How's Life? 2013

MEASURING WELL-BEING



OECD

OECD Better Life Initiative

How's Life? 2013

MEASURING WELL-BEING



This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Please cite this publication as:
OECD (2013), *How's Life? 2013: Measuring Well-being*, OECD Publishing.
http://dx.doi.org/10.1787/9789264201392-en

ISBN 978-92-64-20074-6 (print)
ISBN 978-92-64-20139-2 (PDF)

Annual:
ISSN 2308-9660 (print)
ISSN 2308-9679 (online)

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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

© OECD 2013

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of the source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to *rights@oecd.org*. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at *info@copyright.com* or the Centre français d'exploitation du droit de copie (CFC) at *contact@cfcopies.com*.

Foreword

How's Life? *provides a bi-annual assessment of people's well-being in OECD countries and in selected emerging economies. This assessment is based on a multi-dimensional framework covering 11 dimensions of well-being and on a broad set of outcome indicators. Each issue also contains several chapters focusing on more specific aspects. The 2013 edition of* How's Life? *covers four topics: the impact of the global financial crisis on well-being; gender differences in well-being; well-being in the workplace; and sustaining well-being over time.*

The report was prepared by the Well-Being and Progress Unit of the OECD Statistics Directorate: Carlotta Balestra (Chapters 2 and 4), Romina Boarini (Chapters 1, 2 and 3), Carrie Exton (Chapter 6), Mario Piacentini (Chapter 4), Anne Saint-Martin (Chapter 5), Elena Tosetto (Chapters 1, 2 and 3). The work was carried out under the supervision of Romina Boarini, Marco Mira d'Ercole and Martine Durand. Conal Smith and Paul Schreyer are kindly acknowledged for their valuable comments on Chapters 5 and 6, respectively. Laura Belli, Sue Kendall-Bilicki, Rachel Linden and Carine Viac are kindly acknowledged for their excellent editorial assistance. Catherine Roch and Audrey Garrigoux are kindly acknowledged for their valuable publishing assistance. The report has benefited from contributions and comments from staff of other OECD Directorates and from national delegates to the OECD Committee on Statistics.

Table of contents

Editorial: Focusing on people . . . 11

Reader's guide . . . 14

Executive summary . . . 15

Chapter 1. **The OECD *Better Life Initiative*: Concepts and indicators** . . . 17
The OECD *Better Life Initiative* and beyond . . . 18
A framework for measuring well-being . . . 21
Selecting indicators . . . 24
Assessing well-being through a dashboard of indicators . . . 24
The *How's Life?* statistical agenda: Progress since 2011 . . . 26
Conclusions . . . 30
Notes . . . 31
References . . . 31
Annex 1.A1. Assessing countries' relative strengths and weaknesses in overall well-being performance . . . 33

Chapter 2. ***How's Life?* at a glance** . . . 37
Income and wealth . . . 38
Jobs and earnings . . . 41
Housing conditions . . . 44
Health status . . . 47
Work-life balance . . . 50
Education and skills . . . 52
Social connections . . . 56
Civic engagement and governance . . . 57
Environment quality . . . 60
Personal security . . . 63
Subjective well-being . . . 66
Conclusions . . . 69
References . . . 69

Chapter 3. **Well-being and the global financial crisis** . . . 71
Introduction . . . 72
Income and wealth . . . 72
Jobs and earnings . . . 80
Health status . . . 86
Subjective well-being . . . 88
Civic engagement . . . 90
Social connections . . . 92

Statistical agenda ahead . . . 94
Conclusions . . . 95
Notes . . . 95
References . . . 96
Annex 3.A1. Supporting country evidence . . . 99

Chapter 4. **Gender differences in well-being: Can women and men have it all?** . . . 103
Gender inequality and well-being . . . 104
Measuring gender differences in well-being . . . 106
Women and men throughout their lifetime . . . 106
Women and men in paid and unpaid work . . . 113
Women and men in society . . . 123
Statistical agenda ahead . . . 132
Conclusions . . . 133
Notes . . . 134
References . . . 136
Annex 4.A1. Determinants of time poverty . . . 142
Annex 4.A2. Determinants of intimate partner violence . . . 144

Chapter 5. **Well-being in the workplace: Measuring job quality** . . . 147
Introduction . . . 148
Measuring employment quality . . . 148
Jobs and earnings in fast-changing labour markets . . . 152
Beyond Work-life balance: Measuring quality of life at work . . . 164
Statistical agenda ahead . . . 168
Conclusions . . . 169
Notes . . . 169
References . . . 169
Annex 5.A1. Interactions between job demands and job resources . . . 172

Chapter 6. **Measuring the sustainability of well-being over time** . . . 175
Introduction . . . 176
Sustaining well-being over time: The capital approach . . . 177
Economic capital and well-being . . . 179
Natural capital and well-being . . . 181
Human capital and well-being . . . 184
Social capital and well-being . . . 187
Additional considerations in measuring capital stocks . . . 190
Proposed measures for sustaining well-being in the context of *How's Life?* . . . 196
Statistical agenda ahead . . . 199
Conclusions . . . 201
Notes . . . 201
References . . . 202

Glossary . . . 207

Tables

1.1. An overview of headline well-being indicators . . . 27
4.A1.1. The determinants of time poverty . . . 143
5.1. Main dimensions of work and employment quality . . . 150
5.2. Indicators of job demands and job resources . . . 166
6.1. Classification of environmental assets in the SEEA Central Framework . . . 181
6.2. Proposed types of measures to monitor the sustainability of well-being over time . . . 197
6.3. Suggested measurement themes and example indicators for measuring the sustainability of well-being over time . . . 198

Figures

1.1. The OECD *Better Life Index* web application . . . 18
1.2. The OECD well-being conceptual framework . . . 21
1.A1.1. Strengths and weaknesses in well-being vary across countries . . . 34
1.A1.2. Dimensions that count most for overall well-being performance . . . 35
1.A1.3. Correlation between well-being performance and performance dispersion across indicators . . . 35
1.A1.4. Correlation between well-being performance and socio-economic differences in well-being . . . 36
2.1. Household net adjusted disposable income per capita . . . 39
2.2. Household net financial wealth per capita . . . 40
2.3. Income inequalities . . . 40
2.4. Employment rate . . . 42
2.5. Long-term unemployment rate . . . 42
2.6. Average gross annual earnings of full-time employees in the total economy . . . 43
2.7. Employment rate by educational attainment . . . 43
2.8. Number of rooms per person . . . 44
2.9. People living in dwellings without basic facilities . . . 46
2.10. Housing expenditure . . . 46
2.11. Life expectancy at birth . . . 48
2.12. Self-reported health status . . . 49
2.13. Self-reported health status by disposable income . . . 49
2.14. Employees working long hours . . . 51
2.15. Time devoted to leisure and personal care . . . 51
2.16. Educational attainment . . . 53
2.17. Education expectancy . . . 54
2.18. Cognitive skills of 15-year-old students . . . 54
2.19. Competencies of the adult population . . . 55
2.20. Cognitive skills of 15-year-old students by socio-economic background . . . 55
2.21. Perceived social network support . . . 57
2.22. Social network support by educational level . . . 57
2.23. Voter turnout . . . 59
2.24. Formal and open consultation processes on rule-making . . . 60
2.25. Voter turnout by income . . . 61
2.26. Air pollution . . . 63
2.27. Satisfaction with water quality . . . 63

2.28. Satisfaction with water quality by educational level 64
2.29. Intentional homicides 66
2.30. Self-reported victimisation 66
2.31. Life satisfaction 68
2.32. Life satisfaction by educational level 68
3.1. Trends in real GDP and in real household income during the crisis 73
3.2. Components of household adjusted net disposable income 75
3.3. Inequality in household market income and disposable income 76
3.4. Income poverty rates 77
3.5. Household financial and non-financial wealth 78
3.6. Housing costs in Europe 79
3.7. Employment and long-term unemployment rate 80
3.8. Youth and low-skilled workers in the labour market 81
3.9. Discouraged workers and inactive persons 82
3.10. Involuntary part-time workers 82
3.11. Temporary and permanent employment 83
3.12. Perceived work-family conflict 84
3.13. Trends in gross annual earnings 85
3.14. Self-reported health 87
3.15. Unmet medical needs 88
3.16. Subjective well-being and the crisis 89
3.17. Expectations of subjective well-being 90
3.18. Trust in the wake of the crisis 91
3.19. Civic engagement in Europe 92
3.20. Capacity to help others 93
3.21. Informal support 93
3.A1.1. Real GDP per capita and real household net adjusted disposable income 99
4.1. Gender gaps in life expectancy at birth 107
4.2. Gender gaps in self-rated health status and self-reported limitations in daily activities 109
4.3. Gender gaps in years of healthy life 111
4.4. Gender gaps in fields of tertiary education 112
4.5. Gender gaps in employment rates among tertiary-educated individuals 114
4.6. Gender wage gaps 115
4.7. Gender gaps in job satisfaction 116
4.8. Relative poverty headcount by gender 117
4.9. Relative poverty headcount for single-adult households 119
4.10. Gender differences in time allocated to unpaid and total work 120
4.11. Ten-year changes in weekly hours allocated to paid and unpaid work 121
4.12. Time poverty rates for men and women, by presence of children in the household 123
4.13. Gender gaps in social network support when looking for a job and for psychological help in European countries 124
4.14. Proportion of seats held by women in national parliaments 125
4.15. Homicide rates: Levels and gender gaps 127
4.16. Intimate partner violence against women 128
4.17. Gender gaps in feelings of security 129

4.18. Gender gaps in life satisfaction 131
4.19. Gender gaps in affect balance 131
5.1. Life satisfaction and labour market status 154
5.2. People marginally attached to the labour force in Europe 156
5.3. Temporary work and job tenure 157
5.4. Job tenure, temporary work and the business cycle 159
5.5. Year-to-year earnings volatility 160
5.6. Unemployment insurance benefits 161
5.7. In-work poverty 163
5.8. Link between job demands, job resources and workers' health in Europe 167
5.A1.1. Job demands, job resources and workers' health 173
5.A1.2. Quality of the work environment in selected European countries 174
6.1. Linking capital stocks, flows and well-being outcomes in the OECD well-being framework 179
6.2. Global premature deaths from selected environmental risks 184

Follow OECD Publications on:




http://twitter.com/OECD_Pubs


http://www.facebook.com/OECDPublications


http://www.linkedin.com/groups/OECD-Publications-4645871



http://www.youtube.com/oecdilibrary



http://www.oecd.org/oecddirect/

Editorial: Focusing on people

Measuring Better Lives is more important now than ever

This second edition of *How's Life?* updates the information and deepens the analysis presented in the first edition launched two years ago, as part of the OECD *Better Life Initiative*. While research and analysis of statistical data have always been central to achieving the OECD's mission of helping governments design *Better Policies for Better Lives*, the release of *How's Life?* represented an important milestone in providing new evidence on a wide range of aspects that matter most to people's lives. It presented a new framework for measuring better lives that shifts the focus from traditional economic measures and puts people at the centre. This framework features eleven dimensions of human well-being, including people's income and wealth, their jobs and housing conditions, their health and skills, the time they devote to their families and friends, their ties with other people in their community, how much they trust institutions and their capacity to act as informed citizens, the quality of the environment, their experiences of violence and victimisation, their feelings and life evaluations. Thus countries' performances are no longer assessed through the lens of GDP only. Rather, the new metrics used in *How's Life?* allow us to gauge whether a range of well-being outcomes in each country are moving in line with the aspirations of citizens. In the two years since the first edition was published, OECD work on well-being has had a profound influence on the way well-being is measured across the world and on the public debate on what matters to citizens.

Measuring better lives has become even more important today, as many of our economies and societies have been stricken by the global financial crisis. Understanding how the lives of people have been affected and designing the best strategies to help those who have suffered the most requires looking well beyond the impact of the crisis on economic production and financial markets. It is thus important to have as accurate as possible information on how both people's economic and non-economic well-being have evolved during the crisis.

The global financial crisis has seriously affected economic well-being

Many workers have lost their jobs since the start of the crisis in 2007 and many households have registered stagnating or declining levels of income and wealth. Today, there are nearly 16 million more unemployed people in the OECD area than before the crisis, and the number of people out of job for more than a year has reached 16.5 million. Meanwhile, between 2007 and 2010, relative income poverty rose in most OECD countries, especially among children and young people. Rising economic insecurity and financial strain have particularly hit low-income and low-educated households.

Trust in institutions has weakened

Other aspects of people's well-being have also evolved in a negative way during the crisis. Life satisfaction fell considerably in some of the countries most severely hit by the crisis, such as Greece, Italy, and Spain, and in these countries more people reported experiencing high levels of stress and worry. People's confidence in institutions also dropped dramatically, indicating a lack of trust in governments' ability to effectively address problems affecting their lives. Countries' political capital has been severely undermined, as today only 40% of citizens in the OECD trust their national governments – the lowest level since 2006. And in countries most affected by the crisis, only between one and three citizens out of ten trust their governments, a ratio that has more than halved since the start of the crisis.

New forms of solidarity and engagement have emerged

In some countries, responses to the crisis went beyond public policy and also came from local communities, in the forms of higher interpersonal solidarity and different forms of civic participation. While people have found it more difficult to provide financial help, an increasing number report having provided other types of support to others, and having volunteered their time to help those in need in their community. Families have also been a source of support, both financial and in-kind, and have provided an important safety net, for instance to young people who had difficulty finding a job. Many people who had to leave their homes because they could no longer afford them also report having gone to live with relatives. In Europe, higher within-household solidarity also came from women as fewer of them lost their jobs than men. This resulted in an increased share of female breadwinner couples among dual-income couples.

Well-being indicators offer new insights for policy making

Well-being metrics can provide a new and wider perspective to policy-makers in the areas that matter to people. Some of these areas have long been on their radar screen, such as jobs, health or education, but the more comprehensive set of outcome indicators at the individual or household levels contained in *How's Life?* and their joint distribution across population groups can offer new insights on people's conditions. This expanded set of indicators can also open new horizons in traditional policy areas by providing a new type of information, such as how people behave and feel about their lives, as well as in a range of new domains that may until now have been beyond the radar screen of policy makers, perhaps simply because the relevant information in these areas was not available. This edition of *How's Life?* explores in some detail three measurement issues in well-being that may offer new insights for policy making: gender gaps in well-being; well-being in the workplace; and the sustainability of well-being over time.

Can women and men have it all?

The question of how well-being varies across population groups and why is fundamental to design better targeted and more effective policies. While much progress on gender equality has been achieved over the past decades, in a number of countries, well-being indicators across the life cycle – from school to entry into the labour market, the start of a new family, retirement and old age – show that gender remains an important determinant of well-being inequalities in the population. But contrary to the picture usually obtained when looking at economic conditions only, the gender gap is not always just a women's issue. For instance, women live longer than men on average in the OECD and they are often

more educated. However, women report a lower health status, have worse job prospects and fewer professional networks to rely on when looking for a job. While women tend to be marginally more satisfied with their lives overall, they experience more often negative feelings, such as stress, worry or sadness than men.

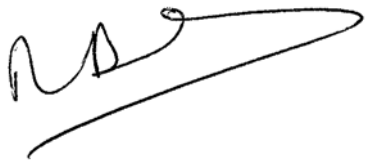
Well-being in the workplace: The importance of quality jobs

For many years, the focus of policy has mainly been on providing job opportunities and ensuring that people who wanted to work could find a job. However, most people spend a large part of their lives working and what happens in the workplace is an essential determinant of overall well-being. Having a good or quality job does not just mean receiving good salaries or having dynamic careers; it also means working in an environment that is conducive to personal accomplishment and where people are committed. People's engagement and high sense of well-being at work depend a lot on whether they have autonomy in their job, are given learning opportunities and well-defined work objectives. Respectful and supportive management practices and support from colleagues are also important. When jobs and workplaces combine these factors, people are more apt to manage work pressure and emotionally demanding jobs, and they also tend to be healthier and more productive. For instance, in Europe, 50% of persons who face poor work organisation and workplace relationships report that work impairs their health, compared with only 15% among those with favourable working conditions.

Sustaining well-being over time

Measuring the sustainability of well-being is key to ensure sure that improving well-being today will not undermine the well-being of people in the future. This is a particularly difficult task, however, as there are many things about the future that we cannot know today. But even if we cannot predict the future, we can measure some of the factors that are more or less likely to contribute to better lives in the future. This starts with monitoring the resources that generate well-being over time and are passed on to future generations. These resources can be grouped into four main types: economic, environmental, human and social. Significant efforts are still needed to develop a set of internationally comparable indicators for each type of capital, although metrics already exist for some of them (economic capital) and efforts are underway for others (environmental capital, human capital). Measuring the sustainability of well-being also requires assessing the distribution of these resources across the population and whether these resources are managed efficiently, with a particular focus on the risks that may weigh on them. *How's Life?* specifies the statistical agenda to move forward on these issues.

Focusing on what matters to people, and improving existing metrics or developing new ones to measure well-being and progress, is the way ahead to achieve better lives, today and tomorrow.



Martine Durand,
OECD Chief Statistician,
Director of the OECD Statistics Directorate

Reader's guide

Conventions

- Data shown for OECD and OECD EU are simple averages of countries displayed in each figure for the two areas.
- Each figure specifies the period covered. The mention XXXX or latest available year (where XXXX is a year or a period) means that data for later years are not taken into account.
- Data for accession countries and key partners are presented in white instead of blue or in grey darker than for OECD member countries.

For all figures, ISO codes for countries are used

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

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Executive summary

What matters most when it comes to people's well-being? The OECD's *Better Life Initiative* aims to answer that question by painting a broad picture of people's lives using 11 key dimensions essential to well-being. These range from traditional measures such as income and jobs, health, education and the local environment, to personal safety and overall satisfaction with life.

But well-being varies among individuals and thus cannot be captured only by measures at national level. So the OECD has also focused on measuring inequality between groups in society for the different well-being outcomes. This shows how well-being, whether in terms of income, education, health or general satisfaction with life is shared across society, for instance what difference gender makes.

The wide range of comparable well-being indicators in *How's Life?* makes it possible to identify relative strengths and weaknesses in countries' well-being. This, in turn, can help governments when drawing up their policy agenda. But there is no clear well-being champion across all the well-being dimensions, and policy priorities in well-being may differ among OECD countries.

How's Life? overall

OECD countries have made considerable progress in many well-being areas over the past 20 years or so; however this trend does not hold for jobs or for voting levels and, more importantly, hides a great diversity of patterns both among and within countries.

For instance low-income countries in the OECD area tend to do relatively well in terms of subjective well-being and work-life balance. Conversely, higher income countries often have more difficulties in reconciling work-life balance. Also, less educated and low-income people tend to fare worse in almost all well-being dimensions; for instance they are less healthy, they participate less in the community and they experience lower subjective well-being.

Significant advances have been made in recent years on measuring income, education, environment and subjective well-being but a lot remains to be done to improve measurement of other dimensions of well-being.

Well-being and the global financial crisis

The crisis has had large implications for the economic well-being of households, as measured by higher unemployment, temporary work incidence, involuntary part-time work, financial insecurity and poverty. However, changes in non-economic aspect of well-being outcomes during the crisis are more ambiguous. Life satisfaction and confidence in institutions declined substantially in countries severely hit by the crisis, while people reported soaring stress levels. However, there was little or no change in health outcomes for the population at large.

These findings may be partly explained by the fact that the effects of the crisis will be visible only in the long-term, such as later health problems, or affect specific groups of the population, thus remaining invisible in nation-wide statistics. However, it is also possible

that some of the short-term consequences of the crisis are not adequately captured by existing measurement tools. This underscores the need for more timely, high-frequency and group-specific indicators that can track short-term movements in well-being. Better knowledge of short-term movements in well-being is crucial for informing policy interventions during and after recessions.

Tackling gender inequality

Policy-makers also need to know whether policies should be targeted at specific groups of the population. A case in point is that of gender differences.

Gender gaps in well-being have narrowed over recent decades, although men still score higher than women in a number of areas. Women live longer than men, but also suffer more often from illness. Girls are now doing better than boys in school, but remain under-represented in key fields of education that provide greater jobs opportunities. Similarly, women are increasingly present in the labour market. Yet, they still earn less than men, spend more hours in unpaid work and find it harder to reach the top of the career ladder or start their own business. Men are more often the victims of homicide and assault, but women are the primary target of intimate partner violence. Finally, although women typically report slightly higher life evaluations than men, they are more likely to experience negative emotions.

It is clear however that gender is not only a women's issue. While traditional disadvantages of women and girls persist in most countries, men and boys are increasingly exposed to uncertain job prospects and need to adapt to changing tasks and social expectations. Measuring well-being with a gender perspective thus requires moving beyond indicators showing the gap between women and men, towards a broader assessment of vulnerabilities, opportunities and inequalities specific to each gender.

Quality jobs for greater well-being

Quality of employment and well-being in the workplace are becoming more prominent issues in many OECD countries.

Measuring the quality of employment is challenging as it covers many different aspects, ranging from earnings to social relationships at work, which interact with each other in complex ways to shape the overall quality of a job. How much autonomy people have, whether they have well-defined goals at work and supportive colleagues all affect quality of employment. The challenge is to develop a set of indicators to capture this broad range of dimensions.

Future well-being

Policy-makers and citizens need to know how actions taken today might affect *future* well-being. Measuring whether well-being is likely to be sustainable over time is especially challenging because it requires an in-depth understanding of what will matter for well-being in the future. As a first step, the OECD brings together what we know about the resources that sustain well-being over time, and considers how they can be measured.

It proposes building on the work of the recent UNECE-Eurostat-OECD *Task Force on Measuring Sustainable Development* as a starting point. It focuses on the stocks of natural, human, social and economic capital thought to be important for sustaining well-being over time, and outlines the types of indicators that would be needed to monitor these stocks effectively. Information about distribution and management of capital stocks at a variety of different spatial levels (local, national, regional and global) may also be important. The next step in the statistical agenda will be to select a set of specific indicators and begin to populate a dashboard with relevant data.

Chapter 1

The OECD *Better Life Initiative*: Concepts and indicators

What drives people's and nations' well-being and where do countries need to improve to achieve greater progress for all? Building on more than 10 years of OECD work on measuring well-being and progress, the OECD Better Life Initiative *launched in 2011 addresses these questions through evidence on 11 dimensions. The framework developed by the OECD to measure well-being distinguishes between current and future well-being. Current well-being is measured in terms of both material conditions and quality of life. The chapter also describes a range of statistical advancements made on measuring well-being since the previous edition of* How's Life?*. For example, significant progress has been made in some areas, such as income and wealth, education, environment and subjective well-being. This progress needs to be sustained while in other well-being areas statistical challenges still remain.*

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

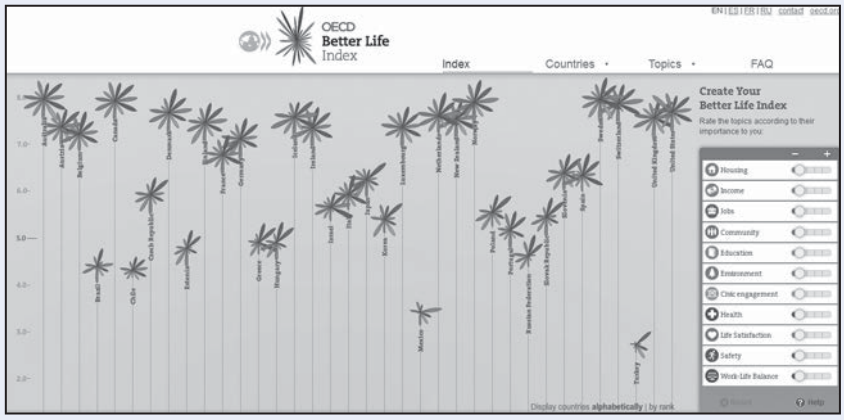
The OECD *Better Life Initiative* and beyond

Are our lives getting better, and if they are, how do we know? How can we measure improvements in well-being, not just economic growth? Is well-being shared fairly among different groups in society, such as the young and the elderly, men and women? How can we be sure that actions to achieve better lives today are not undermining tomorrow's well-being? The question of how to measure well-being and societal progress is one that the OECD has been addressing for more than a decade, resulting in the OECD *Better Life Initiative* in 2011. The *Better Life Initiative* focuses on the aspects of life that matter to people and that, together, shape their lives. It comprises a regularly updated set of well-being indicators and

Box 1.1. **The *Better Life Index***

The *Better Life Index* (BLI) has been designed to involve people in the discussion on well-being and, through this process, to learn what matters the most to them. The *Better Life Index* (Figure 1.1) is an interactive tool that allows users to set their own weights on the 11 dimensions of the OECD well-being framework (Figure 1.2). The web application allows users to see how countries' average achievements compare based on one's own personal priorities in life, and to share one's index and choices of weights with other people in their networks and with the OECD. Since its launch in May 2011, the BLI has been visited by more than 2.6 million people from all over the world. Around 44 000 indices have been shared with the OECD. The information gathered from these users shows that on average what matters most to them is life satisfaction, health and education.

Figure 1.1. **The OECD *Better Life Index* web application**



Note: The screenshot shows the BLI visualisation. Countries are represented by flowers with eleven petals, corresponding to the well-being dimensions (see Figure 1.2). Users can rate these dimensions by using the control panel in the right-hand side of the screen. When dimensions are rated, flowers change size to reflect the importance attributed by users. At the same time, countries move up (down) if they perform well (poorly) in the dimension of well-being that users rate the highest.
Source: The OECD *Better Life Index*, *www.betterlifeindex.org*.

an analysis, published in *How's Life?* as well as an interactive web application, the *Better Life Index* (Box 1.1). It also includes a number of methodological and research projects to improve the information base towards a better understanding of well-being trends and their drivers.[1]

While work on well-being and progress originated in academic and policy circles, measuring well-being is now a prominent item on the agenda of many statistical offices. This reflects the wide-spread recognition that well-being statistics are critical for informing policy making on a regular and systematic basis on a range of aspects that matter to the life of ordinary people.

Over the past few years, many countries have launched their own initiatives to measure well-being (see *www.wikiprogress.org* for a comprehensive rolling review of existing initiatives). Several of these initiatives were presented at a series of OECD regional conferences and at the 4th OECD World Forum on Statistics, Knowledge and Policy that took place in New Delhi in October 2012. The large and increasing number of such initiatives demonstrates the interest globally for indicators and analysis that go beyond GDP. They also show a strong convergence in conceptual frameworks and indicators used (see Box 1.2).

Box 1.2. **Recent national initiatives on measuring well-being and progress**

While work on well-being and progress originated in academic or policy circles (e.g. Club of Rome, the OECD Global Project, etc.), the notion of well-being is now prominent on the agenda of many National Statistical Offices (NSOs). Selected recent projects undertaken by NSOs or governments include:[1]

- ***Australia:*** The Australian Bureau of Statistics (ABS) published its first Measures of Australia's Progress (MAP) in 2002, with updates in 2010 and 2012. In 2011, ABS carried out an extensive community consultation (MAP 2.0) to improve MAP. This consultation involved individuals, community leaders and experts to provide guidance on the goals and aspirations of Australians. The feedback collected through a series of conferences, web-consultations and panels exposed some of the gaps in the picture provided by the indicators previously used in the MAP initiative, and led to the identification of "governance" as a new domain of progress. The outcomes of this consultation have subsequently been used by ABS to improve the statistical framework used to measure progress. The refreshed MAP will be released in November 2013.
- ***Austria:*** In 2012, Statistik Austria launched a new dataset (*How's Austria?*) comprising 30 headline indicators in three areas: material wealth, quality of life and environmental sustainability. In the same year, the Economy Ministry together with the Austrian Research Institute WIFO published a study (*Mehr als Wachstum*, "More than Growth"), which complemented the OECD *How's Life?* indicators set with additional indicators on domains identified as especially relevant by Austrian people. In interviews, Austrians were asked to rate the importance of indicators and dimensions for their own well-being, with the indicators aggregated accordingly to derive a composite index of Austrian well-being.
- ***France:*** Since the publication of the *Stiglitz-Sen-Fitoussi Report,*[2] the French National Statistical Office (Institut national de la statistique et des études économiques, INSEE) has introduced quality of life variables in existing household surveys and has introduced a specific multi-modal survey on quality of life. This survey enabled, for the first time, joint measurement of all the objective and subjective quality of life dimensions recommended in the *Stiglitz-Sen-Fitoussi Report* (Stiglitz et al., 2009).
- ***Italy:*** In 2011 the Italian National Statistical Office (Istituto nazionale di statistica, ISTAT) and the National Council on the Economy and Labour (CNEL) established a joint "Steering Group on the Measurement of Progress in Italian Society", including representatives from firms, trade unions and civil society. The Group developed a multi-dimensional framework for measuring "equitable and sustainable well-being" (*BES – benessere equo e sostenibile*), building on an open consultation with experts, civil society and citizens (through surveys and on-line) to identify the dimensions of well-being that are most relevant for Italian society. The Group published its report in 2013 and indicators will be systematically updated by ISTAT.

Box 1.2. **Recent national initiatives on measuring well-being and progress** *(cont.)*

- ***Mexico:*** The National Statistical Office of Mexico (Instituto Nacional de Estadística Geografía e Informática, INEGI) has developed a set of well-being statistics following a three-step strategy. The first step consisted in promoting debate and discussion on the subject through seminars and conferences organised with relevant national, regional and international experts. The second step consisted in gathering and reporting the available well-being statistics in a specific subsection of INEGI's web page and in developing new indicators on subjective well-being, based on a number of questions newly included in existing surveys (household income and expenditure survey, time use survey, citizens' confidence and public perception survey). The third step consisted in promoting the use of the new set of well-being indicators in policy making.
- ***Portugal:*** Statistics Portugal (Instituto Nacional de Estatistica) has recently started to develop a well-being index which will be released at the end of 2013. Since 2012 Statistics Portugal has also updated annually its 80 Sustainable Development Indicators.
- ***United Kingdom:*** In 2010 the UK Prime Minister invited the National Statistician to run a "National Debate" asking citizens "What matters?". This initiative was run by the Office of National Statistics (ONS), Measuring National Well-being Programme, which included setting up online and offline platforms to interact with people and organisations on the questions that could help measure the country's progress. More than 34 000 contributions were made, with initial findings from the national debate and consultation published in June 2011. In July 2012 the ONS released the first annual subjective well-being estimates and a revised set of domains and measures. In November 2012, the first annual report on "Life in the UK, 2012" and the national well-being "wheel" which included the well-being indicators were published. The ONS measures of national well-being combined with the Department for Environment, Food and Rural Affairs (DEFRA) Sustainable Development Indicators show what UK citizens value as a nation and the type of society they want to pass on to future generations. Scotland Performs measures and reports on progress of government in Scotland in creating a more successful country, with opportunities for all to flourish through increasing sustainable economic growth. Scotland Performs offers accountability based on national priorities set out in the National Performance Framework.

Many initiatives have also been carried out at international level, for instance:

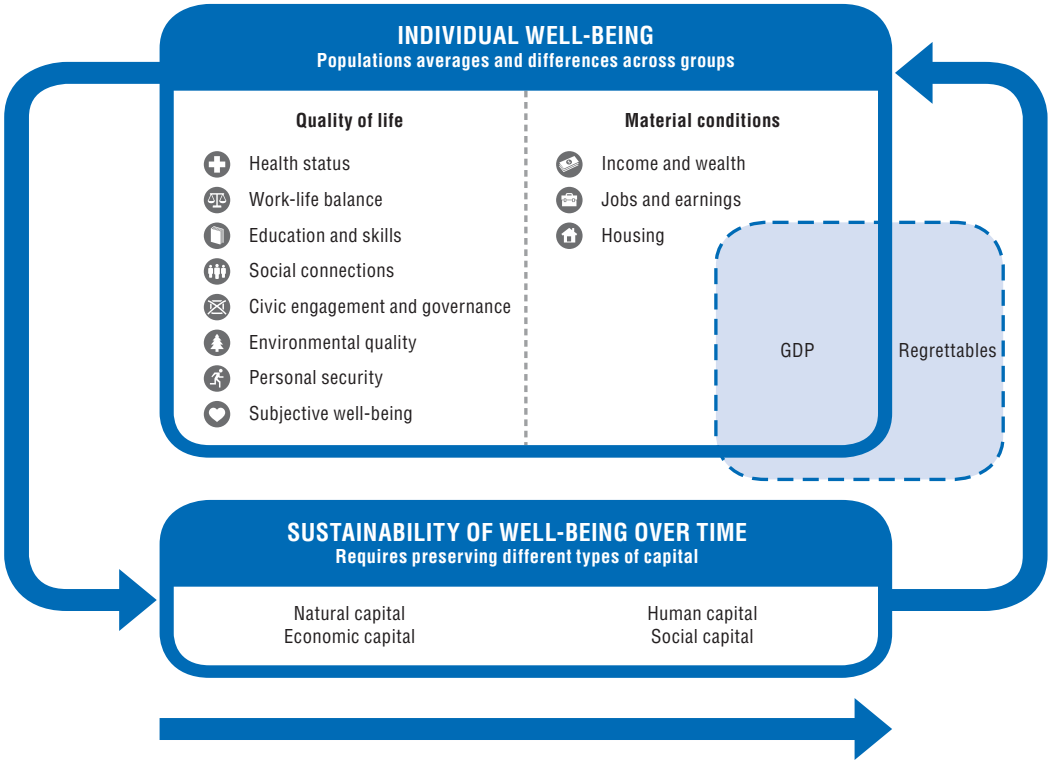
- At European level, the ***European Statistical System Committee*** (ESSC) has established a Sponsorship Group on Measuring Progress, Well-being and Sustainable Development that follows up on the recommendations from the "GDP and Beyond Communication" and the Stiglitz-Sen-Fitoussi Commission report. Building on some of the recommendations of the Sponsorship Group, the ESSC has further developed a set of Quality of Life (QoL) indicators for the EU. The indicators are seen as a first attempt at combining data from several sources for measuring Quality of Life in the EU and will be refined and complemented with additional indicators, as results from new ad hoc modules in existing surveys become available (e.g. the module on subjective well-being in the EU-SILC 2013) and further methodological work is developed.
- At the ***European Level, the EU's Europe 2020 Strategy*** also establishes a number of targets for jobs and smart, sustainable and inclusive growth. These indicators are supported by specific headline indicators that allow monitoring progress in the strategy targets.
- ***WHO/Euro*** has created an expert group on measurement and target-setting for well-being in Europe. Its overarching aim is to provide advice on how to assist in setting targets on well-being, as a part of the overarching targets of the European Health 2020 policy.

1. For European countries see also *http://epp.eurostat.ec.europa.eu/portal/page/portal/quality_life/links#5*.
2. In 2008 former French President Nicolas Sarkozy established the Commission on the Measurement of Economic Performance and Social Progress chaired and co-ordinated by Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi. In September 2009 the Commission published a report that included around 30 recommendations on how to improve measures of well-being and progress (Stiglitz et al., 2009). *How's Life?* draws on many of these recommendations.

A framework for measuring well-being

Figure 1.2 presents the conceptual framework used by the OECD to define and measure well-being in its *Better Life Initiative* (see Box 1.3 for more details). The framework distinguishes between current and future well-being. Current well-being is measured in terms of outcomes achieved in the two broad domains: material living conditions (income and wealth, jobs and earnings, housing conditions) and quality of life (health status, work-life balance, education and skills, social connections, civic engagement and governance, environmental quality, personal security and subjective well-being). Future well-being is assessed by looking at some of the key resources that drive well-being over time and that are persistently affected by today's actions: these resources can be measured through indicators of different types of "capital". Chapter 6 discusses in more detail the *How's Life?* approach to measuring the sustainability of well-being over time.

Figure 1.2. **The OECD well-being conceptual framework**



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

Building on best practices for measuring well-being and progress, the recommendations from the *Stiglitz-Sen-Fitoussi Report*, as well as on consultations with international experts and with National Statistical Offices represented in the OECD Committee on Statistics, the OECD well-being framework for measuring current well-being has four distinctive features:

- First, it focuses on ***people*** (i.e. individuals and households), their situation and how they relate to others in the community where they live and work. Focusing on people, rather than on the economy, is important as there may be differences between the economy-wide assessment of a country and the well-being experience of individuals and households.

Box 1.3. **Conceptual underpinnings of the OECD well-being framework**

From a normative perspective, the OECD well-being framework builds on the capabilities approach proposed by Sen, 1985 (see also Alkire and Sarwar, 2009; Anand et al., 2009; Anand et al., 2011). This approach is based on a multidimensional definition of well-being where both what people do, such as having a good job or expressing their political voice (their functioning) and people's freedom to choose that functioning (their capabilities) matter. The capabilities approach differs from so-called "welfarist approaches", which focus solely on well-being achievements, irrespective of the conditions under which outcomes are achieved (i.e. ignoring the set of opportunities given to each person to achieve those outcomes).

The OECD well-being framework stresses that functionings and capabilities matter to the same degree, recognising the importance of individual agency and freedom in choosing the life one wants to live. For instance, the OECD framework encompasses education, health and social connections as these dimensions are instrumental in choosing a good life. According to this perspective, increasing well-being means expanding the opportunities that people have to live their life according to their objectives and values.

The OECD framework attempts to operationalise the capabilities approach and to make it measurable through indicators that can be collected and used by policy-makers and National Statistical Offices to monitor well-being conditions in the population and their evolution over time. Operationalising the framework means first, selecting a list of basic and universal functionings and capabilities; and, second, identifying the specific indicators measuring each of them. In terms of functionings and capabilities, the OECD defines well-being in the domains of material living conditions and quality of life, in line with a large body of literature and research (e.g. Stiglitz et al., 2009 for a review; Sen, 1998; Nussbaum, 2011). In the OECD framework, the 11 well-being dimensions can be seen as both functionings and capabilities. For instance being in good health is a functioning in itself but it is also a capability as it makes it possible to choose among a number of different functionings (e.g. the type of job, the type of leisure, etc.). The larger is this set of choices, the larger is the capabilities space.

From a conceptual perspective, the OECD approach is similar to that developed by the UNDP for its Human Development Index (HDI). However, the OECD approach expands the scope of the HDI, as it encompasses additional dimensions to the three considered by the UNDP (i.e. income, health and education), whose focus has traditionally been on developing countries.

Source: Adapted from Boarini, R. and Mira d'Ercole (2013), "Going Beyond GDP: An OECD Perspective", *Fiscal Studies Special Issue on Well-Being*, forthcoming.

- Second, it concentrates on well-being ***outcomes*** as opposed to well-being inputs or outputs, as outcomes provide direct information on people's lives. For instance it focuses on people's satisfaction with water rather than how much has been spent on providing clean water or how many miles of water pipe have been laid.
- Third, it considers the ***distribution*** of well-being in the population alongside average achievements, in particular disparities across age groups, gender and individuals' socio-economic backgrounds.
- Lastly, it looks at both ***objective*** and ***subjective*** aspects of well-being, as personal experiences and assessments of life circumstances provide important supplementary information to more objective measures of these circumstances.

As mentioned above, material living conditions and quality of life are broken down into 11 *dimensions*, namely: income and wealth; jobs and earnings; housing; health status; work-life balance; education and skills; social connections; civic engagement and governance; environmental quality; personal security; and subjective well-being. The rationale for selecting these dimensions is as follows:

- ***Income and wealth*** measure the economic resources that people can use today or in the future to satisfy various human needs and wants and that protect against vulnerabilities and risks of various types.
- Both the ***availability*** and ***quality of jobs*** are relevant for people's well-being, not only because quality jobs increase people's command over resources but also because these jobs offer the opportunity to fulfil one's own ambitions, to develop skills and abilities, to feel useful to society and to build self-esteem.
- Access to ***housing*** and its quality satisfy people's basic needs. Beyond their intrinsic importance, they are also important determinants of health and subjective well-being, as well as of social connections and access to jobs and public services.
- Physical and mental ***health*** is important in itself for people's well-being but also because they allow them to perform a range of personal and social activities that contribute to their well-being.
- ***Education*** and skills can be seen as both a basic need and an aspiration of all humans, as well as being instrumental to achieve many other economic and non-economic well-being outcomes.
- ***Work-life balance*** is important for people's well-being in terms of family life; more generally, the amount of time that people can devote to leisure, personal care and to other non-work activities help individuals remain healthy and productive.
- ***Civic engagement*** matters, as having political voice in the society where people live allows them to have a say in political decisions that affect their lives and to contribute to deliberations that shape the well-being of communities; similarly, ***good governance*** is needed to translate people's voice into policies that support their aspirations for a good life.
- ***Social connections*** are valuable in themselves as many people report that the most pleasurable activities are performed with others; but they are also instrumental in achieving a number of other important goals such as finding a job, or support in case of need.
- The ***quality*** of the natural ***environment*** where people live and work is important in its own right but it also matters for people's health and their ability to undertake a number of activities (e.g. raising children, social life, etc.).
- For the same reasons, living in a ***secure environment***, i.e. where the risks of being robbed or assaulted are low, is important to generate well-being.
- Finally, besides objective aspects of living conditions and quality of life, it is crucial to consider how people feel about their life and experience – i.e. their ***subjective well-being***.

The 11 dimensions described above can be considered as universal, i.e. as relevant to people living in all societies. However, their relative importance will vary among individuals and countries. People living in different countries and communities may attach varying importance to different dimensions, reflecting their own priorities. In addition, countries may adjust this framework to better reflect the well-being of their population (e.g. some dimensions may be merged or relabelled, or complemented with additional country-specific dimensions – for instance Italy includes culture as one of 12 dimensions included in its

national well-being indicator BES (Benessere Equo sostenible) (*www.misuredelbenessere.it*). More importantly, the selection of indicators used to monitor achievements in these dimensions may also differ to reflect specific country conditions, history and challenges. In other terms, the framework proposed above is not meant to be a straitjacket for countries willing to pursue their own national initiatives in this field. Rather it should be viewed as a framework that provides a benchmark for meaningful international comparisons.

Selecting indicators

The headline indicators used in *How's Life?* meet, to different degrees, a number of quality criteria, such as conceptual and policy relevance, quality of the underlying data, comparability of the concepts and survey questions used, and frequency of compilation (Box 1.4 and OECD 2011 for a detailed discussion of the indicators as well as the rationale behind their selection). The selection has been made in consultation with OECD experts and National Statistical Offices of OECD countries in 2011 in the context of the first edition of *How's Life?*. This edition builds on this selection and extends it to a very small extent to be consistent with the previous edition.

While the set of selected indicators represent, in the view of the OECD, the best current available proxies for outcomes in the 11 dimensions of well-being, these indicators do not necessarily meet all the criteria above. In particular, in those cases where existing official data are deemed to be not sufficiently comparable across countries, *How's Life?* uses data from non-official sources. These non-official sources have well-known limitations in terms of sample size, sampling frames, mode of data collection, etc.; they have the advantage, however, of covering a wide range of countries and of relying on a harmonised questionnaire applied in a large number of countries.[2] The indicators based on non-official sources have to be considered as "place holders" until better and more comparable official statistics in these fields are developed. Results based on these non-official data have to be interpreted with caution. Care is also needed when interpreting some of the subjective indicators as they can be affected by socio-cultural influences that limit the relevance of cross-country comparisons.

The *How's Life?* indicators should be understood as being experimental and evolutionary. They will therefore change as better measures are developed and countries reach agreement on indicators that are more appropriate to summarise the various well-being dimensions.

Assessing well-being through a dashboard of indicators

The definition of well-being adopted by the OECD is multi-dimensional. Traditionally, multidimensional concepts have been assessed either through a set of indicators (dashboard), or through a composite or synthetic index. Composite indices are however often criticised for the loss of information that goes with them, as well as for arbitrary assumptions in the weighting that has to be applied to the different dimensions and their sub-elements to arrive at a single index figure (see Stiglitz et al., 2009; Fleurbaey, 2009 for a review). The *Better Life Index* addresses the issue of arbitrary weights by allowing users to create their own composite index by weighting the various dimensions according to what they consider more important for their well-being (Box 1.1).

A further challenge with composite or synthetic indexes relates to the level at which aggregation takes place. Synthetic indices that aggregate well-being outcomes at the individual level are conceptually better than composites that aggregate country-level

Box 1.4. **The *How's Life?* headline indicators in 2011 and in this edition**

The OECD well-being framework shown in Figure 1.1 has guided the selection of indicators. Critical criteria considered for the selection of indicators have been the following: *i)* they should capture well-being achievements at the individual or household level; *ii)* they should measure well-being outcomes, rather than means of achieving them; *iii)* they should allow disaggregation, so as to assess the well-being of different population groups; and *iv)* they should gauge the joint distributions of achievements, e.g. whether a person with a disadvantage in one dimension also experiences poor outcomes in another. The headline indicators have also been chosen so as to fulfil standard statistical requirements, such as face validity (i.e. they should offer an intuitive measure of the concept at hand); focus on summary outcomes (rather than to more specific components); being amenable to change and sensitive to policy interventions; being comparable across countries; being commonly used and accepted as well-being measures within the statistical and academic communities; providing large country coverage; and being based on data collection that are fairly frequent and timely (see OECD, 2011 for more details on these criteria). While the current choice of indicators generally meets the above criteria, the selection will be improved in the future as better statistics become available.

The first edition of *How's Life?* in 2011 distinguished between headline indicators, i.e. indicators that are deemed to be of sufficiently good quality and can be used for monitoring well-being over time and across countries, and secondary indicators that provide complementary evidence (e.g. indicators covering more specific aspects of the dimension at hand, with more limited country coverage, or based on sources that were deemed to be less reliable than in the case of headline indicators). Most of the indicators are based on data from official statistics (OS) while a small number is based on data from non-official statistics (NOS). In 2011 headline indicators for each dimension included:

- ***Income and wealth:*** Household net adjusted disposable income per person (OS); Household net financial wealth per person (OS).
- ***Jobs and earnings:*** Employment rate (OS); Long-term unemployment rate (OS); Average gross annual earnings of full-time employees (OS).
- ***Housing conditions:*** Number of rooms per person (OS); Dwellings lacking basic facilities (OS).
- ***Health status:*** Life expectancy at birth (OS); Self-reported health status (OS).
- ***Work-life balance:*** Employees working very long hours (OS); Time devoted to leisure and personal care (OS).
- ***Education and skills:*** Educational attainment (OS); Students' cognitive skills (OS).
- ***Social connections:*** Social network support (NOS).
- ***Civic engagement and governance:*** Voter turn-out (OS); Consultation on rule-making (OS).
- ***Environmental quality:*** Air quality (OS).
- ***Personal security:*** Intentional homicides (OS); Self-reported victimisation (NOS).
- ***Subjective well-being:*** Life satisfaction (NOS).

After another round of consultation with National Statistical Offices of OECD countries, five new headline indicators have been included in this edition of *How's Life?* to complement or improve the indicators used in 2011:

- *Housing costs* (OS) as a measure of affordability of housing.
- *Education expectancy* (OS) as a measure of the educational opportunities for children who are in school today.
- *Satisfaction with water quality* (NOS), as a measure of people's satisfaction with one specific aspect of the environment (i.e. water) that is not captured by the headline indicator measuring air quality.
- *Short job tenure* (OS) as a measure of employment insecurity and instability.
- *Adult competencies* (OS) as a measure of the cognitive skills of the adult population.

The exact definition and source of the indicators can be found in Chapter 2. See also OECD, 2011 for an in-depth discussion of the pros and cons of the various indicators and their interpretation.

averages of well-being outcomes, as they make it possible to take into account the joint distribution of outcomes at individual level (e.g. whether people at the bottom of the income distribution also experience the lowest achievements in terms of health, skills, etc.) as well as weights based on individuals' preferences (see Schokkaert and Decanq, 2013 for a discussion). However this type of synthetic index can only be constructed if individual-level data as well as country-level data are available from the same survey. Given the lack of such information for a majority of countries, *How's Life?* does not construct a composite or synthetic index but rather presents a dashboard of 25 headline indicators.[3]

While the dashboard approach has the advantage of presenting separate information for each well-being dimension, making it possible to assess which dimensions drive the overall well-being performance of countries, it comes with some costs, namely a more complex picture to communicate and an absence of information on interrelations across well-being outcomes.

To address some of these limitations, *How's life?* summarises the information from the 25 headline indicators (measuring average outcomes in the population[4]) using a "traffic light" approach (Table 1.1). Traffic lights show how countries compare on the (unweighted) 11 well-being dimensions. According to this approach, the top 20% of countries in Table 1.1 are shown by circles (standing for green lights), the middle 60% by triangles (orange lights) and the bottom 20% by diamonds (red lights).

The traffic lights show that overall:

- Switzerland, Australia, Nordic European countries, as well as Canada, New Zealand and the United Kingdom are among the highest-performers.
- The United States, Ireland, Luxembourg, Austria, Belgium, Finland, Germany, France, Japan, Korea, Spain, the Czech Republic, Italy, the Slovak Republic, Israel, Poland and Portugal display average performance.
- Turkey, Brazil, Mexico, Estonia, Hungary, Greece and Chile are among the countries with a relatively low performance.

The traffic light approach has some limitations. For instance, since it focuses on relative performances among countries it cannot be used to establish countries' progress over time. In addition, it relies on conventional thresholds set to cluster countries rather than on data analysis techniques (e.g. clustering analysis). Nevertheless, the patterns identified for the *How's Life?* indicators are meaningful for cross-country comparisons at one point in time, and they tend to be well-correlated to the results obtained with other rankings or aggregation methods.

Well-being performance may be the result of various and often interrelated factors and in general countries display different strengths and weaknesses in the various well-being dimensions (see Figures 1.A1.1 to 1.A1.3 in Annex 1.A1). While more research is needed to understand what are the drivers of well-being, Annex 1.A1 discusses the results of a simple exploratory analysis that sheds some light on this issue.

The *How's Life?* statistical agenda: Progress since 2011

An important goal of *How's Life?* is to identify priorities for the statistical agenda ahead, and to track progress over time with respect to this agenda. The first edition of *How's Life?* outlined a number of challenges for developing better metrics in each of the

Table 1.1. **An overview of headline well-being indicators**

"Circles" denotes countries in the top two deciles, "diamonds" those in the bottom two deciles, "triangles" those in the six intermediate deciles

	Material Living Conditions									Quality of Life			
	Income and wealth		Jobs and earnings				Housing			Work-life balance		Health status	
	Household Net Adjusted Disposable Income	Household Net Financial Wealth	Employment rate	Personal earnings	Job Tenure	Long-term unemployment rate	Number of rooms per person	Housing expenditure	Dwellings without basic facilities	Employees working very long hours	Time non worked	Life expectancy at birth	Self-reported health
Years	2010	2010	2011	2011	2011	2011	2011	2011	2011	2011	Around 2000	2011	2011
Australia	●	▲	●	▲	▲	●		▲		◆	▲	●	●
Austria	●	▲	▲	▲	▲	●	▲	▲	▲	▲	▲	▲	▲
Belgium	▲	●	▲	▲	▲	▲	●	▲	▲	▲	●	▲	▲
Brazil			▲		◆				◆	◆		◆	
Canada	▲	▲	▲	▲	▲	●	●	▲	▲	▲	◆	▲	●
Chile	◆	▲	▲	◆			▲	●	◆	◆		▲	▲
Czech Republic	▲	▲	▲	◆	●	▲	▲	◆	▲	▲		▲	▲
Denmark	▲	▲	●	●	◆	▲	●	◆	▲	●	●	▲	▲
Estonia	◆	◆	▲	◆	▲	◆	▲	▲	◆	▲	◆	◆	◆
Finland	▲	▲	▲	▲	◆	▲	●	▲	▲	▲	▲	▲	▲
France	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	▲
Germany	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Greece	▲	◆	◆	▲	●	◆	▲	◆	▲	▲		▲	▲
Hungary	◆	◆	◆	◆	▲	◆	◆	▲	◆	●		◆	◆
Iceland			●	▲	▲	▲	▲		▲			●	▲
Ireland	▲	▲	◆	●	▲	◆	●	●	▲	▲		▲	●
Israel		▲	▲	▲		▲	◆			◆		▲	●
Italy	▲	▲	◆	▲	●	▲	▲	▲	▲	▲	▲	●	▲
Japan	▲	●	▲	▲		▲	▲	▲	◆		◆	●	◆
Korea	▲	▲	▲	▲	◆	●	▲	●	▲		▲	▲	◆
Luxembourg		●	▲	●	●	▲	●	◆	●	●		▲	▲
Mexico	◆		▲	◆	◆	●	◆	●	◆	◆		◆	▲
Netherlands	▲	●	●	●	▲	▲	●	▲	●	●		▲	▲
New Zealand	▲		●	▲		●		◆		◆	▲	▲	●
Norway	●	◆	●	▲	▲	●	●	●	▲	●	●	▲	▲
Poland	◆	◆	▲	▲	▲	▲	◆	◆	▲	▲	◆	▲	◆
Portugal	▲	▲	▲	▲	▲	◆	▲	●	▲	▲		▲	◆
Russian Federation	◆		▲			▲	◆	●		●		◆	◆
Slovak Republic	▲	◆	◆	◆	●	◆	▲	◆	▲	▲		◆	▲
Slovenia	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Spain	▲	▲	◆	▲	▲	◆	▲	▲	●	▲	●	●	▲
Sweden	▲	▲	●	▲	◆	▲	▲	▲	●	●	▲	●	▲
Switzerland	●	●	●	●	▲	▲	▲	▲	●	▲		●	●
Turkey			◆	◆	◆	▲	◆		◆	◆		◆	▲
United Kingdom	▲	▲	▲	●	●	▲	▲	▲	●	▲	▲	▲	▲
United States	●	●	▲	●	▲	▲		▲	●	▲	▲	▲	●

Table 1.1. **An overview of headline well-being indicators** *(cont.)*

"Circles" denotes countries in the top two deciles, "diamonds" those in the bottom two deciles, "triangles" those in the six intermediate deciles

	Quality of Life											
	Education and skills				Social connections	Civic engagement and governance		Environmental quality		Personal security		Subjective well-being
	Educational attainment	Education expectancy	Students' cognitive skills	Competences in the adult population	Social network support	Consultation on rule-making	Voter turn-out	Satisfaction with water quality	Air pollution	Reported homicides	Self-reported victimisation	Life Satisfaction
Years	2010	2010	2009	2009	2012	2008	Around 2011	2012	2009	2010	2010	2012
Australia	▲	●	●	▲	▲	●	●	▲	▲	▲	●	▲
Austria	▲	▲	▲	▲	●	▲	▲	●	◆	●	▲	▲
Belgium	▲	●	▲	▲	▲	◆	●	▲	▲	▲	◆	▲
Brazil	◆	◆	◆		▲	◆	▲	◆	▲	◆	◆	▲
Canada	●	▲	●	▲	●	●	◆	▲	▲	▲	●	●
Chile	▲	◆	◆		◆	◆	●	▲	◆	◆	◆	▲
Czech Republic	●	▲	▲	▲	▲	▲	◆	▲	▲	▲	▲	▲
Denmark	▲	●	▲	▲	●	▲	●	●	▲	▲	▲	●
Estonia	●	▲	▲	▲	▲	◆	▲	◆	●	◆	◆	◆
Finland	▲	●	●	●	▲	▲	▲	▲	▲	▲	▲	●
France	▲	◆	▲		▲	◆	▲	▲	●	▲	▲	▲
Germany	▲	▲	▲	▲	▲	◆	▲	●	▲	●	▲	▲
Greece	◆	●	◆		◆	▲	◆	◆	◆	▲	▲	◆
Hungary	▲	▲	▲		▲	▲	▲	▲	▲	▲	▲	◆
Iceland	▲	●	▲		●	▲	●	●	▲	●	▲	●
Ireland	▲	▲	▲	◆	●	▲	▲	▲	●	▲	▲	▲
Israel	▲	◆	◆		▲	◆	▲	◆	▲	▲	◆	▲
Italy	◆	▲	▲	◆	▲	▲	▲	◆	▲	▲	▲	◆
Japan			●	●	▲	▲	▲	▲	▲	●	●	▲
Korea	▲	▲	●	▲	◆	●	▲	▲	◆	◆	●	▲
Luxembourg	▲	◆	▲		▲	▲	●	▲	▲	▲	▲	▲
Mexico	◆	◆	◆		◆	▲	▲	▲	◆	◆	◆	▲
Netherlands	▲	▲	●	●	●	▲	▲	▲	◆	▲	▲	●
New Zealand	▲	▲	●		▲	●	▲	▲	●	▲	▲	▲
Norway	▲	▲	▲	●	▲	▲	▲	●	▲	●	▲	●
Poland	●	▲	▲	▲	▲	●	◆	▲	◆	▲	●	▲
Portugal	◆	▲	▲		◆	▲	◆	▲	▲	▲	◆	◆
Russian Federation	●	▲	◆		▲		▲	◆	▲	◆	▲	◆
Slovak Republic	●	▲	▲	▲	▲	▲	◆	▲	●	▲	▲	▲
Slovenia	▲	▲	▲		▲	●	▲	▲	▲	●	▲	▲
Spain	◆	▲	▲	◆	▲	▲	▲	▲	▲	▲	▲	▲
Sweden	▲	●	▲	●	▲	●	●	●	●	▲	◆	●
Switzerland	▲	▲	●		●	▲	◆	●	▲	●	▲	●
Turkey	◆	◆	◆		◆	▲	●	◆	◆	◆	▲	◆
United Kingdom	▲	▲	▲	▲	●	●	▲	●	●	▲	●	▲
United States	●	▲	▲	◆	▲	▲	▲	▲	▲	◆	●	▲

Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932889269

well-being dimensions. While many of the challenges identified in 2011 still remain, significant progress has been achieved in some of them. In particular:

- ***Income and wealth:*** In June 2013, the OECD released its *Guidelines for Micro Statistics on Household Wealth* (*http://dx.doi.org/10.1787/9789264194878-en*), which address the common conceptual, definitional and practical problems that countries face in producing wealth statistics, and aim to improve the comparability of the currently available country data. A companion report proposes a framework to support the joint analysis of micro-statistics on household income, consumption and wealth *(OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth)* (*http://dx.doi.org/10.1787/9789264194830-en*) as three separate but interrelated dimensions of people's economic well-being. In addition, an OECD-Eurostat Expert Group to measure Disparities in a National Account framework (EG DNA) launched in 2011, recently completed an in-depth comparison of various components of household income, consumption and wealth between micro- and macro-sources, and developed a set of experimental household accounts providing information on the distribution of household income, consumption and saving that are consistent with National Accounts' totals. The European Central Bank has also carried out the first Household Finance and Consumption Survey, which includes a wide range of questions on assets and finances of households living in the euro area countries.
- ***Jobs and earnings:*** The recent release of the ILO Manual on concepts and definitions of Decent Work indicators (ILO, 2012) marks a significant step forward in the statistical agenda on employment quality. The manual provides a detailed description of indicators to be developed for monitoring the progress made in implementing the ILO Decent Work Agenda, as well as methodological and practical guidelines for producing and using these indicators. Similarly, the UNECE, in collaboration with Eurostat and the ILO, is developing operational guidelines for measuring the various dimensions included in its framework for Measuring Quality of Employment (UNECE, 2010). However, despite these conceptual and methodological advancements, no internationally comparable database on employment quality yet exists. Chapter 5 describes the challenges of measuring employment quality and a number of statistical gaps in this field. Another important initiative in the field of jobs and earnings is that undertaken by the ILO to revise the ICLS (International Conference of Labour Statisticians) standards for employment and unemployment statistics. This revision, to be be completed at the end of 2013, will lead to better measures of unpaid work and of marginal attachment to the labour force.
- ***Health status:*** The UNECE-WHO-Eurostat City taskforce on measuring health status (known as the Budapest Initiative) and the Washington Group on disability statistics reached an agreement on a limited set of (six) questions to measure "functioning". This may become the basis for international comparisons of morbidity and make it possible to study the links between morbidity and broader quality of life issues. These questions have been recommended by the UN Statistical Commission for use in the context of the 2020 population censuses, but implementation will have to be promoted and monitored if they are to provide a common benchmark for comparable measures of people's health status. In addition, a European Health Interview Survey (EHIS) will be carried out in 2014 in the EU: this will provide harmonised survey data at national and at EU level on perceived health status and disability, health determinants and health care (including unmet needs).

- ***Education and skills:*** The new Programme for the International Assessment of Adult Competencies (PIAAC) carried out by the OECD collects a set of comparable data that will assist governments in assessing, monitoring and analysing the level and distribution of skills among the adult population, as well as the use of skills in different contexts. This new survey represents a major advancement in measuring skills but also in providing the information needed to understand what drives their accumulation and how skills affect people's well-being more widely.
- ***Work-life balance:*** A Task Force on Time Use Surveys was established by the Conference of European Statisticians (CES) in November 2010, with the objective to develop guidelines and compilations of best practices to help countries carrying out time use surveys, and to improve the comparability of their results. These guidelines, released in June 2013, focus on areas where the statistical community has expressed a particular need for further guidance, including: *i)* policy relevance of time use surveys; *ii)* availability and comparability of key statistical measures of time use; *iii)* periodicity of time use surveys; *iv)* the use of "light" and full-scale time use diaries; and *v)* activity classification.
- ***Environmental quality:*** The System of Environmental-Economic Accounts (SEEA), a joint undertaking of an international taskforce which included the UN Statistical Division, Eurostat, the OECD, the IMF, the World Bank and several National Statistical Offices, has been endorsed as International Statistical Standards by the United Nations Statistical Commission in 2012. SEEA proposes a systemic approach to account for the linkages between the environment and the economy, and for addressing some of the socio-economic aspects of this relationship.[5]
- ***Subjective well-being:*** In March 2013, the OECD released a set of *OECD Guidelines on Measuring Subjective Well-being* (*www.oecd.org/statistics/guidelines-on-measuring-subjective-well-being.htm*). The guidelines provide recommendations on collecting, publishing, and analysing subjective well-being data. The guidelines also outline how measures of subjective well-being can be relevant for policy making, and why national statistical agencies have a critical role to play in enhancing the usefulness of existing measures. The guidelines also include prototype survey modules on subjective well-being that national and international agencies can use in their households surveys. Also in 2013 an ad hoc module of the EU-SILC (EU Statistics on Living Conditions and Income) on subjective well-being was carried out in the EU: this will provide harmonised survey data at EU level and at EU country national level (and for most countries also at sub-national level) on a number of subjective variables related to overall life experience. These subjective well-being variables will be collected at the same time as information on governance and basic rights, material living conditions, mental health, productive and values activities, leisure and social interactions, natural and living environment, economic and physical safety, making it possible to study the joint distribution of achievements in all these various dimensions.

Conclusions

This chapter has presented the OECD well-being framework that underpins *How's Life?*, noting the consultation with OECD countries and international experts in designing it. The chapter has also introduced the well-being indicators, highlighting the criteria behind their selection and how they have evolved over time. The indicators are presented in the form of "traffic lights" that summarise countries' overall well-being performance, as measured by the *How's Life?* headline indicators.

The chapter has presented some of the main advancements made on measuring well-being since the previous edition of *How's Life?* in 2011. Significant progress has been made, especially in the areas of income and wealth, education, environmental quality of life and subjective well-being. In these areas, efforts should be sustained over time, especially as regards the implementation of the new measurement frameworks that ought to translate into a systematic collection of comparable metrics. In the other well-being areas many statistical challenges still remain.

Notes

1. More information on these projects can be found at *www.oecd.org/progress*.
2. For instance the Gallup World Poll, or the European Social Survey.
3. For this same reason and since it is built by aggregating well-being outcomes at country level, the *Better Life Index* disregards information on the joint distribution of outcomes.
4. For the sake of simplicity the traffic light table is done based on the *How's Life?* headline indicators for the total population (e.g. educational attainment) or expressed on average terms (e.g. average household income). Therefore the traffic light reflects the distribution of well-being outcomes across the population to a very limited extent. Chapter 2 presents information on the distribution of outcomes for some of the *How's Life?* indicators that can be broken down for specific groups of the population.
5. The SEEA central framework incorporates four set of accounts: *i)* flow accounts; *ii)* stock accounts; *iii)* activity/purpose accounts; and *iv)* accounts that adjust the SNA economic accounts to reflect the impact of economic activity on environment. Also see Chapter 6 on "Measuring the sustainability of well-being over time".

References

Alkire, S. and M.B. Sarwar (2009), *Multidimensional Measures of Poverty and Well-being*, Oxford Poverty and Human Development Initiative, Oxford Department of International Development, University of Oxford.

Anand, P., M. Durand and J. Heckman (2011), "Editorial: The Measurement of Progress – some achievements and challenges", *Journal of the Royal Statistical Society*, Vol. 174, pp. 851-855.

Anand, P., G. Hunter, I. Carter, K. Dowding, F. Guala and M. van Hees (2009), "The Development of Capability Indicators", *Journal of Human Development Capabilities*, No. 10, pp. 125-152.

BES (Benessere Equo Sostenible), *www.misuredelbenessere.it/index.php?id=38*.

Boarini, R. and Mira d'Ercole (2013), "Going Beyond GDP: An OECD Perspective", *Fiscal Studies Special Issue on Well-Being*, forthcoming.

European Commission (2013), *Beyond GDP: Measuring progress and true wealth, and the well-being of nations*, *www.beyond-gdp.eu/* (accessed 22 July 2013).

Eurostat (2013), *Quality of Life Indicators*, *http://epp.eurostat.ec.europa.eu/portal/page/portal/quality_life/introduction* (accessed 22 July 2013).

Fleurbaey, M. (2009), "Beyond GDP – The Quest for a Measure of Social Welfare", *Journal of Economic Literature*, Vol. 47(4).

Fleurbaey, M. (2006), "Capabilities, Functionings and Refined Functionings", *Journal of Human Development*, Vol. 7/3, pp. 299-310.

ISTAT (2011) (Italian National Statistical Office), Steering Group on the Measurement of Progress in Italian Society, *http://en.istat.it/salastampa/comunicati/non_calendario/20101227_00/Cnel_EN.pdf*.

Nussbaum, M. (2011), *Creating Capabilities: The Human Development Approach*, Harvard University Press.

OECD (2013a), *OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194830-en*.

OECD (2013b), *OECD Guidelines for Micro Statistics on Household Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194878-en*.

OECD (2012), *Highlights and Conclusions*, 4th OECD World Forum on Statistics, Knowledge and Policy: Measuring Well-Being for Development and Policy Making, *www.oecd.org/site/worldforumindia/OECD-World-Forum-2012-India-proceedings.pdf*.

OECD (2011), *How's Life?: Measuring Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264121164-en*.

OECD (2009), *Doing Better for Children*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264059344-en*.

Official Journal of the European Union (2012), Commission Regulation (EU), No. 62/2012 of 24 January 2012, implementing Regulation (EC), No. 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the 2013 list of target secondary variables on well-being, *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:022:0009:0015:EN:PDF*.

Schokkaert, E. and K. Decancq (2013), *Beyond GDP: Measuring Social Progress in Europe*, *www.kuleuven.be/euroforum/viewpic.php?LAN=E&TABLE=DOCS&ID=857*.

Sen, A. (1998), *Development as Freedom*, Oxford University Press, Oxford.

Sen, A. (1985), *Commodities and Capabilities*, North-Holland Publishing, Amsterdam.

Stiglitz, J.E., A. Sen and J.P. Fitoussi (2009), *Mismeasuring Our Lives: Why GDP Doesn't Add Up*, the report by the Commission on the Measurement of Economic Performance and Social Progress, The New Press.

ANNEX 1.A1

Assessing countries' relative strengths and weaknesses in overall well-being performance

Countries may achieve an equally good overall well-being performance by performing well (or not) in different dimensions, as shown by Figure 1.A1.1. For instance Australia and Canada do very well overall, yet Australia does better than Canada in the civic engagement and governance dimension but less so in income and wealth and in work-life balance. Similarly, Nordic European countries are champions in work-life balance and health status, but do less well than Switzerland and Canada in terms of income and wealth. Countries with the same overall well-being performance (i.e. with more than one third of triangles – orange lights) can also differ in terms of performance in the various well-being dimensions. For instance, Germany appears to do better than France in education and skills but performs less well in health.

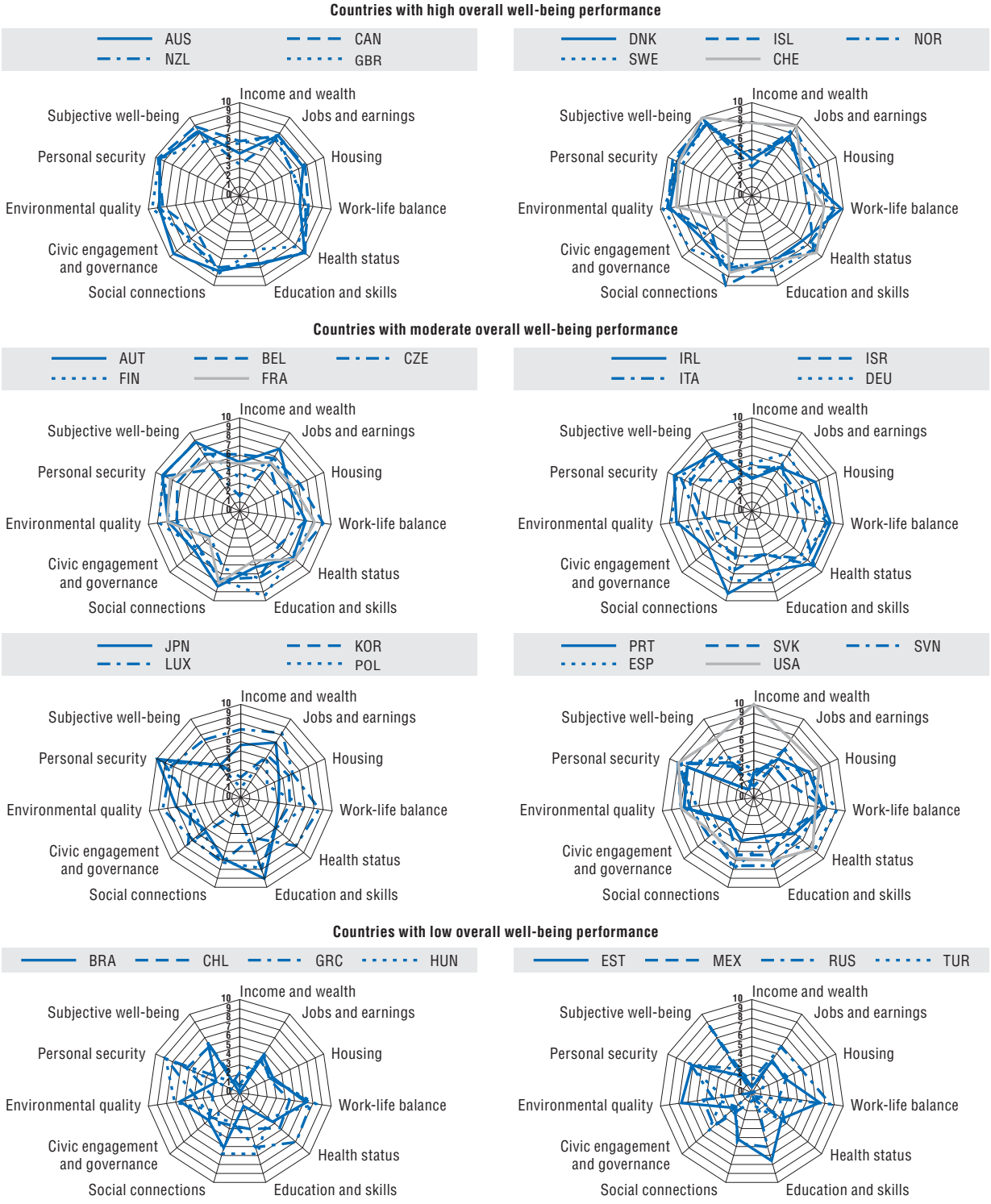
An illustrative analysis shows that behind this diverse performance there may be common patterns:

- Countries that perform relatively better on health status, subjective well-being, civic engagement governance, jobs and education also perform relatively better on overall well-being (Figure 1.A1.2).
- Balanced well-being patterns are more likely to be associated with a higher overall well-being performance (Figure 1.A1.3) that is countries that perform evenly across the eleven dimensions are more likely to be ranked higher overall.
- Finally overall well-being is positively associated with low socio-economic differences in well-being measured by income or educational inequality (Figure 1.A1.4).

A similar link between social disadvantage and average well-being outcomes is also found when looking at the relationship between average well-being outcomes and child poverty, even after controlling for levels of GDP per capita. Child poverty has been found to have a detrimental, long-lasting effect on children's progression and well-being, impacting long-life outcomes and subsequent generations (OECD, 2009 for a review).*

* There is also a growing body of research showing that early well-being of children growing up in socio-economic disadvantage perpetuate over time and may repeat in adulthood.

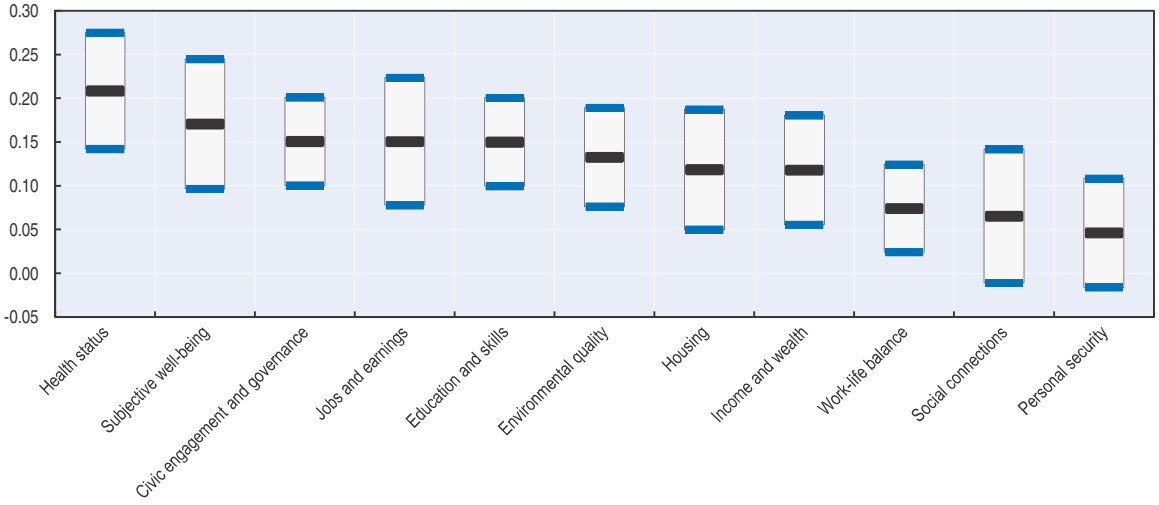
Figure 1.A1.1. **Strengths and weaknesses in well-being vary across countries**



Note: These figures show normalised performance in the eleven well-being dimensions of *How's Life?* Performance is calculated as simple average of the headline indicators included in each dimension and shown in Table 1.1. These values are then normalised with the ratio-scale transformation to re-express all values in a scale between 0 and 10.
Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887597

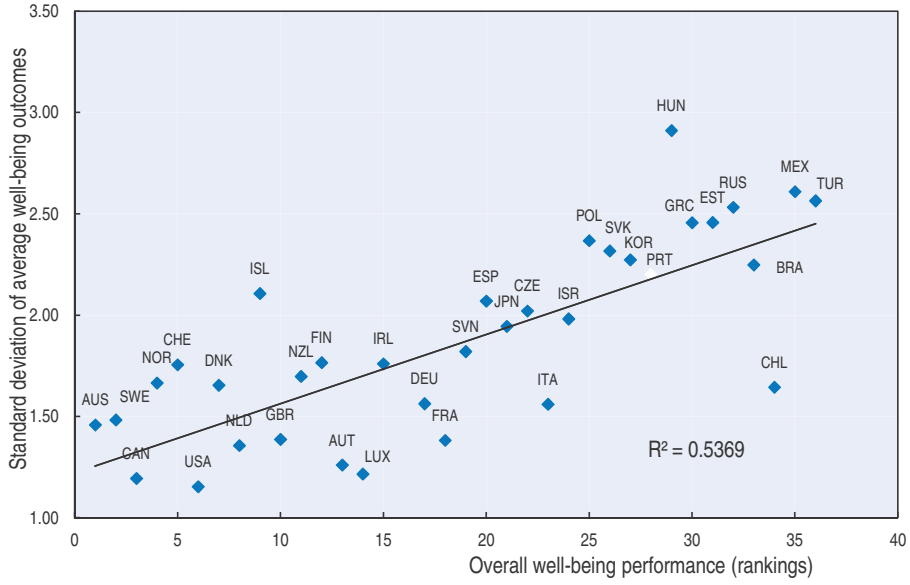
Figure 1.A1.2. **Dimensions that count most for overall well-being performance**



Note: The figure shows the elasticities of overall well-being performance to the eleven well-being dimensions, obtained by regressing the *Better Life Index* rankings (with equal weights) on the well-being dimensions (normalised scores). The choice of equal weights for calculating the BLI index is for illustrative purposes only. The figure shows point estimates (black dashes) and their 95% confidence intervals (blue dashes).
Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887616

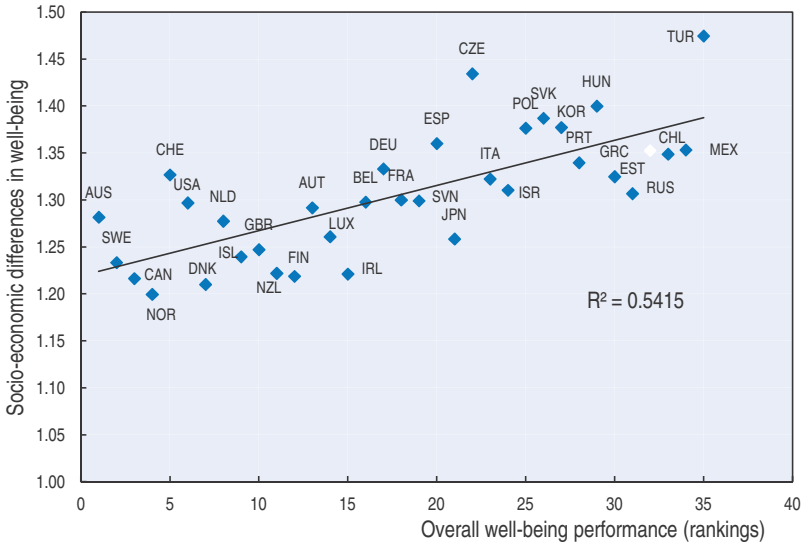
Figure 1.A1.3. **Correlation between well-being performance and performance dispersion across indicators**



Notes: Rankings are calculated using the *Better Life Index* methodology (with equal weights). The choice of weights is for illustrative purposes only.
Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887635

Figure 1.A1.4. **Correlation between well-being performance and socio-economic differences in well-being**



Note: The figure shows the correlation between an overall well-being performance measure (i.e. BLI rankings with equal weights) and an average measure of socio-economic differences (ratio of indicator value for individuals with high socio-economic background to indicator value for individuals with low socio-economic background) in well-being achievements in the *How's Life?* dimensions where information on the socio-economic characteristics of individuals is available. See *http://stats.oecd.org/Index.aspx?DataSetCode=BLI* for more details on the latter.
Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887654

Chapter 2

How's Life? at a Glance

How's life today in OECD countries and beyond? The OECD framework for measuring well-being is used in this chapter to present a diagnosis of the strengths and weaknesses of countries' well-being. This diagnosis shows that OECD countries have made considerable progress in many well-being areas over the past 20 years or so, although progress has been uneven across the 11 dimensions included in the OECD well-being framework. Similarly, there is great diversity in patterns amongst different countries as well as disparity in well-being achievements of different groups of the population within a country.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

This chapter presents detailed evidence on cross-country differences and, where possible, differences over time in well-being outcomes, based on the *How's Life?* headline indicators. The evidence focuses on average well-being patterns as well as selected information on the distribution of well-being in the population. It is organised in thematic sections covering the 11 dimensions of the OECD well-being framework under the two domains of material conditions and quality of life (see Chapter 1).

Income and wealth

Household income and wealth are essential components of individual well-being. The ability to command resources allows people to satisfy basic needs and pursue many other goals that they deem important to their lives. Economic resources enhance people's freedom to choose the lives that they want to live and protect them against economic and personal risks.

The differences among countries in household net adjusted disposable income (HNADI) per capita, the *How's Life?* headline income indicator (see Box 2.1 for the definition), are large (Figure 2.1). In 2011 HNADI per capita was highest in the United States, almost four times as high as in Chile, the OECD country with the lowest level. HNADI has increased during the past decade or so in almost all OECD countries, with the largest rises recorded in the United States, Australia, Sweden, Norway, Slovenia, the Slovak Republic and Estonia. Since 1995, HNADI has decreased in Greece and remained broadly stable in Chile, Mexico and Italy.

The differences among countries in household net financial wealth per capita (see Box 2.1 for the definition) are even larger than those for HNADI (Figure 2.2). In 2009, household net financial wealth per capita was highest in the United States (where it was around three times higher than income) and lowest in Norway and in Eastern European countries. Since the mid-1990s, net financial wealth of households has increased in most OECD countries, notably

Box 2.1. **Measuring Income and wealth**

The two headline indicators presented above are defined as follows:

- ***Household net adjusted disposable income*** per capita measures the maximum amount that any household member can afford to consume without having to reduce the household's assets or to increase its liabilities. It is obtained by adding to people's gross income (earnings, self-employment and capital income, as well as current monetary transfers received from other sectors) the social transfers in-kind that households receive from governments (such as education and health care services), and then subtracting taxes on income and wealth, the social security contributions paid by households as well as the depreciation of capital goods consumed by households.
- ***Net financial wealth*** per capita consists of monetary gold, currency and deposits, securities other than share, loans, shares and other equity (including shares issued by investment funds), insurance technical reserves, and other accounts receivable or payable, net of household financial liabilities, as defined by the System of National Accounts (SNA).

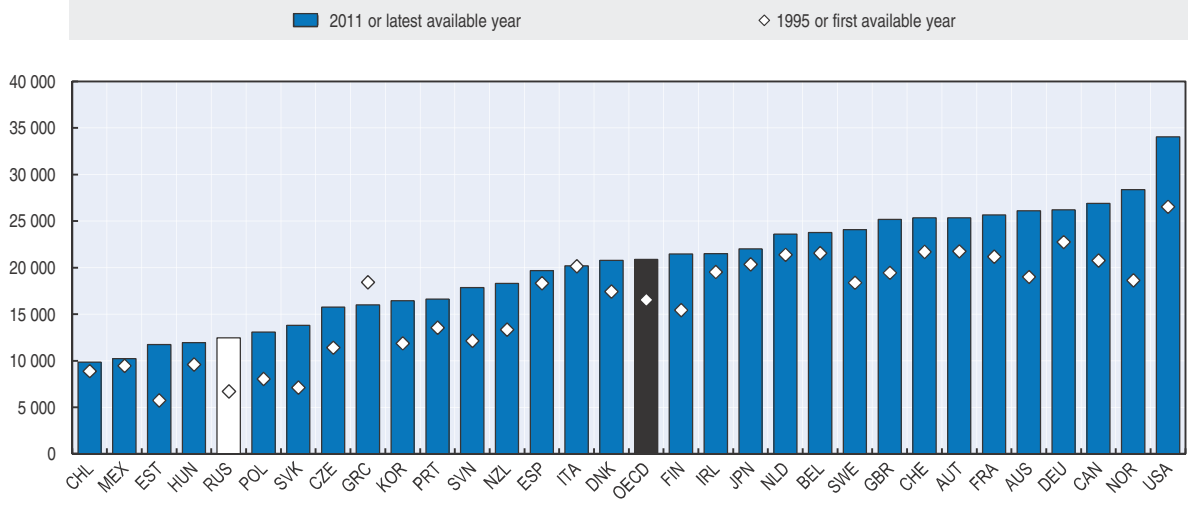
Box 2.1. **Measuring Income and wealth** *(cont.)*

For both indicators, data refer to the aggregate of households, and non-profit institutions serving households. They are based on national accounts statistics collected by the OECD and expressed through the relevant conversion rate (purchasing power parities). The indicators shown here are consistent with economy-wide indicators, such as GDP and productivity. The income concept used is the broadest measure of households' consumption possibilities available within the national accounts system. The wealth measure, however, excludes a range of assets that are critical for household material well-being, such as dwellings, land, and assets that contribute to the economic production of quasi-corporations. Data on these non-financial assets are currently available only for a minority of countries.

The data shown here have limits. First, only few national accounts systems provide data excluding non-profit institutions serving households. The coverage of the indicator of income shown here is then broader than the one typically used in household surveys. Second, to better reflect differences in household structure and needs, data should ideally be expressed per consumption unit rather than per capita. Thirdly, national accounts data are not informative about how economic resources are distributed. To reconcile micro- and macro-types of household data, the OECD has conducted work jointly with Eurostat to measure disparities among households within a national account framework. The OECD has also recently published the *Framework for statistics on the distribution of household income, consumption and wealth* and the *Guidelines for Micro Statistics on Household Wealth*.

Figure 2.1. **Household net adjusted disposable income per capita**

US dollars at 2005 PPPs



Note: Households include non-profit institutions serving households. Purchasing Power Parities are those for actual individual consumption of households. The first available year is 2000 for Spain; 2002 for Ireland and the Russian Federation; 2003 for Mexico and 2008 for Chile. The latest available year is 2010 for Canada, Chile, Japan, Mexico, New Zealand, Poland, Switzerland, the United States and the Russian Federation.

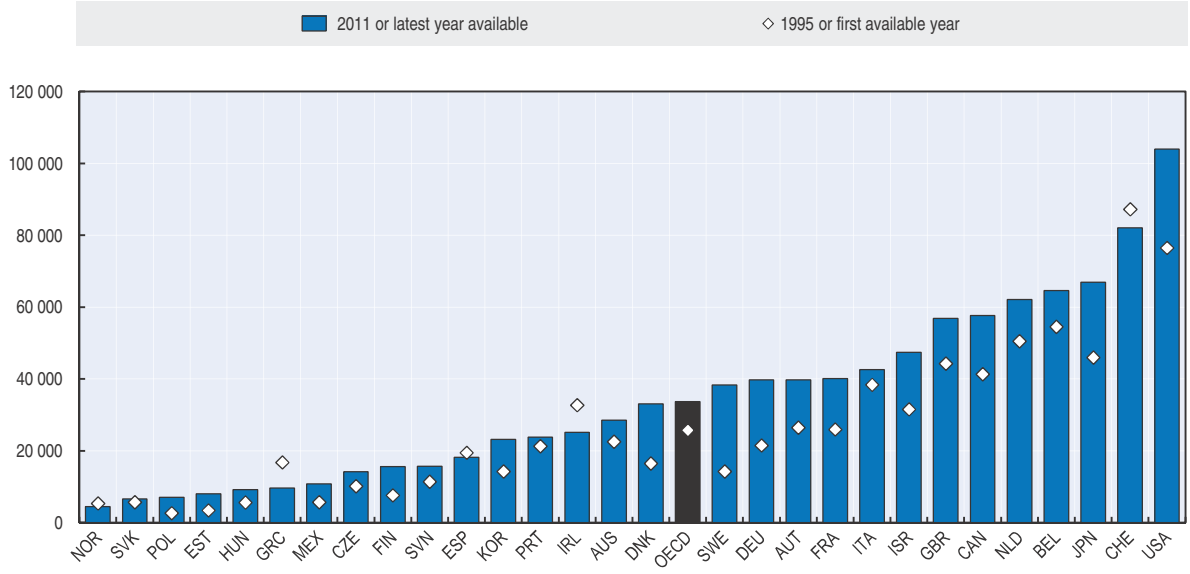
Source: OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.

StatLink http://dx.doi.org/10.1787/888932887673

in Sweden, Denmark, Germany and Israel, although falls were recorded in Ireland, Switzerland and Greece. These findings should be interpreted with caution as net financial wealth excludes households' non-financial assets (i.e. land and dwellings) which in most OECD countries represent the largest share of households' overall net wealth.

Figure 2.2. **Household net financial wealth per capita**

US dollars at 2005 PPPs



Note: Households include non-profit institutions serving households. Purchasing Power Parities are those for private consumption of households. The first available year is 1997 for Mexico; 1999 for Switzerland; 2001 for Ireland, Israel and Slovenia, and 2002 for Korea. The latest year available is 2010 for Israel and Japan and 2009 for Mexico.

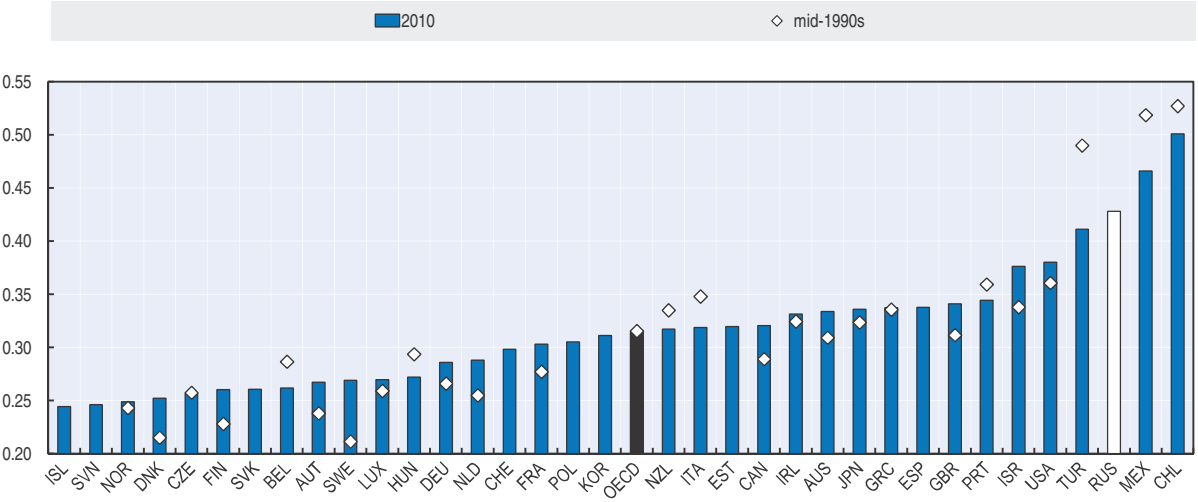
Source: OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.

StatLink http://dx.doi.org/10.1787/888932887692

The income and wealth data shown here provide a good picture of *average* material living standards in a country. However, there are large differences in how household disposable income is distributed within countries (Figure 2.3), with Chile, Mexico, and the Russian Federation recording the highest levels of income inequality while Eastern European and Nordic countries display the lowest income inequalities. However, it was in the latter that income inequalities rose the most in the past 15 years, a trend which has also been

Figure 2.3. **Income inequalities**

Gini Index



Note: The latest available year for the Russian federation is 2008.

Source: OECD (2013d), "Income Distribution", *OECD Social and Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en*.

StatLink http://dx.doi.org/10.1787/888932887711

observed though to a smaller extent in many other European countries (e.g. the United Kingdom, France since the mid-1990s), as well as in Israel, Canada, Australia and the United States. Income inequalities have decreased significantly in Mexico and Turkey, and to a lesser degree in Belgium, Hungary, New Zealand and Italy.

Jobs and earnings

Having a job that matches one's aspirations and competencies and that pays adequate earnings is a universal aspiration of people around the world. Jobs help develop new skills and abilities and create opportunities for social and professional relationships. Moreover, being unemployed has a large negative effect on physical and mental health and on subjective well-being.

The key indicator for measuring the availability of jobs is the employment rate (see Box 2.2 for the definition). Employment is relatively low in Southern European countries and high in Switzerland and Nordic countries (Figure 2.4). Since the mid-1990s, there is evidence of a general increase in employment rates, although there are large variations among OECD countries. The countries where the employment rate has increased the most since 1995 are Spain and the Netherlands. Employment has also considerably increased in Brazil and the Russian Federation. Conversely, employment rates have declined markedly since 1995 in Turkey, in the United States and in the Czech Republic.

In 2011, the long-term unemployment rate (see Box 2.2 for the definition) was low on average in most OECD countries (Figure 2.5). It was virtually nil in Korea and Mexico but exceeded 8% in Ireland, the Slovak Republic, Greece and Spain. Since the mid-1990s, the

Box 2.2. **Measuring Jobs and earnings**

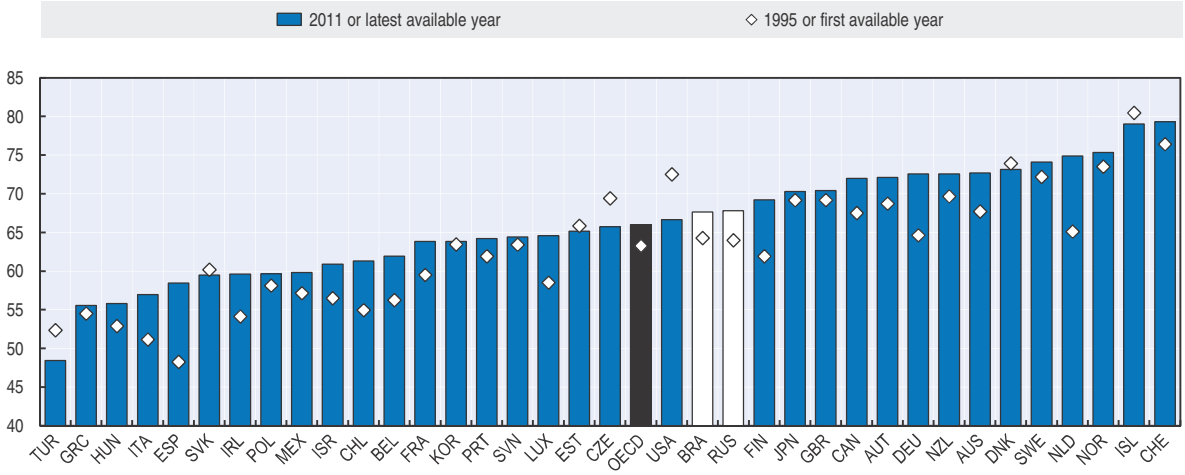
The three headline indicators presented above are defined as follows:

- The ***employment rate*** shows the share of the working-age population (people aged 15 to 64 in most OECD countries) that declare having worked in gainful employment for at least one hour in the previous week. This also includes persons who, having already worked in their present job, were temporarily absent from work during the reference period while having retained a formal attachment to their job (e.g. due to parental leave, sickness, annual leave). Data on employment rates come from national Labour Force Surveys (LFSs), and are consistent with ILO recommendations.
- The ***long-term unemployment rate*** refers to the number of persons who have been unemployed for one year or more as a percentage of the labour force (the sum of employed and unemployed persons). Unemployed persons are defined as those who are currently not working but are willing to do so and are actively searching for work. Data are drawn from national Labour Force Surveys (LFSs).
- The ***average gross annual earnings of full-time employees*** refer to the average annual wages of full-time employees working in all sectors of the economy and in all types of dependent employment. They include employees' gross remuneration, i.e. before any deductions are made by the employer in respect of taxes, workers' contributions to social security and pension schemes, life insurance premiums, union dues and other obligations of employees. Data come from the OECD National Accounts. The indicator is given by the total wage bill divided by the number of full-time equivalent employees in the total economy. The number of full-time equivalent employees is 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, which varies considerably across countries.

The first two indicators provide a measure of job availability and joblessness, respectively. Data are of good quality, although country comparisons of changes in employment and long-tem unemployment rates may be affected by differences in their cyclical positions.

Figure 2.4. **Employment rate**

Employed aged 15-64 as percentage of population of same age

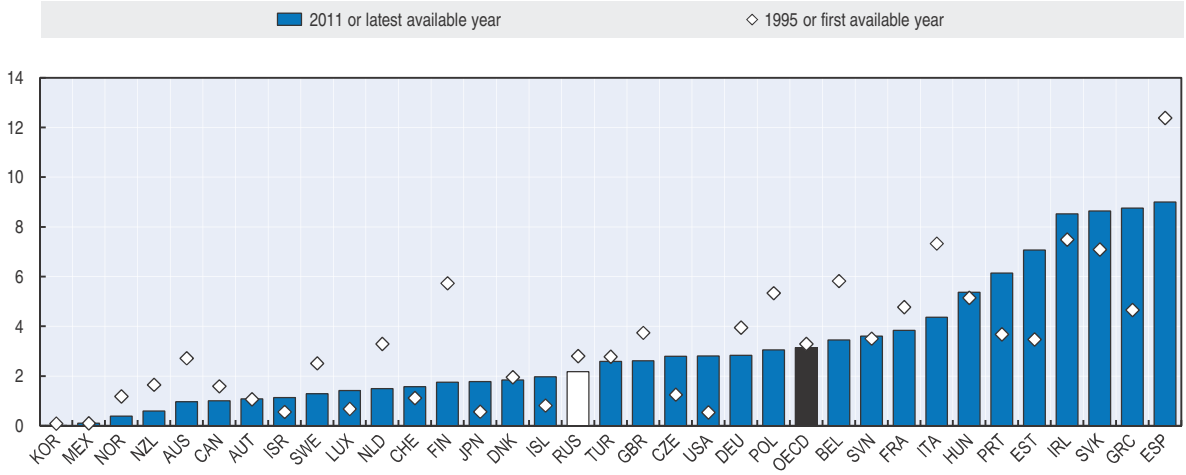


Note: The first available year is 1996 for Chile; 2001 for Brazil; and 2002 for Slovenia. The latest available year is 2009 for Brazil.
Source: OECD (2013e), *OECD Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en.*

StatLink http://dx.doi.org/10.1787/888932887730

Figure 2.5. **Long-term unemployment rate**

Percentage of the labour force



Note: The first available year is 2002 for Slovenia.
Source: OECD (2013e), *OECD Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en.*

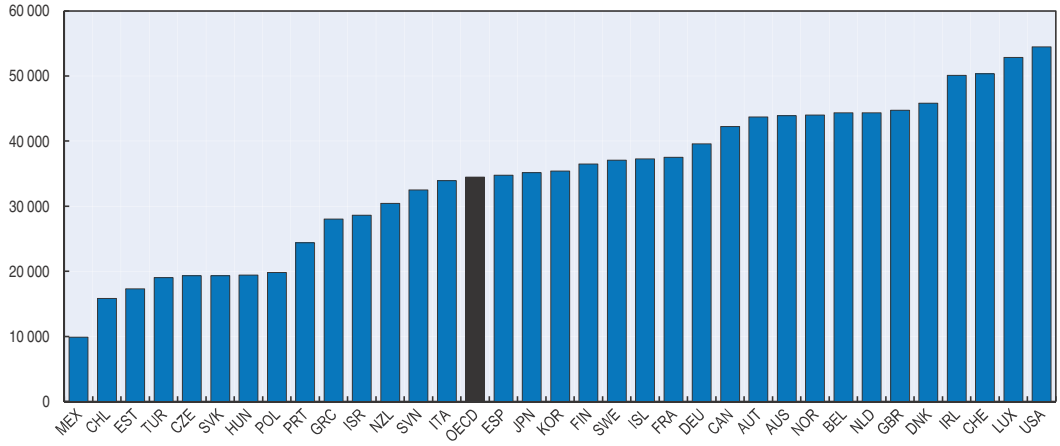
StatLink http://dx.doi.org/10.1787/888932887749

long-term unemployment rate has declined in many OECD countries, particularly in Finland, Belgium and Italy. Exceptions to this trend are the United States, Portugal, the Czech Republic and Greece.

Average gross annual earnings of full-time employees (see Box 2.2 for the definition) differ significantly between OECD countries (Figure 2.6). In 2011, average gross annual earnings were more than five times higher in the United States and Luxembourg than in Mexico, and more than two times higher than in Eastern European countries. Since 1995 average personal earnings have increased in the OECD area as a whole and especially so in Eastern European and Nordic countries (OECD, 2012).

Figure 2.6. **Average gross annual earnings of full-time employees in the total economy**

US dollars at 2011 PPPs, 2011 or latest available year



Note: Data refer to 2010 for Australia, Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Israel, Italy, the Slovak Republic and Switzerland; 2009 for the Czech Republic, Germany and Sweden; 2008 for Poland, Portugal and Spain; and 2005 for the Netherlands.

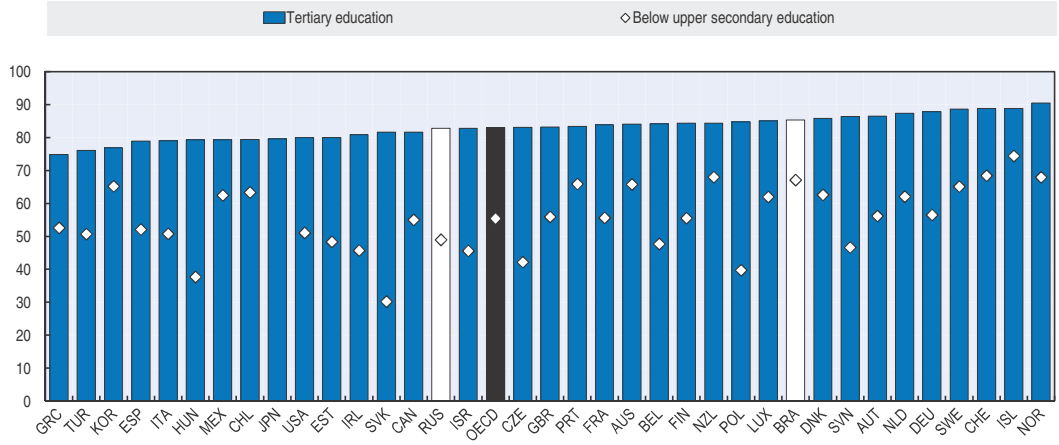
Source: OECD calculations based on Table G of the OECD (2012), *OECD Employment Outlook 2012*, OECD Publishing, *http://dx.doi.org/10.1787/empl_outlook-2012-en*.

StatLink http://dx.doi.org/10.1787/888932887768

Employment rates are lower for youth, women and the elderly. Healthier individuals are more often employed than people with chronic illnesses and disabilities. Employment rates also increase with education (Figure 2.7), and the gender gap in employment tends to diminish as the level of education rises (see Chapter 4). Since 2000 the employment gap between individuals with tertiary education and individuals with below upper secondary education has remained stable on average in the OECD area. It has decreased significantly in Estonia and Switzerland and increased substantially in Slovenia, the United Kingdom, Sweden, Iceland and Korea (OECD, 2013c).

Figure 2.7. **Employment rate by educational attainment**

Percentage of employed persons aged 25-64 over population of same age, 2011



Note: Data for the Czech Republic, Denmark, Estonia, Finland, Italy, Luxembourg, Poland, the Slovak Republic, Slovenia and the United States should be taken with caution given the small sample size of the population covered.

Source: OECD (2013), *Education at a glance 2013: OECD Indicators*, Paris.

StatLink http://dx.doi.org/10.1787/888932887787

In OECD countries long-term unemployment rates are generally high for youth, women and individuals with lower educational attainment, although some countries exhibit different patterns. Long-term unemployment is also much higher for immigrants than for the native born population. Gender gaps in earnings are large, but disparities are also very wide within the groups of men and women. Earnings vary substantially by occupation, education, experience and other individual traits.

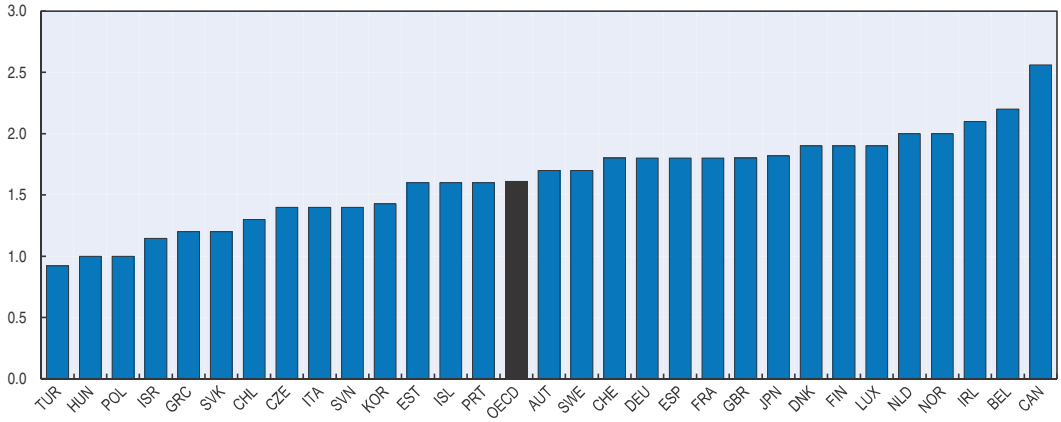
Housing conditions

Housing is a major element of people's material living standards. It is essential to meet basic needs, such as shelter from extreme weather but also to offer a sense of personal security, privacy and personal space. Housing is also important to meet other important aspirations, such as having a family and for undertaking activities which are intrinsically valuable, such as seeing friends.

Cross-country differences in housing indicators (see Box 2.3 for the definition) are large. There are significant variations across OECD countries in the number of rooms available per person. In Canada, Belgium, Ireland, Norway and the Netherlands, households report on average 2 or more rooms per person. In Turkey, Hungary and Poland, however, people live in smaller houses with 1 room per person or less (Figure 2.8).

Figure 2.8. **Number of rooms per person**

Average number, 2011 or latest available year



Note: Data refer to 2010 for Ireland, Israel, Korea, Mexico and Turkey; and 2006 for Canada.
Source: European Union Statistics on Income and Living Conditions (EU-SILC); National Statistical Officies (NSOs); OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887806

Access to basic hygiene facilities within dwellings (see Box 2.3 for the definition) is high in all OECD countries (with only 1% or 2% of respondents reporting that they lack indoor flushing toilets), although large disparities exist across countries (Figure 2.9). The poorest dwelling conditions are found in Brazil, Chile and Mexico and some Eastern European countries (i.e. Estonia, Hungary and Poland), in Asian countries (i.e. Japan and Korea) and especially in Turkey, where almost 13% of the population live in dwellings without indoor flushing toilets.

Box 2.3. **Measuring Housing conditions**

The three headline indicators of housing conditions presented above are defined as follows:

- The ***number of rooms per person in a dwelling*** signals whether the persons occupying a dwelling are living in crowded conditions. It is measured as the number of rooms in a dwelling (excluding kitchenette, scullery/utility room, bathroom, toilet, garage, consulting rooms, office and shop) divided by the number of persons living in the dwelling.
- The ***percentage of people living in dwellings without access to basic facilities*** provides an assessment of selected deficits and shortcomings in housing conditions. The focus is on the lack of indoor flushing toilets, as it is detrimental to people's hygiene. This indicator refers to the percentage of the population living in a dwelling without indoor flushing toilets for the sole use of their households. Flushing toilets outside the dwelling are not considered. Flushing toilets in a room where there is also a shower unit or a bath are included.
- The ***share of adjusted disposable income spent on housing and maintenance of the house***, as defined in the System of National Accounts (SNA), includes actual and imputed rentals for housing, expenditure on maintenance and repair of the dwelling (including miscellaneous services), on water supply, electricity, gas and other fuels, as well as the expenditure on furniture, furnishings and households equipment, and goods and services for routine maintenance of the house. These various expenditures are aggregated and expressed as a percentage of the household net adjusted disposable income. Data refer to households and non-profit institution serving households.

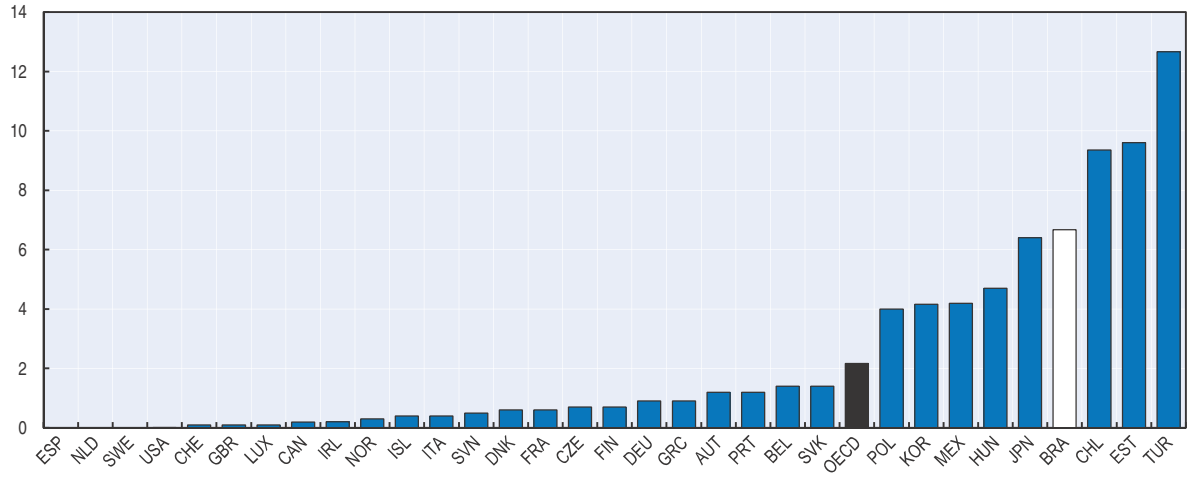
For the first two indicators, data are drawn from the European Union Statistics on Income and Living Conditions (EU-SILC) for European countries, and from comparable national surveys for non-EU countries. For the last indicator, data come from the *OECD National Accounts Statistics* (database). The indicator on household crowding has a number of limitations. First, it does not take into account the possible trade-off between the size of the dwelling and its location: some households may choose to live in smaller dwellings located in better serviced area than in larger homes located in poorer neighbourhoods. Second, an ideal indicator of the available space per person in a dwelling should refer not only to the number of rooms available, but also to the overall size (e.g. number of square metres per person). For instance, the size of accommodation is generally smaller in urban areas relative to rural ones, which may hamper international comparisons. Indicators of housing overcrowding should also be complemented with data of perceived lack of space, as reported in household surveys.

The second indicator provides a proxy measure of the notion of "decent housing". However, an ideal indicator of this notion would also include other basic aspects of housing conditions, such as adequate electrical and plumbing installations, the quality of floors and doors, structural damage and adequate heating.

An ideal set of housing indicators would also inform about the tenure status of households, of people's subjective perceptions of the pressure of housing costs on household budgets, and of other types of housing expenditure (e.g. those related to mortgages) that are not covered by the third indicator used here. It would also include measures of environmental characteristics of the areas where the dwellings are located (e.g. exposure to noise, outdoor pollution and the proximity to public services). In practice, it is difficult to measure housing conditions, as there are very few internationally comparable indicators and no harmonised housing surveys exist across countries.

Figure 2.9. **People living in dwellings without basic facilities**

Percentage of the population, 2011 or latest available year



Note: Data refer to 2010 for Brazil, Ireland, Korea, Mexico and Switzerland; 2009 for the United States; 2008 for Japan; and 1997 for Canada. The indicator refers to the absence of a toilet in the dwelling for Chile, in inhabited private dwellings for Mexico, inside the housing unit for Turkey; for the United States, the indicator refers to occupied dwellings without flushing toilet.

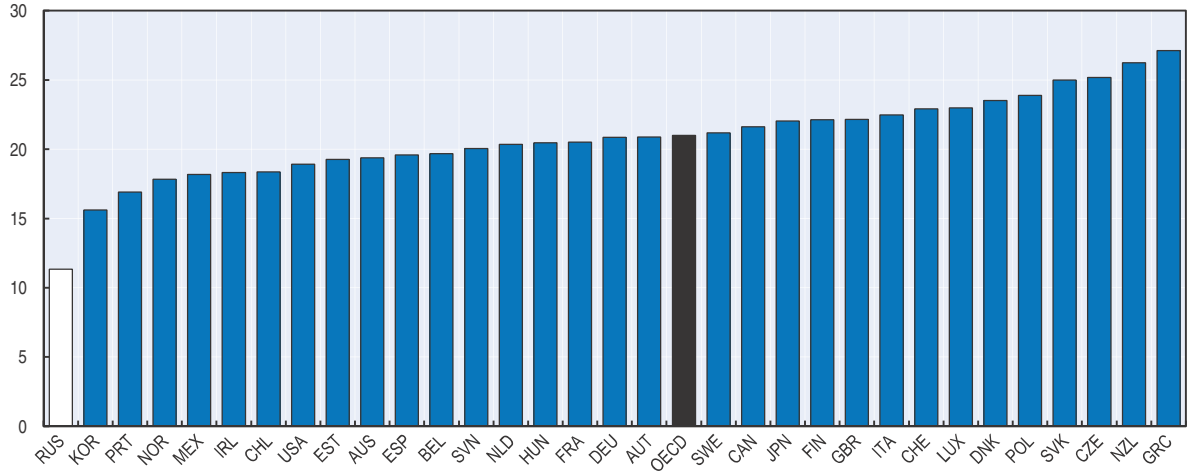
Source: European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc*; and National Statistical Offices (NSO) of Chile, Japan, Mexico, Turkey and the United States.

StatLink *http://dx.doi.org/10.1787/888932887825*

Housing represents the largest expentiture in households' budgets in most countries. In 2011, on average, households spend up to 21% of their income on housing and maintenance of the dwelling (Figure 2.10). In Korea and Portugal, households spent less than one sixth of their income on housing (16% and 17%, respectively), while in Greece and New Zealand they spent on average more than one quarter of their disposable income (27% and 26%, respectively).

Figure 2.10. **Housing expenditure**

As percentage of household gross adjusted disposable income, 2011 or latest available year



Note: Data refer to 2010 for Australia, Austria, Canada, Chile, Japan, Mexico, Norway, Switzerland, the Unites States and the Russian Federation; and 2009 for Luxembourg.

Source: OECD calculations based on OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.

StatLink *http://dx.doi.org/10.1787/888932887844*

In European countries, the average number of rooms per person increases according to the age of the person, although the elderly are the most likely to report a lack of indoor flushing toilets, probably because they live in older dwellings (OECD, 2011). Households with lower incomes are more likely to face poorer housing conditions (OECD, 2011; and Eurostat, 2013).

Health status

Being healthy and living a long life free of illness and disability are among the aspects that people value the most. Being healthy also affects the probability of having a job, earning an adequate income and actively participating in a wide range of valued social activities.

Life expectancy at birth (see Box 2.4 for the definition) differs significantly among OECD and other major economies. Switzerland leads a large group of countries (including more than half of the OECD countries) in which life expectancy at birth currently exceeds 80 years. A

Box 2.4. **Measuring Health status**

The two headline indicators of health status presented above are defined as follows:

- ***Life expectancy at birth*** measures how long, on average, a person born today could expect to live based on the age-specific death rates currently prevailing. Life expectancy at birth is computed as a weighted average of life expectancy for men and women. Data are based on official national statistics collected by the OECD.
- ***Self-reported health status*** refers to the percentage of the population aged 16 years old and over who report being in "good" or "very good" health. The indicator is based on the following question "How is your health in general?" with response categories of the type, in most countries, "very good/good/fair/bad/very bad". Data are based on general household surveys or on more detailed Health Interviews undertaken as part of national official surveys in various countries.

Life expectancy at birth only provides an estimate of the *expected* life span of a given cohort, as the actual age-specific death rates of any particular birth cohort cannot be known in advance. Measures of life expectancy at birth are based on data of good quality for all OECD countries. However, life expectancy measures available for international comparisons can be broken down only by gender, and few countries are able to provide information on life expectancy by educational attainment and income, as these measures require either linking mortality to records from census population or one-off surveys.

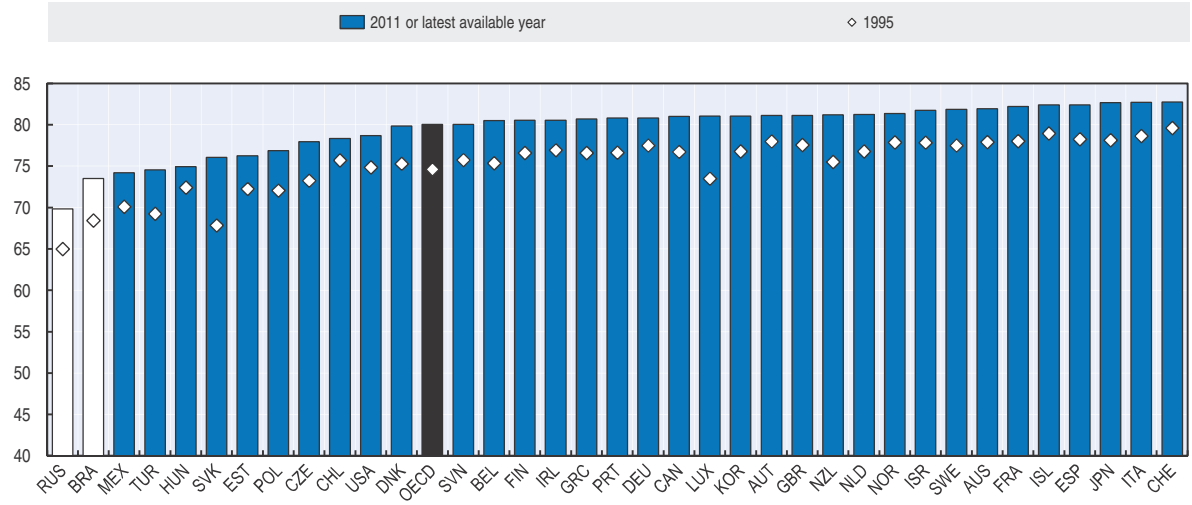
Morbidity (the absence of health) is difficult to measure as the concept is multidimensional and may require a longitudinal follow-up to assess whether conditions are temporary or chronic. The current statistical system for collecting information on morbidity is unevenly developed across OECD countries. Various measuring frameworks have been proposed and some of them are close to implementation (see Chapter 1).

Indicators of self-perceived general health status are among the few morbidity indicators that are available for all OECD countries on a broadly comparable basis. They have the advantage of summarising in a single measure a broad range of dimensions of mordibity, since they refer to the overall health status of the respondent. However, indicators of perceived health status provide an imperfect proxy of the underlying concept of morbidity, as they rely on the subjective views of the respondents and may reflect cultural biases or other contextual factors. Differences in response scales (in the case of Australia, New Zealand, Canada and the United States) may also affect cross-county comparisons. Summary indicators of morbidity such as self-reported longstanding illness and self-reported limitations in daily activities are only available for European countries.

second group of countries, including the United States, Turkey and a number of Central and Eastern European Countries, has a life expectancy at birth between 74 and 80 years. Life expectancy is lower in Brazil and especially in the Russian Federation, where it is 10 years lower than the OECD average value (Figure 2.11). Since 1995 life expectancy has increased substantially in all OECD countries, with the highest increases observed in Korea and Estonia.

Figure 2.11. **Life expectancy at birth**

Number of years



Note: The latest available year is 2012 for Mexico and Turkey; and 2009 for Canada. For the Czech Republic, Ireland, Israel, Poland, Portugal, the Slovak Republic and Switzerland data for 1995 and the latest available year are not strictly comparable due to a break in the series. Data for Australia, Belgium, Chile, Italy, Mexico, Turkey and the United States are estimated values.

Source: OECD (2013f), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*.

StatLink *http://dx.doi.org/10.1787/888932887863*

In 2011, the percentage of adults reporting good or very good health (see Box 2.4 for definition) was 85% or more in Switzerland, Australia, New Zealand, Canada and the United States, but only half as high in Korea and Portugal. In Japan, only one in three respondents reported being in "good" or "very good" health. Self-reported health recorded significant declines in Japan and Korea, while it increased significantly in Turkey and in Eastern European countries (Figure 2.12). These changes may partly reflect shifts in demographic structures, as elderly people report lower health conditions than other groups.

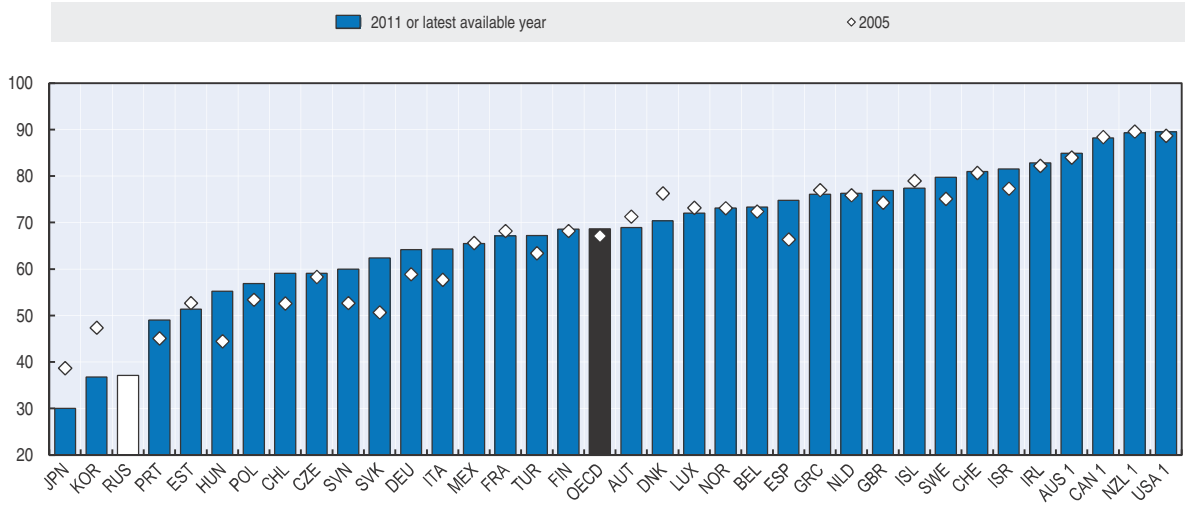
While women live longer than men, they also tend to report poorer health status than men and suffer more frequently from health problems (Chapter 4). Self-reported measures of morbidity worsen steadily with people's age and the elderly most often experience health problems that limit their daily activities (OECD, 2011). Socio-economic backgrounds also have a large influence on health status, as disadvantaged people live and work in more difficult circumstances, often adopt unhealthy life-styles (e.g. higher incidence of smoking and obesity) and face greater problems in accessing appropriate health care.

Estimates of life expectancy by educational status in Europe show that, for both men and women, highly educated people live longer than less educated ones (OECD, 2013c). Differences in life expectancy by education are particularly large in Eastern European countries, and are more pronounced for men than for women. A social gradient is also strongly visible in self-reported health status, as in all OECD countries high-income people report very good/good health status in higher proportions than low-income people

(Figure 2.13). The differences in self-rated health status between different socio-economic groups are particularly large in Estonia and Portugal and are smallest in Israel and New Zealand.

Figure 2.12. **Self-reported health status**

Percentage of people reporting good/very good health



Note: The latest available year is 2012 for New Zealand; 2010 for Ireland and Japan; 2009 for Chile; and 2006 for Mexico.

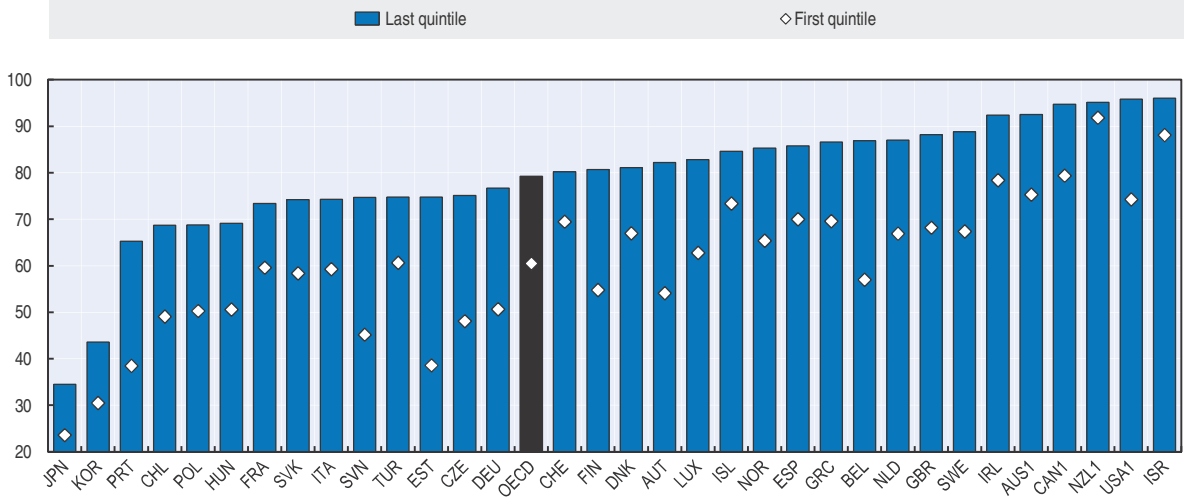
1. Results for countries marked with a "1" are not directly comparable with those for other countries, due to differences in reporting scales, which may lead to an upward bias in the reported estimates for these countries.

Source: OECD (2013f), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*; and European Union Statistics on Income and Living Conditions (EU-SILC).

StatLink http://dx.doi.org/10.1787/888932887882

Figure 2.13. **Self-reported health status by disposable income**

Percentage of people reporting very good/good health, 2011



Note: The latest available year is 2012 for New Zealand; 2010 for Ireland and Japan; 2009 for Chile; and 2006 for Mexico. The OECD value is a simple average of the countries displayed in the figure.

1. Results for countries marked with a "1" are not directly comparable with those for other countries, due to differences in reporting scales, which may lead to an upward bias in the reported estimates for these countries.

Source: OECD (2013f), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*; and European Union Statistics on Income and Living Conditions (EU-SILC).

StatLink http://dx.doi.org/10.1787/888932887901

Work-life balance

Achieving the right balance between work and personal life is a key component of people's well-being: too little work may prevent people from earning enough to attain the desired standard of living but too much work may have a negative impact on their well-being if their health or personal lives suffer as a consequence. Work-life balance is not only important for the well-being of the person but also for that of the whole family, in particular children's well-being is strongly affected by the capacity of parents to both work and nurture them. A balanced allocation of time between work and personal life is also important at a society-wide level as it ensures that people have sufficient time to socialise and participate in the life of the community.

On average, only a small proportion of employees in OECD countries work more than 50 hours per week (see Box 2.5 for the definition), although there are wide variations across countries (Figure 2.14). Turkey is by far the country with the highest proportion of employees working very long hours, with almost half of them regularly working over 50 hours a week, followed by Mexico and Israel with nearly a fifth of employees working long hours. Conversely, in the Netherlands, Sweden and Denmark, very long working hours are rare, with only around 1%-2% of employees working over 50 hours per week on a regular basis. A similar pattern is also visible for the Russian Federation, the only emerging economy with available information. Over the past decade, the number of employees working long hours has remained broadly stable in the OECD area as as a whole, with decreases in Denmark, Slovenia, Poland, Brazil, Israel and Turkey and increases in Luxembourg, Portugal, Chile and Mexico.

Box 2.5. **Measuring Work-life balance**

The two headline indicators of work-life balance presented above are defined as follows:

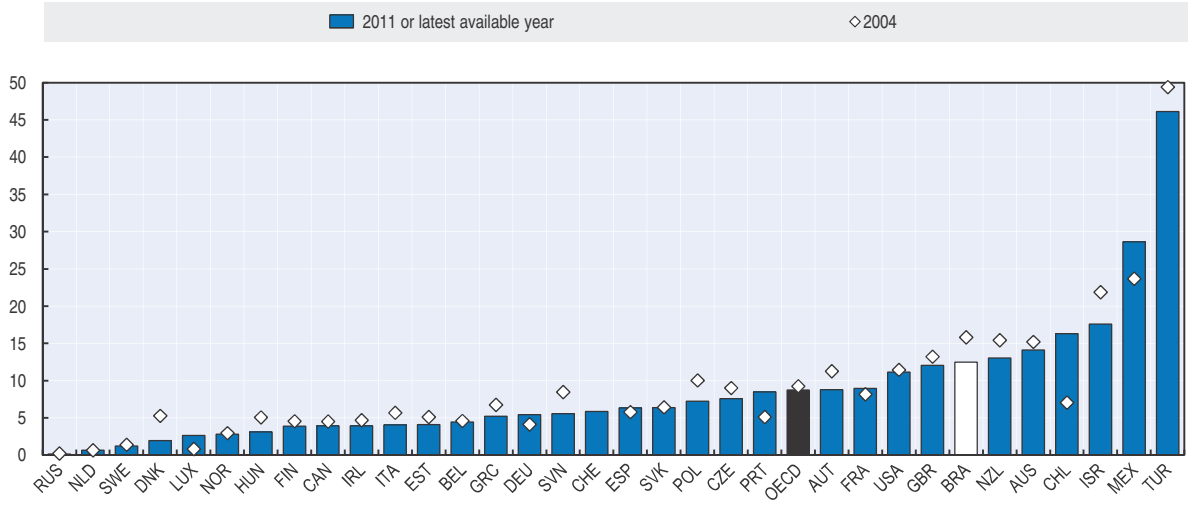
- The ***proportion of employees who usually work for pay for 50 hours per week or more***. The data exclude self-employed workers who are likely to choose deliberately to work long hours. The hours threshold has been set at 50 hours because, when also considering the amount of time devoted to commuting, to unpaid work and to satisfy their basic needs (such as sleeping and eating), workers usually working more than 50 hours per week are likely to be left with very few hours (one or two hours 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 come from National Labour Force Surveys and are broadly comparable across countries.
- The ***time devoted to leisure and personal care in a typical day by full-time employed workers***. The information is collected through national Time Use Surveys, which involve respondents keeping a diary of their activities over one or several representative days for a given period. For some countries and some specific types of activity, the comparability of these surveys might be an issue; the data shown here, have been harmonised *ex post* by the OECD and are deemed to be broadly comparable.

The headline indicators used here provide both an indirect and a direct measure of available time to spend on non-work activities contributing to individual and family well-being. Measuring work-life balance is a challenging task. First, the way people allocate their time is determined by necessity, individuals' preferences and cultural, social and policy contexts in which people live. Cross-country comparisons on work-life balance should thus be interpreted in light of these various differences. Second, while informative of a balanced time allocation, the majority of available indicators on work-life balance do not shed light on the quality of the time spent outside work and thus on people's personal enjoyment or perceived time stress. Third, Time Use Surveys are, in most OECD countries, undertaken only infrequently (i.e. every 5 or 10 years), leading to estimates that are typically not timely.

Time spent not working is time available for leisure, family and personal care. On average, full-time employees in OECD countries spend 14.9 hours per day on leisure and personal care – which includes sleep, eating, hygiene, seeing the doctor, etc. (Figure 2.15; see Box 2.5 for the definition). Japanese employees spend the least amount of time on

Figure 2.14. **Employees working long hours**

Percentage of employees working 50 hours or more a week



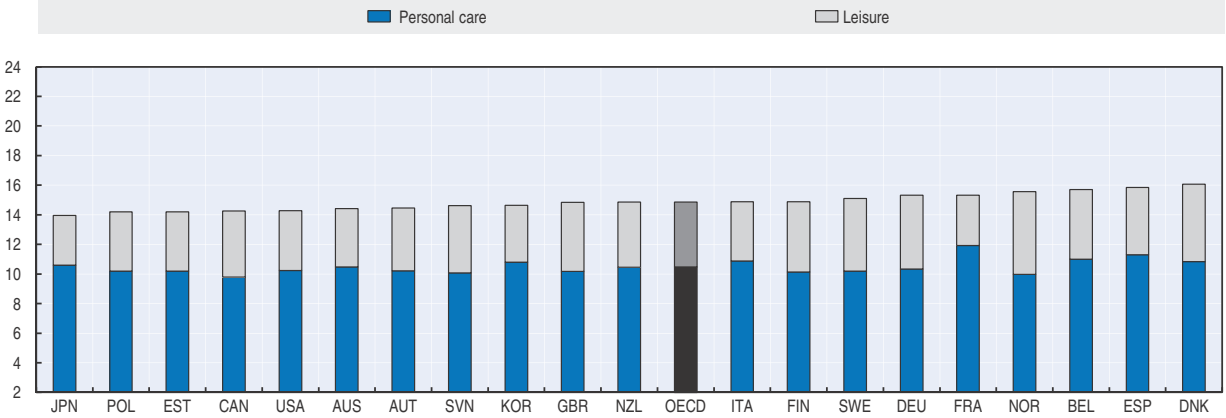
Note: Data refer to usual hours worked in the main job for Austria, Canada, the Czech Republic, Finland, Hungary, Mexico, Poland, the Slovak Republic, Sweden, Turkey and the United States, and in all jobs for other countries. The first available year is 1996 for Chile; 1998 for Hungary; 2001 for Austria; 2002 for Estonia, Norway, Poland, Slovenia and Sweden; and 2004 for the Czech Republic and Finland. The latest available year is 2009 for Brazil.

Source: OECD (2010), "Labour Force Statistics: Summary tables", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/data-00286-en*; and Swiss Federal Statistics Office.

StatLink http://dx.doi.org/10.1787/888932887920

Figure 2.15. **Time devoted to leisure and personal care**

Hours per day of full-time employees, latest available year



Note: Data refer to 1998-99 for France; 1999 for Portugal; 1999-2000 for Estonia; 2000-01 for Norway, Slovenia, Sweden and the United Kingdom; 2001 for Denmark; 2001-02 for Germany; 2002-03 for Italy; 2003-04 for Poland; 2005 for Belgium; 2006 for Australia and Japan; 2008-09 for Austria; 2009 for Korea; 2009-10 for Finland, New Zealand and Spain; and 2010 for Canada and the United States. Data have been normalised to 1 440 minutes per day: in other words, for those countries for which total time use did not sum up to 1 440 minutes, the missing or extra minutes (usually around 30-40 minutes) were equally distributed across all activities. Data for Hungary, Ireland, Portugal, Turkey and South Africa were excluded as they also include part-time employees. Data generally refer to people aged 15 and more, except for Austria, where no age limit is defined.

Source: OECD Time Use Survey.

StatLink http://dx.doi.org/10.1787/888932887939

leisure and personal care including sleep, with a combined total of 14 hours per day. Belgium, Spain and Denmark are at the other end of the spectrum, with around 16 hours per day spent on leisure and personal care. The share of leisure also varies somewhat across OECD countries, for instance leisure time is highest in Norway and Denmark (with between five and six hours a day devoted to leisure) and lowest in France and Japan (with less than three hours and half spent on leisure).

Gender is a key determinant of inequalities in work-life balance (OECD, 2011; and Chapter 4, Figure 4.10). Although men spend longer hours in paid work and communting than women do, women tend to have less time available for leisure and personal care than men, due to the longer hours that they spend on unpaid activities at home (e.g. housework, childcare and looking after elderly relatives). Moreover, according to time-use surveys in the US and France that collect information on time use and how this is enjoyed, the unpaid tasks that women perform are sometimes less enjoyable than those performed by men. Single mothers are likely to find it even harder to combine job and family responsiblities and are particularly vulnerable to time crunches.

Education and skills

Education and skills are a key component of individual well-being. Developing skills is intrinsically valuable for humans as it responds to their aspiration to learn and to their necessity to respond to the changing environment. Education has also a strong positive impact on the material living conditions of people, as higher education leads to higher earnings and greater employability. More educated people also have better health status. Education also fosters civic awareness and civic participation.

The large majority of the population aged 25-64 in OECD countries holds at least an upper secondary education degree (see Box 2.6 for the definition), with a few exceptions, e.g. Portugal, Turkey and Mexico where the share is less than 40% (Figure 2.16). With the exception of Denmark, where the share of the population with at least an upper-secondary degree has decreased slightly in the past 10 years or so, the average educational attainment has increased across the OECD area and in Brazil, with a significant convergence in attainment levels across countries.

In most OECD countries, today's 5-year-olds may expect to pursue their studies for at least seventeen additional years (see Box 2.6 for the definition). In Finland, Iceland and Sweden, children aged 5 today may expect, on average, to continue to study for 19 additional years or more, but for only 15 in Mexico and Turkey (Figure 2.17).

Cognitive skills, as measured by the average scores in reading, mathematics and science of 15 year-old pupils (see Box 2.6 for the definition), vary across countries (Figure 2.18). They are much lower than the OECD average in Brazil, Mexico and Chile, and much higher in Finland, Korea and Japan. The gap between the highest- and the lowest-performing OECD countries is significant (123 points on the PISA scale) and is roughly equivalent to the skills acquired in more than two school years.

While cognitive skills of 15-years-old may provide some information on the future skills of the population, they do not capture the competencies of the current adult population. The newly launched OECD Survey of Adult Skills (PIAAC) assesses the proficiency of adults in the domains of literacy, numeracy and problem solving in technology-rich environments. According to this survey, adults' competencies in the OECD

Box 2.6. **Measuring Education and skills**

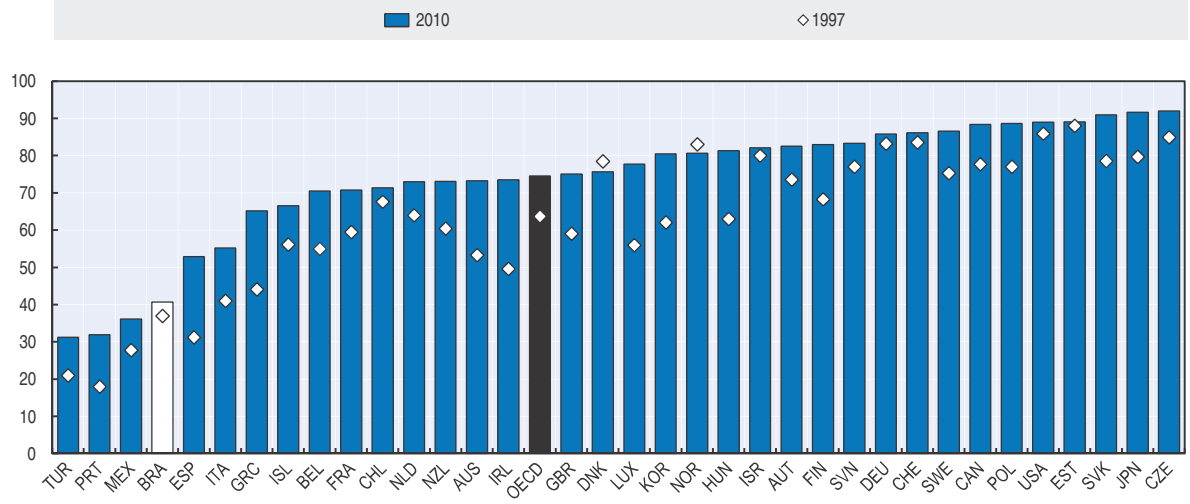
The four headline indicators of education outcomes presented above are defined as follows:

- The ***educational attainment of the adult population*** is the number of adults aged 25 to 64 holding at least an upper secondary degree (as defined by the ISCED classification), over the population of the same age. The data underlying this indicator are collected through the annual OECD questionnaire on National Educational Attainment Categories (NEAC), which uses Labour Force Survey (LFS) data.
- ***Education expectancy*** is defined as the average duration of education that a 5-year-old child can expect to experience during his/her lifetime until reaching the age of 39. It is calculated based on current enrolment conditions by adding the net enrolment rates for each single year of age from the age of 5 onwards. Data for this indicator are collected through the annual OECD data collection on the school-work transitions, which rely on Labour Force Surveys as the main source of information.
- ***Students' average score in reading, mathematics and science*** is based on data collected through the Programme on International Students Assessment (PISA) co-ordinated by the OECD and refers to students aged 15.
- ***Mean proficiency in numeracy and literacy for the adult population*** is based on data collected through the OECD Survey of Adult Skills, which is part of the Programme for the International Assessment of Adults Competences (PIAAC) co-ordinated by the OECD. The indicator refers to adults aged 16-64.

An ideal set of measures of people's education and skills would refer to both the cognitive and non-cognitive skills of the entire population, based on standardised achievement scores and reflective of the broad range of tasks necessary to live in modern societies. The indicators presented here are, at the current state of knowledge, proxies for this ideal measure. They present, however, some limitations: first, most of them measure individuals' acquired abilities, without informing about how these abilities are actually used in life; second, they measure cognitive skills while they do not capture non-cognitive and soft skills. The OECD project on Education and Social progress is developing proxies of the latter.

Figure 2.16. **Educational attainment**

Percentage of adults aged 25-64 with at least upper secondary education



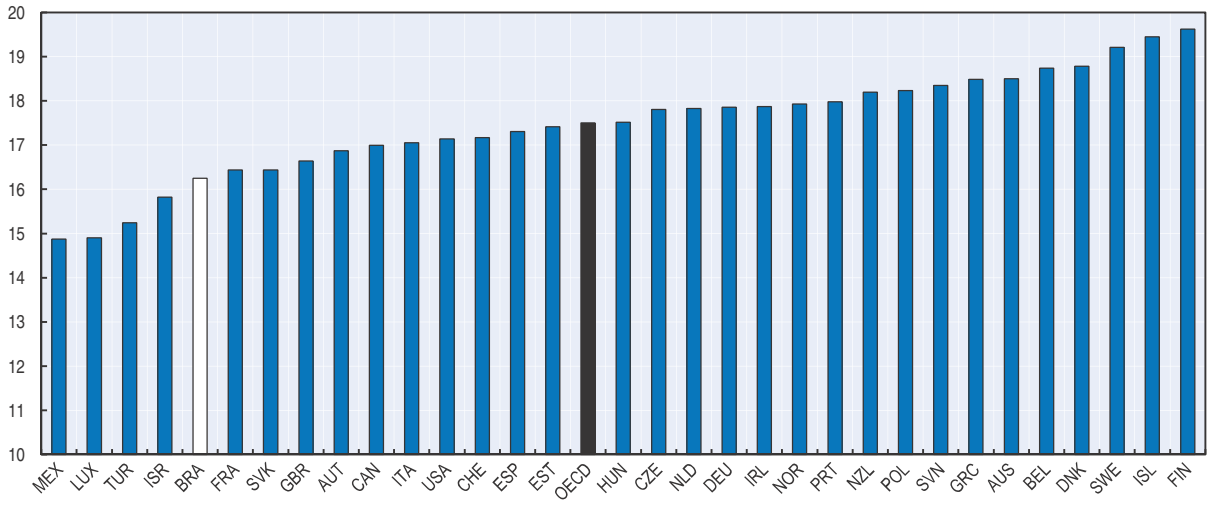
Note: The first available year is 1998 for Denmark, Italy, the Netherlands and Portugal; 1999 for Luxembourg; 2002 for Estonia, Israel and Slovenia; and 2007 for Chile and Brazil. For Norway and Switzerland data for 1997 and 2008 are not strictly comparable due to changes in the classification. The latest available year for Brazil is 2009. The 2010 value for Japan is an OECD estimate.

Source: OECD (2012a), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en* and OECD calculations.

StatLink http://dx.doi.org/10.1787/888932887958

Figure 2.17. **Education expectancy**

Additional expected years in education from age 5 to 39, 2011



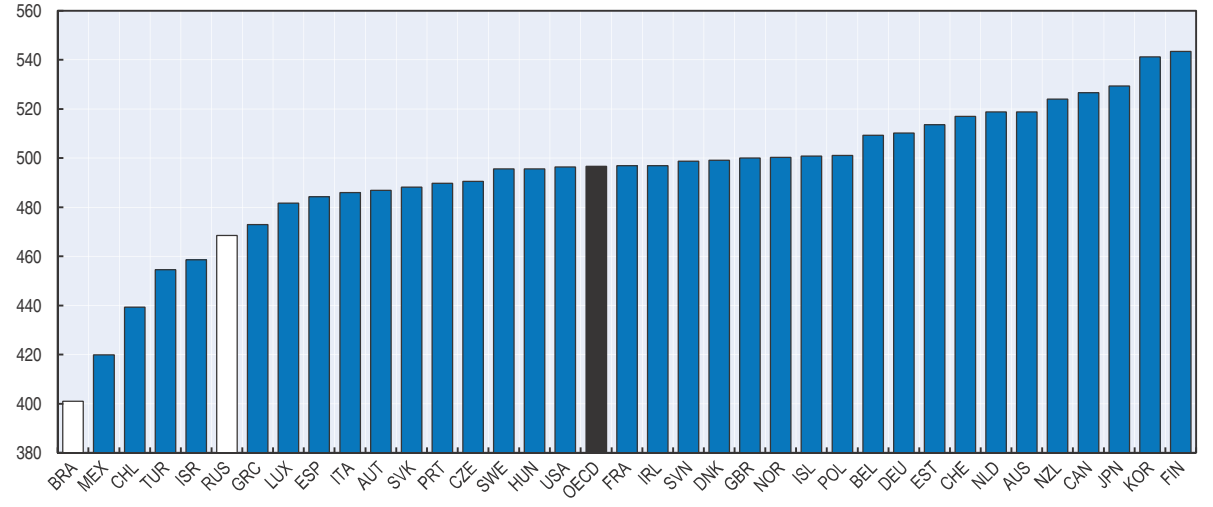
Note: Data refer to 2009 for Canada and 2008 for the Russian Federation.

Source: OECD (2012a), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.

StatLink http://dx.doi.org/10.1787/888932887977

Figure 2.18. **Cognitive skills of 15-year-old students**

PISA mean scores in reading, mathematics and science



Note: PISA scores are measured on a scale which is normalised to be 500 for the OECD average.

Source: Calculations based on OECD (2011), *PISA 2009 at a Glance*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264095298-en*.

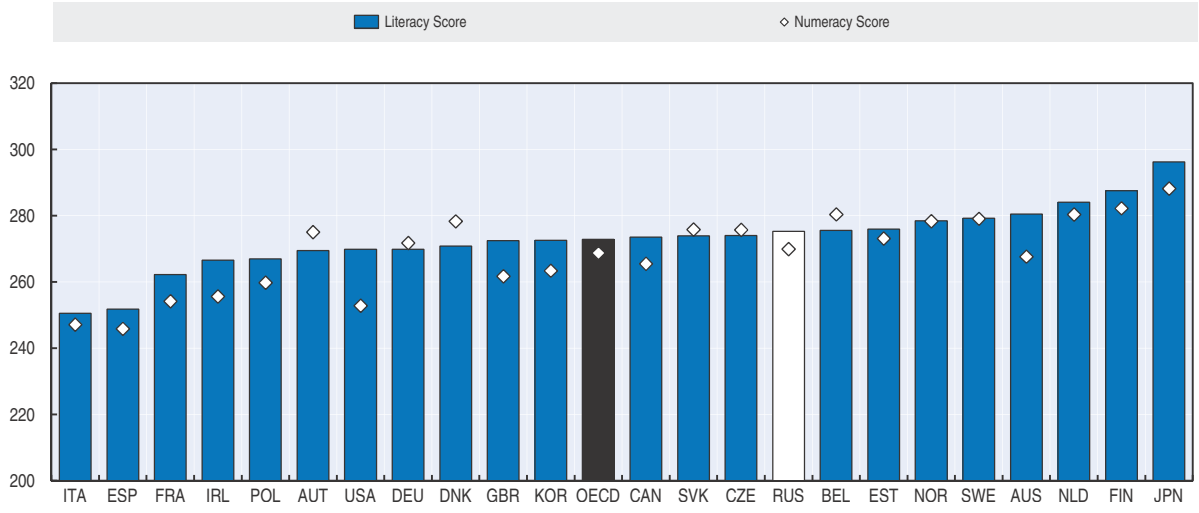
StatLink http://dx.doi.org/10.1787/888932887996

area vary significantly among countries (Figure 2.19), especially in the domain of numeracy. Japan and Finland are the countries with the highest levels of proficiency in both numeracy and literacy while Italy and Spain perform poorly in both domains. Adult competencies as measured by PIAAC are correlated to some degree to PISA scores.

Educational outcomes vary significantly across population groups. Educational attainment is higher among younger women and younger generations (OECD, 2013c). Boys aged 15 perform noticeably less well in reading than girls (see Chapter 4 and OECD, 2011), and are more likely to be defined as having special educational needs. Girls aged 15 perform

Figure 2.19. **Competencies of the adult population**

Mean proficiency in literacy and numeracy of adults aged 16-64, 2012



Note: Data for Belgium refers to Flanders; data for the United Kingdom refer to England and Northern Ireland.

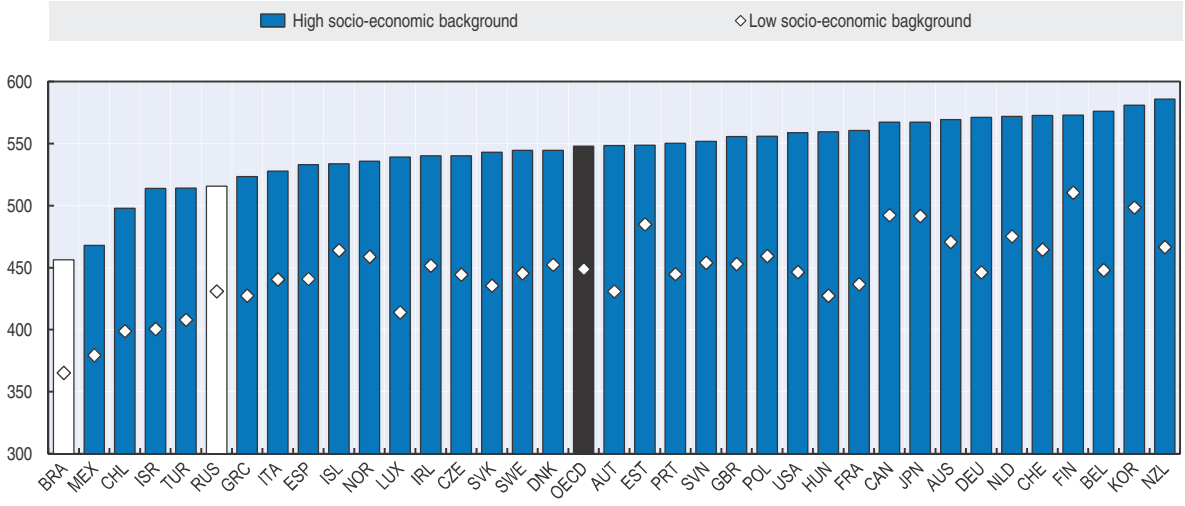
Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris.

StatLink http://dx.doi.org/10.1787/888932888015

somewhat less well in mathematics than boys, with the gender gap in performance being smaller in mathematics than in reading. Children of immigrant origins tend to perform less well than native pupils (OECD, 2011). In addition, individual educational outcomes are strongly related to parents' socio-economic background (Figure 2.20) especially in Hungary, Belgium and Luxembourg. In general, adult men have stronger competencies than adult women, especially in the numeracy domain (OECD, 2013d).

Figure 2.20. **Cognitive skills of 15-year-old students by socio-economic background**

PISA mean scores in reading, mathematics and science



Note: The figure shows average PISA scores in reading, mathematics and science for students with high socio-economic background (defined as the top quintile of the PISA index of economic, social and cultural status) and low socio-economic background (defined as the bottom quintile of the the PISA index of economic, social and cultural status).

Source: Calculations based on OECD (2010), *PISA 2009 at a Glance*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264095298-en*.

StatLink http://dx.doi.org/10.1787/888932888034

Social connections

Beyond the intrinsic pleasure that people derive from spending time with others, social connections have positive spill-over effects for individual and societal well-being. People with extensive and supportive networks have better health, tend to live longer, and are more likely to be employed. At a society-wide level, social connections can generate shared values – such as trust in others and norms of reciprocity – which influence a range of outcomes, including economic growth, democratic participation and crime levels.

Across OECD countries, around 90% of people report having someone to count on in time of need (Figure 2.21). Social support networks (see Box 2.7 for the definition) appear to be weakest in Turkey, Mexico, Korea and Greece, and strongest in Iceland, Ireland, the United Kingdom and Switzerland. In Turkey and Mexico, the share of respondents declaring that they have no relatives or friends to turn to in case of need is more than four times higher than in Ireland and Iceland.

Box 2.7. **Measuring Social connections**

The headline indicator for social connections presented above refers to ***perceived social network support***. It measures the proportion of people who respond positively to the 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?". While this question does not detail the types of support that might be expected, it provides a general measure of perceived social network support. Data for this indicator come from the Gallup World Poll. While they are collected through the same questionnaire and rely on well-tested questions, the sample size is small: this requires special caution when comparing countries.

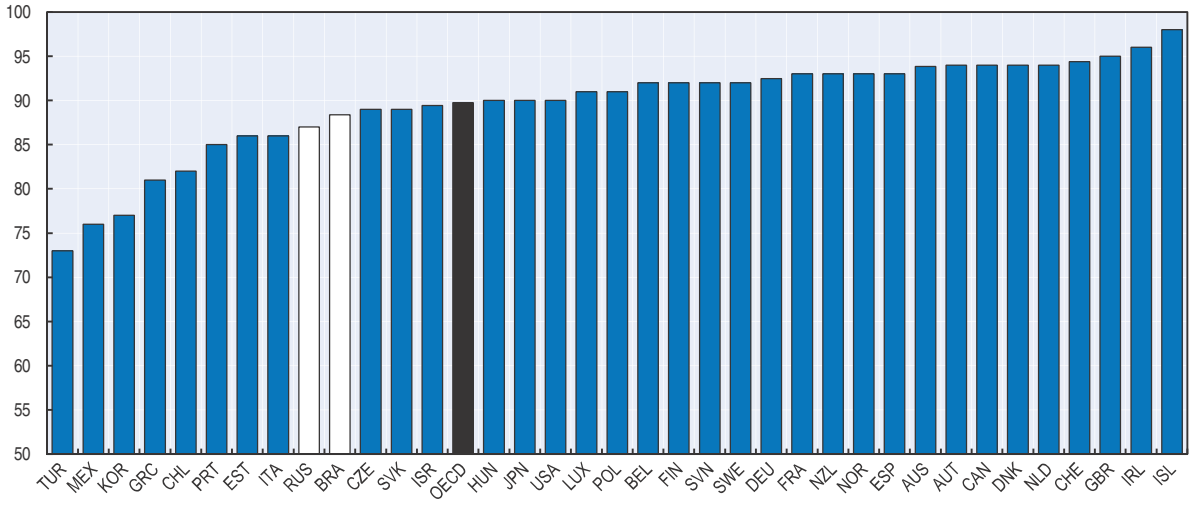
Ideally, a set of indicators of social connections should describe a range of different relationships, as well as the quality of those relationships and their resulting outcomes, for both the individual concerned (i.e. emotional and financial support, job opportunities, social isolation) and for society as a whole (i.e. trust in others, tolerance, democratic participation, civic engagement). Some of the most common approaches to measuring social connections have relied on indirect indicators, such as statistics on membership of associations (e.g. sporting clubs, religious or professional organisations) or on the density of voluntary organisations in a given area. However, such measures have been criticised because they are limited to participation in formal networks, and do not describe informal connections such as those that people maintain with friends and relatives. Moreover, formal membership in associations, and its importance for people's well-being, can differ over time and across countries, thus hampering international comparability.

There are various official surveys that collect information on social networks and personal relationships, for instance the General Social Surveys in Australia, Canada and New Zealand. However, most official statistics on social connections are not internationally comparable (Scrivens and Smith, 2013).

People's social support networks tend to weaken as they get older until late in their working life, but they increase again over the age of 65. This "U-shaped" pattern may reflect the supportive role played by parents in the case of youth, and by grown-up children and their spouses in the case of elderly people. Education and economic status also influence social network support, with low-educated people less likely to report having someone to count on in times of need (Figure 2.22). Differences in social network support also exist when comparing the upper- and lower-income quintiles.

Figure 2.21. **Perceived social network support**

Percentage of people who have relatives or friends they can count on, 2012

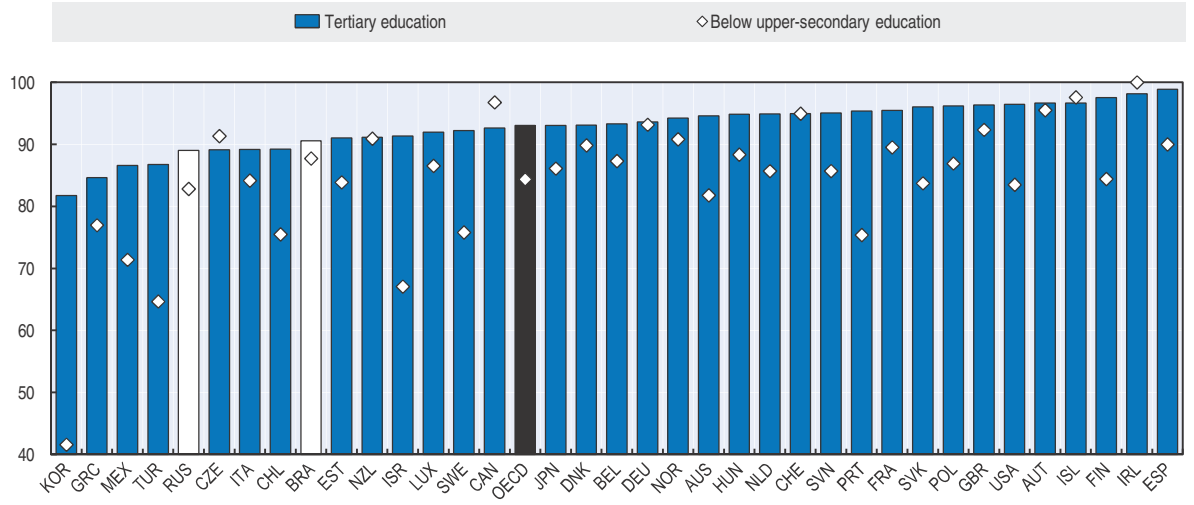


Note: The latest available year is 2011 for Chile and the United Kingdom.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888053

Figure 2.22. **Social network support by educational level**

Percentage of people saying they have relatives or friends to count on, 2012



Note: The latest available year is 2011 for Chile and the United Kingdom.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888072

Civic engagement and governance

Civic engagement allows people to express their political voice and contribute actively to the functioning of society. Civic engagement may also increase people's sense of personal effectiveness and control over their lives. Finally, it allows individuals to develop a sense of belonging to their community, trust in others and a feeling of social inclusion.

Voter turnout (see Box 2.8 for the definition) varies substantially across OECD countries (Figure 2.23, Panel A), partly due to differences in electoral systems. Australia's voter turnout rate is the highest in the OECD area, partly reflecting the fact that voting is

Box 2.8. **Measuring Civic engagement and governance**

The two headline indicators of civic engagement and governance presented above are defined as follows:

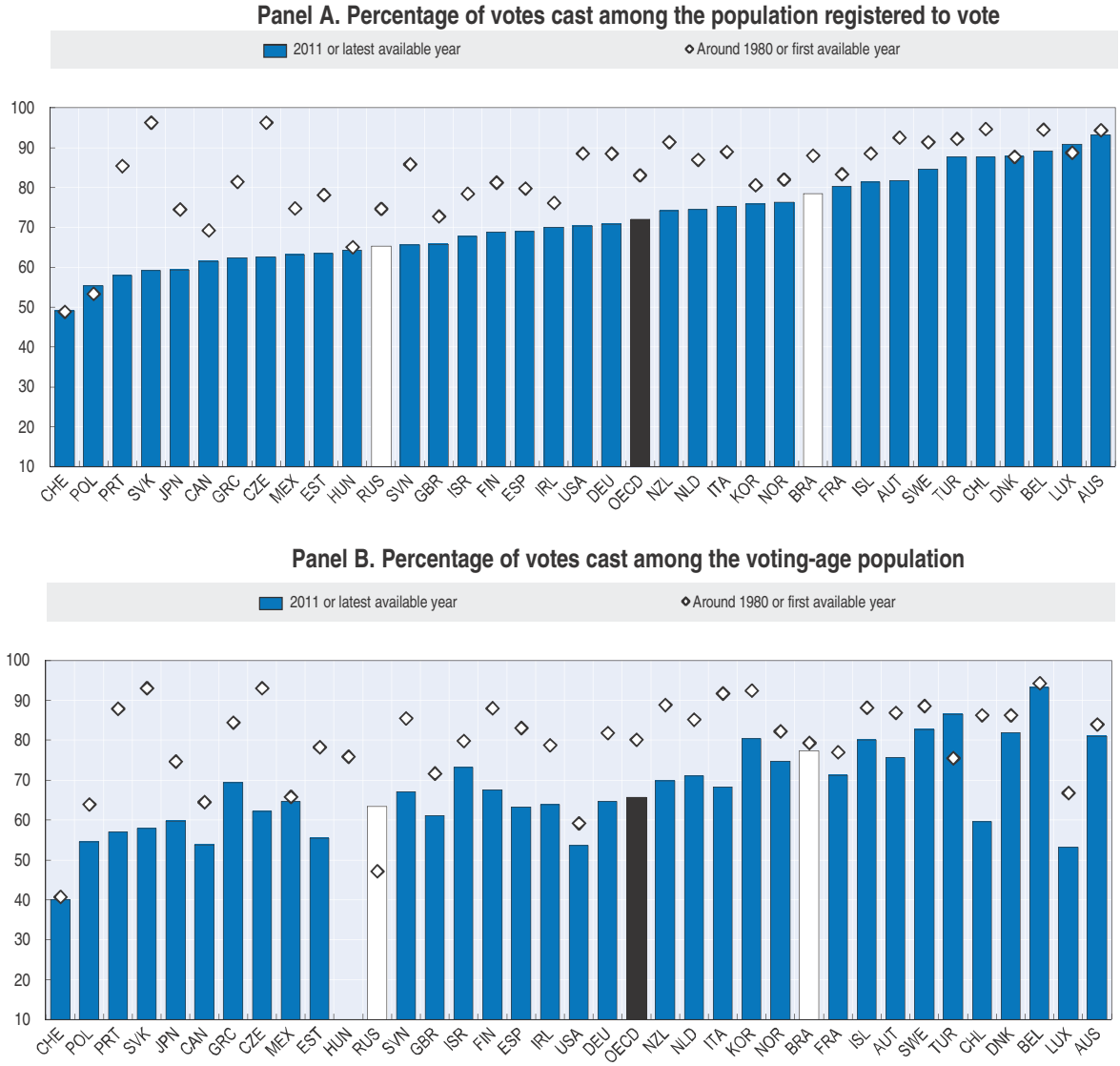
- The ***voter turnout rate*** measures the extent of electoral participation in major national elections. Voter turnout is defined as the ratio of the number of individuals who cast a ballot during an election (whether this vote is valid or not) to the population registered to vote. As institutional features of voting systems vary a lot across countries and by types of elections, the indicator shown here refers to the elections (parliamentary or presidential) that have attracted the largest number of voters in each country. Voter turnout can also be compared to the voting-age population (generally defined as the population aged 18 or more) which would lead to different country rankings. The number of votes casted is gathered from National Statistical Offices and National Electoral Management Bodies. The voter turnout is compiled by the International Institute for Democracy and Electoral Assistance (IDEA).
- The indicator on ***formal consultation processes in law making*** measures the extent to which citizens are consulted at key stages of the design of regulatory proposals, and whether mechanisms exist for the outcome of that consultation to influence the preparation of draft primary laws and subordinate regulations. This indicator has been computed based on responses to the OECD's survey of regulatory management systems, where respondents are government officials in OECD countries. It is based on questions about the existence of formal procedures enabling the general public, business and civil society organisations to impact regulation and governmental actions, and on whether citizens' views on such consultation procedures are made public. The underlying data come from the OECD's survey of regulatory management systems and are compiled by the OECD.

An ideal indicator set of civic engagement would measure whether citizens are involved in a range of civic and political activities that enable them to effectively shape the society in which they live. Similarly, indicators of the quality of governance should measure whether public policy is effective and transparent in achieving its stated goals, and whether individuals trust the government and the institutions of the country where they live. Voter participation is only a proxy for some of these activities. Differences across countries in institutional features of the voting systems affect cross-country comparisons of voter turnout indicators.

The indicator of consultation on rule-making relates to the efforts made by governments to engage citizens in political life and captures the possibility given to individuals to have a say in the framing of new policies. However, it measures only one aspect of the transparency of consultations, and suffers from several drawbacks that might hamper cross-country comparability. First, countries that undertake extensive consultation of social groups – such as trade unions, employers associations or consumer organisations – may not necessarily score well, as the indicator refers to consultion with the general public. Second, the indicator does not provide information on whether the consultation system works well, which depends on country-specific context and would require more in-depth analysis. Finally, different consultation methods might be more appropriate in different countries, depending on their cultural, institutional and historical contexts.

compulsory there. Switzerland has one of the lowest voter turnout rates due to the high frequency of elections in the country. In general, voter turnout is high in Nordic countries and low in Eastern European countries. The number of foreigners or people not entitled to vote may also influence voter turnout (Figure 2.23, Panel B). Many countries experienced

Figure 2.23. **Voter turnout**



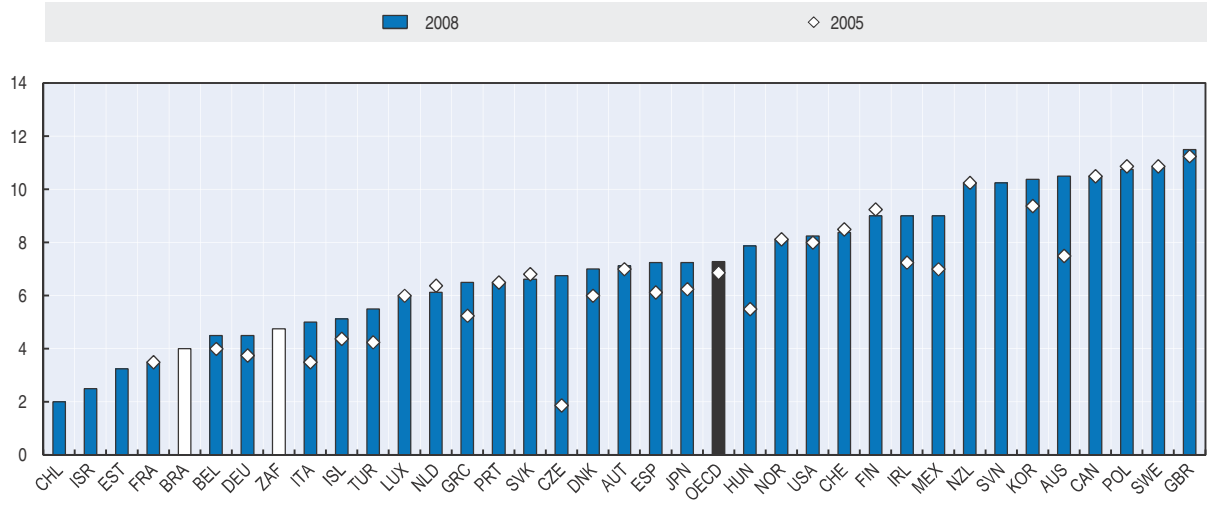
Note: The first available year is 1980 for Australia, Canada, Germany, Japan, Portugal and the United States; 1981 for Belgium, Denmark, France, Greece, Ireland, Israel, the Netherlands and New Zealand, Norway; 1982 for Finland, Mexico, Spain and Sweden; 1983 for Austria, Iceland, Italy, Switzerland, Turkey and the United Kingdom; 1984 for Luxembourg; 1989 for Chile, Poland and Brazil; 1990 for the Czech Republic, Estonia, Hungary and the Slovak Republic; 1992 for Slovenia; 1993 for the Russian Federation; and 1997 for Korea. The latest available year is 2013 for Iceland and Italy; 2012 for Finland, France, Greece, Israel, Japan, Korea, Mexico, the Netherlands, the Slovak Republic and the Russian Federation; 2010 for Australia, Belgium, the Czech Republic, Hungary, Poland, Sweden, the United Kingdom, and Brazil; 2009 for Chile, Germany, Japan, Luxembourg and Norway; and 2008 for Austria, Italy and the United States. Presidential elections, instead of parliamentary and legislative elections, are considered for Finland, France, Korea, Mexico, Poland, United States, Brazil and the Russian Federation.
Source: IDEA (International Institute for Democracy and Electoral Assistance), *www.idea.int/*.

StatLink http://dx.doi.org/10.1787/888932888091

declining voter turnout over the last three decades, following a long-term increase in previous decades. This decline in civic participation is less visible in other major economies. In the Russian Federation the voter turnout has increased sharply since the mid-1990s (Figure 2.23, Panel A).

Figure 2.24. **Formal and open consultation processes on rule-making**

Composite index, 2005 and 2008/09



Note: The composite indicator rises with the number of key elements of open and formal consultation used in various countries. However, it does not gauge whether these processes have been effective.

Source: : OECD (2009), *Indicators of regulatory management systems: 2009 report*, *www.oecd.org/gov/regulatory-policy/44294427.pdf*.

StatLink http://dx.doi.org/10.1787/888932888110

In most OECD countries, citizens' consultations on rule-making (see Box 2.8 for the definition) have become more formalised and frequent, but large disparities in country-practices remain (Figure 2.24). The openness of consultation has significantly increased in Australia, the Czech Republic, Mexico and Hungary, while it has slightly decreased in Finland, the Netherlands, the Slovak Republic and Switzerland. While this indicator captures institutional efforts in involving citizens in rule-making processes, it does not necessarily measure effective participation or whether these consultations have an influence on the policies that are finally adopted.

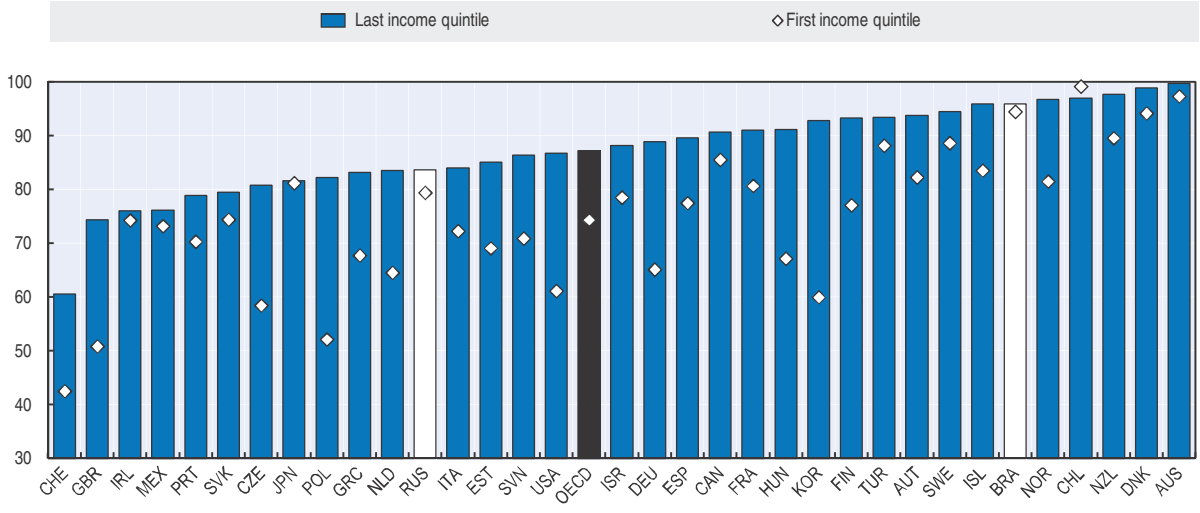
Even if the right to vote is universal in all OECD countries, not everyone exercises this right. Young people typically report lower participation rates in elections than people aged 65 and over (OECD, 2011). Differences by educational attainment are also large. Across OECD countries, voter turnout is 12 percentage points higher for people with tertiary education than for those with less than secondary education. Finally voter turnout rates increase with individual income (Figure 2.25). The differences in voter turnout between rich and poor people are particularly large in the United Kingdom, Poland, Switzerland, the United States and Korea while they tend to be nil or very small in Brazil and Chile, as well as in Japan and Ireland.

Environment quality

Quality of life is strongly affected by a healthy physical environment. The impact of environmental pollutants, hazardous substances and noise on people's health is sizeable. The environment also matters intrinsically as many people attach importance to the beauty and the healthiness of the place where they live, and because they care about the degradation of the planet and the depletion of natural resources.

Figure 2.25. **Voter turnout by income**

Percentage of votes cast over the registered population, 2009 or latest available year



Note: Data refer to 2011 for Estonia, Finland and Turkey; 2010 for Brazil, the Czech Republic, the Netherlands and the Slovak Republic; 2008 for Austria, Canada, Korea, New Zealand, Slovenia, Spain and the United States; 2007 for Australia, France, Ireland, Japan, Poland and Switzerland; 2006 for Israel, Italy and Sweden; 2005 for the United Kingdom; 2004 for the Russian Federation; 2003 for Belgium; 2002 for Hungary and 2001 for Denmark.

Source: Module 2 and 4 of the Comparative Study of Electoral System (CSES).

StatLink http://dx.doi.org/10.1787/888932888129

In the last two decades, concentrations of particulates (PM_{10}) in the air people breathe (see Box 2.9 for the definition) have significantly decreased in all OECD countries (Figure 2.26), although many countries are still well above the annual limit of 20 $\mu g/m^3$ recommended by the World Health Organization. These concentration levels are highest in Chile and lowest in Estonia and Sweden. PM_{10} concentrations have drastically dropped in the Russian Federation, Israel and in Eastern European countries (including Estonia, the Czech and Slovak Republics), where reductions in air pollutants were mostly the result of structural shifts in the economy and the introduction of cleaner vehicle engine technologies.

In 2012, a large majority of respondents in OECD countries reported being satisfied with the quality of local water (see Box 2.9 for the definition). In Australia, Norway, Iceland and the United Kingdom more than 90% of the population expressed contentment over water quality. However, in some countries such as Turkey, Israel and Greece, the proportion of those satisfied with water quality is much lower. In the Russian Federation, only one in two respondents reported being satisfied with water quality (Figure 2.27).

The association between fine-particle pollution in the air and heart and respiratory diseases is mediated by many factors, including people's occupation, age, gender, underlying disease, smoking, health habits, body mass, education and income. National and local studies of the adverse health effects of air pollution have shown that certain groups of the population are especially vulnerable to air pollution and other environmental hazards. The very young and the very old are more at risk than the rest of the population (OECD, 2011). People with pre-existing cardiovascular and respiratory conditions are also more susceptible to ambient PM.

Box 2.9. **Measuring environmental quality**

The two headline indicators of environmental quality presented above are defined as follows:

- ***Air quality*** is measured as the urban-population weighted average of annual concentrations of particulate matters less than 10 microns in diameter (PM_{10}) in the air in residential areas of cities with more than 100 000 residents. Particulate matters consist of small liquid and solid particles floating in the air, and include sulphate, nitrate, elemental carbon, organic carbon matter, sodium and ammonium ions in varying concentrations. PM_{10} also comprise smaller particles, such as $PM_{2.5}$, which are thought to be the most poisonous. The data shown here are based on World Bank statistics.
- ***Satisfaction with water quality*** captures people's subjective appreciation of the environment where they live, in particular the quality of the water. It is based on the question: "In the city or area where you live, are you satisfied or dissatisfied with the quality of water?" and it considers people who declared being satisfied with local water quality. Data come from the Gallup World Poll.

The concept of "environmental quality" is broad, and an ideal set of indicators would inform on a number of environmental media (soil, water, air), on people's access to environmental services and amenities, as well as on the impact of environmental hazards on human health. Unfortunately, available data are scattered and not comparable across countries.

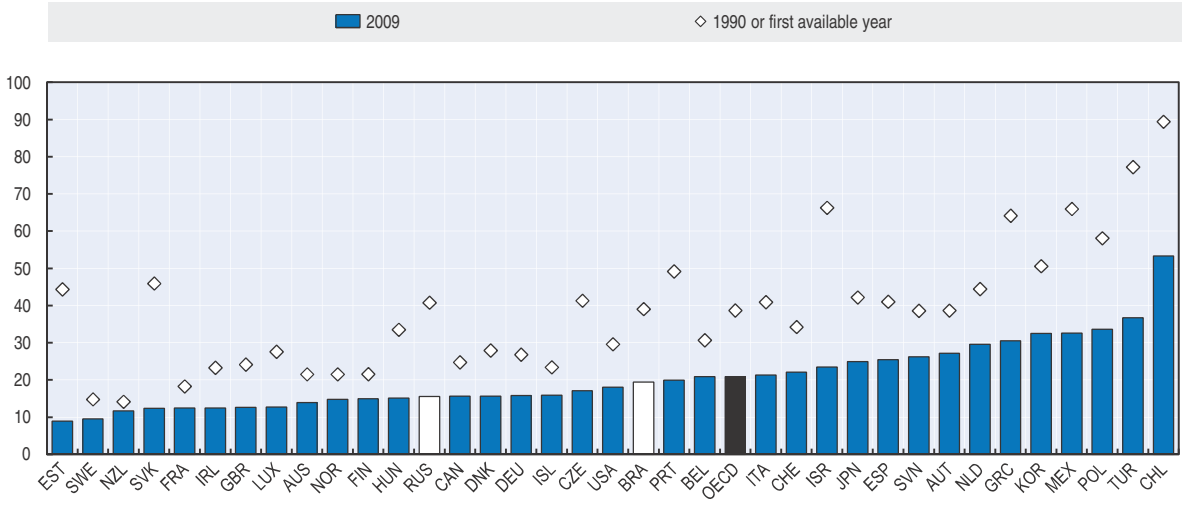
Measuring air pollution is also challenging, as air quality is the result of a complex mixture of pollutants that may vary over time, space and form. The indicator of air pollution presented here is based on good-quality time-series data that allow comparisons across countries and over time. Improvements in pollution monitoring and statistical techniques during the last decades have enhanced the ability to measure air pollution and provided a broad picture of how pollution affects people living in urban spaces. However, these data are limited in several respects. First, they relate to annual levels, and thus do not capture important variations at smaller time scales (e.g. hours or months). Second, air pollution data assume that everyone living in an urban area is equally exposed; in practice, personal exposure varies substantially, depending on where people live and work, their occupations, lifestyles and behaviours.

Subjective data on environmental quality provides critical information on environmental conditions and people's appreciation of the environment where they live. The indicator of satisfaction with water quality is based on data drawn from the Gallup World Poll, a non-official survey characterised by small samples; this suggests that the evidence drawn from this measure must be taken with caution.

Short-term effects of high PM_{10} concentration appear to be restricted largely to people with low socio-economic status, due to a combination of greater susceptibility and higher exposure. Moreover, attributes of poor education (e.g. nutritional status, increased exposure, lack of access to good-quality medical care) may affect people's susceptibility to fine-particle pollution. The impact of education on satisfaction with the quality of environment is however mixed (Figure 2.28).

Figure 2.26. **Air pollution**

PM_{10} concentrations, micrograms per cubic metre



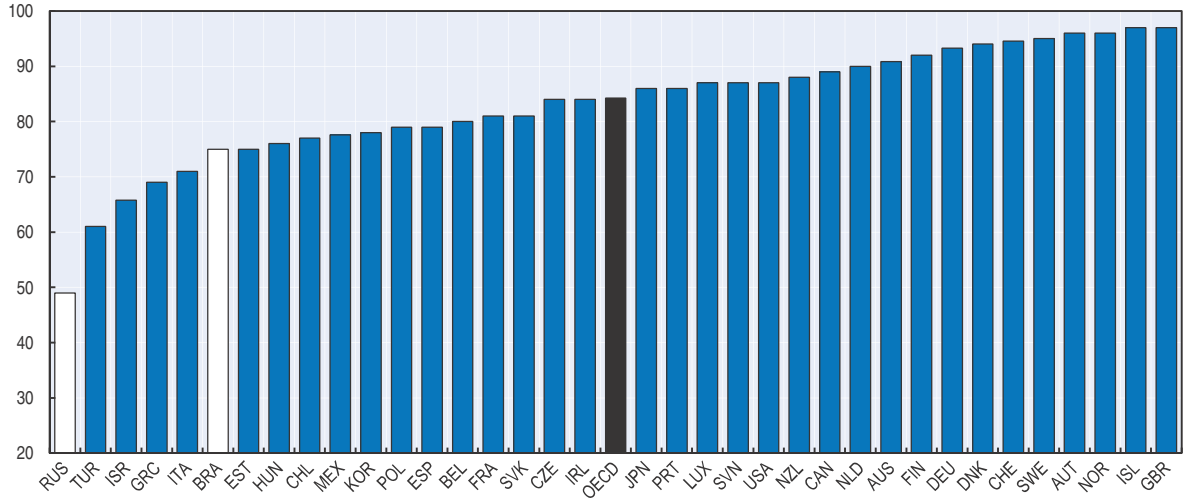
Note: Data are urban-population weighted PM_{10} levels in residential areas of cities with more than 100 000 residents in 2013. The first available year is 1994 for Slovenia.

Source: World Bank, *Data: PM_{10}, country level (micrograms per cubic meter*, *http://data.worldbank.org/indicator/EN.ATM.PM10.MC.M3*.

StatLink http://dx.doi.org/10.1787/888932888148

Figure 2.27. **Satisfaction with water quality**

Percentage of satisfied people in the overall population, 2012 or latest available year



Note: Data refer to 2011 for Chile, Japan, Korea, the United Kingdom and Brazil.

Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

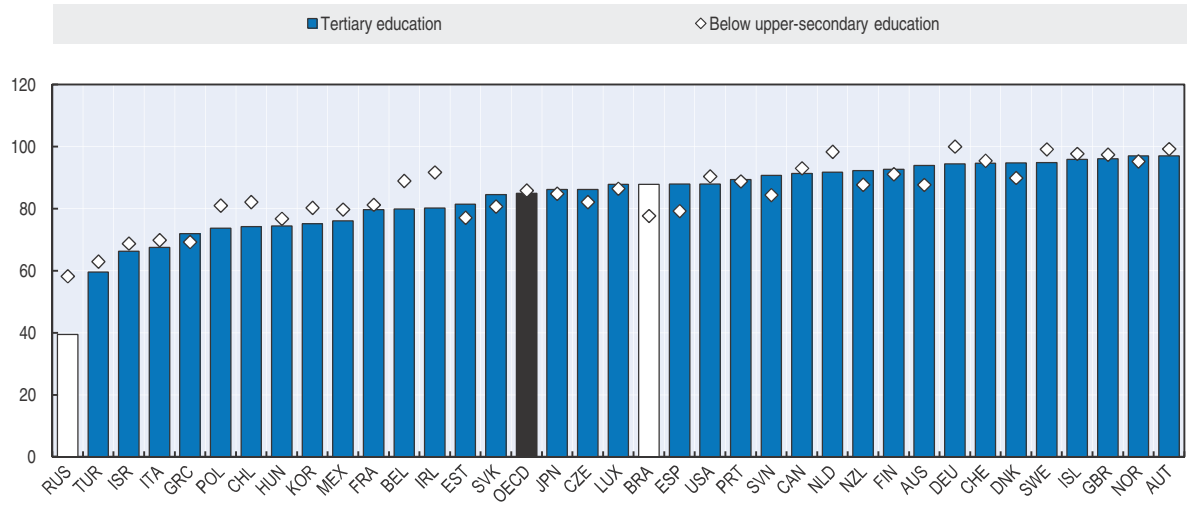
StatLink http://dx.doi.org/10.1787/888932888167

Personal security

Physical security includes a wide range of threats to people's lives, one of the most common ones being crime. Some forms of crime may lead to the loss of life, while others have a strong impact on the victims' mental and physical health, both in the short and long term. Crime also has large direct impacts on the well-being of non-victims, through the increase in worry and anxiety.

Figure 2.28. **Satisfaction with water quality by educational level**

Percentage of satisfied people among the higher educated and the lower educated, 2012 or latest available year



Note: Data refer to 2011 for Chile, Japan, Korea, the United Kingdom and Brazil.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888186

In most OECD countries, homicide rates (see Box 2.10 for the definition) are low, and well below the OECD average of 2.23 homicides per 100 000 people. They are, however, more than twice as high in the United States and even higher in Mexico, Brazil and in the Russian Federation. Over the past ten years or so, homicide rates have declined or remained stable in all OECD countries, with the exception of Luxembourg, Korea and especially Mexico, where the national homicide rate has almost doubled. A sharp decline in homicide rates has taken place in Brazil, the Russian Federation and Estonia (Figure 2.29).

In 2012, only a small minority of people (4%) in OECD countries reported that they had been victim of an assault (see Box 2.10 for the definition) over the preceding 12 months (Figure 2.30). Self-reported victimisation rates for Canada, Iceland, the Netherlands, the United States and Turkey are below 2 percentage points. However, the self-reported victimisation rate is twice as high in Brazil and Chile, and much higher in Mexico (13%).

Homicide rates for men are usually far greater than those affecting women (Chapter 4). The group most at risk of being victims of homicide are young men between the ages of 15 and 29 (OECD, 2011). High youth homicide rates reflect patterns of criminal activity, such as gangs and drug smuggling. Women are, however, the primary target of domestic and intimate partner violence, and they are usually more fearful of crime than their male counterparts. In the case of contact and property crimes, socio-economic inequality seems to play a central role in the occurrence of criminal victimisation as disadvantaged people are more likely to perpetrate and to be victims of crimes.

Box 2.10. **Measuring Personal security**

The two headline indicators of personal security presented above are defined as follows:

- ***Reported homicides*** measure the number of intentional homicides reported to the police each year, per 100 000 people. The data come from the United Nations Office on Drugs and Crime (UNODC) and are based on national data collected from law enforcement, prosecutor offices, and ministries of interior and justice, as well as from Interpol, Eurostat and regional crime prevention observatories.
- ***Self-reported victimisation*** refers to the percentage of people who declare that they have been victim of an assault crime in the last 12 months. The data presented here are drawn from the Gallup World Poll.

A set of ideal indicators of personal security would inform about the various crimes and offenses experienced by individuals, weighting these crimes according to their seriousness. However, official records of these crimes may not be comparable across countries due to differences in what is counted as crime in various countries and to changes in recording practices. In addition, official police-based statistics tell only part of the story, as a large share of crimes are neither reported nor recorded (the so-called "dark figure"). However, homicide is the type of crime that is the least affected by the above-mentioned problems of cross-country comparability, under-reporting and idiosyncratic classification. As the majority of violent killings involve the use of some form of weapon, statistics on intentional homicide also provide proxy information on overall levels of armed violence. However, homicide rates only represent the most extreme form of contact crime.

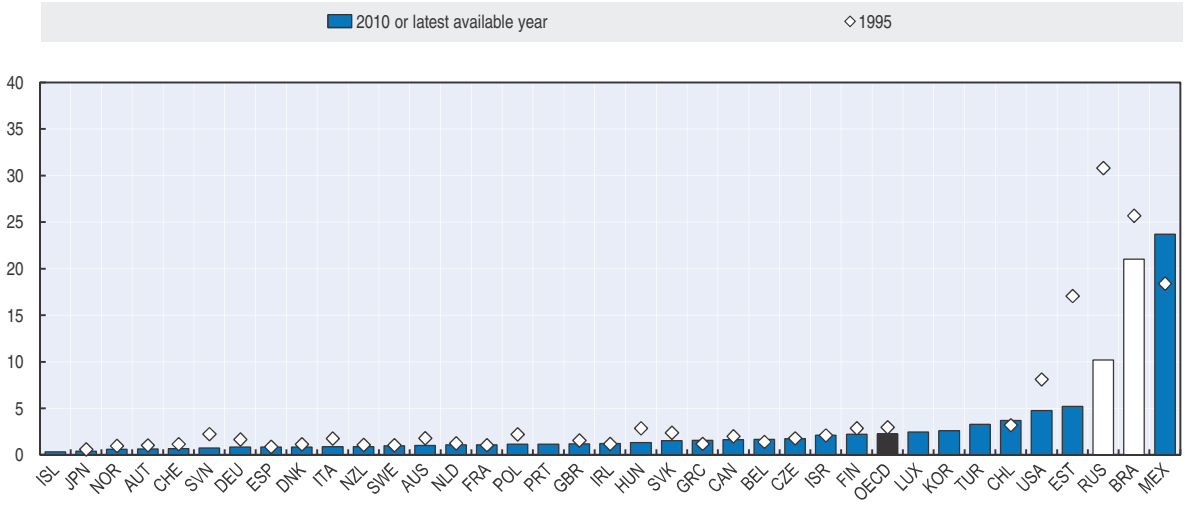
Crime victimisation surveys are a critical tool for measuring people's experiences with respect to types of crime other than homicide. The indicator presented here refers to assaults, thus excluding crimes against property that do not involve contact between the victim and the offender. It is based on data from a non-official survey (the Gallup World Poll) characterised by small sample sizes, a limit that is especially important for measuring events that typically affect only a small proportion of the entire population. National crime victimisation surveys exist in some countries but are not based on common standards and methodologies; while available data from existing international surveys on the subject (the International Crime Victim Survey) refer to the mid-2000s and are also based on small samples.

Victimisation surveys bring into focus the extent of crime problems that affect ordinary citizens most often and – if conducted at regular intervals based on an unchanged methodology – provide measures of changes in levels of crime over time. However, due to methodological limits, the available data provide only a proxy for the number of illegal acts that occur in society. First, some crimes may be underestimated or overestimated due to the subjective interpretation of what constitutes a crime by respondents. In addition, some people may be reluctant to disclose information for incidents of a sensitive nature, such as sexual assaults or inter-partner violence. Second, the accuracy of victimisation surveys is influenced by the ability of people to recall past crimes: the longer the period elapsed, the less likely it is that a victimisation will be recalled accurately. Finally, unconventional types of crime such as corruption may be difficult to capture through household surveys.

A recent INEGI and UNODC report provides a roadmap to improve the availability and quality of crime statistics at national and international level (*http://unstats.un.org/unsd/statcom/doc13/2013-11-CrimeStats-E.pdf*).

Figure 2.29. **Intentional homicides**

Number of homicides per 100 000 persons



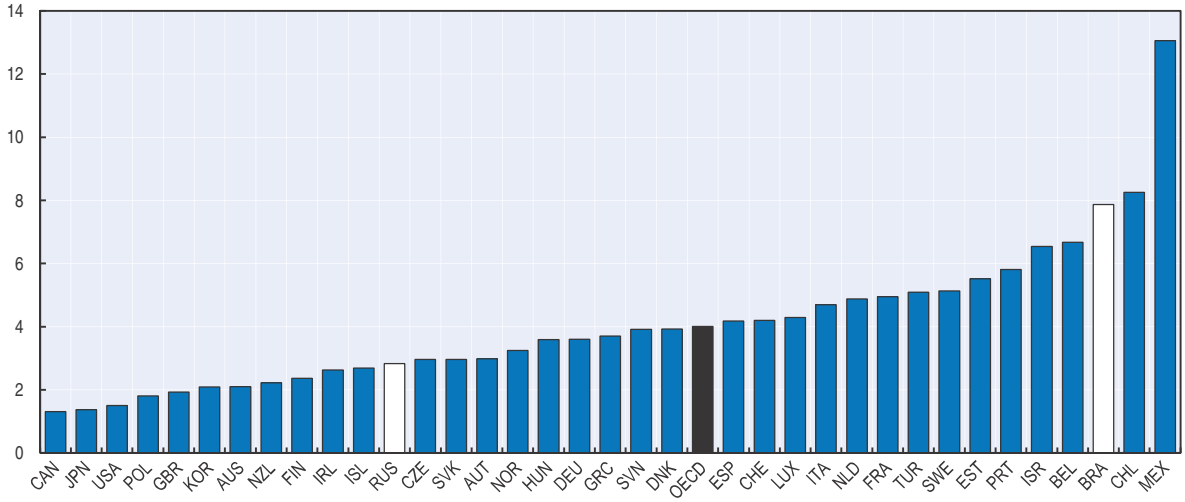
Note: The latest available year is 2011 for Chile, Israel, Mexico and New Zealand; 2009 for the Czech Republic, Denmark, France, Iceland, Japan, the Netherlands, the Slovak Republic and the United Kingdom; and 2008 for Luxembourg and Turkey. Data for the United Kingdom are collected by three different jurisdictions (England and Wales, Scotland and Northern Ireland): the value shown here is the unweighted average of the three.

Source: United Nations Office on Drugs and Crime (UNODC), *www.unodc.org*; Eurostat 2011, *Crime and Criminal Justice Statistics* is the source for Austria, Denmark, Ireland and the Netherlands, *http://epp.eurostat.ec.europa.eu/portal/page/portal/crime/introduction*.

StatLink http://dx.doi.org/10.1787/888932888205

Figure 2.30. **Self-reported victimisation**

Percentage of people declaring that they have been assaulted over the previous 12 months, 2010



Note: Data refer to 2012 for Mexico; 2011 for Chile; 2009 for Estonia and Switzerland; and 2008 for Iceland and Norway.

Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888224

Subjective well-being

Subjective well-being reflects the notion that how people experience a set of life circumstances is as important as the circumstances themselves and that people are the best judges of how their own lives are going.

Across OECD countries, the gap between countries with the highest and lowest life satisfaction (see Box 2.11 for the definition) is approximately 3 points on an 11 point scale (Figure 2.31). People in Switzerland, Norway, Iceland, Sweden, Denmark and the Netherlands report the highest levels of life satisfaction. By way of contrast, people in Hungary, Portugal and Greece report the lowest levels of life satisfaction. On average, in the OECD area, people report a life satisfaction of 6.2. East Asian countries (e.g. Japan and Korea) tend to report a lower level of life satisfaction than might otherwise be expected given their economic development while, Latin American countries (e.g. Chile, Brazil, and Mexico) show a higher level of life satisfaction than might otherwise be expected. This finding might reflect cultural differences in reporting about life satisfaction but also the importance of other factors shaping people's quality of life that are unrelated to income.

While some OECD countries have a relatively equal distribution of life satisfaction (e.g. much of Western Europe, Israel, Japan and New Zealand), others countries (e.g. Slovenia, Portugal, Chile, and Brazil) display much wider distributions. In general, countries with a less equal distribution of life satisfaction also tend to have a lower average level of life satisfaction. However, there are exceptions; for example Mexico, Chile and Brazil combine a relatively high spread in life satisfaction scores and very different levels of average life satisfaction.

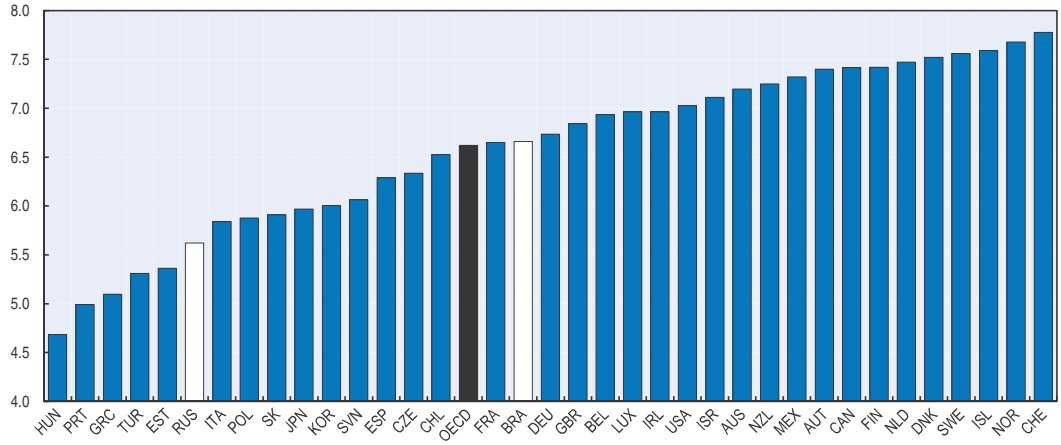
Box 2.11. **Measuring Subjective well-being**

The headline indicator of subjective well-being, ***life satisfaction***, reflects people's evaluation of their life as a whole. It is based on the Cantril Ladder (also known as the "Self-Anchoring Striving Scale"), which asks people to rate their current life relative to the best possible life (10) and to the worst possible life (0) for them. The score is computed as the weighted sum of the different response categories. The data shown are drawn from the Gallup World Poll, a non-official survey characterised by small sample tests. The evidence from this indicator must therefore be taken with caution.

An ideal indicator of life satisfaction would make it possible to identify how the external circumstances in which people live affect their life evaluations, and to reach judgements about how different countries and population groups are faring. In practice, while the Cantril Ladder represents the best available measure of overall life satisfaction, it does have some limitations: how people respond to the Cantril Ladder can be affected by personality, mood, cultural norms, and relative judgements. Some of these aspects, such as personality and mood, can largely be ignored for the purposes of comparisons of average levels between countries, since they are likely to cancel out in a sufficiently large sample. Other factors, such as the impact of cultural factors on response styles, may be more significant and suggest caution in cross-country comparisons.

For subjective well-being data to inform policies, data need to be collected based on large and representative samples and in a consistent way across different countries and over time. The OECD *Guidelines on Measuring Subjective Well-Being* provide international recommendations on collecting, publishing, and analysing subjective well-being data. They provide guidance on collecting information on people's evaluations and experiences of life, as well as on "eudaimonic" measures of psychological well-being. The guidelines also include a number of prototype survey modules on subjective well-being that national and international agencies can use in their surveys.

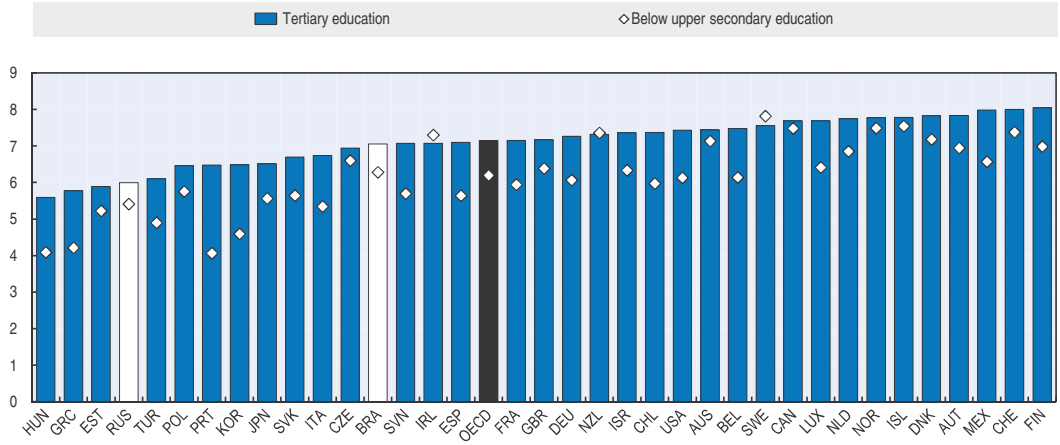
Figure 2.31. **Life satisfaction**
Cantril Ladder, mean value in 2012



Note: The Cantril Ladder is measured on a scale from 0 to 10 (see Box 2.11 for the definition). The latest available year is 2011 for Chile.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.
StatLink http://dx.doi.org/10.1787/888932888243

In most of OECD countries low levels of education are associated with lower levels of life satisfaction (Figure 2.32). This effect is strong in Portugal, Korea, Greece and Hungary. Although there is a direct relationship between life satisfaction and education, this correlation tends to weaken when measures of income and health status are also included in the analysis (see Boarini et al., 2012) This suggests that education may contribute to subjective well-being primarily through its impact on other life outcomes.

Figure 2.32. **Life satisfaction by educational level**
Cantril Ladder, mean value in 2012



Note: The Cantril Ladder is measured on a scale from 0 to 10. The latest available year is 2011 for Chile.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.
StatLink http://dx.doi.org/10.1787/888932888262

Conclusions

This chapter has presented evidence of cross-country and over time differences in well-being average outcomes in 11 dimensions. In addition, it has discussed selected information on the distribution of well-being outcomes when such information exists. Among OECD countries there are large differences in average well-being outcomes; this holds true for all the well-being dimensions considered. The OECD area as a whole made considerable progress in many well-being areas over the past twenty years or so; however this trend does not hold for some well-being dimensions (e.g. jobs and electoral participation) and, more importantly, it hides a great diversity of patterns among countries. Finally, for many of the *How's Life?* dimensions there remain large differences in well-being outcomes across the population.

References

Antoni, C.A. and Matthew O. Jackson (2005), "Like father, like son: Social networks, human capital investment, and social mobility", *Working Papers*, No. 1242, California Institute of Technology.

Boarini, R. et al. (2012), "What Makes for a Better Life?: The Determinants of Subjective Well-Being in OECD Countries – Evidence from the Gallup World Poll", *OECD Statistics Working Papers*, No. 2012/03, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k9b9ltjm937-en*.

EU (2013), *European Union Labour Force Survey*, *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/lfs*.

EU (2011), *European Union Statistics on Income and Living Conditions*, *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc*.

EU (2011), *Crime and Criminal Justice Statistics*, *http://epp.eurostat.ec.europa.eu/portal/page/portal/crime/introduction*.

Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

IDEA (2013), International Institute for Democracy and Electoral Assistance, *www.idea.int/* (accessed 23 July 2013).

Ioannides, Y.M. and L. Datcher Loury (2004). "Job Information Networks, Neighborhood Effects, and Inequality", *Journal of Economic Literature*, Vol. 42, No. 4, pp. 1056-1093, December, American Economic Association.

OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.

OECD (2013b), *OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194830-en*.

OECD (2013c), *OECD Guidelines for Micro Statistics on Household Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194878-en*.

OECD (2013d), "Income Distribution", *OECD Social and Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en* (accessed on 23 July 2013).

OECD (2013e), "OECD Labour Force Statistics", *http://dx.doi.org/10.1787/888932887730*.

OECD (2013f), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*.

OECD (2013g), *Education at a Glance 2013: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2013-en*.

OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris, forthcoming.

OECD (2013i), *OECD Guidelines on Measuring Subjective Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191655-en*.

OECD (2012a), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.

OECD (2012b), *OECD Employment Outlook 2012*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/empl_outlook-2012-en*.

OECD (2011), *How's life?: Measuring Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264121164-en*.

OECD (2010a), "Labour Force Statistics: Summary tables", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/23data-00286-en*.

OECD (2010b), *PISA 2009 at a Glance*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264095298-en*.

OECD (2009), *Indicators of regulatory management systems: 2009 report*, *www.oecd.org/gov/regulatory-policy/44294427.pdf*.

Scrivens, K. and C. Smith (2013), "Four Interpretations of Social Capital: An Agenda for Measurement", *OECD Statistics Working Paper*, OECD Publishing, Paris, forthcoming.

United Nations (2012), *Report of the National Institute of Statistics and Geography of Mexico and the United Nations Office on Drugs and Crime "on a road map to improve the quality and availability of crime statistics at the national and international levels"*, *http://unstats.un.org/unsd/statcom/doc13/2013-11-CrimeStats-E.pdf*.

UNODC (United Nations Office on Drugs and Crime), *www.unodc.org/*.

World Bank, *Data: PM_{10}, country level (micrograms per cubic meter*, *http://data.worldbank.org/indicator/EN.ATM.PM10.MC.M3*.

Chapter 3

Well-being and the global financial crisis

How did people's life change during the global economic and financial crisis? In the wake of the crisis, household income and wealth, jobs and housing conditions deteriorated and have not completely recovered yet in many OECD countries. This had the effect of increasing poverty and inequalities, especially among young people and low-skilled workers. The number of discouraged workers and inactive people has increased, as did perceived work-life conflicts for employed people. Clear negative trends have also emerged in subjective well-being and civic engagement, with increasing levels of stress, lower life satisfaction and decreasing trust in national governments. Trends in other well-being dimensions, such as health and social connections, are less clear. Information on short-term trends in well-being is limited, however, and there is a need to improve the timeliness and frequency of the statistical base used to guide short-term policy decisions in order to better take into account households' perspective.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

This chapter uses the *How's Life?* well-being framework presented in Chapter 1 to assess trends in a range of economic and non-economic well-being outcomes since the start of the global economic and financial crisis[1] at the end of 2007. It focuses on short-term developments in the *How's Life?* dimensions where changes are likely to have been the most visible between 2007 and 2012. These dimensions include income and wealth, jobs and earnings, health status, civic engagement, subjective well-being and social connections. While there is also research on how the crisis may have affected other dimensions of well-being that are not considered in this chapter (e.g. education and skills or personal security, e.g. Dao and Loungani, 2010; Chowdury et al., 2013; OECD, 2013), these impacts are usually visible in the medium to longer-term only: developments in these fields are therefore not discussed here, as data are not yet available to present statistical evidence. The chapter does not attempt to present any systematic inferences or analyses of the "causal" impacts of the crisis on well-being outcomes (i.e. isolating the impact of the crisis from other drivers). Its main objective is to present evidence on the most recent changes in people's well-being.

The evidence presented in this chapter relies mainly on the *How's Life?* headline outcome indicators for the dimensions selected above, as these indicators provide the best available evidence for international comparisons of well-being. However, these indicators may not be sufficiently detailed to capture all the well-being implications of the crisis as they are not compiled on a sufficiently frequent and timely basis and mainly refer to the population as a whole rather than specific groups that may have been most exposed to the crisis (e.g. the unemployed). Supplementary indicators, as well as indicators that are disaggregated by age and socio-economic status, are therefore also used, along with evidence from available research, to provide additional information on recent trends in people's well-being. While the chapter covers the majority of OECD countries, changes in well-being outcomes are discussed in more detail for Europe and the United States as these are the areas that have been the most affected by the global financial crisis.

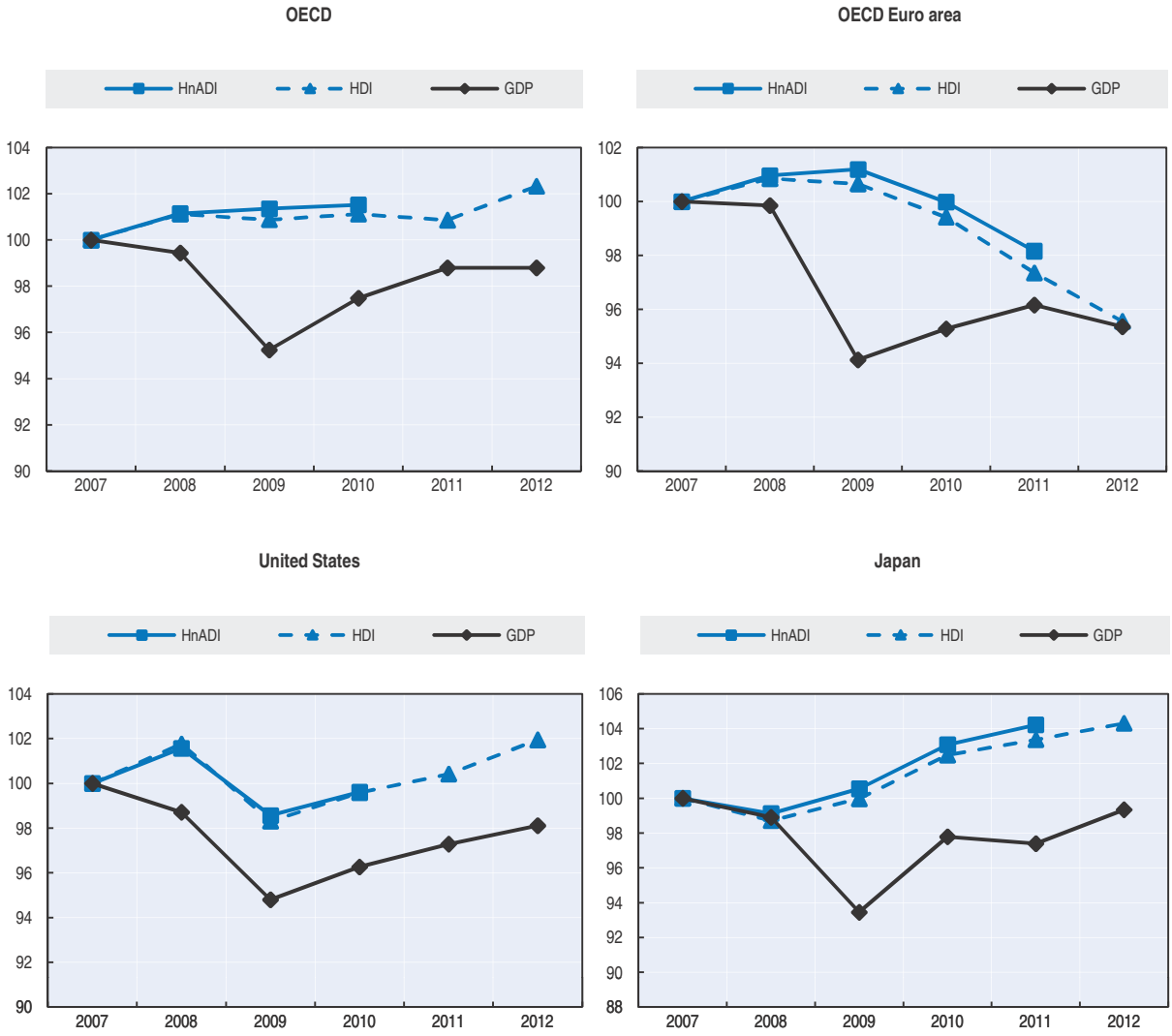
The chapter only discusses evidence from the global financial crisis. It does not provide an analysis of other economic and financial crises nor of the specific characteristics of the sovereign debt crisis that some countries are facing. Finally, the chapter does not take any stance on whether well-being outcomes observed before the crisis were sustainable or not; therefore, it does not make any judgment on whether the observed changes in well-being indicators could be interpreted as a "return to some equilibrium" in some countries.

Income and wealth

Between 2007 and 2009, real GDP per capita declined by almost 2.5% per year in the OECD area as a whole, with slow growth resuming since 2010. Between 2010 and 2011 real GDP per capita increased by 1% and remained flat in 2012. In 2012, the level of real GDP per capita was, for the OECD area as a whole, still 1% below its pre-crisis level. By contrast, national accounts measures of real household net (adjusted) disposable income per capita (HNADI, the *How's Life?* headline indicator) showed more resilience than real GDP per

Figure 3.1. **Trends in real GDP and in real household income during the crisis**

Per capita, US dollars at 2005 PPPs, 2007 = 100



Note: Households include non-profit institutions serving households, except for New Zealand. Private consumption of Households is used as deflator for the Household net disposable income (HDI), while actual individual consumption is used as a deflator for the household net adjusted disposable income (HNADI). The OECD average excludes Chile, Israel, Iceland and Turkey. Data on real GDP per capita for the OECD area as a whole are based on OECD estimates for New Zealand in 2010; and on OECD estimates for Australia, Canada, Israel, Japan, Mexico and New Zealand in 2011. Data on real household net disposable income for the OECD as a whole are also based on OECD estimates for Australia, Canada, New Zealand and Switzerland in 2011. All 2012 values are estimates based on *OECD Economic Outlook*, No. 93. Household net disposable income estimate for 2012 for OECD excludes Greece.

Source: OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*; Statistics New Zealand; OECD (2013), *OECD Economic Outlook: Statistics and Projections* (database), *http://dx.doi.org/10.1787/16097408*; OECD (2013), *OECD Economic Outlook*, Vol. 2013/1, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_outlook-v2013-1-en*; OECD calculations.

StatLink *http://dx.doi.org/10.1787/888932888281*

capita, with continued growth, albeit at very modest rates (Figure 3.1). In particular, real household net (adjusted) disposable income per capita grew by 1% in 2009, when real GDP per capita was falling most sharply (by 4%).

Across OECD countries, however, both the timing and the magnitude of changes in real household disposable income per capita have differed markedly. In the euro area, the impact of the economic crisis on real household income was more delayed than elsewhere but also,

overall, more severe: real household disposable income per capita continued to increase up to 2009 and started to decline from 2010 onwards. Between 2009 and 2012, real household disposable income per capita dropped by more than 1% per year, with the largest decline occurring in 2011, when real GDP per capita had started to pick up again. In 2012, both real GDP and household net disposable income per capita dropped again. Overall, since the start of the crisis, the largest declines in real household disposable income in Europe have occurred in Greece (by more than 10% in both 2010 and 2011), Ireland (by nearly 3% in 2010, and by more than 4% in 2011), Hungary (by 4% in 2009 and by 3% in 2010), Italy (by 3% in 2009 and by around 1% in both 2010 and 2011), Portugal (by 5% in 2011) and Spain (by above 4% in 2010 and by 3% in 2011). By contrast, Norway, Poland and Switzerland experienced a significant increase in real household disposable income (by 2% per year or more).

In the United States, changes in household net adjusted disposable income reflect more closely movements in GDP, in terms of both timing and size: real household disposable income per capita and real GDP per capita contracted by around 4% in 2009, with growth in both aggregates resuming from 2010 onwards. By the end of 2012, real GDP per capita was almost back to its pre-crisis level while real household net disposable income was 2% higher than in 2007. In other (non-European) OECD countries, real household net (adjusted) disposable income was generally more resilient to the crisis than real GDP per capita, notably in Korea and Japan (Figure 3.1), as well as in Canada and Australia (Figure 3.A1.1 in Annex 3.A1).

These different patterns in real household net disposable income per capita across the OECD area reflect diverse patterns for both primary income (i.e. the sum of compensation of employees, property income and operating surplus) and secondary income (i.e. social transfers in kind received, cash transfers from the public sector, and taxes and social security contributions paid by households), the two broad components of household adjusted disposable income.

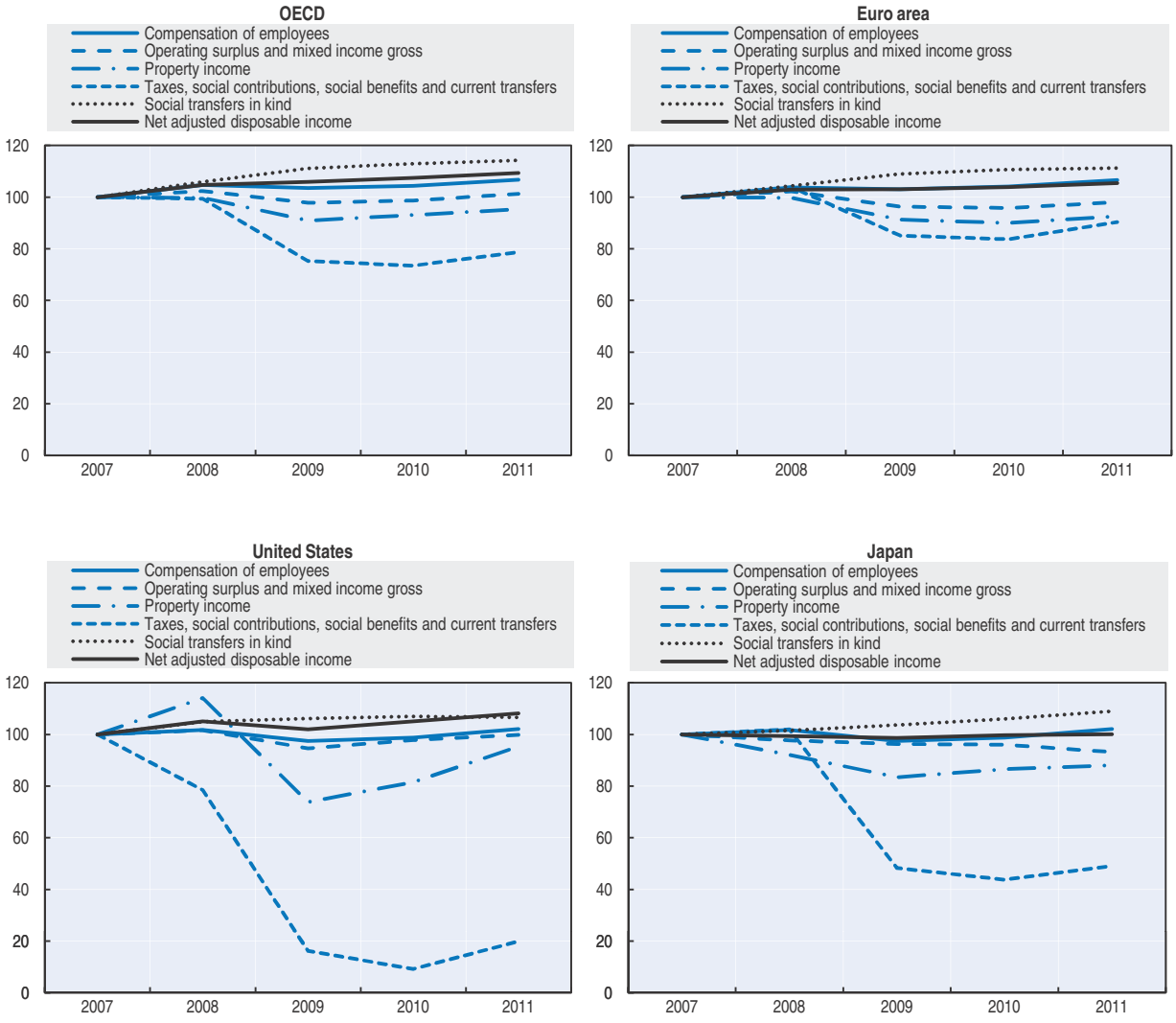
For the OECD area as a whole, household primary income per capita fell only in 2009 (by 2.6%) and increased from 2010 onwards (by more than 1% per year, Figure 3.2). The fall in primary income per capita mainly reflected the decline in operating surplus (minus 4% in 2009) and in property income (minus 9% in 2009), as compared to a more modest fall in compensation of employees (minus 1% in 2009). Between 2007 and 2011, net transfers paid by households fell by 20%, while social transfers in kind increased by 10%.

In the euro area, the fall in primary income per capita followed a similar pattern to that of the OECD area as a whole, although both property income and operating surplus continued their decline in 2010 (Figure 3.2). However, in contrast to patterns prevailing in the OECD area as a whole, the redistribution of income through taxes and transfers towards households sustained primary income only up to 2009; from 2010 onwards, net transfers paid by households started increasing again, while social transfers in kind stagnated.

In the United States, the large fall in household primary income in 2009 (minus 8%) resulted from a plunge in property income (minus 40%), a large decline in income from self-employment and dwellings (minus 7%) and a smaller drop in compensation of employees (minus 4%); conversely, secondary income (i.e. the income that government redistributes to households) increased substantially just after the crisis (Figure 3.2). A similar pattern occurred in Japan, where primary income fell significantly in 2009 as a result of large declines in compensation of employees (minus 4%) and property income (minus 9%), while secondary income increased significantly as a result of a strong reduction in net transfers paid by households.

Figure 3.2. **Components of household adjusted net disposable income**

2007 = 100



Note: OECD excludes Australia, Canada, Chile, Israel, Iceland, Switzerland and Turkey.

Source: Calculations based on OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en.*

StatLink http://dx.doi.org/10.1787/888932888300

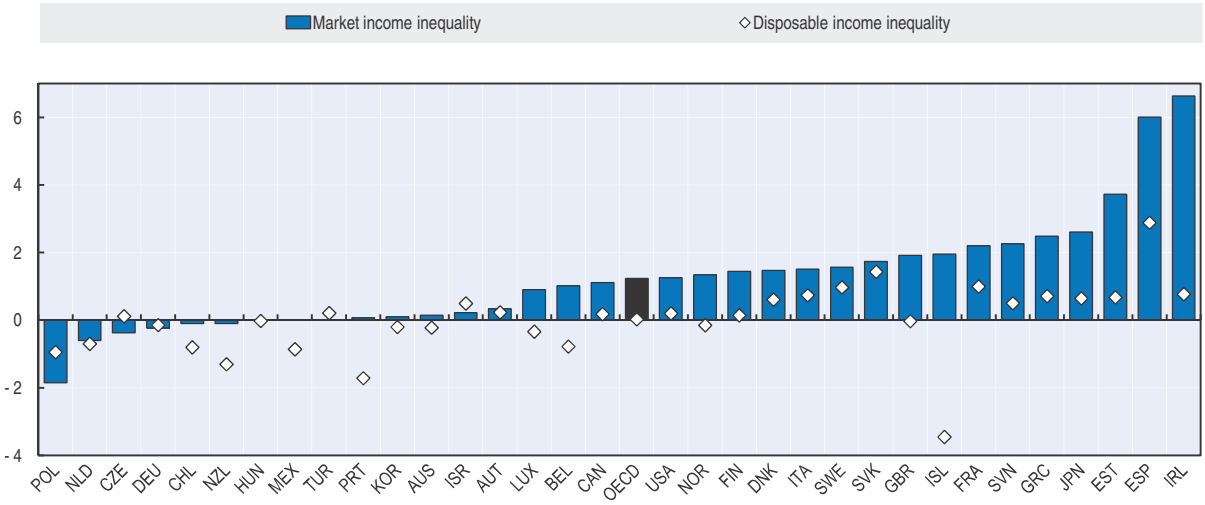
Movements in secondary income per capita reflected the operation of both automatic stabilisers and discretionary changes in fiscal policies. While both elements supported household income in the early stages of the crisis up to 2009, general government deficits started to narrow in 2010, as fiscal consolidation became a policy priority and economic activity recovered timidly in some countries. The reduction of the government structural primary deficit was the largest in the euro area, and was associated with a large decline in real household disposable income per capita.

How have these changes in macro-statistics on household income affected households with different characteristics? According to household microdata,[2] average household income fell by 2% per year in real terms between 2007 and 2010 (the latest year available at the time of writing). Low-income households were more affected by this contraction than those at the top of the distribution (OECD, 2013d). Measured by the Gini coefficient, a

standard measure of income dispersion, inequality in household disposable income in the three years to 2010 edged up in a majority of OECD countries, but with virtually no change for the OECD area as a whole (Figure 3.3). Changes in income inequality were, however, much more significant when looking at pre-tax income inequality, for which the Gini coefficient increased by 1.4% points in the three years to 2010, a larger rise than that recorded in the previous twelve years. These increases in market income inequality were particularly large in Ireland (8%) and Spain (6%), and also significant in Estonia, Hungary, Japan, Greece, Slovenia and France. The different evolution of inequality measures for market income and for disposable income reflected the mitigating effects of welfare systems, as tax and benefit systems, reinforced by fiscal stimulus in the early phase of the crisis, offset most of the negative impact of the crisis in that period (OECD, 2013d).

Figure 3.3. **Inequality in household market income and disposable income**

Percentage point change in the Gini coefficient, 2010 versus 2007



Note: 2007 data refers to 2006 in the case of Chile and Japan; and to 2008 in the case of Australia, Finland, France, Germany, Israel, Italy, Mexico, New Zealand, Norway, Sweden and the United States. 2010 data refers to 2009 in the case of Hungary, Japan, and Turkey; and to 2011 in the case of Chile. 2010 data are provisional in the case of Austria, Belgium, the Czech Republic, Estonia, Finland, Greece, Iceland, Ireland, Italy, Luxembourg, Poland, Portugal, Spain, the Slovak Republic and Slovenia. Household incomes are adjusted for household size. Market incomes are reported net of taxes in Hungary, Mexico and Turkey.

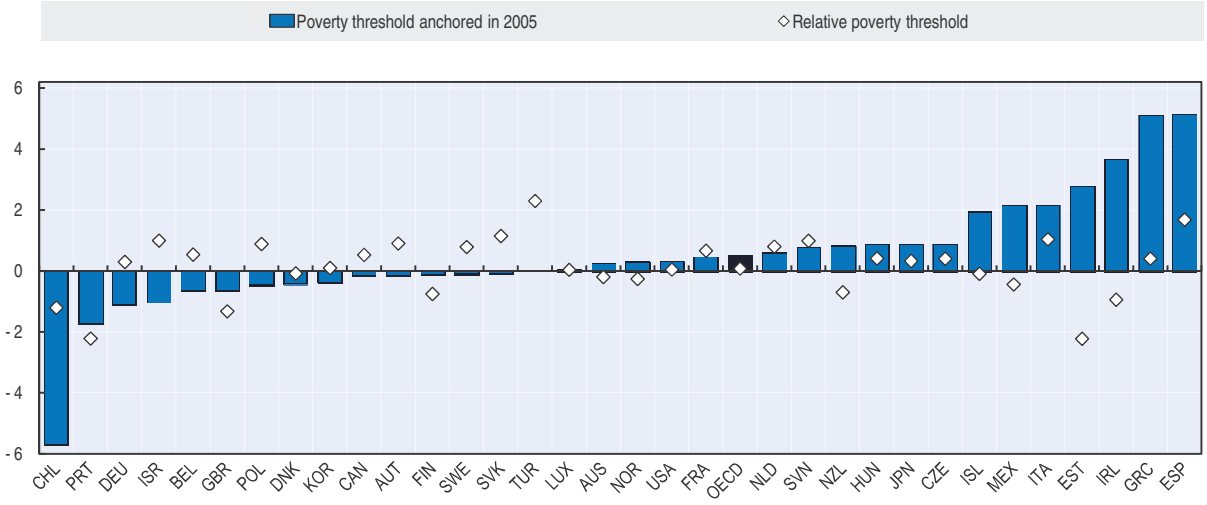
Source: OECD (2013b), "Income Distribution", *OECD Social and Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en*.

StatLink http://dx.doi.org/10.1787/888932888319

Similar developments are evident when looking at households the lower end of the income scale (Figure 3.4). Relative income poverty, based on a threshold set at half of median household income, remained stable, on average, in the OECD area between 2007 and 2010, with strong increases in Turkey and Spain and strong declines in Estonia and Portugal.[3] On average, relative income poverty rose among children and youth, while it declined among the elderly (OECD, 2013d). However, when measured against a threshold anchored to half of the median income in 2005 (and adjusted for inflation in later years), poverty in the OECD area increased more significantly between 2007 to 2010, with rises of 5 points or more in Ireland, Spain and Greece. As most of the fall in National Accounts household disposable income occurred after 2010 in the euro area, the rise in "anchored" poverty in this region is likely to be higher after 2010 as more up-to-date data become available.[4]

Figure 3.4. **Income poverty rates**

Percentage point changes in relative and "anchored" poverty rates between 2007 and 2010



Notes: 2007 data refers to 2006 in the case of Chile and Japan; and to 2008 in the case of Australia, Finland, France, Germany, Israel, Italy, Mexico, New Zealand, Norway, Sweden and the United States. 2010 data refers to 2009 in the case of Hungary, Japan, and Turkey; and to 2011 in the case of Chile. 2010 data are provisional for Austria, Belgium, the Czech Republic, Estonia, Finland, Greece, Iceland, Ireland, Italy, Luxembourg, Poland, Portugal, Spain, the Slovak Republic and Slovenia. Household incomes are adjusted for household size. Market incomes are reported net of taxes in Hungary, Mexico and Turkey. Changes in relative income poverty are measured relative to a threshold set at 50% of median income in each year. Changes in poverty "anchored" in time are based on a threshold set at 50% of median income in 2005, which is kept constant in real terms in later years. Estimates for anchored poverty are not available for Switzerland and Turkey.

Source: OECD (2013b), "Income Distribution", *OECD Social and Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en*.

StatLink http://dx.doi.org/10.1787/888932888338

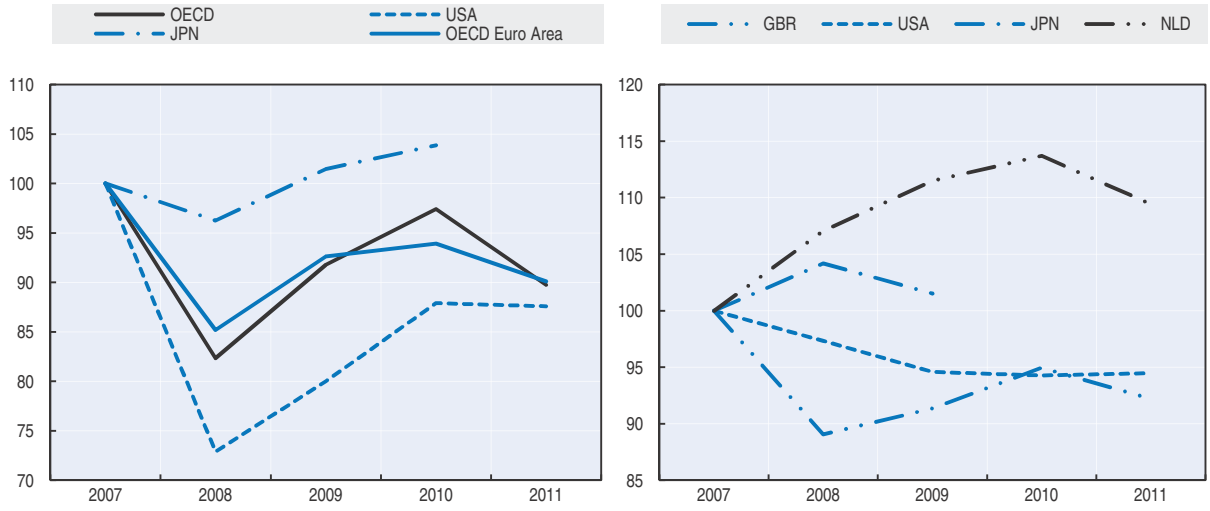
During the crisis households also experienced large financial losses, as witnessed by a sharp increase in the number of household insolvencies and personal bankruptcies; for instance, in Spain private insolvencies increased by 50% per year in the period 2008-11, while in France and the Netherlands the increase was 20%. Personal insolvencies also rose in other countries such as Austria, the United Kingdom, Finland and Sweden, although at lower rates (Creditreform, 2012). In the United States, the increase in private insolvencies between 2009 and 2011 is estimated above 10% (Liu and Rosemberg, 2011), and has been shown to be significant in Canada too (Allen and Damar, 2012).

For the OECD area as a whole, net financial wealth per capita (the *How's Life?* headline indicator) declined by nearly 20% in 2008 (Figure 3.5, left-hand panel). This was followed by a recovery of 7.5% per year between 2008 and 2010 and by a new decline of 7% in 2011, with the rebound in financial markets pushing growth of net financial wealth into positive territory in 2012.[5] However, this overall trend masks diverse patterns across OECD countries, in terms of both the initial impact of the crisis in 2008 and of the subsequent recovery in household balance sheets. Households in Greece, Ireland and Poland were more severely affected by the crisis, with their net financial wealth declining by more than 30% in 2008. Overall, households living in the euro area experienced smaller financial losses in 2008-10 but in 2011 their net financial wealth was still significantly lower than in the pre-crisis period. Japan and Luxembourg were the only two OECD countries that did not record a decline in households' net financial wealth in the wake of the crisis.

A rounded assessment of households' balance sheets requires however looking beyond financial wealth to consider non-financial assets, which in most OECD countries represent the largest form of household wealth. Information on non-financial assets is

Figure 3.5. **Household financial and non-financial wealth**

2007 = 100



Note: Household net financial wealth is expressed in US dollars at 2005 PPPs per capita.
Source: Calculations based on OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.
StatLink *http://dx.doi.org/10.1787/888932888357*

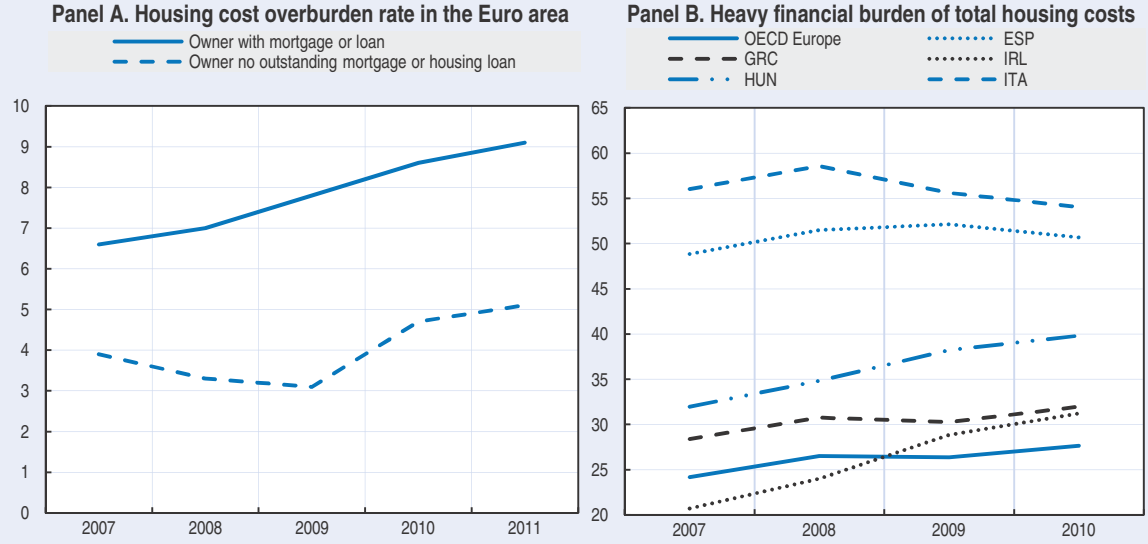
more limited and less comparable.[6] Nevertheless, among the countries where data are available, the National Accounts value of household dwelling per capita declined significantly since 2007 in both the United Kingdom and the United States (up to 2011) (Figure 3.5, right-hand panel). By contrast, dwelling wealth remained above 2007 levels in the other OECD countries for which similar information is available.[7] Housing prices provide additional information on households' non-financial wealth during the crisis. Between 2007 and 2012, real housing prices declined by more than 15% in the OECD area, with the largest fall occurring in Ireland, Spain and the United States. In the United States, the fall in house prices has most affected median-income households, whose largest share of wealth is held in residential housing (Smeeding, 2012).

Although there is some evidence that the crisis has especially affected the balance sheets of the poorest households (e.g. Fondeville et al., 2010), little is known on the distribution of household wealth because of very limited comparable information in this area. Evidence from individual countries suggests, however, that changes in the distribution of household wealth can be quite different from those pertaining to the distribution of household income. In the United States, for example, mean household net worth declined by around 15% from 2007 to 2010, as compared to a 40% decline in median net worth (i.e. wealth inequality increased during the period, as measured in the *Survey of Consumer Finances*). The US *Survey of Consumer Finances* also shows that middle-class families lost the most wealth, in proportional terms, while those at the top had, by 2010, recovered all the wealth that they had lost in the recession. This pattern arises because middle-class losses in the housing market have been substantial and persistent. Indeed, home values for the middle class (their biggest asset) dropped 30% nationwide from their 2006 peak, with little sign of recovery (Smeeding, 2012). In Canada, the lowest-income households experienced higher rates of default during the crisis than other households (Allen and Damar, 2012). Beyond its effect on household balance sheets, the crisis also reduced households' capacity to cope with housing expenses (Box 3.1), increasing their financial insecurity.[8]

Box 3.1. **The impact of the crisis on housing conditions in Europe and the United States**

Beyond affecting the financial position of households, the crisis has also brought changes in housing conditions. The most obvious change pertains to the capacity of households to meet housing expenses. In Europe, the percentage of the population living in households whose total housing costs (net of housing allowances) exceeded 40% of their income increased marginally between 2007 and 2011, with more significant increases in Spain, Estonia and Ireland (from 7% to 9%) for owners who are still repaying their mortgages (Figure 3.6). The share of people reporting that total housing costs were a heavy burden has also increased since 2007, especially in countries where household disposable income has fallen the most, such as Greece, Hungary, Ireland and Spain (Figure 3.6, Panel B). Similarly, according to the 2012 wave of the *European Quality of Life Survey*, the percentage of European people reporting that it is quite or very likely they will need to leave their accommodation within the next six months because they can no longer afford it rose from 4% in 2007 to almost 6% in 2011.

Figure 3.6. **Housing costs in Europe**



Note: Panel A shows the percentage of the population living in households where the total housing cost ("net" of housing allowances) represent 40% or more of their equivalised disposable income in the euro area. Panel B presents the percentage of the population reporting that the total housing costs represent a heavy burden.
Source: OECD calculations based on the European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc*.

StatLink http://dx.doi.org/10.1787/888932888376

In Europe, self-reported housing affordability also deteriorated more significantly for people in the lowest income quintile, especially in countries experiencing the largest declines in housing markets or real GDP (Spain, Ireland). The share of poor households living in poor housing conditions (e.g. a leaking roof, damp walls, floors or foundation, or rot in window frames or floors) also increased between 2007 and 2010 (Eurostat, 2013). In Europe the crisis has also hit housing conditions through lower public budgets allocated to social housing, and longer waiting list for social housing (CECODHAS, 2012a and 2012b).

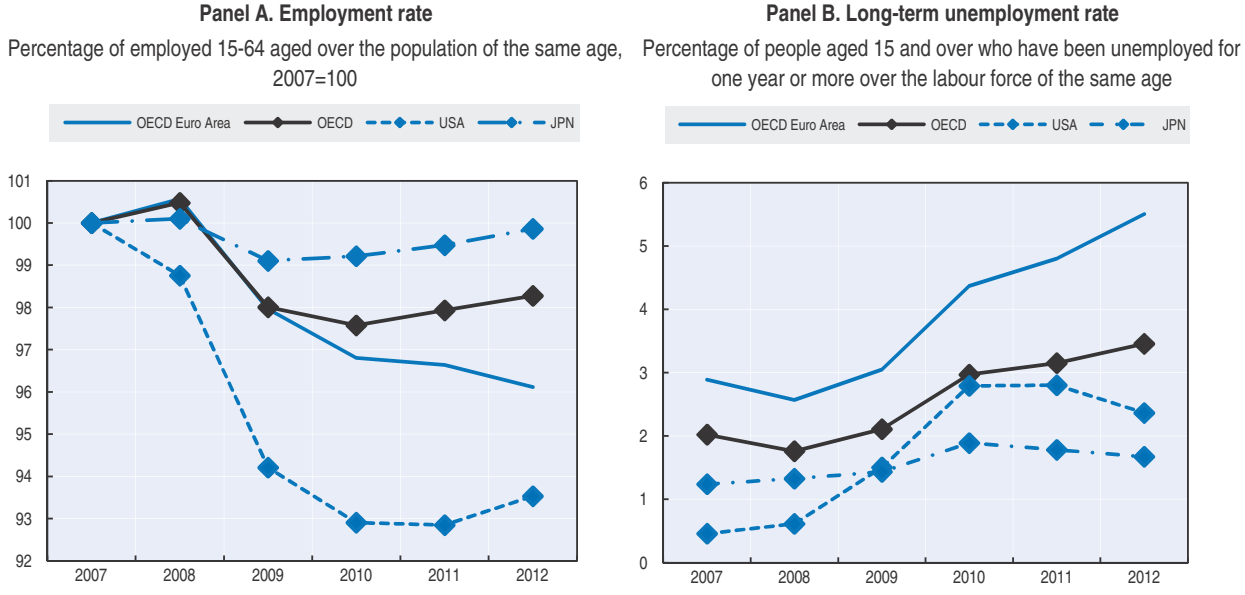
In the United States there is also evidence that the impact of the crisis on housing conditions went beyond the financial strain associated to it, and included:

- An increase in the number of "doubling up" moves. Doubling up occurs when an individual or family moves in with another household forming a multi-adult household. In the United States around 20% of households were affected by doubling up as either "mover" or "recipient". Between 2011 and 2008 doubling up increased compared with 2004-07 (Collins and Smeeding, 2012; Seltzer et al., 2012).
- An increase in the number of "moving down" moves. Moving down occurs when the loss of a job or other adverse factors precipitates a housing crisis (e.g. foreclosure, eviction) that leads a household to move from ownership to renting or to a rent-free situation. In 2010 about 18.5% of all US households who doubled up moved down as well (Berger et al., 2012).

Jobs and earnings

Employment and labour market conditions have deteriorated markedly since the start of the global financial crisis. Between 2007 and 2011, employment rates (one of the *How's Life?* headline indicators) fell between 4 and 10 percentage points in Iceland, Slovenia, Portugal, the United States, Estonia and Denmark, and by more than 10 percentage points in Ireland, Greece and Spain (Figure 3.7, Panel A). Since 2011, employment rates have started to recover in the United States, while they have declined further in the euro area, thus paralleling trends in real GDP per capita in both areas. Throughout the crisis unemployment spells increased in the OECD area, with long-term unemployment doubling between 2008 and 2012. The increase in long-term unemployment rate was particularly large in the euro area (from 2.6% to 5.5% between 2008 and 2012) and smaller in Japan (from 1.3% to 1.7% between 2008 and 2012). In the United States, the sharp rise in the long-term unemployment rate observed between 2008 and 2010 came to a halt in 2010 and was followed by a decline in 2012.

Figure 3.7. **Employment and long-term unemployment rate**



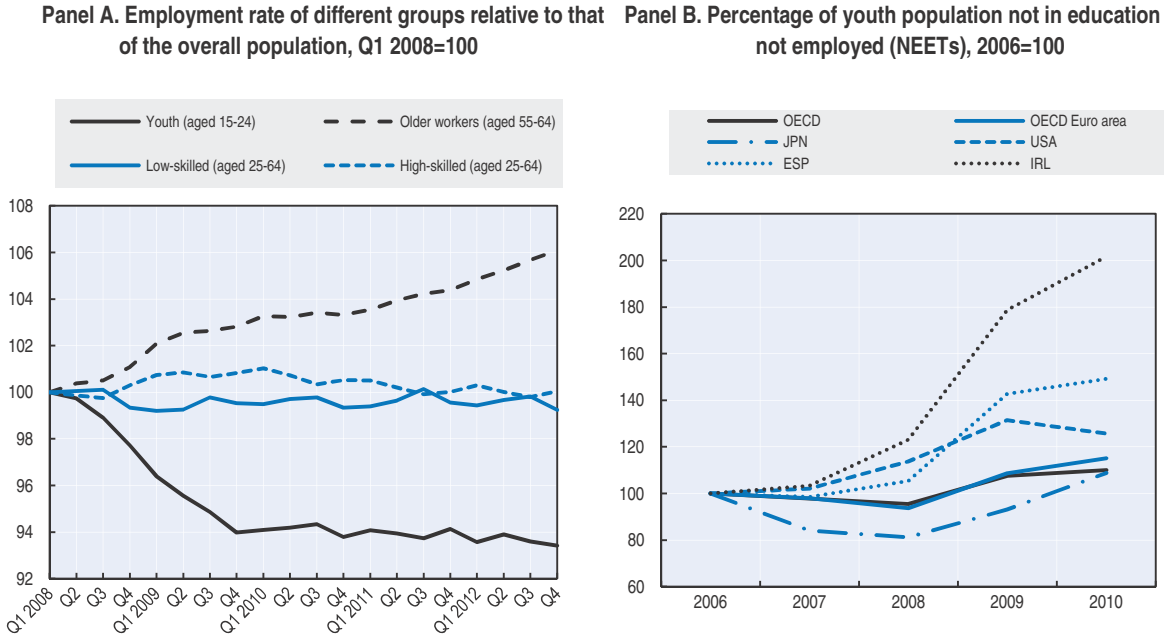
Source: OECD (2013c), *Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en*; OECD calculations.

StatLink http://dx.doi.org/10.1787/888932888395

Youth and low-skilled workers were the two groups experiencing the largest declines in employment rates (Figure 3.8, Panel A). In addition, between 2007 and 2010, the share of youth not in employment, education or training (the so-called NEETs) also increased by 1 percentage point in the OECD area (Figure 3.8, Panel B), with the highest increases observed in Ireland (7 percentage points) and Spain (6 percentage points) where NEET rates were already high before the crisis. The higher share of youth not in employment, education or training mainly reflected a rise in youth unemployment rates, although in Belgium, Ireland, Italy and Luxembourg the share of inactive youth not in *education or training* also increased significantly (OECD, 2012a).

Changes in unemployment rates mirror those in employment rates. In the OECD area as a whole, the unemployment rate started moving up towards the end of 2008, and continued its upward trend until 2012. Youth were among the most affected for the OECD area as a whole, the youth unemployment rate was above 16% in 2012 compared with 12% before the crisis. The

Figure 3.8. **Youth and low-skilled workers in the labour market**



Note: In Panel A the OECD is the weighted average of 34 countries for data by age, and 30 countries for data by education (excluding Australia, Chile, Japan and New Zealand).

Source: OECD (2012a), *OECD Employment Outlook 2012*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/empl_outlook-2013-en* (Panel A); OECD (2012b), *Education at a Glance 2012*: OECD Indicators, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en* (Panel B).

StatLink *http://dx.doi.org/10.1787/888932888414*

youth unemployment rate was around 30% or above in Italy, Ireland, Portugal and the Slovak Republic, and above 45% in Spain and Greece. In general, the average duration of unemployment also increased during the crisis, with the probability of exiting from unemployment declining with the time spent in unemployment (OECD, 2012a).[9] The lower probability of exiting unemployment resulted in an increase in long-term unemployment rates (those unemployed for 12 months and more; the second *How's Life?* indicator) in many OECD countries (Figure 3.7, Panel B). Long-term unemployment rates increased in particular in Iceland, Ireland, Estonia, Greece, Spain and the United States.

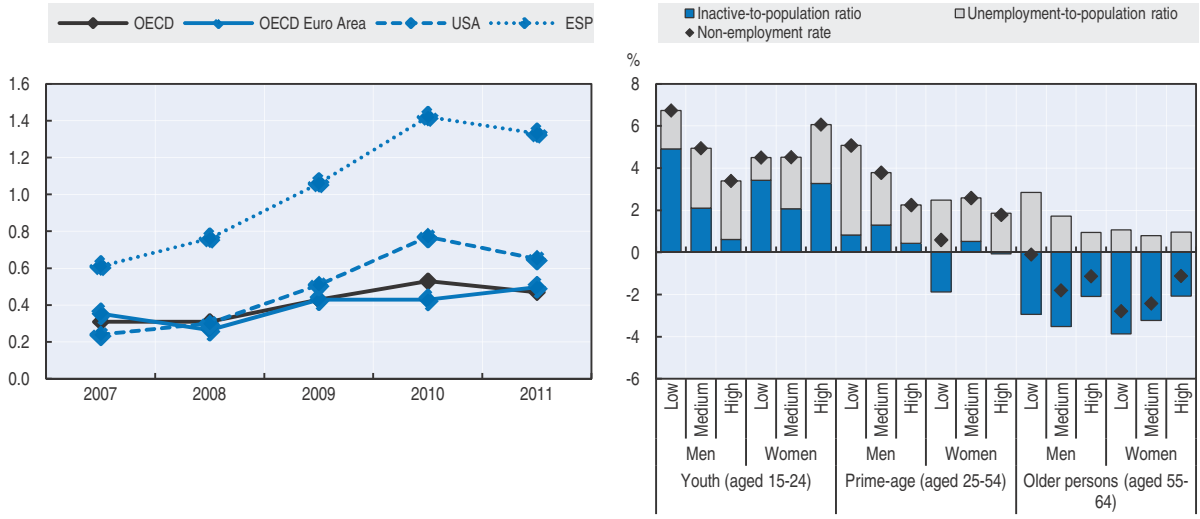
Beyond rising unemployment, many OECD countries also experienced an increase in the share of discouraged workers in the labour force (i.e. inactive persons who want and are available to work, but are not currently looking for a job because they believe that there are no jobs available). While national definitions of discouraged workers differ somewhat across countries, over the five years to 2011 their share increased by around 0.4% in Spain and the United States, where it started to decline in the course of 2012 (Figure 3.9, Panel A). In the euro area, however, the share of discouraged workers remained on an upward trend. In the OECD area as a whole, inactivity increased especially among youth and prime-age workers with low and medium skills, explaining most of the increase in non-employment for these categories of workers (Figure 3.9, Panel B).

Working conditions deteriorated for those who remained in employment during the crisis. In a majority of OECD countries, the share of people who work part-time because they cannot find a full-time job (i.e. involuntary part timers) went up, rising by around 1 percentage point for the OECD area as a whole between 2007 and 2011 (four times as much as in the five-year time period before the crisis, Figure 3.10).

Figure 3.9. **Discouraged workers and inactive persons**

Panel A. Discouraged workers as a percentage of the labour force

Panel B. Percentage-point change in the number of persons as a share of population in a given labour market status, OECD average, Q4 2007- Q4 2012

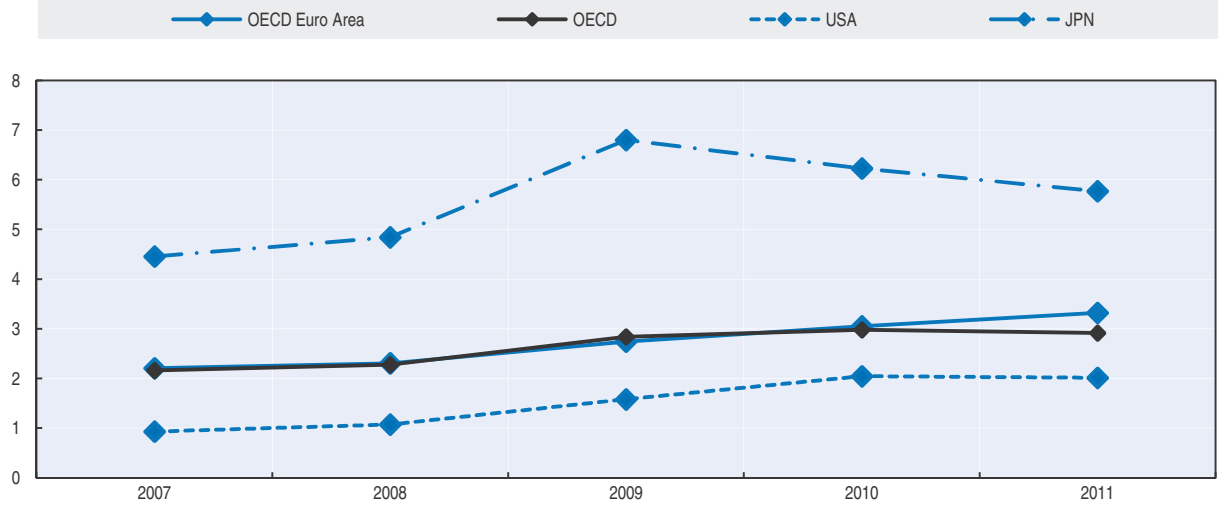


Note: In Panel A, discouraged workers are persons not in the labour force who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but who are not currently looking because they believe there no jobs are available or there are none for which they would qualify. OECD euro area refers to 12 countries, as no data are available for Estonia, Italy and the Slovak Republic.
In Panel B, OECD is the weighted average of 28 countries: Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.
Source: : OECD *Labour Force Statistics* (database) *http://dx.doi.org/10.1787/lfs-lfs-data-en*; OECD (2013), *Employment Outlook*, OECD Publishing, *http://dx.doi.org/10.1787/empl_outlook-2013-en*.

StatLink http://dx.doi.org/10.1787/888932888433

Figure 3.10. **Involuntary part-time workers**

As a percentage of total employment



Source: OECD (2013c), *Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en*.

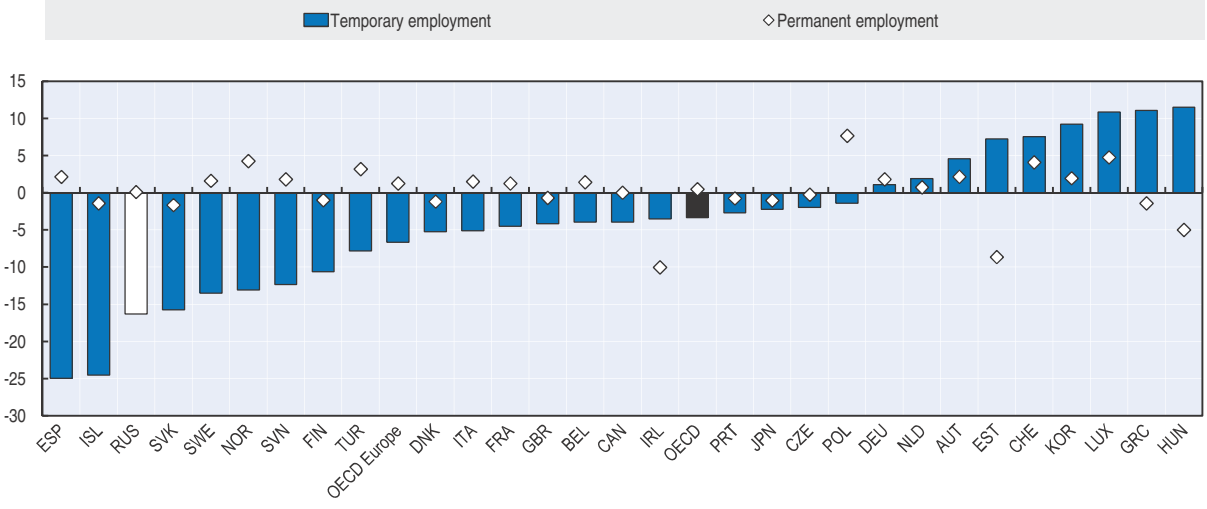
StatLink http://dx.doi.org/10.1787/888932888452

Temporary workers bore the brunt of the job crisis as they were the first to be made redundant (Figure 3.11, Panel A). Temporary employment fell markedly in Spain, Iceland, the Russian Federation and the Slovak Republic, while it increased in Luxembourg, Greece and Hungary. However, as economic activity resumed in 2010, temporary work started increasing again in the OECD area (Figure 3.11, Panel B) reflecting a reluctance of employers to re-hire workers on open-ended contracts in times of continued economic uncertainty (OECD, 2012). Temporary work increased especially in Estonia and in the Slovak Republic.

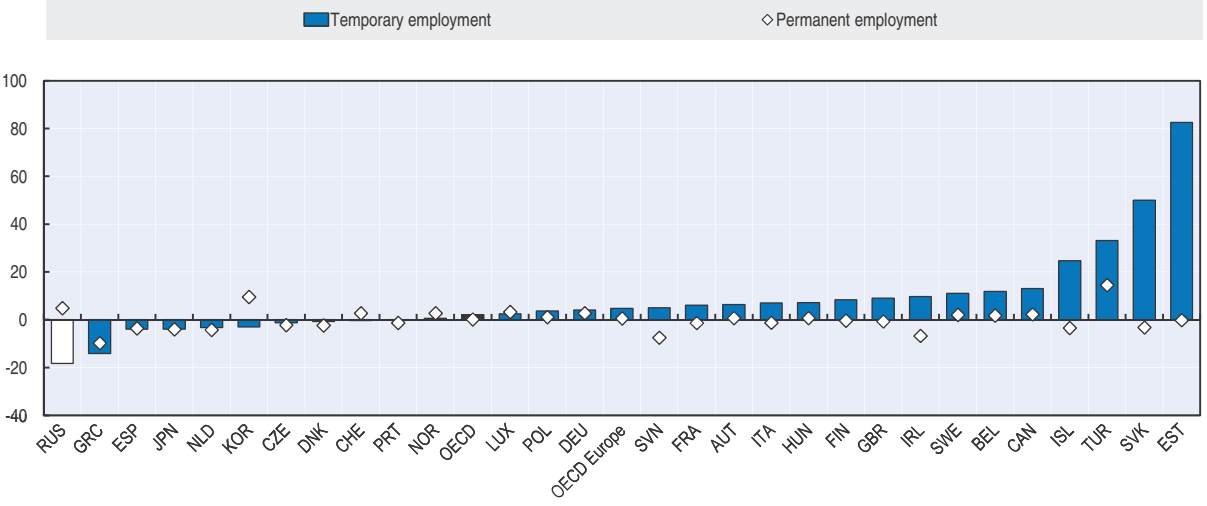
In Europe, there is also evidence that perceived work intensity increased during the crisis, while the overall effect on perceived job quality was ambiguous (Gallie et al., 2013). On the positive side, evidence from the *European Social Survey* highlights an up-grading of jobs (i.e. a move towards more qualified tasks) for those in work (Talhin, 2013) as well as an increase in workers' perceived job control (possibly reflecting employers' efforts to increase

Figure 3.11. **Temporary and permanent employment**

Panel A. Percentage change in temporay and permanent employment over the period 2007- 09



Panel B. Percentage change in temporary and permanent employment over the period 2009 - 11



Source: OECD (2010), "Labour Market Statistics: Employment by permanency of the job", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/data-00296-en*; OECD (2013c), *Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en*.

StatLink http://dx.doi.org/10.1787/888932888471

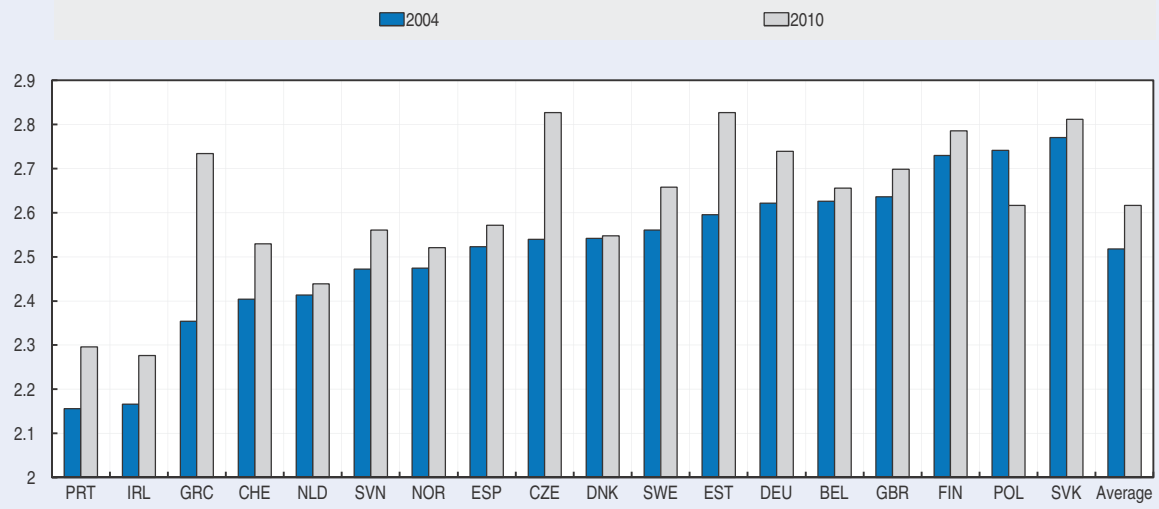
workers' commitment). On the negative side, there has been an overall reduction of employer-provided training, which was greater in the countries most affected by the crisis. In addition, evidence from the same survey suggests an increase in job polarisation (see Goos et al., 2013 for corroborating evidence) as well as higher work pressure especially in companies experiencing financial difficulties and staff dismissals. In turn, the increase in work intensity negatively affected work-life balance (Box 3.2).

Box 3.2. **Work-life balance in Europe**

Work-life conflict, as perceived by European workers, seems to have become somewhat more acute in the years after the start of the crisis (Figure 3.12), due to a combination of higher perceived work pressure, a rise in unsocial hours and an increase in perceived job insecurity (McGinnity and Russell, 2013). Perceived work pressure can be measured in the European Social Survey based on the following questions: "My Job requires that I work very hard"; and "I never seem to have enough time to get everything done in my job". Based on this definition, work pressure increased in several European countries over the period from the latest year available before the crisis (2004) to the latest year available after the crisis (2011). The increase was particularly strong in Southern countries, France and other Continental European countries. Increased work pressure may have originated from firms restructuring in the wake of the crisis but also from the increased financial strains on households hit by unemployment or pay cuts (Gallie and Zhou, 2013). Increased work pressure has also been accompanied by a rise in unsocial hours worked, especially in some countries severely hit by the crisis such as Greece, Spain and Estonia. Unsocial hours are particularly detrimental for work-life balance, notably with respect to family commitments (Barnes et al., 2006).

Figure 3.12. **Perceived work-family conflict**

Scale 0-5, average score, 2004 and 2010



Notes: The figure shows the average score to four questions: "How often do you keep worrying about work problems when you are not working"; "How often do you feel too tired after work to enjoy the things you would like to do at home?"; "How often do you find that your jobs prevent you from giving the time you want to your partner or family?"; and "How often do you find that your partner or family gets fed up with the pressure of your job?". Each of these questions is asked on a scale from 0 to 5, where 0 is "never" and 5 is "always". Data are country-averages of individual responses to these questions from employees in couples, aged 20-64.

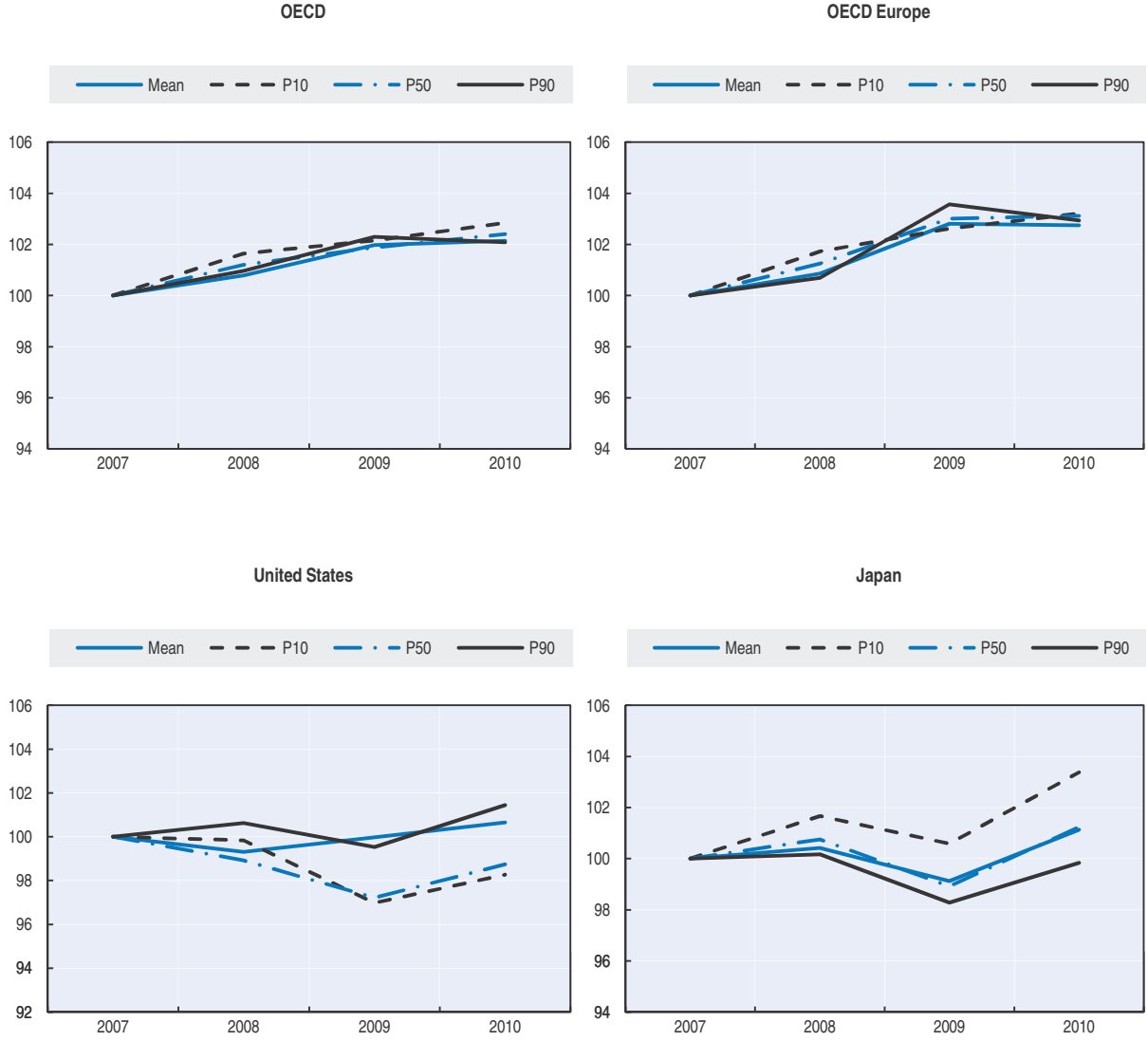
Source: OECD calculations on the European Social Survey based on McGuinnity and Russell (2013); Gallie, D. and Y. Zhou (2013), "Job Control, Work Intensity and Work Stress", in D. (ed.), *Economic Crisis, Quality of Work and Social Integration. The European Experience*, Oxford University.

StatLink http://dx.doi.org/10.1787/888932888490

For the OECD area as a whole, real earnings continued to increase during the crisis, although at a slower pace than in the previous decade (from 1% per year in the period 2000-07, to 0.5% between 2007 and 2011, Figure 3.13, upper left-hand panel). A similar upward trend is visible when looking at different points of the earnings distribution, in both the OECD area and in European countries that are OECD members (upper right-hand panel). However, in the United States, average earnings of workers at the bottom and middle of the earnings distribution declined in the wake of the crisis, while those of workers at the top of the distribution continued to increase (Figure 3.13, lower left-hand panel). Conversely, in Japan top earnings have been hit the most by the crisis

Figure 3.13. **Trends in gross annual earnings**

Full-time and full-year equivalent dependent employees in the total economy, 2007 = 100



Note: The OECD average includes Australia, Austria, Belgium, Canada, Germany, Denmark, Spain, Finland, Greece, Hungary, Ireland, Israel, Japan, Korea, Norway, New Zealand, the Slovak Republic, Sweden, the United Kingdom and the United States. OECD Europe includes Austria, Belgium, Germany, Denmark, Spain, Finland, Greece, Hungary, Ireland, Norway, the Slovak Republic, Sweden and the United Kingdom.

Source: OECD (2010), "Earnings – Gross earnings: decile ratios", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/data-00302-en*.

StatLink http://dx.doi.org/10.1787/888932888509

while low-pay earners have been the least affected (Figure 3.13, lower right-hand panel). These findings should be interpreted with care, however, as they may mask composition effects (e.g. the decrease of temporary work at the onset of the crisis documented above).

Beyond short-term effects, there may be longer-term consequences on earnings. Displaced workers typically experience a decline in wages compared to their pre-displacement job and to similar workers who were not displaced (Dao and Loungani, 2010; von Watcher et al., 2009). Sustained earnings losses may stem from "cyclical downgrading" (i.e. workers taking up worse jobs that they would have had otherwise) or depreciation of industry-specific skills. The effects of recessions on personal earnings are typically larger for unemployment spells experienced by youth even in countries with generous welfare systems (Kahn, 2010; Schmieder et al., 2009); some of this effect may persist when youth reach adulthood.

Health status

Many studies show that economic crises often have significant and lasting impact on individuals' health conditions, as job losses as well as financial strains exert a strong negative impact on physical and mental health (Box 3.3). In the short-term, losing one's job has also been found to be associated with higher risk of heart attacks and other

Box 3.3. **Health outcomes during economic crises**

Historically, the nature of health impacts during financial downturns has depended on a number of factors, including which population sub-groups and diseases are considered and the country's level of development more generally (Stuckler and Suhrcke, 2012). Poverty, high debt, unemployment, job insecurity and job stress are all risk factors for population health (WHO, 2011). Thus, changes in economic circumstances that expose more people to these factors put health outcomes at greater risk.

The experience of being unemployed has also been associated with greater risk of subsequent depression or mental illness (Barnes et al., 2009; Browning and Heinesen, 2012) as well as hospitalisation or mortality due to alcohol-related conditions, road-traffic accidents, and self-harm (Eliason and Storrie, 2009; Browning and Heinesen, 2012). Men and women of working age with lower levels of education have been found to be at greater risk of mortality during financial downturns (Edwards, 2008). Exposure to job insecurity, particularly when chronic, has also been linked to poorer self-reported health and minor psychiatric morbidity (Ferrie et al., 2002).

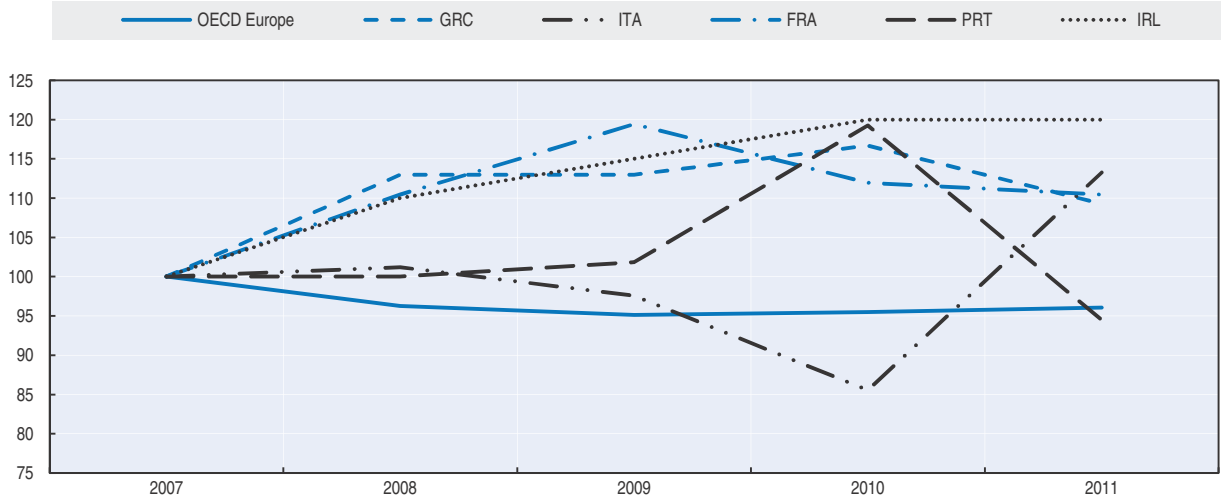
While some causes of morbidity and mortality do seem to increase during financial downturns, others do not. For example, Crombie (1990) and Ruhm (2000) provide evidence of higher suicides in times of recession. Kentikelenis et al. (2011) and Stuckler et al. (2011) provide similar evidence for some European countries during the current crisis. In 26 European countries examined by Stuckler et al. (2009) between 1970 and 2007, a 1% increase in unemployment was associated with a 0.8% increase in suicides among those aged below 65, and with a similar increase in homicides. The same study finds that a rise in unemployment of 3 percentage points or more is associated with more deaths from alcohol abuse. Effective social safety nets may mitigate the negative effect on population life expectancy or all-cause mortality rates (Gerdtham and Ruhm, 2006; Stuckler and Suhrcke, 2012) even during severe recessions. Overall, research suggests a need to closely monitor the health outcomes of those who are particularly vulnerable during times of financial hardship (Stuckler, Basu and McKee, 2010), i.e. the unemployed, those with lower levels of education, and those experiencing poverty or high levels of debt.

stress-related illnesses (Bulgard et al., 2007), while there is some evidence that in the long term mortality rates of workers who have experienced unemployment spells are higher than those of comparable workers who did not lose their jobs (Sullivan and von Watcher, 2009).

The effects of economic crises on the health status of the population as a whole are however much more ambiguous. Indeed recessions are found to impair mental health but also to lead to lower accidental injuries – as actual or feared loss of income cause households to drive less and to consume less alcohol (Catalano, 2009). This may partly explain why the *How's Life?* headline indicators for health (life expectancy and self-reported health status) do not show any clear changes in health conditions for the population as a whole. For instance, no OECD country saw a halt in the upward trend in life expectancy at birth since 2007 and while some deterioration in self-reported health conditions is visible in some of the European countries mostly hit by the crisis (e.g. Greece between 2007 and 2010, Portugal in 2010, Italy in 2011 and Ireland throughout the period from 2007 and 2011, Figure 3.14), evidence cannot be generalised to the OECD as a whole.

Figure 3.14. **Self-reported health**

Percentage of people reporting bad health status, 2007 = 100

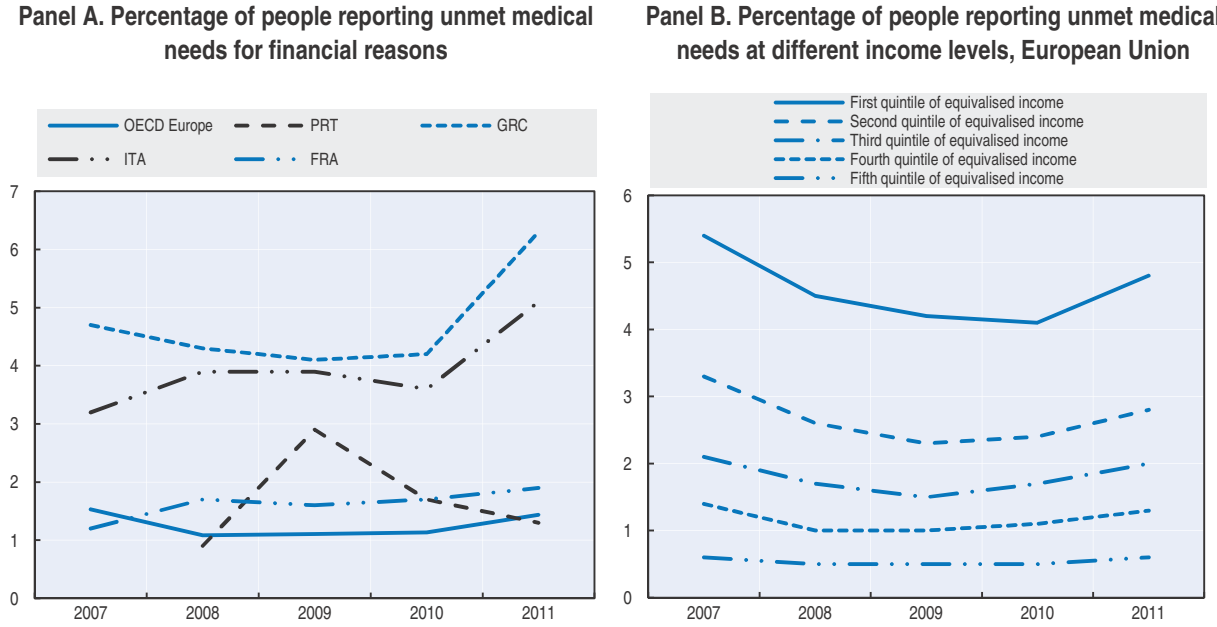


Source: OECD calculations based on European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc.*

StatLink http://dx.doi.org/10.1787/888932888528

It is also the case that some of the negative effects of severe economic crises on health status span over a long period of time and across generations, becoming thus visible only in the long term (Box 3.2). This is why it is important to look at additional indicators that may send early warning signals on health problems that may store up for the future. One of those indicators refers to unmet medical needs for financial reasons. In European countries, self-reported unmet medical needs increased in various countries (Figure 3.15, Panel A) with the largest increases observed in Greece, Italy and Iceland. The increase is most noticeable for people in the lowest income quintiles (Figure 3.15, Panel B), confirming other evidence that low-income people may postpone medical treatment when facing financial distress (Sumner and Wolcott, 2009). In this respect, it will be important to monitor the effects of fiscal consolidation strategies on health expenditure, and in particular how they could affect the health status of different population sub-groups.[10]

Figure 3.15. **Unmet medical needs**



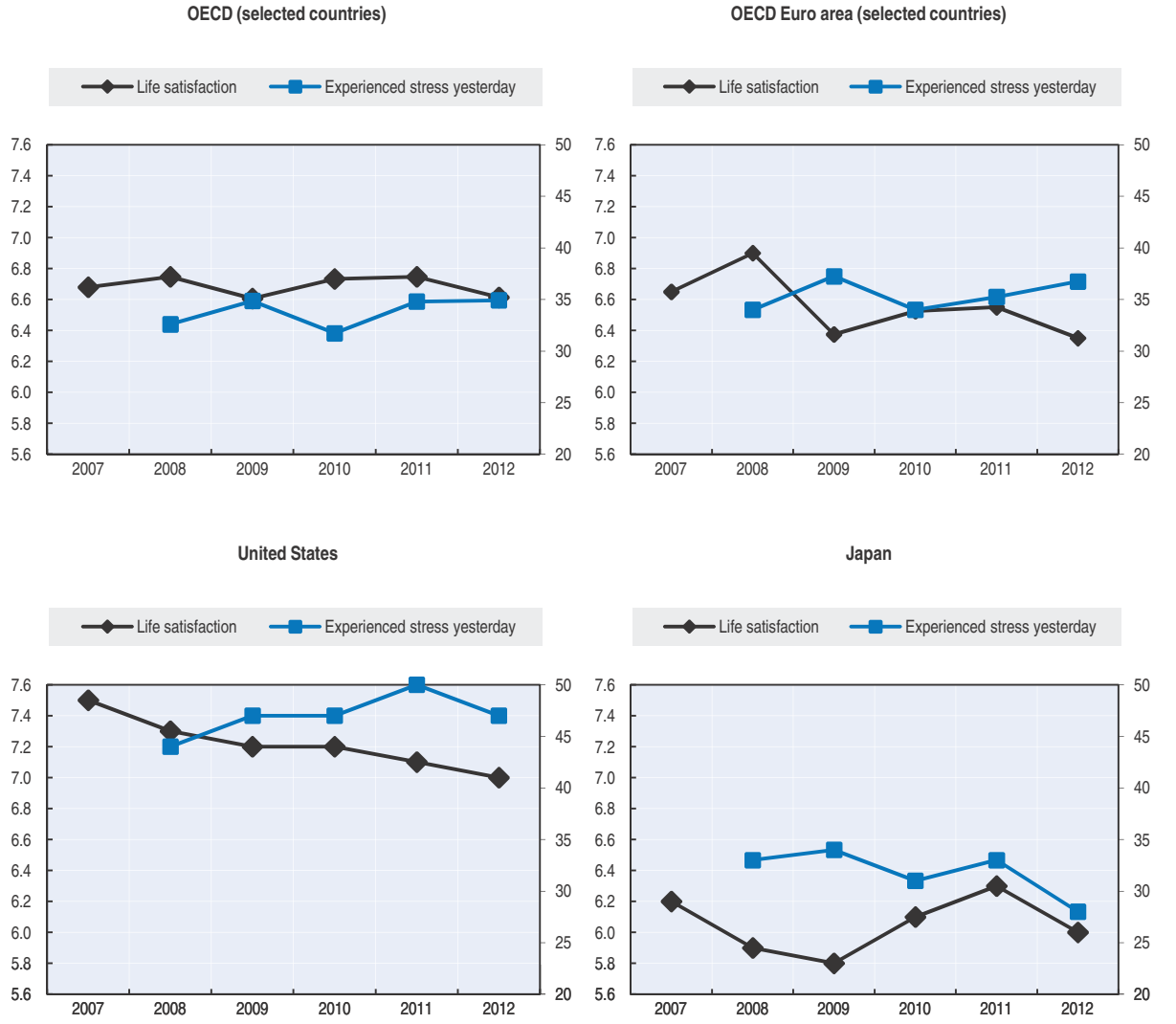
Source: European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc*
StatLink *http://dx.doi.org/10.1787/888932888547*

Subjective well-being

Subjective well-being has also deteriorated during the crisis. In the OECD area as a whole, life satisfaction (the headline *How's Life?* indicator) decreased in 2009, increased in 2010 as economic activity picked up and fell again in 2011 (Figure 3.16). The decline in life satisfaction has been especially visible in the euro area, especially in countries most affected by the crisis. For instance, over the four years to 2012, average life satisfaction declined by more than 20% in Greece and by around 12% in Italy and 10% in Spain. Life satisfaction also declined in Hungary (6%), the United States (7%), Turkey (5%), New Zealand (5%), Belgium (4%) and Denmark (4%). On the other hand, life satisfaction increased by more than 4% in Germany and Israel and by more than 5% in Mexico, the Russian Federation and Sweden.[11] There is also evidence of growing feelings of anger, stress and worry (i.e. negative affect), and of lower feelings of joy and contentment (i.e. positive affect) in many OECD countries.[12] For example, in Greece, the number of people reporting having experienced stress on the previous day increased by a factor of almost 3 between 2009 and 2011. A significant increase in self-reported stress (more than 10 percentage points) was also observed in Finland, Hungary and Turkey, while in Germany and Korea the percentage of the population reporting stress declined. In some countries, these trends may not just be related to the crisis but may result from other coincidental factors, for example the earthquake in New Zealand.

The main channel through which the crisis may have affected subjective well-being is higher unemployment. The impact of unemployment on subjective well-being is both direct, as it affects those who lose their job, and indirect, as it extends to people with an unemployed partner. In European countries, evidence from the European Social Survey suggests that financial strains accounted for over half of the effect of higher unemployment on life satisfaction, explaining all of the association between partner's unemployment and

Figure 3.16. **Subjective well-being and the crisis**



Note: Life satisfaction is measured on the Cantril ladder (y-axis on the left), stress as the percentage of people who experienced stress yesterday (on the right). OECD average includes only countries for which a complete time series is available: Canada, Denmark, France, Germany, Israel, Italy, Japan, Korea, Mexico, Poland, Spain, Sweden, Turkey, the United Kingdom and the United States. Selected countries of the OECD euro area are those for which complete time series are available: France, Germany, Italy and Spain.

Source: OECD calculations based on Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

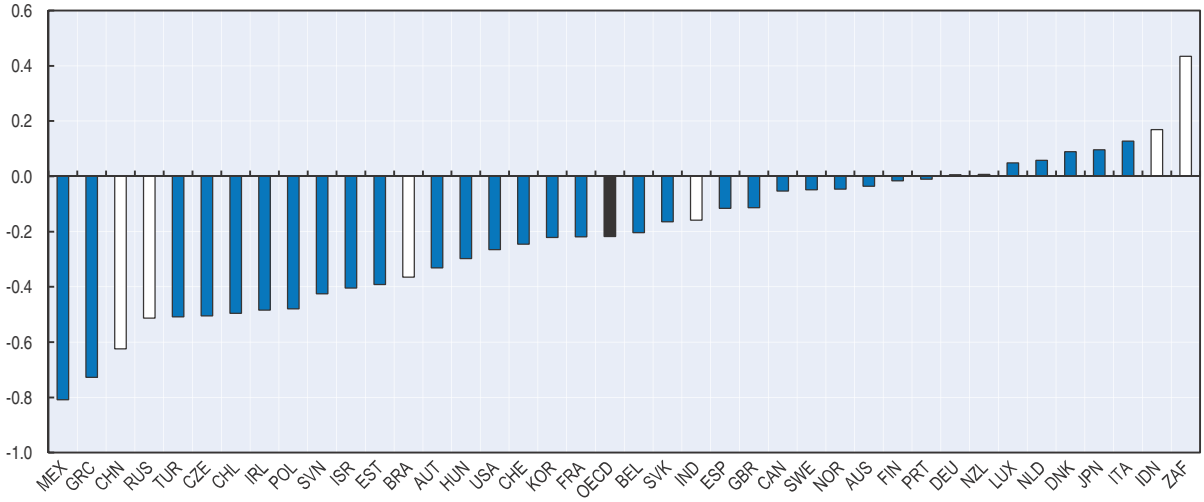
StatLink http://dx.doi.org/10.1787/888932888566

the reduced life satisfaction of the survey respondents (Russell et al., 2013). Also, while social support and contacts play a significant role for people's life satisfaction in general, they seem to play a much less prominent role in explaining the lower subjective well-being of the unemployed. Financial strains and the hardship generated by the crisis are also important drivers of declining life satisfaction for households that are not directly affected by unemployment. More generally, persistent economic shocks seem to cause lower subjective well-being (Stevenson and Wolfers, 2008). In addition, lower trust in others and in institutions, declining health status and reduced social contacts also explain lower subjective well-being (Gallie et al., 2013; and Eurofund, 2012).

During the crisis there was also a deterioration of people's long-term expectations about their subjective well-being in the future. Figure 3.17 suggests that, on average, people's expectations about their life five years from now have declined in most OECD countries in the years following the crisis, a pattern that is consistent with other evidence showing mounting pessimism among people about their future (Eurofund, 2012).

Figure 3.17. **Expectations of subjective well-being**

Difference between the life satisfaction expected five years from now and current life satisfaction in 2012, relative to the same difference in 2005



Note: A positive value of this variable (a measure of optimism into the future) indicates that optimism was higher in 2012 than in 2005, i.e. optimism increased recently. A negative value of this index means that this difference was higher in 2005 than in 2012, implying that optimism has decreased recently. Being computed as difference-form, the index implicitly adjusts for country-specific cultural effects that may bias expectations about the future in different countries.

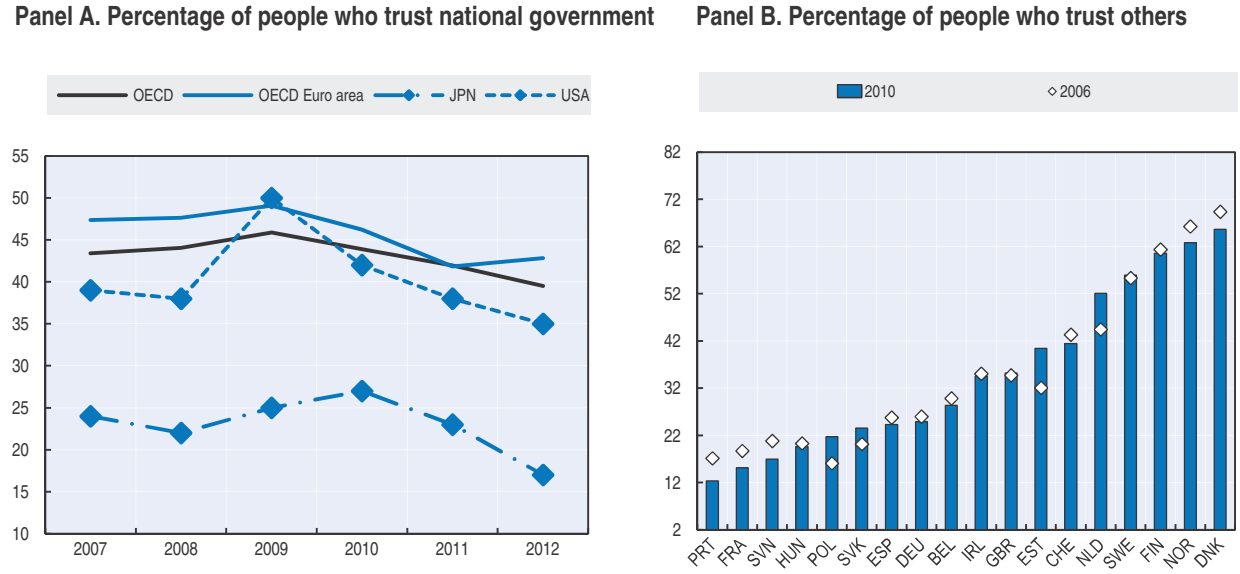
Source: OECD calculations based on the Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888585

Civic engagement

People's trust in institutions and their satisfaction with the way democracy works have declined significantly during the crisis. An increasing body of research suggests that the crisis is eroding the political and institutional capital of many countries (Roth, 2009; Stevenson and Wolfers, 2011; Eurofund, 2013), particularly in those where the crisis has been most severe (Polavieja, 2013; Eurofund, 2013). Trust in national governments (secondary *How's Life?* indicator) declined in the majority of OECD countries (Figure 3.18, Panel A), with similar declines recorded for trust in other institutions (such as financial institutions, the judiciary system and media) and, at least in European countries, for trust in other people (Figure 3.18, Panel B; and Eurofund, 2013). While people's confidence in public institutions depends on many factors (such as people's political orientation, education and economic conditions), research for European countries suggests that experiences of economic strain, whether lasting or transitory, lower people's satisfaction with political institutions, and that this effect extends even to people who are not directly affected by the crisis.

Figure 3.18. **Trust in the wake of the crisis**



Note: Panel A shows an indicator of trust in national government, with population shares set equal to 100 in 2006. Panel B shows the share of people agreeing with the statement that "most people can be trusted" (those indicating values of 7 or above on a 0 to 10 scale.
Source: OECD calculations based on Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx* (Panel A); European Social Survey, *www.europeansocialsurvey.org/* (Panel B).

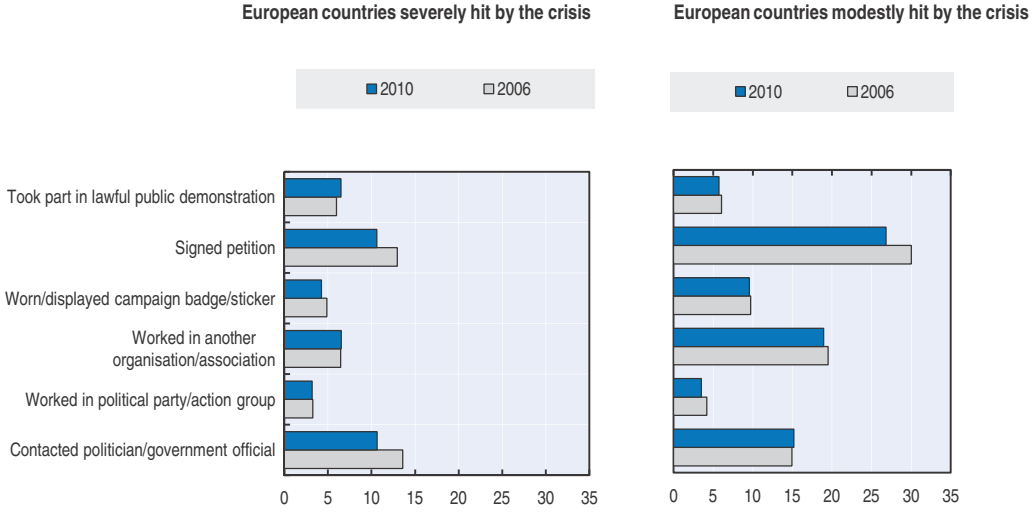
StatLink http://dx.doi.org/10.1787/888932888604

Polavieja (2013), based on data from the most recent wave of the *European Social Survey*, shows that currently or formerly unemployed people, as well as people experiencing financial strain show lower trust and satisfaction with democracy than others. In addition, the study suggests that the marked decline in political legitimacy during the crisis was significantly affected by people's views about the economic situation of their country and by the size of GDP contraction.

While confidence in institutions is an important driver of civic engagement and political participation (OECD, 2011), trends in civic and political participation in the wake of the financial crisis are more mixed. Large social movements and protests observed in 2011 and 2012 in many of the countries mostly affected by the crisis and beyond may be seen as a sign of growing political engagement. This interpretation is supported by evidence from the European Social Survey showing that respondents report some increase in various forms of civic engagement in 2012 relative to the past (Figure 3.19); this is also in line with other studies pointing to a strengthening of people's participation in volunteering and unpaid activities (EPHA, 2012; see next section). However, patterns of civic engagement varied markedly across European countries, with countries most affected by the crisis also showing lower voter turnout and other forms of formal political participation (e.g. contacting government officials less often than before the crisis).

Figure 3.19. **Civic engagement in Europe**

Percentage of the population reporting having participated in civic activities during the last 12 months



Notes: The right-hand panel shows the average value of the share of the population participating in the various activities in some of the European countries most affected by the crisis, i.e. Estonia, Greece, Hungary, Ireland, Portugal, Spain and Slovenia. The left-hand panel shows the average value of the share of the population participating in the various activities in some of the European countries less affected by the crisis, i.e. Belgium, the Czech Republic, Denmark, Finland, France, Germany, the Netherlands, Norway, Poland, Sweden, Switzerland and the Slovak Republic.

Source: OECD calculations on European Social Survey, *www.europeansocialsurvey.org/*.

StatLink http://dx.doi.org/10.1787/888932888623

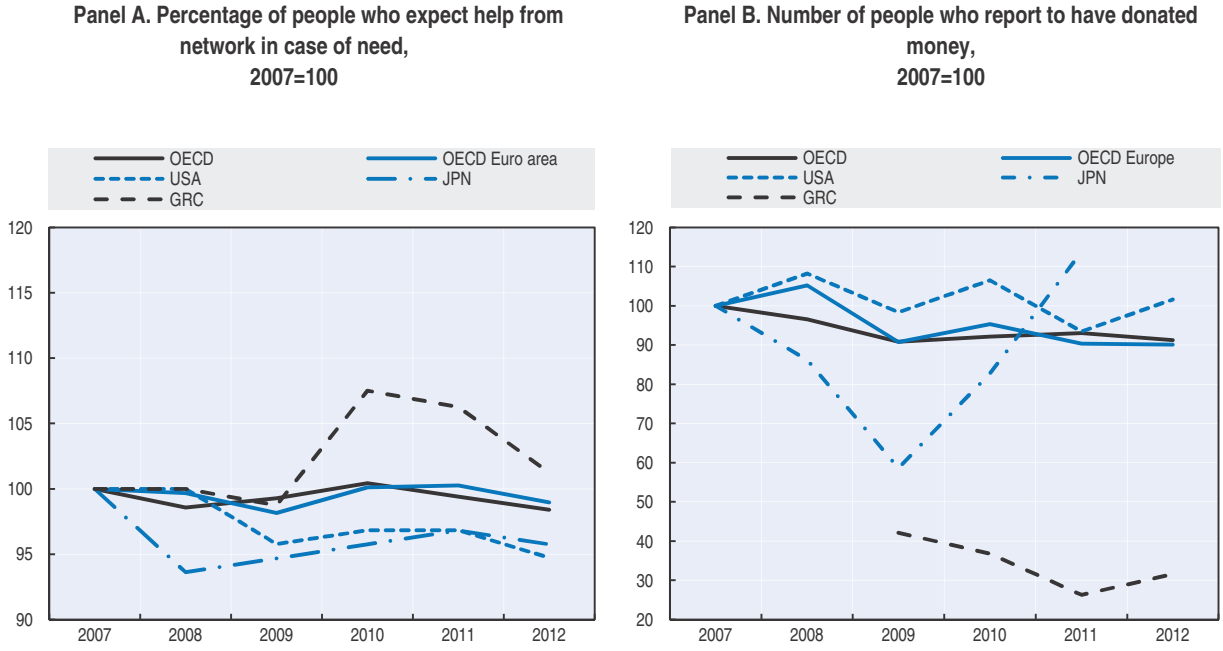
Social connections

Since 2007, expected support from others (the headline *How's Life?* indicator) dropped sharply in most OECD countries (Figure 3.20, Panel A). The decline was larger in the United States and Japan than in the euro area. Such a drop is not surprising, as it may reflect people's concerns about the crisis and its possible negative effects on the help that people may expect to receive from friends and relatives. For the OECD area as a whole, people's expectations of support in case of need improved in 2010, stabilised in 2011 and worsened again in 2012. Taken at face value, this evidence suggests that perceived social support follows countries' economic conditions as people's perceived ability to obtain support may be limited in time. A somewhat different trend is visible in Japan, where people's perceived ability to obtain support from others increased between 2009 and 2011, the year of the earthquake and nuclear accident. When looking at measures of people who report having donated money, a clear downward trend is visible in the OECD area as a whole from 2006 onwards (Figure 3.20, Panel B). The number of people declaring to have donated money fell more significantly in the euro area, especially in Greece.

On the other hand, the number of people who reported having helped a stranger increased significantly (Figure 3.21, Panel A). Similarly, the share of people who reported having volunteered some of their time increased in some OECD countries (Figure 3.21, Panel B) although the trend for the OECD area as a whole is more ambiguous. There is also some evidence that in some European countries (notably South European and Eastern European countries) people reported having increasingly turned to family and friends, as opposed to official institutions, in case of need (Eurofund, 2013). For the United States, there is evidence that during the crisis unemployed individuals tended to rely on informal job search methods (i.e. friends, relatives) to a large extent, with a positive impact on unemployment spells but a

negative one on wages at rehire (Bentolila et al., 2010).[13] All things considered, however, the various pieces of evidence discussed here suggest that, for many people, personal networks have acted as "last-resort" resources during hard economic times.

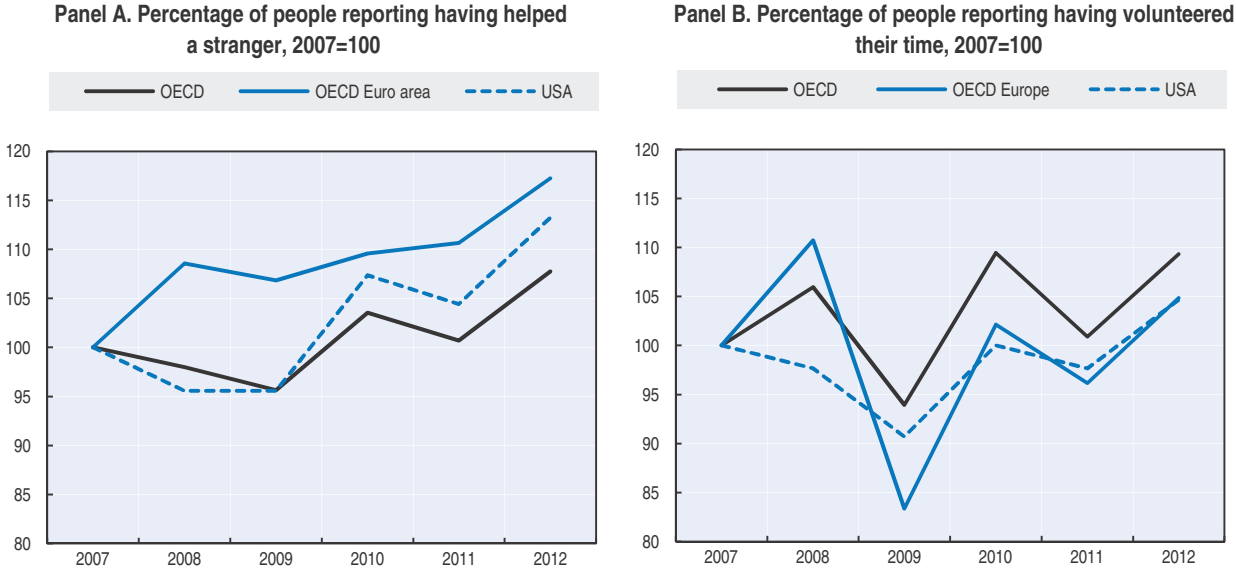
Figure 3.20. **Capacity to help others**



Note: Time series are not available for Australia (only for the Panel B), Iceland, Luxembourg, Norway, the Slovak Republic and Switzerland.
Source: OECD calculations based on Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888642

Figure 3.21. **Informal support**



Note: Time series are not available for Australia, Iceland, Luxembourg, Norway, the Slovak Republic and Switzerland.
Source: OECD calculations based on the Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888661

Statistical agenda ahead

The limited evidence provided in this chapter on short-term trends in selected well-being outcomes highlights the important challenges that stand in the way of creating a more robust statistical base if one wishes to monitor the short-term evolution of people's well-being. While meeting these challenges will be difficult given reduced budget and higher demands for official statistics, it would be important to make inroads in addressing them so that short-term policy decisions are not only driven by evidence on the conditions of the economic system as a whole but also on the well-being outcomes experienced by individuals and their families.

The main statistical challenges pertain to the following issues:

- ***Frequency of the data collected.*** Statistics pertaining to people's well-being are typically collected at annual or greater frequency. With the exception of labour force statistics and (in some countries) of national accounts quarterly data on household income, no statistics for other well-being dimensions are available quarterly. Monthly consumer surveys include qualitative questions on the financial situation of the household that may provide some information on households' sentiments on finance and living conditions. While these surveys should be further explored in the future as a possible instrument for collecting short-term information on households' economic well-being, they also have limitations (i.e. they do not cover non-economic well-being; they are conducted on small samples). This means that the statistical base available for monitoring short-term changes in household conditions is strongly underdeveloped at the moment. Improving this base would require putting in place dedicated high-frequency surveys, or including specific questions in existing monthly and quarterly survey instruments.
- ***Timeliness of the available statistics.*** Even when annual data collections are in place, information from them may become available only after long time-lags, due to a combination of factors. This challenge is especially important in the case of information on the distribution of household economic resources, and for those countries or regions with established policy goals pertaining to poverty and inequality. Meeting the challenge of producing more timely measures of different dimensions of people's well-being would require a combination of release of early estimates, use of complementary survey questions, or alternative tools to generate estimates for the phenomena of interest (e.g. microsimulation models). A promising step in this direction is the recent Eurostat action plan to improve timeliness of EU-SILC data, which includes among others the delivery of provisional material deprivation indicators at the end of the reference year.
- ***Sample sizes.*** Effects of the crisis or of other changes in economic circumstances are often concentrated on specific groups, rather than affecting the population at large. This is a challenge in the case of survey data based on small scale and non-random samples, as is often the case of many non-official surveys. Meeting this challenge would require investment to increase the sample size of surveys, as well as providing access by non-official producer to more comprehensive survey frames.
- ***Time-series properties of the statistics.*** In some cases, the statistics that are most appropriate for benchmarking countries' performance may not be those most suitable for assessing changes over a short span of time. Meeting this challenge would require developing specific surveys and questions better fitted to provide early-warning signals to policy makers and the population at large (e.g. surveys of the coping strategies used by individuals and households in the presence of adverse economic circumstances).

Conclusions

This chapter has looked at how some aspects of people's well-being have evolved during the global economic and financial crisis that started at the end of 2007, focusing on those dimensions where changes are likely to be the most visible in the short-term. The chapter has highlighted negative trends in household income and wealth, housing conditions, jobs and earnings, subjective well-being and civic engagement, especially in the euro area. Trends in other well-being dimensions considered in this chapter, such as health and social connections, are more ambiguous. The chapter has not discussed some well-being dimensions where very little comparative evidence is available such as for instance personal security.[14] This remains an item for future research. Finally, the chapter has laid out areas for statistical improvement in order to better monitor short-term trends in people's well-being.

Notes

1. The global economic and financial crisis is also often referred to as "the Great Recession".
2. The income concept used in the case of micro-statistics is that of households disposable income per person, equivalised (through a square root elasticity) to reflect economies of scale in consumption and the sharing or resources that occurs between members of the same household. Due to a range of conceptual and measurement differences, macro (i.e. SNA based) and micro (i.e. survey- or administrative-based statistics) measures of average household disposable income evolved differently over the period from 2007 to 2010: in general, the growth in average households income from microdata was higher than that from SNA data, although this depends on the size of that growth.
3. These poverty estimates are based on a notion of disposable income equivalence scale. As such the poverty estimates may be different from estimates of poverty that rely on household disposable income equivalised with a different equivalent scale.
4. According to national Accounts data, less than 0.25 of the cumulative decline in household disposable income in the euro area over the period 2007 to 2012 took place in the three years to 2010.
5. See *OECD Quarterly Financial Accounts Database*, *http://dotstat.oecd.org/Index.aspx*.
6. Household balance sheets (SNA) data on dwellings are available for only 19 OECD countries, while data on land are available for only 9 countries. In most OECD countries, the SNA value of dwellings excludes changes in the prices of land on which the dwelling is built, hence it does not capture the full impact of the housing boom and bust. While surveys on the distribution of household wealth are conducted in several OECD countries, no comparable reporting of these data is currently in place.
7. These countries are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Luxembourg, the Netherlands, Italy, Poland, Slovenia, the Slovak Republic and Sweden.
8. It should be noticed that none of the *How's Life?* headline indicators for housing show a significant change between 2007 and 2011 that could be associated to the unfolding of the economic crisis.
9. The probability of exiting unemployment (in each year) has declined both for short-term job seekers (i.e. unemployed for less than 12 months) and long-term ones (i.e. those unemployed for 12 months or more), although underlying patterns are diverse (OECD, 2012a).
10. One of the most immediate impacts of the crisis has been on health expenditure. While the average annual growth rate of health spending per capita in the European Union was 4.6% from 2000 to 2009, health spending across Europe contracted by 0.6% per capita in 2010, the first absolute reduction since 1975 (OECD, 2012c). Some of the largest declines in health spending were recorded in Ireland (7.9%), Estonia (7.3%), and Greece (6.7%), but spending slowed in almost all European countries. For the OECD area as a whole, health spending was stable in both 2010 and in 2011 (OECD, 2012c). Due to pressure to protect funding for acute care, expenditures on prevention have been particularly targeted for spending cuts (OECD, 2012c), which raises concerns

about long-term impacts on health outcomes. The crisis also led to a rebalancing of public and private health financing in some OECD countries, with large increases between 2000 and 2010 in the share of out-of-pocket spending in several European countries (OECD, 2012c).

11. These declines are similar to the fall in household disposable income experienced over the same period but significantly larger than what would be suggested by the size of coefficients linking people's life-evaluation to their own income. This suggests that the crisis is affecting people's life evaluations through channels that reach beyond people's material conditions.

12. Measured by the Gallup World Poll.

13. Bentolila et al. (2010) finds that contacts reduce unemployment duration by 1-3 months on average, but they are associated with wage discounts of at least 2.5%.

14. While no evidence is available on recent trends in personal security, a significant body of research exists on the relationship between economic conditions and crime and violence. In times of low or negative economic growth and widespread unemployment, many people may suffer severe and sudden reductions in income, which may cause an increase in the share of the population seeking illicit solutions to their economic problems. Higher stress during economic crisis may also lead to more violent crimes. A number of studies report significant correlations between unemployment and property crime rates, and a weaker relation for violent crimes, although with large differences in the size of the correlation across studies. UNODC (2012) shows that property crimes such as robbery are most affected during times of crisis, with up to two-fold increases in some contexts during a period of economic stress; in some countries, increases in homicide and motor vehicle theft were also observed, while in no country decreases in crime were observed.

References

Allen, J. and E. Damar (2012), "Household Insolvency in Canada", *Bank of Canada Review*, Ottawa.

Barnes, M., A. Mansour, W. Tomaszewski and P. Oroyemi (2009). "Social Impacts of Recession: The Impact of Job Loss and Job Insecurity on Social Disadvantage", *ISER Report*, The Social Exclusion Task Force, Cabinet Office, London.

Bentolila, S., C. Michelacci and J. Suarez (2010), "Social Contacts and Occupational Choice", *Economica*, No. 77, pp. 20-45.

Berger, L.N., J.M. Collins and T.M. Smeeding (2012), "Exiting Homeownership: A First Look at Potential Influences of the Housing Crisis and Great Recession on Exits from Owner-Occupied Housing in the United States", Institute for Research on Poverty, University of Wisconsin-Madison, paper presented at OECD Seminar, 12 March, Paris.

Browning, M. and E. Heinesen (2012), "Effect of job loss due to plant closure on mortality and hospitalization", *Journal of Health Economics*, Vol. 31, pp. 599-616.

Catalano, R. (2009), "Health, Medical Care, and Economic Crisis", *The New England Journal of Medecine*, No. 360, p. 8.

CECODHAS (2012a), "Housing affordability in the EU: Current situation and recent trends", *CECODHAS Housing Europe's Observatory Research Briefing*, Year 5, No. 1.

CECODHAS (2012b), "Impact of the crisis and austerity measures on the social housing sector", *CECODHAS Housing Europe's Observatory Research Briefing*, Year 5, No. 2.

Chowdury, A., I. Islam and D. Lee (2013), "The Great Recession, jobs and social crises: policies matter", *International Journal of Social Economics*, Vol. 40, No. 3.

Collins, J.M. and T.M. Smeeding (2012), "Doubling Up and Moving Down: Residential Change and the Great Recession", *Working Paper*, University of Wisconsin-Madison.

Crombie, I.K. (1990), "Can Changes in the Unemployment Rates Explain the Recent Changes in Suicide Rates in Developed Countries?", *International Journal of Epidemiology*, Vol. 19(2), pp. 412-416.

Dao, M. and P. Loungani (2010), "The Human Cost of Recessions: Assessing it, Reducing it", *IMF Staff Position Note*, No. SPN/10/17, Washington, DC.

Edwards, R. (2008), "Who is hurt by procyclical mortality?", *Social Science and Medicine*, Vol. 67, pp. 2051-2058.

Eliason, M. and D. Storrie (2009), "Job loss is bad for your health – Swedish evidence on cause-specific hospitalization following involuntary job loss", *Social Science and Medicine*, Vol. 68, pp. 1396-1406.

EPHA (2012), *Study on the Impact of the Crisis on Civil Society Organizations in the EU – Risks and Opportunities*, the European Economic and Social Committee, Brussels.

Eurofound (2012), *Third European Quality of Life Survey – Quality of life in Europe: Impacts of the crisis*, Publications Office of the European Union, Luxembourg.

Ferrie, J.E., M. Shipley, S. Stansfield and M.G. Marmot (2002), "Effects of chronic job insecurity and change in job security on self reported health, minor psychiatric morbidity, physiological measures, and health related behaviours in British civil servants: the Whitehall II study", *Journal of Epidemiology and Community Health*, Vol. 56, pp. 450-454.

Fondeville, N., E. Ozdemir and T. Ward (2010), "Over-indebtedness: New evidence from the EU-SILC special module", *Research Note*, No. 4/2010, Applica, Brussels.

Gallie, D. and Y. Zhou (2013), "Job Control, Work Intensity and Work Stress", in D. (ed.), *Economic Crisis, Quality of Work and Social Integration. The European Experience*, Oxford University.

Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

Gerdtham, X. and C.J. Ruhm (2006), "Deaths rise in good economic times: Evidence from the OECD", *Economics and Human Biology*, Vol. 4(3), pp. 298-316.

Goos, M., A. Salomons and M. Vandeweyer (2013), "Job Polarization During the Great Recession and Beyond", *EuroForum KU Leuven Policy Paper Series*, Leuven.

Kahn, L. (2010), "The Long-Term Labour Market Consequences of Graduating from College in a Bad Economy", *Labour Economics*, Vol. 17(2), April.

Kentikelenis, A., M. Karanikolos, I. Papanicolas, S. Basu, M. McKee and D. Stuckler (2011), "Health effects of financial crisis: omens of a Greek tragedy", *The Lancet*, Vol. 378(9801), pp. 1457-1458, *http://dx.doi.org/10.1016/S0140-6736(11)61556-0*.

Liu, Y. and C. Rosemberg (2011), "Dealing with Private Debt Distress in the Wake of the European Financial Crisis, A Review of Economics and Legal Toolbox", *IMF Working Paper*, No. 13/44, Washington, DC.

McGuinnity, F. and H. Russell (2013), "Work-Family Conflict and Economic Change", in D. Gallie (ed.), *Economic Crisis, Quality of Work and Social Integration. The European Experience*, Oxford University, Oxford.

OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en*.

OECD (2013b), "Income Distribution", *OECD Social and Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en*.

OECD (2013c), *Labour Force Statistics* (database), *http://dx.doi.org/10.1787/lfs-lfs-data-en*.

OECD (2013d), "Crisis squeezes income and put pressure on inequality and poverty", *Policy Briefs on Inequalities*, OECD, Paris, *www.oecd.org/els/soc/OECD2013-Inequality-and-Poverty-8p.pdf*.

OECD (2013e), *OECD Guidelines on Measuring Subjective Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191655-en*.

OECD (2013f), *Education at a Glance 2013: OECD Indicators,* OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2013-en*.

OECD (2012a), *OECD Employment Outlook 2012*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eco_outlook-v2013-1-en*.

OECD (2012b), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.

OECD (2012c), *Health at a Glance: Europe 2012*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264183896-en*.

OECD (2012d), "Health Spending Grinds to a Halt", *OECD Health Data*, *www.oecd.org/health/healthgrowthinhealthspendinggrindstoahalt.htm* (accessed 28 March 2013).

OECD (2011), *How's Life?: Measuring Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264121164-en*.

Polavieja, J. (2013), "Economic Crisis, Political Legitimacy, and Social Cohesion", in D. Gallie (ed.), *Economic Crisis, Quality of Work and Social Integration. The European Experience*, Oxford University Press, Oxford.

Roth, F. (2009), "The Effects of the Financial Crisis on Systemic Trust", *CEPS Working Document*, No. 316, July.

Ruhm, C.J. (2000), "Are Recessions Good for Your Health?", *The Quarterly Journal of Economics*, Vol. 115(2), pp. 617-650, *http://dx.doi.org/10.1162/003355300554872*.

Russell, H., D. Watson and F. McGuinnity (2013), "Unemployment and Subjective Well-Being", in D. Gallie (ed.), *Economic Crisis, Quality of Work and Social Integration. The European Experience*, Oxford University Press, Oxford.

Seltzer, J.A., Q.L. Charles and S.M. Bianchi (2012), "Doubling Up When Times are Tough: A Study of Obligations to Share a Home in Response to Economic Hardship", *Social Science Research*, Vol. 41, pp. 1307-1319.

Smeeding, T. (2012), "Income, Wealth and Debt and the Great Recession", Stanford Center on Poverty and Inequality, Stanford, CA.

Stevenson, B. and J. Wolfers (2011), "Trust in Public Institutions over the Business Cycle", *American Economic Review: Papers and Proceedings*, Vol. 101:3, pp. 281-287.

Stuckler, D. and M. Suhrcke (2012), "Will the recession be bad for our health? It depends", *Social Science and Medicine*, Vol. 74, pp. 647-653.

Stuckler, D., S. Basu, M. Suhrcke, A. Coutts and M. McKee (2011), "Effects of the 2008 recession on health: a first look at European data", *The Lancet* (Correspondence), Vol. 378, pp. 124-125.

Stuckler, D., S. Basu, M. Suhrcke, A. Coutts and M. McKee (2009), "The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis", *The Lancet*, Vol. 374, pp. 315-323.

Sumner, A. and S. Wolcott (2009), "What is the Likely Poverty Impact of the Global Financial Crisis?", *Institute of Development Studies Bulletin*, Vol. 5, September.

UNODC (2012), *Monitoring the Impact of Economic Crisis on Crime*, United Nations Office on Drugs and Crime, Vienna.

von Watcher, T., J. Song and J. Manchester (2009), "Long-Term Earning Losses due to Mass-Layoffs During the 1982 Recession: An Analysis Using Longitudinal Administrative Data from 1974 to 2004", mimeo, Columbia University, New York.

ANNEX 3.A1

Supporting country evidence

Figure 3.A1.1. **Real GDP per capita and real household net adjusted disposable income**

Average annual growth rates between 2007 and 2011, percentage change

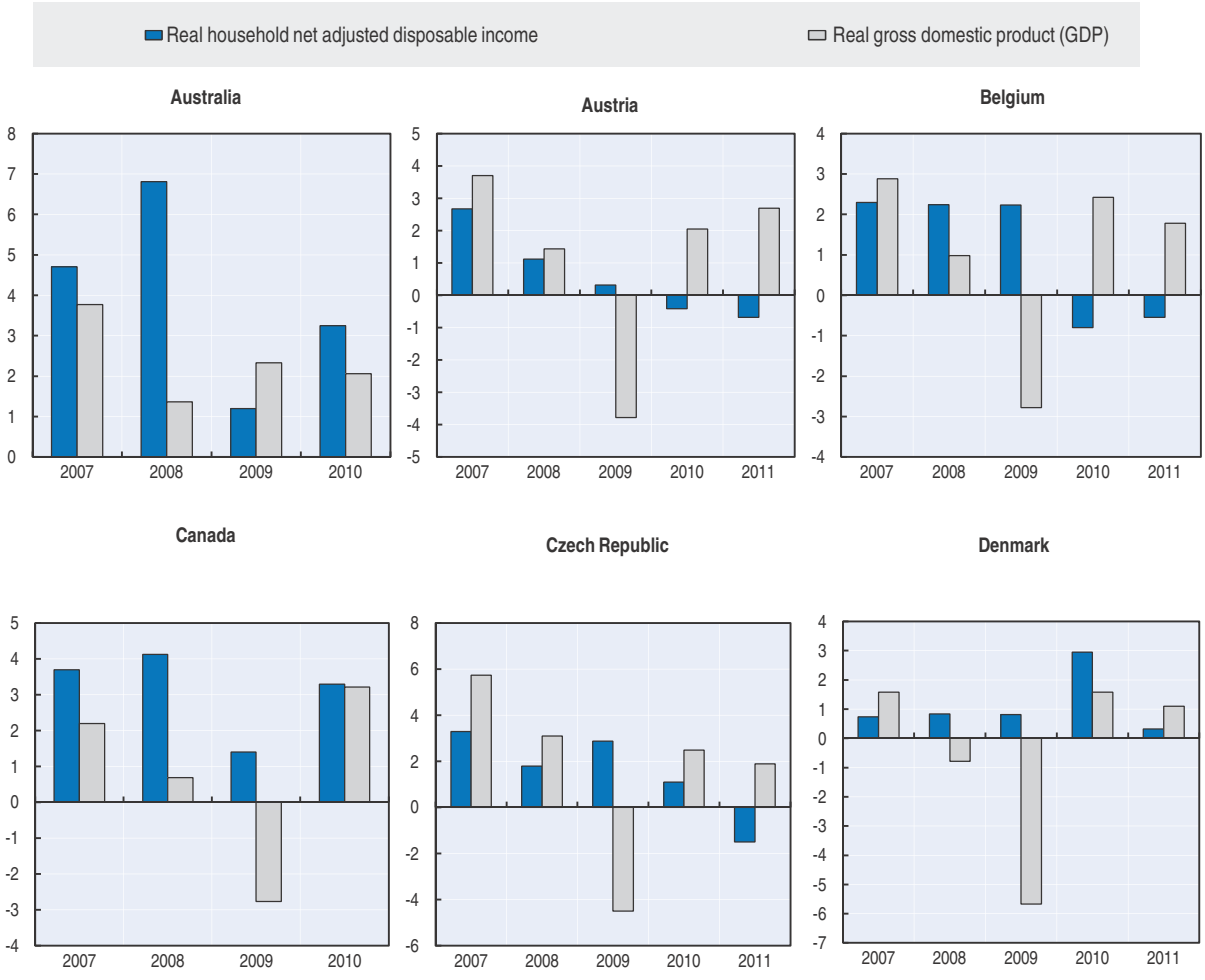


Figure 3.A1.1. **Real GDP per capita and real household net adjusted disposable income** *(cont.)*

Average annual growth rates between 2007 and 2011, percentage change

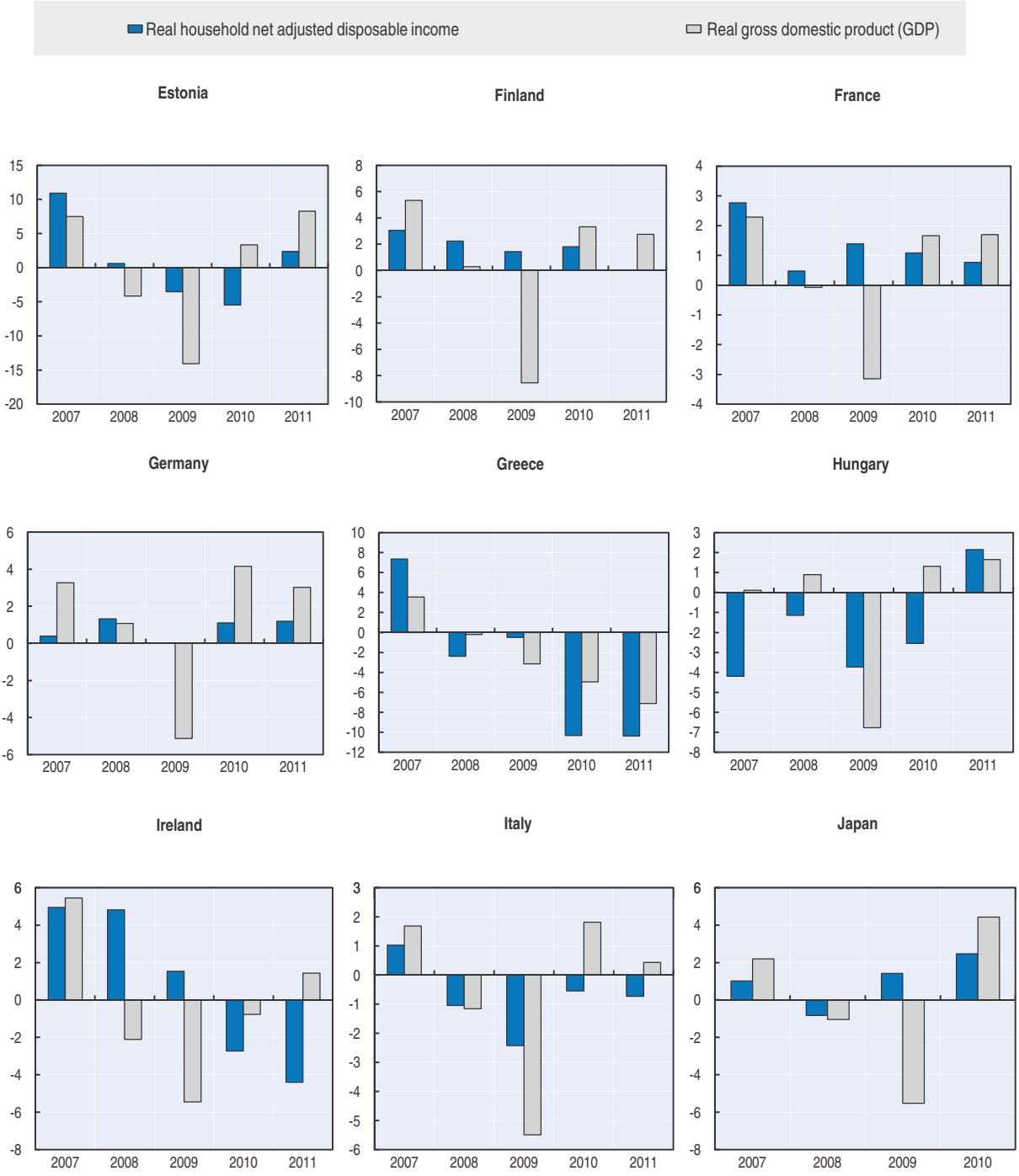


Figure 3.A1.1. **Real GDP per capita and real household net adjusted disposable income** *(cont.)*

Average annual growth rates between 2007 and 2011, percentage change

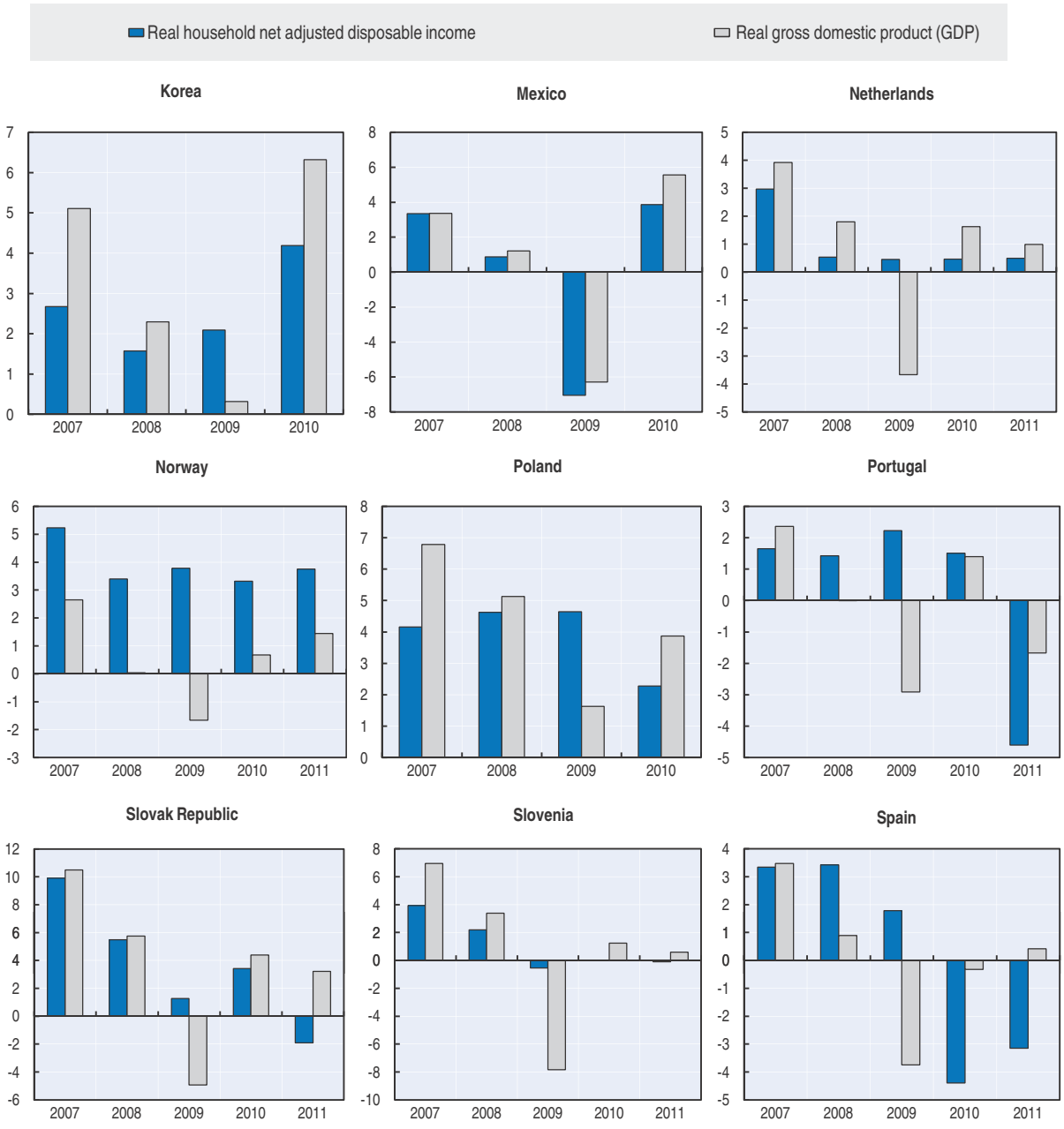
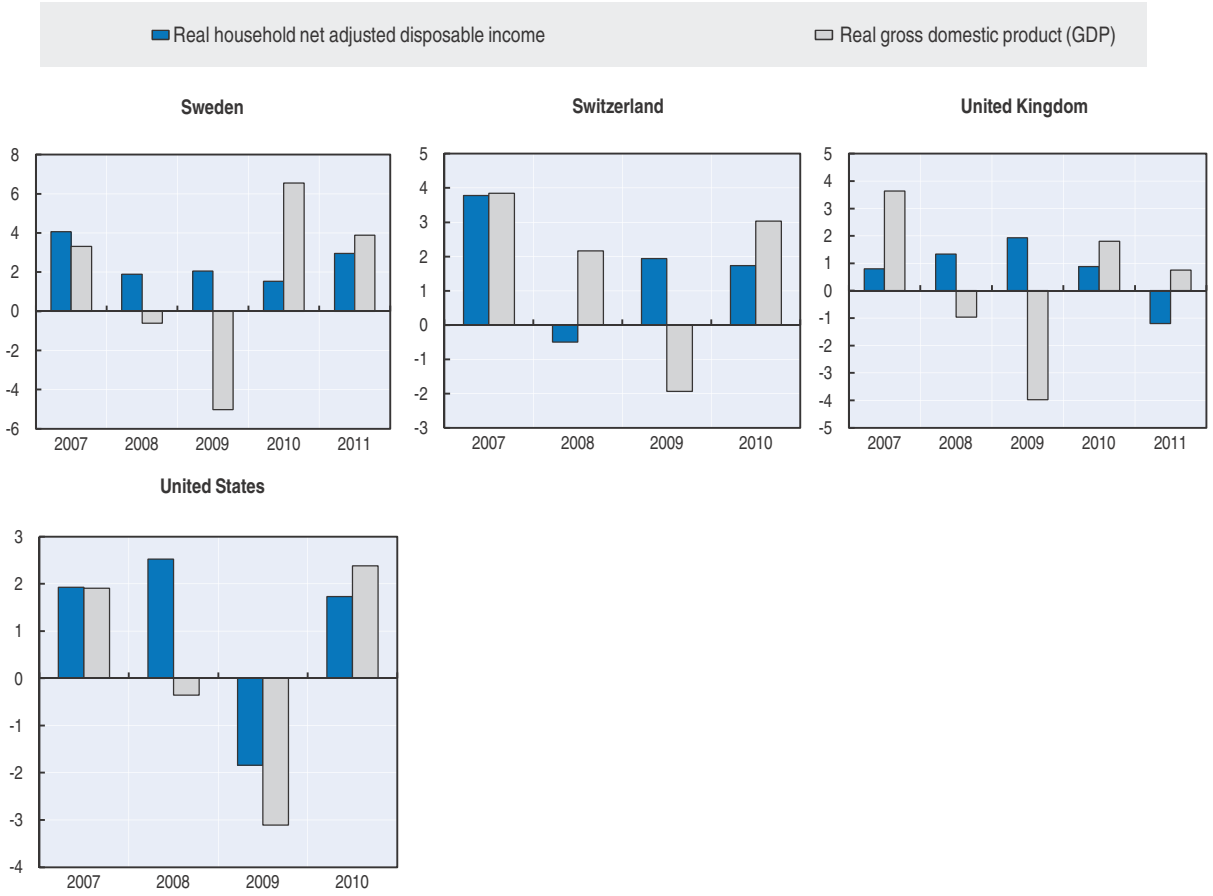


Figure 3.A1.1. **Real GDP per capita and real household net adjusted disposable income** *(cont.)*

Average annual growth rates between 2007 and 2011, percentage change



Source: OECD (2013a), *OECD National Accounts Statistics* (database), *http://dx.doi.org/10.1787/na-data-en.*

StatLink *http://dx.doi.org/10.1787/888932888680*

Chapter 4

Gender differences in well-being: Can women and men have it all?

Gender equality in well-being is not simply a women's issue. While traditional disadvantages faced by women and girls persist in most countries, men and boys are increasingly exposed to uncertain job prospects and need to adapt to changing tasks and societal expectations. Although men continue to score higher than women in a number of areas, no gender consistently outperforms the other and the gender gaps in well-being have being narrowing in recent decades. Whilst women live longer than men, they are also ill more often. Girls are now doing better than boys in school, but still remain under-represented in the key fields of education that provide greater job opportunities. Similarly, although women are increasingly present in the labour market, they still earn less than men, spend more hours in unpaid work and find it harder to reach the top of the career ladder or start their own business. Men are more often the victims of homicide and assault, but women are the primary target of intimate partner violence. Finally, although women are more satisfied with their lives than men, they are more likely to experience negative emotions. Despite progress in mainstreaming gender perspectives in the collection and dissemination of national statistics, gender data and indicators are still insufficient or lack cross-country comparability in a number of critical well-being areas.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Gender inequality and well-being

Despite extraordinary achievements in the status of women that have occurred over the last century, changes were neither uniform nor universal, and gender equality remains an unattained goal. Gender inequality manifests itself in unequal opportunities for participation in political and economic decision-making; limited access to the labour market; higher poverty rates for female-headed households; higher incidence of severe domestic violence… and the list goes on.[1]

As a result, gender differences in many well-being outcomes can be substantial. These gender gaps are pervasive, although they vary across countries and world regions. While in less developed countries, girls and women suffer from unequal access to economic assets, education or basic health care facilities, in most developed countries gender inequality persists in the form of discriminatory social institutions and beliefs about gender roles that undercut women's opportunities, inhibit their full participation in economic, social and political activities and therefore reduce their quality of life.

Empowering women and improving their well-being is key to the health and development of their families and society more widely. In developing countries, child health outcomes are strongly correlated to women's access to resources: countries where women lack any right to own land have on average 60% more malnourished children; where women have no access to credit, the number of malnourished children is 85% above average (OECD, 2010a). In high-income countries, the mother's education level has been shown to have an effect on the academic achievement of their children (OECD, 2012b). Similarly, early marriage and motherhood may have detrimental effects on several outcomes in early adulthood (e.g. human capital accumulation, earnings, health) of both the mother and the children, and be a cause of socio-economic disadvantages transmitted across generations. Children of teenage mothers suffer as young adults in terms of lower educational attainment, an increased risk of disruptive behaviour, a higher risk of economic inactivity and of becoming a teenage mother themselves (D'Onofrio et al., 2009; Leigh and Gong, 2010). This may be a result of childhood family structure, the lower standard of living experienced by many teenage mothers, in addition to the often poorer earning partners that they pair with (Francesconi, 2008). Finally, gender inequality cripples economic growth by reducing women's contribution in the economic, social and political spheres (Bandiera and Natraj, 2013).

Gender equality is about ensuring that both women and men enjoy the same rights and have the same opportunities and support to realise their aspirations. A gender analysis needs to take account of both gender perspectives and how policies can affect men and women differently.

Gender-sensitive measurements are critical to assess the extent of gender inequality, to enable better planning and actions meant to reduce gender disparities, and to hold institutions accountable. Despite a number of initiatives to develop and mainstream statistics on gender (Box 4.1), measurement techniques and data with a gender perspective

Box 4.1. **Initiatives to develop gender statistics**

Governments have long recognised the importance of gender statistics. In 1985, at the Third World Conference on Women in Nairobi, participants agreed to develop or reorganise their national information systems to compile and disseminate statistics on women and men in order to better address gender issues. As a result, many national statistical offices and international agencies began preparing user-friendly booklets with statistics that compared the situation of women and men in many aspects of life. In 1995, the Beijing Platform for Action, adopted at the Fourth World Conference on Women, urged national, regional and international statistical services to ensure that statistics related to individuals are collected, analysed and presented by gender and age, and reflect problems, issues and questions related to women and men. More recently, at the 4th High Level Forum on Aid Effectiveness in Busan, organised by the OECD and the Government of Korea, participants agreed to accelerate and deepen efforts to collect, disseminate, harmonise and make full use of gender-disaggregated data for informing policy decisions and guiding investments in order to ensure that public expenditures were targeted appropriately to benefit both women and men.

The "Evidence and Data for Gender Equality" (EDGE) initiative was launched to support the implementation of the gender equality commitments taken in Busan. Led by UN Women and the UN Statistical Division, the EDGE initiative is a dynamic partnership of UN member countries, Regional Commissions, the World Bank, the OECD and other stakeholders. It aims to build national capacity and strengthen national systems to collect data on critical areas of women's empowerment. The areas selected for initial focus are education, employment, entrepreneurship, and asset ownership. Activities related to EDGE include the development of a database for international data compilation covering basic education and employment indicators, the developing of standards and guidelines for entrepreneurship and asset ownership indicators, and related pilot data collection in ten developing countries.

To further facilitate the mainstreaming of gender statistics and fill statistical gaps in relevant dimensions of gender inequalities that are still poorly monitored and measured, the OECD has launched at the end of 2012 its one-stop "OECD Gender Data Portal", which sheds light on gender inequalities in the three "Es" (education, employment and entrepreneurship) across the OECD area and key partner countries. The Portal is part of the new "OECD Gender Equality" website (*www.oecd.org/gender*), which also features *Closing the Gender Gap: Act Now*, a publication that presents new analysis on gender inequality and proposes policy solutions to close the gender gaps.

Source: Adapted from UNECE (2010) and OECD (2012a).

remain somewhat limited and poorly utilised, making it difficult to assess whether progress has been made. For example, one important issue in gender-related indicators of well-being is the measurement of economic resources. In most countries, economic resources are only measured at the household level, without information on resource sharing within households. In addition, the characteristics of the entire household have been generally identified as those of the "head", and often the head has been assumed to be the most elderly member or the person with the highest income, usually a man (UNECE, 2011).[2]

This chapter is organised as follows. The next section presents evidence on gender differences in selected well-being dimensions of the OECD well-being conceptual framework: health, education, jobs and earnings, income, work-life balance, social connections, personal security and subjective well-being, and discusses possible

economic, social and cultural roots that may account for those gender gaps. The section that follows identifies some statistical gaps that need to be filled to better monitor progress towards gender equality. The last section summarises the main findings of the chapter.

Measuring gender differences in well-being

Based on the OECD conceptual framework, this chapter provides evidence on gender inequalities in key dimensions of well-being where gender gaps exist. As with other *How's Life?* indicators, the selection of gender measures is based on agreed standards of measurement, including cross-country comparability, policy relevance and reliability in measuring gender-based differences. Although most of the headline indicators of *How's Life?* can, in principle, be disaggregated by gender, they are not necessarily the most suitable to highlight gender differences in well-being outcomes. Therefore, this chapter uses a few additional metrics that capture gender-relevant differences in well-being.

Gender-sensitive indicators are the first step in developing better policies for women and men; the next stage is to understand why these differences occur and what can be done to reduce or eliminate them. Some differences between the two sexes are inevitable – only women experience pregnancy and childbirth, for example – but many others stem from institutional, cultural and social influences. These include the belief that women are much better placed than men to take care of children, or that the family might be harmed if mothers work outside the home. Economic and sociological insights on the persistence of gender differences in well-being outcomes are also discussed where relevant.

Gender roles are often instilled in boys and girls during childhood by families and by schools; they persist during adolescence and youth, and are reinforced in the workplace and social life in later years (Ridgeway, 2011). The analysis presented in this section covers gender issues across the life cycle – from school to the start of a new family and the entry into the labour market to later life – and considers both economic (income, wages, occupation) and social (health, education, social relations) outcomes.

Women and men are not homogeneous groups. There are significant differences *amongst* women and men that may be greater than differences *between* the two sexes. It is then important to understand how gender interacts with other socio-demographic and economic characteristics (e.g. age, health status, country of origin, income, etc.) to shape well-being outcomes. It may be the case, for instance, that gender interacts with other sources of social or economic disadvantage to increase the likelihood of achieving low well-being outcomes. Ideally, a gender analysis of well-being should look at both within- and between-gender inequalities. In practice, the analysis presented in this chapter is limited in scope due to the lack of available data about inequalities within each gender group.

Evidence on gender differences in well-being presented in this chapter draws on recent OECD publications (e.g. the *Closing the Gender Gap: Act Now* report) and initiatives (e.g. the "OECD Gender Initiative" and the "OECD Gender Data Portal") focusing on gender, as well as flagship publications of other international institutions (e.g. the World Bank *World Development Report 2012*; and the UN *The World's Women 2010: Trends and Statistics*).

Women and men throughout their lifetime

Women live longer than men

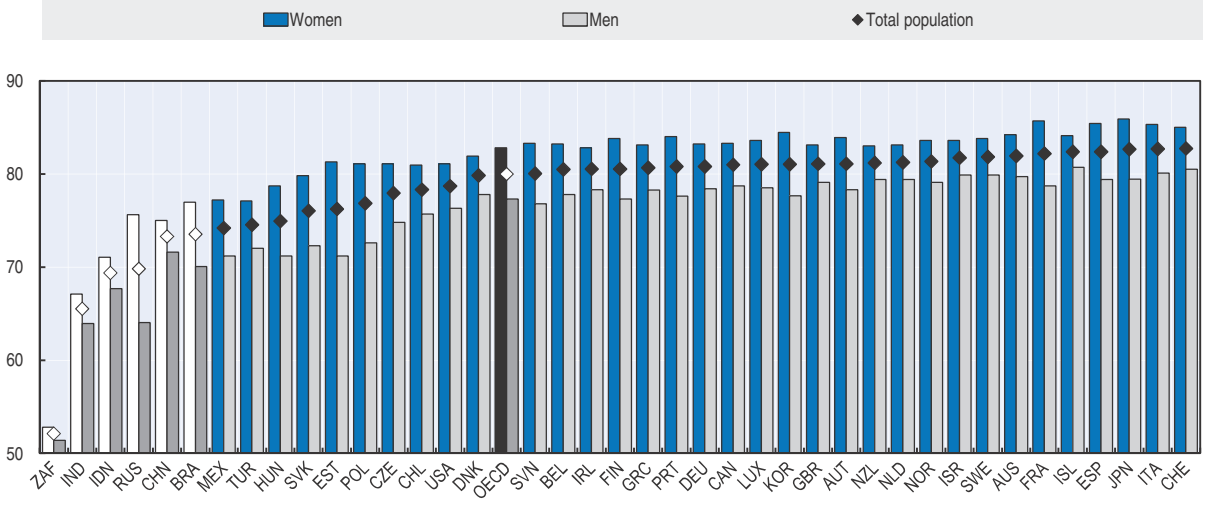
All OECD countries have registered remarkable increases in life expectancy at birth.[3] In 2011, a newborn girl in a typical OECD country could expect to live for more than 82 years,

that is, more than 10 years longer than a baby girl born in 1960. Similarly in 2011, a newborn boy could expect to live up to the age of 77 years, also more than 10 years longer than a boy born in 1960. The increase has been particularly pronounced in Korea, Mexico and Turkey (28.7, 16.7 and 26.3 years, respectively), with life expectancy in Mexico and Turkey converging rapidly towards the OECD average while the life expectancy in Korea now exceeds this average. These rapid gains are partly due to substantive declines in infant mortality rates, improved public health provision as well as policies fostering greater educational attainment and improved economic outcomes. The extent of this gender gap, however, varies over time and across countries. While women's advantage in life expectancy at birth increased substantially during the 1960s and the 1970s, reaching a peak of 6.8 years in the mid-1980s, it has narrowed during the past 25 years or so to 5.5 years on average across OECD countries. This reflects in part decreasing smoking rates among men and increasing rates among women (Flandorfer et al., 2010), as well as the sharp reductions in mortality rates from cardiovascular diseases among men.

Despite a generalised increase in life expectancy in the OECD area, longevity continues to differ across countries (Figure 4.1). In 2011, women's life expectancy at birth in OECD countries ranged from 77.1 years in Turkey to 85.9 years in Japan, while it was much lower in South Africa and India (52.8 and 67.1 years). Girls born in Switzerland, Italy, Spain and France could expect to live particularly long lives (more than 85 years). For boys, life expectancy at birth ranged from a low of 71.2 years in Estonia, Hungary and Mexico to a high of 80.7 years in Iceland, closely followed by Switzerland, Italy, Sweden and Israel. In South Africa, life expectancy of men at birth stood at 51.4 years, while in India and the Russian Federation boys could expect to live for 64 years. The gender divide in life expectancy was narrow (less than 4 years) in Iceland, Israel, New Zealand, the Netherlands and Sweden, but more than 7 years longer in France, Hungary, the Slovak Republic and Poland. Gender gaps in life expectancy were even larger in Estonia (10.1 years) and the Russian Federation (11.6 years).

Figure 4.1. **Gender gaps in life expectancy at birth**

Years, by gender, 2011 or latest available year



Note: Countries ranked in ascending order of life expectancy at birth of the whole population. Data refer to 2010 for China and South Africa and to 2009 for Canada.

Source: OECD (2013c), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888932888699

A longer life does not necessarily mean a healthier life

Life expectancy does not provide a full picture of the health status of the population as extra years of life are not necessarily lived in good health. Research on gender differences in health has brought to light the so-called "male-female health-survival paradox" (Case and Paxson, 2005). Despite having consistently higher life expectancy at all ages, women tend to report worse health than men and show higher rates for many measures of morbidity (Jagger et al., 2008). In other words, "women get sicker, men die quicker" (Tolleson-Rinehart, 2005).

Data from national health surveys, the European Union Statistics on Income and Living Conditions (EU-SILC) and the Gallup World Poll show that women are less likely to report a good health status than men and more likely to report limitations in daily activities (Figure 4.2). Self-reported health status is widely used in cross-sectional studies as a single-item morbidity measure that strongly correlates with objective physical and mental health measures (Smith et al., 2010). Measures of self-reported health status capture more than the simple absence of ill-health, covering the entire illness-wellness continuum and acting as a measure of "health optimism", which includes fitness, healthy behaviour, greater social support and less depression.[4]

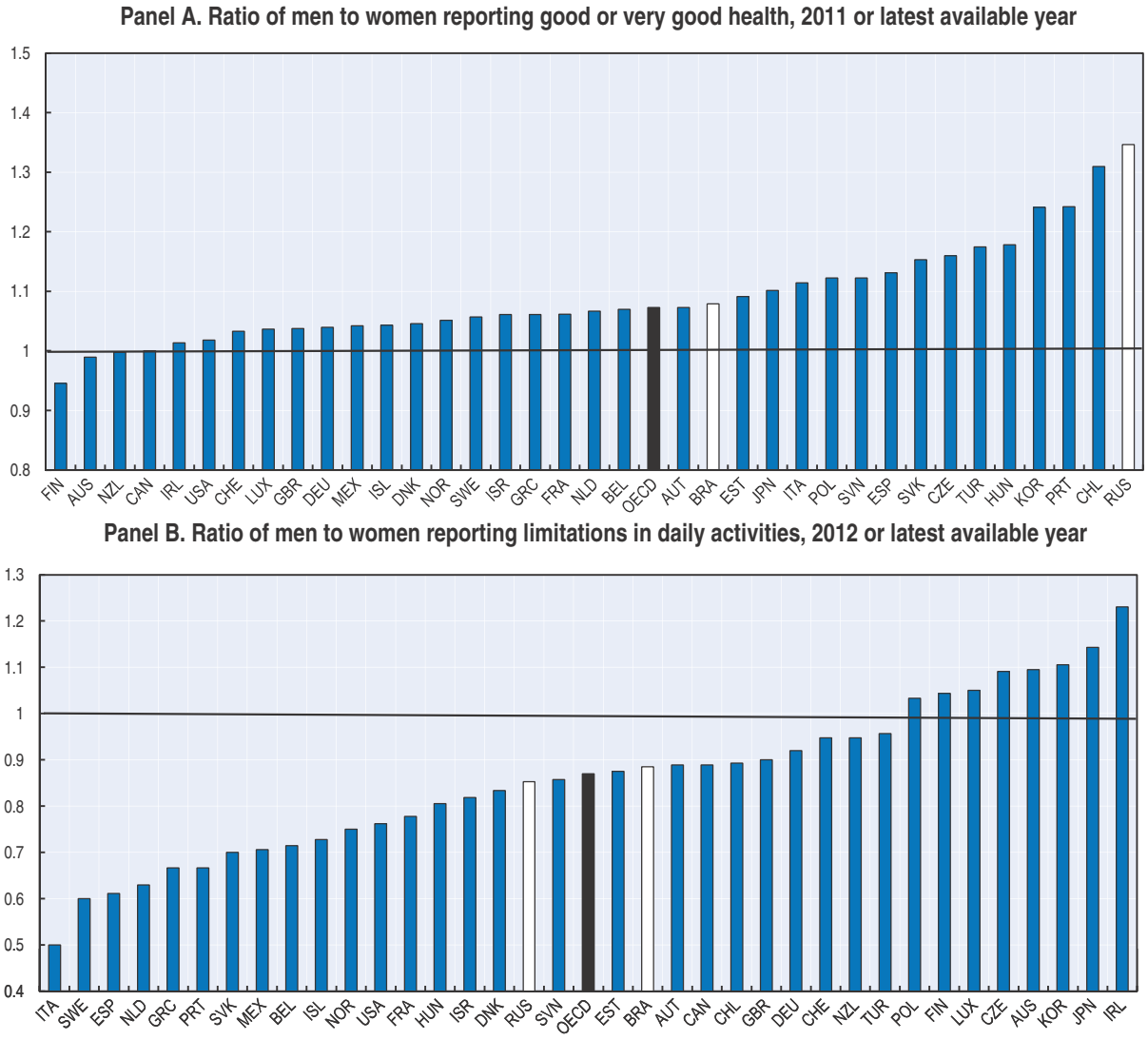
In 2011, in the OECD area as a whole, 67% of women declared being in good or very good health conditions, compared to 72% of men, although significant variation existed across countries (Figure 4.2, Panel A).[5] While in the Russian Federation, Chile, Portugal and Korea men were far more likely than women to report good health, in the United States, Canada, Ireland, New Zealand and Australia men and women were equally or nearly equally likely to rate their health status as good or very good. In Finland, women reporting good or very good health outnumbered their male counterparts. In a large majority of OECD countries, women were also more likely to report suffering from activity limitations due to health problems than men (Figure 4.2, Panel B). In 2012, Italian women were twice as likely to report limitations in daily activities when compared to men. Similar gender gaps were found in Sweden, Spain and the Netherlands. On the contrary, men were more likely than women to report activity limitations due to health problems in Australia, Korea, Japan and Ireland.

Biological factors, as well as differences in lifestyle and health behaviour have been suggested as the most common explanations for gender differences in health status and mortality (Verbrugge and Wingard, 1987; Case and Paxson, 2005). The most prominent biological explanations for gender differences in health and mortality are hormonal, autoimmune (greater susceptibility of men to infections) and genetic (Waldron, 1995; Crimmis and Finch, 2006).

Gender differences in health behaviour have also been suggested to partially explain differences in morbidity and mortality. Women are found to be more interested in health (Green and Pope, 1999), to be more likely to report symptoms to clinicians (Kroenke and Spitzer, 1998) and to show higher healthcare utilisation than men do (Bertakis et al., 2000), while men tend to postpone going to the doctor until the later stages of disease development (Galdas et al., 2005; Juel and Christensen, 2007).

Much of the burden of morbidity is linked to lifestyle, with tobacco smoking, obesity, diet and lack of physical activity being responsible for the largest shares of such burdens. Smoking prevalence among men is higher than among women in all OECD countries except in Sweden and Canada. Rates for men and women are equal or nearly equal in Denmark, Iceland, Norway and the United Kingdom. The gender gap in smoking is

Figure 4.2. **Gender gaps in self-rated health status and self-reported limitations in daily activities**



Note: In Panel A countries are ranked in ascending order of the ratio of men to women in self-rated good or very good health. Data refer to 2012 for New Zealand; to 2010 for Ireland and Japan; to 2009 for Chile and to 2006 for Mexico. In Panel B countries are ranked in ascending order of the ratio of men to women reporting limitations in daily activities due to health problems. Data refer to 2011 for Australia, Brazil, Chile and Israel. Data refer to 2009 for Switzerland.

Source: EU (2011), European Union Statistics on Income and Living Conditions, *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc* for most European countries; OECD (2013c), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en* (Panel A); OECD's calculations based on data from the Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx* (Panel B).

StatLink http://dx.doi.org/10.1787/888932888718

particularly large in Japan, Korea and Turkey, as well as in the Russian Federation, Indonesia and China. Over the past ten years, female smoking has declined in most OECD countries, often at a faster pace than rates for men. However, female smoking rates have shown little or no decline since 2000 in the Czech Republic, France and Italy (OECD, 2013d).

There does not appear to be a uniform gender pattern in obesity across OECD countries. On average, obesity rates tend to be higher for women than for men. However, this is not the case in all countries. Men experience higher obesity rates in Greece, Ireland, Norway,

Germany and Korea. Male obesity rates have also been growing faster than female rates in most OECD countries, with the exception of Denmark, Canada and Italy (OECD, 2010b).

Higher rates of physical ill-health are often associated with long-term mental disorders.[6] Depression is the leading cause of disability in high-income countries, with dementia also ranking among the 10 leading causes. The overall prevalence of mental disorders is about the same among men and women, although depression is more common among women, and substance abuse disorders among men (OECD, 2008). Suicide is commonly used as a measure of serious mental health problems. In general, across OECD countries, death rates from suicide are three to four times greater for men than for women, and this gender gap has been fairly stable over time. The exception is Korea, where women are much more likely to take their own lives than in other OECD countries. However, the gender gap is narrower for attempted suicide, as women tend to use less irreversible methods than men, and are thus more likely to survive (OECD, 2011a; OECD, 2012c).

Information on key dimensions of physical and mental functioning gathered through national health surveys and other sources are used to build health expectancy indicators, which combine quantitative and qualitative information about length of life spent in different states of health (Sullivan, 1971). In Europe, a measure of Healthy Life Years (HLY) has been endorsed as an important indicator to monitor whether years of longer life are lived free of disability. HLY calculates the number of remaining years that a person of a certain age can expect to live without disability, using mortality data from life tables and estimates of the prevalence of disability among population groups, obtained as a self-reported measure of long-term activity limitation from the annual EU-SILC survey (OECD, 2011b; OECD, 2012d).[7]

In most European OECD countries, there was little difference in the number of years that women and men can expect to live without health limitations: in 2011, on average, both girls and boys in European countries could expect to live 62.4 years in good health (Figure 4.3). Thus, while women live longer than men, a higher share of their lifespan is limited due to disease and injury (25% of years lived as opposed to 19% for men). Gender gaps in healthy life years were in favour of women in Poland and Estonia, while men were expected to live in a healthy condition longer than women in Denmark and the Netherlands. Healthy life years were highest for both sexes in Sweden and Norway.

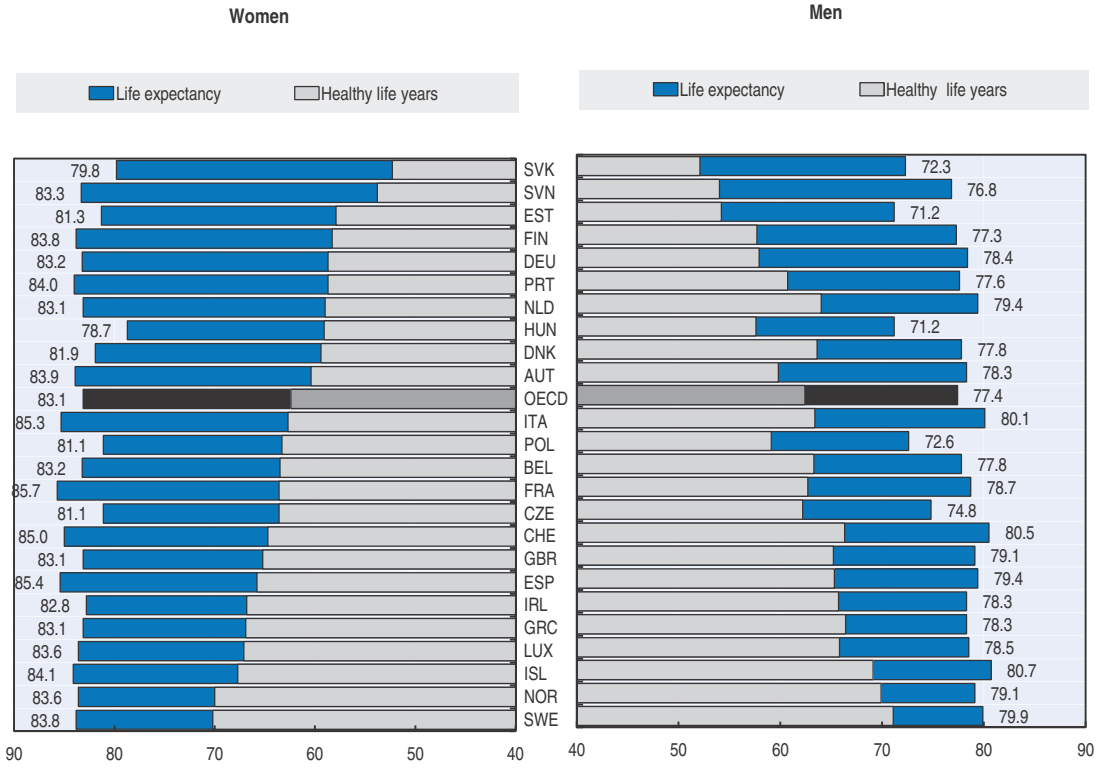
Girls have caught up with boys in school and display higher reading scores

Another dimension where, at first glance, girls and women seem to outperform boys and men is education. As outlined in the 2012 OECD report *Closing the Gender Gap: Act Now*, girls have higher rates of graduation at secondary level. When success is measured in terms of outcomes rather than participation and retention, boys perform noticeably less well in reading, and are more likely to be defined as having special educational needs (Hibel et al., 2010). Girls perform somewhat less well in mathematics than boys, yet the gap between female and male school performance is smaller in mathematics than in reading. Findings from the Programme for International Student Assessment (PISA) in relation to science have shown little or no difference in average science performance between girls and boys, with girls outperforming boys in 12 countries and boys scoring marginally higher than girls in 8 countries (OECD, 2009).

Gender gaps can be very different for low and high performing students, possibly suggesting a different impact of the socio-economic background on girls and boys. In reading, the gender gap is much wider among the lowest performing students, as many boys

Figure 4.3. **Gender gaps in years of healthy life**

Life expectancy at birth and healthy life years at birth, years, 2011 or latest available year



Note: Countries are sorted in ascending order of women's healthy life years. Data on healthy life years refer to 2010 for Ireland and Norway. Data on healthy life years for Belgium and Italy are estimates.

Source: OECD (2013c), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*; and Eurostat (2013), "Health Life Years in 2011", *Eurostat News Release*, No. 35, *http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-05032013-BP/EN/3-05032013-BP-EN.PDF*.

StatLink *http://dx.doi.org/10.1787/888932888737*

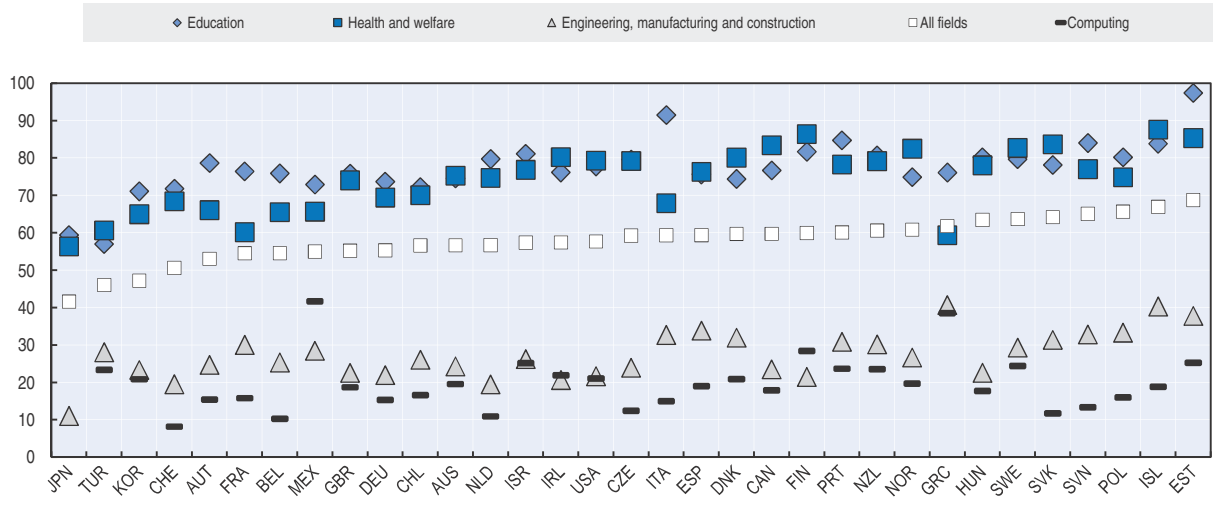
lack basic reading skills, while only a few girls are not able to read texts and comprehend what they read. However, in mathematics the gender gap is negligible among the lowest performing students but considerably higher among the best students. In science, where the gender gaps are generally small, girls score better than boys among the lowest performing students, while there are more boys than girls among the best performers (OECD, 2012a).

Boys are far more likely to choose science-related fields of study at the tertiary level

However, young women often do not translate their good school performance into fields of study with better employment prospects. Young women are much less likely than young men to choose Science, Technology, Engineering, or Mathematics (STEM) as field of study at the tertiary level (Figure 4.4). Gender differences in the choice of major field of study are likely to translate into gender segregation in the workforce, with significant economic consequences for women. While, in all the OECD countries for which data are available, women predominate among graduates in the fields of education and health and welfare – where they represent 70% or more of tertiary students – only 30% or fewer of all graduates in the fields of engineering, manufacturing and construction are women. Although the distribution of men and women by field of study varies across countries, the

Figure 4.4. **Gender gaps in fields of tertiary education**

Percentage of qualifications awarded to women in tertiary-type A and advanced research programmes, by field of education, 2010 or latest available year



Note: Countries are ranked in ascending order of the percentage of tertiary degrees awarded to women. The latest available year is 2009 for Australia, Canada and France.

Source: OECD (2012b), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.

StatLink http://dx.doi.org/10.1787/888932888756

fact that men and women make quite different choices is common to the OECD area. Moreover, despite many initiatives to reduce gender gaps in fields of tertiary study, the situation has changed only slightly in the past decade or so (OECD, 2012b).

The distribution of graduates by field of education is driven by different factors, including the fact that some subjects and fields of work are considered as "feminine" and others as "masculine". As a result, dominant gender norms governing what is the ideal type of masculine and feminine identity impact strongly on educational choices (Connell, 2005). While some shifts have been identified, a number of traditionally male-dominated disciplines still tend to exclude women. Recent studies have also shown that teachers' and parents' gender-stereotyped behaviours and expectations can undermine girls' confidence in their mathematical abilities, discouraging them from choosing mathematics-related courses (Turner et al., 2004; Frenzel et al., 2010).

School-to-work transition is easier for boys

Education is not only about school participation and the acquisition of specific knowledge. It is also about setting young people up for life, by giving them opportunities to find decent work, earn a living, contribute to their communities and societies, and fulfil their potential. Young people experience different trajectories in their transition from school to work. In 2010, across OECD countries, 16% of individuals between the ages of 15 and 29 were neither employed, nor in education or training (the "NEET" population).[8] NEET-rates for young women were on average 4 percentage points higher than for young men, although there is wide variation across countries.

In Canada, Finland, Japan, Luxembourg, New Zealand and Nordic countries the NEET population is nearly equally divided between men and women. In Iceland, Ireland, Israel and Spain, young men are more likely than young women to be NEET, although the gap is small. Conversely, Turkey, Mexico and Brazil show both the widest gender gaps and the

largest shares of women who are NEETs. Factors affecting NEET rates include high participation of youth in the informal sector, negative experiences at school as well as social and behavioural problems. Teenage pregnancy, early marriage and domestic responsibilities are causes of high share of female NEET in some countries.[9]

Women and men in paid and unpaid work

Gender gaps in employment rates close slowly

Increased educational attainment rates have contributed to greater employment rates among women in many OECD and non-OECD countries. In OECD countries, girls entering the labour market have comparable and often higher education levels than boys. However, women's labour market participation and employment still remains significantly lower than men's. In the OECD area, the gender gap in employment tended to converge in the 1990s, thanks to higher employment growth rates for women compared to men, and to remain constant in the period from 2000 to 2007. In the early years of the recent economic crisis, in most OECD countries gender gaps in employment shrank, mostly due to heavy job losses in male-dominated sectors. In many countries, women were able to increase their hours of work, especially if they were working part-time. The traditional view that women behave as employment buffers, called in when demand expands but pushed back when it contracts, has been challenged by the recent economic crisis. In Europe, women are found to bring effective financial support to their households when their partners are made redundant, with female breadwinner couples increasing to almost 10% (European Commission, 2013).

Changes in unemployment since the beginning of the crisis reveal that female and male rates have converged. Unemployment rates among men rose from 5.5% in 2007 to around 9% in 2009. Over the same period, unemployment among women rose from 6% to 8%, as the service sector – where most women work – was less affected by the crisis. However, from 2009 onwards, unemployment has decreased for men but not for women: by the last quarter of 2012, across the OECD, the unemployment rate was around 8% for both men and women (ILO, 2012; OECD, 2013b).

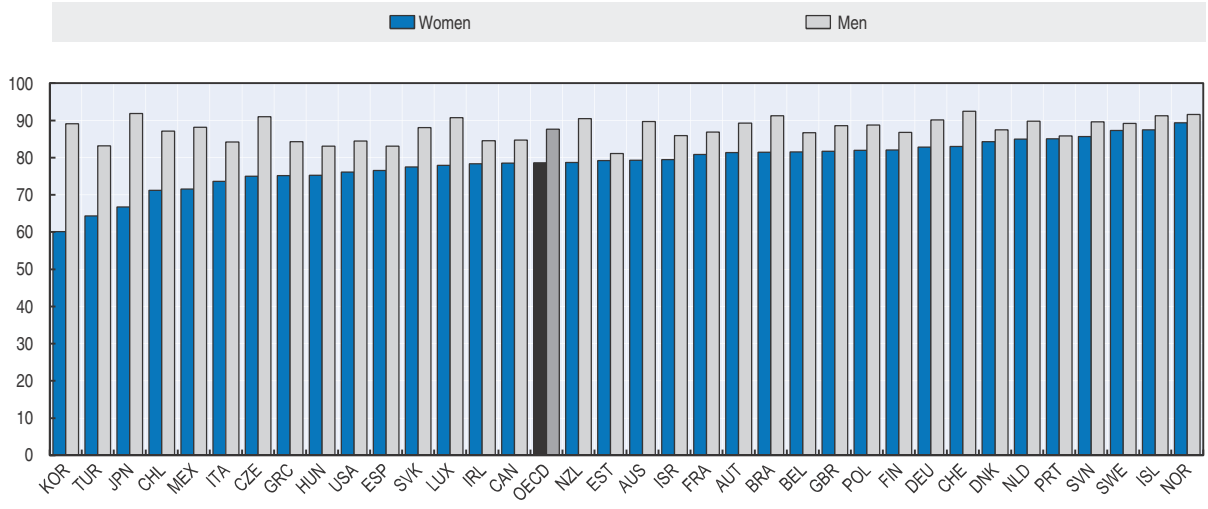
Across OECD countries, 14% fewer women than men have a paid job (OECD, 2012a). Although the gap between men's and women's employment rate narrows considerably with higher educational attainment, on average the employment rate for tertiary-educated women is still 9 percentage points lower than that of men (Figure 4.5). The difference in employment rates between tertiary-educated men and women is particularly marked in Chile, the Czech Republic, Japan, Korea, Mexico and Turkey, where it is as high as 29 percentage points. Conversely, countries with the highest overall employment rates for 25-64 year-olds – Iceland, Norway, Sweden and Switzerland – also have some of the highest employment rates among women.

Women face pervasive sectoral and occupational segregation and earn less than men

Women are often over- and under-represented in some occupations, partly reflecting the gender segregation in fields of study described previously. Comparable information on occupations is available only for European countries and the United States. In these countries, at least half of all working women are concentrated in 11 of the 110 occupations listed by the International Labour Organization (ILO), while half of men work in more than twenty of them. Across the OECD, there is strong feminisation (i.e. high proportion of women among workers in a specific sector) of the service sector: on average, services

Figure 4.5. **Gender gaps in employment rates among tertiary-educated individuals**

Employment rates among 25-64 year-olds with tertiary education, by gender, 2010



Note: Countries are ranked in ascending order of employment rates for tertiary-educated females.
Source: OECD (2012b), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.
StatLink *http://dx.doi.org/10.1787/888932888775*

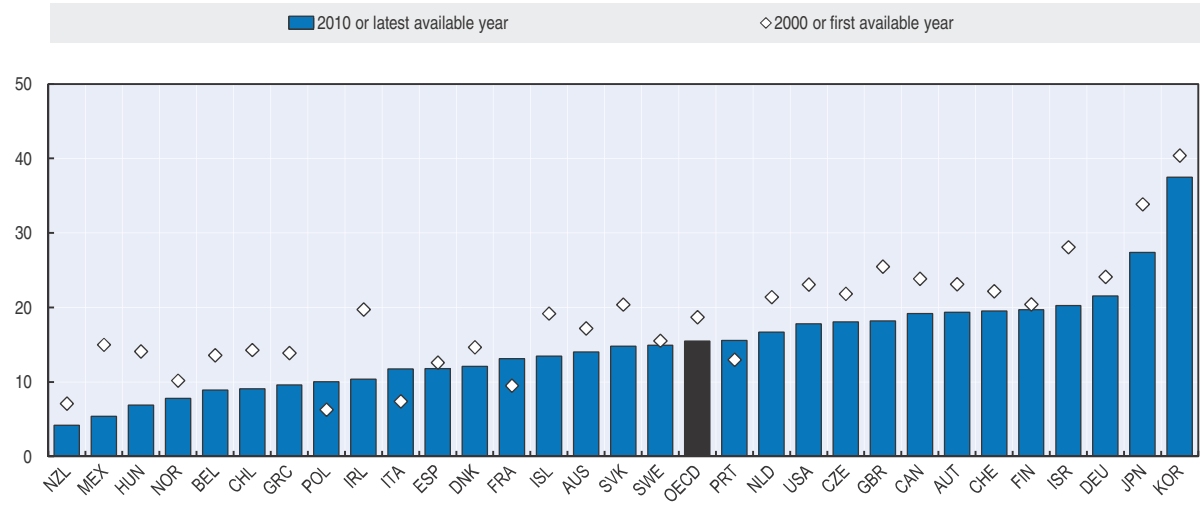
account for more than 80% of women's employment, compared to 60% in the case of men. By contrast, women represent less than 25% of the workforce employed in science, technology and engineering positions, with this under-representation having remained fairly constant over the past decade (OECD, 2012a). Moreover, the public sector usually employs more women than the private sector, and these women tend to work in low-paid jobs in social sectors such as health and education.

Female segregation into low-wage occupations is one of the main contributors to the gender pay gap (Blau and Kahn, 2000; Flabbi and Tejada, 2012). Women's wages are lower than men's in all OECD countries (Figure 4.6). Among full-time employees, the gap ranges from less than 10% in Mexico, Hungary and New Zealand to 30% and above in Japan and Korea. In the last decade, gender wage gaps have been narrowing in almost all OECD countries for which data are available, with the exception of Italy and France where the gender pay gap has increased.

Other factors contributing to the gender earnings gap are the higher likelihood that a woman will delay career advancement due to childrearing responsibilities, the fewer hours worked by women, and the higher female prevalence in temporary and part-time jobs. Women often work part-time in order to reconcile work and family life. When part-time workers are also included, the gender gap in take-home pay doubles in many European countries for which data are available, and triples in Ireland and the Netherlands. Women also experience a steep increase in the gender wage gap during their childbearing and childrearing years (the so-called "motherhood penalty"). Among women of child-bearing age who work full-time, the gender wage gap of women with children is significantly higher than of women without children. The wage penalty for having children is on average 14%, with Korea showing the greatest wage gap between childless women and those with children, while Italy and Spain have almost none (OECD, 2012a).

Figure 4.6. **Gender wage gaps**

Percentage, full-time employees



Notes: The wage gap is defined as the difference between male and female median wages divided by male median wages. Estimates of earnings used in the calculations refer to gross earnings of full-time wage and salary workers. Self-employed women and unpaid family workers are not included in the calculations. However, this definition may slightly vary from one country to another. Further information on the national data sources and earnings concepts used in the calculations can be found at: *www.oecd.org/employment/outlook*.
Countries are ranked in ascending order of the gender wage gap in 2010. The first available year is 2005 for Poland; 2004 for Greece, Iceland, Spain and Portugal; 2002 for the Slovak Republic; and 2001 for Israel. The latest available year is 2011 for Canada, Hungary, Japan, Korea, Norway, the United Kingdom and the United States; and 2005 for the Netherlands. The OECD value is a simple average of the countries displayed in the figure excluding Mexico and Chile.
Source: OECD (2013f), *Online OECD Employment Database*, *www.oecd.org/employment/database*; and OECD (2013b), OECD Gender Data Portal, *www.oecd.org/gender/data/*.

StatLink http://dx.doi.org/10.1787/888932888794

In many OECD countries, the wage gap at the top of the earnings distribution is larger than at the bottom.[10] Top female earners make, on average, 21% less than their male counterparts. This discrepancy suggests that the "glass ceiling" is no myth – women are less likely to move up the career ladder to top-level salaries. The glass ceiling appears still to be shatterproof, even after controlling for differences in occupation and sector of employment (OECD, 2012a).

Recent evidence suggests that both wage growth and employment are becoming more polarised for men than for women. Acemoglu and Autor (2011) and Autor and Dorn (2013) show that wages and employment rates in traditional middle-skill job sectors are declining in the United States, with different consequences for men and women. Whereas employment of women has shifted predominantly to high-skill and high-paying jobs with barely any growth in low-skill employment, employment of men has shifted to both tails of the occupational distribution, with a slightly higher increase in low- rather than in high-skill employment. Similar trends, although not identical, are also visible in the European Union (Goos et al., 2009).

The low representation of women among entrepreneurs is another important element of gender inequality in labour markets. In the OECD, the number of men who own a business with employees is three times the number of women. Enterprises owned by women are often small and operate with little capital (OECD, 2012c). In OECD countries, womens' average earnings from self-employment are up to 60% lower than those of men, and women are scarcely represented among the owners of the largest companies (OECD, 2012a). As entrepreneurs, women are on average less endowed than men with key resources such as

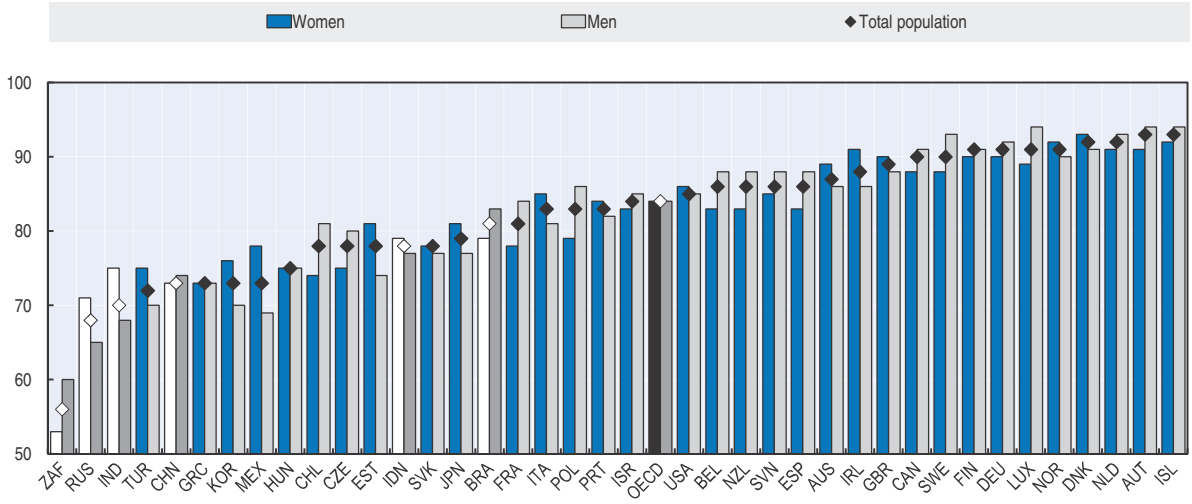
access to business networks and management experience. Stereotypes – such as the belief that entrepreneurship is a man's job – and lower exposure of women to role models can explain why women report less interest in entrepreneurial careers, and often believe they are not capable of becoming successful entrepreneurs (Coleman and Robb, 2012). Along with these cultural barriers, women entrepreneurs face specific market failures. A critical one is the under-provision of credit to less wealthy or less experienced entrepreneurs.

Women and men are equally satisfied with their job, but for different reasons

The long-standing interest in estimating the extent of the gender pay gap has recently been matched by interest in measuring and understanding gender differences in job satisfaction. Figure 4.7 shows the gender differences in job satisfaction across OECD countries.[11] In a small majority of countries, women are more likely than men to declare feeling satisfied with their job. The gender gap is in favour of women in Mexico, Estonia, Korea, Turkey, Ireland, Italy, Japan and the United States. By contrast, men are more likely than women to be satisfied with their job in Poland, Chile, Luxembourg, France, New Zealand and Spain.

Figure 4.7. **Gender gaps in job satisfaction**

Percentage of people declaring being satisfied with their job, by gender, 2012 or latest available year



Note: Countries are ranked in ascending order of life satisfaction of the whole population. Data refer to 2011 for Australia, Brazil, Chile and Israel. Data for Switzerland are not available.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932888813

The finding that women tend to be more satisfied with their job than their male counterparts has been summarised in the literature as the "paradox of the contented female worker" (Agassi, 1982). The lower wages that women receive, as well as the gender bias in hiring and the occupational segregation that they are likely to experience in the labour market seem to be at odds with the higher job satisfaction of women. Yet, the job characteristics valued by women and men have repeatedly been shown to differ.[12] In particular, higher levels of job satisfaction expressed by women may reflect job characteristics that are normally unmeasured by standard employment and earnings statistics. Research conducted in several OECD countries shows that in general women are less likely to identify earnings as the most important aspect of a job (Clark, 1997), and that higher earnings add more to the job

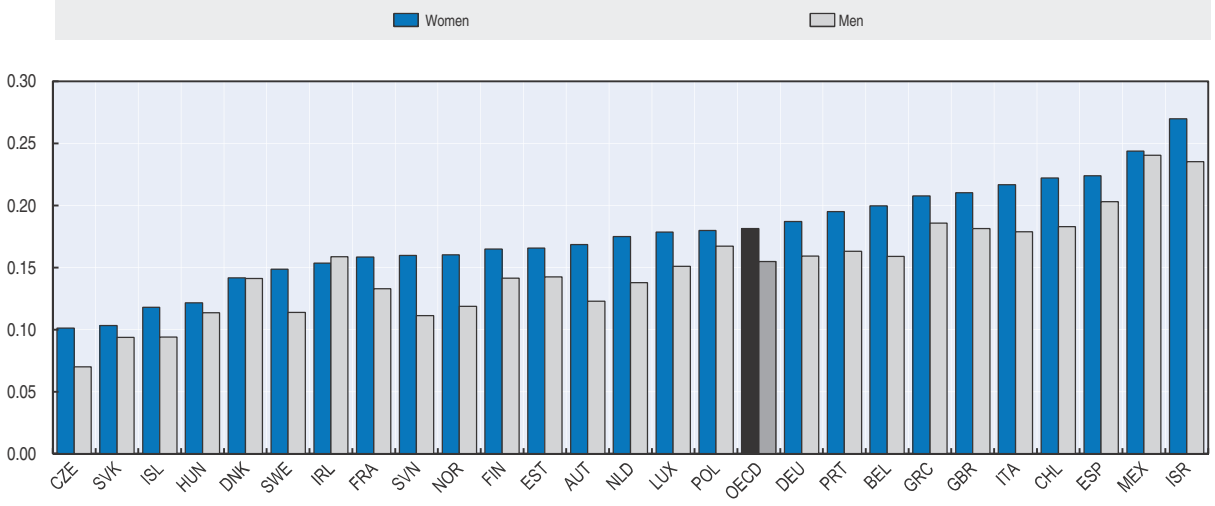
satisfaction of men than to that of women (Sloane and Williams, 2000; Donohue and Heywood, 2004). On the other hand, women are more likely than men to identify the flexibility of work schedule, social relations at work and the significance of the task as the most important aspects of a job (Bender et al., 2005; Skalli et al., 2008). These differences in job preferences may result from womens' desire to integrate work and family life (Garey, 1999).

Single mothers and elderly women are over-represented among poor households

As wages make up the bulk of household income, the male-female pay gap is likely to translate into gender-based income inequalities. Household-level data measure the total income women and men can potentially use for their consumption. In Figure 4.8, a simple indication of gender disparities in household income is obtained by comparing the proportion of women and men living in poor households. Poor households are defined in Figure 4.8 as those having an equivalised total income (i.e. before deduction of taxes) below 60% of the national median.[13] Women are over-represented in poor households in almost all OECD countries. Only in Denmark, Ireland and Mexico is the gender difference in this measure negligible, while in some countries such as Austria, Slovenia, Italy and Chile and United States the gap is significant.

Figure 4.8. **Relative poverty headcount by gender**

Percentage of men and women living in poor households, 2010 or latest available year



Note: Poor households are those with an equivalised total income lower than 60% the national median. Total income is defined as the sum, at the household level, of the following components: 1) wage, salary and self-employment income of household members; 2) capital and property income, private pensions, private occupational pensions, and all kinds of private transfers; and 3) social security transfers from public sources. Total income is expressed in terms of "equivalent" household member, by dividing it by the square root of household size. The definition of the second and third income component can slightly differ for European countries and non-European countries, given differences in information available in the microdata public-use files particularly in the reporting of gross and net earnings. Data for Chile refer to 2009. Countries are ranked in ascending order of percentage of women living in poor households.

Source: OECD calculations based on data from the European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc* and public-use microdata.

StatLink http://dx.doi.org/10.1787/888932888832

A limitation of the poverty headcount indicator shown in Figure 4.8 is that it assumes that all incomes are pooled within the household and therefore that all household members reach the same level of material well-being, regardless of preferences, needs or source of income.[14] A growing body of literature has shown that resources within households are not always distributed according to consumption needs (Lise and Seitz,

2011). Ignoring the presence of intra-household inequality can lead to considerable understatements of the real levels of inequality between individuals (Haddad and Kanbur, 1990), and to a re-evaluation of conclusions about trends in overall inequality.[15]

There are no international guidelines on how intra-household inequalities in economic resources should be measured. The European Union Statistics on Income and Living Conditions (EU-SILC) introduced survey questions on intra-household sharing of resources and control over economic decisions. In Europe, 30% of households with at least two adults report that incomes are partly or fully treated as private resources of the income earner.[16] There are no large differences in the share of women and men reporting that they keep their personal income separate from the common household budget. However, given that men earn significantly more than women (15% more on average, see OECD, 2012a), the partial sharing of incomes may indicate consumption inequalities within households. The magnitude of these inequalities is likely to be affected by cultural attitudes towards the value of unpaid work. In fact, differences in freedom to use money for leisure or hobbies are marked between women with a paid occupation and those without. Some 60% of women in couples with a paid employment feel free to spend on themselves, while the share is only 47% for women not in paid employment. The probability that incomes are fully shared between adult members is higher for poor households, married and older couples (Pontieux, 2012).

The higher exposure of adult women to poverty is strongly related to their higher representation in more vulnerable households (Figure 4.9). In particular, women represent the vast majority of single parents (89% on average across 28 OECD countries). The relative poverty headcount is, on average, 20% across all family types, 31% for households with only one male adult, and 39% for households with only one female adult. Women who are single parents have much larger relative poverty headcounts than women without children (Figure 4.9, Panel A), even though important differences exist across countries. Women are also more likely to be single at old age and to end-up living on a relatively small income (Figure 4.9, Panel B), since they build up fewer pension entitlements and their pensions are lower (OECD, 2012a).

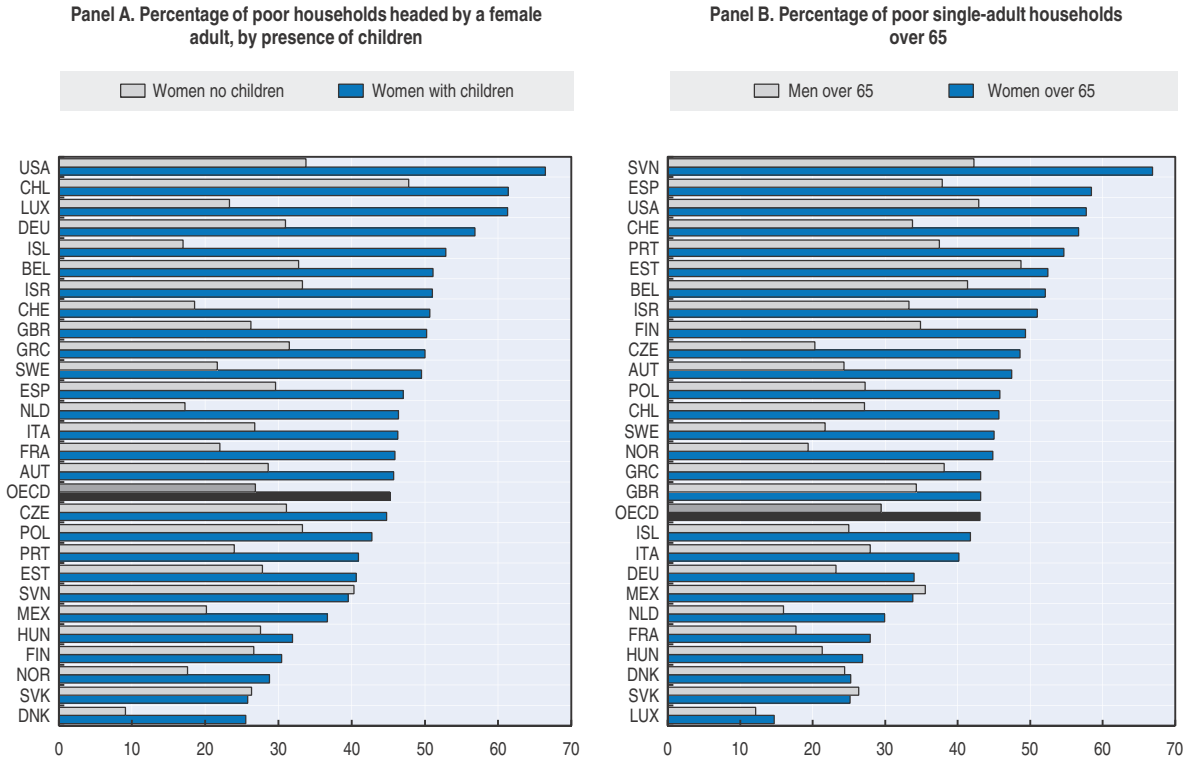
Women are more likely to experience economic hardship

Other indicators of material conditions, such as measures of asset ownership and liabilities, would provide important additional information about gender differences in exposure to economic hardship. A study for the United States (Schmidt and Sevak, 2006) finds that the median wealth of married couple households is more than four times that of households headed by single individuals. Households headed by single females fare worse than married couple households, particularly at the lower end of the wealth distribution. However, no data on wealth are currently available for international comparison of gender inequalities.

In the absence of these data, self-perceived evaluations of material living conditions may offer useful information. Data from the European Survey on Income and Living Conditions (EU-SILC) show that single women with children are at high risk of material deprivation, with significant differences across countries. Only 10% of single women (with or without children) in Finland said they were finding it difficult to make ends meet in 2010, but this share goes up to 69% for single women in Greece.

Figure 4.9. **Relative poverty headcount for single-adult households**

By presence of children and age of the adult, 2010 or latest available year



Note: Percentage of single-adult households with an equivalised income after social transfers in kind lower than 60% the national median, by gender and age of the single-adult and by presence of children. Total income is defined as the sum, at the household level, of the following components: 1) wage, salary and self-employment income of household members; 2) capital and property income, private pensions, private occupational pensions, and all kinds of private transfers; and 3) social security transfers from public sources. Total income is expressed in terms of "equivalent" household member, by dividing it by the square root of household size. The definition of the second and third income component can slightly differ for European countries and non-European countries, given differences in information available in the microdata public-use files. Data for Chile refer to 2009.

Source: OECD calculations based on data from the European Union Statistics on Income and Living Conditions (EU-SILC), *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc* and public-use microdata.

StatLink http://dx.doi.org/10.1787/888932888851

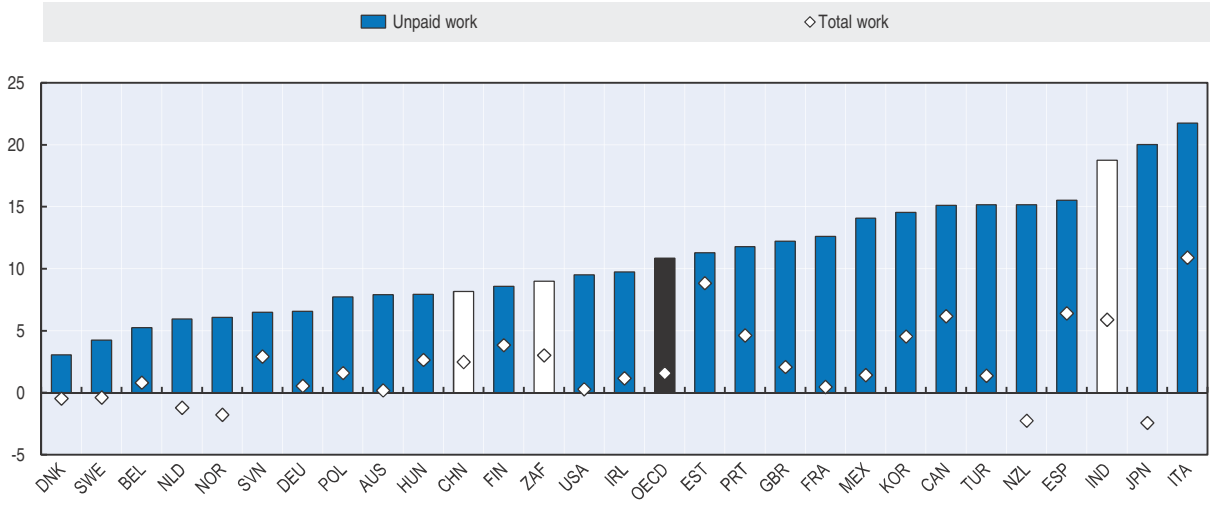
Women perform more unpaid work at home

Inequalities in time use between men and women are large and persistent. Women continue to bear the brunt of household tasks despite their increasing participation in the paid labour market. As time is a scarce resource, more time devoted to unpaid work often means less leisure, with negative consequences on well-being. Gender inequalities in time use are now better documented than in the past, thanks to the increasing availability of time use surveys (Miranda, 2011). Time use diaries are also an essential input for constructing "satellite" accounts quantifying the economic value generated by unpaid work.

Across the OECD area, women do 24.5 hours of paid work per week on average and 31.5 hours of unpaid work, while men work 33.7 hours in a paid job (30% more than women) and do 21 hours of unpaid work (50% less than women) (Figure 4.10). Total work, the sum of paid and unpaid work, is higher for women, although the difference is not large (2.3 hours per week more for women, on average in OECD countries). There is a lot of variation across countries: Italian women do 11 hours more work than Italian men per week, while in Japan men do 2.4 hours more work than women.

Figure 4.10. **Gender differences in time allocated to unpaid and total work**

Difference in weekly hours worked between women and men



Note: Countries are ranked in ascending order of the gender gap in unpaid work. Data refer to 2011 for Japan and the United States; to 2010 for Canada and Norway and to 2009-10 for Estonia, Finland, France, New Zealand and Spain. Data refer to 2009 for Korea and Mexico; to 2008-09 for Austria and Italy; and to 2008 for Turkey. Data refer to 2006 for Australia, China, the Netherlands and Turkey; to 2005 for Belgium, Ireland and the United Kingdom; to 2003-04 for Poland; and to 2001-02 for Germany. Data refer to 2001 for Denmark; to 2000-01 for Slovenia and Sweden; to 2000 for South Africa; to 1999-2000 for Hungary; and to 1999 for India and Portugal. For details on the definition of unpaid work and total work see Miranda, V. (2011), "Cooking, Caring and Volunteering: Unpaid Work around the World", *OECD Social, Employment and Migration Working Papers*, No. 116, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kghrjm8s142-en*.
Source: OECD's calculations based on national time use surveys.

StatLink http://dx.doi.org/10.1787/888932888870

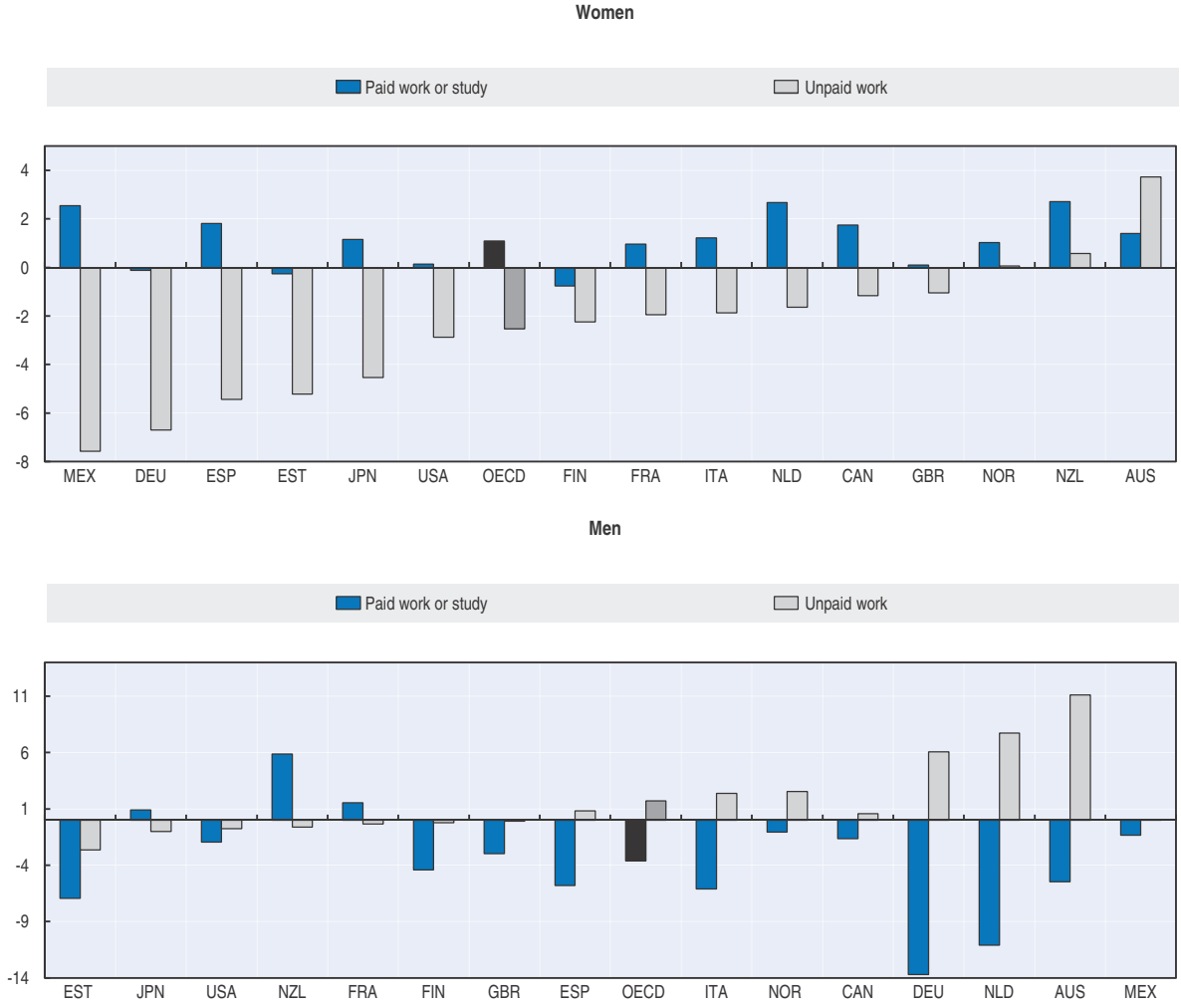
Gender differences in total work effort are larger when accounting for "secondary activities". Figure 4.10 only refers to the main or "primary" activity reported by women and men in time-use diaries, not considering other activities undertaken simultaneously. Women do more multi-tasking than men in the domestic sphere (Sullivan and Gershuny, 2012). Across 16 OECD countries, women spend on average 18% more time on secondary activities than men (25.6 hours per week, compared to 21 hours for men). Childcare in particular is often undertaken simultaneously with other tasks, so it might not be recorded among primary activities. The activities women engage in simultaneously are also different from those of men. For example, women are more likely to engage simultaneously in two unpaid domestic tasks (e.g. childcare and cooking), while men are more likely to combine an unpaid task with leisure (e.g. looking after kids while reading a newspaper, as suggested in Sayer, 2007; Sullivan and Gershuny, 2012). As a result, men tend to associate more positive feelings with multitasking than women do (Offer and Schneider, 2011).

Time spent on household work and childcare is more balanced than in the past

The use of time by women and men has changed over the past decades, albeit slowly (Figure 4.11). Clear trends emerge for women: paid employment is increasing in most countries, while unpaid work is decreasing. Women spend, on average, 1 hour more on paid work per week and 2.6 hours less on unpaid work than 10 years ago, while men's paid work has decreased on average by 4.5 hours and their unpaid workload increased by 2 hours. The average increase in unpaid work done by men is however not observed in all countries, partly because in some countries men worked even longer hours outside the home. In Japan, for example, men have further increased the time they spend at work at

Figure 4.11. **Ten-year changes in weekly hours allocated to paid and unpaid work**

Change in hours per week for women and men



Note: Countries are ranked in ascending order of changes in hours per week allocated to unpaid work. Data refer to 2003-11 for the United States; to 2001-11 for Japan; to 1999-2011 for New Zealand; to 2003-10 for Spain; to 2002-10 for Italy; and to 2001-10 for Norway. Data refer to 2000-10 for Estonia and Finland; to 1999-2010 for France; and to 2002-09 for Mexico. Data refer to 1997-2006 for Australia; to 1995-2006 for the Netherlands; to 1995-2005 for the United Kingdom and to 1992-2002 for Germany. For details on the definition of unpaid work and total work see Miranda, V. (2011), "Cooking, Caring and Volunteering: Unpaid Work around the World", *OECD Social, Employment and Migration Working Papers*, No. 116, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kghrjm8s142-en*.

Source: OECD's calculations based on Multinational Time Use Study (MTUS) microdata (*www.timeuse.org/*), public-use time use survey microdata and tabulations from national statistical offices.

StatLink *http://dx.doi.org/10.1787/888932888889*

52 hours per week in 2011. These gender trends in paid and unpaid work confirm previous findings (e.g. Aguiar and Hurst, 2007; Gimenez-Nadal and Sevilla-Sanz, 2012).

One explanation for the decline in women's unpaid work is greater outsourcing of housework, e.g. eating out or buying prepared foods, using child care services, or purchasing help for domestic tasks such as cleaning. While the development of labour saving devices and their massive adoption by households should also have contributed to the decline in time spent on household work, yet evidence suggests that such appliances had little effect (Bittman et al., 2004). The diverging trends across countries are a result of different evolutions of traditional gender roles, as well as of policies that affect female labour market participation, including parental leave (OECD, 2012a).

More unpaid work does not necessarily mean that women have a less enjoyable use of their time than men, as paid work is usually, rated as less pleasant than housework or childcare (Krueger et al., 2009). In addition men, more often than women, work overtime or at atypical times outside the home, and this limits their availability of quality time with family or friends (Presser et al., 2008). However, the unequal sharing of household work can have negative effects on women's well-being through two channels. First, large responsibilities for household work impinge directly on women's decisions to participate in the labour market, the hours they can put in, and their investment in human capital, reinforcing gender inequalities in access to economic opportunities and resources (OECD, 2012a; World Bank, 2012). Second, overly heavy workloads for women with the "double burden" of holding a job and looking after the family can generate time deprivation and stress, with negative effects on life satisfaction and health.

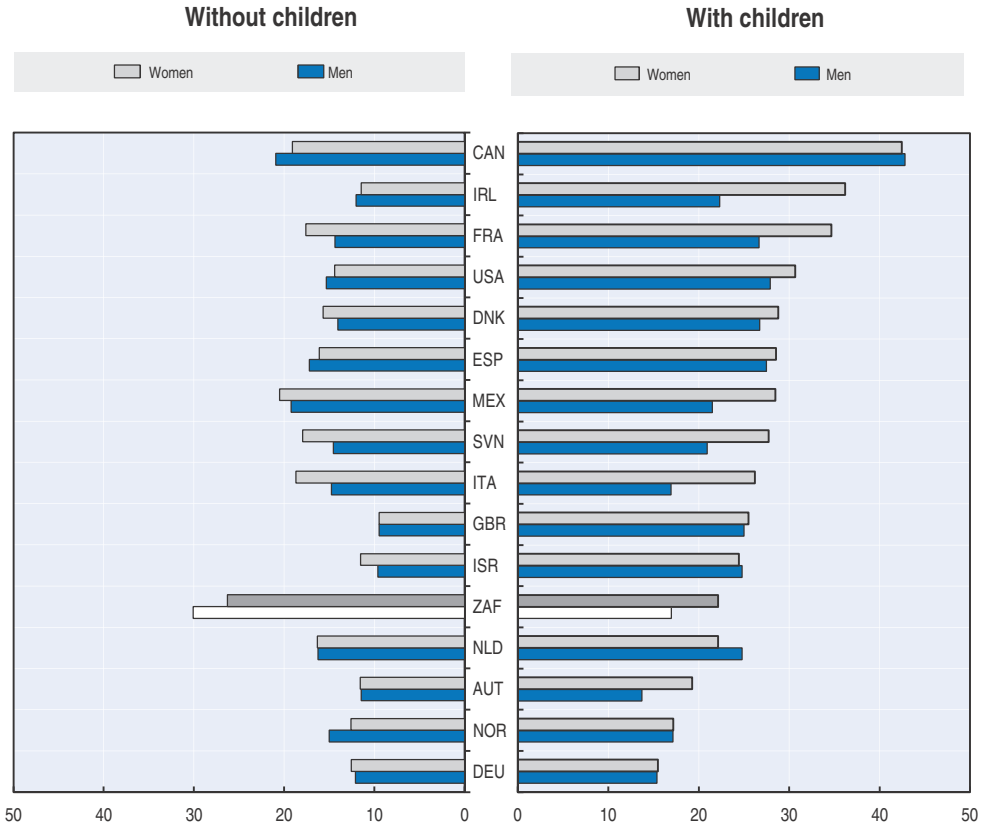
Women are slightly more likely to be time-poor compared to men. Time poverty can be understood as the fact that some individuals do not have enough time for rest and leisure after taking into account the time spent working, whether in the labour market or for domestic work. Time poor individuals are defined here as those with a level of discretionary or leisure time (defined as total available time less time devoted to personal care and time committed to paid and unpaid work) that is lower than 60% of the national median (Kalenkoski et al., 2011).[17] In only three countries (Norway, the Netherlands and Spain) out of 15 for which data are available, the time poverty rate of men exceeds that of women. Time poverty is a particularly important issue for families with children. Figure 4.12 shows that time poverty often doubles with the presence of children in the household, and this increase is greater for women than for men.

Vulnerability to time poverty is affected by family and career choices, and differs across countries as a consequence of labour market policies and family-friendly workplace practices. Multivariate analysis, controlling for individual characteristics other than gender (age, employment status, education, employment status of the spouse), shows that an additional child generates a reduction in discretionary time for women of 2.3 hours per week (1.7 hours for men), and an increase of 3.5% in the probability to be time-poor (2.6% for men, see Annex 4.A1 for detailed results). Low-income individuals have lower rates of time poverty, but the relationship is ambiguous. On one hand, income increases with paid work. On the other hand, higher-income parents may be able to substitute money for their own time (e.g. by hiring nannies or housekeepers). The link between education and time poverty varies across countries: highly educated women are more likely to outsource their domestic work but they do as much child care than less educated women.

Subjective indicators on time crunch offer useful complementary information to objective indicators of time poverty. In a survey taken in 2007, across all European countries – when asked to rate whether they allocated too much, too little, or the right amount of time on paid work, contact with family, other social contact, and personal hobbies, women reported lower satisfaction with their allocation of time than men. These differences in perceptions of imbalance and stress can be due to the fact that women maintain general responsibilities for the household's operation. These responsibilities (not measured in time diaries) might reinforce women's feeling that there is not "enough" time.[18]

Figure 4.12. **Time poverty rates for men and women, by presence of children in the household**

Percentage of 15-64 year-olds who are time poor, by gender and presence of children, 2009 or latest available year



Note: An individual is defined as time poor if his/her discretionary time is lower than 60% the median of discretionary time for the population 15-64 years old. Data refer to 2009 for Mexico; to 2005 for Ireland, the Netherlands and the United Kingdom; to 2003 for Spain and the United States; to 2002 for Italy; to 2001 for Denmark and Germany; to 2000 for Norway, Slovenia and South Africa; to 1998 for France; to 1992 for Austria; and to 1991 for Israel.

Source: OECD's calculations based on Multinational Time Use Study (MTUS) microdata (*www.timeuse.org/*) and public-use time use survey microdata.

StatLink *http://dx.doi.org/10.1787/888932888908*

Women and men in society

Women and men are equally likely to have social support, although gender differences in the type of networking are large

Until recently, women were more isolated at home, while men enjoyed the social connection of a work environment. On average, the number of women and men reporting having someone to count on in times of need is almost the same (90% for women, 89% for men).[19]

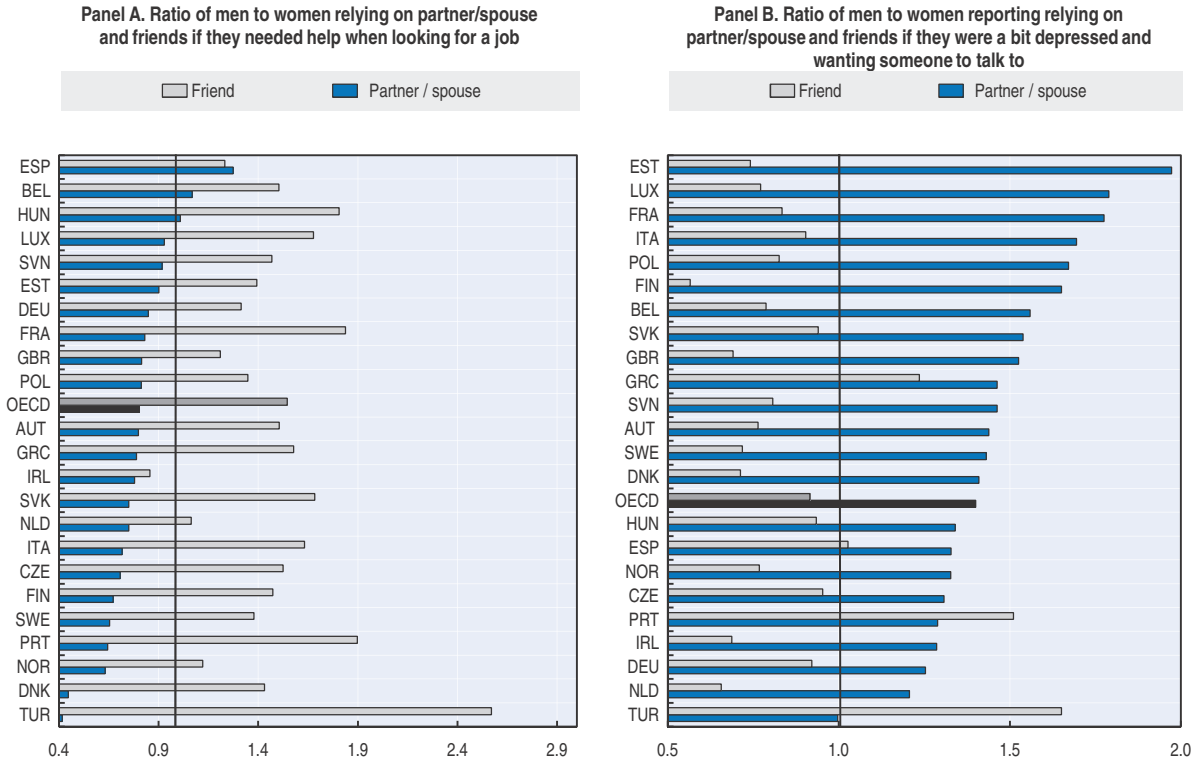
While gender seems to have little impact on social network support according to the measure analysed above, some studies reveal that men and women differ with respect to the provision and receipt of social support (Wood, 1996; Verhofstadt et al., 2007). In general, women have larger and more multifaceted networks than men, report having more friends and provide and receive more support from members of their network than men do. Women are also more likely than men to list someone other than the spouse as a confidant. By contrast, men tend to maintain close relations with only a few people, typically their spouses. Moreover, women's social network interactions more often involve

expressive, affiliative and supportive behaviours; while men's interactions tend to be more often instrumental (Hanasono et al., 2011). In general, women's friendships focus on intimacy and disclosure, especially when discussing negative events and exchanging private information, while men's are more likely to focus on shared activities and task orientation (Prentice and Carranza, 2002; Ridgeway, 2009).

Data from the *European Quality of Life Survey* (EQLS) support some of the gender differences in the type of networking described above.[20] When it comes to getting help in looking for a job, women report relying more on their spouses than men do (Figure 4.13, Panel A). On average, in the countries covered, 19% of women (compared to 14% of men) reported getting support from their spouses in looking for a job, while 14% of them declared relying on a friend (compared to 21% of their male counterparts). However, significant variation exists across countries. In France, Finland, Ireland and Italy women tend to rely equally on both partners and friends, while in Austria, Germany, Hungary, the Netherlands, Sweden and the United Kingdom women report getting far stronger support from their spouses than from friends. As for men, they systematically rely more on their

Figure 4.13. **Gender gaps in social network support when looking for a job and for psychological help in European countries**

2007



Note: : In Panel A countries are ranked in descending order of male-to-female ratio getting social support from spouse/partner when looking for a job. Gender gaps are statistically significant for all countries except for Ireland and Spain, when relying on friends, and excepts for Luxembourg and Slovenia, when relying on the partner/spouse. In Panel B countries are ranked in descending order of male-to-female ratio getting social support from spouse/partner when looking for psychological help. Gender gaps are statistically significant for all countries.

Source: OECD's calculations based on data from the EU (2007), *European Quality of Life Survey* (database), *www.eurofound.europa.eu/surveys/eqls/2007/index.htm*.

StatLink http://dx.doi.org/10.1787/888932888927

friends than on their spouses (except in Hungary, where men get equal support from both friends and spouses; and in Austria, Belgium and the United Kingdom, where they declare getting more help from their partners). The gap between partner's and friends' support is largest in Turkey, in Slovenia and in East-European countries such as Estonia, Poland and the Slovak Republic.

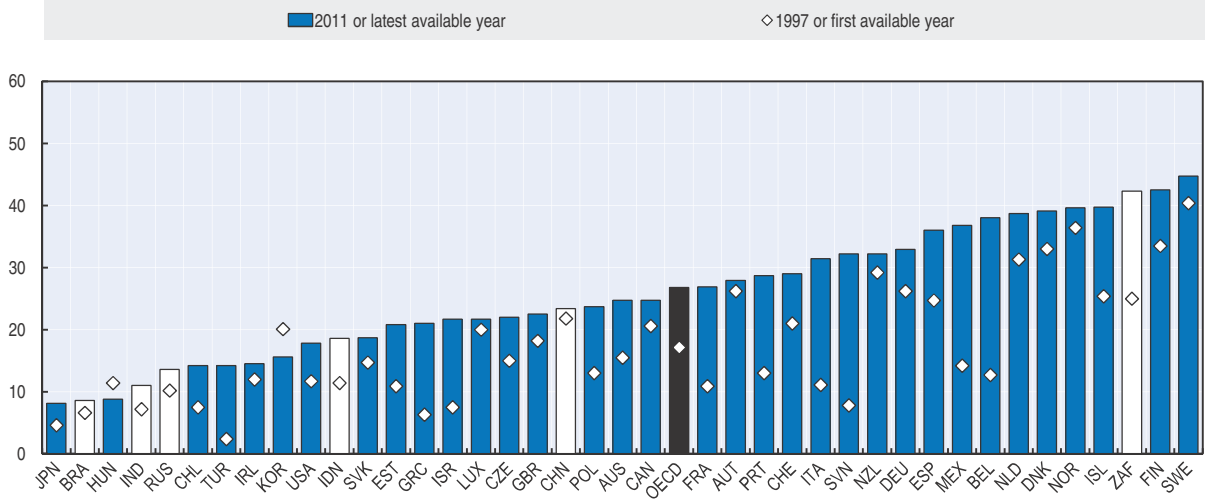
The opposite pattern arises when it comes to getting psychological help (Figure 4.13, Panel B). In this case, in all the countries covered, men systematically report getting psychological help in far larger share from their partners than from their friends. The gap between partner's and friends' support is widest (35 percentage points and above) in Austria, Greece, the Netherlands and Poland.

Women are still under-represented in politics

Although most women around the world nowadays have the right to vote, there is still a large disparity between the number of women and men who are actively involved in politics (Figure 4.14). On average, across OECD countries, 27% of parliamentary seats are now occupied by women, up from 17% fifteen years ago. The share of parliamentary seats held by women has increased remarkably from the late 1990s to the mid-2000s, while it has decreased or increased at a slower pace from 2005 onwards. Nordic countries as well as South Africa have the highest share of women in single or lower houses of parliament, averaging 42%. Spain, Mexico and Belgium follow with around 36%-38% of total seats. Other countries trail behind, with less than 20% of women parliamentarians.

Figure 4.14. **Proportion of seats held by women in national parliaments**

Percentage of parliamentary seats in a single or lower chamber held by women



Note: The latest available year is 2013 for China, Iceland, Israel and Italy; 2012 for France, Greece, Japan, Mexico, the Netherlands, the Slovak Republic and the United States; 2010 for Australia, Belgium, Brazil, the Czech Republic, Hungary, Sweden and the United Kingdom; 2009 for Chile, Germany, India, Indonesia, Korea, Luxembourg, Norway and South Africa; and 2008 for Austria. The first year available is 1996 for Australia, the Czech Republic, Greece, India, Israel, Italy, Japan, New Zealand, Slovenia, Spain and the United States; 1995 for Austria, Belgium, Estonia, Finland, Iceland, Portugal, the Russian Federation and Switzerland; 1994 for Brazil, Denmark, Germany, Hungary, Luxembourg, the Netherlands, the Slovak Republic, South Africa and Sweden; 1993 for Chile; and 1990 for Korea. Data for the United States refer to all voting members of the House; data for South Africa do not include the 36 special delegates appointed on an ad hoc basis.

Source: OECD (2013b), *OECD Gender Data Portal*, *www.oecd.org/gender/data/*; and IPU (2013), *Inter-Parliamentary Union* (database), *www.ipu.org/wmn-e/classif.htm*.

StatLink http://dx.doi.org/10.1787/888932888946

A number of institutional features (e.g. electoral system, quota provisions), cultural elements (e.g. religion, gender norms) and socio-economic factors (e.g. economic development, proportion of women in higher education) affect the degree to which women are represented in politics. Differences in attitudes towards women's role in society play a key role in explaining cross-country variation in the proportion of women parliamentarians (Ruedin, 2012). Recent studies also suggest a positive link between the presence of women in the paid workforce and women's political representation, e.g. more women in the workforce increase the pool of female candidates from which parties can draw upon (Stockemer and Byrne, 2012).

Men are more likely to be homicide victims

In order to fully participate in economic and social life, both women and men need to live a violence-free life. Any type of violence – be it physical, sexual or emotional, during childhood or later in life – has negative consequences on well-being. However, women and men differ in their exposure to crime, in their feelings of security, and in the effects of violence on their lives.[21]

A large portion of crimes is neither reported not recorded, which hampers cross-country comparability. Homicide is one of the few crimes for which police records provide a reasonably accurate and comparable picture. Although homicide is a rare crime, especially when compared to other crimes against the person and property, research has shown that homicide is typically associated with many other milder types of crimes (UNODC, 2011).

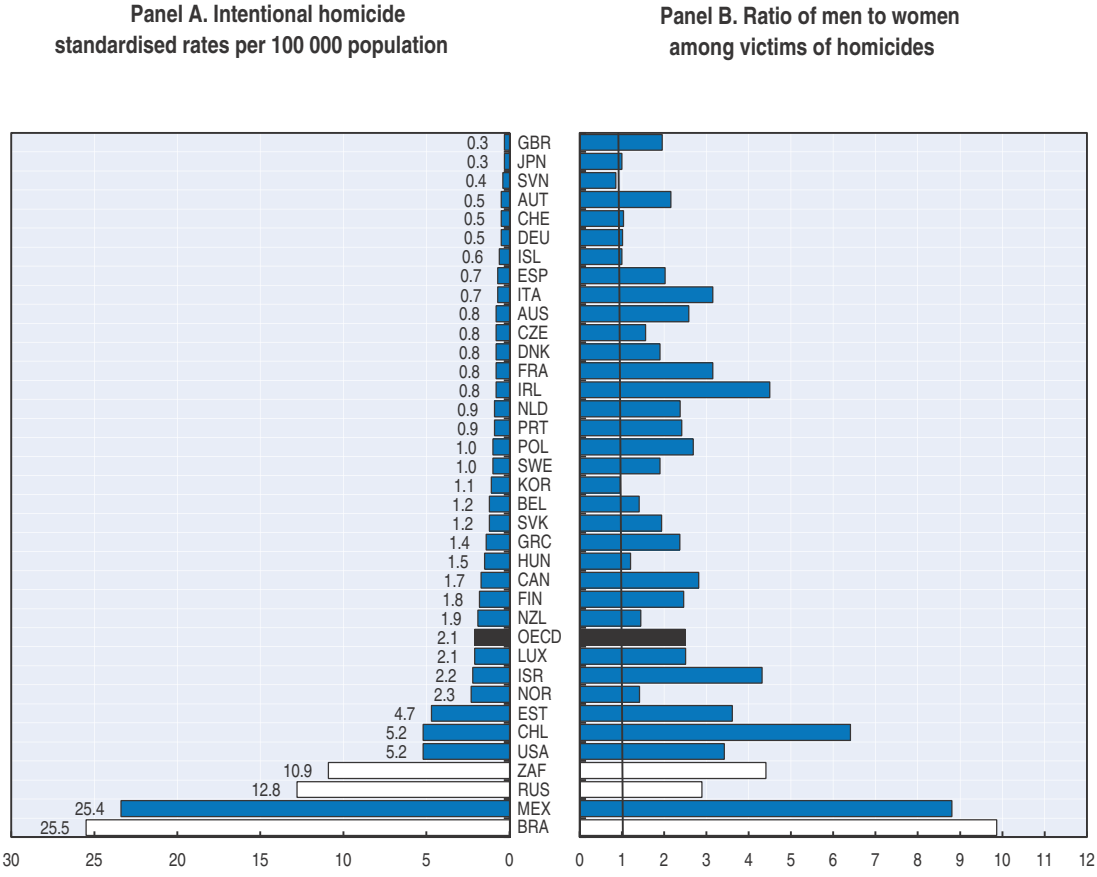
Figure 4.15 shows the levels of intentional homicide – the unlawful death purposefully inflicted on another person – (Panel A) as well as the average distribution of victims by gender (Panel B). In most OECD countries, homicides are low (below 2.5 homicides per 100 000 population).[22] They are, however, more than twice as high in the United States, Estonia and Chile, and even higher in Mexico and Brazil. Men make up the majority of all victims of intentional homicides (except in Korea and Slovenia, where homicide rates are slightly higher for women than for men). Against this overall pattern, there are significant differences in the sex distribution of homicide victims. In Brazil and Mexico, where homicide rates are relatively high, women make up only 10% of all homicide victims. In contrast, across European countries, where homicide rates are relatively low, women on average account for 35% of all homicide victims.[23] This different gender structure indicates a different typology of homicides in different regions of the world, with higher shares of men victims associated with larger shares of firearm and organised crime-related deaths.

Women are the primary victims of domestic and intimate partner violence

While women represent a smaller share of homicide victims, they are the predominant target of intimate partner/domestic violence. Intimate partner/domestic violence is likely to be more devastating for victims than violence outside the home, as it might leave victims without a safe place to live, with no one to trust, and anxieties about the safety of their children (Robeyns, 2003). Available data for Europe show that, in 2008, half of female victims of homicide were killed by a family member (35% by spouses or ex-spouses and 17% by relatives), while only 5% of all male victims were killed by spouses or ex-spouses and some 10% by other family members. Studies from Australia, Canada, Israel, South Africa and the United States show similar results, with 40% to 70% of female murders being linked to intimate partner/domestic violence (UNODC, 2011; United Nations, 2010).[24]

Figure 4.15. **Homicide rates: Levels and gender gaps**

2011 or latest available year



Note: Data refer to 2010 for Brazil, Greece, Ireland, Israel, Italy, Luxembourg, Mexico, the Netherlands, the Russian Federation, the Slovak Republic, Slovenia, Switzerland, Sweden, the United Kingdom and the United States. Data refer to 2009 for Belgium, Canada, Chile, the Czech Republic, France, New Zealand and South Africa. Data refer to 2008 for Iceland. Data for Turkey are not available.

Source: OECD's calculations based on OECD (2013c), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en*.

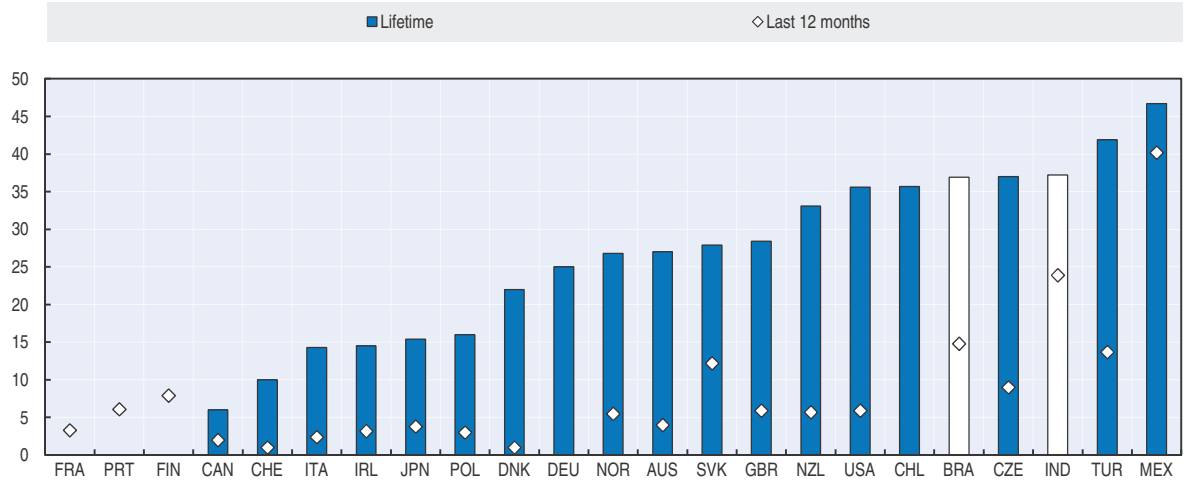
StatLink http://dx.doi.org/10.1787/888932888965

Homicides represent only the tip of the iceberg, as far as intimate and gender-based violence against women is concerned (United Nations, 2010). For every woman victim of homicide, many more are physically injured, sexually harassed or emotionally abused. While we are still a long way from capturing the extent of intimate partner/domestic violence and from understanding its overall impact on victims, their surroundings and society, data from victimisation surveys give an idea of the extent and frequency of this phenomenon. Figure 4.16 shows the prevalence and incidence of intimate partner violence against women both during their whole lifetime and in the 12 months prior to the data collection, for selected countries.

Although these statistics need to be interpreted and compared with caution (due to different methodologies, definitions and collection methods), they suggest that a large share of women have been physically or sexually abused by their partner at least once in their lifetime. The proportion of women experiencing physical and/or sexual violence in their lifetime ranges from 6% in Canada to about 40% and above in Mexico (47%), Turkey (43%) and India (37%). As for violence experienced in the 12 months preceding the

Figure 4.16. **Intimate partner violence against women**

Percentage of women reporting having experienced intimate partner physical and/or sexual violence, 2010 or latest available year



Note: Data refer to 2010 for the United States; to 2009 for Canada; to 2008 for Norway, the Slovak Republic and Turkey; to 2007 for France and Portugal; and to 2006 for Italy and Mexico. Data refer to 2005-06 for Finland and India; to 2005 for the United Kingdom; and to 2004 for Chile and Poland. Data refer to 2003 for the Czech Republic, Denmark, Germany, Ireland and Switzerland; to 2002-03 for Australia; to 2002 for New Zealand; and to 2000-03 for Japan. Data refer to 2001 for Brazil (Province). Data on violence over the past 12 months prior to collection are not available for Chile and Germany. Data on whole life violence are not available for Finland, France and Portugal. Data for Canada refer to a 5-year prevalence rate. Data for Finland, Ireland, Mexico, Portugal and the United States include forms of emotional violence in addition to physical and/or sexual violence.

Source: OECD's calculations based on data from UN Women (2013), "Violence against Women Prevalence Data: Surveys by Country (compiled by UN Women as of December 2012)", United Nations Entity for Gender Equality and the Empowerment of Women, *www.endvawnow.org/uploads/browser/files/vawprevalence_matrix_june2013.pdf* and General Social Survey on Victimization.

StatLink http://dx.doi.org/10.1787/888932888984

survey, over one in ten women report recent abuse in the Slovak Republic (12%) and Turkey (14%), with this proportion being even higher in India (24%) and Mexico (40%). Intimate partner violence occurs in every culture, country, and age group. It affects people from all socio-economic, educational, and religious backgrounds, although some factors increase the risk of its occurrence. Disadvantaged social, economic and legal conditions contribute to the risk of becoming a victim or perpetrator of intimate partner violence (Annex 4.A2).

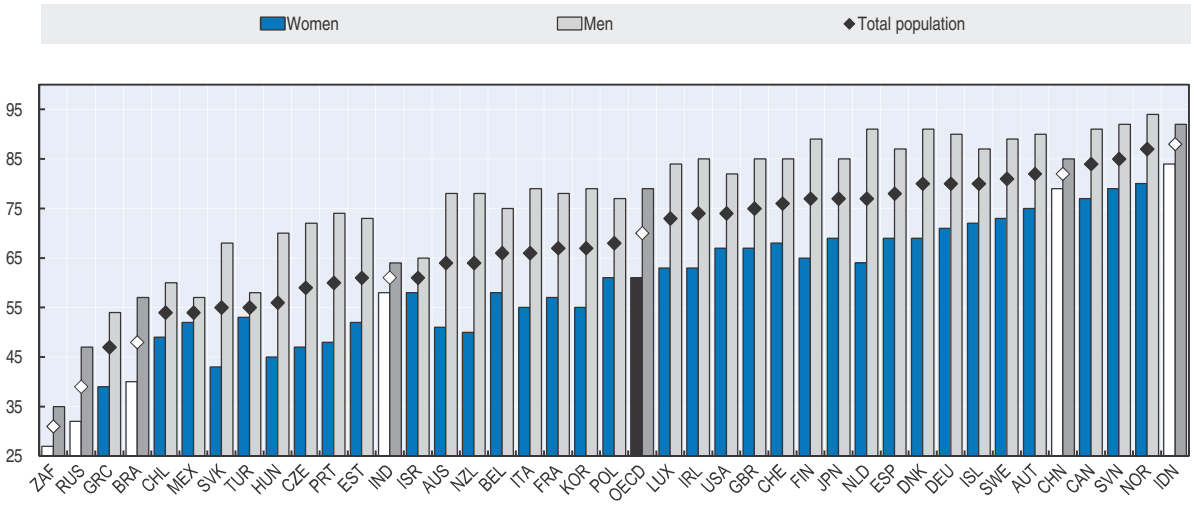
Recent research, however, suggests that both women and men may be victim of particular types of intimate partner violence (Kelly and Johnson, 2008), although the extent of gender symmetry in severity of injuries and fear is disputed (Holtzworth-Munroe, 2005).

Women are more fearful of crime than men

The high female exposure to intimate partner violence and sexual assault contributes to explain the lower feelings of security reported by women (Ferraro, 1996). Figure 4.17 shows the percentage of individuals declaring feeling safe when walking alone at night in their city or neighbourhood.[25] In OECD countries, the majority of people feel safe when walking alone at night, although there is substantial variation across countries and between sexes. In Norway, about 90% of the population feel safe, while this proportion is close to 50% in Greece, Chile and Mexico. In South Africa only one person in three feels safe when walking alone at night in their neighbourhood. Women systematically report lower feelings of security than men. This gender gap is lowest in Mexico, Turkey, India and China, and highest in the Netherlands, Australia and New Zealand.

Figure 4.17. **Gender gaps in feelings of security**

Percentage of people declaring feeling safe when walking alone at night in the city or area where they live, by gender, 2012 or latest available year



Note: Countries are ranked in ascending order of feelings of security of the total population. Data refer to 2011 for Australia, Brazil, Chile and Israel. Data refer to 2009 for Switzerland.

Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932889003

Gender does not seem to play a key role in life satisfaction

One natural question is how far the differences in objective outcomes outlined earlier in this chapter map into differences in subjective well-being for women and men, and how women's and men's subjective well-being has changed over time. Unfortunately comparable time-series on life satisfaction are rare; for this reason this section focuses on differences in life satisfaction at one point in time, while referring to national studies for getting a sense of how trends in life satisfaction have evolved over time (Box 4.2).

Figure 4.18 shows levels of life satisfaction across OECD countries and emerging economies in 2012, using the Cantril ladder, which asks people to rate their general satisfaction with life on a scale from 0 to 10, with 10 being the most satisfied.[26] Although there is large variation across countries – with the gap between countries with the highest satisfaction and those with the lowest being approximately 3 points on the scale – gender does not seem to play a major role in shaping people's subjective evaluation of their own lives.[27] In a small majority of countries, women report slightly higher average levels of life satisfaction than men do. The widest gender gaps in favour of women are in Canada, Finland, Korea, Japan, Ireland and the United States. This pattern is broadly in line with previous research, which has shown fairly small gender differences in all age groups (Diener et al., 1999).

Research suggests that the determinants of life satisfaction are largely the same for men and women (i.e. income and wealth, jobs and earnings, social connections). Significant differences by gender are found only for employment and health status, which are stronger drivers of life satisfaction for women than they are for men (Boarini et al., 2012).

Men are more likely than women to report positive feelings

How people are feeling at a specific point in time is as important as how people evaluate their life as a whole (Kahneman and Krueger, 2006; OECD, 2013e). Measures of positive affect

Box 4.2. **Trends in women's and men's life satisfaction**

The Gallup World Poll only provides information on life satisfaction for the period since 2005. This is insufficient to identify trends in life satisfaction, which are likely to change only at a slow rate. Recent research has provided evidence of a decline in women's life satisfaction in the United States and across a variety of European countries (with Western Germany being an exception). For instance, Stevenson and Wolfers (2009), using data from the US General Social Survey going back to the early 1970s, found that women have become somewhat less "happy" over time, both absolutely and relative to men.

Different explanations have been suggested to explain the declining trend in women's life satisfaction. One possible explanation is grounded in the changes in family structure over the last 40 years, which include a rising share of single mothers, especially among the less educated. Another explanation of the decline in women's subjective well-being reflects the view that today's women have to juggle more complicated lives and many more objectives than in the past. Women may now, more than before, feel a need to be a good wife, a dedicated mother, and to have a career in order to be fulfilled; these multiple goals are competing for women's time and resources. Moreover, it is conceivable that women, as they close the gender gap in labour market achievements, are now deriving their life satisfaction from how well they are doing compared to men (while they used to mainly compare themselves to other women in the past), or that they now have higher standards for what their life should be like.

Due to difficulties in interpreting the observed trends in self-reported life satisfaction, alternative sources of data have been used to provide a complementary perspective on how people's happiness has been changing over time. Krueger et al. (2007) combined time use data with information on how individuals affectively experience various activities they engage in. The main finding of their research is that there has been a gradual decline in the proportion of time spent in unpleasant activities among men; while among women, despite a decline in time allocated to household duties, the time spent in unpleasant activities has not changed much.

Source: Adapted from Stevenson and Wolfers (2009) and Bertrand (2011).

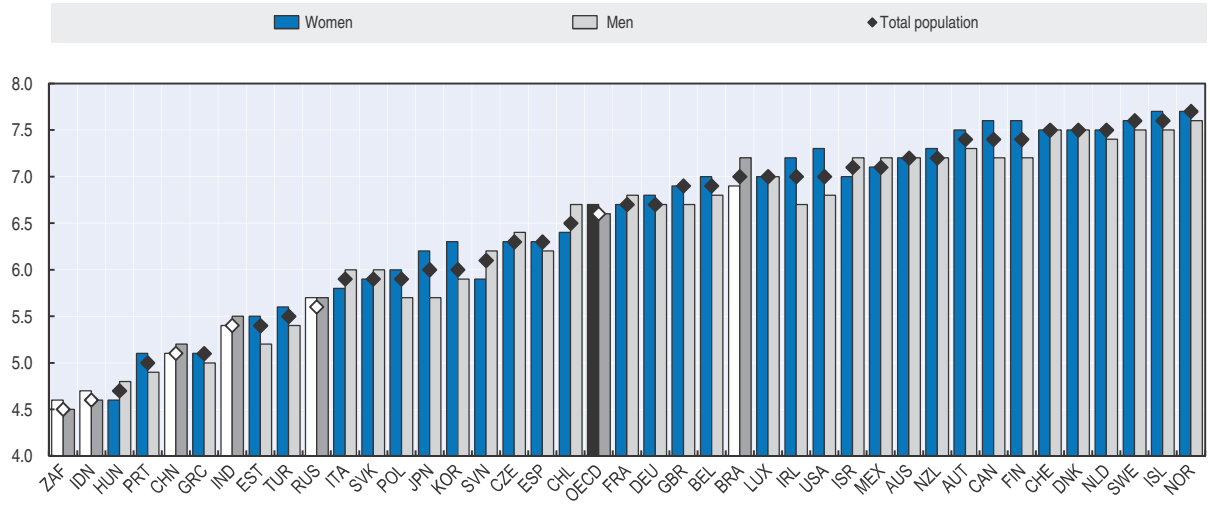
capture experiences of positive feelings such as happiness, joy and contentment. Measures of negative affect capture experiences of negative feelings or emotional states such as worry, sadness or depression. Positive and negative affect are sometimes combined into a measure of "affect balance" that records the extent to which positive affect exceeds negative affect in a person at a given point in time (e.g. Diener et al., 2010; Boarini et al., 2012; OECD, 2013e).

In more than two-thirds of OECD countries and other major economies, men are more likely than women to report a positive affect balance (Figure 4.19).[28] The gender gap in affect balance is highest (10 percentage points and above) in Chile, Hungary, Slovenia and Spain, as well as Brazil and the Russian Federation. These findings are in line with recent research showing that women consistently report more negative emotions than men (e.g. Costa et al., 2001; Tesch-Romer et al., 2008).

The results shown above for life satisfaction and affect balance, with women scoring slightly higher levels of life satisfaction and significantly lower levels of affect balance, raise the question about the different gender responses to alternative measures of subjective well-being. One possibility is that women are more willing to report more extreme responses than men, which would be consistent with both higher average scores on life satisfaction and a lower affect balance (Boarini et al., 2012). However, it should be

Figure 4.18. **Gender gaps in life satisfaction**

Cantril Ladder, mean value by gender, 2012 or latest available year

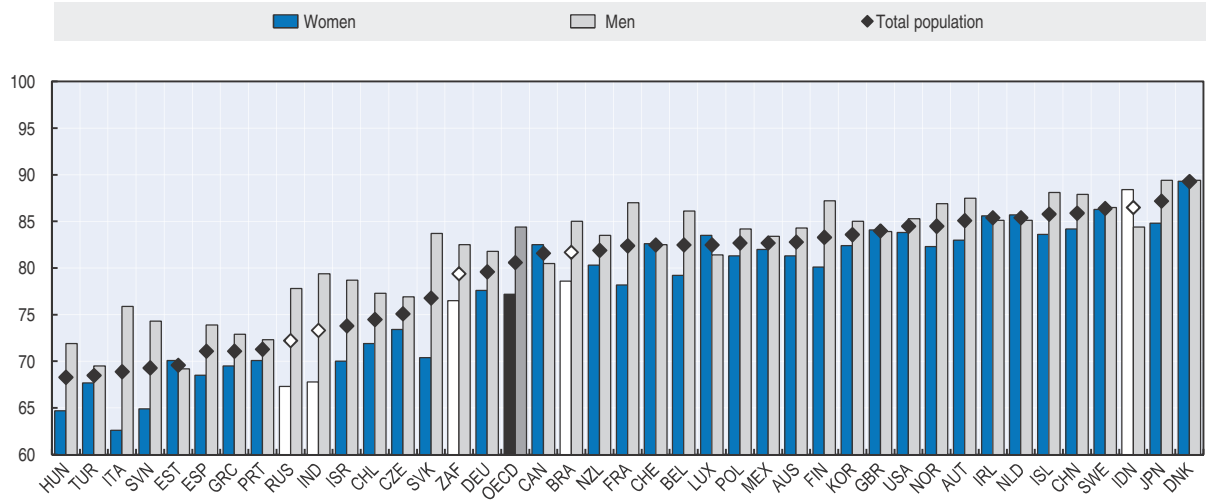


Note: Countries are ranked in ascending order of life satisfaction of the whole population. The Cantril Ladder is measured on a scale from 0 to 10, where 10 stands for the highest satisfaction. Data refer to 2011 for Brazil and Chile; and to 2009 for Switzerland.
Source: Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932889022

Figure 4.19. **Gender gaps in affect balance**

Percentage of people with positive affect balance, by gender, 2010 or latest available year



Note: Countries are ranked in ascending order of positive affect balance of the whole population. Data refer to 2009 for Estonia, Israel, Switzerland and South Africa; and to 2008 for Iceland and Norway.
Source: OECD's calculations based on data from the Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx*.

StatLink http://dx.doi.org/10.1787/888932889041

borne in mind that life satisfaction and affect balance capture different facets of subjective well-being. While life satisfaction reflects an overall evaluation of life, affect balance refers to the feelings experienced at a given point in time. It is then conceivable that in their daily life women perform sometimes more taxing and less enjoyable tasks than those performed by men (OECD, 2011b).

Statistical agenda ahead

Although gender statistics are generally mainstreamed in national statistical systems, the production and compilation of gender-based indicators still focuses on traditional fields.[29] In many areas, gender is a major concern that remains uncovered or unnoticed, thus preventing the full understanding of the contributions of women and men to society, as well as of the different situations and constraints that they experience in their daily life. Some of the most pressing priorities that need to be addressed include:[30]

- ***Labour statistics.*** The analysis of gender pay differentials requires comparable and reliable earnings data. The International Labour Organization and the OECD have undertaken major efforts to collect and standardise global wages data. However, in many countries collecting data by means of surveys is difficult, and administrative records cover only parts of the labour force. In addition, further efforts are needed to fully harmonise concepts such as paid and unpaid overtime, benefits and non-financial rewards.
- ***Gender bias in the intra-household allocation of resources.*** Indicators of intra-household income and resources allocation are still scarce and only available for a handful of countries. In order to get a better appraisal of the intra-household allocation of resources, questions to the head of the household could be supplemented by *more explicit questions on who provides the household income and who decides how earnings are used, as well as on subjective evaluation of the adequacy of income levels*. These questions should, ideally, be asked to all household members who are present at the time of the interview, as perceptions might differ as to where the real locus of decision-making lies.
- ***Unpaid work.*** Women perform the bulk of the unpaid care work and domestic tasks. However, because the System of National Accounts (SNA) places these activities outside its production boundary, they are excluded from the scope of economic and labour statistics. As a result, a significant component of women's work remains invisible and their full contribution to the economy is undervalued in national accounts. Time use data are uniquely able to measure comprehensively the different activities of women and men. However, due to the relatively resource-intensive nature of Time Use Surveys, these are generally conducted at about five-yearly intervals (with the exception of the United States). In interim years or where their implementation is not feasible, data on unpaid work and use of time can be collected through survey instruments with lower collection and response burden, e.g. *"light" diaries with pre-coded time use categories* (UNECE, 2013).
- ***Gender-based violence and violence against women.*** A number of initiatives have been launched by national statistical offices and international organisations to spread awareness of gender-based violence. These include the *WHO Multi-Country Study on Women's Health and Domestic Violence*, the UN report *World's Women* and the *International Violence against Women Survey*. Despite this increasing interest, data on gender-based violence remain scarce and difficult to compare, as they often rely on different methodologies, definitions and questionnaires. The *UN Guidelines for producing statistics on violence against women*, which will be finalised and published in 2013, should help improve cross-country comparability. Results from the survey conducted by the *European Union Agency for Fundamental Rights*, which will be made available later this year, will provide comparable evidence of gender-based violence in the 27 EU member states. Alongside reliable and comparable indicators, a better understanding of the determinants and outcomes of intimate partner violence is essential. In-depth analysis is needed to *explore the extent to which different risks*

and protective factors act at the individual, household and community level *to contribute or reduce the risk of being a victim or perpetrator of gender-based violence*. Further analysis is necessary to fully appraise *the effects of intimate partner violence on women's physical, reproductive and mental health* (e.g. estimates of deaths, illness and disability-adjusted life years lost due to violence), as well as on aspects of women's lives other than health – such as their ability to work outside the home and to control assets. In the absence of official records on violence against women, the health sector could be seen as a source of statistics, as are the data kept by non-governmental organisations involved with the protection of abused women, although comparability and reliability issues may emerge. More methodological work is needed to establish the content, boundaries and operationalisation of measures applicable to *non-conventional forms of gender-based violence*, such as stalking, emotional abuse, discrimination and violence at work.

- ***Joint distribution of well-being outcomes.*** As discrimination is often more acute in the case of women who are multiply disadvantaged by factors such as race, age, ethnicity, disability status, it is important to look at the joint correlation of gender inequalities and at a broader range of drivers of gender disparities in different well-being dimensions. In this vein, it would be important to develop specific gender indicators for women who cumulate several disadvantages, e.g. being a single mother, earning low income, etc. This multidimentional analysis could be facilitated by integrating different surveys and the inclusion of *special modules* on women's and men's well-being in standard statistical instruments (e.g. social or general household surveys).

In the attempt to fully integrate a gender perspective into national statistics and improve cross-country comparability, the UN Statistical Commission has recently produced a manual on gender statistics. The manual is meant to help the statistical community to develop a comprehensive plan for the production of gender statistics and to ensure that the design of surveys and censuses takes into account gender issues and avoids gender biases in measurement. In May 2013, OECD member countries adopted the *OECD Recommendations on Gender Equality in Education, Employment and Entrepreneurship*. In the Recommendations, countries are encouraged to ensure the collection, production and development of timely and internationally comparable gender-sensitive data and indicators, by allocating adequate resources to gender statistics and facilitating their dissemination through the *OECD Gender Data Portal*.

Conclusions

From the gender segregation of jobs and fields of study to the female/male differentiation between paid and unpaid work, gender acts as a fundamental principle that shapes social relations and roles in virtually all spheres of life. This chapter provides a broad picture of gender inequalities in well-being, in order to understand how women and men are faring today, and to identify areas of well-being where the available statistics need to be improved to get a rounded picture of women's and men's quality of life.

No gender consistently outperforms the other, and gender gaps in well-being have being narrowing in the last decades, although men still score higher than women in a number of areas. Women live longer than men, but are also ill more often. On the education front, girls are now doing better than boys in school, but remain under-represented in key fields of education that provide greater employment and career opportunities. Similarly, women are increasingly present in the labour market, although they still earn less than men, spend

more hours in unpaid work and find it harder to reach the top of the career ladder or to start their own business. Men are more often the victims of homicide and assault, but women are the primary target of intimate partner violence. Finally, although women typically report slightly higher life evaluations than men, they are more likely to experience negative emotions relative to their male counterparts.

Despite progress in mainstreaming gender perspectives in the collection and dissemination of national statistics, much remains to be done. In a number of areas of critical interest for policy makers, gender data and indicators are still insufficient or lack comparability across countries. Further effort should be promoted to develop sound gender-based measures in the fields of labour statistics, entrepreneurship and unpaid work, intra-household allocation of resources and gender-based violence.

Notes

1. The terms sex and gender are often used synonymously, although in gender research the two concepts have different meanings. Sex refers to the biologically recognised differences between men and women (e.g. chromosomes, internal and external sex organs, hormonal makeup and other secondary sex characteristics). In contrast, the term gender refers to "to the economic, social and cultural attributes and opportunities associated with being male or female" (UNFPA, 2009). Gender is "constantly created and re-created out of human interaction, out of social life, and is the texture and order of that social life" (Lorber, 2001:83). It is a "social construction" that changes over time and can be different across societies (Connell, 1985).
2. In other areas, such as family status, fertility preferences, contraceptive behaviour and actual fertility, however, statistics are biased against men, in the sense that more information is collected on women in these areas.
3. Life expectancy at birth is the average number of years a newborn can expect to live if they experienced the age-specific mortality rates prevalent in a particular year.
4. The World Health Organization (WHO) recommends including self-rated health as a standard component of health surveys, phrasing the question as "How is your health in general?" with response scale "It is very good/good/fair/bad/very bad" (de Bruin et al., 1996).
5. The indicator shown in Figure 4.2 Panel A is based on data drawn from the OECD Heath Database referring to the following question: "How is your health in general?" with response scale "very good/good/fair/bad/very bad". The indicator shown in Figure 4.2 Panel B refers to the following question: "Do you have any problems that prevent you from doing any of the things that people of your age normally do?" from the Gallup World Poll. Answers are grouped into two categories (yes/no).
6. Mental health is defined by the World Health Organization (WHO) as "a state of well-being in which the individual realises his or her abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community".
7. HLY is calculated annually by Eurostat and the European Joint Action on Healthy Life Years (EHLEIS) for each EU country using the Sullivan (1971) method. It is calculated using mortality statistics and data on self-perceived disability. Mortality data comes from Eurostat's demographic database, while self-perceived disability data comes from a minimum European health module that is integrated within the survey on EU statistics on income and living conditions (EU-SILC). The EU-SILC question reads: "For at least the past six months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been: Severely limited? Limited but not severely? Not limited at all?"
8. NEETs are defined as youths "neither in employment nor in any education nor training". This definition includes: *i*) unemployed persons (according to ILO definition) not in any education and training; and *ii*) inactive persons (ILO definition) not in any education and training.
9. Teenage pregnancy is defined as pregnancy in a female under the age of 20 (when the pregnancy ends). In the OECD area, teenage pregnancy rates are highest in Mexico, Chile and Turkey. They are also high among English-speaking countries. In New Zealand and the United Kingdom teenage pregnancy rates are above 20 births per 1 000 women aged 15-19 years (22.1 and 23.6 respectively).

In the United States the teenage pregnancy rate is even higher, with 35 per 1 000 women aged 15-19 years. Rates of teenage births are lowest in the Netherlands, Slovenia, Italy, Japan and Switzerland, with rates of 5 or less per 1 000 young women (UNICEF, 2007; OECD, 2013a).

10. The lower gender wage gap at the bottom of the earnings distribution is partly explained by institutional factors, such as the influence of minimum wage and the coverage of collective bargaining (ILO, 2006). In some countries, however, pay penalties are larger among low-wage earners, suggesting the presence of "sticky floors", that is the barriers that prevent women from moving up from lower level jobs (Christofides et al., 2013).

11. The indicator shown in Figure 4.7 is based on data drawn from the Gallup World Poll referring to the following question: "Are you satisfied with your job or the work you do?" Answers are grouped into two categories (yes/no).

12. Overall job satisfaction can be thought of as a combination of different levels of satisfaction with the various characteristics of the job. This implies that the same stated job satisfaction level can be obtained through different combinations of job facets reflecting satisfaction with intrinsic and extrinsic features of the job.

13. The equivalised income is calculated by dividing the household's total income from all sources by its equivalent size, which is calculated using the OECD equivalence scale (OECD, 2011b).

14. A related issue is that the use of the same equivalent scales for all countries neglects the cross-country variations in the costs of raising children (Quisumbing et al., 2001).

15. Lise and Seitz (2011) estimate that the use of equivalence scales largely underestimate the level of consumption inequality, as large differences in earnings of husbands and wives translate into large differences in consumption allocation within the household. While the between-household component of consumption inequality has increased over the last decades, inequality within households has been decreasing due to the higher labor force participation of women.

16. The question in the special module asks whether incomes are treated as "common resources" or "private resources". "Common resource" means that any of the two adult (income earner or not) can freely use the money from the household income pool for his/her consumption. An analysis of the EU-SILC 2010 special module on intra-household sharing of resources shows some inconsistencies in responses, probably due to problems in the interpretation of the questions (Pontieux, 2012).

17. A relative approach to define the time poverty threshold is more appropriate given the difficulties of setting ad hoc rules on the absolute time required to perform activities such as personal care or household maintenance. Relative thresholds also take into account cultural differences across countries.

18. This indicator relies on the question: "Could you tell me if you think you spend too much, too little or just about the right amount of time" in four areas: *i)* my paid work; *ii)* contact with family members; *iii)* other social contact; *iv)* own hobbies (see OECD, 2011b).

19. Data are drawn from the Gallup World Poll and refer to the following question: "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them?" Answers are grouped into two categories (yes/no).

20. The indicator shown in Figure 4.13 Panel A is based on data drawn from the European Quality of Life Survey (EQLS) referring to the following question: "From whom would you get support if you needed help when looking for a job?" Figure 4.13 Panel B refers to the following question: "From whom would you get support if you were feeling a bit depressed and wanting someone to talk to?", drawn from the same survey.

21. The question whether one gender is more vulnerable to the effects of violence than the other has been only limitedly explored (Romito and Grassi, 2007). The few results available to date are inconclusive. Some studies suggest that women are more vulnerable than men at least concerning some types of violence or some health outcomes such as post-traumatic stress disorder. Other studies, however, point in another direction. Considering several types of violence and multiple health indicators, Pimlott-Kubiak and Cortina (2003) did not find gender differences in the consequences of violence when violence histories have been taken into account.

22. Data shown in Figure 4.15 refer to the number of deaths classified as "deaths by assault" according to the International Classification of Diseases (ICD).

23. The smaller share of female victims among the total number of homicides in some countries of Latin America, however, does not equate to lower female homicide rates there in comparisons to other countries or regions. In those Latin American countries the female homicide victims rates are high, but it is the exceptional number of homicides affecting males that makes the share of female homicides particularly low in that region.

24. Women are also the primary target of trafficking in persons, especially for the purpose of sexual exploitation. Between 2007 and 2010 women and girls accounted for about 75% of all trafficking victims detected globally. In general, traffickers tend to be adult males, although more women are involved in trafficking in persons than in most other crimes (UNODC, 2012).

25. The indicator shown in Figure 4.17 is based on data drawn from Gallup World Poll referring to the following question: "Do you feel safe walking alone at night in the city or area where you live?" Answers are grouped into two categories (yes/no).

26. The indicator shown in Figure 4.18 is based on data drawn from Gallup World Poll referring to the following question: "Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?"

27. Although gender gaps in life satisfaction are small, different data sources seem to confirm that women tend to report slightly higher levels of life satisfaction than men. For instance, in the United Kingdom, the large scale 2011-12 Annual Population Survey (160 000 adults aged 16 and more) reports men having slightly lower life satisfaction on average than women.

28. The affect balance shown in Figure 4.19 consists of three positive feelings (joy, enjoyment and self-rest) and three negative ones (worry, sadness, depression).

29. During the 6th meeting of the Inter-agency and Expert Group on Gender Statistics held at the Dead Sea in March 2012, the results of a global review of the gender statistics programmes in UN countries were presented. The global review was developed by the UN Statistics Division in consultation with the regional commissions, and finalised by a task team of the Inter-agency and Expert Group on Gender Statistics. Results reveal that 68% of the 128 responding countries already have a gender statistics focal point in the national statistical office; 37% have a co-ordinating body for gender statistics at the national level. In addition, gender statistics are governed by statistics or gender-related laws, regulation or national action plans in an overwhelming majority of the countries (86%), but only 15% of those countries have specific legislation requiring the national statistical system to conduct specialised gender-based surveys.

30. The following selection of topics, although far from being exhaustive, is meant to combine the main statistical areas where a gender perspective could be particularly relevant in light of the increasing resource pressures that many official statistical agencies are facing.

References

Abramsky, T. et al. (2011), "What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence", *BMC Public Health*, Vol. 11/109.

Acemoglu, D. and D. Autor (2011), "Skills, tasks and Technologies: Implications for Employment and Earnings", in *Handbook of Labor Economics*, Ashenfelter, O. and D. Card (eds.), Vol. 4, Amsterdam: Elsevier.

Agassi, J.B. (1982), *Comparing the Work Attitudes of Women and Men*, Lexington Books, Lexington, MA.

Aguiar, M. and E. Hurst (2007), "Measuring Trends in Leisure: The Allocation of Time over Five Decades", *The Quarterly Journal of Economics*, Vol. 122/3, pp. 969-1006.

Autor, D.H. and D. Dorn (2013), "The Growth of Low Skill Service Jobs and the Polarization of the US Labor Market", *American Economic Review*, forthcoming.

Bandiera, O. and A. Natraj (2013), "Does Gender Inequality Hinder Development and Economic Growth? Evidence and Policy Implications", *Policy Research Working Paper,* No. 6369, World Bank, pp. 1-30.

Bender, K.A., S.M. Donohue and J.S. Heywood (2005), "Job satisfaction and gender segregation", *Oxford Economic Papers*, Vol. 57, pp. 479-496.

Bertakis, K.D. et al. (2000), "Gender differences in the utilization of health care services", *Journal of Family Practice*, Vol. 49/2, pp. 147-152.

Bertrand, M. (2011), "New Perspectives on Gender", in *Handbook of Labor Economics*, Ashenfelter, O. and D. Card (eds.), Vol. 4, Amsterdam: Elsevier, pp. 1546-1592.

Bittman, M., M. Rice and J. Wajcman (2004), "Appliances and their impact: the ownership of domestic technology and time spent on household work", *The British Journal of Sociology*, Vol. 55/3, pp. 401-423.

Blau, F.D. and L.M. Kahn (2000), "Gender differences in pay", *Journal of Economic Perspectives*, Vol. 14, pp. 75-99.

Boarini, R. et al. (2012), "What Makes for a Better Life?: The Determinants of Subjective Well-Being in OECD Countries – Evidence from the Gallup World Poll", *OECD Statistics Working Papers*, No. 2012/03, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k9b9ltjm937-en*.

Case, A. and C. Paxson (2005), "Sex differences in morbidity and mortality", *Demography*, Vol. 42/2, pp. 189-214.

Christofides, L.N., A. Polycarpou and K. Vrachimis (2013), "Gender Wage Gaps, 'Sticky Floors' and 'Glass Ceilings' in Europe", *Labour Economics*, Vol. 21, pp. 86-102.

Clark, A. (1997), "Why are women so happy at work?", *Labour Economics*, Vol. 4, pp. 341-72.

Coleman, S. and A.M. Robb (2012), *A Rising Tide, Financing Strategies for Women-owned Firms*, Stanford University Press.

Connell, R.W. (2005), "Growing up masculine: rethinking the significance of adolescence in the making of masculinities", *Irish Journal of Sociology*, Vol. 14/2, pp. 11-28.

Connell, R.W. (1985), "Theorizing Gender", *Sociology*, Vol. 19/2, pp. 260-272.

Costa, P.T.J., A. Terracciano and R.R. McCrae (2001), "Gender differences in personality traits across cultures: Robust and surprising findings", *Journal of Personality and Social Psychology*, Vol. 81, pp. 322-331.

Crimmis, E.M. and C.E. Finch (2006), "Infection, inflammation, height, and longevity", *Proceedings of the National Academy of Sciences*, Vol. 103/2, pp. 498-503.

D'Onofrio, B.M. et al. (2009), "Maternal age at childbirth and offspring disruptive behaviors: testing the causal hypothesis", *Journal of Child Psychology and Psychiatry*, Vol. 50/8, pp. 1018-1028.

de Bruin, A., H.S.J. Picavet and A. Nossikov (1996), *Health interview surveys: Towards international harmonization of methods and instruments*, WHO Regional Office for Europe, Copenhagen, Statistics Netherland.

Diener, E. et al. (2010), "New well-being measures: Short scales to assess flourishing and positive and negative feelings", *Social Indicators Research*, Vol. 97, pp. 143-156.

Diener, E. et al. (1999), "Subjective well-being: Three decades of progress", *Psychological Bulletin*, Vol. 125, pp. 276-301.

Donohue, S. and J. Heywood (2004), "Job satisfaction, comparison income and gender: evidence from the NLSY", *International Journal of Manpower*, Vol. 25, pp. 211-34.

EU (2011), European Union Statistics on Income and Living Conditions, *http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc*.

EU (2007), *European Quality of Life Survey* (database), *www.eurofound.europa.eu/surveys/eqls/2007/index.htm*.

European Commission (2013), *The impact of the economic crisis on the situation of women and men and on gender equality policies*, Luxembourg, *http://ec.europa.eu/justice/gender-equality/files/documents/130410_crisis_report_en.pdf*.

Eurostat (2013), "Health life years in 2011", *Eurostat News Release*, No. 35, *http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-05032013-BP/EN/3-05032013-BP-EN.PDF*.

Ferraro, K.F. (1996), "Women's fear of victimization: Shadow of sexual assault", *Social Forces*, Vol. 75, pp. 667-690.

Flabbi, L. and M. Tejada (2012), "Fields of Study Choices, Occupational Choices and Gender Differentials", *Background Paper for the OECD Gender Initiative*.

Flabbi, L. (2011), "Gender Differences in Education, Career Choices and Labour Market Outcomes on a Sample of OECD Countries", *Background Paper for the World Development Report 2012*.

Flandorfer, P., C. Wegner and I. Buber (2010), "Gender Roles and Smoking Behaviour", *Vienna Institute of Demography Working Papers*, No. 7.

Francesconi, M. (2008), "Adult Outcomes for Children of Teenage Mothers", *The Scandinavian Journal of Economics*, Vol. 110/1, pp. 93-117.

Frenzel, A.C., T. Goetz, R. Pekrun and H.M.G. Watt (2010), "Development of Mathematics Interest in Adolescence: Influences of Gender, Family and School Context", *Journal of Research on Adolescence*, Vol. 20/2, pp. 507-537.

Galdas, P.M., F. Cheater and P. Marshall (2005), "Men and health help-seeking behaviour: literature review", *Journal of Advanced Nursing*, Vol. 49/6, pp. 616-623.

Gallup World Poll, *www.gallup.com/strategicconsulting/en-us/worldpoll.aspx* .

Garey, A. (1999), *Weaving Work and Motherhood*, Temple University, Philadelphia, PA.

Gimenez-Nadal, J.I. and A. Sevilla-Sanz (2012), "Trends in time allocation: A cross-country analysis", *European Economic Review*, Vol. 56/6, pp. 1338-1359.

Goos, M., A. Manning and A. Salomons (2009), "Job Polarization in Europe", *The American Economic Review*, Vol. 99/2, pp. 58-63.

Green, C.A. and C.R. Pope (1999), "Gender, psychosocial factors and the use of medical services: a longitudinal analysis", *Social Science and Medicine*, Vol. 48, pp. 1363-1372.

Haddad, L. and R. Kanbur (1990), "How serious is the neglect of intra-household inequality?", *The Economic Journal*, Vol. 100, pp. 866-881.

Hamermesh, D.S. and J. Lee (2007), "Stressed Out on Four Continents: Time Crunch or Yuppie Kvetch?", *The Review of Economics and Statistics*, Vol. 89/2, pp. 374-383.

Hanasono, L.K. et al. (2011), "Explaining Gender Differences in the Perception of Support Availability: The Mediating Effects of Construct Availability and Accessibility", *Communication Research Reports*, Vol. 28/3, pp. 254-265.

Hibel, J., G. Farkas and P.L. Morgan (2010), "Who Is Placed into Special Education?", *Sociology of Education*, Vol. 83/4, pp. 312-332.

Holtzworth-Munroe, A. (2005), "Male versus female intimate partner violence: Putting controversial findings into context", *Journal of Marriage and the Family*, Vol. 67, pp. 1120-1125.

Idler, E.L. (2003), "Discussion: Gender Differences in Self-Rated Health, in Mortality, and in the Relationship between the Two", *The Gerontologist*, Vol. 43/3, pp. 372-375.

ILO (2012), *Global Employment Trends for Women*, International Labour Organization, Geneva.

ILO (2008), *Global Wage Report 2008/09: Minimum wages and collective bargaining. Towards policy coherence*, International Labour Organization, Geneva.

IPU (2013), *Inter-Parliamentary Union* (database), *www.ipu.org/wmn-e/classif.htm* (accessed 9 July 2013).

Jagger, C. et al. (2008), "Inequalities in healthy life years in the 25 countries of the European Union in 2005: a cross-national meta-regression analysis", *The Lancet*, Vol. 372/9656, pp. 2124-2131.

Juel, K. and K. Christensen (2007), "Are men seeking medical advice too late? Contacts to general practitioners, hospital admissions in Denmark 2005", *Journal of Public Health*, Vol. 30/1, pp. 111-113.

Kalenkoski, C.M., K.S. Hamrick and M. Andrews (2011), "Time Poverty Thresholds and Rates for the US Population", *Social Indicators Research*, Vol. 104/1, pp. 129-155.

Kahneman, D. and A. Krueger (2006), "Developments in the measurement of subjective well-being", *The Journal of Economic Perspectives*, Vol. 20, pp. 3-24.

Kelly, J.B. and M.P. Johnson (2008), "Differentiation among types of intimate partner violence: research update and implications for interventions", *Family Court Review*, Vol. 46/3, pp. 476-499.

Kroenke, K. and R.L. Spitzer (1998), "Gender differences in the reporting of physical and somatoform symptoms", *Psychosomatic Medicine*, Vol. 60, pp. 150-155.

Krueger, A.B. et al. (2007), "National Time Accounting: The Currency of Life", *Princeton University Working Paper*, No. 1034, Department of Economics, Center for Economic Policy Studies.

Lacour, M. and L.D. Tissington (2011), "The effects of poverty on academic achievement", *Educational Research and Reviews*, Vol. 6/7, pp. 522-527.

Leigh, A. and X. Gong (2011), "Does Maternal Age Affect Children's Test Scores?", *Australian Economic Review*, Vol. 43/1, pp. 12-27.

Lise, J. and S. Seitz, (2011), "Consumption Inequality and Intra-household Allocations", *Review of Economic Studies*, Vol. 78/1, pp. 328-355, Oxford University Press.

Lorber, J. (2000), "Using Gender to Undo Gender: A Feminist Degendering Movement", *Feminist Theory*, Vol. 1, pp. 101-118.

Miranda, V. (2011), "Cooking, Caring and Volunteering: Unpaid Work Around the World", *OECD Social, Employment and Migration Working Papers*, No. 116, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kghrjm8s142-en*.

National Center for Health Statistics (2001), Table 72 in *Health: United States*, Hyattsville, MD: US Public Health Service, pp. 4-5.

OECD (2013a), "Share of births outside marriage and teenage births", *OECD Family Database*, *www.oecd.org/social/family/database* (accessed 13 June 2013).

OECD (2013b), OECD Gender Data Portal, *www.oecd.org/gender/data/* (accessed 4 June 2013).

OECD (2013c), "OECD Health Data: Health status", *OECD Health Statistics* (database), *http://dx.doi.org/10.1787/health-data-en* (accessed 20 June 2013).

OECD (2013d), *OECD Factbook 2013: Economic, Environmental and Social Statistics*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/factbook-2013-en*.

OECD (2013e), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191655-en*.

OECD (2013f), *Online OECD Employment Database*, *www.oecd.org/employment/database* (accessed 10 June 2013).

OECD (2013g), *OECD Employment Outlook 2013*, *http://dx.doi.org/10.1787/empl_outlook-2013-en*.

OECD (2012a), *Closing the Gender Gap: Act Now*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264179370-en*.

OECD (2012b), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag-2012-en*.

OECD (2012c), *OECD Factbook 2011-2012: Economic, Environmental and Social Statistics*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/factbook-2011-en*.

OECD (2012d), *Health at a Glance: Europe 2012*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264183896-en*.

OECD (2011a), *Health at a Glance 2011: OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/health_glance-2011-en*.

OECD (2011b), *How's Life?: Measuring Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264121164-en*.

OECD (2010a), "Gender Inequality and the MDGs: What are the Missing Dimensions?", *OECD Development Centre Position Paper*, No. 2, OECD Publishing, Paris, *www.oecd.org/dev/poverty/45987065.pdf*.

OECD (2010b), *Obesity and the Economics of Prevention: Fit not Fat*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264084865-en*.

OECD (2009), *PISA 2009 at a Glance*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264095298-en*.

OECD (2008), "Mental Health in OECD Countries", *OECD Policy Brief*, November 2008, OECD Publishing, Paris, *www.oecd.org/els/health-systems/41686440.pdf*.

Offer, S. and B. Schneider (2011), "Revisiting the Gender Gap in Time-Use Patterns Multitasking and Well-Being among Mothers and Fathers in Dual-Earner Families", *American Sociological Review*, Vol. 76/6, pp. 809-833.

Oksuzyan, A., H. Brønnum-Hansen and B. Jeune (2010), "Gender gap in health expectancy", *European Journal of Ageing*, Vol. 7, pp. 213-218.

Pimlott-Kubiak, S. and L. Cortina (2003), "Gender, Victimisation, and Outcomes: Reconceptualising Risk", *Journal of Consulting and Clinical Psychology*, Vol. 71/3, pp. 528-539.

Pontieux, S. (2012), "Intra-household sharing of resources: An exploration of the 'black box' with the 2010 EU-SILC module", paper presented at the 2012 EU-SILC International Conference, Vienna, 6-7 December 2012.

Prentice, D.A. and E. Carranza (2002), "What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes", *Psychology of Women Quarterly*, Vol. 26, pp. 269-281.

Quisumbing, A.R., L. Haddad and C. Peña (2001), "Are Women Overrepresented Among The Poor? An Analysis of Poverty in ten Developing Countries", *Fcnd Discussion Paper*, No. 115, International Food Policy Institute.

Ridgeway, C.L. (2011), *Framed by Gender: How Gender Inequality Persists in the Modern World*, Oxford University Press, Oxford.

Ridgeway, C.L. (2009), "Framed Before We Know It: How Gender Shapes Social Relations", *Gender and Society*, Vol. 23/2, pp. 145-160.

Robeyns, I. (2003), "Sen's capability approach and gender inequality: Selecting relevant capabilities", *Feminist Economics*, Vol. 9/2-3, pp. 61-92.

Romito, P. and M. Grassi (2007), "Does violence affect one gender more than the other? The mental health impact of violence among male and female university students", *Social Science and Medicine*, Vol. 65/6, pp. 1222-1234.

Ruedin, D. (2012), "The Representation of Women in National Parliaments: A Cross-national Comparison", *European Sociological Review*, Vol. 28/1, pp. 96-109.

Sayer, L.C. (2007), "More Work for Mothers? Trends and Gender Differences in Multitasking", in *Competing Claims in Work and Family Life*, edited by T. van der Lippe and P. Peters, Cheltenham, UK: Edward Elger, pp. 41-55.

Schmidt, L. and P. Sevak, (2006), "Gender, Marriage, and Asset Accumulation In the United States", *Feminist Economics*, Vol. 12/1-2, pp. 139-166.

Skalli, A., I. Theodossiou and E. Vasileiou (2008), "Jobs as Lancaster goods: Facets of job satisfaction and overall job satisfaction", *The Journal of Socio-Economics*, No. 37, pp. 1906-1920.

Sloane, P.J. and H. Williams (2000), "Job satisfaction, comparison earnings and gender", *Labour*, Vol. 14, pp. 473-502.

Smith, P.M., R.H. Glazier and L.M. Sybley (2010), "The predictors of self-rated health and the relationship between self-rated health and health service needs are similar across socioeconomic groups in Canada", *Journal of Clinical Epidemiology*, Vol. 63/4, pp. 412-421.

Stevenson, B. and J. Wolfers (2009), "The Paradox of Declining Female Happiness", *American Economic Journal: Economic Policy*, Vol. 1/2, pp. 190-225.

Stockemer, D. and M. Byrne (2012), "Women's Representation around the World: The Importance of Women's Participation in the Workforce", *Parliamentary Affairs*, Vol. 65, pp. 802-821.

Sullivan, D.F. (1971), "A single index of mortality and morbidity", *HSMHA Health Reports*, Vol. 86, pp. 347-354.

Sullivan, O. and J. Gershuny (2012), "Domestic outsourcing and multitasking: how much do they really contribute?", *Sociology Working Papers*, No. 2012-05, University of Oxford, *www.sociology.ox.ac.uk/documents/working-papers/2012/2012-05.pdf*.

Tesch-Romer, C., A. Motel-Klingebiel and M.J. Tomasik (2008), "Gender Differences in Subjective Well-Being: Comparing Societies with Respect to Gender Equality", *Social Indicators Research*, Vol. 85/2, pp. 329-349.

Tolleson-Rinehart, S. (2005), "Women Get Sicker; Men Die Quicker: Gender, Health Politics and Health Policy", in *Gender and American Politics: Women, Men and the Political Process*, Tolleson-Rinehart, S. and J.J. Josephson (eds.), Armonk, NY: M.E. Sharpe.

Turner, S.L., J.C. Steward and R.T. Lapan (2004), "Family Factors associated with sixth-grade adolescents' math and science career interests", *Career Development Quarterly*, Vol. 53/1, pp. 41-52.

United Nations (2010), *The World's Women 2010: Trends and Statistics*, UN Department of Economic and Social Affairs, United Nations, New York.

UN Women (2013), "Violence against Women Prevalence Data: Surveys by Country (compiled by UN Women as of December 2012)", United Nations Entity for Gender Equality and the Empowerment of Women, *www.endvawnow.org/uploads/browser/files/vawprevalence_matrix_june2013.pdf* (accessed 25 July 2013).

UNECE (2013), *Guidelines for harmonising time use surveys*, United Nations Economic Commission for Europe, 13 March 2013, ECE/CES/2013/6/Add.2, *www.unece.org/stats/documents/2013.06.ces.html*.

UNECE (2011), *Canberra Group Handbook on Household Income Statistics (Second Edition)*, United Nations, Geneva.

UNECE (2010), *Developing Gender Statistics: A Practical Tool*, Reference manual prepared by the UNECE Task Force on Gender Statistics Training for Statisticians, United Nations, Geneva.

UNFPA (2009), *Gender equality: A cornerstone of development*, United Nations Fund, *www.unfpa.org/gender/* (accessed 14 March 2013).

UNICEF (2007), *Child poverty in perspective: An overview of child well-being in rich countries*, United Nations Children's Fund, Innocenti Research Centre, Report Card 7.

UNODC (2012), *Global Report on Trafficking in Persons*, United Nations Office on Drugs and Crime, Vienna.

UNODC (2011), *Global Study on Homicide: Trends, Contexts, Data*, UNODC, Vienna.

Verbrugge, L. and D.L. Wingard (1987), "Sex differentials in health and mortality", *Women and Health*, Vol. 12/2, pp. 103-145.

Verhofstadt, L.L., A. Buysse and W. Ickes (2007), "Social Support in Couples: An Examination of Gender Differences Using Self-report and Observational Methods", *Sex Roles*, Vol. 57, pp. 267-282.

Waldron, I. (1995), "The role of genetic and biological factors in sex differences in mortality", in *Sex Differentials in Mortality: Trends, Determinants and Consequences*, Lopez, A.D. and L. Ruzicka (eds.).

WHO (2010), *Preventing intimate partner and sexual violence against women: Taking action and generating evidence*, World Health Organization, Geneva.

World Bank (2012), *World Development Report 2012: Gender Equality and Development*, World Bank, Washington, DC.

Wood, J.T. (1996), "She says/he says: communication, caring, and conflict in heterosexual relationships", in *Gendered relationships*, Wood, J.T. (ed.), *Mountain View*, CA: Mayfield, pp. 149-164.

ANNEX 4.A1

Determinants of time poverty

This annex presents detailed results from a multivariate analysis on determinants of time poverty. The analysis is based on a dataset of harmonised time-use surveys, obtained from the Multinational Time Use Study (MTUS) version 5.3 merged with other microdata processed at the OECD.

The regressions are based on pooled data for the following countries and years: 2005 for Canada and the Netherlands; 2003 for the United States; 2002 for Spain; 2001 for Denmark and Germany; 2000 for Norway and Slovenia; 1998 for France; 1992 for Austria; and 1991 for Israel.

In the ordinary least square specification, the dependent variable is the amount of discretionary time in minutes per day. Discretionary time is defined as total time (1 440 minutes per day) minus time spent in paid work, unpaid work and on personal care. In the probit specification, the dependent variable is being time poor. Time poor individuals are those whose discretionary time (in minutes) is less than 60% of the national median discretionary time of the working-age population.

Number of children is defined as the number of children under the age of 18 living with the diarist.

Employment takes a value of 1 if the diarist is employed (any number of hours) and 0 if the diarist is not employed.

Tertiary educated is equal to 1 if the individual pursued their education beyond the secondary level (ISCED 5 and above). *Spouse is employed* is equal to 1 if the individual's spouse is employed (any hours) and equal to 0 if the spouse does not work. *Lowest income quartile* is equal to 1 if the individual's income falls in the bottom 25% of the national income distribution, it is equal to 0 if the individual's income is higher than the lowest quartile. *Age dummies* are equal to 1 if the individual's age falls in the age range of each dummy (0/1 variable). The age category 15 to 24 is the reference group with respect to which the results for the other age categories should be interpreted.

Individual weights are applied to make the national samples representative of the age and gender distribution of the underlying population and ensure an even distribution of the sample over all days of the week. These weights are further inflated by a factor reflecting the proportion of good quality responses in the dataset. A good quality diary is defined as missing no more than 91 minutes of reported time, containing at least 7 different activity episodes, reporting at least 3 of the 4 basic daily activities (eating, sleeping, personal grooming and exercise or travel) and not missing information on either age, sex or the day the diary was completed.

Table 4.A1.1. **The determinants of time poverty**

Dependent variables	Discretionary time (minutes)			Time poor (probability)		
	Ordinary least squares			Probit (marginal effects)		
	All	Men	Women	All	Men	Women
Sex	-53.731***			0.055***		
	(1.095)			(0.003)		
Number of children	-19.430***	-15.75***[1]	-20.61***[1]	0.034***	0.029***[1]	0.037***[1]
	(0.567)	(0.838)	(0.755)	(0.001)	(0.002)	(0.002)
Employed	-117.749***	-168.48***[1]	-89.82***[1]	0.227***	0.259***[1]	0.220***[1]
	(1.341)	(2.505)	(1.569)	(0.003)	(0.005)	(0.004)
Tertiary educated	1.09	-1.232	2.35	0	0	-0.001
	(1.194)	(1.753)	(1.59)	(0.003)	(0.005)	(0.005)
Spouse is employed	-8.658***	-5.59***[3]	-11.70***[3]	0.015***	0.006	0.025***
	(1.364)	(1.841)	(2.03)	(0.004)	(0.005)	(0.006)
Lowest income quartile	2.41	0.892	-0.793	-0.011**	-0.005	-0.009
	(1.594)	(2.543)	(1.993)	(0.005)	(0.008)	(0.006)
Age (15-24)	-26.771***	-26.023***	-23.569***	0.047***	0.043***	0.048***
	(3.505)	(6.056)	(4.186)	(0.01)	(0.016)	(0.012)
Age (25-44)	-8.964***	-9.58	-6.23	-0.002	-0.003	-0.001
	(3.446)	(5.909)	(4.14)	(0.009)	(0.016)	(0.012)
Age (45-64)	34.689***	21.96***[2]	26.33***[2]	-0.096***	-0.069***[3]	-0.116***[3]
	(3.728)	(6.166)	(4.629)	(0.017)	(0.026)	(0.023)
Country fixed effects	Yes	Yes	-Yes	Yes	Yes	Yes
R-squared	0.159	0.189	0.125	0.0619	0.0609	0.0674
Observations	141 265	68 005	73 260	122 048	57 247	64 801

Note: Robust standard errors in parentheses: *** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level.

1. Equality of coefficients for men and women rejected at the 1% level.
2. Equality of coefficients for men and women rejected at the 5% level.
3. Equality of coefficients for men and women rejected at the 10% level.

Source: OECD's calculations based on Multinational Time Use Study (MTUS) microdata (*www.timeuse.org/*) and public-use time use survey microdata.

StatLink http://dx.doi.org/10.1787/888932889288

ANNEX 4.A2

Determinants of intimate partner violence

Identifying the circumstances, levers and protective factors that influence the occurrence of intimate partner violence is crucial to design effective policies and programmes that help prevent further violence and facilitate recovery. The causes of intimate partner violence and sexual violence are best investigated through the use of longitudinal studies of victims. These studies track people over time to document their experiences of such violence and how these experiences relate to other factors at various stages of their life. Unfortunately, few such studies exist, as the measurement of social and cultural conditions that could be thought of as risk factors (i.e. the status of women, gender norms) pose serious challenges, especially across countries and different cultures. Some of the drivers of intimate partner violence explored by the literature include:

- *Poverty.* Poverty and the associated stress are key contributors to intimate partner violence. Although intimate partner violence occurs in all socio-economic groups, women living in poverty are disproportionately affected. Relation between poverty and intimate partner violence may be mediated through stress. Since poverty is inherently stressful, intimate partner violence may result from the lower resources that poorer men have to cope with stress. Such relation may also be mediated through the male identity crisis. Men living in poverty may be unable to live up to their ideas of "successful" manhood and this could push them to hit women.
- *Status disparity.* While financial independence of women is usually a protective factor against intimate partner violence, circumstances in which the woman is working, but not her partner, may convey additional risk. Men may use violence to gain power within a relationship in which the woman's socio-economic level is higher. This suggests that intra-household economic inequality may be more important than the absolute level of income or empowerment of a man or woman in a relationship.
- *Past history of victimisation.* Men with a history of abusive or violent behaviour are more likely to use violence in their future intimate partnerships. Similarly, women who have previously been abused by intimate or non-intimate partners during adulthood are more likely to accept and experience future intimate partner violence compared to those without prior exposure to violence.
- *Exposure to child maltreatment.* Child maltreatment is a risk factor for both the person experiencing and that perpetrating intimate partner violence. Evidence from a number of studies has shown that exposure to violence during childhood increases the likelihood of intimate partner violence perpetration among men by 3 or 4-fold, compared to men who were not exposed to violence during childhood.

- *Relationship quality.* Violence may be perpetrated against a partner as a way of dealing with conflict or of resolving the disagreement. Low marital satisfaction, continuous disagreements and high marital discord are likely to lead to intimate partner violence and are strongly correlated with the occurrence of both the perpetration and experiencing of intimate partner violence. Forms of conflict especially likely to be associated with violence centre on women's transgression of conservative gender roles or challenges to male privilege, as well as matters of finance.
- *Education.* A low level of education is a major factor associated with both the perpetration and experiencing of intimate partner violence and sexual violence. Lower educational attainment reduces a woman's access to resources, increases her acceptance of violence and maintains unequal gender norms. Women reporting lower levels of education (primary or none) have a 2 to 5-fold larger risk of intimate partner violence compared to higher-educated women.
- *Age.* Young age increases the likelihood for a man to commit physical violence against a partner, and for a woman to experience intimate partner violence. Certain forms of sexual violence, moreover, are very closely associated with young age, in particular violence taking place in schools and colleges, and the trafficking of women for sexual exploitation.
- *Alcohol consumption.* Heavy alcohol consumption by men (and often women) is strongly associated with intimate partner violence. Alcohol reduces inhibitions, clouds judgment, and impairs ability to interpret social cues. Some researchers have also noted that alcohol may act as a cultural "time out" for antisocial behavior: thus, men are more likely to act violently when drunk because they do not feel they will be held accountable for their behavior.
- *Social norms.* The likelihood of intimate partner violence is related to the extent to which beliefs in male superiority are entrenched in a community, as well as the general tolerance of intimate partner violence in the community and the strength of sanctions against perpetrators. Many cultures condone the use of physical violence by men against women in certain circumstances and within certain boundaries of severity. This tolerance may result in families or communities emphasising the importance of maintening the male-female union at all costs, in the police trivialising reports of domestic strife, or in the lack of legislation to protect women.

Source: Based on Abramsky et al. (2011); and WHO (2010).

Chapter 5

Well-being in the workplace: Measuring job quality

While employment is a strong determinant of people's life satisfaction, what matters is not just having a job, but also what kind of job. Measuring the quality of employment is challenging, as it covers many different aspects, from work content and autonomy in decision-making to interactions with colleagues and support from managers, as well as more traditional dimensions such as earnings and job security. Job quality is analysed by bringing together various measurement frameworks and by looking at a range of indicators. A special focus is put on subjective well-being in the workplace which is a function of various requirements and opportunities that people face at work. Work autonomy, well-defined work goals, appropriate feedback on the work performed and supportive colleagues are conducive to personal accomplishment. When combined with negative work atmosphere and poor workplace organisation, heavy workloads and great time pressures can impair health. These aspects of employment quality are, however, difficult to convert into cross-country comparable indicators as their measurement partly relies on workers' subjective judgement about their job. Further work is needed to enable the implementation of such indicators in an international context.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

Employment is not only one of the major drivers of material living standards but it is also one of the most powerful determinants of people's quality of life. As people spend a majority of their daily life at work and work for a significant part of their life, employment can provide not just a salary but an opportunity for people to grow, to develop new skills and ambitions and to feel useful in society. But it is not just a question of having a job, it is also a matter of job quality. So what are the elements that make up a quality job? What role do elements such as relations with colleagues and management, overwork or underwork, working hours or job (in)security play?

Broadly speaking, employment quality can be thought of as those aspects of a job that contribute to people's well-being, by impacting on material living standards or their quality of life at work. Employment quality has attracted increased interest in the international academic and statistical community in recent years, and considerable progress towards establishing a measurement framework has been achieved over the last decade. In particular, various dimensions of employment quality have been identified. Further work is however needed to go beyond the conceptual stage and to build an operational framework for analysing employment quality.

Only a few dimensions of employment quality were taken into account in the 2011 edition of *How's Life?* The overall aim of this chapter is, where possible, to fill some of these gaps, and to highlight areas for future work. The first section presents a brief overview of existing international frameworks for defining and measuring employment quality. The next two sections present a number of indicators that could complement the list currently used in the two dimensions of the OECD well-being framework that are most directly related to employment quality: "Jobs and earnings" and "Work-life balance". Some of these proposed indicators could be added to the OECD well-being framework in the future, but many of them raise a number of methodological and implementation issues. In particular, indicators that refer to work organisation and workplace relationships will require further development before they can be used in an international context.

Measuring employment quality

The impact of work and employment on people's well-being has been investigated from many different perspectives and approaches (for a comprehensive review, see Muños de Bustillo et al., 2011). Psychologists, sociologists and economists have developed theories and searched for empirical evidence that link workers' well-being to specific aspects of their job, so as to identify those job attributes that are of greatest importance to the worker. Drawing on this evidence, frameworks for measuring employment quality have been developed. Although they vary in scope, these frameworks show a significant degree of convergence in the main dimensions retained to characterise the concept of employment quality. Taken together, these frameworks make it possible to draw up a list of dimensions to be considered when developing indicators on quality of work and employment.

A brief overview of international measurement frameworks

Several major initiatives have been taken at international level to establish guidelines for measuring different concepts related to employment quality and for collecting indicators that would allow cross-country comparisons. However, this remains an unfinished task and no internationally comparable database on employment quality currently exists. The international academic and statistical community continues to play an active role in this area, however, as witnessed by the recent release of the International Labour Organization (ILO) manual on concepts and definitions of decent work indicators (ILO, 2012). The manual provides a detailed description of indicators to be developed for monitoring the progress made in implementing the ILO *Decent Work* Agenda, as well as methodological and practical guidelines for producing and using these indicators. This constitutes a significant step towards an operational and policy-oriented concept of Decent Work. Likewise, the United Nations Economic Commission for Europe (UNECE), in collaboration with Eurostat and the ILO, is developing operational guidelines for measuring the various dimensions listed in its framework for *Measuring Quality of Employment* (UNECE, 2010). At the European level, a comprehensive report has been released recently by the European Foundation for the Improvement of Living and Working Conditions (Eurofund), which proposes and implements a framework for measuring job quality in 33 European countries over the period 1995-2010 (Eurofound, 2012).[1]

These recent initiatives have suggested indicators that can be divided into two broad categories, with some of the proposed frameworks more narrowly focused on the quality of jobs and others following a broader approach (see Table 5.1). The first category of indicators refers to the characteristics of the job and of the broader work environment that shape quality of work at *individual level*. Three main aspects can be distinguished:

- First, the terms and conditions set out in the employment contract, such as earnings, working hours, contract duration, etc. These contractual provisions form the basis of all existing frameworks for measuring employment quality.
- Second, the work environment matters a great deal for the well-being of workers. For instance, a recent OECD study on mental health at work shows that workplace relationships and work organisation are important for employee well-being and mental health (OECD, 2012). Therefore, indicators that describe organisational aspects of the work environment (e.g. work content, work autonomy, learning opportunities, safety at work), together with indicators on the work relationships between colleagues and with management and supervisors, need to be considered when measuring quality of employment. These important aspects of employment quality are mentioned in the UNECE framework, as well as in the Eurofound framework.
- Third, the institutional and policy framework governing the labour market also contributes to shape quality of work at individual level. Jobs do not exist in a vacuum: social and employment policies in place provide workers with a range of employment-conditional benefits, such as in-work benefits for low-income families, unemployment and health insurance benefits, paid sick leave, pension rights, etc. Taking into account these aspects of employment quality is particularly important when undertaking international comparisons, as there are large differences between countries in the range of employment-conditional benefits that are available, and in the entitlement rights that employment and social policies provide to workers. These are included in both the ILO Decent Work framework, and in the UNECE framework for Measuring Quality of Employment.

Table 5.1. **Main dimensions of work and employment quality**

Selected international frameworks

Dimensions	Examples of suggested indicators	ILO (2012)	UNECE (2010)	Eurofound (2012)	*How's Life?* (2011)
	Work and employment quality at the individual level				
Earnings	Average earnings, share of low paid workers, rate of in-work poverty	X	X	X	X
Working hours and working time arrangements	Average actual or usual hours worked per week or year, share of involuntary part-time employment, share of workers with excessive or unsocial hours of work, share of workers with short-term flexibility over working time	X	X	X	X
Job security	Share of temporary workers, share of workers with short job tenure, share of self-employed workers	X	X	X	X
Life-long learning	Share of working age population or employed persons participating in education and training, share of employed persons who have more/less education than is normally required in their occupation	X	X	X	X
Safety and health at work	Occupational injury rate, occupational disease contraction rate, stress at work, share of workers with high exposure to physical health risk factors	X	X	X	X
Work organisation and content	Subjective indicators of autonomy at work, work intensity, workers self-assessment of the extent to which they do a useful work, satisfaction with type of work in present job		X	X	
Workplace relationships	Subjective indicators of relationships with colleagues and supervisors, discrimination, harassment		X	X	
Social security system					
Unemployment insurance and other cash income support	Unemployment insurance coverage, replacement rate, beneficiaries of cash income support	X	X		
Family friendly policy	Entitlements to maternity/parental leave, annual leave, childcare facilities, employment situation of mothers of young children	X	X		X
Pension	Pension coverage	X	X		
Health insurance	Health insurance coverage, employees with supplemental medical insurance plan, share of employees entitled to sick leaves	X	X		
	Work and employment quality at the aggregate level				
Broad economic and social context		X			
Labour market performance	Unemployment rate, employment rate, participation rate	X			X
Social dialogue at work	Union density rate, collective bargaining coverage rate, share of enterprises belonging to employer organisations	X	X		
Social situation	Income inequality, education of adult population	X			X
Macroeconomic performance	GDP growth rate, labour productivity, inflation rate	X			
Inequalities and ethics of employment					
Equal treatment	Gender wage and employment gap, occupational segregation, employment situation of disabled workers, ethnic minorities and immigrant workers	X	X		X
Work that should be abolished	Child labour, forced labour	X	X		

Note: ILO (International Labour Organization); UNECE (United Nations Economic Commission for Europe); Eurofound (European Foundation for the Improvement of Living and Working Conditions).

Source: ILO (2012), *Decent work indicators: Concepts and definitions*, ILO manual, First edition, Geneva; UNECE (2010), *Measuring Quality of Employment – Country Pilot Reports*, Geneva; Eurofound (2012), *Trends in job quality in Europe*, Publications Office of the European Union, Luxembourg.

The second broad category of indicators refers to the broad economic and social context that shapes quality of work at the *aggregate level*. Although context factors do not inform on the quality of existing jobs *per se*, they provide useful indications when drawing conclusions from cross-country comparisons or comparisons over time in employment quality. For instance, a number of contextual factors – such as unemployment rate – may affect the

well-being of workers by increasing their fear of job loss or by deteriorating workplace relationships. More generally, in the current context of mass unemployment in many OECD countries, improving job quality can hardly be regarded as a stand-alone objective. Potential trade-offs between job quality and job quantity have to be taken into consideration so as to improve the quality of people's working life, beyond the quality of existing jobs *per se*.

Which employment quality indicators measure people's well-being?

Existing frameworks for measuring employment quality overlap to a large extent with the well-being framework used in *How's Life?*, as they typically aim at measuring both work-related material conditions and the quality of life at work, the two main domains used in *How's Life?* to describe current well-being. However, there is not an exact match between existing frameworks for measuring employment quality and the OECD well-being framework for measuring people's well-being, for two main reasons.

First, employment quality cuts across several dimensions of the OECD well-being framework, rather than being a stand-alone dimension of people's well-being. Among the 11 well-being dimensions considered in *How's Life?* only two focus explicitly on employment quality: "Jobs and earnings" and "Work-life balance". The first of these two dimensions refers to work-related aspects of material living conditions, but is not limited to the quality of existing jobs. This dimension also includes broad indicators of labour market performance such as employment and unemployment rates. The "Work-life balance" dimension describes a number of work-related aspects of quality of life but not all of them, as other aspects are taken into account in other dimensions of *How's Life?* This is notably the case for lifelong learning, which not only is an important facet of employment quality, but also a key component of education and training systems. As such, lifelong learning is part of the "Education and skills" dimension of *How's Life?* Yet, two broad categories of indicators could be added to the OECD well-being framework so as to better account for quality of work when measuring people's well-being:

- The first category of indicators refers to the income volatility associated with labour market risks such as job loss and/or large drops in earnings. Yet, the impact of labour market shocks on people's incomes is strongly affected by the policy supports available to workers (e.g. unemployment benefits and social assistance). This could be accounted for in the "Jobs and earnings" dimension of the OECD well-being framework; alternatively, a more direct measure of economic insecurity among the employed population could be used (e.g. the incidence of in-work poverty).
- The second category of indicators refers to the organisational and social aspects of the work environment. These important aspects of employment quality could well complement the set of indicators in the "Work-life balance" dimension of the OECD well-being framework.

Second, *How's Life?* is intended to provide an *operational* framework for measuring people's well-being, and therefore, the approach concentrates on well-being *outcomes*, as opposed to well-being *drivers* measured by input or output indicators. However, existing frameworks for measuring employment quality do not make such a distinction. Most often, they mix up indicators that measure the well-being outcome of high or low quality jobs with indicators that refer to general factors behind employment quality, such as the characteristics of industrial relations systems or social security expenditure.

The operational nature of the OECD well-being framework has several implications for the following two sections of this chapter, which aim at filling some of the gaps that were identified in the first edition of *How's Life?* In particular, this chapter proposes a few additional indicators of employment quality and carries out exploratory analysis that would be instrumental in developing new indicators in the future. The following criteria have guided the choice of the additional indicators:

- First, they should measure a well-being *outcome* of employment quality. At first glance, this condition would exclude all policy indicators from the OECD well-being framework, as such indicators typically refer to drivers rather than outcomes. However, the distinction between drivers and outcomes is not always clear-cut. This is notably the case for replacement incomes that are provided to the unemployed through unemployment insurance and assistance schemes. These constitute an important source of income for many active households in the current context of high unemployment. More generally, the issue at stake here is how to account, within the OECD well-being framework, for the fact that barriers between employment, unemployment and inactivity are increasingly permeable, which may have consequences for the well-being of people in different countries as they move between these categories. These issues will be addressed in the next section.
- Second, additional indicators should fulfil standard statistical requirements. In particular, as in the case of all the headline indicators used in this report (see Chapter 1), any additional indicators should have face validity, be commonly used and accepted, ensure cross-country comparison and comparison over time, and to the extent possible, rely on official sources. Still, a number of important dimensions of employment quality raise complex measurement issues, and the available indicators pertaining to them do not fulfil all the criteria listed above. Further methodological and statistical work is therefore needed before such indicators can be included in the OECD well-being framework. Aspects such as work organisation and workplace relationships are a case in point. They refer to many different features of a job, which interact with each other to form the overall quality of the work environment. From a methodological point of view, a solid conceptual framework is required to identify which aspects of the work environment are most relevant and which kinds of interaction should be accounted for. From a statistical perspective, the measurement of these dimensions of employment quality relies to a large extent on self-reported data, which potentially raise cross-country comparability issues that also need to be considered. These various issues will be discussed later in this chapter.
- Third, additional indicators should *bring sufficient additional information to justify their inclusion*. Any additional indicator brings some tensions between, on the one hand, providing a more comprehensive picture of well-being within the OECD well-being framework and, on the other hand, the wish to limit the number of indicators included in the set. Therefore, any complementary indicator should contain information that differs substantially from that embodied in already existing *How's Life?* indicators, and be sufficiently important to warrant increasing the size and complexity of the dataset. Each section of the chapter discusses the value-added of additional indicators in more detail.

Jobs and earnings in fast-changing labour markets

Labour market patterns have changed markedly over the past decades. In particular, the fast-changing nature of people's employment situation and earnings has become an important feature of modern labour markets. As underlined by the ILO, these changes have

a number of implications for measuring labour market performances.[2] Likewise, labour market dynamism has implications for measuring work and employment quality, as it affects the well-being of workers through lower employment stability and greater income volatility, which may result in financial stress for households. This section starts by looking at whether people's standard labour market status (employed, unemployed or inactive) is significantly related to their subjective well-being. It then looks at selected features of employment instability and discusses economic insecurity associated with work.

How does working affect subjective well-being?

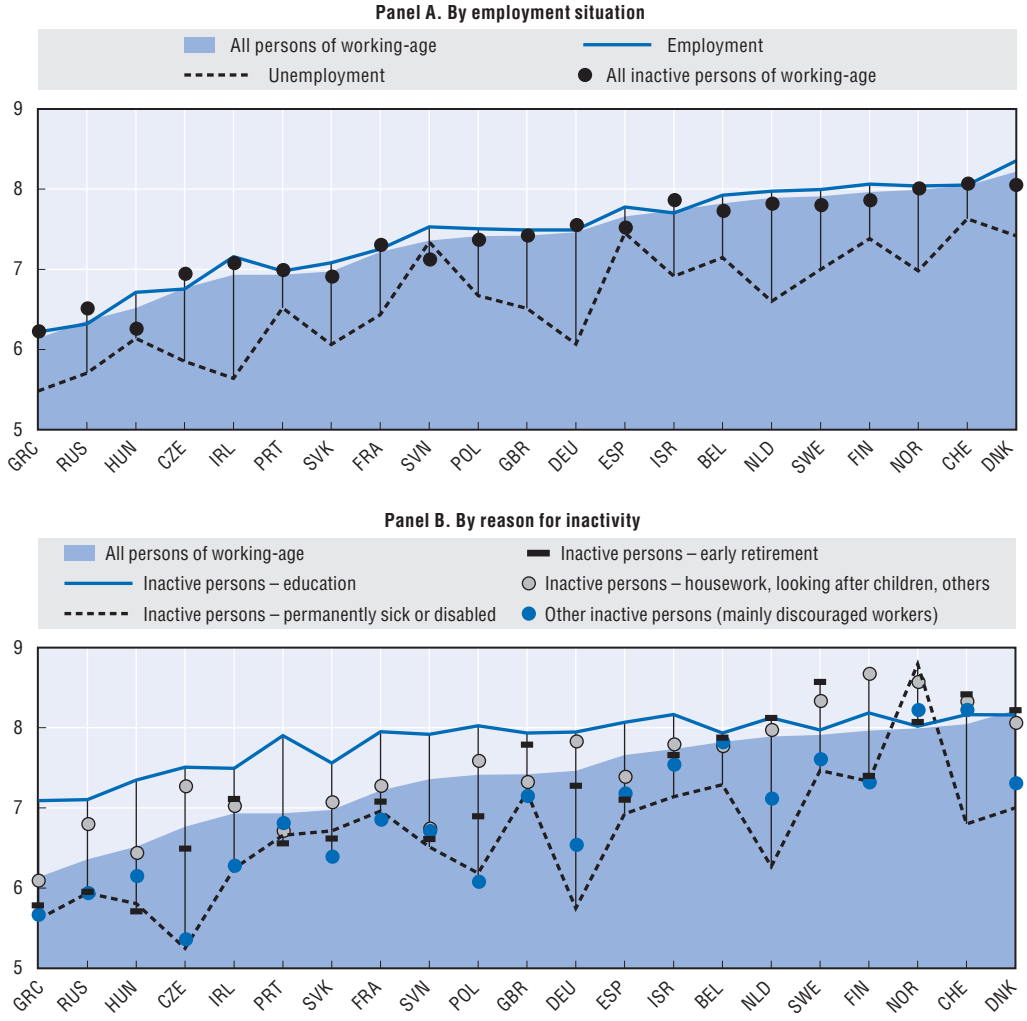
Having a job is a prerequisite to having a good quality job. Although not directly related to employment quality *per se*, people's labour market status is a strong determinant of life satisfaction. Hence, it is a key element of the OECD well-being framework for measuring people's well-being. A growing body of evidence shows that, for people who want to work, not having a job is major source of low subjective well-being (e.g. Clark, 2010; Latif, 2010; Dolan et al., 2008; McKee-Ryan et al., 2005; Blanchflower and Oswald, 2002; Theodossiou, 1998). In this respect, whether people are in or out of paid work by choice is central to understanding the subjective well-being outcomes of joblessness.

Self-reported levels of life satisfaction vary substantially according to whether people are in paid work, unemployed, or not working but not seeking work (inactive), as shown by the European Social Survey:

- Joblessness does not impact the well-being of inactive persons and of unemployed persons in the same way (Figure 5.1, Panel A). As expected, life satisfaction is significantly lower among unemployed workers, compared with their employed counterparts, in virtually all European countries. For the unemployed, the link between joblessness and low subjective well-being is more direct, as this population group is both available for work and actively seeking employment; hence, failure to find a job may be expected to translate into lower life evaluations. By contrast, inactive persons – who are, by definition, either not available or not engaged in active job search, or both at the same time –, may have chosen deliberately not to work. In that case, joblessness would not be expected to affect their subjective well-being to a great extent and this is borne out by the survey.
- However, inactivity covers a large range of situations and self-reported life satisfaction among inactive persons varies widely according to the reason for being inactive (Figure 5.1, Panel B). This reason in itself may constitute a strong determinant of subjective well-being. Unsurprisingly, people who are inactive due to permanent sickness or disability report the lowest degree of life satisfaction in most countries. A large body of literature suggests that people with disability face a double penalty: in many countries, there are strong barriers to the employment of disabled persons whereas many of them would like to work and would be able to do so (OECD, 2012). Relatively low levels of life satisfaction are also found among people who have taken early retirement and among discouraged workers, who are available and would like to work but do not seek employment because they believe that, for various reasons, there are no jobs available for them. This suggests that inactivity for these two population groups does not reflect a deliberate choice, but rather results from bad economic conditions or unfavourable personal characteristics, such as lack of adequate skills, which make these people unfit for the labour market. By contrast, people in education, who have most likely chosen inactivity for the purpose of pursuing their studies, report a high degree of life satisfaction in most countries.

Figure 5.1. **Life satisfaction and labour market status**

Happiness index, scale 0-10, 2010



Note: The happiness index is the weighted average of individual answers to the following question: "Taking all things together, how happy would you say you are?". The answers are rated on a scale ranging from zero (for "extremely unhappy") to ten (for "extremely happy").

Source: ESS (2010), *European Social Survey, Wave 5*.

StatLink http://dx.doi.org/10.1787/888932889060

This descriptive analysis does not allow inferring any causal links between people's subjective well-being and their current labour market situation. There is, however, good evidence that unemployment *does* reduce people's sense of well-being (Winkelmann and Winkelmann, 1998; Clark, Lucas et al., 2004). The evidence presented above also suggests that inactive people are very heterogonous in terms of the reasons behind their labour market status and the associated subjective well-being outcomes. In fact, many workers find themselves in borderline situations, mid-way between inactivity and unemployment, the so-called "marginally attached to the labour force" such as discouraged workers, or mid-way between unemployment and employment, such as underemployed workers doing only a few hours or days a week, or seasonal jobs, when they would prefer to work full-time. The subjective well-being consequences of being marginally attached to the labour force may differ

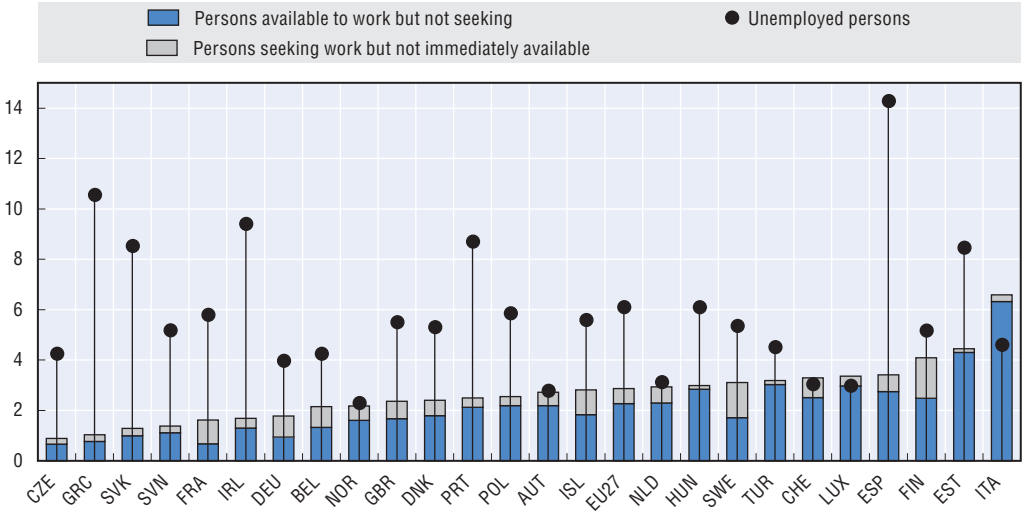
substantially from that of being unemployed or deliberately inactive. Likewise, underemployment may have its own consequences for the subjective well-being of workers, which differ from those associated with full employment or full unemployment. The existence of such borderline situations raises the question as to whether broad indicators of labour market performance, such as the unemployment rate and the employment rate, are sufficient to describe the relationship between people's subjective well-being and their employment situation. This concern echoes a long-standing debate among labour economists and policy makers about the limitation of using a single indicator, namely the unemployment rate, to measure labour market slack. Indeed, underemployment and marginal attachment to the labour force provide indications on unmet needs for work beyond those among the unemployed.

While many OECD countries produce internationally comparable indicators of underemployment, which is typically measured as the incidence of involuntary part-time (people with a part-time job who would like to work more hours or full-time), no such indicators exist for inactive persons marginally attached to the labour force. Measures of this concept are limited to European countries where, as part of a new set of indicators to supplement the unemployment rate, Eurostat produces a measure of the so-called "potential additional labour force" which focuses on persons outside the labour force but not completely detached from the labour market (de la Fuente, 2011a and 2011b). These persons do not fulfil all the International Labour Organization (ILO) criteria to define unemployment, hence they are not classified as unemployed, but they share some characteristics with the unemployed. The "potential additional labour force", as defined by Eurostat, comprises two groups of inactive persons: those seeking work but not immediately available; and those available to work but not seeking employment. This second group includes, among others, discouraged jobseekers and persons prevented from job seeking due to personal or family circumstances. As Figure 5.2 shows, these two categories of inactive persons represent a significant share of the population aged 15-74: around 3% on average in the EU27, as compared to 6% of unemployed persons. In countries such as Norway, Austria, the Netherlands, Switzerland, Luxembourg and Italy, the share of persons marginally attached to the labour market is similar or even higher than that of the unemployed.

From a well-being perspective, the notion of marginal attachment to the labour market is of particular interest: it refers to those who are more likely than other inactive people to experience low well-being as a consequence of joblessness, since they have indicated interest in employment (by seeking a job or by expressing availability for work). Many non-European OECD countries also measure this group as part of their labour force surveys and publish extended indicators of labour market slack, but the definitions used are very disparate. For instance, in the United States, the Bureau of Labor Statistics uses a more restrictive definition of marginal attachment to the labour force, which refers to individuals who have searched for work during the previous 12 months and are available to take a job during the reference week, but had not looked for a job in the past 4 weeks (Haugen, 2009). In other countries, such as Canada, Israel or Japan, the focus is put on discouraged workers, who are available and would like to work but do not seek employment because they believe that, for various reasons, there are no jobs available for them. Further efforts are therefore needed to reach a consensus on a standard international definition of "persons marginally attached to the labour market". This objective is in the agenda of the next International Conference of Labour Statisticians (to be held in late 2013). To this end, the ILO is working on

Figure 5.2. **People marginally attached to the labour force in Europe**

Percentage of population aged 15-74, 2011



Note: Persons marginally attached to the labour force are persons not immediately available to work but actively seeking a job, and persons available but not seeking.
Source: Eurostat, database on *Employment and Unemployment (Labour Force Survey)*.

StatLink http://dx.doi.org/10.1787/888932889079

a definition of persons marginally attached to the labour force and has put forward a proposal for defining this category of inactive persons that is broadly in line with the Eurostat definition of the "potential additional labour force" (ILO, 2013).

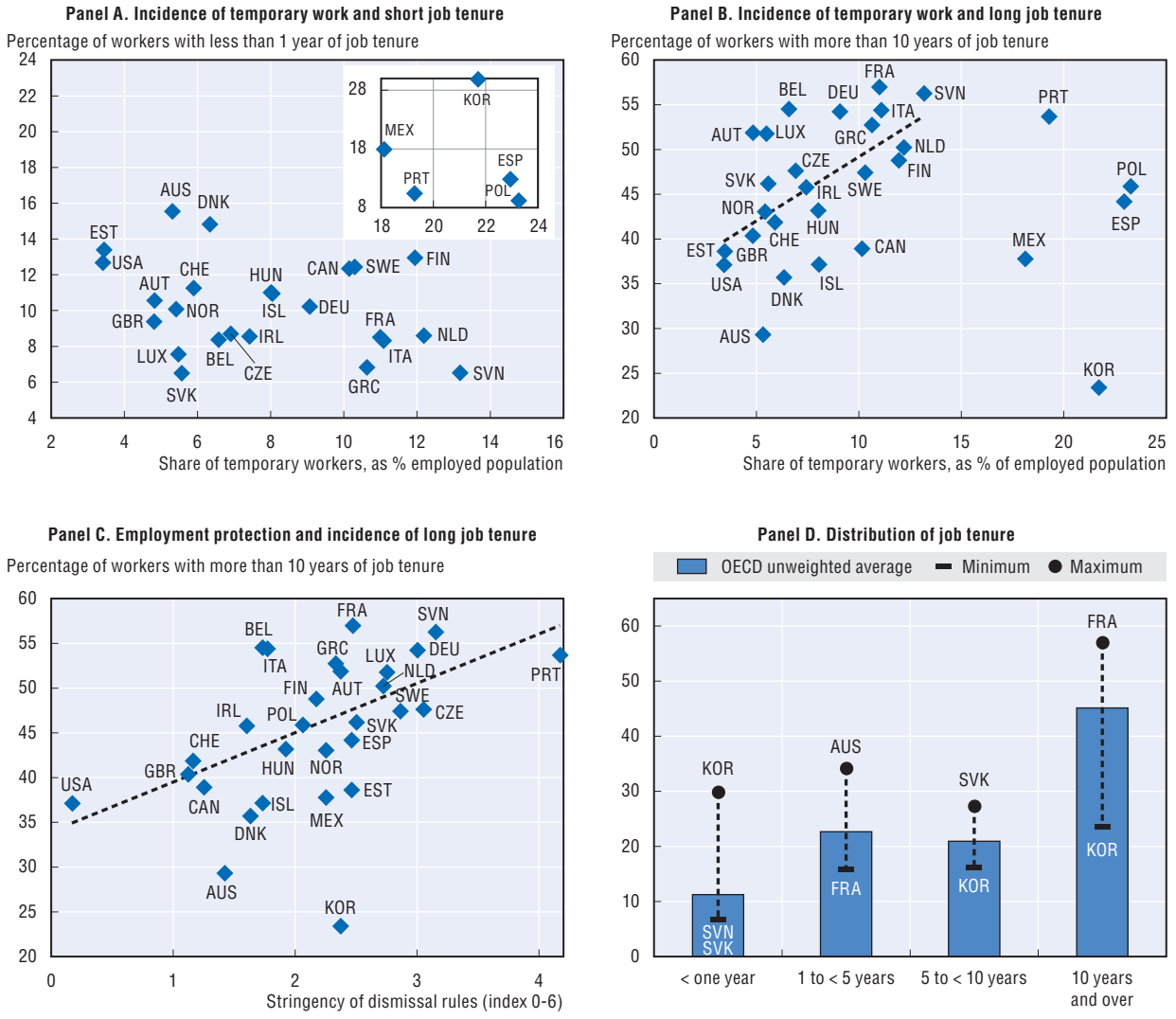
Job security

Modern labour markets are characterised by a continuous reallocation of labour and other productive resources across firms and sectors. While this process of "creative destruction" is one of the engines of economic growth, it may have detrimental effects on people's well-being by lowering workers' sense of job security. Existing frameworks for measuring employment quality typically retain two measures as proxies for job insecurity: the proportion of workers with short job tenure; and the incidence of temporary work. Both measures have their own advantages and drawbacks. Moreover, as shown in Figure 5.3 (Panel A), there is little correlation across countries between these two indicators, which suggests that they capture different aspects of job security.

In theory, temporary work and job insecurity are closely related: by definition, fixed-term contracts do not provide any guarantee with respect to the continuation of the employment relationship after the end of the contract. However, the rules governing the use of temporary employment (e.g. the types of jobs for which fixed-term contracts are allowed and their duration) vary widely across countries, implying that temporary jobs are associated with different degrees of precariousness in different countries (Venn, 2009; OECD, 2013). Moreover, it can be argued that the incidence of temporary work is primarily a measure of labour market duality, rather than an *average* measure of job insecurity. Indeed, the incidence of temporary work tends to be higher in countries with strict dismissal rules for regular workers, as it often provides firms with a buffer against fluctuations in demand. This factor may contribute to creating a dual labour market, characterised by both a high share of temporary workers and a relatively high share of

Figure 5.3. **Temporary work and job tenure**

Dependent employment, 2011



Note: Job tenure indicators are calculated for the employed population aged 30-64. No data are available for Chile, Israel, Japan, New Zealand and Turkey. The indicator of temporary work is calculated for the employed population aged 25-64. Data refer to 2005 for Australia, 2004 for Mexico and 2005 for the United States.

In Panel B the cross-country correlation between the incidence of temporary work and that of long job tenure is 0.55 when excluding Korea, Mexico, Poland, Portugal and Spain; 0.01 otherwise.

In Panel C the cross-country correlation between the incidence of long job tenure and the employment protection index is 0.60 when excluding Korea; 0.49 otherwise. For a detailed description of OECD indicators of employment protection, see OECD (2013), "Protecting Jobs, Enhancing Flexibility: A New Look at Employment Protection Legislation", in *OECD Employment Outlook 2013*.

Source: OECD (2013), *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/lfs-data-en*.

StatLink http://dx.doi.org/10.1787/888932889098

workers with very long job tenure. By contrast, temporary work is less prevalent in countries with less stringent employment protection legislation; the downside, however, is that regular workers face greater job insecurity as they can be dismissed easily during periods when firms implement reductions in workload. Figure 5.3 (Panel B) shows that countries with the lowest proportions of temporary workers also tend to have the lowest shares of workers with very long job tenure, and vice versa.

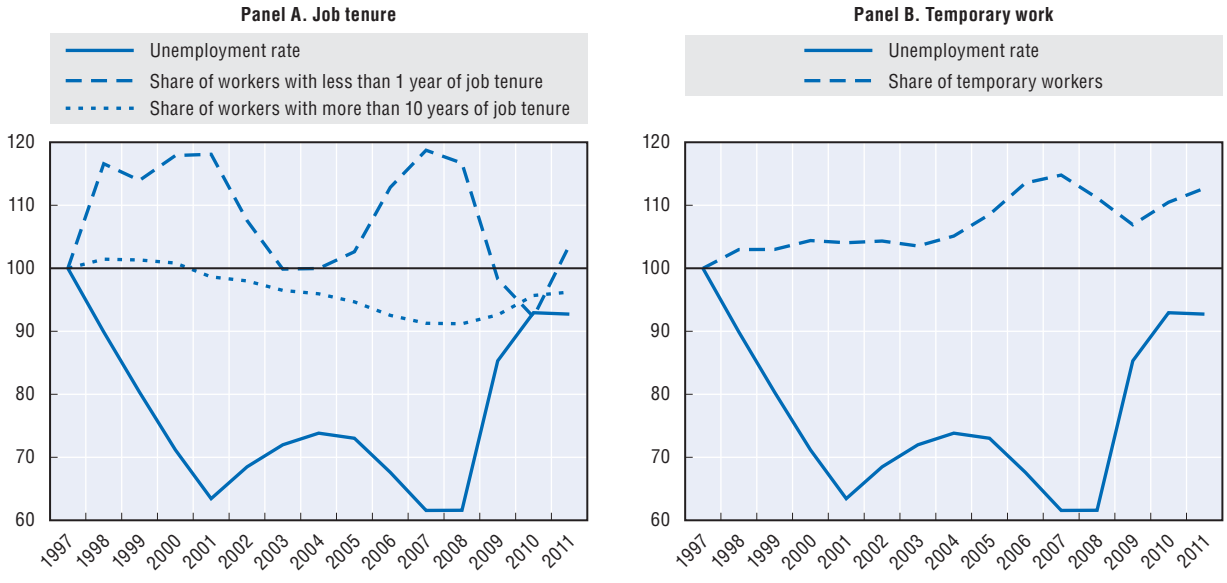
Job tenure indicators have the advantage of focusing on the length of time workers have been with their current employer, regardless of the length of their contract. This, for instance, allows for the fact that fixed-term contracts may be renewed with the same employer over extended periods of time. Nonetheless, job tenure indicators measure job stability rather than job security. How long someone stays with the same employer and when they leave is something that can be decided by the employer *or* by the worker, and job quits (i.e. people deciding to leave) account for a large proportion of total job separations (OECD, 2009).[3] Since people are less likely to quit just after starting a new job, very short job tenure (less than one year) would seem to offer a more comprehensive measure of job insecurity than the incidence of temporary work as it accounts for worker turnovers in both *temporary* and *regular* employment. In addition, although voluntary job departures contribute to explaining the share of workers with very long job tenure (more than 10 years), there is a significant cross-country correlation between this indicator and the stringency of national dismissal rules (Figure 5.3, Panel C), as measured by the OECD index on employment protection for regular workers (OECD, 2013). This relationship suggests that the share of workers with very long job tenure could constitute a good proxy of employment security.

Employment stability, as measured by job tenure indicators, varies widely across countries (Figure 5.3, Panel D). On average in the OECD area, 10% of workers aged 30-64 have less than one year of job tenure, a share that ranges from 6% in the Slovak Republic and Slovenia to 30% in Korea. Cross-country differences in the share of workers with very long job tenure are even more pronounced. Only 23% of workers aged 30-64 have more than 10 years of job tenure in Korea while this proportion reaches 57% in France, with an OECD average of 46%. Taken together, the incidence of temporary work or short job tenure, and the relationship between employment protection levels (EPL) and long job tenure (Figure 5.3, Panels A and C) suggest that the dual labour markets that prevail in countries such as Spain, Portugal and Poland are associated with only average, or even lower than average, degrees of job insecurity. Portugal is a case in point, as stringent EPL by OECD standards results in above-average incidence of both temporary work and very long job tenure.

Another important aspect is the extent to which these various indicators can be used to monitor changes in job security over time. In this respect, the share of workers with very short job tenure has a major drawback for monitoring job security trends as it is highly sensitive to the business cycle (since it reflects net job creation, in addition to worker reallocation across existing jobs). Therefore, changes over time in the share of workers with short job tenure reflect first and foremost fluctuations in economic activity, rather than changes in job insecurity (Figure 5.4, Panel A). On average, across the 14 OECD countries for which longitudinal data are available, the share of workers with short job tenure has declined dramatically over recent years, falling by 26% between 2007 and 2010. However this fall should not be interpreted as reflecting an improvement in job quality in the aftermath of the crisis, but rather a slowdown in job creation and higher job losses – when a large number of workers risk losing their jobs, those first laid off are often workers with shorter tenure, including workers hired on fixed-term contracts. In short, job insecurity is driven by both cyclical and structural factors that need to be disentangled before drawing conclusions about trends in employment quality over time.

Figure 5.4. **Job tenure, temporary work and the business cycle**

Unweighted average across 14 OECD countries, 1997 = 100



Note: The unweighted average includes Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom.

Source: OECD (2013), *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/lfs-data-en*.

StatLink *http://dx.doi.org/10.1787/888932889117*

By comparison, the share of workers with very long job tenure and the incidence of temporary work are much less sensitive to the business cycle (see Figure 5.4). On average, the proportion of workers with very long job tenure rose by only 4% between 2007 and 2010, with a similar fall the incidence of temporary work. Moreover, the long-term trends of these two indicators are consistent with the weakening of the "job for life" model that characterised most OECD countries in the past. Beyond short-term fluctuations, some OECD countries have recorded a trend decrease in the share of workers with very long job tenure over the period 1997-2007, and a similar increase in the incidence of temporary work.

In summary, no simple proxy measure of job insecurity exists that could be used for comparisons both across countries and over time. As a default option, the share of workers with very long job tenure should be considered for inclusion in the OECD well-being framework as an additional indicator of job security. In particular, the combination of this indicator and the temporary work indicator would provide a more accurate picture of job insecurity in countries such as Spain, Portugal and Poland, where a majority of workers benefit from highly protected jobs while many others are in temporary jobs. This would also facilitate cross-country comparisons over time in job security patterns, as the share of workers with long job tenure is not highly sensitive to business cycle fluctuations.

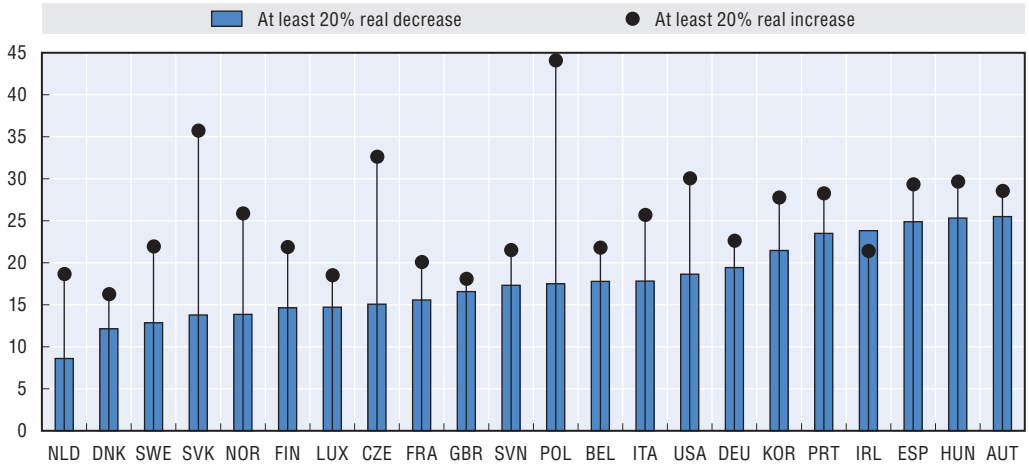
Earnings and economic security

An important dimension of quality of jobs is the salary or wage they pay and the extent to which these allow the employee to earn a decent living. The OECD well-being framework accounts for this dimension by including an aggregate indicator of labour income, namely the average gross annual earnings of full-time employees. But another key issue for workers' well-being is the extent to which earnings fluctuate over time due to the dynamic nature of labour markets.

Each year, many workers experience large fluctuations in gross earnings, due to changes in working hours, movements in and out of work, and changes in pay (OECD, 2011). But there are significant cross-country differences in the incidence of earnings volatility (Figure 5.5). In the mid-2000s, overall earnings volatility was highest in Austria, Hungary, Korea, Portugal and Spain, which all had a high incidence of both large increases and large decreases in earnings. In these countries, more than one in four employees aged 25-59 experienced increases in their gross earnings by 20% or more from one year to the next, while, more than one in five saw their gross earnings decline by 20% or more. Excluding the Czech Republic, the Slovak Republic and Poland, which experienced annual GDP growth in excess of 6% during the period under examination, there is a high degree of symmetry between increases and decreases in earnings: countries with a large proportion of workers experiencing an increase in earnings also tend to have a large proportion of workers experiencing a decrease in earnings.

Figure 5.5. **Year-to-year earnings volatility**

Proportion of workers experiencing large changes in gross earnings from one year to another, dependent workers aged 25-59, mid 2000s



Note: Estimates refer to workers aged between 25 and 59 years in order to minimise the impact of young people entering the labour market and older workers transitioning into retirement. Data refer to 2004-07 for all countries except Italy and Portugal (2006-07), France (2005-06), Denmark (2004-05) and the United States (1995-96).
The cross-country correlation between the incidence of large increases in earnings and that of large decreases is 0.72 when excluding the Czech Republic, the Slovak Republic and Poland (0.31 otherwise).
Source: OECD (2011), "Earnings Volatility: Causes and Consequences", in *OECD Employment Outlook 2011*, *http://dx.doi.org/10.1787/empl_outlook-2011-5-en*.

StatLink http://dx.doi.org/10.1787/888932889136

Unemployment spells are clearly important contributors to earnings losses (Venn, 2011). As it is often difficult for workers to predict changes in earnings and to assess whether these are temporary or permanent, large drops in individual earnings may be associated with increased risks of financial stress and poverty. Hence, current earnings may not adequately reflect the monetary benefits of having a job in a context of high labour market uncertainty if workers are concerned about their future as well as their current material conditions. Income prospects of workers are also shaped by the various types of income support to which they are entitled in case of large drops in earnings. In particular, unemployment insurance (UI) systems provide households with a buffer against

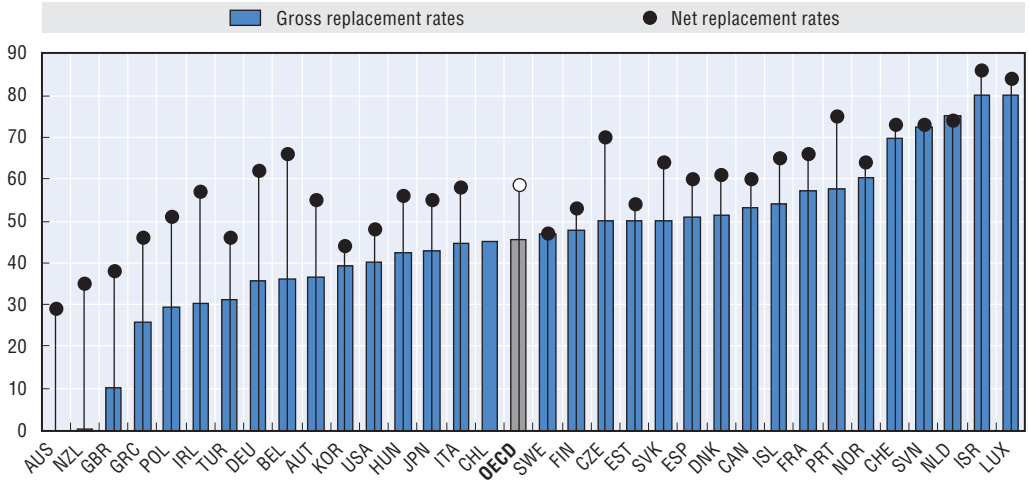
temporary declines in earnings. It follows that UI benefits can be seen as an aspect of employment quality throughout people's working life. Clark and Postel-Vinay (2009) show, for example, that workers feel more secure about their labour market situation in countries that offer stronger income support to job-seekers.

On average, across the 33 OECD countries for which data are available, UI benefits amount to 47% of previous gross earnings during the initial phase of unemployment (Figure 5.6). This gross replacement rate varies widely across countries, ranging from more than 70% in Switzerland, Slovenia, the Netherlands, Israel and Luxembourg to less than 30% in the United Kingdom, Greece, Poland, Australia and New Zealand. It is important to note that gross replacement rates do not take into account the effects of various kinds of taxes and other benefits on disposable income. Therefore, cross-country differences are driven by two main factors:

- The first factor refers to the generosity of national UI systems, which is partly measured by the amount of UI benefits that are provided to the beneficiary population. Comparable data on coverage rates (i.e. the proportion of eligible people receiving unemployment benefits) would be required in order to provide a more comprehensive picture of the generosity of national UI systems across countries. No such data exist at present.[4]
- The second driver is the balance between income support provided to unemployed people through unemployment insurance and social assistance (whose benefits are mean-tested on household income or assets). For instance, there is no UI system in Australia and New Zealand since these two countries depend entirely on social assistance.

Figure 5.6. **Unemployment insurance benefits**

Initial phase of unemployment, single person without children who previously earned the average wage, 2011



Note: The gross replacement rates express gross unemployment benefits received when not working as a percentage of previous gross earnings. Net replacement rates, calculated taking into account tax-benefit regimes, show the proportion of in-work income that is maintained when someone is unemployed. Net replacement rates are calculated based on household net income, which takes into account the amount of cash benefits received as well as the amount of taxes and social security contributions paid by the household. They express the household net income during unemployment as a percentage of the household net income while in work.

Source: OECD (2012), "Taxes and benefits", *OECD Social Expenditure Statistics* (database), *http://dx.doi.org/10.1787/data-00201-en*.

StatLink http://dx.doi.org/10.1787/888932889155

Having worked for a significant period of time is both necessary and sufficient for employees to receive UI benefits in case of job loss: this eligibility criterion constitutes a strong link between UI benefits and employment quality. But in terms of social protection, the UI benefits received are not the whole story. Other factors such as taxes, social assistance, family benefit and housing benefit are taken into account to calculate the net replacement rate, which measures the proportion of disposable income maintained in case of job loss (for further details, see *www.oecd.org/els/social/workincentives*). These additional elements are not directly related to employment quality, but they are crucial for evaluating the net impact of job loss on household disposable income.[5] In short, net replacement rates provide useful indications on the overall degree of social protection in case of job loss, while gross replacement rates inform on specific entitlement rights that employment provides to workers. In this respect, it is worth noting that cross-country differences in net replacement rates are less pronounced than with gross replacement rates (Figure 5.6).

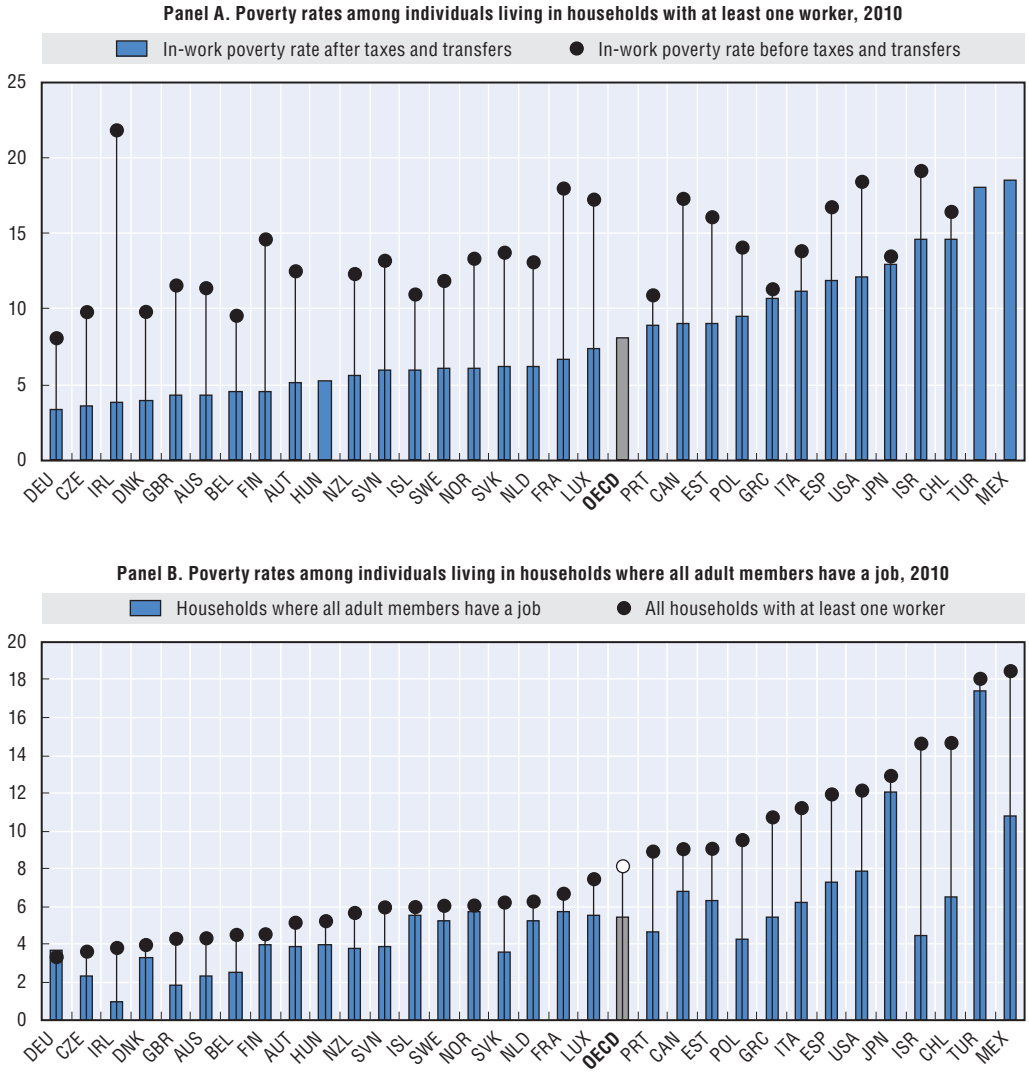
In-work poverty

Welfare systems in OECD countries are designed not only to cushion households against temporary drops in earnings but also to provide income support to vulnerable groups who face difficulties in entering the core labour market and who alternate between employment, unemployment and inactivity, often adding to the ranks of the working poor (OECD, 2009). As in-work poverty reflects different forms of precarious employment (low working hours and hourly pay among full-time workers, frequent moves between low-paid work and joblessness), its incidence informs about the quality of employment.

Welfare systems considerably reduce the risk of in-work poverty, but do not solve all problems. On average in the OECD area, 8% of individuals living in a working household (i.e. household with at least one worker) were poor in 2009, a proportion that would have reached 14% in the absence of social transfers (Figure 5.7, Panel A). Poverty is measured against the typical living standards in each country: individuals whose (equivalised) household disposable income falls below half the median value of disposable incomes in their country are classified as being in poverty. Cross-country differences of in-work poverty rates are sizeable, ranging between 5% or less in Ireland, the Czech Republic, the United Kingdom, Denmark, Finland, Germany, Australia and Austria, and 12% or more in Greece, Spain, the United States, Japan, Switzerland, Israel, Turkey and Mexico.

These rates of in-work poverty go beyond employment quality considerations, however. Since they focus on household incomes, as opposed to individual earnings, they not only reflect situations where having a job does not allow to earn a decent living; they are also shaped by the proportion of households with an unemployed (or inactive) member. Hence, the relationship between employment quality and poverty could be better described by the rate of poverty among individuals living in households where *all* adult members have a job. In most countries, this latter is significantly lower than the rate of poverty among all working households (i.e. the total rate of in-work poverty), with an OECD average of 5.4% (against 8.1%). Strikingly, the higher the total rate of in-work poverty, the larger the difference between these two indicators (Figure 5.7, Panel B). This means that in countries such as Israel, Chile, and Mexico, the higher incidence of in-work poverty is explained, in large part, by one adult member in the household being out of work.

Figure 5.7. **In-work poverty**



Note: The rate of in-work poverty is calculated as the percentage of individual living in households with a working-age head and at least one worker, whose equivalised disposable income falls under half the median value of disposable incomes in their country. The rate of in-work poverty before taxes and transfers is calculated as the percentage of individuals living in households with a working-age head and at least one worker, whose equivalised income before taxes and transfers falls under half the median value of disposable incomes in their country. Poverty rates refer to 2009 for Chile, Hungary, Ireland, Japan, New Zealand and Turkey.

Source: OECD (2013), "Income Distribution", *OECD Social Welfare Statistics* (database), *http://dx.doi.org/10.1787/data-00654-en*.

StatLink http://dx.doi.org/10.1787/888932889174

There are several reasons for including the incidence of in-work poverty in the OECD well-being framework. From a conceptual perspective, in-work poverty is a central aspect of employment quality, as employment should ensure an adequate standard of living to workers and their families. Indeed, strategies to fight in-work poverty are at the forefront of the policy agenda in many countries, in particular in the context of the current economic crisis. From a methodological perspective, the OECD indicators on in-work poverty would seem to satisfy most of the selection criteria. In particular, they have face validity, cover virtually all OECD countries, come from official sources, ensure comparability across

countries, and are updated on a regular basis. These indicators will be investigated further in the context of a major project on job quality that has been recently launched by the OECD and aims at assessing job quality and its links to labour market performance and well-being.

Beyond Work-life balance: Measuring quality of life at work

Within the OECD well-being framework, the relationship between work and personal life falls under the "Work-life balance" dimension, which describes the extent to which people are able to achieve a right balance between time spent at work and time available for personal and family life. Work may interfere with personal life through many channels, above and beyond the time constraints that it imposes. In particular, the extent to which work impacts on physical and mental health is a key determinant of an individual's ability to combine work and personal life. Workers' exposure to physical health risk factors is taken into account in the OECD well-being framework by the inclusion of a standard measure of safety at work, namely the incidence of workplace accidents. But individuals' exposure to psychological health risk factors at work is not accounted for, despite abundant evidence that workers' mental health status is a major outcome of quality of life at work (OECD, 2012). However, no measurement framework currently exists that would allow cross-country comparisons in quality of life at work. This section makes a first attempt to fill in this gap.

Achieving the right balance between requirements and opportunities at work

Numerous studies on occupational health have been conducted over the past three decades, showing that work organisation and workplace relationships can have a profound impact on employee well-being and mental health. Several theories have been developed that predict negative consequences of work for the mental health of workers who are exposed to certain psychosocial risk factors. One basic premise of these theories is that stress is a normal part of life as long as people can manage it, and the same holds for work-related stress. Hence, what matters for quality of life at work are the mechanisms by which normal work-related stress turns into "bad" stress, i.e. stress that leads to a mental illness.

While several models have been developed to identify the job characteristics that are important for workers' well-being and mental health, the two most influential are the demand-control model and the effort-reward imbalance model (Bakker and Demerouti, 2007; van Vegchel et al., 2005a; van Vegchel, et al., 2005b). The demand-control model argues that high job demands, such as work overload and time pressure, have detrimental effects on mental health when individuals have no decision latitude on their work tasks (Karasek, 1979). The effort-reward imbalance model emphasises the role of workers' rewards – such as earnings, esteem, promotion prospects and job security – rather than the control structure of work (Siegrist, 1996). It argues that the most stressful work conditions are those where the reward does not match the effort made by the worker. These two conceptual frameworks are supported by a large body of empirical research linking poor workplace organisation with mental disorders (e.g. Stansfeld and Candy, 2006; van Vegchel et al., 2005a; van der Doef and Maes, 1999).

Until recently, less attention had been paid to the fact that work also creates opportunities for personal accomplishment, which have positive effects on people's mental health and well-being. Recent models of occupational health address this issue by incorporating a broader range of working conditions that can generate either psychological costs or psychological benefits for the worker. The job demands-job resources model is an example of such an approach (Bakker and Demerouti, 2007). In this model, "job demands"

refer to those aspects of the job that require sustained physical and psychological efforts, such as performing physically demanding tasks, dealing with heavy workload, time pressures and conflicting demands, or facing job insecurity. Conversely, "job resources" refer to those job attributes that may be conducive to personal accomplishment or that are instrumental in achieving work goals; they include work autonomy and job reward, but also opportunities to learn, support from colleagues and managers, well-defined work goals and appropriate feedback on the work performed. The basic premise of this model is that job resources may induce a motivational process, whereas job demands may result in health impairment, notably when employees do not have adequate job resources at their disposal to meet these demands. A growing body of research provides strong evidence for the relationships between job demands and work-related mental illnesses, and between job resources and workers' commitment (e.g. Alarcon, 2011; Schaufeli, Bakker and van Rhenen, 2009; Mauno, Kinnunen and Ruokolainen, 2007; Demerouti, Bakker and Bulters, 2004; Hakanen and Schaufeli, 2012).

How does the work environment affect health and well-being?

This section presents various indicators of the work environment and of work-related health outcomes, using data from the European Survey on Working Conditions (ESWC). This survey lends itself rather well to this task as it includes many questions dealing with the two aspects. With respect to job demands, the indicators include: *i)* the overall work pressure faced by employees; *ii)* the existence of conflicts between job requirements and personal ways of thinking or behaving (the so-called "emotional demand"); *iii)* the exposure to physical health risk factors at work; and *iv)* intimidation in the workplace. Indicators of job resource includes: *i)* work autonomy; *ii)* opportunities to learn at work; *iii)* well-defined work assignments; *iv)* good management practices; and *v)* supportive colleagues. Each of these indicators of job demand and job resource is constructed from a set of ESWC questions reported in Table 5.2.

Two indicators of self-reported health status are also presented. The first indicator provides information on the exposure to health risk factors at work, as measured by the share of workers reporting that work impairs their health. The second indicator refers to the mental health status of individuals based on a set of five items: feeling cheerful, feeling calm, feeling active, waking up fresh and rested, and life-fulfilling (OECD, 2012). The WHO defines mental health as "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" A single mental health index has been compiled for each individual by averaging answers from these five items (each of them being scored on a same scale from 0 = "all of the time" to 5 = "at no time").

Figure 5.8 shows the relationship between these two health indicators and each component of job demands (Panel A) and job resources (Panel B), taken separately. Some of the main patterns highlighted here include:

- For each job demand indicator, workers with more demanding jobs report more frequently that they are exposed to health risk factors at work and tend to show poorer mental health status than workers facing comparatively low levels of demand (Panel A). Differences between these two groups of workers are sizeable: whatever the type of job demand considered, between 40% and 50% of those workers facing relatively high levels

Table 5.2. **Indicators of job demands and job resources**

Job demands		Job resources	
Components	Underlying ESWC questions	Components	Underlying ESWC questions
Work pressure	Work usually more than 50 hours per week Not enough time to get the job done Working hours do not fit in with family and social commitments outside work Work at very high speed Work to tight deadline	**Work autonomy**	Can choose or change the order of tasks Can choose or change methods of work Can choose or change speed or rate of work Able to apply own ideas in work
Emotional demand	Handle angry clients Job involves tasks that are in conflict with personal values Job requires hiding personal feelings	**Learning opportunities**	Employer provided training or on-the-job training Job involves learning new things Job involves solving unforeseen problems
Physical health risk factors	Exposure to high noise Exposure to high temperature Exposure to low temperature Tiring and painful positions Carrying or moving heavy loads	**Task clarity**	Well-defined work goals Feedbacks from manager Manager good at planning and organising work
Workplace intimidation	Verbal abuse Threats and humiliating behaviour Bullying or harassment	**Management practices**	Helps and supports from manager Feel respected as a person by manager Manager good at resolving conflicts Encouragement from manager to participate in important decisions
		Colleagues' support	Helps and support from colleagues Feel "at home" at work Have very good friends at work

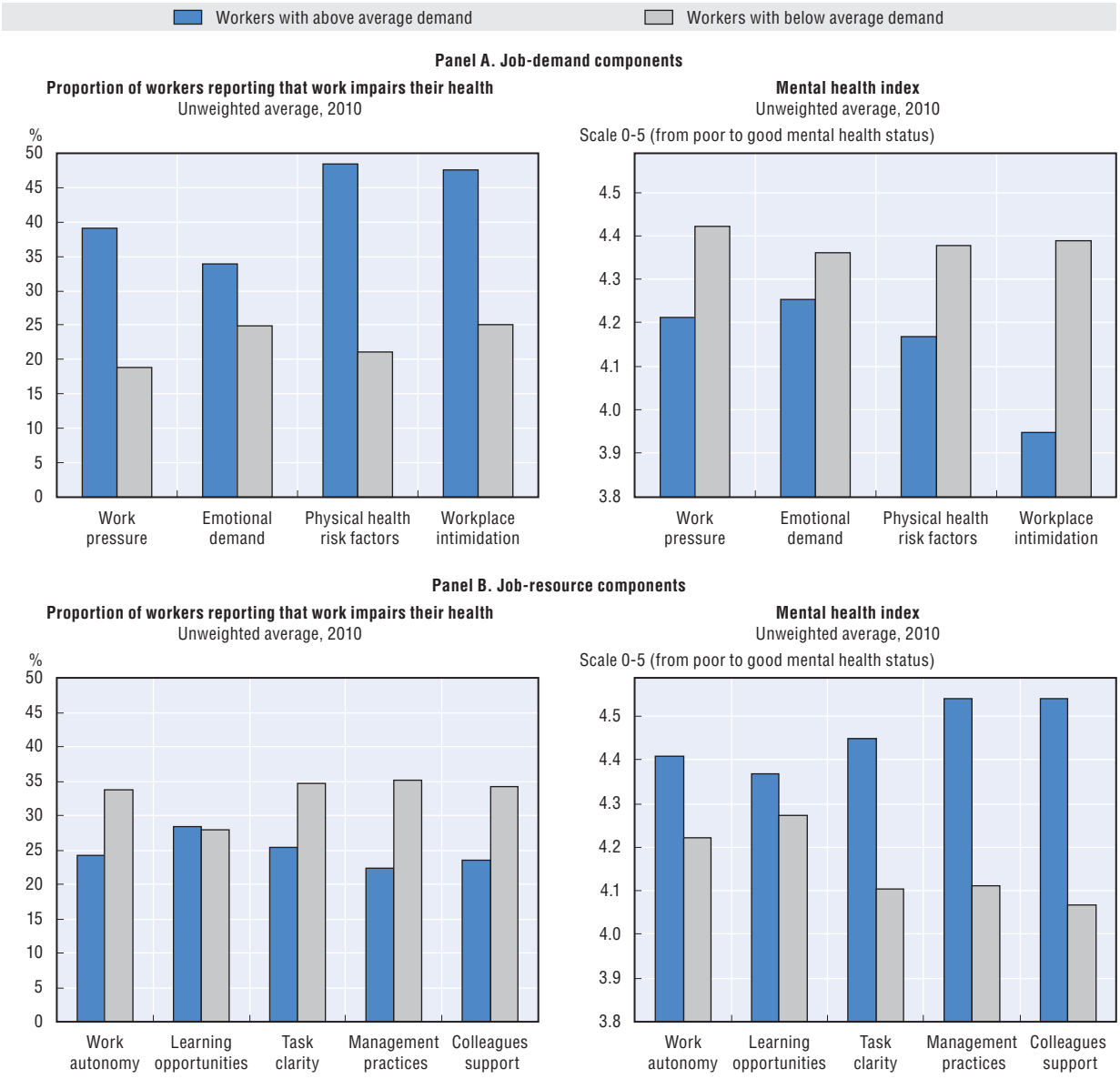
Note: For each component of the job demand (resp. job resource), a summary score has been compiled for each individual by averaging answers from the corresponding ESWC questions in the European Survey on working Condition (ESWC), each of this question being scored (or rescored) on a yes/no scale.

of demand report that their work impairs their health, against 20%-25% among workers. By comparison, the relationship between job demands and an individual's mental health status is relatively weak, except in the case of workplace intimidation.

- Likewise, benefiting from adequate job resources is associated with reduced exposure to work-related health risk factors and better mental health status, except in the case of learning opportunities that are not – or only weakly – related to these health variables (Panel B). While differences in self-reported exposure to health risk factors at work are less pronounced than with the job demand indicators, there is a strong relationship between the amount of resources that workers have at their disposal and their mental health status. Three types of job resources appear to play a predominant role in this respect: well-defined work assignments, good management practices and supportive colleagues.

This descriptive analysis suggests that the quality of the work environment matters for workers' health, although it does not allow for inferring any causal links. There is, however, growing evidence that this relationship *is* causal in nature, with longitudinal analyses showing that work organisation and workplace relationships affect people's mental health and subjective well-being (e.g. Schaufeli, Bakker and van Rhenen, 2009; Mauno, Kinnunen and Ruokolainen, 2007). Yet, indicators on the quality of the work environment require further development before they could be added in the OECD well-being framework for measuring people's well-being. First, their inclusion would significantly increase the size and complexity of the dataset since many different features of a job would have to be taken into account. The literature on occupational health brings some elements of answer to this dimensionality problem. In particular, it provides guidelines – supported by empirical evidence – on how to aggregate the large number of indicators related to work organisation

Figure 5.8. **Link between job demands, job resources and workers' health in Europe**



Note: For each component of job demands and job resources, the employed population has been divided into two groups: employees who show an above-average score on each specific component in their country, and employees with a below-average score. Then, the proportion of individuals reporting high exposure to health risk factors at work and the mental health index have been calculated among these two groups of workers separately in each country.

The unweighted average includes 22 OECD countries: Austria, Belgium, the Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, the United Kingdom, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovenia, the Slovak Republic and Sweden.

Source: Eurofound (2010), *European Survey on Working Conditions, Wave 5*.

StatLink http://dx.doi.org/10.1787/888932889193

and workplace relationships into few synthetic indices that could describe the overall quality of the work environment (see Annex 5.A1 for further details). Second, the extent to which such a measurement framework could be used for cross-country comparisons needs to be investigated further since the underlying indicators primarily rely on workers' subjective judgement about their job, which can be biased due to various factors such as questionnaire design or cultural response bias (OECD, 2013).

Statistical agenda ahead

This chapter has stressed the importance of better accounting for the diversity of people's labour market situations within the OECD well-being framework. This could be achieved by adding an indicator on persons marginally attached to the labour force. In this respect, the new ILO guidelines will help to extend the country coverage of comparable measures beyond the European scope. Further work is also needed to better characterise the relationship between well-being and the labour market attachment of inactive persons, in order to ensure that such indicators have face validity with respect to measuring people's well-being. Indeed, most available studies on the well-being effect of joblessness focus on the unemployed; much less attention has been paid to the extent to which joblessness affects the well-being of various categories of inactive persons.

Another aspect of employment quality that could have important implications for people's material conditions over their working life is the economic security provided by their employment. As jobs for life are becoming more rare, it is crucial that people have sufficient protection for negative employment-related shocks. Two kinds of indicators are needed to describe these: the degree to which workers' incomes are maintained during periods outside employment, and the proportion of the unemployed population receiving such benefits. Various indicators of replacement income are available for most OECD countries, but there are no cross-country comparable data on the coverage rate of various benefits, in particular on UI. This constitutes another item in the statistical agenda on employment quality.

Finally, the literature on occupational health provides useful conceptual frameworks – supported by strong empirical evidence – that can serve as a basis for developing indicators on work organisation and workplace relationships. These aspects of the work environment are important dimensions of employment quality. Negative work atmosphere and poor workplace organisation impair workers' mental health and well-being, while a stimulating work environment may be conductive to personal accomplishment for workers. However, further work is needed to enable the implementation of such indicators in an international context. Indeed, dimensions such as work organisation and workplace relationships do not easily translate into cross-country comparable indicators as their measurement partly relies on workers' subjective judgement about their job. Harmonised household surveys are required for international comparability to be achieved, since subjective judgements can be affected by the survey design, the wording of the questions, the question ordering, etc. No harmonised surveys exist at present that could provide a good coverage of OECD countries, including non-European OECD member countries. This means that guidelines will need to be developed at the international level on how to measure the key aspects of work organisation and workplace relationships in an international context. This issue will be addressed as part the new OECD project on job quality: "Defining, Measuring and Assessing Job Quality and its Links to Labour Market Performance and Well-Being". The overarching aim of this project is to bring job quality to the forefront of the policy debate, by arguing that labour market performance should be assessed in terms of the increase in both the number and the quality of job opportunities. Drawing on existing and ongoing work on employment quality, done both inside and outside the OECD, this project aims at developing an *operational* framework for analysing employment quality in the context of labour market performance and overall well-being.

Conclusions

While the OECD well-being framework covers most of the relevant dimensions of employment quality, this chapter has identified a number of additional indicators that would add valuable information on both material conditions and quality of life as shaped by people's work experiences. Some of the proposed indicators could be added to the OECD well-being framework in a near future, while others raise methodological and implementation issues that need to be addressed first. An additional issue is how best to manage the trade-off between adding new indicators to *How's Life?* in order to better capture employment quality and the risk of increasing the size and complexity of the *How's Life?* indicator set.

Notes

1. This report is based on data from the European Survey on Working Conditions (EWCS), which constitutes a unique source for the study of job quality across European countries and over time. This survey is funded, designed and co-ordinated by the Foundation and covers many aspects of work and employment quality, ranging from earnings to psychosocial health risk factors.
2. The ILO report notes that: "some aspects of the current international standards for labour force statistics are now out of date" (ILO, 2013:9).
3. On average over the period 1995-2007, OECD (2009) finds that separations initiated by employers amount to no more than one fourth of total job separations in the five OECD countries for which data were available, namely Australia, France, Germany, the United Kingdom and the United States.
4. While the ILO Social Security Inquiry database contains indicators on the coverage of UI benefits, this database does not cover all OECD countries.
5. Taxes, social assistance, family benefit and housing benefit are not directly linked to individuals' employment history. Rather, they are mean-tested on household income and they are often affected by household composition. Net replacement rates are higher for families with children than for childless households, since families with children receive higher social transfers and often benefit from more favourable tax treatments. Therefore, indicators reported in Figure 5.6 constitute a lower-bound estimate of net replacement rates since they refer to a single person without children.

References

Alarcon, G. (2011), "A meta-analysis of burnout with job demands, resources, and attitudes", *Journal of Vocational Behavior*, Vol. 79, pp. 549-562.

Bakker, A. and E. Demerouti (2007), "The Job Demands-Resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22/3, pp. 309-328.

Blanchflower, D. and A. Oswald (2002), "Well-being over time in Britain and the USA", *Journal of Public Economics*, Vol. 88, pp. 1359-1386.

Clark, A. (2010), "Work, Jobs, and Well-Being Across the Millennium", in Diener, E., D. Kahneman and J. Helliwell (eds.), *International Differences in Well-Being*, Oxford University Press.

Clark, A. and F. Postel-Vinay (2009), "Job security and job protection", *Oxford Economic Papers*, No. 61, pp. 207-239.

de la Fuente, A. (2011a), "8.5 million underemployed part-time workers in the EU-27 in 2010", *Eurostat Statistics in Focus*, No. 56/2011.

de la Fuente, A. (2011b), "New measures of labour market attachment", *Eurostat Statistics in Focus*, No. 57/2011.

Demerouti, E., A.B. Bakker and A.J. Bulters (2004), "The loss spiral of work pressure, work-home interference and exhaustion: Reciprocal relations in a three-wave study", *Journal of Vocational Behavior*, Vol. 64, pp. 131-149.

Dolan, P., T. Peasgood and M. White (2008), "Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being", *Journal of Economic Psychology*, Vol. 29, pp. 94-122.

Eurofound (2012), *Trends in job quality in Europe*, Publications Office of the European Union, Luxembourg.

Hakanen, J. and W. Schaufeli (2012), "Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study", *Journal of Affective Disorders*, Vol. 14, pp. 415-424.

Haugen, S. (2009), "Measures of Labor Underutilization from the Current Population Survey", *BLS Working Paper*, No. 424.

Hu, Q., B. Schaufeli and T. Taris (2011), "The Job Demands – Resources model: An analysis of additive and joint effects of demands and resources", *Journal of Vocational Behavior*, Vol. 79, pp. 181-190.

ILO (International Labour Organization) (2013), *Statistics of work and of the labour force – Report for discussion at the Meeting of Experts in Labour Statistics on the Advancement of Employment and Unemployment Statistics (Geneva, 28 January-1 February 2013)*.

ILO (2012), *Decent Work Indicators: Concepts and definitions*, ILO Manual, First edition, Geneva.

Karasek, R. (1979), "Job demands, job decision latitude, and mental strain: implications for job design", *Administrative Science Quarterly*, Vol. 24, pp. 285-308.

Latif, E. (2010), "Crisis, unemployment and psychological wellbeing in Canada", *Journal of Policy Modeling*, Vol. 32, pp. 520-530.

Lucas, R., A. Clark, Y. Georgellis and E. Diener (2004), "Unemployment alters the set-point for life satisfaction", *Psychological Science*, Vol. 15, pp. 8-13.

McKee-Ryan, F., Z. Song, C. Wanberg and A. Kinicki (2005), "Psychological and physical well-being during unemployment: a meta-analytic study", *Journal of Applied Psychology*, Vol. 90, pp. 53-76.

Mauno, S., U. Kinnunen and M. Ruokolainen (2007), "Job demands and resources as antecedents of work engagement: A longitudinal study", *Journal of Vocational Behavior*, Vol. 70, pp. 149-171.

Muñoz de Bustillo, R., E. Fernández-Macías, J.I. Antón and E. Fernando (2011), *Measuring More Than Money – The Social Economics of Job Quality*, Cheltenham: Edward Elgar.

OECD (2013), "Protecting jobs, enhancing flexibility: A new look at employment protection legislation", in *OECD Employment Outlook 2013*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/empl_outlook-2013-6-en*.

OECD (2012), *Sick on the Job?: Myths and Realities about Mental Health and Work*, Mental Health and Work, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264124523-en*.

OECD (2011), "Earnings Volatility: Causes and Consequences", in *OECD Employment Outlook 2011*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/empl_outlook-2011-5-en*.

OECD (2009), "How Do Industry, Firm and Worker Characteristics Shape Job and Worker Flows?", in *OECD Employment Outlook 2009: Tackling the Jobs Crisis*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/empl_outlook-2009-3-en*.

Schaufeli, W., A. Bakker and W. van Rhenen (2009), "How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism", *Journal of Organizational Behavior*, Vol. 30, pp. 893-917.

Siegrist, J. (1996), "Adverse health effects of high effort-low reward conditions", *Journal of Occupational Health Psychology*, Vol. 1, pp. 27-41.

Stansfeld, S. and B. Candy (2006), "Psychoscial Work Environment and Mental Health – A Meta-analytic Review", *Scandinavian Journal of Work and Health*, Vol. 32, Special Issue No. 6, pp. 443-462.

Theodossiou, I. (1998), "The effects of low-pay and unemployment on psychological well-being: a logistic regression approach", *Journal of Health Economics*, Vol. 17, pp. 85-104.

UNECE (United Nations Economic Commission for Europe) (2010), *Measuring Quality of Employment – Country Pilot Reports*, Geneva.

van der Doef, M. and S. Maes (1999), "The job demand-control (-support) model and psychological well-being: A review of 20 years of empirical research", *Work and Stress*, Vol. 13, pp. 87-114.

van Vegchel, N., J. de Jonge, H. Bosma and W. Schaufeli (2005a), "Reviewing the effort-reward imbalance model: drawing up the balance of 45 empirical studies", *Social Science and Medicine*, Vol. 60, pp. 1117-1131.

van Vegchel, N., J. de Jonge and P. Landsbergis (2005b), "Occupational stress in (inter)action: the interplay between job demands and job resources", *Journal of Organizational Behavior*, Vol. 26, pp. 535-560.

Venn, D. (2011), "Earnings Volatility and Its Consequences for Households", *OECD Social, Employment and Migration Working Paper*, No. 125, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kg3v00zgslw-en*.

Venn, D. (2009), "Legislation, Collective Bargaining and Enforcement: Updating the OECD Employment Protection Indicators", *OECD Social, Employment and Migration Working Papers*, No. 89, OECD Publishing, Paris, *http://dx.doi.org/10.1787/223334316804*.

WHO (World Health Organization) (2007), "Mental Health: Strengthening Mental Health Promotion", *Fact Sheet*, No. 220, World Health Organization, Geneva.

Winkelmann, L. and R. Winkelmann (1998), "Why Are the Unemployed So Unhappy? Evidence from Panel Data", *Economica*, Vol. 65, pp. 1-15.

ANNEX 5.A1

Interactions between job demands and job resources

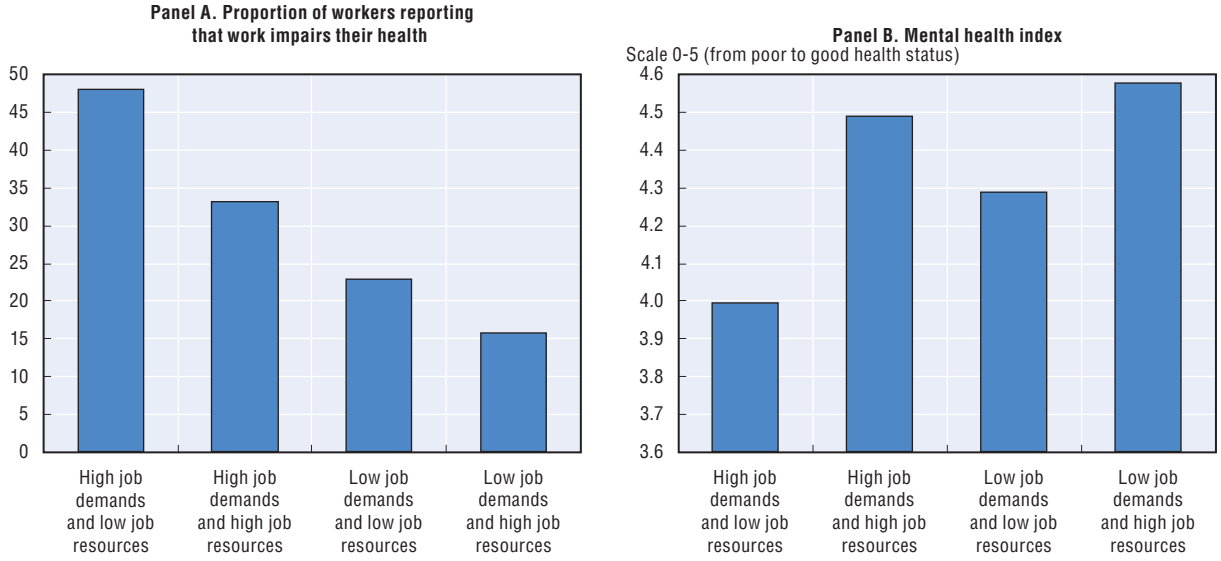
How do job demands and job resources interact with each others to shape the overall quality of life at work? The literature on occupational health suggests that there are both additive and compensating effects between the various aspects of the work environment (Hu et al., 2011). Further, it argues that with respect to the quality of life at work, these additive and compensating effects are more important than those of each individual component, taken in isolation.

From a well-being perspective, two groups of workers are of particular interest. First, are those workers who are exposed to high job demands while having few job resources at their disposal. These are most likely to experience low well-being at work and work-related health problems. Second, are workers characterised by reasonable levels of job demands coupled with abundant job resources. Figure 5.A1.1 suggests that the interaction between job demands and job resources matters for the well-being of workers. For each worker, two composite indicators (of total job demands, on one side, and of total job resources) have been constructed by averaging the different components of these two dimensions. The thresholds for defining high and low scores on these two summary indicators are set to their respective national average. As a result, four groups of workers can be distinguished in each country: employees in strained job (i.e. high job demands and low job resources); employees benefiting from a stimulating work environment (i.e. low job demands and high job resources); employees for which high levels of resources may reduce the negative health impact of high levels of job demands; and employees who simultaneously face low levels of job demands and job resources.

As shown in Figure 5.A1.1, there is a strong relationship between the quality of the work environment and the health impact of work as perceived by individuals. On average across the 22 European countries for which data are available, 47% of workers in strained jobs report high exposure to work-related health risk factors, against 15% among the group of workers who benefit from the most stimulating work environment (Panel A). This latter group also shows better mental health than the former group of workers (Panel B). Figure 5.A1.1 also suggests that job resources provide a buffer against the negative effects of excessive job demands on employee health and well-being. As compared to workers lacking adequate resources to meet the high levels of job demands they are exposed to, workers with more job resources at their disposal report much less frequently that work impairs their health (33%, against 47%). The mental health index for this group of workers is similar to that observed among workers who benefit from the best work environment. While this analysis does not allow to infer any causal links, it suggests that the various

Figure 5.A1.1. **Job demands, job resources and workers' health**

Unweighted average, 2010



Note: The unweighted average includes 22 OECD countries: Austria, Belgium, the Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, the United Kingdom, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovenia, the Slovak Republic and Sweden.
For the description of the variables description, please see Table 5.2.
Source: Eurofound (2010), *European Survey on Working Conditions, Wave 5*.

StatLink http://dx.doi.org/10.1787/888932889212

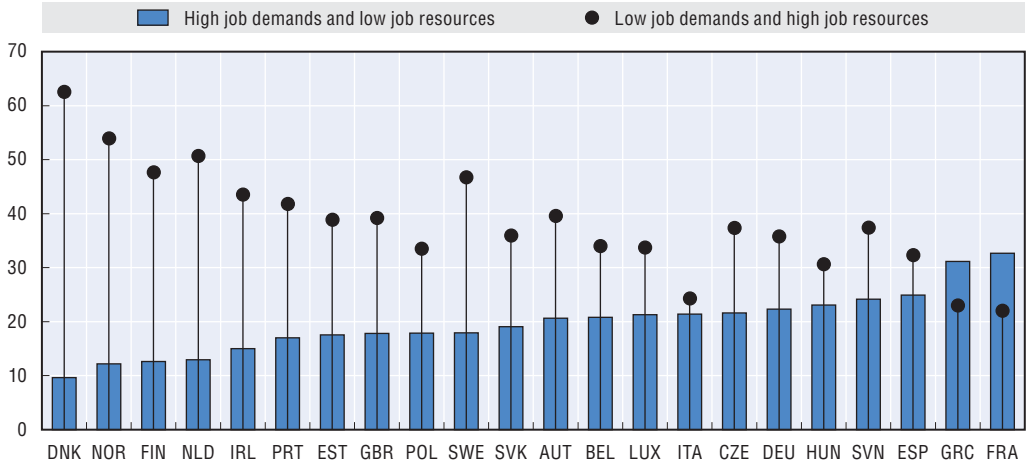
aspects of work organisation and workplace relationships analysed here do matter for the well-being of workers, and that they interact with each others to shape the overall quality of life at work.

The approach followed so far has consisted in comparing the health outcomes of different work environments within a same country. A difficult question is whether this measurement framework can be used for cross-country comparisons in quality of life at work. Comparing the quality of life at work across countries requires establishing common criteria for characterising the various work environments in all countries, i.e. a common threshold for defining high and low levels of total job demand, and a common threshold for defining high and low levels of job resources. For illustrative purposes, these two thresholds have been set at the average value of the two composite indices across the 22 European countries analysed. By characterising the level (low versus high) of total job demands and total job resources, respectively, that each individual face in every country, these illustrative thresholds allow calculating the share of individuals affected by low quality of life at work in each country.

Figure 5.A1.2 shows the incidence of poor and good work environments in the 22 European countries for which data are available. It suggests that, while good work environments are more widespread than poor ones in virtually all countries, there is wide cross-country variation. About 30% of workers are in strained jobs in Greece and France, against 10% or more in Denmark, Norway, Finland and the Netherlands. Symmetrically, less than one in four workers benefit from abundant job resources while facing relatively low levels of job demands in Italy, Greece and France, while this proportion exceeds 45% Denmark, Norway, Finland, Sweden and the Netherlands.

Figure 5.A1.2. **Quality of the work environment in selected European countries**

Proportion of workers reporting high (low) job demands coupled with low (high) job resources, 2010



Note: For the description of the variables, please see Table 5.2.
Source: Eurofound (2010), *European Survey on Working Conditions, Wave 5*.

StatLink http://dx.doi.org/10.1787/888932889231

These cross-country comparisons should be considered with caution. First, they rely on methodological choices that may affect cross-country comparisons. In particular, the framework used in this section for measuring quality of life at work implies defining: a set of (mainly) qualitative variables to measure the various job demands and resources; a normalisation procedure to compare qualitative variables measured on different scales; a criterion to identify good and bad achievements; and an aggregation procedure to calculate total job demand and total job resource. Second, many aspects of life quality at work relies on workers' subjective judgement about their job, which raises a number of issues for cross-country comparisons (OECD, 2013). For instance, individuals in different countries may report similar work experiences in a different way due to cultural differences. Therefore, further work is need to ensure that this measurement framework makes it possible to compare quality of life at work across countries in a meaningful way.

Chapter 6

Measuring the sustainability of well-being over time

What are the factors that can shape well-being in the future? How do the choices that we make today affect the options for future generations? These are complex but important issues. Policy-makers, citizens and organisations need information about what sustains well-being over time, to help guide decision-making in the present. This chapter focuses on four types of resources (or "capital") that can be measured today, and that matter for future well-being: economic, natural, human, and social capital. It argues that these resources should be monitored through a dashboard of indicators, including measures that can capture stocks of capital, their distribution, and some of the factors that can cause them to increase and decrease over time. This dashboard of indicators should be developed to complement the dashboard of current well-being outcomes in How's Life? *enabling us to assess today's well-being in the context of the resources left for future generations.*

Introduction

How can we be sure that the steps taken to improve well-being today do not undermine the well-being of people in the future? Assessing the sustainability of well-being over time is challenging: many of the things that will affect future well-being, ranging from changes in tastes to changes in technology, cannot be known and measured in the present. We can, however, look at the stocks of resources that help to shape well-being outcomes, and monitor whether these resources are being sustained for use by future generations. This is the approach proposed in the OECD framework for measuring well-being (see Chapter 1), and the one recommended by a recent UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development (TFSD, Box 6.1). While stocks of resources will not be the only determinants of well-being over time, they offer a practical means to examine the link between the present and the future; through the accumulation or depletion of resource stocks, the choices made by one generation can influence the opportunities available to the next.

Box 6.1. **The UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development**

In 2009, the Conference of European Statisticians set up a joint UNECE/Eurostat/OECD *Task Force for Measuring Sustainable Development* (TFSD). A key goal of the TFSD was to develop a broad conceptual framework that could bring together the wide variety of methods that have been used by both national and international institutions to measure sustainable development.

The TFSD brings the concepts of well-being and sustainable development together. Like the seminal UN-sponsored *Brundtland Report*, the TFSD regards sustainable development as being about distributive justice: meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Well-being is then incorporated into the framework as a way to specify the "needs" of generations in a tangible and quantifiable way.

The framework proposed by the TFSD is designed to be a flexible tool that can be adapted to fit the needs of individual countries. It includes twenty sustainable development "themes" that cover environmental, social and economic aspects of development. These themes are also mapped to three different conceptual dimensions, looking at human well-being "here and now"; the potential for human well-being among future generations "later"; and well-being "elsewhere", which refers to the ways in which the development paths of different countries impact on one another. The TFSD also put forward three different potential sets of sustainable development indicators, each covering a mix of these three different perspectives on well-being.

Sustaining well-being over time is most clearly related to the Task Force recommendations that address the needs of generations "later". To explore this particular dimension, the TFSD recommends a "capital approach" – i.e. a focus on the capital assets that should be preserved for future generations. These are grouped into four categories: economic, natural, human and social capital.

With a strong conceptual focus, this chapter has a different "feel" from the rest of *How's Life?* Its main objective is to describe what we know about the resources (or "capital stocks") that sustain well-being over time, and how they can be most usefully monitored. The chapter takes the OECD well-being framework and the TFSD recommendations as a starting point, demonstrating how the resource- or capital-based approach to measuring the sustainability of well-being over time can be implemented in the context of *How's Life?* It concentrates on four different types of resources (economic, natural, human and social capital) and describes how they help to shape well-being outcomes at the individual and household level.

Guided by the principles set out in the TFSD report (UNECE, 2013), broad measurement themes and example indicators for each of the four capital stocks are then identified. The chapter argues that the measurement priority for sustaining well-being over time should be monitoring these stocks of capital and their distribution, particularly where the latter can highlight specific risks or vulnerabilities. Useful supplementary indicators might include the efficiency with which stocks are used to help produce well-being outcomes, and specific risk factors that can cause stocks to increase or decrease over time. A particular emphasis should also be placed on the thresholds or tipping points beyond which stocks might be considered dangerously low or imbalanced (Stiglitz et al., 2009).

Given the wide range of potential measures this approach could yield, a further process of review and refinement will be needed to finalise the most concise and relevant set of indicators. An eventual dashboard of measures for the capital stocks that help to sustain well-being over time could then be gradually incorporated into *How's Life?* to complement the dashboard of current well-being indicators.

Sustaining well-being over time: The capital approach

Measuring current well-being as set out in *How's Life?* (Chapter 1) is about capturing outcomes: is life getting better, and for whom? Understanding whether those outcomes are likely to be sustained in the future needs a greater focus on the factors that drive well-being in the medium and the longer term. The most useful approach is to consider the resources that persist over time, and which can be thought of as "capital" – i.e. resources that are capable of storing value, and that can generate a stream of benefits to society over time.

The notion of capital is helpful for understanding sustainability because capital stocks link the present with the future. Through the accumulation or depletion of capital stocks, the choices made by one generation can influence the opportunities available to the next generation. Deciding not to invest in maintaining roads, bridges and railways might enable one generation to reduce their expenditure in the short-term, but it may have implications for how much future generations need to spend in order to meet their infrastructure needs. A focus on capital emphasises monitoring movements in stocks of resources, and compensating for any depletion in resources through investment and management. Thus, a capital approach can "be used by nations to guide their investment strategies for sustainability" (UNU-IDHP and UNEP, 2012).

Applying this capital approach to well-being requires mapping and monitoring the underlying drivers of well-being. Although research into drivers is reasonably well advanced in some areas (such as health), in other aspects of well-being (such as work-life balance) detailed examination of the persistent drivers remains underdeveloped. There are also strong interactions among the eleven different dimensions of well-being in *How's Life?*, meaning that some well-being achievements can also be regarded as drivers for the "production" of other

well-being outcomes. For example, good health is highly valued as an outcome in its own right, but health status can also affect participation in education and training, social activities, and the likelihood of having a job. Developing a deeper understanding of the drivers of well-being and how they operate *over time* is therefore a critical element of understanding of the sustainability of well-being.

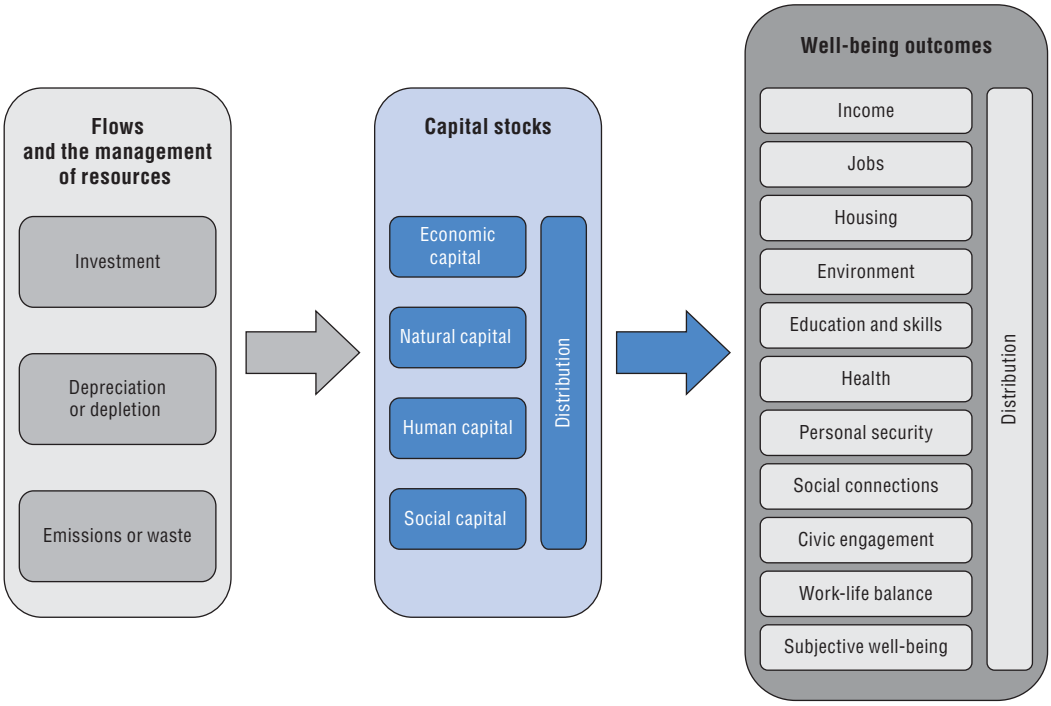
The OECD framework for measuring well-being and the TFSD suggest that four distinct types of resources or capital stocks should be examined: economic, natural, human and social capital (UNECE, 2013). A similar categorisation has been adopted in the New Zealand Treasury's Living Standards Framework (2011) and by Harper and Prince (2011) in a paper prepared for the UK Government's Social Impacts Task Force. A more detailed discussion of how to define these capital stocks is provided later in the chapter, but in broad terms:

- ***Economic capital*** refers to both *produced capital* (man-made tangible assets such as buildings, machinery, and transport infrastructure; and knowledge assets such as computer software or artworks); and *financial capital* (which can include various financial assets such as currency and deposits, and liabilities in the form of debts).
- ***Natural capital*** refers to aspects of the natural environment. It can include individual assets such as minerals, energy resources, land, soil, water, trees, plants and wildlife. However, it also includes broader ecosystems – i.e. the joint functioning of, or interactions among, different environmental assets, as seen in forests, soil, aquatic environments and the atmosphere.
- ***Human capital*** can be defined in several different ways, but typically refers to aspects such as the knowledge, skills, competencies and health of individuals.
- ***Social capital*** is perhaps the least well-defined of the four capital stocks here, but can refer to the social norms, trust, and values that foster co-operation within or among different groups in society. Some definitions of social capital also include aspects of governance and institutions.

These various types of capital share some common characteristics – for example, they all have some degree of persistence, and they all influence a broad range of well-being outcomes. However, they also differ in a number of ways. Some types of capital are owned and transferable between owners, and typically this applies to all forms economic capital, and some forms of natural capital (such as minerals and land). Other types of capital are shared, not rival, i.e. their use by one person does not prevent others from also using them. This often applies to social capital, and to some aspects of natural capital such as ecosystems. Finally, while some types of assets decline with use (e.g. produced assets such as infrastructure), other types may be reinforced through use (e.g. education and skills, and elements of social capital such as co-operative norms).

Figure 6.1 illustrates the capital approach. Economic, natural, human and social capital stocks are at the centre, while the outcomes to be sustained are described in terms of the 11 *How's Life?* well-being dimensions. The distribution of outcomes is emphasised as a key aspect of current well-being throughout *How's Life?*, but it may also be an important characteristic to investigate in capital stocks. Finally stocks themselves can be influenced by various "flows" such as investment (i.e. actions taken to increase the stock), and depreciation or depletion (i.e. reductions in the stock over time). Emissions and waste can also affect stocks and their value (e.g. pollution has consequences for human capital via health impacts; emissions can affect the ecosystems that we rely on to absorb them).

Figure 6.1. **Linking capital stocks, flows and well-being outcomes in the OECD well-being framework**



Economic capital and well-being

Defining and measuring economic capital

Economic capital is perhaps the best-defined of all capitals, and the one best adapted to an accounting framework such as the System of National Accounts (SNA). Economic capital refers to both produced capital and financial capital. *Produced capital* (sometimes described as "man-made capital") consists of tangible assets such as roads, railways, buildings, machinery as well as inventories of final and intermediate goods; and knowledge assets, such as intellectual property, computer software and works of artistic value. *Financial capital* includes assets such as currency and deposits, stocks and bonds, derivatives, accounts receivable, private pension funds and insurance reserves (United Nations, 2009a). In a closed economy, financial capital is a zero-sum stock – i.e. for every asset there is a liability of equal value. However, in an open economy financial liabilities within a country can exceed financial assets, and vice versa, with the resulting stock of net foreign assets and liabilities forming part of a nation's stock of financial capital. Even though financial assets are claims on real assets, financial capital has consequences for the sustainability of well-being, both as a component of household wealth, and as something that affects the stability of the economic system (UNECE, 2013).

One specific category of economic capital highlighted by the TFSD is that of "knowledge capital" – a subset of produced capital. Under the newly-revised System of National Accounts 2008 (United Nations, 2009b), research and development (R&D) expenditures are recorded as investments that build a stock of knowledge capital, whereas these were previously considered as intermediate consumption. Knowledge capital is

viewed as important for sustainability because of its potential to contribute to productivity growth, and in particular to develop technology that could enable future well-being to be achieved through a more efficient use of resources than at present.

Beyond the total stock of a country's economic capital, its distribution both between institutional sectors (households, governments, non-financial institutions, financial intermediaries) and within them (e.g. between different types of households) can be an important consideration for the sustainability of well-being (UNECE, 2013). For example, if economic wealth is concentrated among a very narrow subset of the population, only that subset will have the resources needed to buffer against sudden economic shocks, which could in turn lead to a decline in well-being among the least wealthy. Unsustainable imbalances may also occur between sectors – if, for example, households are running up high debts whilst firms are reducing theirs.

The System of National Accounts (United Nations, 1993, 2009b) sets out an accounting framework for measuring economic capital, while the OECD Manual "Measuring Capital" (OECD, 2001b; OECD, 2009) provides guidance on the concepts and practice for measuring the stock of produced capital. Indicators of countries' economic capital stocks are not typically reported on a per capita or household basis but rather as a percentage of GDP (as in the case of general government debt). In many cases these choices are entirely pragmatic – for example, the amount of financial capital held by banks is best understood relative to the total assets of those institutions, rather than the number of people in the country in which the institution is based. Nonetheless, understanding the implications of economic capital for future individual and household well-being ultimately means that indicators should be measured on a scale that can be related to the experience of individuals and households. Per capita measurement may also be important for understanding the impact of changing demography on the physical and financial resources available to future generations. Measures of wealth at the household level do exist (as reported in *How's Life?*) but at present, these often exclude non-financial assets such as property, which make up a large proportion of total wealth.

Linking economic capital to well-being

Economic capital has wide-ranging direct and indirect links to the well-being outcomes described in *How's Life?*:

- *Economic capital plays a direct role in supporting people's material conditions* (or economic well-being) including well-being outcomes such as housing, wealth, jobs and earnings. More generally, people derive well-being from consuming goods and services that have been produced through economic capital.
- *Both produced and financial assets also serve as a store of value for households, to ensure their economic security when confronted with various risks and life choices*. Household wealth contributes to people's well-being in a direct way by providing a buffer against unexpected income shocks and by enhancing people's freedom to choose the lives they want to live. In the longer term, household wealth helps to ensure that material living standards are sustainable over time (OECD, 2011c).

Natural capital and well-being

Defining and measuring natural capital

Natural capital consists of a wide range of naturally occurring assets, from tradable items such as minerals and timber, through to oceans and the atmosphere. A distinction can be made between "environmental assets", which are individual components of the environment (such as fish, or oil resources), and "ecosystems" which refer to the joint functioning of, or interactions among, different environmental assets (such as seen in soil, forests, aquatic environments and the atmosphere).

In 2012, the United Nations Statistical Commission published a new System of Environmental and Economic Accounting (SEEA), and adopted the central framework of this system as an international standard.[1] The SEEA Central Framework (UNSC, 2012) defines environmental assets as "the naturally occurring living and non-living components of the Earth, together comprising the bio-physical environment, that provide benefits to humanity" (p. 124). It lists seven sets of assets, detailed in Table 6.1.

Table 6.1. **Classification of environmental assets in the SEEA Central Framework**

1. Mineral and energy resources
1.1. Oil resources
1.2. Natural gas resources
1.3. Coal and peat resources
1.4. Non-metallic mineral resources (excluding coal and peat resources)
1.5. Metallic mineral resources
2. Land
3. Soil resources
4. Timber resources
4.1. Cultivated timber resources
4.2. Natural timber resources
5. Aquatic resources
5.1. Cultivated aquatic resources
5.2. Natural aquatic resources
6. Other biological resources (excluding timber and aquatic resources)
7. Water resources
7.1. Surface water
7.2. Groundwater
7.3. Soil water

Source: System of Environmental-Economic Accounting (SEEA) Central Framework (UNSC, 2012).

Both renewable and non-renewable resources are included among environmental assets. Non-renewable resources are exhaustible, i.e. their natural stocks cannot be regenerated after exploitation. Examples include metals and other minerals, land, coal, oil and gas. Renewable assets are those that after exploitation can, in principle, regenerate by processes of growth or replenishment – provided certain conditions, such as not violating "critical" stock levels, are met.[2] They include timber from managed forests, wool from farmed sheep, and fish from sustainably managed stocks. The SEEA highlights the increasingly important role of renewable energy sources (i.e. wind, wave, hydropower, solar and geothermal) in many countries, but argues that the nature of these resources make them difficult to conceptualise in physical stock terms, because they are neither depleted through use, nor regenerated in the manner of, say, timber and biomass. Thus, in the

context of asset accounting, the SEEA suggests that the opportunity to generate energy from these sources should instead be captured in the value of land (or the relevant stock of water in the case of hydropower).

The SEEA proposes a framework for measuring environmental assets in both physical and monetary units. The scope of monetary valuations is limited to valuing the benefits that accrue to economic owners of the assets. This therefore excludes any benefits that are shared more widely, and any forms of natural capital, such as ecosystems and their associated services, which do not have owners. The scope of environmental assets measured in physical terms can, however, be wider than this. The coverage of environmental assets in the SEEA Central Framework is nonetheless focused on the assets that provide direct material benefits (e.g. space and materials for economic activities). It therefore excludes non-material benefits from indirect uses of assets and their associated environmental services (e.g. carbon storage, flood mitigation). In addition, assets are limited to the economic territory of nation states. Thus, cross-border or "trans-boundary" impacts and global shared assets (such as the atmosphere and oceans) are not captured within this framework.

The SEEA Experimental Ecosystem Accounts (currently in draft form for consultation) will consider a wider range of material and non-material benefits than the central framework. Their measurement focus is ecosystems, which can consist of groups of different environmental assets *functioning together* within a specific spatial area. Ecosystems are defined in the SEEA Central Framework as "areas containing a dynamic complex of biotic communities (for example, plants, animals and micro-organisms) and their non-living environment interacting as a functional unit to provide environmental structures, processes and functions" (UNSC, 2012, 2013). Examples include forests and marine ecosystems, which interact with the atmosphere. Ecosystem accounting includes both measuring the stock and changes in the stock of ecosystem assets, as well as measuring ecosystems' capacity to deliver flows of *ecosystem services* – i.e. the benefits to both the economy and wider humanity derived from ecosystem functioning. These benefits provide the essential link between ecosystem assets and human well-being.

Ecosystem functions or services can be categorised in a number of different ways – and there is currently no international consensus regarding how they should be classified and measured. One approach (e.g. Millennium Ecosystem Assessment, 2005; OECD, 2010a) groups ecosystem services into: *i) provisioning services*, such as food, biochemicals, genetic resources, fresh water and fuel; *ii) regulating services*, including climate regulation, water purification, erosion regulation, and pollination; *iii) cultural services*, including education and inspiration, recreation and spiritual and aesthetic values; and *iv) supporting services*, such as habitat provision, and water and nutrient cycling.[3] One aspect of ecosystem services measurement that is quite advanced, however, is carbon sink capacity. Measures such as ocean acidity, global mean sea level, and atmospheric CO_2 concentrations are indicators of that finite sink capacity.

Environmental conditions referred to as "environmental quality of life" (OECD, 2011b; OECD, 2011c) such as air quality, water quality, and access to recreational or green space, share some characteristics of capital – to the extent that they are relatively persistent over time, accumulate relatively slowly but can change rapidly, and have consequences for multiple well-being outcomes. From a capital stocks perspective, it would be preferable to measure the *ecosystem assets* that deliver these environmental conditions (such as the ecosystems that cycle air and water pollution). However, in the absence of agreed

ecosystem measures, it may be valuable to measure the availability of clean air, clean water, and green space under the capital approach – even if in practice some of these may be more like intermediate variables linking the underlying ecosystem assets to the well-being outcomes of interest.

Linking natural capital to well-being

Natural capital stocks produce a stream (or flow) of benefits and services that affect human well-being. Benefits can be felt directly – for example, through clean air or drinking water, or forestation providing protection from flooding; or indirectly through longer causal chains involving social, economic and political mediation, such as political tensions caused by competition for natural resources, or reduced crop yields affecting food prices and nutritional health (Millennium Ecosystem Assessment, 2005). The OECD's Green Growth Strategy (2011b; 2011c) describes the role of natural assets in economic production.

Links between natural capital and well-being outcomes in the OECD well-being framework include:

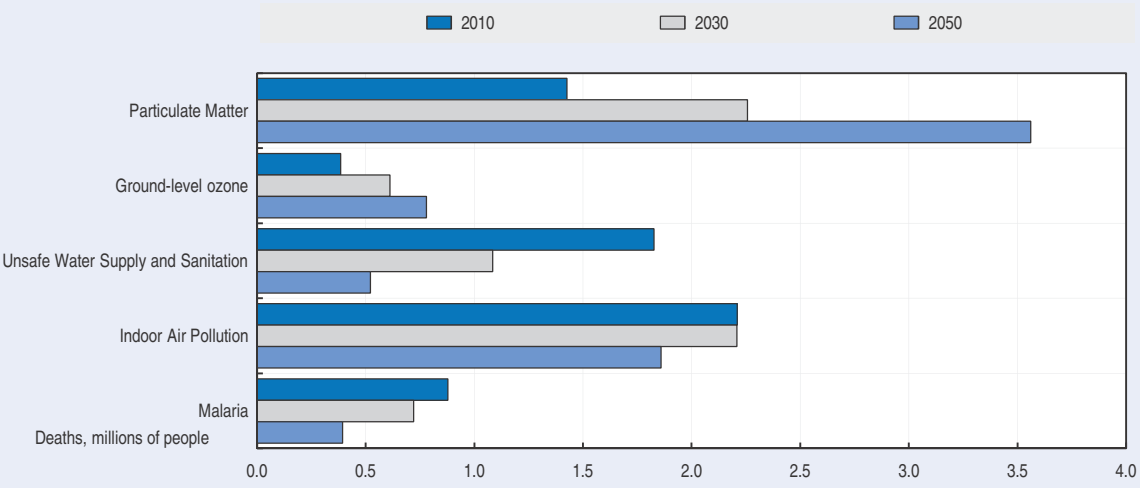
- *Natural capital is directly related to the well-being dimension of "environmental quality"*. This recognises that resources such as clean air, clean water, access to green spaces and satisfaction with the local environment have intrinsic value, as well as contributing to other well-being outcomes such as health, social connections, personal security and subjective well-being (OECD, 2011c).
- *Natural capital typically provides the energy and/or material resources that underlie the production of other forms of capital*. This includes inputs such as energy, raw materials, water, air, land and soil; as well as the provision of environmental and social services (e.g. physical space, shelter, food and clean air) that contribute to the development of economic, human and social capital.
- *Natural assets help generate income and wealth*. By definition, environmental assets as described in the SEEA Central Framework provide direct material benefits (e.g. providing the space, energy and materials for economic activities). Inputs include the wide range of environmental assets described above, such as fuel, food, fresh water, biochemicals and genetic resources. The World Bank (2011) estimated that in 2005, natural capital accounted for 30% of the total economic wealth of low income countries, and 25% in lower middle income countries. Natural resources and ecosystem services often add value to other assets. For example, property prices embody the value of living in beautiful settings, and the economic value of farmland reflects the natural assets contained therein (United Nations, 2009a). As countries begin to adopt the SEEA Central Framework (and Experimental Ecosystem Accounts) the ability to account for the economic benefits of natural capital should further improve.
- *Natural capital and its related ecosystem services have major implications for human health and survival* as well as for the quality of housing, recreational opportunities, leisure time, and community relations. Ecosystem services of relevance include regulatory services (such as water purification and erosion regulation), sink functions (such as the capacity to absorb or store pollution, waste and carbon), the protection from natural hazards (such as floods, and UV rays), provision of agricultural and living spaces, and the provision of functions such as pollination. Natural capital also delivers educational, recreational and leisure benefits, as well as aesthetic, spiritual and psychological benefits. For example, living close to green space has been associated with improved mental well-being

Box 6.2. **Natural capital and physical health**

There is a very strong link between natural capital and human health. Natural capital provides resources for shelter, and energy for heat and light. Clean air and clean water are essential prerequisites for human health. For example, it is estimated that in 2004 outdoor urban air pollution caused nearly 1.2 million deaths worldwide, and indoor air pollution almost 2 million deaths (WHO, 2009). By 2050, the number of premature deaths from exposure to particulate matter is projected to more than double to 3.6 million a year globally, with most deaths occurring in China and India (Figure 6.2). Natural capital also provides regulating functions that control the range and transmission of certain diseases, such as malaria.

Figure 6.2. **Global premature deaths from selected environmental risks**

Baseline, 2010 to 2050



Note: "Unsafe water supply and sanitation" refers to child mortality only.
Source: OECD (2012a), *Environmental Outlook to 2050: The Consequences of Inaction*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264122246-en*.

StatLink http://dx.doi.org/10.1787/888932889250

(White et al., 2013; van den Berg et al., 2010; Maas et al., 2009), and lower risk of disease (Maas et al., 2009), while higher levels of air pollution have been associated with lower life satisfaction (Silva and Brown, 2013). Box 6.2 describes some of the links between natural capital and physical health.

Human capital and well-being

Defining and measuring human capital

OECD (2001a) defined human capital as "the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being". For UNU-IHDP and UNEP (2012) human capital consists of education, skills, tacit knowledge, and health. Many researchers and institutions are currently using definitions of human capital that emphasise its value to economic production (Boarini et al., 2012), although 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, 2011c).

The concept of human capital is rooted in work on the importance of the quality of labour for economic production and earnings differentials (e.g. Schultz, 1961; Becker, 1962). Notionally, for the same amount of work (hours) and other inputs, a higher stock of human capital would enable greater productivity and earnings. 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, 2001a). "Health capital" is sometimes separately identified as a specific asset in itself (e.g. National Research Council, 2010; UNU-IHDP and UNEP, 2012). In this context, the TFSD note various risk factors that can affect future health outcomes (such as hypertension and obesity), which are sometimes regarded as components of the capital stock.

Investments in human capital can take many forms, including parenting, formal education, on-the-job training, informal training, health behaviours (such as those relating to smoking, alcohol, diet and exercise) and healthcare. The stock of human capital can also be affected by migration inflows and outflows. In contrast to economic capital and many forms of natural capital, human capital may increase with use, rather than being depleted. For example, exercising skills can serve to strengthen them over time, whereas failure to use them (e.g. due to involuntary unemployment) can result in their deterioration. This underscores the fact that different forms of capital have different "laws of motion" in relation to well-being production (Laroche et al., 1999; Boarini et al., 2012). Nonetheless, like other forms of capital, the stock of human capital takes time to accumulate, and can depreciate without sufficient investment (e.g. skills can become rusty, or even obsolete as technology changes).

Because human capital is embodied in individuals, its stock is depleted when the individual "owner" of the capital dies. Nonetheless, knowledge and skills can be transferred between generations through a variety of means, and thus individuals can leave behind a legacy that can contribute to the human capital stock of future generations. The maintenance of the human capital stock will be affected by both public and private, market and non-market, investment in education, training and health (Abraham and Mackie, 2005), as well as migration (Stark et al., 1998; Beine et al., 2008) and demographic changes (Liu, 2011). Families and social capital in particular play a role in the transfer of human capital between generations (Abraham and Mackie, 2005). For example, the educational attainment of young people is highly correlated with that of their parents in most OECD countries (OECD, 2012b), and parental involvement in education and learning is associated with better student performance (OECD, 2012c).

Due to the broad range of characteristics encompassed by the definition of human capital, measures often incorporate a range of indicators regarding educational or skills levels, as well as labour statistics such as employment, and health indicators, such as life expectancy (e.g. UNECE, 2013; Liu, 2011). Measures exist in both monetary and physical units.

Estimating the monetary value of human capital

There are no internationally agreed standards for estimating the monetary value of human capital stocks, but experimental indicators do exist (see Boarini et al., 2012 for a review). The *lifetime income approach* (Jorgenson and Fraumeni, 1989; Liu, 2011) combines information about a country's total population, its structure (by age and gender), life expectancy, educational attainment, employment patterns, and earnings. Alternatives to the lifetime income approach include the *indirect (residual) approach* adopted by the World Bank (2006; 2011)[4] and the *cost-based approach*, which focuses on the stream of past

investments in human capital made by individuals, households, employers and governments. All of these approaches, however, focus only on the *economic value* of the total human capital stock, and they therefore exclude the wide range of non-market benefits that can flow from factors such as higher skills (illustrated in OECD, 2010b). Monetary valuations have, however, been estimated for the non-production impacts of education on crime and health (Lochner and Moretti, 2004; Lochner, 2011).

Physical measures of human capital

For human capital, the physical indicators most commonly used in the context of sustainability reporting include:

- ***Measures of educational attainment*** such as the highest educational level attained; mean years of schooling of the total or working age population; or expected years of schooling for young people living today.
- ***Measures of the skills and competences*** (gained in school or outside) of students (e.g. OECD's Programme for International Student Assessment, PISA) or adults (e.g. OECD's Programme for the International Assessment of Adult Competencies, PIAAC).
- ***Measures of health status*** such as life expectancy, or quality-adjusted life expectancy, which reflects the extent to which illness or disability place limits on a person's functioning (e.g. Eurostat's healthy life years measure, 2009, 2011).

These variables can combine to influence the total stock of human capital, but in isolation should be considered as necessary rather than sufficient conditions. For example, a high level of life expectancy can, but need not be, accompanied by the knowledge, skills and competencies needed to ensure a high level of human capital overall. Similarly, a highly educated and skilled workforce that nonetheless suffers high levels of illness will not be able to fulfil its human capital potential.

Linking human capital to well-being

There are strong links between human capital and the well-being outcomes in the *How's Life?* framework because:

- *Human capital is an essential input to economic production and income generation.* In terms of the economic benefits that flow from human capital stocks, the *Inclusive Wealth Report 2012* (UNU-IHDP and UNEP, 2012) estimated that human capital makes up 90% of the productive base of the economy in the United Kingdom, 78% in the United States, and 61% in Norway. "New growth models" (e.g. Romer, 1990; Barro and Sala-i-Martin, 1995) also include an important role for human capital in driving technological progress. At the individual level, human capital can be regarded as an individually-owned asset that can generate income streams over a person's lifetime and provide a buffer against sudden shocks (Boarini et al., 2012).
- *Human capital encompasses intrinsically valuable well-being outcomes, and contributes to other non-monetary well-being outcomes.* For example, good physical and mental health status enables participation in education, training and the labour market, as well as social relationships; health is also strongly related to subjective well-being (OECD, 2011c). Similarly, higher levels of education and skills are associated at the individual level with higher earnings and greater employability, better health status, greater civic awareness and political participation, and, at the societal level, with lower criminality, stronger social cohesion and greater political stability (United Nations, 2009a, 2013; OECD, 2011c). OECD (2010b) describes

the empirical evidence linking education to civic and social engagement and health, and maps out what is known (and what further information is needed) regarding the causal mechanisms behind these relationships. This research makes clear that a wide range of intrinsic benefits are bound up in the concept of human capital.

Social capital and well-being

Defining and measuring social capital

Social capital is the least well-defined of the various types of capital discussed here – and perhaps the one where it is most difficult to make a simple analogy with the accounting structure of other types of capital stocks and flows. While proxy measures of the stock of social capital have been suggested, they are typically more narrow in focus than would be suggested by a relatively broad definition of social capital as "networks together with shared norms, values and understandings that facilitate co-operation within or among groups" (OECD, 2001).

Four main approaches to conceptualising and measuring social capital can be identified (Scrivens and Smith, 2013):

- ***Personal relationships*** refer to people's networks (i.e. friends, relatives, etc.) and the social behaviours that contribute to establishing and maintaining those networks such as spending time with others, or exchanging news by telephone or e-mail.
- ***Social network support*** is a direct outcome of people's personal relationships and refers to the resources – emotional, material, practical, financial, intellectual or professional – that are available to each individual through their personal networks.
- ***Civic engagement*** comprises the activities through which people contribute to civic and community life, such as volunteering, political participation, group membership and different forms of community action.
- Finally, ***trust and co-operative norms*** refers to the shared values and expectations that underpin societal functioning and enable mutually beneficial co-operation.

While all four of these concepts are important for evaluating people's current well-being, it has been suggested that the most relevant dimension for the *sustainability* of well-being over time is trust and co-operative norms (Scrivens and Smith, 2013). There are two main reasons for this focus. First, trust and co-operative norms accumulate slowly and are relatively persistent over time, and can thus be transmitted across generations. Second, trust and co-operative norms have strong and wide-ranging instrumental value, contributing to the functioning of societal systems – market, state infrastructure, social stability – and the collective action which in turn underpin economic performance and other key aspects of social progress.

The two types of trust which are most often considered as forms of social capital are generalised trust (i.e. trust in "others", including strangers) and institutional trust, which can refer to political institutions as well as the judiciary, the police, the media or other institutional systems. Norms refer to informal rules about how people should behave, that are diffused in a group or community through social models, socialisation (including formal education), and the use of sanctions (i.e. formal or informal punishment, such as social ostracisation) in the case of non-compliance.

In addition to the four approaches to social capital outlined above, there is some debate about whether political, institutional and legal (PIL) arrangements should be seen as *components of* social capital, as *determinants* of social capital, or as *outcomes* of social

capital (Scrivens and Smith, 2013). OECD (2001a) argued that PIL arrangements *describe the rules and institutions in which human and social capital work*, rather than being capital stocks themselves. But in other definitions of social capital, institutions play a central role (e.g. UNECE, 2013; World Bank, 2011). Institutions and legal frameworks also show some degree of persistence over time, and could thus be considered as stores of value. Furthermore, they share some other characteristics with the concept of capital, such as deterioration over time in the absence of investment. Regardless of whether institutions are regarded as part of social capital or a separate category, to the extent that they are able to respond to the well-being needs of citizens in the future, they are important for well-being sustainability (Mira d'Ercole and Salvini, 2003).

Social capital differs from human, natural and economic capital since it is largely *relational* – meaning it exists between people rather than being centred on individuals, the economy, or features of the natural environment. As a public good, it is shared by a group of people or by the whole community. It also risks underinvestment as trust and co-operative norms tend to emerge as unintended consequences of various forms of social interaction. Offsetting this to some degree, social capital does not depreciate with use, and may in some cases be reinforced by frequent use.[5] Like human capital, it is challenging to clearly identify the elements of social capital that can be transferred between "owners" in the way that economic assets can be. Rather, social capital tends to be *available to* rather than *owned by* people. This is consistent with a wider (non-economic) definition of capital, but it implies that monetary valuations of social capital are particularly challenging.

Physical measures of social capital

No established indicators exist to reflect the monetary value of trust and co-operative norms or aspects of political, institutional and legal arrangements, although Hamilton and Liu (2013) have estimated that the combined value of assets such as institutional quality and social capital could account for, on average, 25% of total wealth among the high income countries they studied.

The predominant measure of trust is the standard question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" which is included in many national and international surveys (Scrivens and Smith, 2013). Trust can also be examined in relation to specific institutions, including survey questions that ask how much trust (or confidence) people have in specific institutions such as national or local government, the police, the justice system, etc. Other approaches provide less direct, but more nuanced measures of attitudes that pertain to trust through questions on the perceived integrity (or lack of corruption), representativeness and performance of different institutions. Measures of institutional trust can also look at the political system as a whole through questions related to political freedom and satisfaction with democracy.

Despite the importance given to co-operative norms in the literature on social capital, less attention has been given to their conceptualisation and measurement than in the case of trust. Co-operative norms tend to be measured through questions that ask about people's attitudes towards different groups (to measure tolerance and discriminatory attitudes) or beliefs about the helpfulness of others (to measure generalised reciprocity). For example, Knack and Keefer (1997) measure attitudes towards civic co-operation through questions on whether actions such as avoiding paying public transport fares or fraudulently claiming government benefits can ever be justified.

There is no standardised approach for measuring governance or political, institutional and legal arrangements. The TFSD proposes a measure of voter turnout to capture the quality of institutions, although voter turnout is perhaps more of a flow than a stock measure. Refinement of measures for governance or political, institutional and legal arrangements in the context of well-being sustainability should focus first and foremost on aspects that represent *capital* that can be passed to future generations, and that have clear and well-established links to a range of well-being outcomes (Box 6.3).

Box 6.3. **Social capital for sustaining well-being: The statistical agenda**

The diversity of approaches to defining social capital has been a barrier to the development of internationally comparable data. Scrivens and Smith's (2013) compilation of a question "databank" has confirmed the high degree of interest, but also the lack of consistency, in measuring social capital. To date, around 50 recent national and international surveys have been identified that collect data on "social capital" in its various forms. However, questions are rarely harmonised, terminology and focus differ across countries, and data remain scarce. Most sources of comparable data are non-official, including several modules of the International Survey Programme, the World Values Survey, and the Gallup World Poll, but the inferences that can be drawn from such sources remain limited because of factors such as small sample sizes. However, Eurostat's first "quality of life" indicator set will include several measures relevant to social capital under the dimensions of "social interactions" and "governance and basic rights", drawn from the EU-Statistics on Income and Living Conditions (EU-SILC) survey.* Eurostat intends to collect these data on a regular basis in future, through rotating modules.

When it comes to international or cross-border measures of social capital (such as co-operative norms between countries), there are no widely accepted indicators, and this is an area where considerable conceptual and measurement development is still needed. Although much of the social capital literature focuses on the local or national levels, the role of international co-operation in maintaining "global public goods", such as the environment, security, knowledge creation and financial stability has also been highlighted as particularly important for sustaining development and well-being (Kaul et al., 1999; Sachs 2008). OECD (2013a) used a case-study approach to highlight examples of international regulatory co-operation. The TFSD meanwhile proposes using "contribution to international institutions" as a measure of trans-boundary impacts, citing the Swiss Federal Statistics Offices' use of multinational treaties as an indicator of international institutional capital. However, no indicators are proposed by the TFSD in order to measure the *stock* of global social capital

There is also no standardised approach for measuring governance or political, institutional and legal arrangements. Developing a statistical framework for such measures will be a major undertaking, but one that is gaining importance – as reflected in, for example, the decision to recognise "governance and democracy" as a separate pillar in *Measures of Australia's Progress* (ABS, 2012). Refinement of measures in the context of well-being sustainability should focus first and foremost on aspects of governance and institutions which are capital-like in nature, that can be transferred to future generations, and that have clear and well-established links to a range of well-being outcomes.

* Eurostat has collected data relevant to social capital through ad hoc modules (AHM) of the EU-Statistics on Income and Living Conditions (EU-SILC) survey. Measures pertaining to personal relationships, social network support and civic engagement have been collected through the AHM 2006 on Social Participation, and measures concerning social network support and trust are included in the AHM 2013 on Subjective Well-Being.

Linking social capital to well-being

Trust, co-operative norms and political, institutional and legal arrangements can contribute to the well-being outcomes included in *How's Life?* in several ways. They can:

- *Reduce transaction costs and improve economic performance*. Where high levels of trust exist, the need for formal contracts is reduced, thereby reducing transaction costs (Fukuyama, 1995; Knack and Keefer, 1997). This in turn encourages exchange and productivity in both the economic and non-economic spheres, including employment and income at the individual level. Similarly, common expectations reduce the amount of time that has to be spent in agreeing on the exact terms of an exchange. Government performance also benefits from higher levels of trust, which (by reducing transaction costs) can facilitate agreement, collaboration and innovation in state bureaucracies (Knack, 2000).
- *Promote efficient allocation of resources*. Trust and co-operative norms enable forms of collective action which can replace or supplement market or government-based interventions, e.g. natural resource management, or respond to emergencies. Collective action strategies based on trust and co-operative norms often provide the most efficient way to manage common resources such as forests, agricultural land or fisheries stocks, thereby contributing to the maintenance of environmental quality. Mechanisms for collective action are also important to ensure the production of various public goods, on which the effective functioning of markets (and several aspects of wider well-being) depends. This applies at both the national and international level – and "global public goods", such as the environment, security, financial stability, and respect for property rights, require international co-operation to be sustained (Kaul et al., 1999). Norms and values around environmentally-friendly behaviours can also contribute to the sustainable use of natural resources (UNECE, 2013).
- *Influence quality of life and human capital formation*. People living in higher-trust and more co-operative communities tend to be happier (Helliwell and Putnam, 2004; Helliwell and Wang, 2010; Hudson 2006), healthier (Lochner et al., 2003), better educated and more civically engaged (Putnam, 2000), and less likely to be victims of crime (Sampson et al., 1997). Although the causal mechanisms for many of these relationships remain unclear, social capital has been shown to influence behaviours relevant to individual well-being. For example, Coleman showed how norms supportive of educational attainment helped to keep school dropout rates low in certain communities (Coleman, 1988); Sampson et al. (1997) found that neighbourhoods where people were more willing to intervene to uphold public order experienced lower levels of crime.

Additional considerations in measuring capital stocks

Measures of capital stocks exist in both monetary and non-monetary (or "physical") units. This raises a question about the best way to bring these indicators together, to provide a picture of the sustainability of well-being over time. Should measures be somehow aggregated together, or presented as a dashboard of measures? Is it enough to measure capital at the national level, or do we need international and global indicators in some cases? Consistent with Stiglitz et al. (2009) and the TFSD, the section that follows argues that a dashboard of both physical and monetary measures is most appropriate for monitoring the capital stocks that sustain well-being over time. Dashboards can be compiled at the national level, but will in some cases need to reflect the wider international dimensions relevant to certain stocks.

Although the capital approach provides an important organising framework, interpreting the specific policy implications of changes in capital stocks is not always straightforward. To create a more direct line of sight with policy, stock measures may need to be broken down further, or supplemented with additional information, so that they can be understood and acted upon by decision-makers. In particular, the *distribution* of stocks – between sectors or across households – might be used to identify imbalances, or groups within society where future well-being may be at particular risk. Information about various *flows* relating to capital stocks, including investment, depreciation, emissions and waste, can provide more direct information about how actions today can produce changes in the quality and quantity of stocks left behind for future generations. Measures that can capture the *efficiency* with which stocks are used can meanwhile indicate whether technological advancements and changes in society are leading to more or less prudent use of resources. In many cases, these policy-relevant indicators are designed to give insights into specific "risk factors", showing more clearly when stocks may be changing in ways that could undermine the sustainability of well-being over time.

A single headline measure, or a dashboard of indicators?

The capital approach has been used to create single headline measures of sustainable development (e.g. World Bank, 2006, 2011; UNU-IHDP and UNEP, 2012). Under this approach, development is considered unsustainable when it involves *declining per capita levels of total wealth over time*. Total wealth is the sum of the monetary value of a nation's capital stocks. For example, the Inclusive Wealth Index (UNU-IHDP and UNEP, 2012) combines the estimated value of a nation's natural, human and manufactured capital, on a per capita basis, and explores its evolution over time in a range of countries.

The process of valuing and aggregating different types of capital makes the trade-offs inherent in managing resources explicit: if one stock of capital declines in value, then other stocks must increase in value to ensure the integrity of the total capital base. Per capita assessment also means that the effect of population increases or decreases can be factored into calculations. Assessing sustainability through a simple pass-or-fail test provides a powerful signal that can be easily communicated to decision-makers and the wider public. Nonetheless, to be a reliable guide, it requires comprehensive and accurate monetary estimates of capital in the first instance.

In the context of assessing the sustainability of well-being, there are two key challenges around aggregation. The first concerns the challenge of estimating, in monetary units, the total value of all types of capital stocks (natural, human, social and economic) for future well-being. The second issue concerns the extent to which different types of capital stock can be substituted (i.e. exchanged) for one another, whilst still sustaining the same level of individual and household well-being outcomes over time.

Estimating the monetary value of stocks for well-being

The common unit typically used to describe the value of capital stocks is money. Valuation involves estimating the total value of the benefits that a given stock of capital is expected to provide to future generations, also known as the *shadow price* of a stock. Shadow prices are typically based on current market prices where available, and these prices are used to estimate the future value of the total capital stock. However, the use of market prices creates two problems when aiming to assess the sustainability of well-being over time.

The first difficulty concerns imperfections in how markets operate, meaning that market prices do not always reflect the true well-being worth of assets, including the well-being costs and benefits of using those assets in economic production. Various methods do exist to correct market prices to better reflect such externalities (i.e. the costs or benefits of activities which are not reflected in market prices, and which may accrue to people other than those directly involved in the activity itself). For example, climate change has been described as the "mother of all externalities" (Tol, 2009) and estimates of wealth can be adjusted in line with carbon emissions to "internalise" this externality (e.g. UNU-IHDP and UNECE, 2012). Nonetheless, the technical difficulty of making such adjustments to reflect costs and benefits *across all dimensions of well-being* is daunting.

The second difficulty of monetisation is that most capital stocks, and many of the well-being benefits they produce, simply have no market price at all. Both sustainability accounting and social cost-benefit analysis offer various methods for estimating the monetary value of such non-market factors – sometimes known as "social value" (Demos, 2010; Social Enterprise UK, 2012), or Social Return on Investment (nef, 2013; Cabinet Office, 2009; Centre for Social Justice, 2011). A relatively new technique has also been developed for valuations based on the life satisfaction achievements associated with different non-market factors (reviewed in Fujiwara and Campbell, 2011; and OECD, 2013b).

At present, however, it is difficult to apply these valuation methods in a way that can fully account for all of the well-being benefits that human, social and natural capital can provide in the future. Most methods have been developed to assess the impact of specific projects and policies (e.g. Cabinet Office, 2009; Social Enterprise UK, 2012) or specific goods and services, rather than to estimate the future well-being value of *capital stocks* themselves – which is likely to place additional demands on both data quality and the assumptions adopted.

The substitutability of different capital stocks

Aggregation of capital stocks makes an implicit assumption that different capital stocks are *perfectly substitutable*. Substitution means that one form of capital can be replaced with another, so that the same output is produced using a different combination of capital inputs. Perfect substitutability regards options for substitution as limitless; thus, depletion of one capital stock can be entirely compensated by an increase in another capital stock of equal value. For example, under perfect substitutability, depletion of mineral stocks to generate income may be regarded as "sustainable" provided that this income is sufficiently reinvested in human, economic and social capital – as these are the stocks that will be relied upon to generate economic growth in future, when the minerals have been exhausted. The Norwegian State Petroleum Fund and the Alaska Permanent Fund are two examples where natural capital (in this case oil and gas) is being converted into financial capital, which is expected to yield returns after the oil and gas have been depleted (Heal, 2011).

If substitutability is less than perfect, assessing sustainability through total aggregated wealth could mask unsustainable imbalances across the different stocks of resources. While such imbalances could manifest themselves in changes in assets prices in the future, this could well happen too late to allow actions to reverse unsustainable trends, and some assets have no prices to begin with. In some cases, overstepping the limits of substitutability could mean crossing specific "tipping points" or "critical thresholds" beyond which changes in the capital stock may be irreversible (discussed below). In practice, most approaches to sustainability assessment share a view of limited rather than perfect substitutability among capital stocks (UNU-IHDP and UNEP, 2012; OECD, 2011b; Heal, 2011).

In light of the challenges associated with both monetisation and the substitutability of stocks, a dashboard of indicators, consisting of both physical and monetary measures, would appear to be the most appropriate approach for monitoring the resources that sustain well-being over time. While a dashboard lacks the communicative power of a simple pass-or-fail measure of sustainability, it can be used as a diagnostic tool, enabling specific problem areas to be highlighted.

The distribution of capital

The distribution of well-being outcomes across different groups within society is a key component of well-being here and now (OECD, 2011c). Similarly, access to capital stocks, and the way this differs across groups and individuals, may also affect the efficacy with which stocks can be transformed into well-being outcomes in the future. For example, countries with a more equal distribution of human capital have also been found to experience greater income equality (e.g. Alesina and Rodrik, 1992; OECD and Statistics Canada, 2000). A recent OECD analysis also reported that over the past two decades, the trend towards higher educational attainment has been one of the most important factors offsetting the increase in wage dispersion (OECD, 2011d).

Changes in capital stocks may also have uneven consequences for human well-being. For example, the well-being of poor and rural communities is often considered to be more vulnerable to the adverse impacts of changes in natural capital. This is partly because these communities may be more strongly reliant on natural capital as a source of wealth, and also because they often lack the means to import natural capital and ecosystem services from elsewhere when local stocks run out (Millennium Ecosystem Assessment, 2005). Crifo and Laurent (2013) highlight the links between social inequalities and access to natural resources, as well as exposure to environmental risks and disasters.

In the case of economic capital, the composition of capital stocks and their distribution has received considerable attention in recent years because imbalances across the economic system may have implications for the sustainability of well-being. The TFSD recommends that economic assets and liabilities should be disaggregated and examined separately for different sectors: government, households, financial intermediaries and non-financial firms. The Conseil d'analyse économique and German Council of Economic Experts (2010) recommendations on sustainability include looking at "warning signals" in different parts of the economy – ranging from private sector net fixed capital formation, through to public sector debt indicators. At the micro level, the value of capturing the distribution of economic capital among households has also been highlighted, for example in the recent *OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth* (OECD, 2013c).

Spatial distribution of capital stocks

Most accounting approaches for the measurement of capital stocks (e.g. the SNA and the SEEA) focus on the stocks within national boundaries. However, it may be desirable to measure capital stocks on a local, national or international scale.

The measurement of natural assets and ecosystems in particular may require detailed measurements on a sub-national scale, because ecosystems are usually defined in relation to specific spatial areas. Attention to the distributional aspects of capital may also require measures disaggregated at sub-national levels – for example, to examine differences in access to or use of resources between regions within a country, or between rural and urban

populations. An ability to adapt the measurement framework to the local level will also be important if measures are to be helpful in making decisions about individual projects or programmes, which may be sub-national in nature.

At the other end of the spectrum, the global nature of some forms of capital implies that monitoring the sustainability of well-being also requires an international perspective. This is true both because some capital stocks are shared globally (e.g. the atmosphere), and because there are a wide range of complex interdependencies between countries where they rely on one another's capital stocks (e.g. ecosystems for food production). Thus, the sustainability of well-being in a given country depends not only on its national capital stocks, but also on the global capital stocks picture. This is challenging from both a measurement and a stocks management perspective.

Some elements of natural capital in particular do not have clearly demarcated national boundaries. Assets such as the atmosphere and oceans (and the sink capacity and other services they provide) are difficult to attribute to specific territories. Other forms of capital can also be shared – international co-operation, recognition of property rights, or peace agreements are examples of social (or institutional) assets that are both shared and global. Conversely, cross-border conflicts could be seen as shared liabilities that threaten global stocks of social capital.

Interdependencies between countries can occur in several forms. Some assets may be restricted to specific geographic locations but nonetheless may have implications for sustaining well-being in the future *elsewhere*. For example, rainforest biodiversity can lead to the development of new medicines used around the globe. Both knowledge and financial markets are also strongly interconnected. Kaul et al. (1999) suggest that environmental sustainability, market efficiency, financial stability, health and peace are all "global public goods", whose maintenance is underpinned by international co-operation. The presence of such interdependencies means that national indicators of capital stocks alone will not be sufficient to gauge the sustainability of well-being in the future.

Other policy-relevant indicators

Trans-boundary impacts

The TFSD also refers to a specific set of *trans-boundary impacts* that reflect how the development paths of different countries impact on one another. Factors highlighted by the TFSD include financial transfers (such as Official Development Assistance), imports of goods and services, migration, and knowledge transfers. Particular concerns have been raised regarding high-income countries exporting environmental pressures overseas, to countries with lower levels of environmental regulation (UNECE, 2013). Carbon leakage is one such example – where countries may succeed in reducing their domestic carbon production through the import of goods produced with more carbon-intensive technologies abroad.

Footprint measures, which focus on domestic consumption, enable some assessment of these trans-boundary impacts, because they can illustrate the extent to which a country's consumption relies on using resources from overseas. Existing measures include footprints for carbon emissions, water use, and biodiversity – although calculating such measures is complex, and there is little standardisation across measures at present.

The efficiency of resource use

Environmental, economic, social or technological shifts can affect the amount of resources required to maintain current well-being over time. The efficiency of resource use (i.e. the inputs needed to produce well-being outcomes) can therefore provide important feedback to policy-makers. For example, technological advancements may lead to greater efficiency in the use of a range of natural resources. On the other hand, an environmental shift such as global warming may affect the well-being that can be derived from capital stocks – ranging from changes in the productivity of agricultural land, to the impact on human capital through health risks (OECD, 2012a).

There are a variety of ways in which resource productivity or efficiency can be measured. Typically, indicators involve looking at the amount of output produced per unit of input. For example, OECD's Green Growth Strategy (2011b; 2011c) suggests a variety of productivity measures to assess the use of natural resources in producing economic outcomes. These include CO_2 productivity measures, which look at either the GDP or real disposable income generated per unit of CO_2 emitted. Other measures of efficiency include examining well-being outcomes in relation to the ecological footprint of a country, as illustrated in nef's *Happy Planet Index* (2012), and the UNDP's (2013) *Human Development Report* (see also Global Footprint Network, 2012).

Human and social capital, and some forms of natural capital, are not "consumed" to "produce" well-being in the same manner that some other natural and economic assets are (see above). This implies that efficiency or productivity as applied to these assets may be best conceived in terms of returns on investment (or well-being impact), rather than returns to consumption *per se*. For example, OECD (2010b) has begun to map the health and social cohesion returns to investments in education, and a range of monetary estimates of human capital aim to capture the economic returns that stem from higher skills levels, as reviewed by Boarini et al. (2012).

In practice, assessing the efficiency with which resources are used to produce well-being raises some similar challenges to the monetary valuations of capital stocks – i.e. too little is known about how capital stocks combine to help produce different well-being outcomes over time. The multi-dimensional nature of well-being also makes the assessment of efficiency complicated, because changes in capital can be related to changes across a wide variety of well-being dimensions. With so many inputs and outputs involved in the "production" of well-being, efficiency measures will need to be refined to a manageable set of input-output relationships. This should be part of the future research agenda.

Risk factors and flows that can affect capital stocks

Information about various *flows* related to capital stocks can provide more specific information to decision-makers about how actions today affect the stocks left behind for future generations. Policy-relevant flows might include:

- ***Investment*** – in this context meaning actions taken to increase the stock of capital (e.g. expenditure on education and training in the case of human capital).
- ***Depreciation*** – which refers to deterioration in a stock (e.g. a decrease in the value of produced capital due to machinery becoming worn down; a decrease in the value of human capital when skills become obsolete). In the case of natural capital, *resource depletion* refers to the extraction of natural capital stocks from reserves (e.g. the extraction of oil from wells).

- ***Emissions and waste*** – which in this context are used to mean by-products that can affect stocks (e.g. air pollution affecting human capital through impacts on health; nitrogen surplus in the agricultural system affecting natural capital through soil and water nutrient balances).

Factors that can potentially affect stocks, either now or in the future, are also sometimes described as "risk factors". Catastrophic events (such as global financial crises or natural disasters) as well as slower changes in society (such as rising obesity) have the potential to impact significantly capital stocks for well-being over time. The notion of risk factors or "early warning signals" is strongly emphasised in some approaches to measuring sustainability.[6]

In the case of economic sustainability, the Franco-German report recommends monitoring investment (e.g. in produced capital and R&D); public debt; and risk factors such as developments in the private and financial sectors that might indicate the build-up of asset bubbles.

For environmental sustainability, risk factors highlighted in the Franco-German report include greenhouse gas emissions and the depletion of non-renewable resources. Adopting a slightly different approach, Rockström et al.'s (2009) work on planetary boundaries point to a range of risk factors for future well-being, focusing on the potential for crossing natural thresholds beyond which irreversible changes to the environment may occur. These include thresholds relating to climate change, biodiversity loss, freshwater use, land use, ocean acidification, stratospheric ozone depletion, and the nitrogen and phosphorus cycles. Stiglitz et al. (2009) further emphasise the need for clear indicators that can show proximity to dangerous (and potentially irreversible) environmental damage – particularly in the context of climate change, where there is a sizeable prior literature (e.g. Stern, 2009).

For human capital, a wide variety of risk factors for future health have been identified, and can be measured in the population today (e.g. National Research Council, 2010). These include factors such as obesity, smoking and tobacco use, and physical activity. Eurostat's Sustainable Development Indicators include a range of "health determinants", such as the production of toxic chemicals in the EU, urban exposure to air pollution, and exposure to air pollution by ozone.

Proposed measures for sustaining well-being in the context of *How's Life?*

The use of a capital approach to measure the sustainability of well-being over time requires some re-configuration of existing "sustainability" measures as well as the creation or consolidation of new data sets. Because the resources required to produce well-being are so wide-ranging, the choice and development of measures will require a focus on the key indicators able to convey the most important information.

Measures of the four types of capital stocks, and their distribution, should be considered as "core" indicators that should be prioritised. Each type of capital stock will need to be measured through a dashboard of indicators, which may include both monetary and physical measures. Most aspects of capital stocks can be measured at a national scale, but in some cases (e.g. for natural capital in particular) international, or global level indicators may also be needed. Presenting stock measures on a per capita basis, where appropriate, can help to reflect the impact of population changes on capital stocks.

The distribution of stocks might include their distribution across sectors (e.g. government, firms, households), between groups (e.g. gender, age, education, income, or rural/urban groups), and between spatial locations (e.g. different regions of a country). The most relevant form of disaggregation will depend on the capital stock in question, and where the known risks for sustaining well-being are thought to lie. For example, in the case of economic capital, it is recommended that assets and liabilities should be examined separately for governments, households, financial intermediaries, and non-financial firms (UNECE, 2013). The distribution of wealth among households has also been highlighted as an important factor (OECD, 2013c).

The goal in measuring capital stocks is to capture the *net stock* of resources being passed to future generations – i.e. assets, minus liabilities. In practice, the measurement focus will sometimes be on assets (such as freshwater resources in natural capital, or co-operative norms in social capital), and in other cases measures will be more oriented towards liabilities (e.g. in the case of natural capital, air quality is typically captured by measures of how polluted the air is).

Beyond indicators that enable "core" capital stocks to be monitored, an additional set of "policy relevant indicators" can provide information to decision-makers about what might drive changes in the core set of capital stocks. These include trans-boundary impacts (e.g. as captured through footprint measures); various capital flows, such as investment and depreciation; and known risk factors that could threaten the capital stock in the future (e.g. obesity posing a risk to future health in the case of human capital). Beyond this, available research on the efficiency of resource use can provide feedback about whether technological, economic, environmental and social changes are enabling people to experience greater well-being with fewer resources, or vice versa.

Table 6.2 summarises the types of measures that may be most useful for monitoring the sustainability of well-being over time within the context of *How's Life?*. The selection of headline measures in each of the four key capital stocks should be guided by research into the key drivers of well-being over time. Existing proposals for indicator sets (such as the SNA, SEEA, and TFSD) provide an essential reference.

Table 6.2. **Proposed types of measures to monitor the sustainability of well-being over time**

Core indicators: Capital stocks and their distribution		Other policy-relevant indicators			
Headline measures of stocks (assets and liabilities)	Measures of the distribution of stocks	Trans-boundary impacts	Efficiency	Capital flows	Other risk factors
Natural, human, social and economic capital. Physical and/or monetary measures, potentially reported on a per capita basis. Monitored on a local, national, international or global level.	Among countries. Between different groups or sectors within countries.	Carbon, water and land footprints.	Well-being achievements, relative to capital inputs.	Investment. Depreciation/depletion. Emissions/waste.	Specific known and measurable risks to natural, human, social and economic capital stocks.

Table 6.3 outlines the measurement themes so far identified for each of the capital stocks, and provides examples of the indicators that could be used to monitor them. These represent a subset of the key measurement themes identified by the TFSD, focusing on capital stocks for well-being "later" – i.e. for future generations. They have been slightly adjusted for greater consistency with the SEEA, SNA, and existing OECD work.

Table 6.3. **Suggested measurement themes and example indicators for measuring the sustainability of well-being over time**

Capital	Measurement theme	Example indicators
Natural	Environmental assets *SEEA Central Framework classifications*	Mineral and energy resources Land Soil resources Timber resources Aquatic resources Other biological resources Water resources
	Ecosystems, biodiversity *Sub-themes and indicators to be developed, in line with SEEA Experimental Ecosystem Accounts. May include:* • Atmosphere • Oceans • Forests • Biodiversity	Atmospheric CO_2 concentrations (World Meteorological Organisation) State of the ozone layer (concentration of stratospheric ozone) Land use (FAO; *OECD Environmental Outlook*), including forest cover Species abundance (*OECD Environmental Outlook*); threatened species (OECD Environment data)
	Conditions determining the environmental quality of life	Urban exposure to particulate matter (*OECD Environmental Outlook*) Water quality Availability of recreational and green space
Human	Economic value of human capital	Lifetime Income Approach estimates for select OECD countries (Liu, 2011)
	Education	Highest educational level attained (OECD Education statistics) PISA student skills (OECD) and PIAAC adult skills (OECD, forthcoming)
	Health	Life expectancy at birth (OECD Health data); Healthy life years (Eurostat)
Social	Trust	Trust in others (European Social Survey; Gallup World Poll)
	Institutions/governance	The quality of institutions and processes to engage citizens (OECD, *to be further developed*)
	Co-operative norms	Shared values and expectations that underpin societal functioning and enable mutually beneficial co-operation – e.g. tolerance and reciprocity (*to be developed*)
Economic	Produced assets	Produced assets, including knowledge capital (OECD National Accounts data)
	Financial capital (part of non-produced assets)	Assets minus liabilities (OECD National Accounts data)

Note: Themes and indicators are a subset of the TFSD well-being "later" measurement themes, adapted here as follows:
i) Measures of natural capital have been reconfigured to reflect the SEEA classifications for environmental assets.
ii) The theme "climate" has been understood as atmosphere, which is included in the broader category of "ecosystems".
iii) The themes "air quality" and "water quality" have been grouped under a new theme: "conditions determining environmental quality of life", to which the availability of recreational and green space has been added.
iv) "Co-operative norms" have been added to social capital, following Scrivens and Smith (2013).
v) "Knowledge capital" has been included under "produced assets", consistent with the SNA.
vi) Some OECD-specific data sources are also included under the "example indicators" column.

For some of the themes identified in Table 6.3, relevant national measures already exist in several OECD countries, and potential data sources are provided in brackets where relevant. Other measures are still in the process of being implemented – such as environmental assets under the SEEA; ecosystem measures under the SEEA Experimental Ecosystem Accounts; and knowledge capital under the SNA. Further work is needed to develop *stock* measures of water quality, recreational and green space, institutions, and co-operative norms – which at present are typically measured through flows or policy-relevant indicators, such as voter turnout and access to sewage treatment.

Existing measures, and any new measures, will need to be assessed against the quality criteria outlined in Chapter 1 for the selection of *How's Life?* indicators more generally.

A number of the themes and measures suggested in the final column of Table 6.3 are also being used to monitor current well-being, both in *How's Life?* and in other national initiatives. This reflects the fact that some well-being outcomes, while intrinsically valuable in their own right, also help to drive or shape other well-being outcomes over time. The overlap in measures is particularly clear in human and social capital.

The Stiglitz-Sen-Fitoussi Commission (2009) recommended that sustainability should be measured separately from current well-being, to avoid the conflation of well-being today with measures that concern future well-being. Yet in some cases, a degree of overlap among indicators seems unavoidable: factors such as education, health and wealth matter for well-being in both the short- and the longer-term. Nevertheless, in order to maintain a conceptual separation as far as possible, current well-being and the capital stocks that help to sustain well-being over time should be monitored through two distinct dashboards, presented separately.

Statistical agenda ahead

Much work is still needed to develop a dashboard of comparable indicators that could be used to monitor the capital stocks relevant to the sustainability of well-being over time. Any assessments of likely well-being over time are inherently probabilistic, because future well-being depends on a range of factors (including but not limited to capital stocks), as well as many risks that are only partially known today. A priority for the future research agenda will be identifying those "critical" forms of resources that are essential to well-being, and whose substitutability is limited. In addition it will be paramount to develop, within the four broad categories of capital used here, a better understanding of where the lower bounds or critical thresholds for these capital stocks lie. Stocks with known substitution limits are the most obvious candidates for close monitoring – and this could help to refine and reduce the data requirements for monitoring sustainability in the future.

A better understanding of how outcomes are produced over time is needed in every dimension of well-being, including how different capital inputs jointly affect the distribution of well-being outcomes in the future. For example, further research is necessary to understand the causal mechanisms underpinning relationships between trust, social norms and other quality of life variables, such as subjective well-being, health, personal safety, and civic engagement (Scrivens and Smith, 2013). Work is also ongoing (e.g. OECD, 2010b; Boarini et al., 2012) to map out the causal mechanisms linking education to social and civic engagement, health and wage returns. In the case of economic and natural capital, it will be important to connect measures at the systems-level (e.g. at the level of the whole economy, or the whole environment) with future well-being outcomes at the individual and household level, bearing in mind the complex chains of causation likely to exist. Examining the distribution of ownership and access to capital stocks, and how this influences future well-being, will be a key element in developing this understanding.

The measurement agenda for well-being sustainability

A large number of data gaps have been identified throughout this chapter, and these gaps need to be filled before a set of indicators, such as the one proposed in Table 6.3 above, can be compiled. In some areas it is capital stocks themselves that need to be better defined and measured. In other cases, the most critical challenges involve improving understanding and measurement of flows, risk factors, and efficiency.

In particular, the following aspects should be considered when addressing the statistical agenda on sustainability:

- The measurement of economic capital is by far the most advanced area. Yet even in this case, there are still important gaps, as evidenced by the paucity of data on the wealth holdings of different institutional sectors, and on the distribution of these assets across

different groups of people. Recent OECD guidance (OECD, 2013c and 2013d) aims to improve the quality and comparability of household micro statistics in this area. The measurement of knowledge capital has also been incorporated into the newly-revised System of National Accounts (United Nations, 2009b), so that research and development (R&D) expenditures will be recorded as investments that build a stock of R&D capital.

- The adoption of the System of Environmental-Economic Accounting as an international standard in 2012 is a considerable step forward, and one which should yield better data on natural assets in the coming years – although the practical challenges of developing environmental asset accounts should not be understated. Extending measurement to ecosystems is a priority being taken forward through the Experimental Ecosystem Accounts, for which UNSC is in the process of setting out a detailed research agenda. These frameworks will set the context for the further development of natural capital measures, in order to maximise international comparability of statistics.
- In the case of human capital, although several physical measures exist, it has proved difficult to use these to capture the total *stock* of human capital, because they reflect its constituent parts separately rather than as a whole. At present there is also considerable overlap between physical measures of human capital, and current well-being *outcomes* in the dimensions of education, health and jobs and earnings. Some consideration should therefore be given to how we can achieve a clearer conceptual distinction between current well-being and the human capital stock being passed on to future generations. Monetary estimation techniques, such as the lifetime income approach, offer one way to achieve this, but they currently suffer from a range of data limitations: further they reflect only the economic value of human capital, rather than the wide range of well-being benefits known to be associated with education, health and employment. Boarini et al. (2012) set out the case for the development of experimental satellite accounts for human capital (or education) to improve data quality and comparability, as well as consistency with the SNA. The OECD's forthcoming internationally comparable measures on adult cognitive and workplace skills (PIAAC) also offer new insights into human capital. Better incorporating health into estimates of human capital is another area for development – and the valuation of health has proved a particularly challenging area (UNEP and UNU-IHDP, 2012).
- Social capital is an area where there are gaps in terms of both conceptual understanding and measurement. Scrivens and Smith (2013) identify priority areas for developing and harmonising statistics in the future, based on the possible policy uses of such measures. This could lay the groundwork for a statistical agenda, setting out the areas where more work is needed in order to develop better measures of trust and co-operative norms, which have the strongest link to sustainability. Beyond this, measures of political, institutional and legal arrangements (including governance) need a statistical framework for their development. Further research is also needed on the causal mechanisms that link each of these elements of social capital to individual well-being outcomes over time. In many cases this research needs to precede the development of specific measures, as this research should guide the selection of the most relevant indicators.
- The international dimension of sustainability is vital and often overlooked. It is important to examine how the pursuit of well-being in one country might affect the future well-being experienced by another. This is particularly true in the case of natural resources. This requires high quality global statistics, and the further development and standardisation of measures of trans-boundary impacts, including footprint measures.

- Finally, further consideration needs to be given to which measures used to monitor the sustainability of well-being need to incorporate the *distribution* of (or access to) different resources or stocks of capital across society, as the distribution of capital stocks may affect how well-being outcomes will be distributed in future. More explicit understanding of who owns, controls or affects capital stocks has implications for who should be held to account for their management.

Conclusions

Sustaining well-being over time means maintaining *at least* current levels of well-being into the future. The sustainability of well-being needs to be measured separately from current well-being outcomes, and should focus on the long-term drivers of well-being. The most promising measurement approach seems to be one organised around resources or "capital stocks", as embodied in the OECD framework for measuring well-being and as recommended by the UNECE/Eurostat/OECD *Task Force for Measuring Sustainable Development*. This approach considers the persistent stocks of economic, natural, human and social capital that help to shape or drive well-being over time. A dashboard of both physical and monetary indicators is necessary to monitor stocks, both nationally and internationally.

Monitoring movements in stocks is only the first step towards understanding if well-being is sustainable over time. Interpreting data on stocks, and whether changes in stocks are likely to put future well-being at risk, also relies on research that can identify when stocks might be considered dangerously low, or too imbalanced. In addition, a range of "policy-relevant" indicators are needed to assist decision-makers in managing stocks. This might include information about the distribution of stocks and any important imbalances; what drives changes in stocks (e.g. investment, depreciation); and how efficiently stocks are used. These policy-relevant indicators would be designed to give insights into specific risks, showing more clearly when and why stocks may be changing in ways that could undermine the sustainability of well-being over time.

Much analytical and statistical work is needed to select and produce a concise set of indicators that can accurately reflect those aspects of capital stocks, and their changes over time, which have the greatest relevance to future well-being. The eventual dashboard of indicators should be incorporated into the *How's Life?* framework, as a complement to the dashboard of current well-being outcomes. This will provide information to decision-makers about how actions taken to meet today's well-being needs can affect the resources that help to sustain well-being for future generations.

Notes

1. The SEEA (2012) is a statistical framework setting out internationally agreed concepts, definitions, classifications and accounting rules for collecting comparable information about interactions between the economy and the environment. It adopts a structure that is compatible with the System of National Accounts framework.
2. This implies that "renewability" should always be regarded as conditional. For example, in the *Inclusive Wealth Report 2012*, UNU-IDHP and UNEP (2012) highlight fish as an illustration of a resource that, whilst renewable in principle, is "being 'mined' at a rate that challenges renewal of the stock".

3. Several alternative classification approaches exist. For example, de Groot, Wilson and Boumans (2002) describe the central functions of ecosystems as: *i) regulation*; *ii) habitat*; *iii) production*; and *iv) information*. The Common International Classification of Ecosystem Services (CICES), developed by the European Environment Agency (Version 4.3, January 2013) meanwhile consists of: *i) provisioning services*; *ii) regulation and maintenance services*; and *iii) cultural services*.
4. The residual approach estimates the value of human capital by estimating a country's total wealth (via the total discounted value of each country's future consumption flows), and then subtracting the sum of the tangible components of that wealth (i.e. produced capital and the elements of natural capital that have market prices). The residual then reflects all "intangible" capital – which includes human and social capital, as well as aspects of natural capital that lack market prices.
5. "Use" in this context broadly refers to deriving benefit from the capital – so for example, social trust might be "used" to facilitate business transactions. However, the capital is not necessarily destroyed through use in this way – and in the case of trust, it may be reinforced if both partners receive the benefits they expected from the transaction.
6. For example, the Franco-German report *Monitoring Economic Performance, Quality of Life and Sustainability* (Conseil d'analyse économique and the German Council of Economic Experts, 2010) proposes a set of "warning signals alerting us whenever the current manner of organising our lives endangers sustainability".

References

Abraham, K.G. and C. Mackie (eds.) (2005), *Beyond the Market: Designing Nonmarket Accounts for the United States*, National Research Council Panel to Study the Design of Nonmarket Accounts, Committee on National Statistics, Division of Behavioral and Social Sciences and Education, The National Academies Press, Washington, DC.

Alesina, A. and D. Rodrick (1992), "Distribution, Political Conflict and Economic Growth: A Simple Theory and Some Empirical Evidence", in *The Political Economy of Business Cycles and Growth*, A. Cukierman, Z. Hercovitz and L. Leiderman, Cambridge, MA: MIT Press.

Australian Bureau of Statistics (2012), *Measures of Australia's Progress 2012: Summary Indicators*, *www.abs.gov.au/AUSSTATS/abs@.nsf/mf/1370.0.55.001* (last accessed 22 July 2013).

Becker, G.S. (1962), "Investment in Human Capital: A Theoretical Analysis", *The Journal of Political Economy*, Vol. 70/5, pp. 9-49.

Beine, M., F. Docquier and H. Rapoport (2008), "Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers", *The Economic Journal*, Vol. 118/528, pp. 631-652.

Boarini, R., M. Mira d'Ercole and G. Liu (2012), "Approaches to Measuring the Stock of Human Capital: A Review of Country Practices", *OECD Statistics Working Papers*, No. 2012/04, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k8zlm5bc3ns-en*.

Borucke, M., D. Moore, G. Cranston, K. Gracey, I. Katsunori, J. Larson, E. Lazarus, J.C. Morales, M. Wackernagel and A. Galli (2013), "Accounting for Demand and Supply of the Biosphere's Regenerative Capacity: The National Footprint Accounts' Underlying Methodology and Framework", *Ecological Indicators*, Vol. 24, pp. 518-533.

Cabinet Office (2009), *A Guide to Social Return on Investment*, Office of the Third Sector, *www.neweconomics.org/publications/entry/a-guide-to-social-return-on-investment* (last accessed 22 July 2013).

Centre for Social Justice (2011), *Outcome-based Government: How to improve spending decisions across government*, Policy Report from the Social Return on Investment Working Group, January, *www.centreforsocialjustice.org.uk/publications/outcome-based-government* (last accessed 22 July 2013).

Coleman, J. (1988), "Social Capital in the Creation of Human Capital", *American Journal of Sociology*, Vol. 94, Supplement, Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure, pp. S95-S120.

Conseil d'analyse économique and the German Council of Economic Experts (2010), *Monitoring economic performance, quality of life and sustainability*, Joint Report as requested by the Franco-German Ministerial Council, the German Council of Economic Experts Occasional Reports series, *www.sachverstaendigenrat-wirtschaft.de/expertisen.html* (last accessed 22 July 2013).

Crifo, P. and É. Laurent (2013), "Enjeux environnementaux et question sociale : Pourquoi et comment lier justice sociale et écologie ?", *Références économiques du Conseil économique pour le développement durable*, No. 23-2013, *www.developpement-durable.gouv.fr/IMG/pdf/023.pdf* (last accessed 22 July 2013).

Daly, H. and J. Cobb (1989), *For the Common Good*, Beacon Press, Boston.

de Groot, R.S., M.A. Wilson and R.M.J. Boumans (2002), "A Typology for the Classification, Description and Valuation of Ecosystem Functions, Goods and Services", *Ecological Economics*, Vol. 41, pp. 393-408.

Defra (2010), *Measuring Progress: Sustainable development indicators 2010*, Department for Environment, Food and Rural Affairs, London, *http://sd.defra.gov.uk/documents/SDI2010_001.pdf* (last accessed 22 July 2013).

European Environment Agency (2013), *Towards a Common International Classification of Ecosystem Services (CICES)*, Version 4.3, January 2013, *http://cices.eu/* (last accessed 22 July 2013).

Eurostat (2011), *Sustainable development in the European Union: 2011 monitoring report of the EU sustainable development strategy*, Eurostat Statistical Books, European Union, *http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-31-11-224/EN/KS-31-11-224-EN.PDF* (last accessed 22 July 2013).

Eurostat (2009), *Sustainable development in the European Union: 2009 monitoring report of the EU sustainable development strategy*, Eurostat Statistical Books, European Union, *http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-78-09-865/EN/KS-78-09-865-EN.PDF* (last accessed 22 July 2013).

Fukuyama, F. (1995), *Trust: The Social Virtues and the Creation of Prosperity*, Hamish Hamilton, London.

Fujiwara, D. and R. Campbell (2011), *Valuation Techniques for Social Cost-Benefit Analysis*, HM Treasury and Department for Work and Pensions guidance.

Global Footprint Network (2010), *National Footprint Accounts, 2010 edition*, *www.footprintnetwork.org* (last accessed 22 July 2013).

Gough, I. (2013), "Carbon Mitigation Policies, Distributional Dilemmas and Social Policies", *Journal of Social Policy*, Vol. 42/2, pp. 191-213.

Halpern, D. (2005), *Social Capital*, Polity Press, Cambridge.

Hamilton, K. and G. Liu (2013), "Human Capital, Tangible Wealth, and the Intangible Capital Residual", *OECD Statistics Working Paper*, No. 2013/2, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k4840h633f7-en*.

Hardin, R. (2004), *Trust and Trustworthiness*, Russell Sage Foundation, New York.

Harper, G. and R. Prince (2011), *A framework for understanding the social impacts of policy and their effects on wellbeing*, Paper 3, a paper for the Social Impacts Task Force, DEFRA Evidence and Analysis Series, *www.defra.gov.uk/publications/files/pb13467-social-impacts-wellbeing-110403.pdf* (last accessed 22 July 2013).

Heal, G. (2011), "Sustainability and its Measurement", *NBER Working Paper Series*, No. 17008, National Bureau of Economic Research, Cambridge, MA, *www.nber.org/papers/w17008* (last accessed 22 July 2013).

Helliwell, J. and R. Putnam (2004), "The Social Context of Well-being", *Philosophical transactions-royal society of London series B biological sciences*, Vol. 359, No. 1449, pp. 1435-1446.

Helliwell, J. and S. Wang (2010), "Trust and Well-being", *NBER Working Paper Series*, No. 15911, National Bureau of Economic Research, Cambridge, MA, *www.nber.org/papers/w15911* (last accessed 22 July 2013).

Hudson, J. (2006), "Institutional Trust and Subjective Well-Being across the EU", *Kyklos*, Vol. 59, No. 1, pp. 43-62.

ISTAT (2013), *Rapporto Bes 2013: il benessere equo e sostenibile in Italia*, *www.misuredelbenessere.it/* (last accessed 22 July 2013).

Jorgenson, D.W. and B.M. Fraumeni (1989), "The Accumulation of Human and Non-Human Capital, 1948-1984", in Lipsey, R.E. and H.S. Tice (eds.), *The Measurement of Savings, Investment, and Wealth*, The University of Chicago Press, Chicago.

Juniper, T. (2013), *What has Nature Ever Done for Us? How Money Really Does Grow on Trees*, Profile Books, London.

Knack, S. and P. Keefer, (1997), "Does Social Capital have an Economic Payoff? A Cross-Country Investigation", *Quarterly Journal of Economics*, Vol. 112,/4, pp. 1251-88.

Knack, S. (2000), "Social Capital and the Quality of Government: Evidence from the United States", *World Bank Policy Research Working Paper*, No. 2504, World Bank, New York, *http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-2504* (last accessed 22 July 2013).

Kaul, I., I. Grunberg and M.A. Stern (1999), *Global Public Goods: International Cooperation in the 21st Century*, United Nations Development Programme (UNDP), New York.

Laroche, M., M. Mérette and G.C. Ruggeri (1999), *On the Concept and Dimensions of Human Capital in a Knowledge-based Economy Context*, Canadian Public Policy/Analyse de Politiques, Vol. XXV(1), pp. 87-100.

Liu, G. (2011), "Measuring the Stock of Human Capital for Comparative Analysis: An Application of the Lifetime Income Approach to Selected Countries", *OECD Statistics Working Paper*, Vol. 2011/06, No. 41, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kg3h0jnn9r5-en*.

Lochner, K., I. Kawachi and R. Brennan and S. Luka (2003), "Social Capital and Neighbourhood Mortality Rates in Chicago", *Social Science and Medicine*, Vol. 56, pp. 1797-1805.

Lochner, L. (2011), "Non-Production Benefits of Education: Crime, Health and Good Citizenship", *NBER Working Paper*, No. 16722, National Bureau of Economic Research, Cambridge, MA, *www.nber.org/papers/w16722* (last accessed 22 July 2013).

Lochner, L. and E. Moretti (2004), "The Effect of Education on Crime: Evidence from Prison Inmates, Arrests and Self-Reports", *American Economic Review*, Vol. 94/1, pp. 155-189.

Maas, J. et al. (2009), "Morbidity is Related to a Green Living Environment", *Journal of Epidemiology and Community Health*, Vol. 63, pp. 967-973.

Millennium Ecosystem Assessment (2005), "Biodiversity Synthesis ", *Ecosystems and Human Well-being: A Framework for Assessment*, World Resources Institute, Island Press, Washington, DC, *www.unep.org/maweb/en/Framework.aspx* (last accessed 22 July 2013).

Mira d'Ercole, M. and A. Salvini (2003) "Towards Sustainable Development: The Role of Social Protection", *OECD Social, Employment and Migration Working Papers*, No. 12, OECD Publishing, Paris, *http://dx.doi.org/10.1787/221667753377*.

Morrone, A., N. Tontoranelli and G. Ranuzzi (2009), "How Good is Trust?: Measuring Trust and its Role for the Progress of Societies", *OECD Statistics Working Papers*, Vol. 2009/03, OECD Publishing, Paris, *http://dx.doi.org/10.1787/220633873086*.

National Research Council (2010), *Accounting for Health and Health Care: Approaches to Measuring the Sources and Costs of Their Improvement*, Panel to Advance a Research Program on the Design of National Health Accounts, Committee on National Statistics. Division of Behavioral and Social Sciences and Education, Washington, DC: The National Academies Press.

Neumayer, E. (2012), "Human Development and Sustainability", *Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development*, Vol. 13, No. 4, pp. 561-579.

nef (2013), *Our Work: Social Return on Investment*, New Economics Foundation, *www.neweconomics.org/projects/social-return-investment* (last accessed 22 July 2013).

nef (2012), *The Happy Planet Index: 2012 Report – A global index of sustainable well-being*, New Economics Foundation, London, *www.happyplanetindex.org/assets/happy-planet-index-report.pdf* (last accessed 22 July 2013).

New Zealand Treasury (2011), "Working Towards Higher Living Standards for New Zealanders", *New Zealand Treasury Paper*, Vol. 11/02, May, p. 3, *www.treasury.govt.nz/publications/research-policy/tp/higherlivingstandards/tp-hls-may11.pdf* (last accessed 22 July 2013).

Nordhaus, W.D. and J. Tobin (1973), "Is Growth Obsolete?", in Moss, M. (ed.), *The Measurement of Economic and Social Performance*, Studies in Income and Wealth, Vol. 38, National Bureau of Economic Research, pp. 509-564.

OECD (2013a), *International Regulatory Co-operation: Addressing Global Challenges*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264200463-en*.

OECD (2013b), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191655-en*.

OECD (2013c), *OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194830-en*.

OECD (2013d), *OECD Guidelines for Micro Statistics on Household Wealth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264194878-en*.

OECD (2012a), *OECD Environmental Outlook to 2050: The Consequences of Inaction*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264122246-en*.

OECD (2012b), "Does parental education affect students' chances?", in *Education at a Glance 2012: Highlights*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/eag_highlights-2012-34-en*.

OECD (2012c), *Let's Read them a Story! The Parent Factor in Education*, PISA, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264176232-en*.

OECD (2011a), *How's Life?: Measuring Well-Being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264121164-en*.

OECD (2011b), *Towards Green Growth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264111318-en*.

OECD (2011c), *Towards Green Growth: Monitoring Progress – OECD Indicators*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264111356-en*.

OECD (2011d), *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264119536-en*.

OECD (2011e), *Quality Framework and Guidelines for OECD Statistical Activities*, OECD Publishing, Paris, *www.oecd.org/std/qualityframeworkforoecdstatisticalactivities.htm* (last accessed 18 July 2013).

OECD (2010a), *Paying for Biodiversity: Enhancing the Cost-Effectiveness of Payments for Ecosystem Services*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264090279-en*.

OECD (2010b), *Improving Health and Social Cohesion through Education*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264086319-en*.

OECD (2009), *Measuring Capital – OECD Manual 2009: Second Edition*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264068476-en*.

OECD (2001a), *The Well-being of Nations: The Role of Human and Social Capital*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264189515-en*.

OECD (2001b), *Measuring Capital – OECD Manual: Measurement of Capital Stocks, Consumption of Fixed Capital and Capital Services*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264193260-en*.

OECD and Statistics Canada (2000), *Literacy in the Information Age: Final Report of the International Adult Literacy Survey*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264181762-en* (last accessed 22 July 2013).

Putnam, R. (2000), *Bowling Alone: The Collapse and Revival of America's Community*, Simon and Schuster, New York.

Rockström, J. et al. (2009), "A Safe Operating Space for Humanity", *Nature*, Vol. 461, pp. 472-475.

Sachs, J. (2008), *Common Wealth: Economics for a Crowded Planet*, Allen Lane, London.

Sampson, R., S. Raudenbush and F. Earls (1997), "Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy", *Science*, Vol. 277, No. 5328, pp. 978-924.

Schultz, T.W. (1961), "Investment in Human Capital", *The American Economic Review*, Vol. 51, No. 1, pp. 1-17.

Scrivens, K. and C. Smith (2013), "Four Interpretations of Social Capital: An Agenda for Measurement", *OECD Statistics Working Paper*, OECD Publishing, Paris, forthcoming.

Silva, J. and Z. Brown (2013), "More Than the Sum of their Parts: Valuing Environmental Quality by Combining Life Satisfaction Surveys and GIS Data", *OECD Statistics Working Papers*, Vol. 2013/01, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k4840hfpwkb-en*.

Skidelsky, R. and E. Skidelsky (2012), *How Much is Enough? The Love of Money and the Case for the Good Life*, Allen Lane, London.

Social Enterprise UK (2012), *The Social Value Guide: Implementing the Public Services (Social Value) Act*, Social Enterprise UK, *www.socialenterprise.org.uk/uploads/files/2012/12/social_value_guide.pdf* (accessed on 22 July 2013).

Stark, O., C. Helmenstein and A. Prskawetz (1998), "Human Capital Depletion, Human Capital Formation, and Migration: a Blessing or a 'Curse'?", *Economics Letters*, Vol. 60, No. 3, pp. 363-367.

Statistics New Zealand (2008), *Measuring New Zealand's Progress Using a Sustainable Development Approach 2008*, *www.stats.govt.nz/browse_for_stats/environment/sustainable_development/sustainable-development.aspx* (last accessed 22 July 2013).

Stern, N. (2009), *A Blueprint for a Safer Planet*, The Bodley Head, London.

Stiglitz, J.E., A. Sen and J.P. Fitoussi (2009), Report by the Commission on the Measurement of Economic Performance and Social Progress, *www.stiglitz-sen-fitoussi.fr/en/index.htm* (last accessed 22 July 2013).

Swiss Federal Statistical Office (2013), *Sustainable Development – A Brief Guide 2013: 17 key indicators to measure progress*, *www.bfs.admin.ch/bfs/portal/en/index/themen/21/01/new.html?gnpID=2013-267* (last accessed 22 July 2013).

Swiss Federal Statistical Office (2012), *Sustainable Development Report 2012*, *www.bfs.admin.ch/bfs/portal/en/index/themen/21/22/publ.html?publicationID=4066* (last accessed 22 July 2013).

Swiss Federal Statistical Office (2004), *Monitoring Sustainable Development –MONET: Final Report – Methods and Results*, *www.bfs.admin.ch/bfs/portal/en/index/themen/21/22/publ.html?publicationID=1598* (last accessed 22 July 2013).

Tol, R.S.J. (2009), "The Economic Effects of Climate Change", *Journal of Economic Perspectives*, Vol. 23/2, pp. 29-51.

United Nations (2011), "As world passes 7 billion milestone, UN urges action to meet key challenges", *Press Release issued by the United Nations News Centre*, 31 October 2011, *www.un.org/apps/news/story.asp?NewsID=40257&Cr=population&Cr1=&Kw1=7+billion+milestone&Kw2=&Kw3=#.Ue0-yEpKaz4* (last accessed 22 July 2013).

United Nations (2009a), *Measuring Sustainable Development*, United Nations, prepared in co-operation with the OECD and the Statistical Office for European Communities (Eurostat), New York and Geneva.

United Nations (2009b), *System of National Accounts 2008*, United Nations, New York.

United Nations (2009c), *World Population Prospects: The 2008 Revision*, United Nations, New York.

UNDP (2013), *Human Development Report 2013 – The Rise of the South: Human Progress in a Diverse World*, United Nations Development Programme, New York, *http://hdr.undp.org/en/media/HDR_2013_EN_complete.pdf* (last accessed 22 July 2013).

UNECE (2013), *Framework and Suggested Indicators to Measure Sustainable Development*, report prepared by the Joint UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development, United Nations Economic Commission for Europe, 27 May 2013, *www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2013/SD_framework_and_indicators_final.pdf* (last accessed 22 July 2013).

UNSC (2012), *System of Environmental-Economic Accounting Central Framework*, UN Statistical Commission, white cover publication, pre-edited text subject to official editing, *http://unstats.un.org/unsd/envaccounting/White_cover.pdf* (last accessed 22 July 2013).

UNU-IHDP and UNEP (2012), *Inclusive Wealth Report 2012: Measuring progress towards sustainability*, Cambridge: Cambridge University Press.

van de Kerk, G. and A. Manuel (2012), *Sustainable Society Index SSI-2012*, The Sustainable Society Foundation, The Hague, *www.ssfindex.com/cms/wp-content/uploads/ssi2012.pdf* (last accessed 22 July 2013).

van den Berg, A., J. Maas, R.A. Verheij and P.P. Groenewegen (2010), "Green Space as a Buffer between Stressful Life Events and Health", *Social Science and Medicine*, Vol. 70, pp. 1203-1210.

WCED (1987), *Our Common Future*, World, Commission on Environment Development, Oxford, Oxford University Press.

White, M.P., I. Alcock, B.W. Wheeler and M.H. Depledge (2013), "Would You Be Happier Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data", *Psychological Science*, published online first, 23 April 2013.

WHO (2009), *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks*, World Health Organisation, Geneva.

Wood, C. and D. Leighton (2010), *Measuring Social Value: The Gap between Policy and Practice*, Demos, London, *www.demos.co.uk/files/Measuring_social_value_-_web.pdf?1278410043* (last accessed 22 July 2013).

World Bank (2011), *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*, World Bank, Washington, DC.

World Bank (2006), *Where is the Wealth of Nations? Measuring Capital for the 21st Century*, World Bank, Washington, DC.

WWF (2012), *Living Planet Report 2012*, WWF International, Gland, Switzerland.

Glossary

Affect balance: It captures the net balance between positive (e.g. joy, enjoyment and self-rest) and negative (e.g. worry, sadness, depression) moods and feelings.

"Anchored" poverty: "Anchored" poverty is measured at a fixed moment in time. It is based on a threshold, in relation to the overall distribution of income in a country, and in a given year, which is kept constant in real terms in later years. This "anchored" threshold is usually set at 50% of median income in a given year.

Automatic stabilisers: This refers to the components of governments' budget policies (particularly income taxes and welfare spending) that can operate to smooth the business cycle. In that sense, they act as "automatic stabilisers" in macroeconomics.

Cantril ladder: The Cantril ladder, also called the "Self-Anchoring Striving Scale" (Cantril, 1965), developed by pioneering social researcher Dr Hadley Cantril, consists of the following: *Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? (ladder-present). On which step do you think you will stand about five years from now? (ladder-future)*. The Cantril ladder represents the best available measure to assess overall life satisfaction.

Capital: In the context of sustaining well-being, the term "capital" is used to refer to the durable economic, natural, human and social resources that help to shape or drive well-being outcomes over time. Capital stocks are characterised by persistence over time, a capacity to store value, and an ability to generate a stream of benefits to society over time. Capital accumulates slowly through investment, can depreciate over time, and can be depleted in a number of ways (e.g. through consumption, neglect or damage). See also: *Economic capital, human capital, natural capital and social capital*.

Capital stocks and flows: Stock measures ideally reflect the total amount of capital available (i.e. assets, net of liabilities) at a given point in time. Stocks are often contrasted with flows, which are measured in relation to a fixed time period, such as units per year. In the context of sustaining well-being over time, policy-relevant flows might include *investment* (meaning actions taken to increase the stock of capital) and *depreciation* (which refers to deterioration in a stock).

Doubling up/Moving down moves: These terms have been developed following the housing crisis in the United States. Doubling up occurs when an individual or family moves in with another household forming a multi-adult household. The "doubled-up" households are defined as those that include at least one "additional" adult whi is not the householder, spouse or cohabiting partner of the householder. Moving down occurs when the loss of a job or other adverse factors precipitates a housing crisis (e.g. foreclosure, eviction) that leads a household to move from ownership to renting or to a rent-free situation.

Economic capital: Refers to both *produced capital* (man-made tangible assets such as buildings, machinery, transport infrastructure; and knowledge assets such as computer software or artworks); and *financial capital* (which can include various financial assets such as currency and deposits, and liabilities in the form of debts).

Ecosystem: Ecosystems are defined in the SEEA Central Framework as "areas containing a dynamic complex of biotic communities (for example, plants, animals and micro-organisms) and their non-living environment interacting as a functional unit to provide environmental structures, processes and functions" (UNSC, 2012:13).

Ecosystem services: *Ecosystem services* refer to the benefits that ecosystem functioning brings to both the economy and to wider human well-being. They can include: *i) provisioning services*, such as food, biochemicals, genetic resources, fresh water and fuel; *ii) regulating services*, including climate regulation, water purification, erosion regulation, and pollination; *iii) cultural services*, including education and inspiration, recreation and spiritual and aesthetic values; and *iv) supporting services*, such as habitat provision, and water and nutrient cycling (*Source:* Millennium Ecosystem Assessment 2005; OECD, 2010a).

Equivalised household disposable income: This concept, as used in Chapter 4, refers to the total income of a household that is available for spending or saving, divided by the square root of household size. This so-called "square root scale" implies the existence of economies of scale in household needs: any additional household member needs a less than proportionate increase of the household income in order to maintain a given level of living standard. For instance, it implies that a household of four persons has needs twice as large as one composed of a single person. The total household income comprises all monetary incomes received from any source by each member of a household. These include income from work, investment and social benefits, plus any other household income. Taxes and social contributions are deducted from this sum.

Gender statistics: A field of statistics that cuts across the traditional fields to identify, produce and disseminate statistics that reflect the realities of the lives of women and men and policy issues relating to gender equality.

Gini index: The Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. The Gini index measures the area between the Lorenz curve and the hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. A Gini index of 0 represents perfect equality and 100, perfect inequality.

Glass ceiling: An upper limit to professional advancement, especially as imposed upon women, that is not readily perceived or openly acknowledged.

Gross replacement rates: Express gross unemployment benefits received when not working as a percentage of previous gross earnings.

Headline indicators: The headline indicators of *How's Life?* are deemed to be of sufficiently good quality and can be used for monitoring well-being over time and across countries. They meet, to different degrees, a number of quality criteria, such as conceptual and policy relevance, quality of the underlying data, comparability of the concepts and survey questions used, and frequency of compilation.

Healthy Life Years (HLY): This indicator (also called disability-free life expectancy) measures the number of remaining years that a person of a certain age is supposed to live without disability. It is used to distinguish between years of life free of any activity limitation and years experienced with at least one activity limitation. The emphasis is not exclusively on the length of life, as is the case for life expectancy, but also on the quality of life.

Household net adjusted disposable income: This concept, as used in Chapters 2 and 3, measures the maximum amount that any household member can afford to consume without having to reduce its assets or to increase its liabilities. It is obtained by adding to people's gross income (earnings, self-employment and capital income, as well as current monetary transfers received from other sectors) the social transfers in-kind that households receive from governments (such as education and health care services), and then subtracting taxes on income and wealth, the social security contributions paid by households as well as the depreciation of capital goods consumed by households. Households net adjusted disposable income can be expressed in real terms (with nominal values deflated by the actual individual consumption deflator).

Household net financial wealth: This consists of monetary gold, currency and deposits, securities other than share, loans, shares and other equity (including shares issued by investment funds), insurance technical reserves, and other accounts receivable or payable, net of household financial liabilities, as defined by the System of National Accounts (SNA). This wealth measure excludes a range of assets that are critical for household material well-being, such as dwellings, land, and assets that contribute to the economic production of quasi-corporations.

Human capital: Has been defined in several different ways, but typically refers to the knowledge, skills, competencies and health of individuals, which help to create personal, social and economic well-being.

Intimate-partner violence: An abuse of one partner by the other in an intimate relationship such as marriage, cohabitation or dating. It can take many forms, including physical aggression or assault, sexual abuse, emotional abuse, intimidation, stalking and passive/covert abuse.

Involuntary part-time work: It comprises individuals working part-time because they cannot find a full-time job, and those who are working fewer hours than their usual working time because of economic slack.

Job tenure: Refers to continuing spells of employment and measures the length of time workers have been in their current job or with their current employer.

Monetisation: In the context of measuring the sustainability of well-being, monetisation means estimating the value of a resource (or capital stock) in monetary units.

Natural capital: Refers to aspects of the natural environment that contribute to economic production and wider well-being. It can include individual assets such as minerals, energy resources, land, soil, water, trees, plants and wildlife. However, it also includes broader ecosystems – i.e. the joint functioning of, or interactions among, different environmental assets, as seen in forests, soil, aquatic environments and the atmosphere.

NEETs: This acronym refers to the share of young persons who are neither in employment, nor in education or training (Not Employed, Education or Training). The word was first used in the United Kingdom but its use has spread to other OECD countries.

Net replacement rates show the proportion of the total income of a household that is maintained when one adult member becomes is unemployed. Net replacement rates are calculated based on household net income, which takes into account the amount of cash benefits received as well as the amount of taxes and social security contributions paid by the household. They express the household net income during unemployment as a percentage of the household net income while in work.

Persons marginally attached to the labour force comprise two groups of inactive persons: those seeking work but not immediately available; and those available to work but not seeking employment. These persons do not fulfil all the ILO criteria to define unemployment, hence they are not classified as unemployed, but they share some characteristics with the unemployed.

PPP: Purchasing power parities (PPPs) are the rates of currency conversion that equalise the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs are simply price relatives which show the ratio of the prices in national currencies of the same good or service in different countries.

Primary income: This income corresponds to the sum of compensation of employees, property income and operating surplus. With the secondary income, it is one of the main component of the household adjusted disposable income

Regrettables: Some of the activities included in GDP actually correspond to a reduction in people's well-being (as in the case of higher transport costs due to increased congestion and longer commuting) or to activities aimed at remedying some of the social and environmental costs associated with production (as in the case of spending on pollution abatement). These activities are called "regrettables" as they contribute to increase the economic activity but they obviously do not add to people's well-being.

Relative poverty: Relative income poverty is measured relative to a threshold, defined in relation to the overall distribution of income in a country. This relative threshold is usually set at 50% of median income each year.

Secondary income: This income corresponds to the social transfers in kind received, cash transfers from the public sector, and taxes and social security contributions paid by households. With the primary income, it is one of the main component of the household adjusted disposable income.

Secondary indicators: they provide complementary evidence to the headline indicators in the *How's Life?* report (e.g. indicators covering more specific aspects of the dimension at hand, with more limited country coverage, or based on sources that were deemed to be less reliable than in the case of headline indicators).

SEEA: The System of Environmental-Economic Accounting (UNSC, 2012) is a statistical framework setting out internationally agreed concepts, definitions, classifications and accounting rules for collecting comparable information about interactions between the economy and the environment. It adopts a structure that is compatible with the System of National Accounts framework.

Social capital: Can be thought of as "networks together with shared norms, values and understandings that facilitate co-operation within or among groups" (OECD, 2001a). At least four distinct types of social capital can be identified: personal relationships, social network support, civic engagement, and trust and co-operative norms (Scrivens and Smith, 2013). Some conceptions of social capital also include governance or political, institutional and legal arrangements.

Sticky floor: Refers to the difficulties associated with moving from lower to upper level jobs.

Substitution: In the context of well-being "production", substitution means exchanging one form of capital with another one of equal value. Two resources can be considered "perfectly substitutable" if depleting one resource can be offset by increasing the other, without affecting the total level of well-being that can be sustained.

Time poverty: Deficit of time for leisure after having taken into account the time spent in paid, unpaid work and personal care activities.

TFSD: The Joint UNECE/Eurostat/OECD **T**ask **F**orce for Measuring **S**ustainable **D**evelopment, set up by the Conference of European Statisticians in 2009. A key goal of the Task Force was to develop a broad conceptual framework that could harmonise the wide variety of methods that have been used by both national and international institutions to measure sustainable development. The Task Force reported their "Framework and Suggested Indicators to Measure Sustainable Development" in May 2013 (UNECE, 2013).

Unsocial hours worked: These refer to the number of hours which are not done during the usual working hours. Unsocial (or asocial) hours worked include evening and night working hours as well as working hours completed on Saturdays and Sundays.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
(30 2013 07 1 P) ISBN 978-92-64-20074-6 – No. 60503 2013

How's Life? 2013

MEASURING WELL-BEING

Every person aspires to a good life. But what does "a good or a better life" mean? The second edition of of *How's Life*? provides an update on the most important aspects that shape people's lives and well-being: income, jobs, housing, health, work-life balance, education, social connections, civic engagement and governance, environment, personal security and subjective well-being. It paints a comprehensive picture of well-being in OECD countries and other major economies, by looking at people's material living conditions and quality of life across the population. Through a wide range of comparable well-being indicators, the report shows that countries perform differently in the various dimensions of well-being. For instance, low-income countries in the OECD area tend to do very well in subjective well-being and work-life balance. The report responds to the needs of citizens for better information on well-being and the needs of policy makers to give a more accurate picture of societal progress.

In addition, the report contains in-depth studies of four key cross-cutting issues in well-being that are particularly relevant. First, this report analyses how well-being has changed during the global economic and financial crisis. Even though some effects of the crisis may become visible only in the long-term, the report finds that the crisis has had large implications for some economic and non-economic aspects of people's well-being. Secondly, the report looks at gender differences in well-being, showing that the traditional gender gap in favour of men has narrowed but has not disappeared. It also finds that women and men do well in different areas of well-being and that they are increasingly sharing tasks and roles. Third, it looks at the quality of employment and well-being in the workplace. The report presents evidence on the main factors that drive people's commitment at work and are key to strengthening their capacity to cope with demanding jobs. Finally, the last chapter of the report studies the links between current and future well-being. It looks at ways to define and measure sustainability of well-being over time.

How's Life? is part of the OECD Better Life Initiative, launched by the Organisation on the occasion of its 50th Anniversary in 2011. The OECD Better Life Initiative aims to promote "Better Policies for Better Lives", in line with the OECD's overarching mission. One of the other pillars of the OECD Better Life Initiative is the Better Life Index (***www.oecdbetterlifeindex.org***), an interactive composite index of well-being that aims at involving citizens in the debate on societal progress.

Consult this publication on line at ***http://dx.doi.org/10.1787/9789264201392-en.***

This work is published on the OECD iLibrary, which gathers all OECD books, periodicals and statistical databases.
Visit ***www.oecd-ilibrary.org*** for more information.

2013

OECD*publishing*
www.oecd.org/publishing

ISBN 978-92-64-20074-6
30 2013 07 1 P

