland, Latvia and Greece (below USD 1 300 per capita, i.e. less than one-seventh that of the highest group). Between 2010 and 2018, the average stock of intellectual property assets across 31 OECD countries rose by 16.2% in real terms. It went up by more than 50% in Mexico, Lithuania, Estonia and Poland, but fell by 10% or more in Greece, Finland and the United Kingdom.

Figure 13.3. Intellectual property assets in the best-performing countries are seven times higher than among the worst performers

Intellectual property assets, USD per capita at 2010 PPPs



Note: The latest available year is 2018 for Canada, the Czech Republic, France and Israel; 2016 for Estonia, Greece, Hungary, Latvia, Lithuania, Mexico, Norway, Poland and Portugal; 2014 for Ireland; and 2017 for the other countries. The OECD average excludes Chile, Colombia, Iceland, Spain, Switzerland and Turkey, due to a lack of data.
Source: *OECD National Accounts Statistics* (database): 9B. Balance sheets for non-financial assets, http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE9B.

StatLink https://doi.org/10.1787/888934082480

Gross fixed capital formation

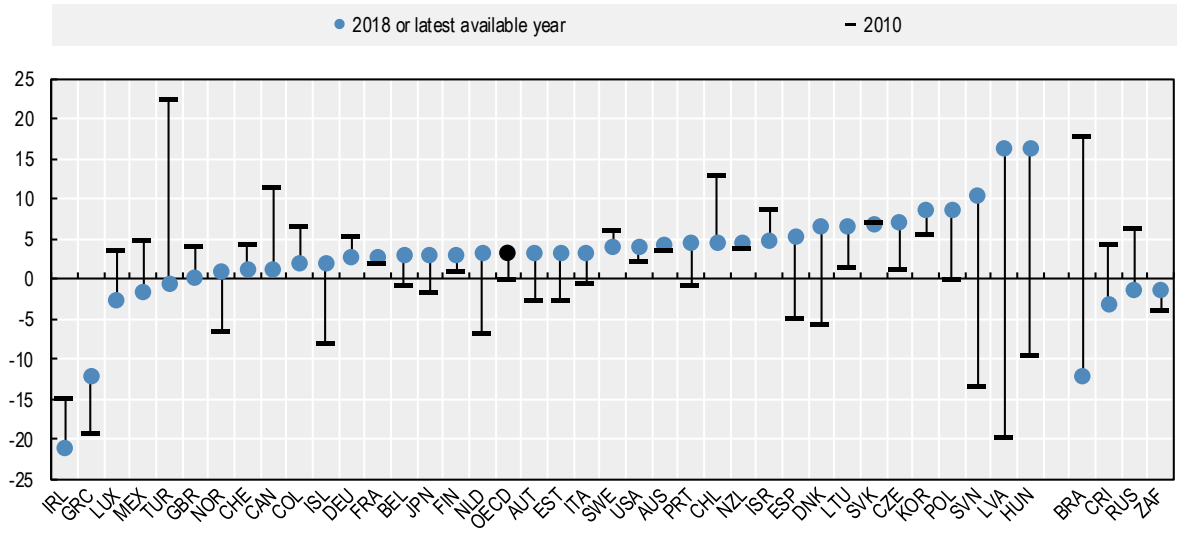
Gross fixed capital formation (GFCF) indicates the level of investment in produced fixed assets. In 2018, the annual growth of GFCF in OECD countries was 3.3%, on average (Figure 13.4). At the top end, countries such as Hungary, Latvia and Slovenia had annual growth rates of more than 10%, while in Ireland, Greece and Luxembourg, GFCF contracted (with rates of -21.1%, -12.2% and -2.7%, respectively). For OECD countries on average, GFCF has recovered from a state of zero growth in 2010, to an annual growth rate just above 3% in 2018. Nevertheless, growth rates are lower than in 2010 for around one-third of OECD countries. Particularly large falls have occurred in Turkey (-23.1 percentage points), Canada (-10.3) and Chile (-8.5).

Investment in R&D

Investment in research and development (R&D) is a key driver of changes in the stock of intellectual property assets. In 2018, the OECD average rate of investment in R&D was 2.5% of GDP (Figure 13.5), and around half of OECD countries have a rate below 2%. The highest rates were in Ireland (21.4%), Korea (4.2%), Japan (3.4%) and Sweden (3.0%), while the lowest rates (all below 1% of GDP) were in Lithuania, Latvia, the Slovak Republic, Luxembourg, Poland and Greece. Between 2010 and 2018, the rate of R&D investment increased by 0.6 percentage points or more in Ireland, Korea and Belgium, but fell by 0.3 percentage points or more in Finland, Sweden and Australia.

Figure 13.4. Annual growth in gross fixed capital formation is lower than in 2010 for around one-third of OECD countries

Gross fixed capital formation, annual growth rate

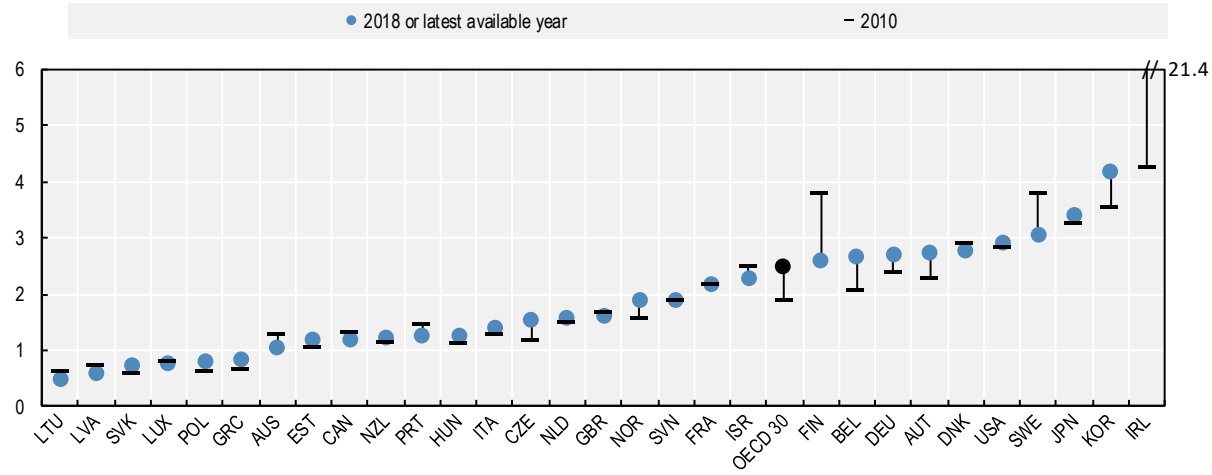


Note: The latest available year is 2017 for Australia, Colombia, Israel, Japan, Korea, Mexico and New Zealand.
Source: *OECD National Accounts Statistics* (database): 1. Gross domestic product, http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE1.

StatLink https://doi.org/10.1787/888934082499

Figure 13.5. R&D investment is below 2% of GDP in around half of OECD countries

R&D investment, percentage of GDP



Note: The latest available year is 2018 for the Czech Republic, Finland and France; 2016 for Estonia, Ireland, Latvia, New Zealand, Norway, Portugal and Sweden; 2015 for Denmark and Poland; and 2017 for the other countries. The OECD average excludes Chile, Colombia, Iceland, Mexico, Spain, Switzerland and Turkey, due to a lack of data.
Source: *OECD National Accounts Statistics* (database): 8A. Capital formation by activity ISIC rev4, http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE8A.

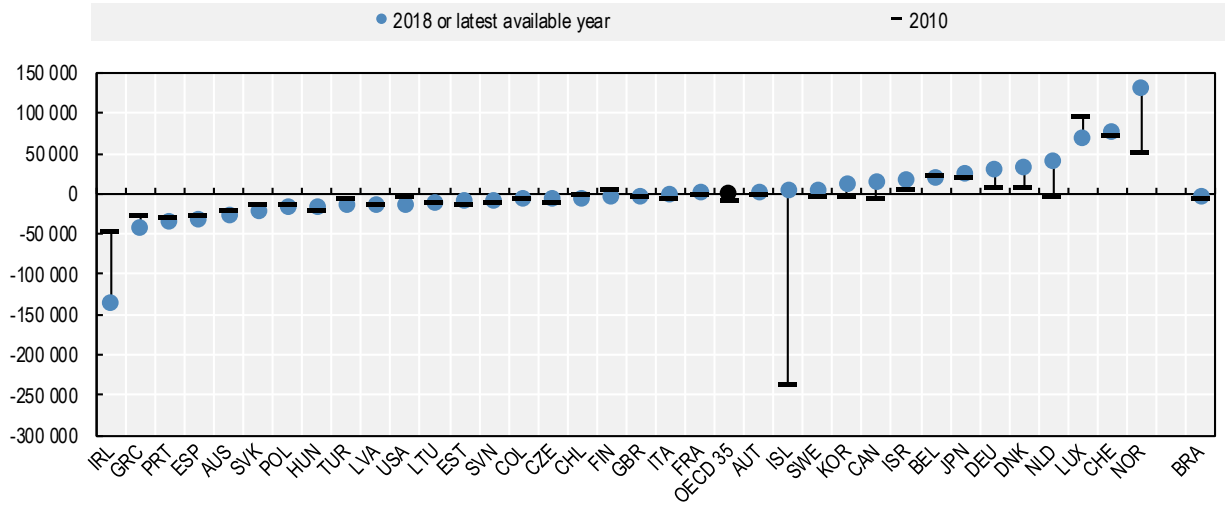
StatLink https://doi.org/10.1787/888934082518

Financial net worth of the total economy

A country's net financial position indicates both its exposure to overseas risk, and its stores of financial wealth and sources of future revenue. For the 35 OECD countries with available data, nearly two-thirds had a negative net worth in 2018 (Figure 13.6), meaning their stock of financial liabilities exceeded their financial claims on the rest of the world. Net debts were in excess of USD 30 000 per capita in Ireland, Greece, Portugal and Spain. By contrast, Norway had the highest net worth (just under USD 131 000 per capita), followed by Switzerland (just over USD 77 000). OECD countries' net financial positions have diverged further since 2010, with large gains in several countries already enjoying a relatively high net worth, while net debts deepened at the tail end.

Figure 13.6. OECD countries' net financial positions have diverged further since 2010

Financial net worth of the total economy, USD per capita at current PPPs



Note: The latest available year is 2017 for Colombia, Israel, Japan, Switzerland and Turkey. The OECD average excludes Mexico and New Zealand, due to a lack of data.

Source: *OECD National Accounts Statistics* (database): 720. Financial accounts (non-consolidated, SNA 2008), http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE720R; except for Australia and Israel: 710. Financial accounts (consolidated, SNA 2008), http://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE710R.

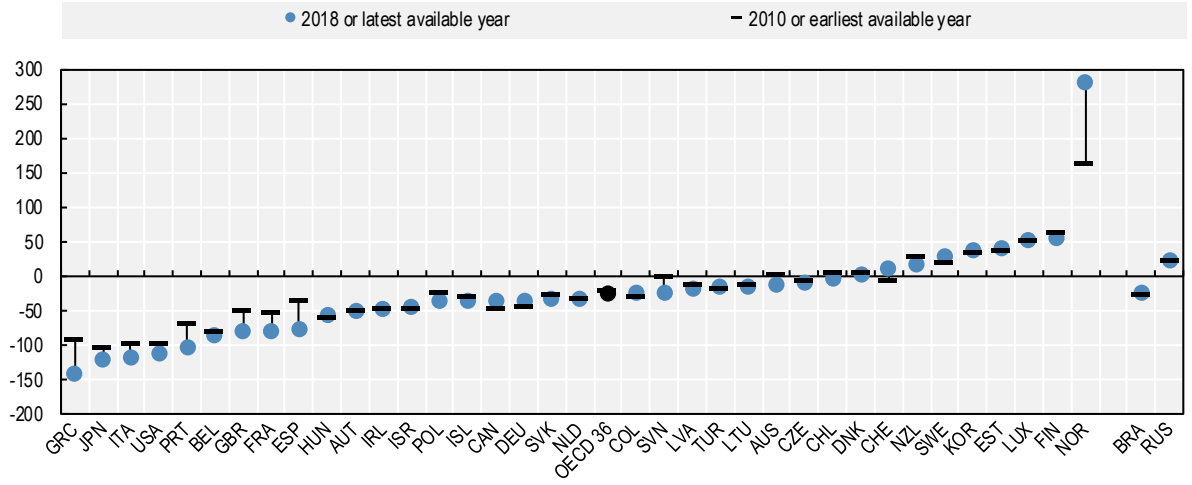
StatLink https://doi.org/10.1787/888934082537

Financial net worth of general government

The financial net worth of general government can also imply risks to financial and economic sustainability. In 2018, across OECD countries, government financial liabilities exceeded financial assets to the tune of 27 percentage points of GDP (Figure 13.7). This share ranges from positive values in Norway (280.5%), Finland (52.7%) and Luxembourg (50.0%) to negative values in Greece (-142.6%), Japan (-123.7%), Italy (-120.3%), the United States (-112.7%) and Portugal (-104.4%). Between 2010 and 2018, the financial net worth of government fell by 4 percentage points for the average OECD country, and the gap between the top and bottom OECD countries widened further. The largest deteriorations occurred in those countries already well below the OECD average, including Greece (-49.8 percentage points), Spain (-40.0) and Portugal (-33.4). The largest improvements were in Norway (116.7 percentage points) and Switzerland (18.3).

Figure 13.7. Since 2010, government financial net worth has further deteriorated in countries already heavily indebted

Financial net worth of the general government sector, percentage of GDP



Note: The latest available year is 2017 for Austria, Estonia, France, Germany, Ireland, Israel, Japan, Latvia, Luxembourg, New Zealand, the Slovak Republic, Switzerland and Turkey; 2016 for Colombia, Iceland and the Russian Federation; and 2015 for Brazil. The earliest available year is 2015 for Colombia and 2011 for the Russian Federation. The OECD average excludes Mexico, due to a lack of data.
Source: *OECD Financial Indicators – Stocks* (database), http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS.

StatLink https://doi.org/10.1787/888934082556

Household debt

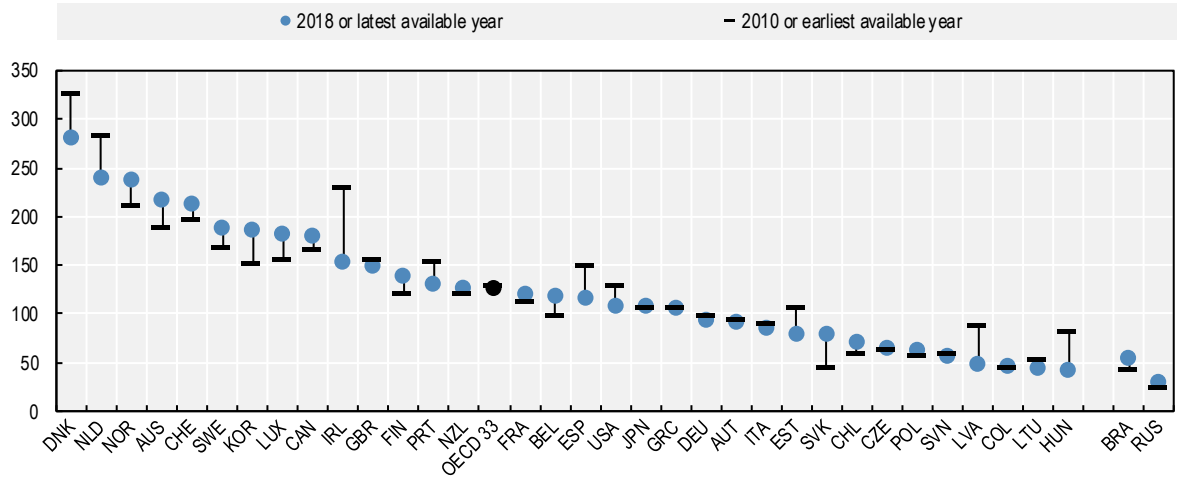
High household debt can place a heavy burden on families, both financially and psychologically, and may pose risks for the wider economic system when defaults on repayments increase the instability of financial markets. In 2018, the OECD average household debt was 126% of household net disposable income (Figure 13.8). This ranged from below 50% in Hungary, Lithuania, Colombia and Latvia, to over 200% in Denmark, the Netherlands, Norway, Australia and Switzerland. Between 2010 and 2018, the OECD average household debt fell by roughly 3 percentage points (from 129% to 126%). However, this masks divergent patterns across countries: in Ireland, household debt fell by 75 percentage points, while falls or more than 35 percentage points occurred in Denmark, the Netherlands, Latvia and Hungary. By contrast, household debt levels increased by more than 25 percentage points in the Slovak Republic, Korea, Luxembourg, Australia and Norway.

Leverage of the banking sector

High leverage of the banking sector (measured here by the ratio between its financial assets and its equities) can increase the financial system's exposure to risk and cyclical downturns. In 2018, the OECD average banking sector leverage was about 16 (Figure 13.9), ranging from 28 or more in (in Japan, the United Kingdom, Italy and Greece), to 8 or less (in the United States, Australia, Chile, Hungary and Estonia). Since 2010, ratios have fallen in some of the countries that had among the highest leverage rates previously, including the United Kingdom, Slovak Republic and Norway, while the largest increases in leverage occurred in Turkey, Lithuania and Poland.

Figure 13.8. In almost two-thirds of the OECD, household debt exceeds 100% of disposable income

Household debt, percentage of household net disposable income

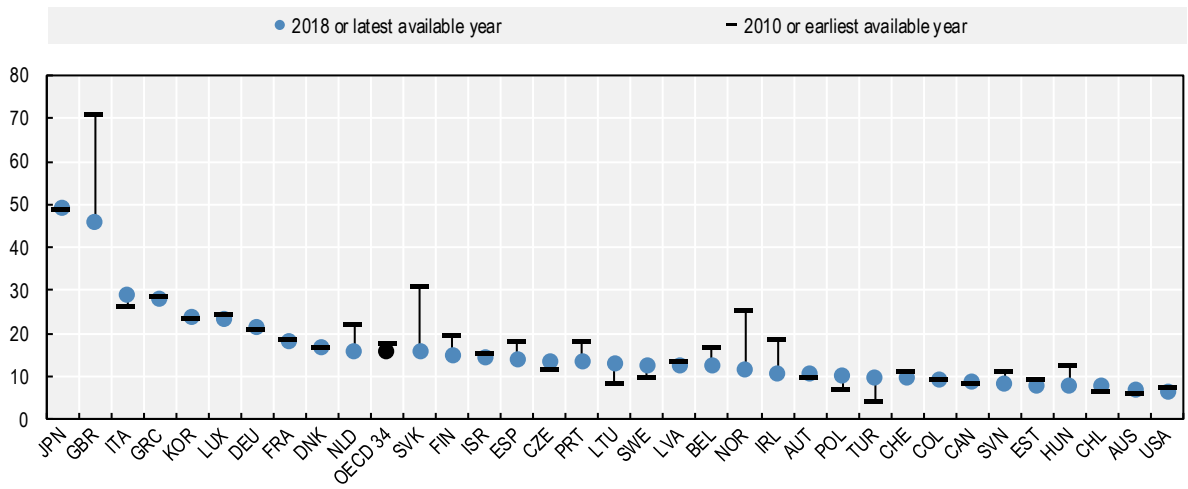


Note: The latest available year is 2018 for Canada, Denmark, Finland, Italy, the Netherlands, Norway, Portugal and Sweden; 2016 for Colombia and Switzerland; 2015 for Brazil and the Russian Federation; and 2017 for the other countries. The earliest available year is 2015 for Colombia and 2011 for the Russian Federation. The OECD average excludes Iceland, Israel, Mexico and Turkey due to a lack of data.
Source: *OECD Financial Indicators – Stocks* (database), http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS.

StatLink https://doi.org/10.1787/888934082575

Figure 13.9. Since 2010, banking sector leverage has fallen for some of the most highly leveraged countries

Leverage of banking sector, ratio of financial assets to banks' own equity



Note: The latest available year is 2017 for France, Israel, Japan, Switzerland and Turkey and 2016 for Colombia and the Czech Republic. The earliest available year is 2015 for Colombia and 2014 for Switzerland. The OECD average excludes Iceland, Mexico and New Zealand, due to a lack of data.
Source: *OECD Financial Indicators – Stocks* (database), http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS.

StatLink https://doi.org/10.1787/888934082594

Box 13.1. Measurement and the statistical agenda ahead

Economic Capital consists of produced and financial capital. Produced capital refers to man-made tangible assets such as roads, railways, buildings and machinery; intellectual property such as R&D expenditure, computer software and art works; and inventories of final and intermediate goods. Financial capital includes financial assets such as currency and deposits, equity, securities and derivatives, and liabilities in the form of loans and debt securities. Economic Capital plays a crucial role in supporting material living standards (e.g. housing, jobs, wealth and incomes) and in producing goods and services that people consume in pursuit of their well-being today and in the future (OECD, 2013[1]). The indicators in this chapter (Table 13.1) include stocks (of produced fixed assets, intellectual property assets, and the financial net worth of the total economy), flows (investments in gross fixed capital formation and R&D), and risk factors that pertain to specific subsectors of the economy, but that can have implications for the sustainability of the whole economic system (the financial net worth of government, household debt and the leverage of the banking sector).

Table 13.1. Economic Capital indicators considered in this chapter

Indicator	Unit of measurement	Stock	Flow	Risk factor	Resilience factor
Produced fixed assets	USD per capita at 2010 PPPs	✓			
Intellectual property assets	USD per capita at 2010 PPPs	✓			
Gross fixed capital formation	Annual growth rates		✓		
Investment in R&D	Percentage of GDP		✓		
Financial net worth of total economy	USD per capita at current PPPs	✓			
Financial net worth of government	Percentage of GDP			✓	
Household debt	Percentage of household net disposable income			✓	
Banking sector leverage	Ratio of financial assets to banks' own equity			✓	

Produced fixed assets refers to the value of a country's stock of produced economic assets, including dwellings, buildings, structures, machinery and equipment; cultivated assets such as livestock for breeding and vineyards; intangible assets such as computer software and entertainment, literary or artistic originals; and inventories. It reflects the reduction in their value due to physical deterioration, normal obsolescence or normal accidental damage. Data are expressed in US dollars per capita at 2010 PPPs, and are sourced from the *OECD National Accounts* database.

Intellectual property assets refers to a country's knowledge capital (e.g. research and development, software and databases, mineral exploration and evaluation, and entertainment, artistic and literary originals). ICT equipment is included in Korea, while ownership costs are excluded in Australia, and artistic originals are excluded in Canada. Data are expressed in US dollars per capita at 2010 PPPs, and are sourced from the *OECD National Accounts* database.

Gross fixed capital formation refers to the investment in both produced fixed assets (such as dwellings, buildings and other structures, transport equipment, other machinery and equipment, cultivated assets) and intangible fixed assets (such as intellectual property, computer software and art works) within a country. Data are expressed as annual growth rates at constant prices, and are sourced from the *OECD National Accounts* database.

Investment in R&D refers to the expenditure undertaken by resident producers on creative work carried out on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. Data are expressed as a percentage of GDP, and are sourced from the *OECD National Accounts* database.

Financial net worth of the total economy captures the net foreign asset position of a country with respect to the rest of the world. The financial assets include currency, deposits, debt securities, loans, equity and investment fund shares/units, financial derivatives and employment stock options, and other accounts receivable. Data are expressed as US dollars per capita at current PPPs, and are sourced from the *OECD National Accounts* database.

Financial net worth of the general government refers to the total value of financial assets held by the general government (i.e. central, state and local governments, as well as social security funds), less the total value of its outstanding liabilities. Data are expressed as a percentage of GDP, and are sourced from the Financial Dashboard of the *OECD National Accounts* database.

Household debt refers to the total outstanding debt of households (including non-profit institutions serving households), which includes loans (primarily mortgage loans and consumer credit) and other accounts payable. Data are expressed as a share of household net disposable income, and are sourced from the Financial Dashboard of the *OECD National Accounts* database.

Banking sector leverage (also known as equity multiplier ratio or financial leverage) is the ratio between the total financial assets of the banking sector and the market value of its equity (excluding investment fund shares). The banking sector includes the central bank and monetary financial institutions. Data are sourced from the Financial Dashboard of the *OECD National Accounts* database.

Table 13.2. Household debt is positively correlated with produced fixed assets, intellectual property assets and financial net worth

Bivariate correlation coefficients among the Economic Capital indicators

	Intellectual property assets	Produced fixed assets	Gross fixed capital formation	Investment in R&D	Financial net worth of total economy	Financial net worth of general government	Household debt	Banking sector leverage
Intellectual property assets								
Produced fixed assets	**0.72*** **							
	(30)							
Gross fixed capital formation	-0.20	**-0.35***						
	(31)	(31)						
Investment in R&D	**0.37** **	**0.40** **	**-0.65*** **					
	(30)	(30)	(30)					
Financial net worth of total economy	0.31	0.24	0.27	**-0.55** **				
	(29)	(30)	(35)	(29)				
Financial net worth of general government	0.01	0.07	0.15	-0.06	0.19			
	(31)	(31)	(37)	(30)	(35)			
Household debt	**0.63*** **	**0.55*** **	-0.29	0.15	**0.43** **	0.22		
	(29)	(30)	(33)	(29)	(32)	(33)		
Banking sector leverage	0.03	-0.02	-0.18	-0.05	0.12	**-0.35** **	0.08	
	(29)	(30)	(34)	(29)	(34)	(34)	(32)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level, ** at the p<0.05 level, and *** at the p<0.01 level.

Correlations among Economic Capital indicators

Across OECD countries, stocks of produced fixed assets are positively correlated with intellectual property assets (0.7) and investment in R&D (0.4) (Table 13.2). Countries with higher levels of household debt tend to have more produced fixed assets (0.6), more intellectual property assets (0.6), and a greater financial net worth of the total economy (0.4). A higher leverage in the banking sector is weakly associated with a lower financial net worth of the general government sector (0.4).

Statistical agenda ahead

The Economic Capital indicators used in this chapter encompass measures of the stocks held by the country as a whole or by different economic sectors (households, general government, financial corporations), as well as flows of investment and risk factors. The majority of these indicators are well defined and measured in the System of National Accounts. However, they offer only a high-level perspective on the state of Economic Capital in a country. A fuller understanding of economic resilience and financial stability, for example, requires more detailed dashboards (Financial Stability Board and International Monetary Fund, 2019[2]; Röhn et al., 2015[3]).

Within the indicators of Economic Capital shown here, some challenges still remain:

- Available measures do not always allow disaggregating balance sheet data by institutional sectors and asset distribution across different groups at a more granular level.
- Asset price bubbles can affect the interpretation of financial net worth over time: change in net worth from one year to the next can occur not only due to financial transactions, but also due to price changes in financial assets and liabilities. Thus, growth in financial capital can give a misleading impression of future risks and financial conditions.
- Banking sector leverage is not straightforward to interpret as it is a measure of volatility and risk, but at the same time reflects regulations on banks' capital requirements. It is unclear which ratio is ideal from a well-being production perspective, and this is also likely to vary with country circumstances.

Household wealth is considered as part of the Income and Wealth dimension of well-being, and thus not duplicated here. Several international and national well-being frameworks (e.g. UNEP's Inclusive Wealth Framework, Australia, Austria, Japan, Latvia, New Zealand, Scotland and Wales) also include productivity as an important element of the production process, and, indirectly, of economic sustainability as well.

References

Financial Stability Board and International Monetary Fund (2019), *G20 Data Gaps Initiative (DGI-2): The Fourth Progress Report — Countdown to 2021*, Financial Stability Board, Basel, http://fsb.org/2019/10/g20-data-gaps-initiative-dgi-2-the-fourth-progress-report-countdown-to-2021/. [2]

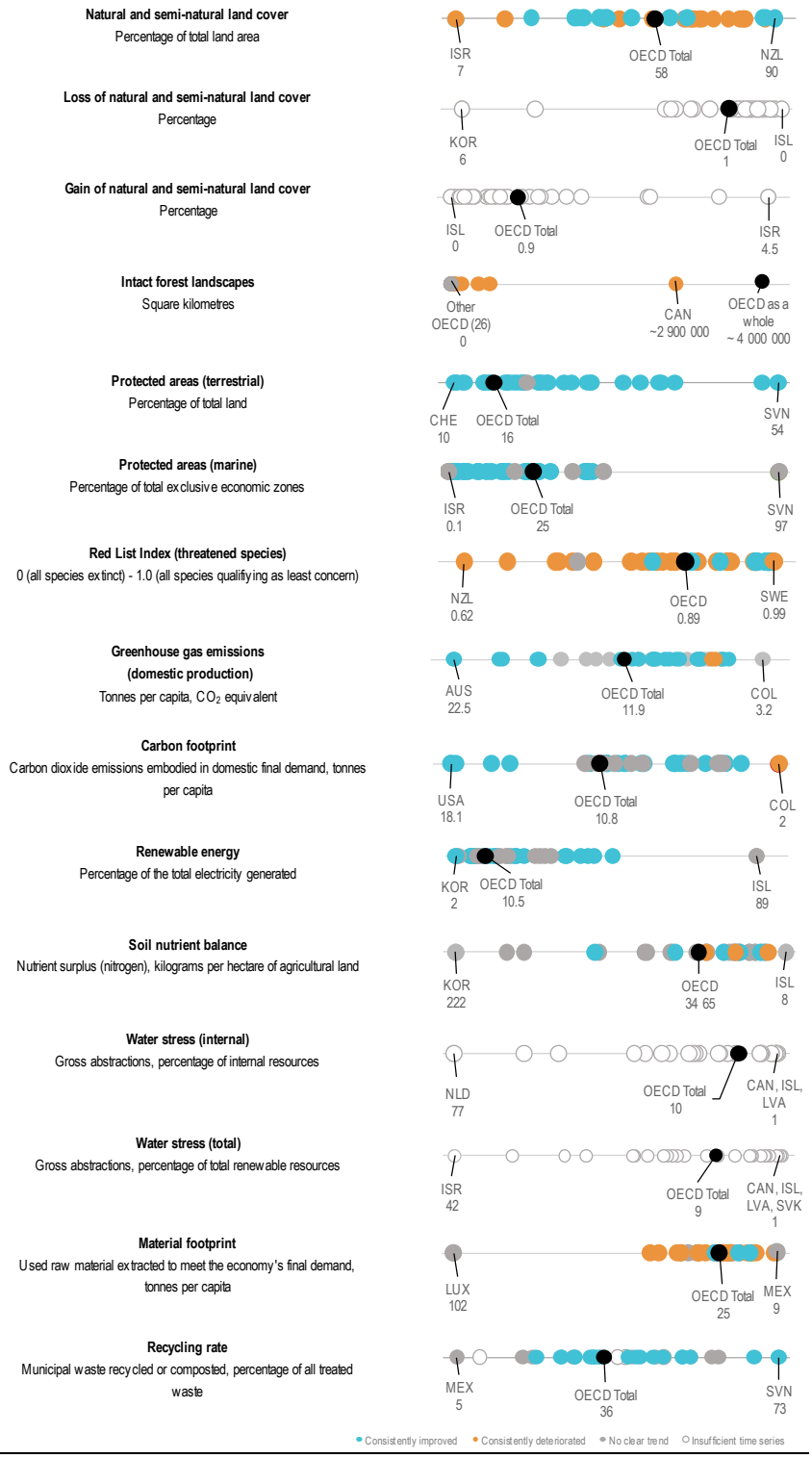
OECD (2013), *How's Life?: Measuring Well-being*, OECD Publishing, Paris, https://doi.org/10.1787/9789264201392-en. [1]

Röhn, O. et al. (2015), "Economic resilience: A new set of vulnerability indicators for OECD countries", *OECD Economics Department Working Papers*, No. 1249, OECD Publishing, Paris, https://doi.org/10.1787/5jrxhgjw54r8-en. [3]

14 Natural Capital

Natural Capital concerns both natural assets (e.g. natural land cover, biodiversity) and ecosystems and their services (e.g. oceans, forests, soil and the atmosphere). This chapter examines stocks and flows into and out of these natural systems, as well as risk and resilience factors affecting them. The share of land covered by natural vegetation ranges from 6% to 90% across OECD countries, and those with the lowest stocks are experiencing some of the greatest losses. More marine and land areas in OECD countries have been given protected status since 2010, but species diversity (measured by the Red List Index) is under greater threat. Total OECD greenhouse gas emissions from production have fallen by 4% since 2010, but on a global level they have increased 1.5 fold since 1990. Renewables play a minor role in most OECD countries' energy mix, and material footprints per capita have increased since 2010.

Figure 14.1. Natural Capital snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2019, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.

Source: *OECD Environment Database*, https://data.oecd.org/environment.htm; *OECD Structural Analysis (STAN) Databases*, https://stats.oecd.org/Index.aspx?DataSetCode=STANI4_2016; *OECD Agriculture Database*, https://data.oecd.org/fr/agriculture.htm; *UN DESA Global SDG Indicator Database*, indicator 15.5.1, http://unstats-undesa.opendata.arcgis.com/datasets/indicator-15-5-1-red-list-index-2/data?orderBy=seriesCode.

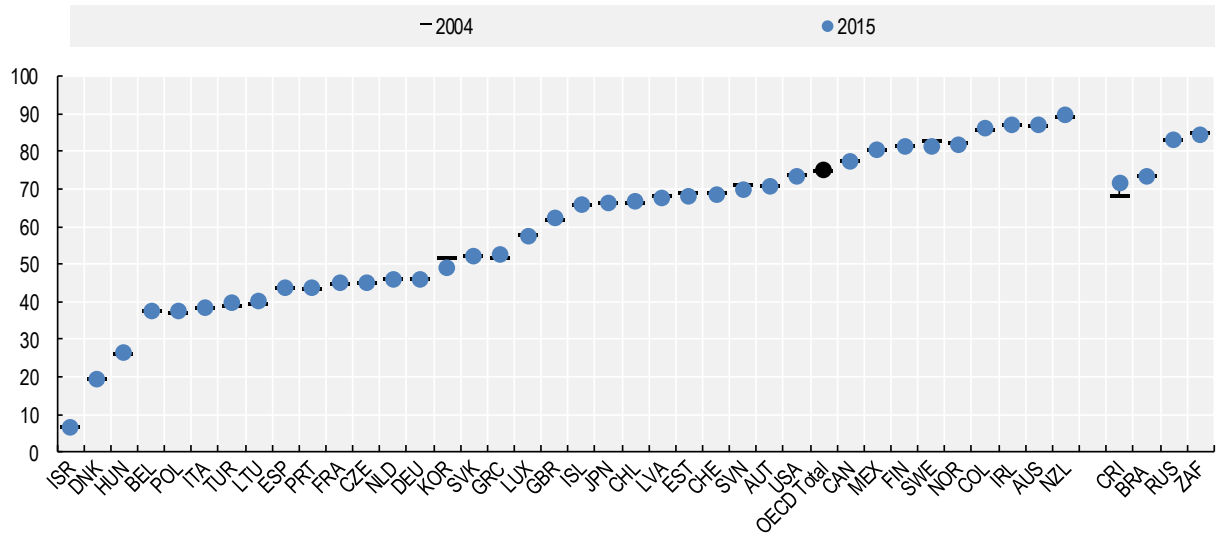
Biological resources and biodiversity

Loss of biodiversity and pressures on ecosystem services are among the most pressing global environmental challenges, with changes in land cover and land use as leading contributors. Worldwide, 2.7% of natural or semi-natural vegetated land (i.e. tree-covered areas, grassland, wetland, shrubland and sparse vegetation) has been lost to other land cover types since 1992. This represents an area twice the size of Spain. OECD and G20 countries account for over half of this loss, which occurred primarily in Brazil, the People's Republic of China, the Russian Federation, the United States and Indonesia (OECD, 2019[1]).

Across the OECD, 75% of land in 2015 was covered by natural or semi-natural vegetation. This share ranges from below 30% in Israel, Denmark and Hungary to above 85% in Colombia, Ireland, Australia and New Zealand (Figure 14.2). Between 2004 and 2015, the total land covered by natural and semi-natural vegetation in OECD countries remained stable. Nevertheless, in addition to changes in the net stock of natural land cover, it is also important to consider losses and gains separately, as losses can involve damage to habitats rich in biodiversity (e.g. loss of primary or old-growth forest) that may not be compensated by gains in semi-natural areas that are poor in biodiversity. Korea, Israel, Portugal and Slovenia have experienced natural land cover losses of more than 2% since 2004 (Figure 14.3). With the exception of Slovenia, these are all countries where stocks are already below the OECD average.

Figure 14.2. The stock of natural land cover in OECD countries ranges from 6% to 90%

Natural and semi-natural vegetated land cover as a percentage of total land area

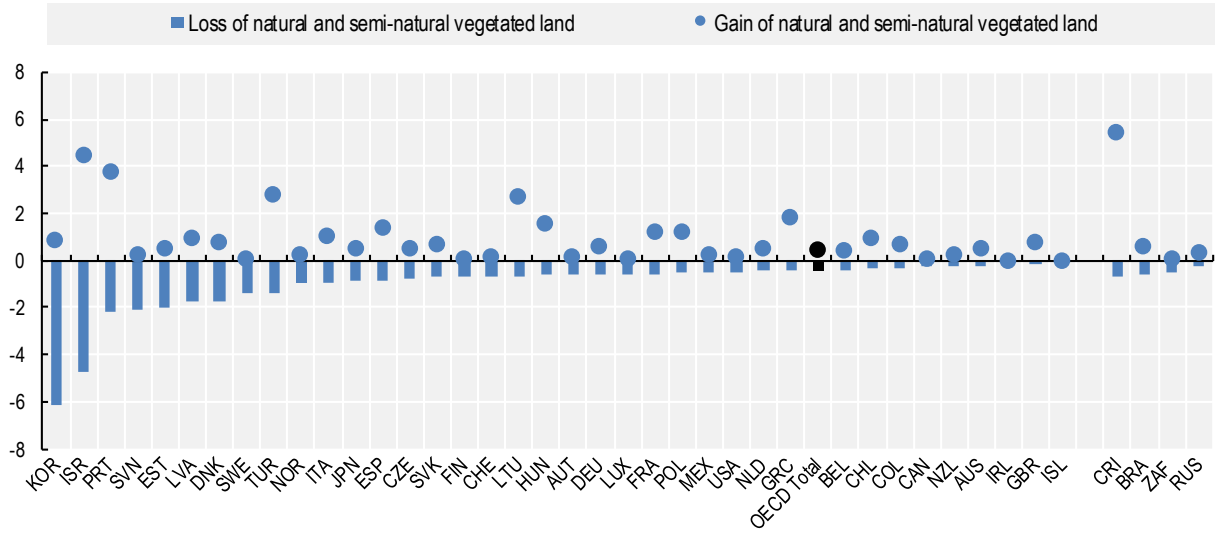


Note: The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Land cover in countries and regions* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LAND_COVER.

StatLink https://doi.org/10.1787/888934082613

Figure 14.3. Natural land losses have been largest in Korea, Israel, Portugal, Slovenia and Estonia

Intensity of conversion to and from natural and semi-natural vegetated land, percentage, 2004-2015



Note: The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Land cover change in countries and regions* (database), https://stats.oecd.org/Index.aspx?DataSetCode=LAND_COVER_CHANGE.

StatLink https://doi.org/10.1787/888934082632

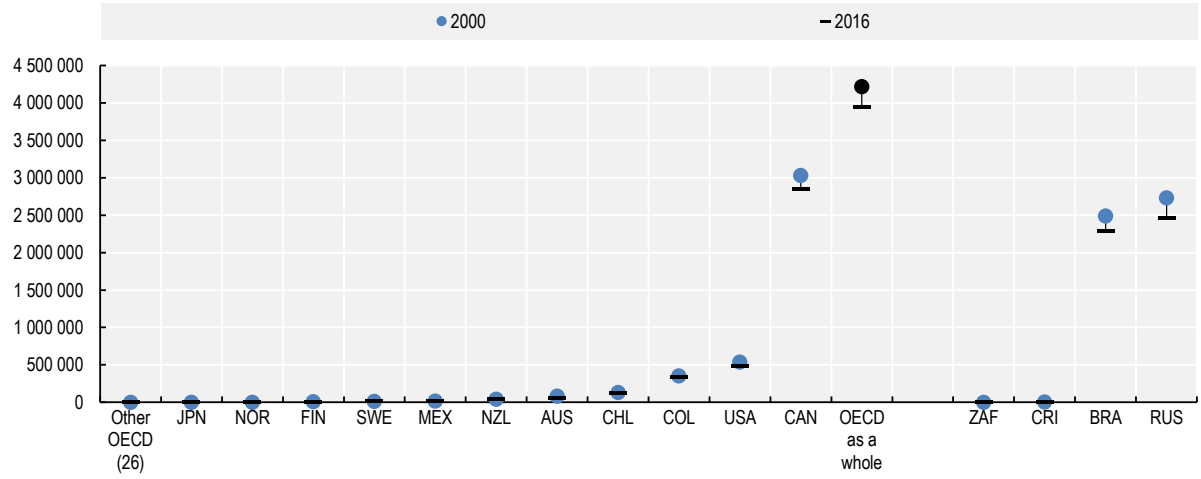
High-level indicators of land cover do not provide information about the specific biodiversity value of areas lost and gained. Intact forest landscapes represent one example of a very high-value ecosystem: unbroken expanses of natural ecosystems with no remotely detected signs of human activity, and large enough that all native biodiversity could be maintained (see Box 14.1). Only 11 OECD countries have any intact forest landscapes remaining – and just 3 of the countries shown in Figure 14.4 (Russian Federation, Brazil and Canada) accounted for nearly two-thirds of the world's intact forest landscape area in 2000 (Potapov et al., 2017[2]).

Between 2000 and 2016 the OECD total intact forest area fell (i.e. was degraded) by 6%. This represents a degradation of 263 600 square kilometres – an area larger than the size of the United Kingdom (Figure 14.4). Among OECD countries, the greatest degradation (in percentage terms) in that period occurred in Australia (-34.4%), the United States (-9.1%), Canada (-5.8%) and Mexico (-4.6%). By contrast, losses were 1% or less in Norway and Finland, and zero in Japan. Since 2010, the intact forest area also fell by 10% in the Russian Federation, 8% in Brazil, and 3.1% in Costa Rica.

Policy efforts to conserve biodiversity include establishing protected areas. On land, these range from strict natural reserves and wilderness areas to national parks, protected landscapes/seascapes and habitat or species management areas; at sea, they range from strict marine reserves and no-take zones (marine "sanctuaries") to looser marine protected area networks. Protected areas today cover on average 16% of land (Figure 14.5) and 25% of marine areas in the OECD (Figure 14.6), up from 13.5% in 2010 for both indicators. Between 2010 and 2019, the share of protected marine areas has doubled in 10 OECD countries (Canada, Portugal, Spain, Sweden, Mexico, Lithuania, the United Kingdom, Chile, Australia and France) and 2 partner countries (South Africa and Brazil). Over the same time period, the share of protected terrestrial areas increased by at least 1 percentage point in nine OECD countries (Canada, Colombia, New Zealand, Belgium, Germany, Slovak Republic, Norway, Australia and Luxembourg).

Figure 14.4. Only 11 OECD countries have intact forest landscapes, with a 6% total degradation since 2000

Intact forest landscapes, square kilometres

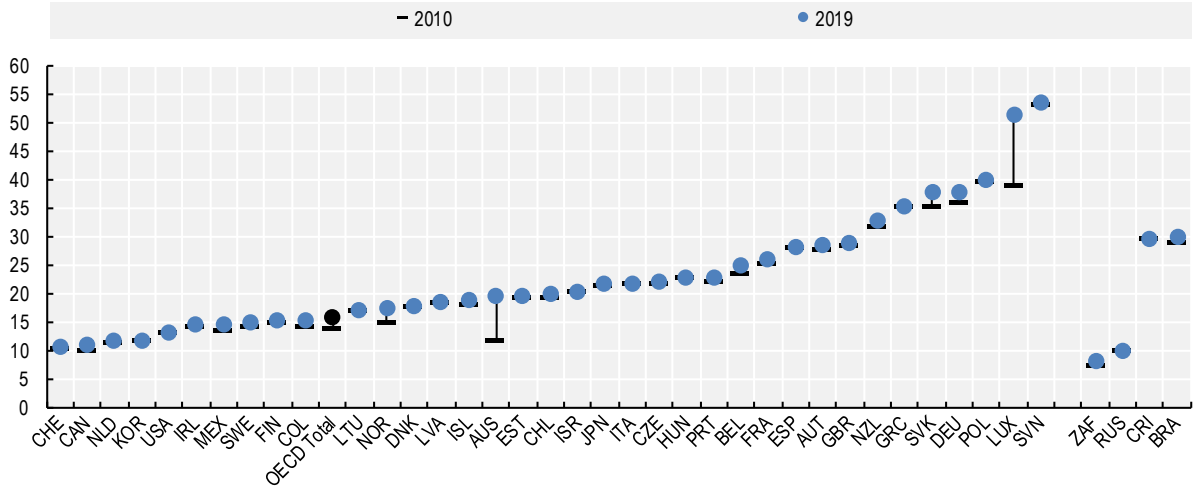


Note: "Other OECD (26)" refers to the 26 OECD countries that have no intact forest landscapes. The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Intact Forest Landscapes* (database), based on (Potapov et al., 2017[2]), https://stats.oecd.org/Index.aspx?DataSetCode=INTACT_FOREST_LANDSCAPES.

StatLink https://doi.org/10.1787/888934082651

Figure 14.5. 16% of OECD countries' terrestrial area is designated as protected land

Terrestrial protected areas, as a share of total land area



Note: The OECD Total excludes Turkey, as no data are available, and Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Protected areas* (database), https://stats.oecd.org/Index.aspx?DataSetCode=PROTECTED_AREAS.

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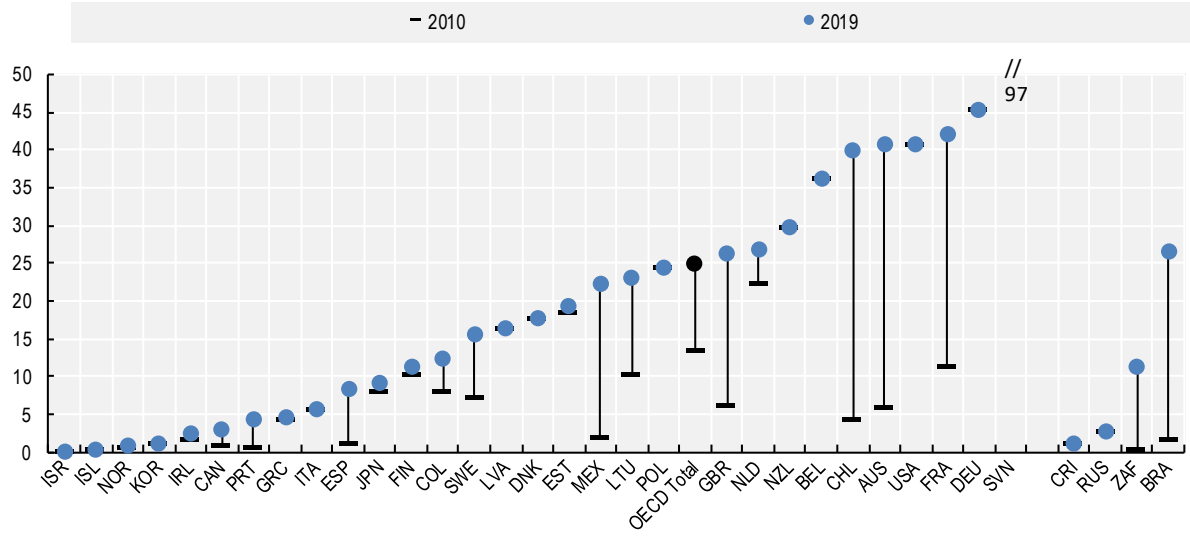
Figure 14.6. Ten OECD countries have doubled their share of protected marine areas since 2010

Marine protected areas, as a share of each country's exclusive economic zone



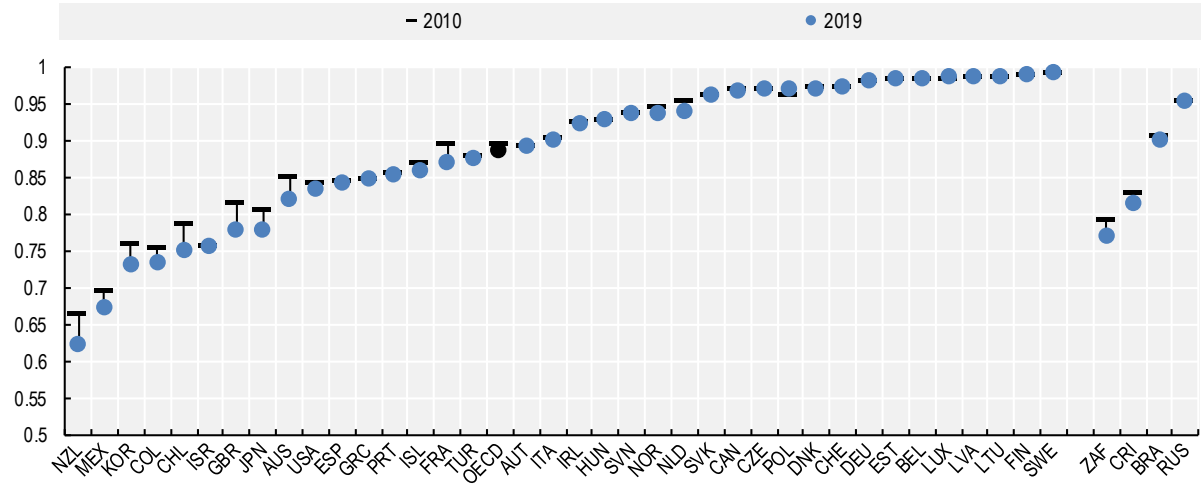
Note: The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: Source: *OECD Protected areas* (database), https://stats.oecd.org/Index.aspx?DataSetCode=PROTECTED_AREAS.

StatLink https://doi.org/10.1787/888934082689

Threatened species provide another insight into biodiversity risks. The Red List Index (which considers the combined extinction risk for birds, mammals, amphibians, cycads and corals) for OECD countries has declined marginally, on average, since 2010 (Figure 14.7). The largest declines have generally occurred in countries with already high "at-risk" rates – including New Zealand, Mexico, Korea, Colombia, Chile, the United Kingdom, Japan, Australia and France.

Figure 14.7. The Red List Index has worsened in countries with the greatest biodiversity pressures

Red List Index, where 1.0 = all species qualifying as "Least Concern"; 0 = all species having gone extinct



Note: The Red List Index is a combined indicator of extinction risk for birds, mammals, amphibians, cycads and corals. An RLI value of 1.0 equates to all species qualifying as Least Concern (i.e. not expected to become extinct in the near future). An RLI value of 0 equates to all species having gone extinct.
Source: *UN DESA Global SDG Indicator Database*, indicator 15.5.1, http://unstats-undesa.opendata.arcgis.com/datasets/indicator-15-5-1-red-list-index-2/data?orderBy=seriesCode.

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Climate change

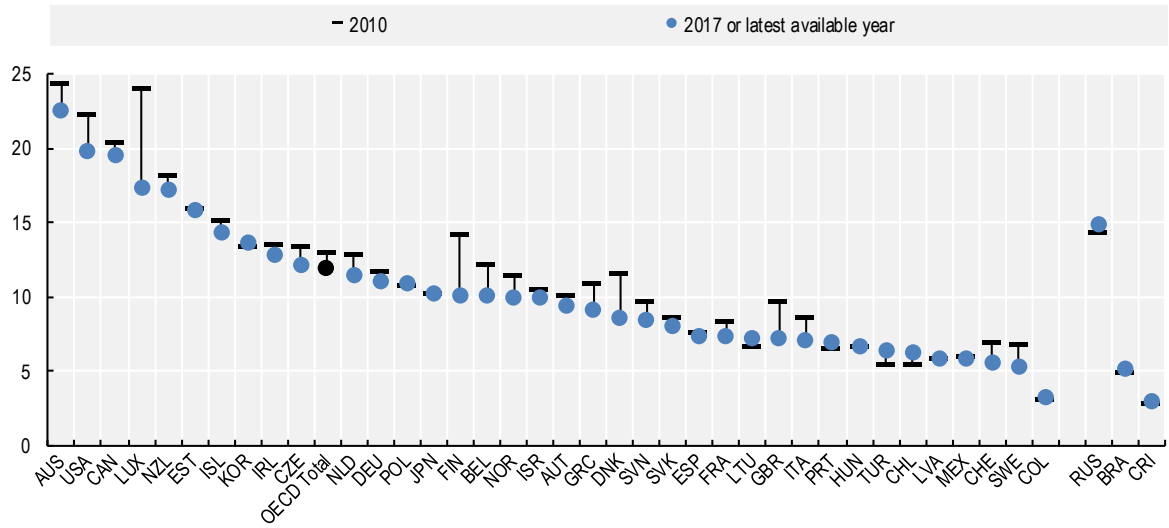
Climate change poses a formidable threat to future well-being. Global greenhouse gas (GHG) emissions have increased 1.5 fold since 1990 (OECD, 2019[1]). A recent acceleration in global energy consumption caused CO_2 emissions from energy use to rise by 1.7% in 2018, hitting a new record (IEA, 2019[3]). Total greenhouse gas concentrations in the atmosphere have risen from 427 parts per million (ppm) CO_2 equivalent in 2010, to 449 ppm in 2016 (European Environment Agency, 2019[4]), a nearly 30% increase since 1980. To have a 50% probability of limiting the increase in global mean temperature to 1.5°C above pre-industrial levels, it is estimated that peak concentration levels should not exceed 478 ppm, a level that (based on current trends) could be reached within the next 5 to 16 years (European Environment Agency, 2019[4]). Ocean acidification is a further risk associated with carbon emissions: the ocean absorbs around 30% of the CO_2 that is released in the atmosphere, and in the last 200 years or so, the acidity of the ocean is estimated to have risen by 30% (National Oceanic and Atmospheric Administration, 2019[5]).

Total OECD GHG emissions from domestic production fell by 4.3% between 2010 and 2017 – though they have stabilised in recent years, and could rise again in future due to recent increases in energy use and CO_2-related emissions (OECD, 2019[1]). On a per capita basis, OECD average GHG emissions have fallen by around one tonne, from 12.9 in 2010, to 11.9 in 2017. Nevertheless, the rate of progress in reducing emissions varies significantly across individual OECD countries (Figure 14.8). Some countries with relatively high GHG emissions per capita have reduced these substantially since 2010 (e.g. by 28% in Luxembourg, 11% in the United States, 7% in Australia), but some countries with more moderate emissions also experienced substantial falls (e.g. by more than 25% in Finland, the United Kingdom, Denmark and Sweden). Per capita GHG emissions increased in two countries where their levels are already high (by 2.6% in Korea and 3.3% in the Russian Federation), as well as in Portugal (5.7%), Lithuania (8.1%), Chile (14%) and Turkey (18%) - where per capita emissions still remain among the lowest in the OECD.

The carbon footprint of a country reflects CO_2 embodied in its external trade, and focuses on the emissions associated with final demand for goods and services in the domestic economy (which, due to imports and exports, can differ from production-based emissions, shown above). The per capita carbon footprint in OECD countries has fallen from 11.8 tonnes in 2010 to 10.8 tonnes in 2015 (Figure 14.9). Here again, some of the largest falls have occurred in countries with the largest initial footprints, but some countries with more moderate carbon footprints have also achieved substantial falls.

Figure 14.8. Per capita greenhouse gas emissions have fallen since 2010 for the OECD on average

Total emissions from domestic production, excluding emissions from land use, land-use change and forestry (LULUCF), tonnes per capita, CO_2 equivalent



Note: Latest available year is 2016 for Chile, Israel and Korea, 2015 for Mexico, 2014 for Colombia and 2012 for Brazil and Costa Rica. The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Greenhouse gas emissions* (database), https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG.

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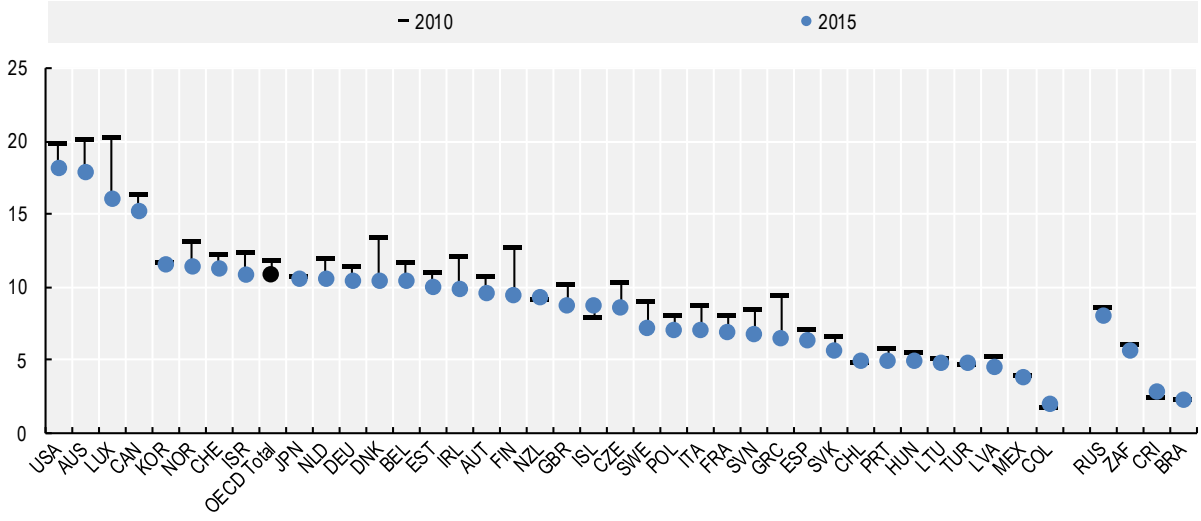
Figure 14.9. The OECD average carbon footprint per capita has fallen since 2010

Carbon dioxide emissions embodied in final domestic demand, tonnes per capita



Note: The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Carbon dioxide emissions embodied in international trade* (database), https://stats.oecd.org/Index.aspx?DataSetCode=IO_GHG_2019.

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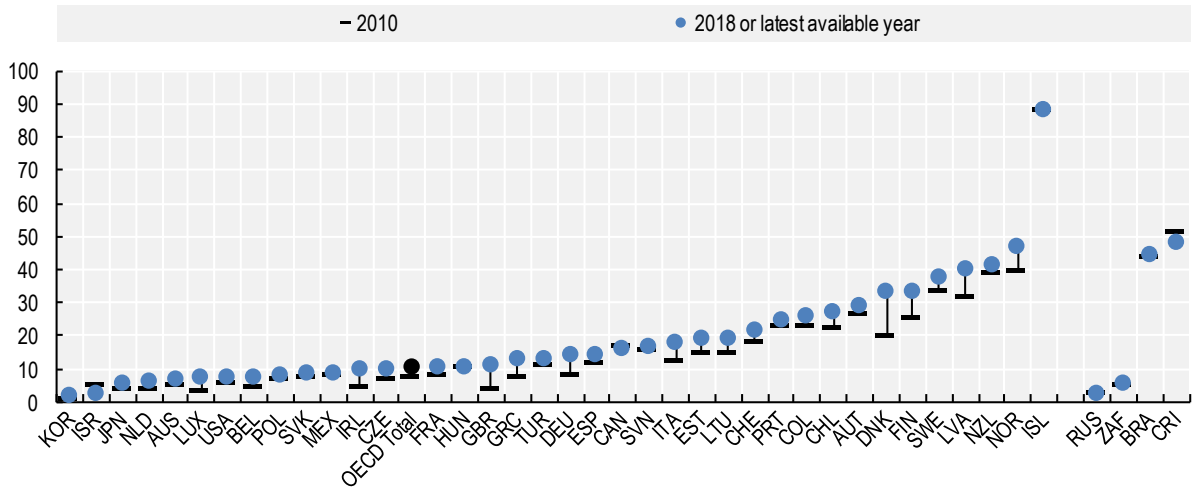
Reducing carbon emissions from burning fossil fuels requires a change in energy production. Across OECD countries, only 10.5% of the total primary energy supply comes from renewable sources (Figure 14.10). For some of the OECD's smaller countries such as Iceland, Norway, Latvia and New Zealand, renewables make up around 40% or more. Between 2010 and 2018 the share of renewables in the OECD energy mix increased by 2.6 percentage points. Gains of more than 7 percentage points were observed in Denmark, Finland, Latvia, the United Kingdom and Norway – several of which had a comparatively high share of renewable energy already in 2010. By contrast, in the 15 OECD countries where renewables constitute less than 10% of the energy supply, there has been a mix of improvement, stability and, in one case, a fall in the share of renewables in the energy mix.

Figure 14.10. Renewables still play only a minor role in most OECD energy mixes

Renewable energy, as a share of the total primary energy supply



Note: The latest available year is 2017 for Colombia, Costa Rica, the Russian Federation and South Africa. The OECD Total excludes Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Green Growth Indicators: Environmental and resource productivity* (database), https://stats.oecd.org/index.aspx?queryid=77867.

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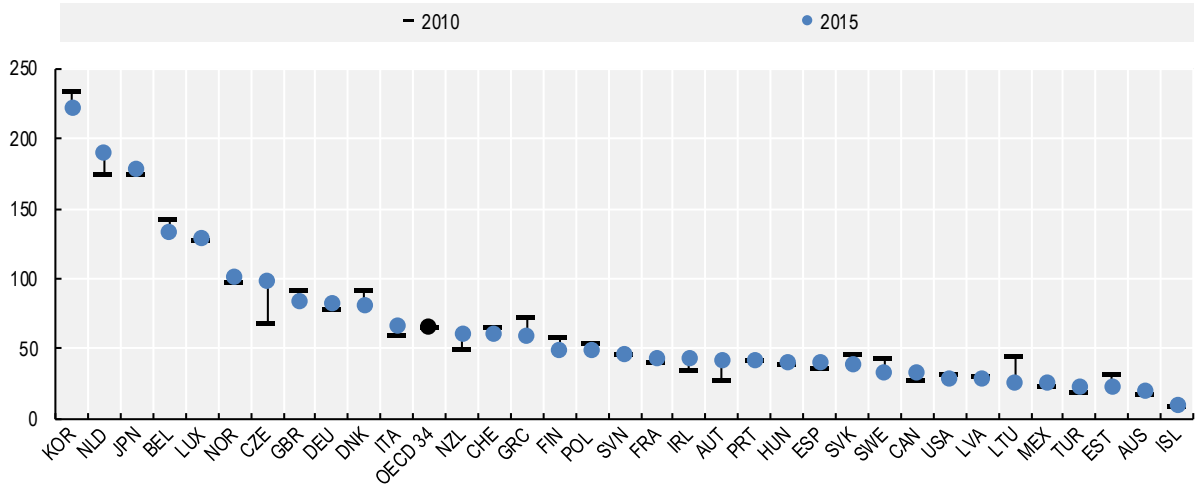
Soil quality and freshwater resources

A surplus of nitrogen inputs from agriculture adds to pollution pressures on water, soil and air. Despite an overall reduction between 1990 and 2009 (OECD, 2013[6]), the annual soil nitrogen balance of agricultural land has increased since 2010 in several OECD countries (Figure 14.11). Nearly two-thirds of OECD countries had an annual national nitrogen surplus in excess of 40 kgN/ha in 2015. Values are particularly high in several northern European countries, as well as Korea and Japan.

Water use is placing resources under stress in several OECD countries. Annual water use represents more than 20% of internal water resources in close to one-third of OECD countries; in several cases, water use as a share of total renewable resources (including inflows from neighbouring countries) is not far behind (Figure 14.12).

Figure 14.11. A surplus of nitrogen risks adding to pollution pressures on water, soil and air

Soil nitrogen balance per hectare of agricultural land, kilograms



Note: The gross nitrogen balance (surplus or deficit) is the difference between the nitrogen inputs entering a farming system (i.e. mainly livestock manure and fertilisers) and the nitrogen outputs leaving the system (i.e. the uptake of nitrogen for crop and pasture production). The OECD average excludes Chile, Colombia and Israel, due to a lack of available data.
Source: *OECD Agri-Environmental indicators: Nutrients* (database), https://stats-2.oecd.org/Index.aspx?DataSetCode=AEI_NUTRIENTS.

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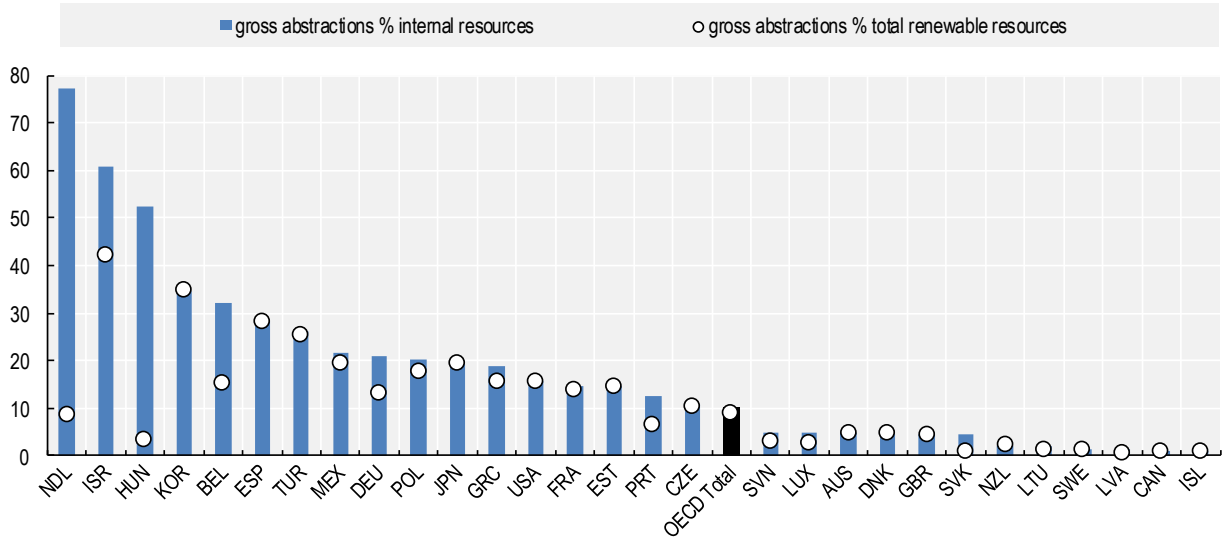
Figure 14.12. One-third of OECD countries use more than 20% of their internal water resources

Annual gross abstraction rates, as a percentage of resources, 2016 or latest available year



Note: Definitions and estimation methods employed by countries may vary considerably; see figure source for further details. The latest available year is 2016 for Germany, Denmark, Spain, France, Greece, Hungary, Israel, Korea, Luxembourg, the Netherlands and Turkey; 2015 for Belgium, Canada, Japan, Sweden and the United States; and 2014 for the United Kingdom (which refers to England and Wales only), Iceland, and New Zealand. The OECD Total is an OECD Secretariat estimate and excludes Chile and Colombia.
Source: *OECD Freshwater abstractions (million m^3)* (database), https://stats.oecd.org/Index.aspx?DataSetCode=WATER_ABSTRACT.

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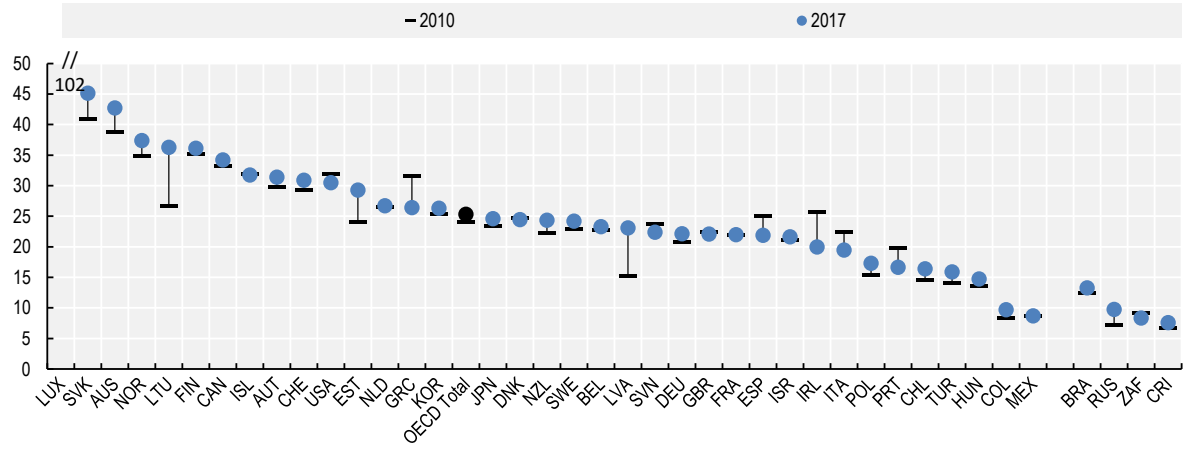
Waste and materials

Material footprint refers to the total volume of raw materials extracted to meet domestic demand. On a per capita basis, this footprint has increased in two-thirds of OECD countries between 2010 and 2017 (Figure 14.13). The largest increases (of 3 tonnes or more) were recorded in Lithuania, Latvia, Estonia, the Slovak Republic and Australia – countries with footprints above the OECD average. By contrast, several OECD countries with below-average footprints bucked the overall trend: this includes Italy, Spain, Portugal, Greece and Ireland, where material footprints fell by more than 3 tonnes per capita since 2010.

Figure 14.13. Material footprint per capita continues to rise in most OECD countries

Material footprint per capita, tonnes



Note: The material footprint refers to the global allocation of used raw material extracted to meet the final demand of the economy. The OECD Total excludes the Czech Republic, as no data are available, and Colombia, as it was published prior to Colombia joining the OECD.
Source: *OECD Material resources* (database), https://stats.oecd.org/Index.aspx?DataSetCode=MATERIAL_RESOURCES.

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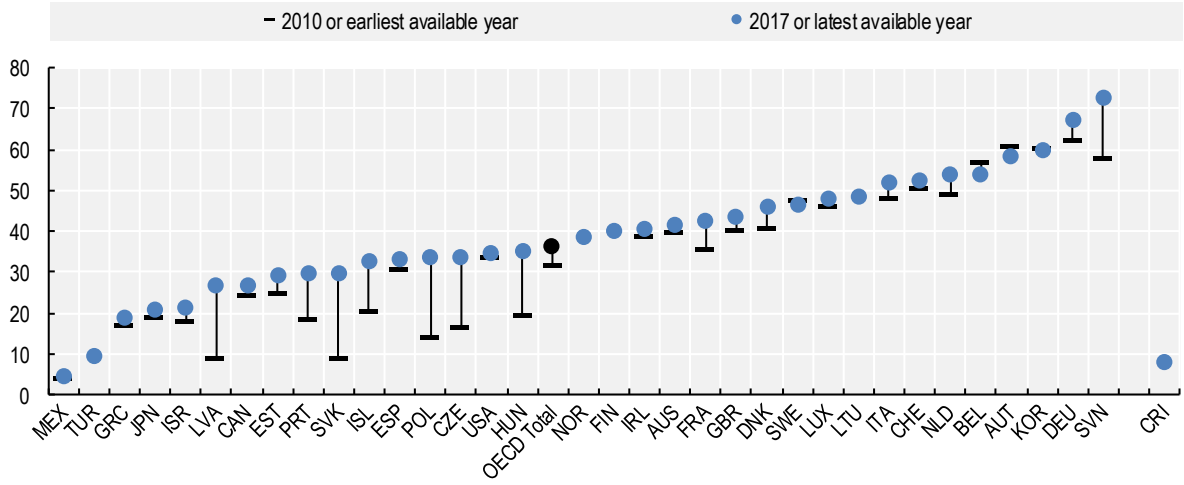
Waste also adds to pressure on the natural environment. Municipal waste recycling and composting rates improved for the majority of OECD countries between 2010 and 2017 (Figure 14.14). In around one-third of members, this rate increased by 5 percentage points or more. However, recycling rates declined by more than 2 percentage points in Belgium and Austria – although both countries are still ranked among the top 5.

Figure 14.14. Municipal waste material recovery rates have improved since 2010 in over half of all OECD countries

Municipal waste recycled or composted, as a share of treated waste



Note: Latest available year refers to 2016 for Canada, Iceland, Ireland, Japan and Korea; 2015 for Australia; and 2012 for Mexico. Earliest available year refers to 2015 in Italy. The OECD Total is an OECD Secretariat estimate based on incomplete data.
Source: *OECD Municipal waste, Generation and Treatment* (database), https://stats.oecd.org/Index.aspx?DataSetCode=MUNW.

StatLink https://doi.org/10.1787/888934082841

Box 14.1. Measurement and the statistical agenda ahead

Natural Capital consists of naturally occurring assets and ecosystems, from tradable items such as minerals and timber through to oceans and the atmosphere. The scope of Natural Capital is vast: indicators selected for this chapter represent a small headline set of all the possible stocks, flows, and risk and resilience factors of relevance (Exton and Fleischer, 2020[7]). The indicators shown here (Table 14.1) reflect several categories of environmental assets identified in the System of Environmental and Economic Accounting (SEEA) Core Framework: land, soil resources, water resources, mineral and energy resources. In addition, they feature data on emissions into the air (which impact on climate regulation through atmospheric concentrations of greenhouse gases) as well as aspects of ecosystems and biodiversity, key indicators from the OECD's *Green Growth Strategy* (OECD, 2017[8]) and a selection of data from *Environment at a Glance* (OECD, 2019[1]).

Table 14.1. Natural Capital indicators considered in this chapter

Indicator	Unit of Measurement	Stock	Flow	Risk factor	Resilience factor
Biological resources and biodiversity					
Natural and semi-natural land cover (losses and gains reported separately)	Natural and semi-natural vegetated land cover (tree-covered area, grassland, wetland, shrubland and sparse vegetation) as a percentage of total land area	✓			
Intact forest landscapes	Square kilometres	✓			
Protected áreas – terrestrial	Percentage of total land that has been designated as protected	✓			
Protected areas – marine	Percentage of total exclusive economic zones that have been designated as protected	✓			
Threatened species (Red List Index)	Combined indicator of extinction risk for birds, mammals, amphibians, cycads and corals. A value of 1.0 equates to all species qualifying as Least Concern (i.e. not expected to become extinct in the near future). A value of 0 equates to all species having gone extinct.			✓	
Climate change					
Greenhouse gas emissions from domestic production	Total greenhouse gas emissions from domestic production, excluding those from land use, land-use change and forestry (LULUCF), tonnes per capita, CO_2 equivalent			✓	
Carbon footprint	Carbon dioxide emissions embodied in domestic final demand, tonnes per capita			✓	
Renewable energy	Renewable energy as a percentage of total primary energy supply				✓
Soil quality and freshwater resources					
Soil nutrient balance	Nutrient surplus (nitrogen), kilograms per hectare of agricultural land			✓	
Water stress (internal resources)	Gross abstractions as a percentage of internal resources			✓	
Water stress (total renewable resources)	Gross abstractions as a percentage of total renewable resources			✓	
Waste and materials					
Material footprint per capita	Used raw material extracted to meet the final demand of the economy, tonnes per capita		✓		
Municipal waste recycled or composted	Municipal waste recycled or composted as a percentage of all treated waste				✓

Natural and semi-natural land cover is defined as the percentage of total land area composed of tree cover, grassland, wetland, shrubland and sparse vegetation. **Loss (gain) of natural and semi-natural vegetated land** is the percentage of tree cover, grassland, wetland, shrubland and sparse vegetation converted to (from) any other land cover type (e.g. agricultural, built-up area). The denominator used is the "stock" of natural and semi-natural land at the start of the reference period. Land cover change data are obtained from the Land Cover Change in Countries and Regions dataset of the *OECD Environment Database*. For full details of the methodology, see (Haščič and Mackie, 2018[9]).

Intact forest landscape refers to an unbroken expanse of natural ecosystem within the current forest extent, with no remotely detected signs of human activity, and large enough that all native biodiversity, including viable populations of wide-ranging species, could be maintained (Potapov et al., 2017[2]). These forests are defined as larger than 500 km^2 and wider than 10 km, and must be free of settlements or infrastructure and unaffected by industrial activity, agricultural clearing or other anthropogenic disturbance in the last 70 years. Treeless areas within these forests such as lakes, ice or patches of grassland are included. Identification of intact forest landscapes is based on a map of global forests, with all the forest patches that do not meet the criteria above excluded through visual identification of disturbance using satellite images and other sources of information like thematic maps (roads, settlements, etc.). Data are sourced from the *OECD Environment Statistics Database*: Land Resources, and based on (Potapov et al., 2017[2]).

Protected areas refer to the share of total land (in the case terrestrial areas) and of total exclusive economic zones (in the case of marine areas) that have been designated as protected using national, regional (e.g. the European Natura 2000 networks) or international frameworks (e.g. Wetlands of International Importance, known as Ramsar sites). They include strict natural reserves, wilderness areas, national parks, natural monuments, habitat/species management areas, protected landscapes/ seascapes, and protected areas with sustainable use of natural resources. Data are drawn from the *OECD Environment Statistics Database*: Biodiversity. Calculations are based on the *World Database on Protected Areas (WDPA)*, which is maintained by the International Union for Conservation of Nature and UNEP's World Conservation Monitoring Centre. For full details of the methodology, see (Mackie et al., 2017[10]).

Threatened species – The Red List Index shows trends in the overall extinction risk of species within a country. It is a combined indicator of extinction risk for birds, mammals, amphibians, cycads and corals. A value of 1.0 implies that all species qualify as Least Concern (i.e. not expected to become extinct in the near future), while a value of 0 equates to all species having gone extinct. Data are sourced from the *UN DESA Global SDG Indicator Database*, and are based on IUCN Red List of Threatened Species data.

Greenhouse gas emissions from domestic production are total per capita greenhouse gas emissions (GHG) from domestic production, excluding those from land use, land-use change and forestry (LULUCF), in tonnes per capita, CO_2 equivalent. This indicator concerns man-made emissions of six different gases: carbon dioxide (CO_2, including emissions from energy use and industrial processes, e.g. cement production); methane (CH_4, including methane emissions from solid waste, livestock, mining of hard coal and lignite, rice paddies, agriculture and leaks from natural gas pipelines); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6). Emissions of each type of gas are weighted by their "warming potential" and expressed in tonnes per capita of CO_2 equivalent. The data, which form part of the *OECD Environment Statistics Database,* are compiled on the basis of National Inventory Submissions 2014 to the *United Nations Framework Convention on Climate Change* (UNFCCC) and of replies to the OECD State of the Environment Questionnaire.

Carbon footprint is an estimate of the total per capita emissions of carbon dioxide (CO_2) associated with domestic consumption, including both CO_2 emitted and consumed domestically and CO_2 emitted abroad and embodied in imports. Emissions embodied in the domestic consumption of a country increase global GHG concentrations even when there are no increases in emissions from domestic production. This indicator is derived from the 2015 edition of the *OECD Inter-Country Input-Output (ICIO) database*, combined with IEA statistics on CO_2 emissions from fuel combustion and other industry statistics. The data, which form part of the *OECD Structural Analysis Databases,* are compiled according to the methodology detailed in (Wiebe and Yamano, 2016[11]).

Renewable energy supply refers to the percentage of the total primary energy supply (TPES) from renewable sources. Renewables include hydro, geothermal, solar (thermal and PV), wind and tide/wave/ocean energy, as well as renewables from the combustion of solid biomass, liquid biomass, biogas and renewable municipal waste. TPES comprises production, plus imports, less exports, less energy in international marine bunkers and international aviation bunkers, plus changes in energy stocks. The underlying data on "renewables and waste energy supply" are obtained from the World - Renewable and Waste Energy Statistics dataset of the *IEA Renewables Information Statistics Database*. Data on Total Primary Energy Supply (TPES) are obtained from the *IEA database on World Energy Statistics and Balances*. The estimates shown here are drawn from the *OECD Environment Statistics Database*: Green Growth.

Nitrogen balance per hectare is calculated as the difference between the total quantity of nitrogen inputs entering an agricultural system (mainly fertilisers, livestock manure) and the quantity of nitrogen outputs leaving the system (mainly uptake of nutrients by crops and grassland). Gross nitrogen balances are expressed in kg of nutrient surplus (when positive) or deficit (when negative) per hectare of agricultural land. This indicator is used as a proxy to reveal the status of environmental pressures, such as declining soil fertility (in the case of a nutrient deficit) or the risk of polluting soil, water and air (in the case of a nutrient surplus). Nutrient balances are obtained from the Agri-Environmental indicators: Nutrients balance dataset of the *OECD Agriculture and Fisheries Database*.

Water stress is expressed as the ratio of total gross abstractions of freshwater as a percentage of two different measures of the stock of available water resources: *total internal renewable freshwater resources* (precipitation net of evapotranspiration) and *total available renewable freshwater resources* (including inflows from neighbouring countries). Water stress is categorised as either "low" (less than 10%), implying no major stress on the available resources; "moderate" (10-20%), when water availability is becoming a constraint on development and significant investment is needed to provide adequate supplies; "medium-high" (20-40%), requiring management of both supply and demand, and a need to resolve conflicts among competing uses of water; and "high" (more than 40%), indicating serious scarcity and (usually) unsustainable water use, which can become a limiting factor in social and economic development. Data on freshwater abstractions are obtained from the Freshwater Abstractions Dataset from the *OECD Environment Database*. Note that data for the United Kingdom include freshwater abstractions only in England and Wales.

Material footprint is expressed in tonnes per capita, and refers to the global allocation of used raw material extracted to meet the final demand of an economy, thus including materials used in the production of imported products. These data refer to material resources, i.e. materials originating from natural resources that form the material basis of the economy: metals (ferrous, non-ferrous) non-metallic minerals (construction minerals, industrial minerals), biomass (wood, food) and fossil energy carriers. Data on material footprints for OECD countries are sourced from the Material Resources dataset included in the *OECD Environment Database*, which is in turn based on the *UNEP "Environment Live" database*.

Table 14.2. Each of the Natural Capital indicators contribute to the overall picture

Bivariate correlation coefficients among the Natural Capital indicators

	Natural land cover	Loss of natural land	Gain of natural land	Intact forest landscapes	Protected areas – terrestrial	Protected areas – marine	Threatened species	GHG emission from production	Carbon footprint	Renewable energy	Soil nutrient balance	Water stress (internal)	Water stress (renewable)	Material footprint
Loss of natural land	**-0.39****													
	(41)													
Gain of natural land	**-0.49*****	**0.33****												
	(41)	(41)												
Intact forest landscapes	**0.28***	-0.17	-0.18											
	(41)	(41)	(41)											
Protected areas – terrestrial	-0.21	-0.08	0.10	-0.21										
	(40)	(40)	(40)	(40)										
Protected areas – marine	0.03	-0.13	-0.26	-0.13	**0.57*****									
	(34)	(34)	(34)	(34)	(34)									
Threatened species	-0.24	-0.13	-0.15	0.16	0.08	0.04								
	(41)	(41)	(41)	(41)	(40)	(34)								
GHG emissions from production	0.24	-0.04	**-0.40****	**0.30***	-0.09	0.05	0.04							
	(40)	(40)	(40)	(40)	(39)	(33)	(40)							
Carbon footprint	0.08	0.06	**-0.37****	0.07	-0.09	0.07	0.11	**0.83*****						
	(41)	(41)	(41)	(41)	(40)	(34)	(41)	(40)						
Renewable energy	**0.28***	-0.18	-0.01	-0.00	-0.05	-0.20	0.04	-0.20	-0.23					
	(41)	(41)	(41)	(41)	(40)	(34)	(41)	(40)	(41)					
Soil nutrient balance	-0.22	**0.40****	-0.15	-0.14	-0.02	-0.11	-0.16	0.10	0.28	**-0.32***				
	(34)	(34)	(34)	(34)	(33)	(27)	(34)	(34)	(34)	(34)				
Water stress (internal)	**-0.57*****	0.23	0.19	-0.16	-0.16	-0.09	-0.08	-0.07	0.01	**-0.40****	**0.44****			
	(33)	(33)	(33)	(33)	(32)	(27)	(33)	(33)	(33)	(33)	(30)			
Water stress (renewable)	**-0.51*****	**0.49*****	0.26	-0.25	-0.09	-0.19	-0.31*	-0.08	0.07	**-0.41****	**0.32***	**0.61*****		
	(34)	(34)	(34)	(34)	(33)	(28)	(34)	(34)	(34)	(34)	(30)	(32)		
Material footprint	-0.00	-0.04	**-0.27***	-0.11	**0.35****	0.07	**0.31****	**0.45*****	**0.60*****	-0.04	0.17	-0.20	-0.19	
	(40)	(40)	(40)	(40)	(39)	(34)	(40)	(39)	(40)	(40)	(33)	(32)	(33)	
Recycling rate	-0.04	0.09	**-0.45*****	-0.13	0.20	**0.55*****	**0.31***	0.17	0.32*	-0.09	**0.33***	0.11	-0.05	0.25
	(35)	(35)	(35)	(35)	(34)	(28)	(35)	(35)	(35)	(35)	(33)	(31)	(31)	(34)

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level; ** indicates they are significant at the p<0.05 level, and *** at the p<0.01 level.

Municipal waste material recovery refers to waste recycled or composted, expressed as a percentage of all waste treated. Recycling is defined as any reprocessing of material in a production process that diverts it from the waste stream, except reuse as fuel. It includes reprocessing both as the same type of product and for different purposes. Direct recycling within industrial plants at the place of generation is excluded. Composting is defined as a biological process that submits biodegradable waste to anaerobic or aerobic decomposition and that results in a product that is recovered. Waste treated includes recycling, composting, incineration and landfill disposal. Waste treatment data are obtained from the Municipal waste – Generation and Treatment dataset of the *OECD Environment Database*.

Correlations among the Natural Capital indicators

The strongest correlations among the Natural Capital indicators are found between greenhouse gas emissions from domestic production, and the carbon footprint (0.8) (Table 14.2). The two measures of protected areas (terrestrial and marine) are also strongly related to one another (0.6), and also to recycling rates (0.6). The two measures of water stress are related (0.6), and countries with a higher share of natural land cover tend to suffer lower rates of water stress (-0.6). Countries with a higher carbon footprint also have a higher material footprint (0.6).

Statistical agenda ahead

More complete country coverage, time series and timely data are needed for several of the indicators in Table 14.1. Other key indicators are missing entirely. Data on the benefits of ecosystem services for human well-being, as well as on species diversity, are particularly poorly covered. Other important gaps include water quality, in terms of both pollution in rivers and lakes and ocean acidification, as well as information about whether resources are being managed sustainably (e.g. fish stocks). In other cases, the existing indicators would benefit from further refinement or complementary information. For example, data on the share of the total primary energy supply from renewables should be complemented with information on the total share of energy from all zero carbon sources. Protected areas are not necessarily sited optimally with respect to biodiversity conservation objectives, and the indicator presented here does not provide any indication of whether protected areas are effectively managed or enforced. An ideal data set on GHG emissions into the air would show the breakdown of different greenhouse gases separately, rather than summing them together in weighted carbon-equivalent terms, since performing this aggregation is challenging when each gas has different atmospheric effects. Total fertiliser inputs should be used to complement data on soil nutrient (nitrogen) balance. Recycling and composting would ideally cover all households and industries, not just material recovery of treated municipal waste. Data on natural disasters may also be relevant for inclusion.

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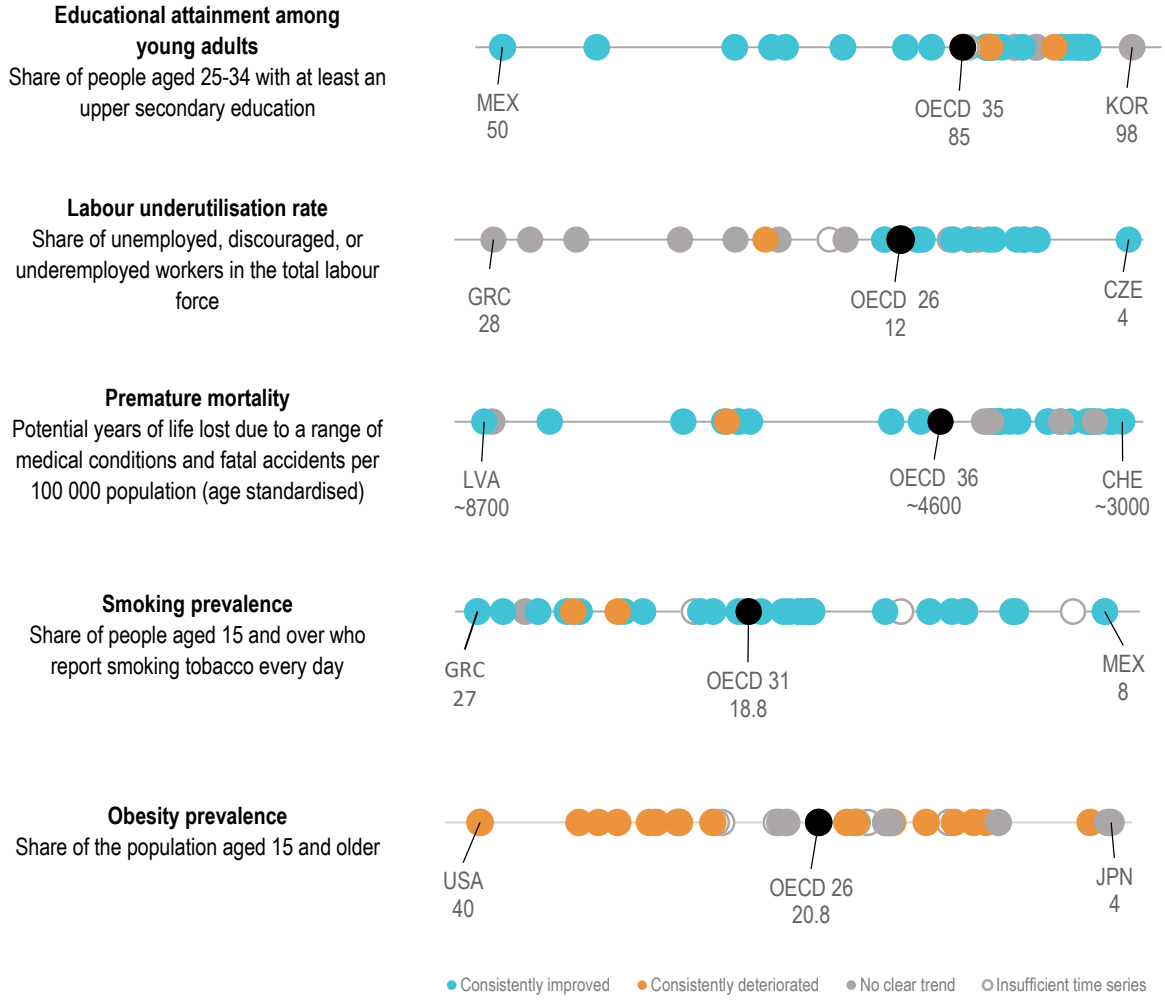
15 Human Capital

Human Capital refers to the knowledge, competencies, skills and health status of individuals, which are viewed here from the perspective of their contribution to future well-being. The performance of OECD countries regarding human capital is mixed. While progress has been made in raising the educational attainment of the youth population, large gaps between countries remain. Labour market underutilisation, which poses risks to human capital through the degradation of skills, has improved since 2010 for most OECD countries. Only one country experienced an increase in premature mortality over the past decade. In terms of risk to future health status, smoking prevalence has declined steadily since 2005 in all but two OECD countries. However, obesity remains a major risk to human capital, with the large majority of OECD countries experiencing rising obesity rates over that same period.

Figure 15.1. Human Capital snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, no clear or consistent change in grey and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.
Sources: *OECD Educational attainment and labour-force status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=EAG_NEAC; *OECD Household Dashboard* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HH_DASH and *OECD Health Status* (database), https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT.

Educational attainment among young adults

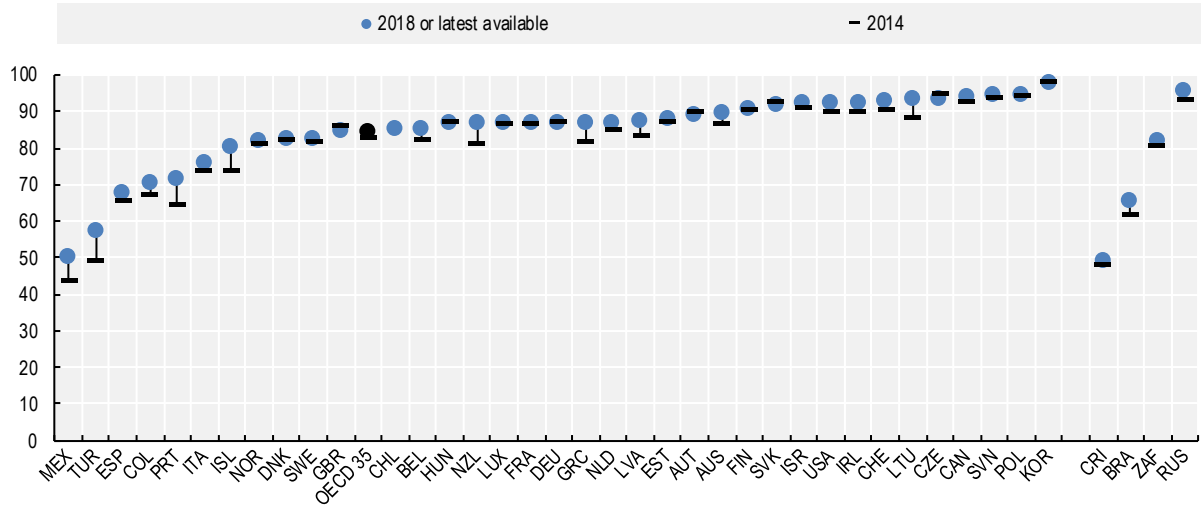
Educational attainment among young adults reflects the stock of knowledge and skills likely to be available to future generations. The share of young adults (aged 25 to 34) with at least an upper secondary education has been rising for the majority of OECD countries over the past four years (Figure 15.2). The OECD average rate was 84.9% in 2018, ranging from over 95% in Korea and the Russian Federation to less than 70% in Turkey, Spain and Colombia, and 50% in Mexico.

Since 2014, the OECD average upper secondary attainment rate for young adults has increased by 2 percentage points. Some of the largest improvements occurred in countries furthest behind the OECD average in 2014, thus narrowing the attainment gap between countries. For example, Turkey gained

7.7 percentage points, Portugal 6.9 and Iceland 6.8. By contrast, the largest falls occurred in the United Kingdom (by around 1.3 percentage points), followed by Austria (1.1).

Figure 15.2. The educational attainment of young adults is rising in most OECD countries

Share of people aged 25-34 with at least an upper secondary education, percentage



Note: The latest available data is 2018 for all countries, except for Brazil, Chile, Israel and the Russian Federation (2017). The OECD average does not include Chile or Japan, giving missing data and/or incomplete time series for these countries. 2014 is used as the base year, as opposed to 2010, due to changes in education classification in 2014 for 19 OECD countries.
Source: *OECD Educational attainment and labour-force status* (database), http://stats.oecd.org/Index.aspx?DataSetCode=EAG_NEAC and Russian Federal State Statistics Service (Rosstat).

StatLink https://doi.org/10.1787/888934082860

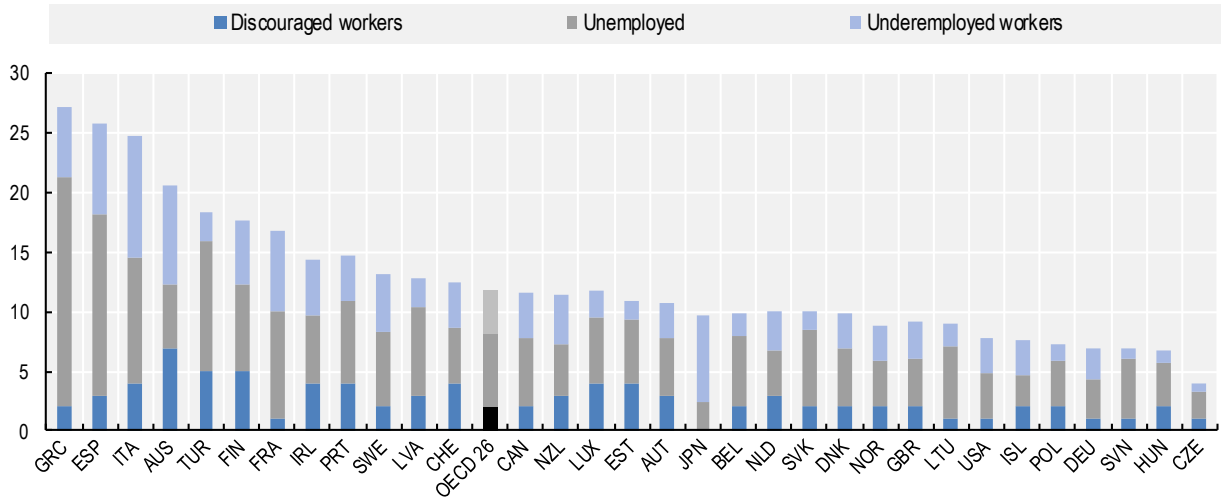
Labour underutilisation rate

The labour underutilisation rate describes the share of the labour force that is either unemployed, underemployed (e.g. those who are involuntarily working part-time) or discouraged (i.e. persons not in the labour force who wish to and are available to work, but who did not actively seek work in the previous four weeks). It therefore provides a wider view of joblessness and unrealised potential compared to unemployment alone, with underutilisation rates typically between 1.5 and 4 times higher than the standard unemployment rate. There are large differences in labour underutilisation across OECD countries (Figure 15.3), with a gap of over 24 percentage points between Greece (where over 27% of the population is underutilised) and the Czech Republic (with only 3.6%).

Labour underutilisation has improved for all but five OECD countries since 2010 (Figure 15.4), and of these, only two (Italy and Greece) have worsened by more than one percentage point. Latvia has recorded the largest improvement, with labour underutilisation falling by 18.8 percentage points.

Figure 15.3. Large discrepancies in labour force underutilisation across the OECD

Labour underutilisation, as a share of the total labour force, 2018

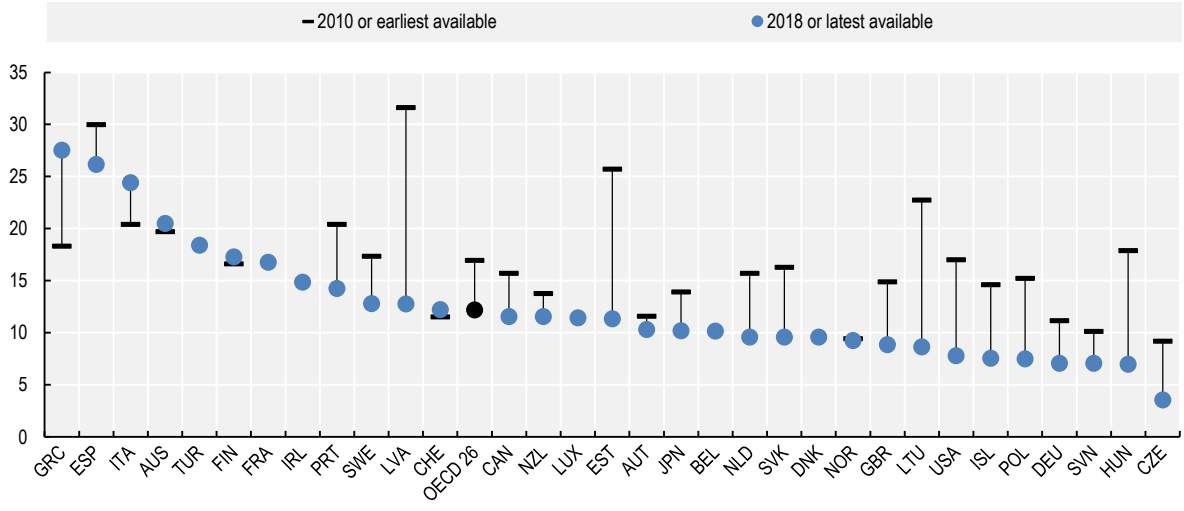


Note: The overall labour underutilisation rate includes the unemployed, discouraged workers (i.e. persons not in the labour force who did not actively seek work during in the previous four weeks but who wish to and are available to work) and the underemployed (full-time workers working less than usual during the survey reference week for economic reasons and part-time workers who wanted but could not find full-time work), expressed as a ratio of the total labour force. The OECD average does not include Chile, Colombia, Israel, Korea or Mexico.
Source: *OECD Household Dashboard* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HH_DASH.

StatLink https://doi.org/10.1787/888934082879

Figure 15.4. Labour underutilisation has been improving in all but five OECD countries

Share of unemployed, discouraged or underemployed workers in the total labour force, percentage



Note: Latest available data is 2018. The 2018 OECD average does not include Chile, Colombia, Israel, Korea or Mexico. Earliest available data is 2010, aside from 2011 for the Czech Republic, Germany, Portugal, and Turkey; 2012 for Japan; and 2013 for the Netherlands. The 2010 or earliest available OECD average does not include Belgium, Chile, Colombia, Denmark, France, Ireland, Israel, Luxembourg, Korea, Mexico, the Netherlands or Turkey, due to missing data or breaks in the series.
Source: *OECD Household Dashboard* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HH_DASH.

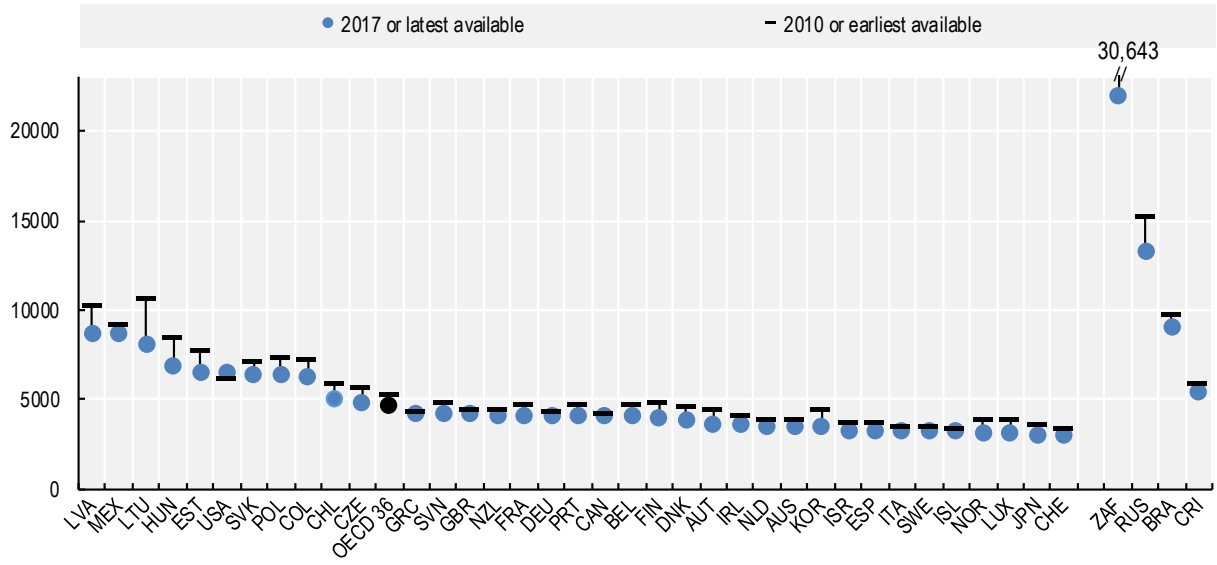
StatLink https://doi.org/10.1787/888934082898

Premature mortality

Potential years of life lost (PYLL) is a measure of premature mortality, due to a range of medical conditions or fatal accidents. Among OECD countries, Switzerland, Japan, Luxembourg and Norway have the lowest incidence of premature mortality, with rates below 3 200 years lost per 100 000 inhabitants, while Latvia and Mexico have the highest rates (8 733 and 8 661, respectively) – almost three times higher than the top performers (Figure 15.5). Premature mortality has improved in most OECD countries over the past decade, with the greatest fall in years of potential life lost in Lithuania (a 24% fall), Korea (22%), Luxembourg (19%) and Finland (18%). By contrast, premature mortality increased by 5% in the United States. Beyond OECD countries, South Africa saw a very large improvement (almost 28%) between 2010 and 2015.

Figure 15.5. Premature mortality has been reduced in all but one OECD country

Potential years of life lost per 100 000 population (age standardised)



Note: Potential years of life lost places greater weight on deaths that occur at a younger age. The indicator is created by summing up deaths that occur at each age, and multiplying this sum by the remaining years up to a pre-determined age limit (OECD Health Statistics uses age 75). PYLL measures for each country are computed based on the OECD age-structure of the population (i.e. age standardised). Latest available data is 2016 for most countries; 2017 for Austria, the Czech Republic, Hungary, Iceland and Lithuania; 2015 for Canada, Colombia, Denmark, France, Ireland, Italy, Latvia, Slovenia, Brazil and South Africa; and 2014 for New Zealand, the Slovak Republic, Costa Rica and the Russian Federation. The earliest available data is 2010 for all countries. The OECD average does not include Turkey, due to missing data.
Source: OECD (2020), "Potential years of life lost" (indicator), https://doi.org/10.1787/193a2829-en.

StatLink https://doi.org/10.1787/888934082917

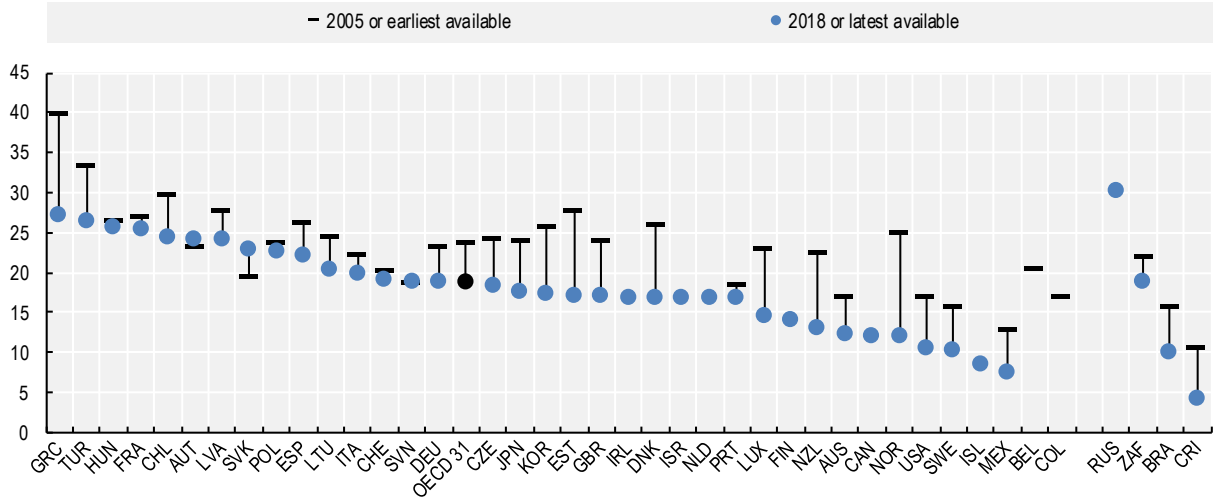
Smoking prevalence

Smoking is a risk factor for human capital, as it damages future health through links to cancer, heart disease, respiratory problems and birth defects. In OECD countries on average, 19% of people report that they smoke tobacco at least once a day. In Greece, Turkey and Hungary, more than one-quarter of the population smokes daily, while in Mexico and Iceland fewer than 10% do. Since 2005, smoking rates have generally fallen most in the OECD countries already doing comparatively well. The fall has been steepest

in Norway (13 percentage points), followed by Greece (12.7 points), Estonia, New Zealand and Denmark (10.6, 9.4 and 9.1 points, respectively). Costa Rica has the lowest level of daily smoking prevalence of all countries included in Figure 15.6 (at 4%), having more than halved its smoking rate since 2005. Only Austria and the Slovak Republic have experienced an increase in smoking since 2005 (by 1.1 and 3.4 percentage points, respectively).

Figure 15.6. Smoking prevalence is falling across the OECD

Share of people aged 15 or over who report smoking tobacco every day, percentage



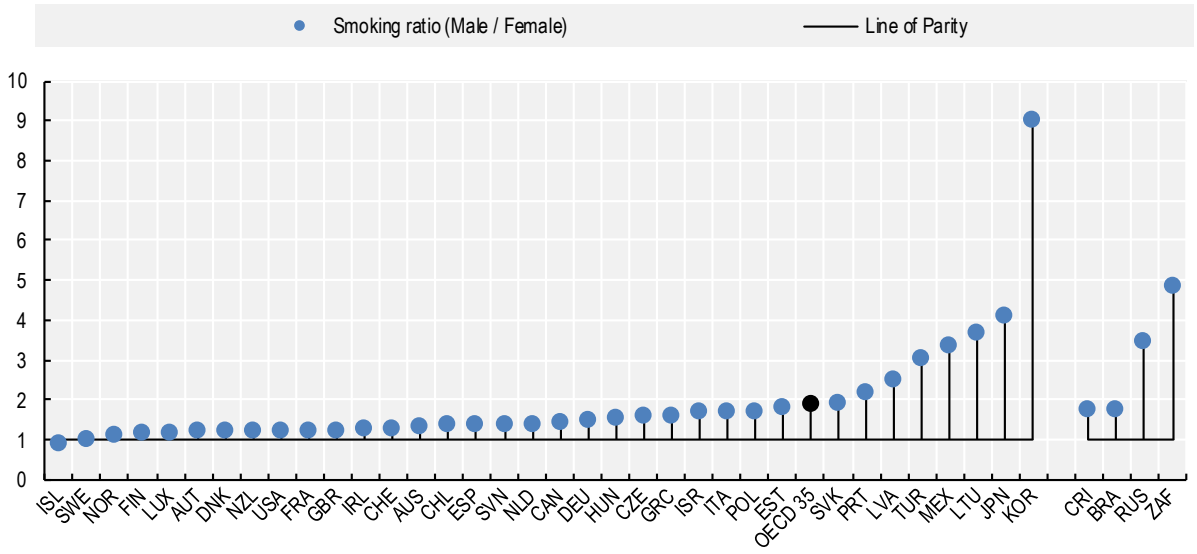
Note: The OECD average excludes Belgium, Canada, Colombia, Finland, Iceland, Ireland, Israel and the Netherlands, due to breaks in the series. Earliest available data is 2005, except for Austria, Estonia, Greece, Israel, Mexico, Portugal, Spain, Turkey and Brazil (2006); Australia, Ireland, Slovenia and Switzerland (2007); Belgium, Colombia and Latvia (2008); and Chile, Hungary, Poland, the Slovak Republic and the Russian Federation (2009). There is no earliest available data for Canada, Finland, Iceland, Ireland, Israel, the Netherlands and the Russian Federation, due to breaks in the series. Latest available data is 2018, except for Canada, the Czech Republic, Denmark, Germany, Israel, Italy, Japan, Korea, Mexico, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, the United States and Brazil (2017); Australia, Chile, Turkey and the Russian Federation (2016); South Africa (2015); and Austria, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, the Slovak Republic and Slovenia (2014). There is no latest available data for Belgium and Colombia, due to missing data.
Source: *OECD Non-medical determinants of health* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_LVNG.

StatLink https://doi.org/10.1787/888934082936

Men have higher smoking rates than women in all but one OECD country: Iceland (Figure 15.7). Korea has by far the largest gender gap, with men over nine times more likely to smoke than women. Japan, Lithuania, Mexico and Turkey also have large gaps, with men more than three times as likely to smoke as women.

Figure 15.7. Men smoke more than women in almost all OECD countries

Ratio of male to female smoking prevalence, 2018 or latest available year



Note: Gender ratios are expressed such that higher values (greater than 1) indicate better outcomes for women. Latest available data is 2018, except for Canada, the Czech Republic, Denmark, Germany, Israel, Italy, Japan, Korea, Mexico, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, the United States and Brazil (2017); Australia, Chile, Turkey and the Russian Federation (2016); South Africa (2015); and Austria, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, the Slovak Republic and Slovenia (2014). The OECD average does not include Belgium or Colombia due to missing data.
Source: *OECD Non-medical determinants of health* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_LVNG.

StatLink https://doi.org/10.1787/888934082955

Obesity prevalence

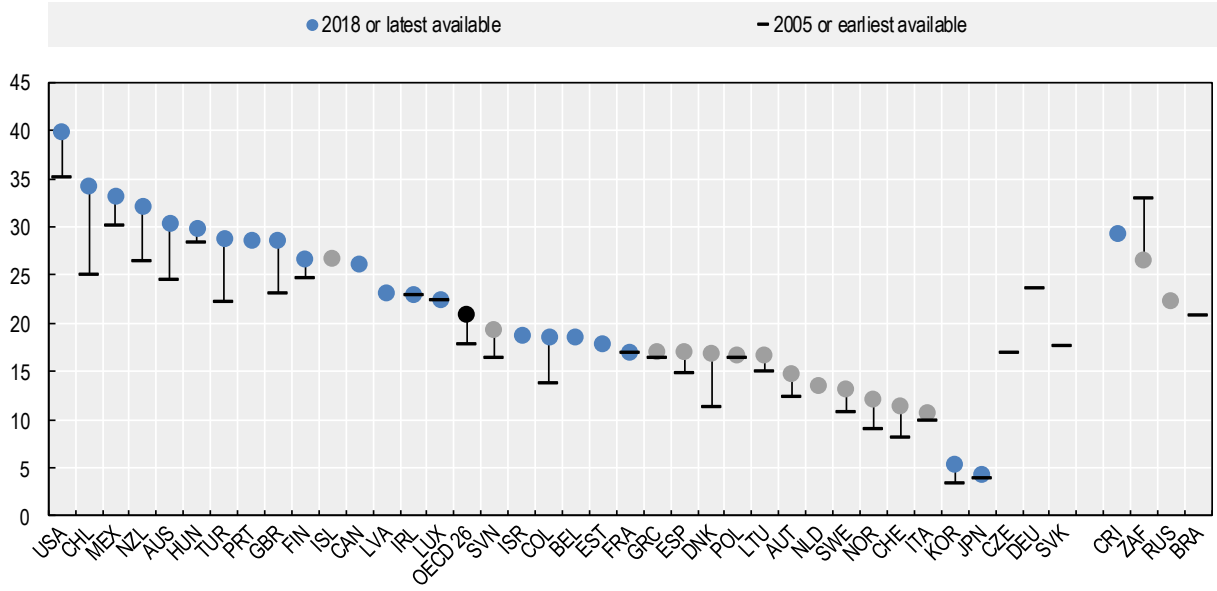
Obesity is another major risk to human capital: it increases the risk of heart disease, diabetes and some types of cancer. One in every five people are obese in OECD countries, on average (where obesity is defined as a Body Mass Index of 30 or higher). Differences across countries are large (Figure 15.8), ranging from 5% or less in Japan and Korea, to more than 40% in the United States (OECD, 2017[1]).

Over the past 15 years, obesity rates have been rising in most OECD countries. Of the 27 countries with time series data, none showed a fall in obesity rates, and only 2 maintained the same rate (Ireland and France). Chile showed the steepest increase, with obesity prevalence rising by 9.3 percentage points. Countries with higher levels of obesity have also recorded some of the largest increases over the past 15 years, suggesting that the problem is compounding rather than reaching a plateau. Even countries with relatively low levels of obesity – such as Switzerland, Norway, Sweden and Korea – have also experienced increases over the past decade.

The picture for gender gaps in obesity prevalence across OECD countries is mixed. Men have a higher obesity rate than women in 15 countries (with rates 20% higher in Switzerland, Slovenia and Italy). On the other hand, obesity prevalence among women is higher than that for men in 19 OECD countries, with the largest gaps in Turkey and Colombia.

Figure 15.8. One in every five people are obese in OECD countries, and rates are rising

Share of the population aged 15 or older, as reported or measured, percentage



Note: Points in grey indicate the data come from health interview surveys; points in blue indicate the data come from health examinations. Earliest available data are from 2005, except for Austria, France, Greece, Spain and the United States (2006); Australia, New Zealand, Slovenia and Switzerland (2007); Poland and South Africa (2008); Chile and Hungary (2009); Finland and Turkey (2011); Germany (2012) and Brazil (2013). There is no earliest available data for Belgium, Canada, Estonia, Iceland, Israel, Latvia, the Netherlands, Portugal, Costa Rica and the Russian Federation, due to missing data and breaks in the time series. Latest available data are from 2017, except for New Zealand (2018); Chile, Latvia, Mexico and the United States (2018); Colombia, France, Israel, Norway and Portugal (2015) and Austria, Belgium, Estonia, Greece, Hungary, Lithuania, Luxembourg, Poland, Slovenia, Costa Rica and South Africa (2014). There is no latest available data for the Czech Republic, Germany, the Slovak Republic and Brazil, due to missing data. The OECD average is a simple average and excludes Belgium, Canada, the Czech Republic, Estonia, Germany, Iceland, Israel, Latvia, the Netherlands, Portugal and the Slovak Republic, due to missing data or breaks in the time series.

Source: *OECD Non-medical determinants of health* (database), http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_LVNG and INE for the 2014 value for Spain.

StatLink https://doi.org/10.1787/888934082974

Box 15.1. Measurement and the statistical agenda ahead

Human Capital broadly refers to the skills, competencies (including education and tacit knowledge) and health status of individuals (OECD, 2015[2]). Many researchers and institutions are currently using definitions of human capital that emphasise its value to economic production and income generation, particularly regarding the importance of the quality of labour (Boarini, Mira d'Ercole and Liu, 2012[3]). Beyond technical skills, the concept of human capital has since been expanded to include aspects of motivation and behaviour, as well as the physical, emotional and mental health of individuals (OECD, 2009[4]). Both health and education are also outcomes of intrinsic value in their own right, as well as contributing extensively to the production of other well-being outcomes (OECD, 2011[5]).

Table 15.1. Human capital indicators considered in this chapter

Indicator	Unit of measurement	Stock	Flow	Risk factor	Resilience factor
Educational attainment among young adults	Share of people aged 25-34 who have attained at least an upper secondary education	✓			
Labour underutilisation rate	Share of unemployed, discouraged workers and underemployed workers in the total labour force			✓	
Premature mortality	Years of potential life lost due to a range of medical conditions and fatal accidents per 100 000 population (age standardised)		✓		
Smoking prevalence	Share of people aged 15 or over who report smoking every day			✓	
Obesity prevalence	Share of the population aged 15 or older who are obese, either self-reported or measured through health interviews			✓	

Educational attainment among young adults is measured as the share of people aged 25 to 34 that have attained at least upper secondary education. Upper secondary education uses the International Standard Classification of Education (ISCED) definition, of education at or above level 3. This includes both general programmes geared towards preparation for higher education, as well as vocational education and training (VET) programmes (OECD, 2018[6]). Data are drawn from the *OECD Education at a Glance* database.

Labour underutilisation rate aims to capture the permanent effects of labour market slack in reducing the skills and learning opportunities available to people. It includes in the numerator the unemployed, the discouraged (i.e. persons not in the labour force who did not actively look for work during the past four weeks but who wish and are available to work) and underemployed workers (i.e. full-time workers working less than usual during the survey reference week for economic reasons and part-time workers who wanted but could not find full-time work), expressed as a ratio of the labour force. It therefore provides a wider view of joblessness and unrealised potential, beyond unemployment rates. Data are drawn from the *OECD Household Dashboard* database.

Premature mortality refers to deaths occurring before the age of 75. The indicator PYLL is calculated by subtracting the selected age of premature mortality (75 years in OECD calculations) from the actual age of death of each person, then multiplying this by the number of deaths at each age, and finally adding up the numbers across all age groups to come up with an overall total. Implicit in this approach is that deaths occurring at a younger age are weighted more heavily than deaths at an older age (e.g. in the case of an infant dying in its first year of life, PYLL is 75 – 1, i.e. 74, while for someone dying at 74, PYLL is 75 – 74, i.e. 1). The indicator takes into account differences in population structure by age across OECD countries (by applying the OECD population structure) to avoid reporting higher scores for countries that have the same age-specific death rates as others but a younger population structure (i.e., data are age standardised). Data are drawn from the *OECD Health Statistics* database.

Smoking prevalence is defined as the share of the population aged 15 or over that smokes tobacco daily. This indicator takes into account neither the quantity of tobacco smoked, beyond one cigarette per day (OECD, 2017[7]), nor the exposure to second-hand smoke; it also excludes the use of smokeless tobacco products (such as chewing tobacco). Data are drawn from the *OECD Health Statistics* database.

Obesity is defined using the body mass index (BMI), a single number that takes into account an individual's height and weight. Based on WHO standards, an adult with a BMI of 30 or above is considered obese. While BMI is the most commonly-used metric for defining obesity, it is not without limits (e.g. different ethnic groups may have equivalent levels of health risks at different BMI values, (OECD, 2017[8])). Data are drawn from the *OECD Health Statistics* database.

Correlations among Human Capital indicators

Correlations among the Human Capital indicators are moderate to weak, and not statistically significant in a number of cases (Table 15.2). The main exception is labour market underutilisation and young adult educational attainment: countries with higher attainment rates have lower levels of underutilisation. Smoking prevalence and obesity are not significantly related across countries.

Table 15.2. The indicators used in this chapter reflect different facets of Human Capital

Bivariate correlation coefficients among the Human Capital indicators

	Educational attainment	Labour underutilisation rate	Premature mortality	Smoking prevalence	Obesity prevalence
Educational attainment					
Labour underutilisation rate	**-0.48*** **				
	(31)				
Premature mortality	-0.10	-0.29			
	(39)	(31)			
Smoking prevalence	**0.34** **	0.27	0.18		
	(38)	(31)	(38)		
Obesity prevalence	-0.28	-0.10	0.27	-0.23	
	(36)	(29)	(36)	(35)	

Note: Table shows the bivariate Pearson's correlation coefficient; values in parentheses refer to the number of observations (countries). * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

Upper secondary educational attainment among young adults may not be a particularly sensitive measure, given that almost 40% of adults in OECD countries have obtained at least a tertiary degree. It has been retained as an indicator, given the differential higher education vs. technical training paths present in OECD countries.

Labour market underutilisation may not inherently be a deprivation measure, in that the time an individual spends as a part of the underutilised labour force may not indicate skill loss. For example, if an individual is underemployed but using that time to volunteer in the community, or serve as an unpaid caregiver, this implies a contribution to the well-being of others. This aspect is currently not accounted for in the well-being framework.

Obesity data are compiled from two distinct survey types: health interview surveys (self-reported) and health exams, administered by medical professionals, which are considered to be more reliable (OECD, 2017[7]). The conflicting data sourcing makes cross-country comparisons difficult.

The lack of a consistent and regular time series for a number of human capital indicators, especially obesity and smoking prevalence, has made the measurement of performance over time and across countries difficult. For this reason, trends in obesity and smoking in this chapter are measured over the past fifteen years, rather than the past decade.

References

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OECD (2015), *How's Life? 2015: Measuring Well-being*, OECD Publishing, Paris, https://dx.doi.org/10.1787/how_life-2015-en. [2]

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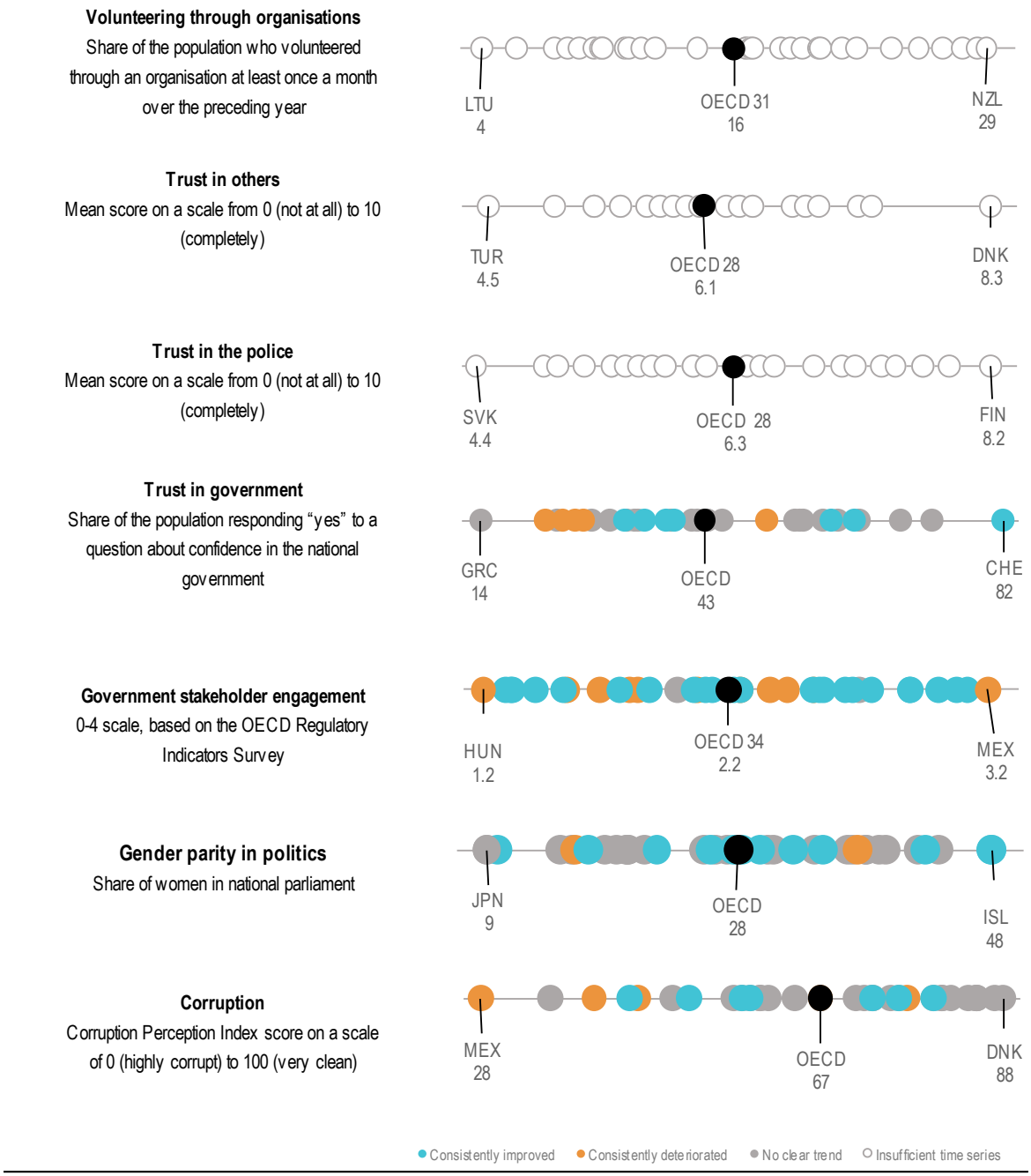
16 Social Capital

Social Capital is about the social norms, shared values and institutional arrangements that foster co-operation among population groups. Around one in six people in OECD countries volunteer at least once a month through formal organisations (such as charities). When people are asked about their trust on a scale from 0 (no trust) to 10 (complete trust), the average score for trust in others is 6.1, and 6.3 for trust in the police. Less than half of OECD populations (43%) trust their government. Governments score 2.2 (out of 4) for formally engaging citizens when developing laws. For perceived public sector corruption, on a scale from 0 (highly corrupt) to 100 (very clean), the average OECD country scores 67. Gender parity in politics has not yet been achieved: women hold just 28% of parliamentary seats. Compared to 2010, progress on Social Capital has been slow or stagnant for OECD countries on average.

Figure 16.1. Social Capital snapshot: current levels, and direction of change since 2010



Note: The snapshot depicts data for 2018, or the latest available year, for each indicator. The colour of the circle indicates the direction of change, relative to 2010, or the closest available year: improvement is shown in blue, deterioration in orange, and no clear or consistent change in grey, and insufficient time series to determine trends in white. For each indicator, the OECD country with the lowest (on the left) and highest (on the right) well-being level are labelled, along with the OECD average. For full details of the methodology, see the Reader's Guide.

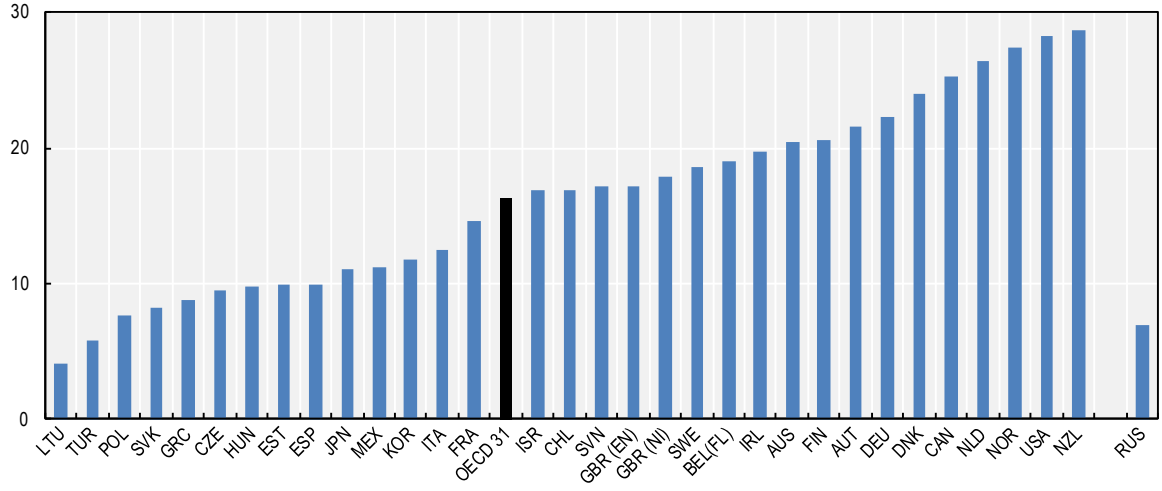
Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions; Stats NZ customised report and licensed by Stats NZ for re-use under the Creative Commons Attribution 3.0 New Zealand licence (2017); *OECD Survey of Adult Skills (PIAAC)* (database), https://oecd.org/skills/piaac; *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx; *OECD Indicators of Regulatory Policy and Governance (iREG)* (database), http://oe.cd/ireg; *OECD Women in politics* (database), https://data.oecd.org/inequality/women-in-politics.htm and *Transparency International Corruption Perception Index 2018* (database), https://transparency.org/cpi2018.

Volunteering through organisations

On average 1 in 6 people in OECD countries volunteer at least once a month through an established organisation, such as a charity, political party, trade union or other non-profit entity (Figure 16.2). This share is substantially higher in Canada, the Netherlands, New Zealand and the United States, where more than a quarter of the population routinely engages in voluntary work, but much lower in Lithuania and Turkey, where only 1 in 16 people do.

Figure 16.2. One in six people volunteer regularly through formal organisations

Share of the working-age population who declared having volunteered through an organisation at least once a month over the preceding year, percentage, around 2012



Note: Data refer to 2011-12 for Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Poland, the Russian Federation, the Slovak Republic, Spain, Sweden and the United Kingdom;, 2012 for France; 2014-15 for Chile, Greece, Israel, Lithuania, New Zealand, Slovenia and Turkey; and 2017 for Mexico, Hungary and the United States. Data for Belgium refer to Flanders, those for England and Northern Ireland are reported separately. Data for the Russian Federation exclude the Moscow municipal area. The OECD average includes both England and Northern Ireland and a simple average of the 2012-14 and 2017 data collection waves for the United States (28.5%, not shown here). It excludes Colombia, Iceland, Latvia, Luxembourg, Portugal and Switzerland, due to a lack of available data.
Source: *OECD Survey of Adult Skills (PIAAC)* (database), https://oecd.org/skills/piaac.

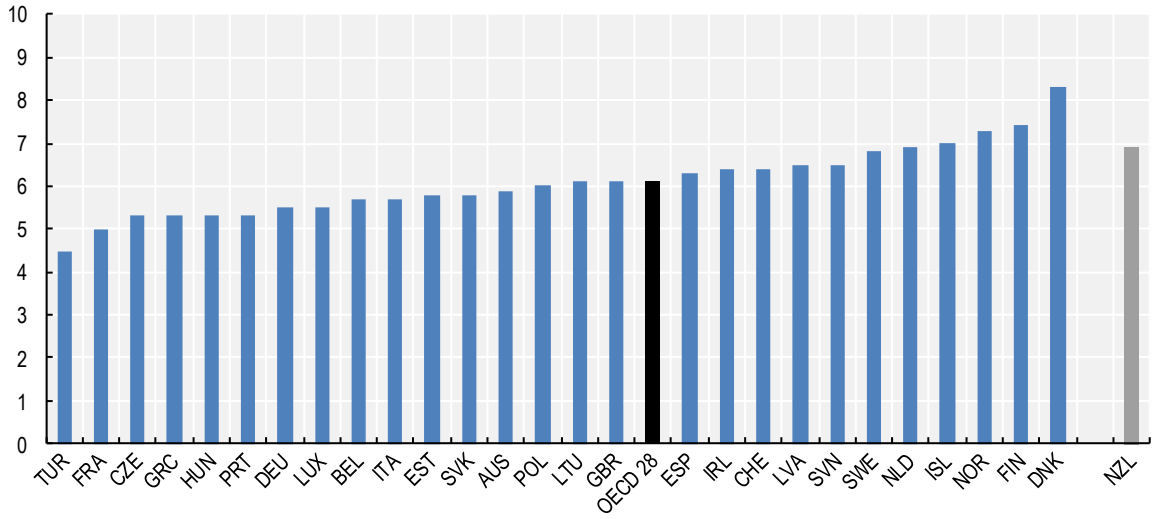
StatLink https://doi.org/10.1787/888934082993

Trust in others

Among OECD countries, average trust in other people is 6.1 on a scale of 0 (you do not trust anyone) to 10 (most people can be trusted) (Figure 16.3). The Nordic countries report mean scores above 7, compared to interpersonal trust levels below 5 in Turkey and France.

Figure 16.3. Trust in others is highest in the Nordic countries

Mean score, on a scale from 0 (not at all) to 10 (completely), 2013



Note: Data for New Zealand (shown in grey) refer to 2014 and relies on a question that asks about people in New Zealand, rather than people in general, which might bias results upward. The OECD average excludes Australia, Canada, Chile, Colombia, Israel, Japan, Korea, Mexico and the United States, due to a lack of available data.
Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions and Stats NZ, customised report and licensed by Stats NZ for re-use under the Creative Commons Attribution 3.0 New Zealand licence (2017).

StatLink https://doi.org/10.1787/888934083012

Trust in institutions: police

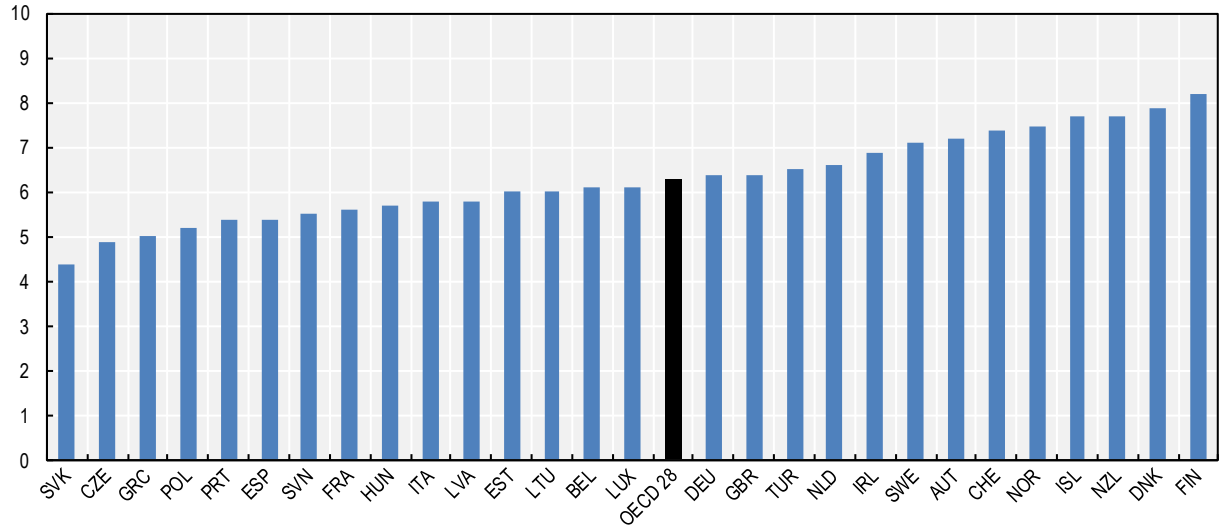
When it comes to trust in institutions, the average score for trust in the police among people in OECD countries is 6.3 (on a scale where 0 means no trust at all and 10 means complete trust) (Figure 16.4). As with interpersonal trust, trust in the police is highest in the Nordic countries, where the average score exceeds 7, as well as in Australia, New Zealand and Switzerland. By contrast, people in the Czech Republic, Greece and the Slovak Republic report comparatively low trust in the police, with mean scores at or below 5.

Trust in institutions: national government

Less than half of the population in the average OECD country (43%) trust their national government. But this represents a slight improvement from the level (40%) recorded in the aftermath of the financial crisis in 2010-12 (Figure 16.5). Indeed, after a general deterioration post-2008, trust in government has now rebounded to just below 2006 pre-crisis values in a quarter of OECD countries. The largest increases compared to 2010-12, of more than 15 percentage points, occurred in the Czech Republic, Ireland and Japan. Meanwhile, falls of more than 10 percentage points were seen in Chile, and 20 percentage points in Colombia. Overall, trust in the national government is highest (at 65% or more) in Luxembourg, Norway and Switzerland, and lowest (at 25% or less) in Colombia, Italy, Greece and Slovenia.

Figure 16.4. Average trust in the police is 6.3 out of 10

Mean score, on a scale from 0 (not at all) to 10 (completely), 2013

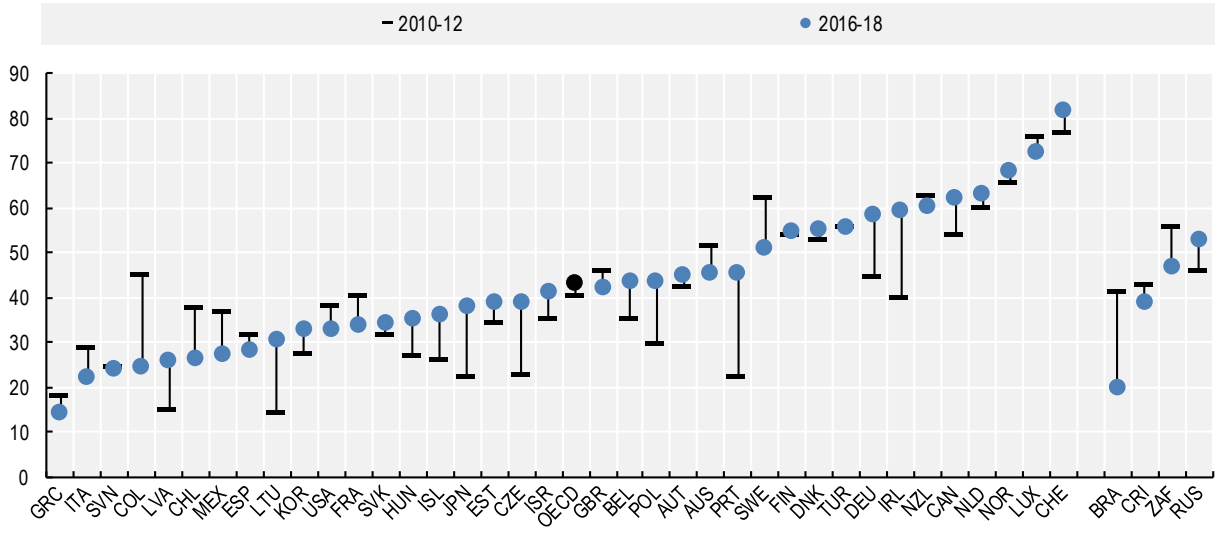


Note: Data for New Zealand refer to 2014. The OECD average excludes Australia, Canada, Chile, Colombia, Israel, Japan, Korea, Mexico and the United States, due to a lack of available data.
Source: *European Union Statistics on Income and Living Conditions (EU-SILC)* (database), https://ec.europa.eu/eurostat/web/income-and-living-conditions and Stats NZ, customised report and licensed by Stats NZ for re-use under the Creative Commons Attribution 3.0 New Zealand licence (2017).

StatLink https://doi.org/10.1787/888934083031

Figure 16.5. Since 2010, trust in government has rebounded in a quarter of OECD countries

Share of the population responding "yes" to a question about confidence in the national government, percentage



Source: *Gallup World Poll* (database), https://gallup.com/analytics/232838/world-poll.aspx.

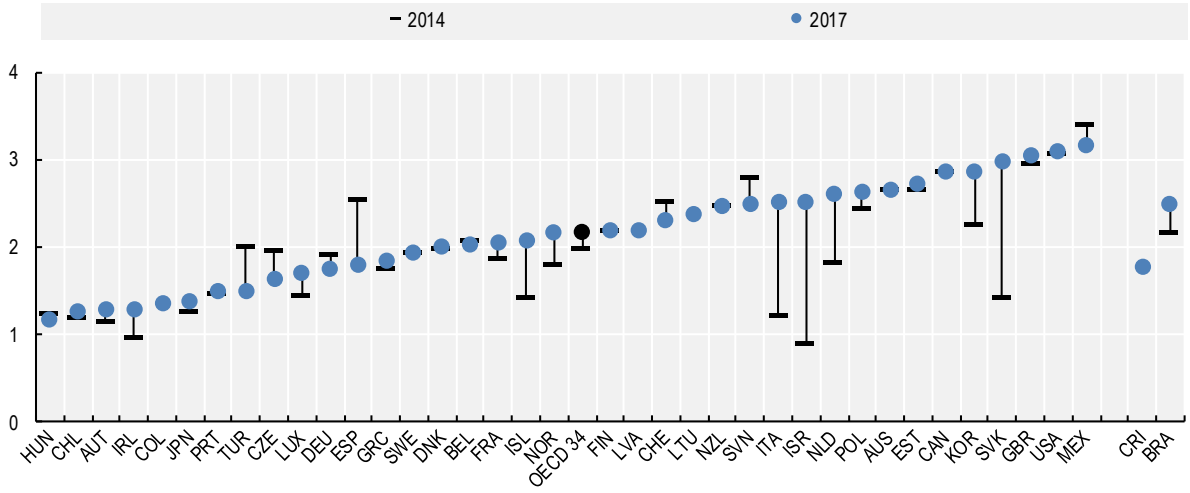
StatLink https://doi.org/10.1787/888934083050

Government stakeholder engagement

Governments' engagement with stakeholders is critical to improve the design, implementation and review of laws. The extent to which OECD countries have systematically adopted formal stakeholder engagement practices when developing laws, on a scale from 0 (no engagement) to 4 (maximum engagement) ranges from 1.3 in Hungary to 3.2 in Mexico. Generally, stakeholder engagement is higher in relation to primary laws (which provide a framework for the resolution of public policy problems) than for subordinate regulations (which focus on operationalisation) (OECD, 2018[1]).The overall average level of government stakeholder engagement has increased since 2014, from 2 to 2.2 (Figure 16.6). Improvements are particularly strong in Italy, Israel and the Slovak Republic (with increases of more than 1.3 points, driven mainly by better engagement on primary laws). This contrasts with the declines recorded in the Czech Republic (by 0.3 points), Turkey (0.5) and Spain (0.7) – all countries in the bottom third of the OECD ranking.

Figure 16.6. Average government stakeholder engagement improved since 2014, but fell in some countries with already weaker performance

Government stakeholder engagement when developing primary laws and subordinate regulations, 0 (no engagement) – 4 (maximum engagement) scale



Note: The sub-component scores for primary laws cover practices only in the executive. There is therefore no score for primary laws for the United States, where all primary laws are exclusively initiated by Congress. In Colombia, Costa Rica, Korea and Mexico, a majority of primary laws are initiated by the legislature. The OECD average excludes Colombia, Latvia and Lithuania, due to incomplete time series.
Source: *OECD Indicators of Regulatory Policy and Governance (iREG)* (database), http://oe.cd/ireg.

StatLink https://doi.org/10.1787/888934083069

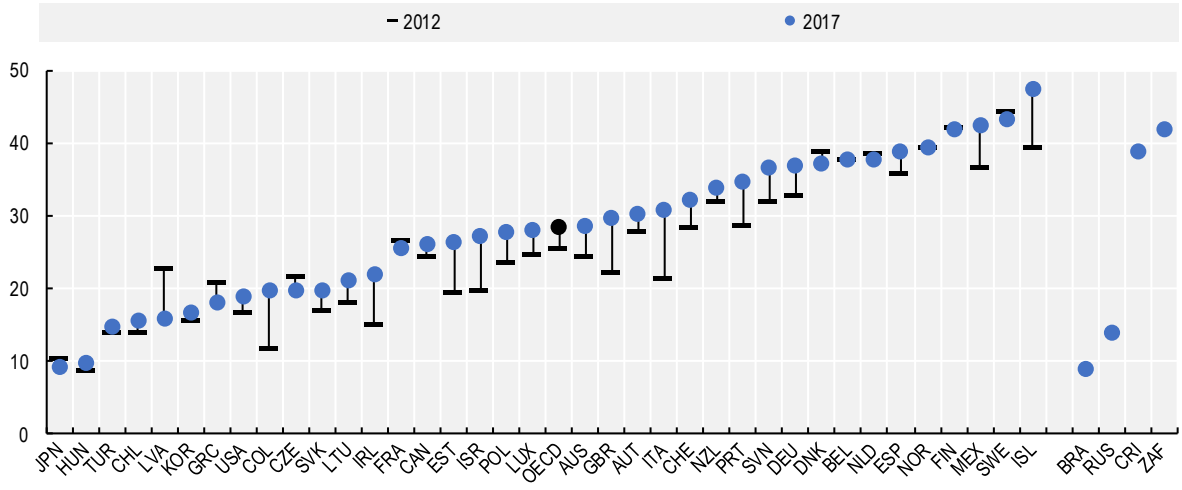
Gender parity in politics

On average, women held 28% of parliamentary seats in the OECD in 2017, only slightly up from 26% in 2012. Even in Iceland, the country with the highest share of women in politics, complete gender parity has not yet been achieved. Women's presence is parliament was lowest in Japan (at 9.3% of seats) and highest in Iceland (at 47.3%) (Figure 16.7). Between 2012 and 2017, the share of women in parliament increased in almost one-third of OECD countries. It rose by more than 7 percentage points in Iceland, Ireland and

the United Kingdom. By contrast, it fell for the Latvian parliament, which now features 7 percentage points fewer female MPs.

Figure 16.7. Politics have become more inclusive of women, but gender parity has not been achieved

Share of women in national parliament, lower or single houses, percentage



Note: The latest available year is 2015 for Colombia and 2014 for Brazil, Costa Rica, the Russian Federation and South Africa.
Source: *OECD Women in politics* (database), https://data.oecd.org/inequality/women-in-politics.htm and Statistics Lithuania (2017), https://osp.stat.gov.lt/services-portlet/pub-edition-file?id=30580.

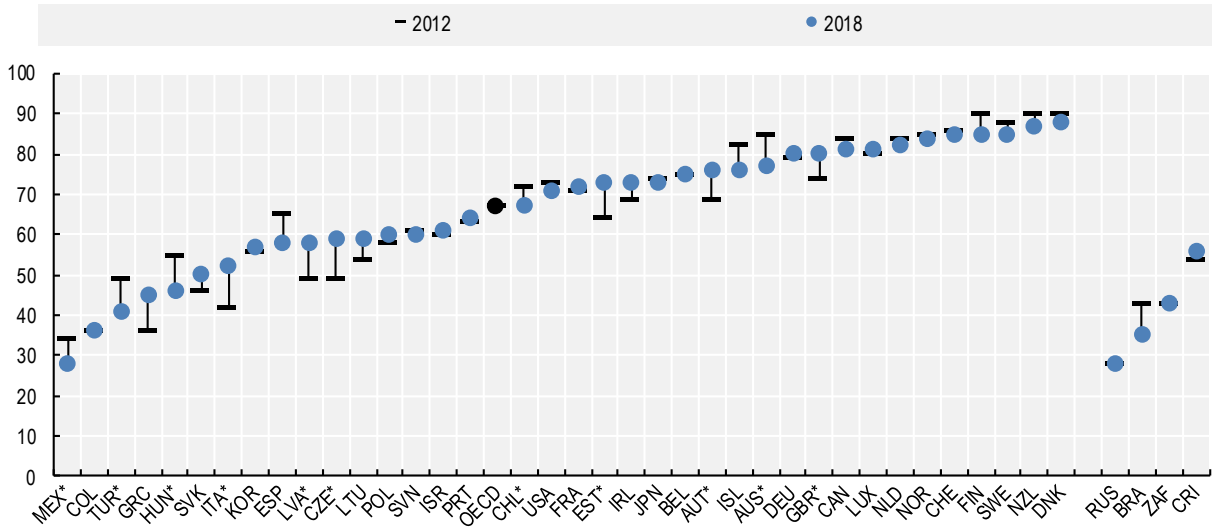
StatLink https://doi.org/10.1787/888934083088

Corruption

According to the assessments of experts and business people in Transparency International's 2018 Corruption Perception Index, the OECD average level of corruption in the public sector is 67, on a scale from 0 (highly corrupt) to 100 (the total absence of corruption). By this measure, perceived public sector integrity is highest in Nordic countries, Switzerland and New Zealand (with scores between 84 and 88) and lowest in Colombia, Greece, Hungary, Mexico and Turkey (with scores below 50) (Figure 16.8). The OECD average has remained stable since 2012, but this masks clear progress in controlling corruption in some countries (with gains of 9 points or more in the Czech Republic, Estonia, Greece, Italy and Latvia) and significant declines in others (with falls of around 8 points in Australia, Turkey and Hungary).

Figure 16.8. On average, perceived corruption has remained stable since 2012

Corruption Perception Index, 0 (highly corrupt) – 100 (very clean) scale



Note: * indicates significant change since 2012 (90% confidence level, calculated by Transparency International).
Source: *Transparency International Corruption Perception Index 2018* (database), https://transparency.org/cpi2018.

StatLink https://doi.org/10.1787/888934083107

Box 16.1. Measurement and the statistical agenda ahead

Social Capital is about a society's networks, norms and shared values that foster co-operation among different groups. Information on expectations of other people and public institutions (trust), engagement in activities that contribute to civic and community life (volunteering), and aspects of governance and the institutional arrangements that set the framework conditions for generating Social Capital (government stakeholder engagement, integrity, gender equality in decision-making) is presented here (Table 16.1).

Table 16.1. Social Capital indicators considered in this chapter

Indicator	Unit of measurement	Stock	Flow	Risk factor	Resilience factor
Volunteering through organisations	Share of the working-age population who declared having volunteered through an organisation at least once a month over the preceding year		✓		
Trust in others	Mean score, on a scale from 0 (you do not trust any other person) to 10(most people can be trusted)	✓			
Trust in the police	Mean score, on a scale from 0 (no trust at all) to 10 (complete trust)	✓			
Trust in government	Proportion of the population responding "yes" to a question about confidence in the national government	✓			
Government stakeholder engagement	0-4 scale, based on the OECD Regulatory Indicators Survey				✓
Gender parity in politics	Share of women in the national lower or single houses of parliament				✓
Corruption	Corruption Perception Index score on a scale of 0 (highly corrupt) to 100 (very clean)			✓	

Volunteering through organisations is measured through a single question in the OECD Survey of Adult Skills (PIAAC) which asks respondents, "In the last 12 months, how often, if at all, did you do voluntary work, including unpaid work for a charity, political party, trade union or other non-profit organisation?" with response categories "never", "less than once a month", "less than once a week but at least once a month", "at least once a week but not every day" and "every day". The data shown refer to the share of adults aged 16-65 who declared having volunteered at least once a month.

Trust in others is based on a variant of the survey question: "And now a general question about trust. In general, how much do you trust most people?" Respondents answer using an 11 point scale, ranging from 0 ("Not at all") to 10 ("Completely"). Comparable data for the population aged 16 or above is available for European countries via Eurostat's EU-SILC ad hoc modules on well-being and for New Zealand via Stats NZ's General Social Survey. From 2021 onwards, Eurostat plans to ask about trust in others in its annual EU-SILC core module.

Trust in the police is based on a variant of the survey question: "How much do you personally trust each of the following institutions…the police", which respondents answer using an 11 point scale, ranging from 0 ("Not at all") to 10 ("Completely"). Comparable data for the population aged 16 or above is available for European countries via Eurostat's EU-SILC ad hoc modules on well-being and via Stats NZ's General Social Survey.

Trust in government is based on the survey question: "In this country, do you have confidence in each of the following, or not? … How about national government?" The data shown reflect the share of respondents answering "yes" (the other response categories being "no", and "don't know") and are averaged over a three year period. Information is sourced via the annual Gallup World Poll, which samples around 1 000 people per country each year. For country averages, data are pooled over all available years for a three year period (e.g. 2016-18) to improve the accuracy of the estimates. The sample is ex ante designed to be nationally representative of the population aged 15 and over.

Government stakeholder engagement measures whether countries have adopted stakeholder engagement practices and require them to be consulted when developing new regulations. Data comes from responses to the OECD's Indicators of Regulatory Policy and Governance questionnaire, which asks government officials about four aspects of stakeholder engagement (systematic adoption of stakeholder engagement requirements, consultation methodology, transparency, oversight and quality control) (Arndt et al., 2015[2]). For both primary laws and subordinate regulations, a composite indicator with a maximum score of four (maximum score of one for each aspect) is computed. The indicator reported in this chapter is the simple average of the primary laws and subordinate regulations composite indicators.

Gender parity in politics refers to the share of women among elected members of the national lower or single houses of parliament. Data are sourced from the *OECD International Development Statistics: Gender, Institutions and Development* database.

Corruption is measured via Transparency International's annual Corruption Perception Index (CPI), which ranks countries based on how corrupt a country's public sector is perceived to be by experts and business executives. The CPI is a composite index that combines information from 13 surveys and expert assessments from 12 independent institutions specialising in governance and business climate analysis to arrive at a score from 0 (highly corrupt) to 100 (very clean).

Correlations among indicators of Social Capital

Across OECD countries, most indicators of Social Capital are positively correlated: in countries with high interpersonal trust, more people volunteer, trust in the police is higher, more women are elected to parliament and experts' perceptions of public sector corruption are lower (Table 12.2). Similarly, in OECD countries with higher trust in the national government, people also tend have more confidence in

other public institutions such as the police, and perceived corruption is lower. Women's participation in the national parliament and perceived corruption are significantly and strongly correlated with almost all the other indicators included in this chapter and are thus, together with interpersonal trust, suitable as leading indicators of a society's Social Capital as a whole. Government stakeholder engagement is the only measure that does not go hand in hand with other aspects of Social Capital.

Table 16.2. Trust in other people, the inclusiveness of decision-making and perceived corruption capture many other aspects of Social Capital

Bivariate correlation coefficients among the Social Capital indicators

	Volunteering through organisations	Trust in others	Trust in the police	Trust in the national government	Government stakeholder engagement	Gender parity in politics	Corruption
Volunteering through organisations							
Trust in others	**0.66*** (23)						
Trust in the police	**0.74*** (23)	**0.68*** (28)					
Trust in government	**0.56*** (32)	0.29 (28)	**0.61*** (28)				
Government stakeholder engagement	0.13 (31)	0.28 (28)	-0.06 (28)	-0.06 (39)			
Gender parity in politics	**0.45** (30)	**0.62*** (27)	**0.54*** (27)	**0.31* (36)	0.05 (36)		
Corruption	**0.77*** (32)	**0.63*** (28)	**0.75*** (28)	**0.59*** (41)	0.02 (39)	**0.42** (36)	

Note: Values in parenthesis refer to the number of observations. * Indicates that correlations are significant at the p<0.10 level, ** that they are significant at the p<0.05 level, and *** at the p<0.01 level.

Statistical agenda ahead

The recently published *OECD Guidelines on Measuring Trust* include strong evidence that survey measures of trust are fit for purpose (OECD, 2017[3]). However, this has not yet translated into comparable data collection across many OECD countries. An ideal data set, according to the OECD Guidelines, should consider trust in the political system (i.e. the government, political parties, the parliament), trust in the judicial system (i.e. the police, military, courts) and trust in non-political institutions (i.e. the civil service). Available measures currently remain limited to EU-SILC and New Zealand (for trust in the police) and the non-official Gallup World Poll (for trust in the national government).

Data on volunteering for the majority of OECD countries is currently available via the OECD PIAAC survey, which is run only every 10 years, and whose main data collection waves were last conducted in 2012. Further, the indicator shown here is restricted to engagement via established organisations and potentially neglects more informal forms of contributions for which no internationally comparable data is available.

The share of women in politics is an important indicator of the inclusiveness of decision-making. While it is important to also consider the presence of other typically underrepresented societal groups (e.g. people from different economic or ethnic backgrounds), such measures are not yet available on a frequent and comparable basis for all OECD countries (The Comparative Candidates Survey, 2019[4]).

Information on corruption comes either from expert assessments or household surveys focusing on corruption perceptions or from experiences of bribery. Household surveys are biased towards petty corruption and miss other important and less visible aspects, such as revolving doors, awarding of contracts and tenders and undue lobbying, while expert assessments lack transparency and ignore the perspective of citizens (OECD, 2017[5]). Ideally, it is recommended to rely on multiple measures of corruption to get at its different facets (United Nations Praia City Group, forthcoming[6]). The Sustainable Development Goals acknowledge the importance of integrity through target 16.5 ("Substantially reduce corruption and bribery in all their forms"). The custodian agency UNODC recently published methodological guidance on measuring corruption through household surveys (UNODC, 2018[7]) and collects information on the proportion of persons and businesses in a bribery situation during the previous 12 months via the annual UN Crime Trends Survey (drawing on national victimisation surveys). For now, data is available only for a small set of countries.

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How's Life? 2020

MEASURING WELL-BEING

How's Life? charts whether life is getting better for people in 37 OECD countries and 4 partner countries. This fifth edition presents the latest evidence from an updated set of over 80 indicators, covering current well-being outcomes, inequalities, and resources for future well-being. Since 2010, people's well-being has improved in many respects, but progress has been slow or deteriorated in others, including how people connect with each other and their government. Large gaps by gender, age and education persist across most well-being outcomes. Generally, OECD countries that do better on average also feature greater equality between population groups and fewer people living in deprivation. Many OECD countries with poorer well-being in 2010 have since experienced the greatest gains. However, advances in current well-being have not always been matched by improvements in the resources that sustain well-being over time, with warning signs emerging across natural, human, economic and social capital. Beyond an overall analysis of well-being trends since 2010, this report explores in detail the 15 dimensions of the OECD Better Life Initiative, including health, subjective well-being, social connections, natural capital, and more, and looks at each country's performance in dedicated country profiles.

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ISBN 978-92-64-65467-9

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