WELL-BEING ANALYTICS FOR POLICY USE: POLICY EVALUATION THROUGH A WELL-BEING LENS IN SLOVENIA

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Fabrice Murtin,
Vincent Siegerink,
Lara Fleischer,
Julien Bonnet,
Balázs Egert

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Contact: Fabrice.Murtin@OECD.org

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Abstract

This paper presents a number of tools developed for the Ministry of Labour, Social Affairs and Equal Opportunities in Slovenia for the purpose of multi-dimensional policy analysis. These tools yield the following initial insights. An initial review of Slovenia's well-being performance suggests that the country's main well-being challenges are to boost productivity and increase performance on economic indicators without compromising its low levels of inequalities in wealth and income and good outcomes in certain non-material well-being dimensions. Striving for better human capital outcomes, including health outcomes and adult skills, are key avenues through which both these objectives might be achieved. Using a shadow prices approach, the paper assesses the welfare impacts of a number of relevant labour market policies and finds that the shadow price of employment is on average equal to 3% of household income. Overall, no policy trade-off across employment and average household income emerges. The largest welfare impacts stem from the following policy reforms: i) a cut in regulation of the energy, transport and communication sectors; ii) an increase in ALMPs; iii) a cut in the average tax wedge on households; iv) a cut in the minimum wage; v) an increase in the number of weeks of maternity leave; vi) a cut in the replacement rate of unemployment benefits. Only one policy reform implies a loss in welfare, namely a cut in corporate income tax, which benefits GDP but decreases household income.

Résumé

Ce document présente un certain nombre d'outils développés pour le Ministère du travail, des affaires sociales et de l'égalité des chances en Slovénie dans le but de contribuer à l'analyse multidimensionnelle des politiques. Ces outils ont permis de dégager les premières conclusions suivantes. Un premier examen des performances de la Slovénie en matière de bien-être suggère que les principaux défis auxquels ce pays doit faire face dans ce domaine consistent à stimuler la productivité et à accroître les performances des indicateurs économiques sans remettre en cause les faibles niveaux d'inégalités de richesse et de revenu et les bons résultats du pays dans certaines dimensions non matérielles du bien-être. Afin d'atteindre ces deux objectifs, il sera essentiel de s'efforcer d'obtenir de meilleurs résultats en matière de capital humain, notamment en ce qui concerne la santé et les compétences des adultes. À l'aide d'une approche fondée sur les prix fictifs, l'article évalue les effets sur le bien-être d'un certain nombre de politiques appropriées du marché du travail et constate que le prix implicite d'un point de pourcentage du taux d'emploi est en moyenne égal à 3 % du revenu des ménages. Dans l'ensemble, aucun compromis politique entre l'emploi et le revenu moyen des ménages ne se dégage. Les impacts les plus importants sur le bien-être proviennent des réformes politiques suivantes : i) une réduction de la réglementation des secteurs de l'énergie, des transports et des communications ; ii) une augmentation des PAMT ; iii) une réduction du coin fiscal moyen des ménages ; iv) une réduction du salaire minimum ; v) une augmentation du nombre de semaines de congé de maternité ; vi) une réduction du taux de remplacement des allocations chômage. Une seule réforme politique implique une perte de bien-être, à savoir une réduction de l'impôt sur les sociétés, qui profite au PIB mais diminue le revenu des ménages.

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Introduction

1. The recommendations made by (Sen, Stiglitz and Fitoussi, 2009[1]) remain an important basis for improvements in the measurement of progress in societies and the way that policy makers understand and evaluate the impact of their policies. The report and the associated "Beyond GDP" agenda have spurred a large number of initiatives in OECD countries to measure and monitor well-being through multi-dimensional frameworks. Some countries have gone beyond this and have incorporated well-being indicators in decision-making and budgeting frameworks. However, tools to evaluate policies using a multi-dimensional lens have not yet reached maturity, and various Ministries and agencies across OECD countries are in the process of developing methodologies to estimate the impact of policies with a well-being lens.

2. Recent initiatives in Slovenia, including the Indicators for Well-being in Slovenia (IWS) initiative and the Slovenian National Development Strategy (NDS) have encouraged policy-makers in Slovenia to consider a wide range of outcomes when designing, implementing and evaluating policies. These initiatives have had a degree of success, and the NDS was lauded for its extensive consultation process, although some argue that these tools have not been systematically incorporated in the policy evaluation work undertaken by line Ministries. In the case of Slovenia's Ministry of Labour, Family, Social Affairs, and Equal Opportunities (the MOLFSAEO), the beneficiary of this report, the Ministry has incorporated findings and priorities from the NDS and the associated Development Report in an ad-hoc manner, it has so far had limited resources to monitor well-being outcomes and conduct advanced policy impact analyses to support its policy decisions.

3. Given the breadth of its policy work, which touches on many aspects of people's lives, the MOLFSAEO has requested technical support to strengthen its analytical capacities for multi-dimensional policy evaluation. It is the intention of the Ministry to operationalise a well-being framework that can aid its analytical pursuits and to conduct multi-dimensional policy analysis. Up to now, the MOLFSAEO has indicated to have had limited capacity for advanced policy evaluation.

Relevant project activities

4. In response to these needs, the OECD has provided technical support aimed to strengthen the analytical capacity of the MOLFSAEO to monitor and evaluate its policies against a broad set of indicators and to support its development of reform proposals that take into account the multi-dimensional costs and benefits for people in Slovenia. This report is the culmination of the activities under the project "Building analytical capacity at the Ministry of Labour, Family, Social Affairs and Equal Opportunities", which the OECD and the Directorate-General for Structural Reform Support of the European Commission (DG REFORM) have provided to the Government of Slovenia, funded by the Structural Reform Support Programme (SRSP) of the European Commission.

5. The primary goal of the technical support provided to the Ministry are to develop analytical tools to 1) monitor well-being outcomes, including by considering trends over time and compare Slovenia's performance with other countries, and to identify vulnerable populations, and 2) use well-being indicators

in order to assess the impact of policies on a wider range of outcomes, which allows identifying trade-offs and win-win policies and ensure policy coherence. This project consisted of five separate outputs, including strengthening the Ministry's capacity on monitoring labour market indicators and conduct tax-benefit analysis. The activities undertaken that are covered in this report only cover the activities related to the measurement and analysis of well-being for policy practice. The specific activities are presented below.

Activity 1.1: Review of key challenges in monitoring well-being trends

6. Based on the information gathered during the fact-finding mission, the OECD has prepared a short inception note reviewing existing well-being monitoring exercises and tools, along with an assessment of key bottlenecks, gaps and caveats that current data and prevailing practices present in the policy process. The review note also takes stock of recent, ongoing or planned investments and capacity-building activities that have sought to improve data scope, quality or availability. Notably, with the National Development Strategy 2030 (NDS), Slovenia already has a well-being measurement framework that features 12 national goals and 30 performance indicators. The review assesses whether and how the NDS framework was used for policy purpose, including its governance structure across relevant institutions. The review seeks to identify lessons that can be drawn from this recent experience and highlights potential links and complementarities between this experience and the objectives and outputs of the present project.

Activity 2.1: Review of data sources

7. This report further establishes an inventory of available relevant well-being data in the Ministry and related institutions (e.g. Public Employment Service, Centres for Social Work, Pension and Disability Insurance Institute). The inventory was undertaken through desk research and was supported by a questionnaire sent to MoLFSAEO.

Activity 2.2: Proposal for a framework of indicators for monitoring well-being trends

8. Based on the data inventory (Activity 2.1) and the assessment of strengths and weaknesses of the NDS indicators (Activity 1.1), the OECD team has developed a detailed proposal for a framework of indicators for monitoring trends in well-being. The proposal seeks to be comprehensive, dwells on timely indicators that can also be broken down by population group, and reflects on well-being inequalities and the sustainability of well-being over time. This part draws from OECD work and relevant experiences in other countries.

Activity 2.3: Development and illustration of a framework of indicators for monitoring well-being trends

9. Consultations with MoLFSAEO on the proposal (Activity 2.2) have formed the basis for developing an integrated framework of well-being indicators that supports the policy activities of the MoLFSAEO, and that remains linked to relevant parts of the NDS.

10. An overarching objective has been to provide MoLFSAEQ with a comprehensive dashboard of indicators on key well-being outcomes that are linked to the Ministry's activities and that are mapped with the Ministry's policy tools. The framework also includes recommendations for indicators that would draw on data that is not currently available, but which the ministry and other relevant institutions in Slovenia could make available or collect in the future.

Activity 2.4: Knowledge transfer

11. The OECD team has presented the framework in a workshop with MoLFSAEO officials and analysts, and any other interested parties invited by MoLFSAEO. The workshop included a hands-on

element with opportunities to explore the technical implementation of the indicators framework. The OECD team provided MoLFSAEO with access to any programs and code that were developed as part of the Activity 2.3 and the workshop has been an opportunity to explore specific technical data or programming issues.

Activity 5.2: Assessing the welfare impacts of structural policy reforms

12. This report proposes a welfare metric against which multi-dimensional impacts of structural policy reforms can be evaluated. More precisely, the policy impacts on socio-economic indicators (GDP, labour productivity, employment) that were assessed in Activity 5.1 under the guidance of the OECD Economics Department, are expressed in a common money metric. The advantages and limitations of the welfare evaluation approach are discussed in the light of concrete experiences made by policy practitioners.

Overview of key results

13. This report describes a number of tools and outcomes for the benefit of the MOLFSAEO. First, a number of observations were made on the previous use of well-being frameworks in Slovenia, in particular the NDS (Chapter 1). While stakeholders agreed on the benefits of the inclusive drafting process of the NDS, some indicated that the NDS was not sufficiently focused while not reaping the benefits of a full-fledged multi-dimensional measurement framework. In addition, in the absence of an implementation plan such as the NDPP or other systematic tools, policymakers appear to have difficulties using the framework in an integrated manner to inform different stages of the policy cycle. While the NDS Development Report is well taken up across government, this is largely done on an ad-hoc basis. These observations speak to the added value of a comprehensive multi-dimensional monitoring framework for the use of policy analysis and for the need to build capacity and develop analytical tools to incorporate well-being indicators in decision-making processes.

14. In response, this report proposes a comprehensive well-being framework for use by the Ministry (Chapter 2). The proposed framework is strongly rooted in existing national and international progress metrics. The OECD has provided the Ministry with a data infrastructure that allows the Ministry to easily collate data from various sources in order to monitor well-being trends and highlight inequalities between groups. In order to facilitate the use of the well-being framework in policy analysis, the monitoring framework is accompanied by a compass that highlights the relationship between the MOLFSAEO's policies and corresponding well-being outcomes.

15. An initial review of Slovenia's well-being performance (presented in Chapter 2) suggests that the country's main well-being challenges are to boost productivity and increase performance on economic indicators without compromising its low levels of inequalities in wealth and income and good outcomes in certain non-material well-being dimensions. Striving for better human capital outcomes, including health outcomes and adult skills, are key avenues through which both these objectives might be achieved. While Slovenia performs well on some non-material well-being dimensions, such as safety and social connections, on balance, it appears that people in Slovenia still lack the broad range of good well-being outcomes to reach the levels of subjective well-being that are achieved by high performers in the OECD. Besides lagging material living conditions and average health outcomes and adult skills, other areas of attention include poor levels of civic engagement and environmental quality.

16. The final chapter (Chapter 3) presents a methodology to use an equivalent income approach to assess the impact of structural policy reforms on a welfare index that aggregates two dimensions of well-being, namely employment and average household income. This methodology allows solving policy trade-offs when policy reforms have an ambiguous effect on welfare, for instance when a structural reform raises employment but lowers household income, or vice-versa. It also highlights the channels through which

policy reforms have the largest impact on people's well-being. The chapter uses this analysis to assess the welfare impacts of a number of relevant labour market policies, with the following main results:

- The shadow price of employment, namely the monetary value that people confer to the increase of the employment rate by 1 ppt, differs across countries, age, gender and income groups, and is on average equal to 3% of household income. The largest part of this shadow price stems from the employment rate of the prime-age population, especially females. Similarly, the shadow price of a reduction in the unemployment rate by 1 ppt is equal to 2% of household income, as found in previous work.[1]
- Overall, no policy trade-off across employment and average household income emerges, which is fairly intuitive. Looking at the sum of potential effects on welfare from policy reforms, the total potential gain is large and equivalent to 12.4% of household income growth. This result underlines the importance of structural reforms for household well-being. The main channel of impact is the employment rate, with a potential gain equivalent to 7.4% of household income growth, followed by the indirect income effect going through higher GDP (5.9%). The direct effect on household income is negative but smaller (-0.9%). Out of the 13 policy considered, 9 of them imply a larger welfare impact going through employment than through household income, which underlines the importance of employment for people's well-being.
- The largest welfare impacts stem from the following policy reforms: i) a cut in regulation of the energy, transport and communication sectors; ii) an increase in ALMPs; iii) a cut in the average tax wedge on households; iv) a cut in the minimum wage; v) an increase in the number of weeks of maternity leave; vi) a cut in the replacement rate of unemployment benefits. Only one policy reform implies a loss in welfare, namely a cut in corporate income tax, which benefits GDP but decreases household income.

17. This report is structured around three chapters that correspond to contributions to the project made by the OECD WISE Centre under three outputs (Outputs 1, 2 and 5) of the project. The first chapter contains a review of Slovenia's existing and previous initiatives to measure well-being and contains the OECD's findings on their use in policy-making processes, rooted in a fact-finding mission conducted online in the fall of 2020. The second chapter proposes a framework for measuring well-being for the use of the MOLFSAEO and an accompanying mapping with the Ministry's policies. The chapter also contains an overview of Slovenia's well-being performance. The third chapter presents concrete methodologies to analyse policy impacts with a multi-dimensional lens.

[1] The valuations of the unemployment and employment rates (equal to 2% and 3% respectively) are fairly consistent with each other, bearing in mind that the two rates are related by the participation rate, which is on average equal to 0.77 among OECD countries.

1 Review of key challenges in monitoring well-being trends in Slovenia

This chapter provides a review of existing tools and practices in the Ministry of Labour, Family, Social Affairs and Equal Opportunities of Slovenia for monitoring well-being trends for the purpose of policy analysis. It first provides an overview of international best practices in measuring well-being and using such measures to inform policy decisions. It then summarises existing and past national well-being monitoring frameworks in Slovenia, including the National Development Strategy and the Indicators for Well-being in Slovenia initiatives, providing some observations on their successes and challenge. Following, the chapter highlights the relevance of using a well-being approach for this particular Ministry.

1.1. Introduction

18. More than ten years have passed since the birth of the post-GDP movement, during which significant advances have been made in improving broad-based measures of societal progress and in applying these measures to inform policy decisions in OECD countries. The 2008 financial crisis and ensuing increases in inequalities, social dissatisfaction, as well as long-standing grievances about the limitations of GDP as a measure of social progress motivated national governments and the international community to go beyond measures of economic progress and to devise progress measures that take into account the full range of people's living conditions, as well as how these can be sustained over time (Sen, Stiglitz and Fitoussi, 2009[1]).

19. Governments would have likely been better positioned to respond to the financial crisis had they had a broader set of measures at their disposal to assess its impact and depth (Stiglitz, Fitoussi and Durand, 2018[2]). At the current juncture, with the COVID-19 pandemic affecting each domain of our lives from health, jobs and earnings to our social connections and mental health, multi-dimensional progress measures are not any less relevant. The depletion of the resources that sustain our well-being over time is equally acute, and a multi-dimensional view of progress by all parts of the government is therefore more than warranted.

20. This chapter responds to the first activity (Activity 1.1) in Output 1 of this project, which aims to diagnose key challenges in monitoring well-being trends in Slovenia and to review existing data and practices in order to prepare an inventory of evidence and data that are available. The current chapter includes a number of findings with respect to the Slovenian NDS measurement framework and how this framework was used to inform policy decisions up to now. These observations provide lessons from the MOLFSAEO to inform their use of a well-being measurement in policy-making processes, but may also be of interest to a wider policy audience in Slovenia. Moreover, this chapter lays the groundwork for the following two chapters, serving as inputs for the development of a framework for monitoring well-being trends (in Chapter 2, under Output 2) and tools for the analysis of policy impacts (in Chapter 3, under Output 5).

21. The chapter draws upon the information collected by the OECD during the fact-finding mission held virtually on 30 September 2020, including interviews with Slovenian government stakeholders, a brief questionnaire that was submitted to the MOLFSAEO, as well as a desk review.

1.2. International best practices in monitoring well-being

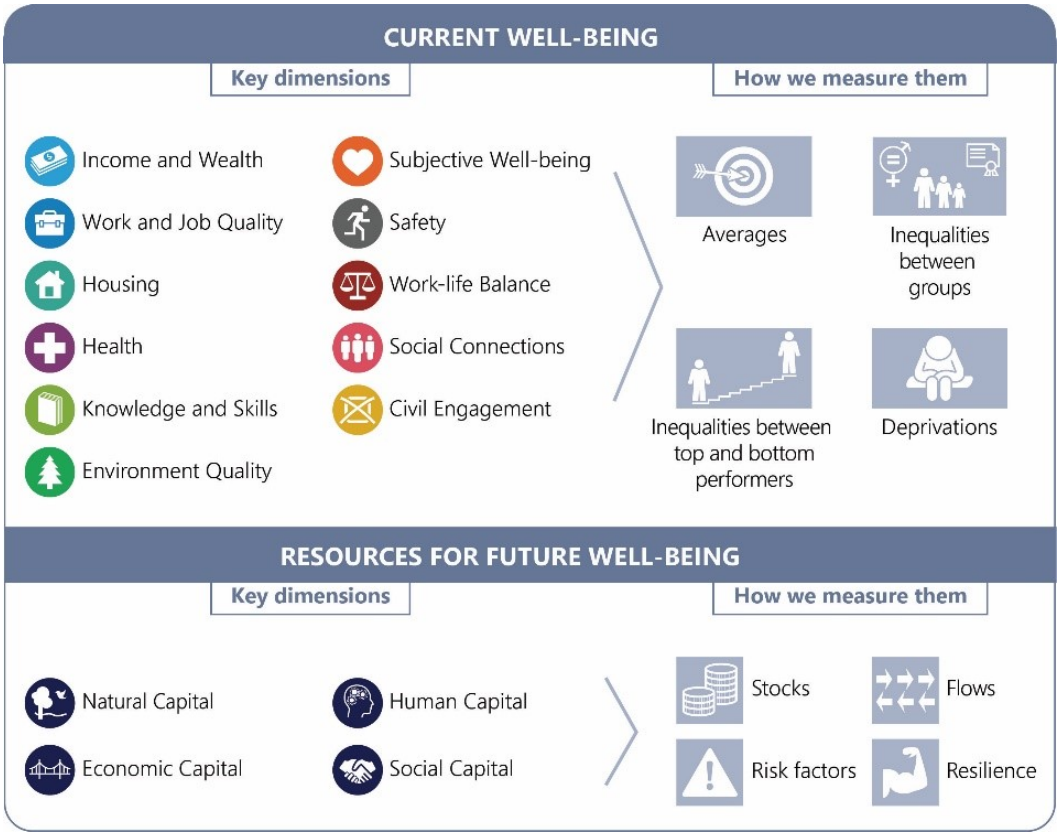
The OECD Well-being Framework

22. The OECD developed a Framework for Measuring Well-being in 2011, and has since reported on member and partner countries' well-being performance biennially (OECD, 2011[3]). At the request of the Committee for Statistics and Statistical Policy, it has also developed measurement guidelines to improve the availability and robustness of self-reported and objective measures of specific well-being areas, such as subjective well-being, the quality of the working environment and trust (OECD, 2017[4]; 2017[5]; 2013[6]) (OECD, 2017[5]), the OECD undertook a thorough quality review and expert consultation of the OECD Well-being Framework, which made further conceptual improvements to the well-being framework and the dashboard of indicators that operationalises it (Exton and Fleischer, forthcoming[7]).

23. The OECD Well-being Framework in its current form consists of 11 dimensions of current well-being and 4 dimensions of systemic resources that help to support well-being over time through a dashboard of over 80 indicators (See Figure 1.1). Well-being here consists of three conceptual parts:

1. **Current well-being** data focus on living conditions at the individual, household and community levels, and describe how people experience their lives "here and now". Dimensions include material conditions that shape people's economic options and quality-of-life factors that encompass how well people are, what they know and can do, and how healthy and safe their places of living are. Quality of life also encompasses how connected and engaged people are, and how and with whom they spend their time.
2. **Resources for future well-being** data consists of "capitals" (stocks of resources for future well-being), investments (or depletions) in these capitals, and risk and resilience factors that may affect future well-being. These capitals can be measured at the societal level or at the individual level. Separate reporting of current well-being and its sustainability helps to assess whether maximising the former comes at the cost of compromising the latter (or vice versa), which can inform intertemporal trade-offs in policy design.
3. As national averages often mask large inequalities in how different parts of the population are doing, the **distribution of current well-being** is taken into account by looking at three types of inequality: gaps between population groups, or horizontal inequalities; gaps between those at the top and those at the bottom of the distribution in each dimension, or vertical inequalities; and deprivations, or the share of the population falling below a given threshold of achievement.

Figure 1.1. The OECD Well-being Framework



Source: (OECD, 2020[8]), *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, https://doi.org/10.1787/9870c393-en.

24. The OECD's Well-being dashboard is informed by international best practices and underpinned by rigorous methodological considerations that ensure the quality of the statistics (Table 1.1). All indicators are assessed against a standardised set of quality assessment criteria based on the Quality Framework

for OECD Statistical Activities (OECD, 2011[9]). The seven categories of criteria are: relevance (the value for measuring and monitoring well-being), the ability to compute data on inequalities, accuracy (whether an indicator correctly reflects the underlying concept), credibility and comparability (notably harmonisation of standards across countries), timeliness and frequency, interpretability, and working constraints (practical requirements to produce the statistics) (Exton and Fleischer, forthcoming[7]). Quality assessment necessitates a degree of judgement and at times, indicators may still be considered even when limitations in one or multiple dimensions exist because of the lack of a better alternative. It is therefore also important to communicate on any limitations of the data.

Table 1.1. Quality assessment criteria

Relevance *Value for measuring and monitoring well-being*	**Inequalities** *Inequalities can be computed*	**Accuracy** *Indicator correctly reflects the underlying concept that it is intended to capture*	**Credibility + Comparability** *Statistics are produced under high quality standards and comparable across countries*	**Timeliness + Frequency** *Speed and frequency of data availability*	**Interpretability** *Ease with which users can understand and properly use and analyse the data*	**Working constraints** *Practical requirements to produce comparable and affordable well-being statistics*
Policy amenable outcome	Inequalities (horizontal, vertical, deprivations) can be computed	Validity	Source and sample quality	Recurrent data production going forward	Unambiguous interpretation	Country coverage and diversity
For current well-being: Unit of analysis: individual/ household level For capitals: Stock/flow/risk/ resilience factor		Reliability	Comparable definition across countries	Consistent time series going back	Broad summary outcome of concept	Additional burden of collection to data producer
			Well-established instrument collected	Length of time between collection and publication	Transparency of construction/ simplicity	

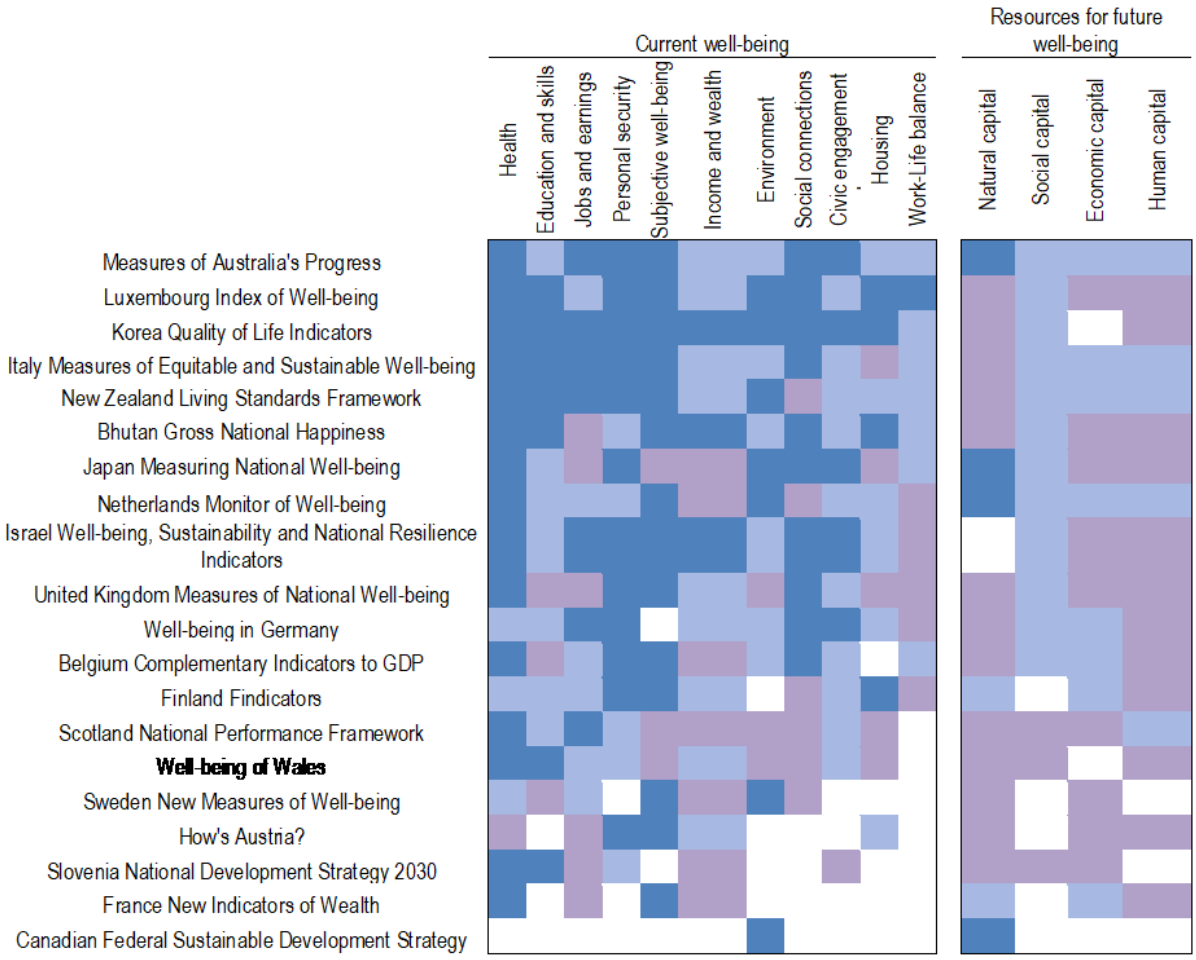
Source: (Exton and Fleischer, forthcoming[7]), "The Future of the OECD Well-being Dashboard", *OECD Papers on Well-being and Inequalities*, OECD Publishing, Paris.

National initiatives to measure well-being in OECD countries

25. In parallel to the OECD's efforts, many OECD countries have started using a well-being approach to measuring progress and informing policy-making (Exton and Shinwell, 2018[10]; Durand and Exton, 2019[11]). Some of these initiatives focus on measurement, monitoring and reporting, often conducted by National Statistical Offices. Others use well-being measures to inform policy-making processes, often implemented by government departments or the centre of government (in collaboration with statistical authorities). These initiatives usually share many commonalities and the OECD Well-being framework and national initiatives have always been mutually informative. Figure 1.2 below illustrates the considerable degree of overlap in the indicators contained in selected national frameworks with the OECD Well-being Framework (the bluer, the more overlap). Some differences also exist. For example, many national well-being initiatives consider "culture" as a dimension of their framework as a concept that has intrinsic importance to people (Australia, Finland, Israel, Korea, Latvia, New Zealand, Northern Ireland, Scotland, Slovenia, the UK, Wales). Others explicitly recognise "transboundary" effects: the impacts of domestic activities on the well-being of people in other countries.

Figure 1.2. How does the OECD Framework compare against selected other well-being frameworks?

Comparison at the indicator level per OECD Well-being Framework dimension



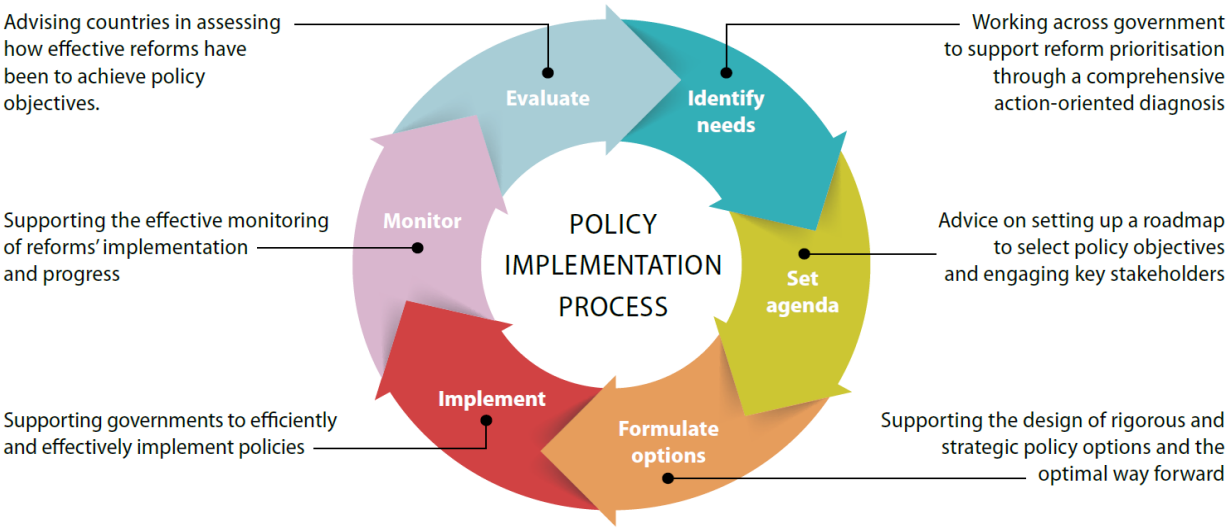
Note: A dark blue shade indicates that 50% or more of the indicators included in the respective OECD dimensions are contained in the other well-being dashboard. A light blue shade indicates less than 50% (and more than 0) of the indicators included in the respective OECD dimension are contained in the other well-being dashboard. A purple shade indicates that a dashboard includes the concept envisioned by the respective OECD dimension, but covers it in a very different way and with no comparable indicators. A white shade indicates that the OECD dimension is not covered. Coverage might mean that an indicator is officially classified as belonging to a different dimension in the other well-being framework. Only fully developed and available indicators as of December 2018 have been considered.

26. Well-being frameworks across OECD countries differ in size and scope: some national initiatives focus on specific themes, such as environmental sustainability (e.g. the Canadian Federal Sustainable Development Strategy) or social outcomes (e.g. the Social Scoreboard of the European Pillar of Social Rights). The size of national dashboards varies from over 130 indicators in Italy's Measures of Equitable and Sustainable Well-being framework and Australia's Measures of Australia's Progress to more concise frameworks such as the UK's Wellbeing Bulletin. The OECD Well-being dashboard contains just over 80 indicators. Larger frameworks allow to provide a more comprehensive account of progress with more granular and policy relevant indicators, but comes at the risk of making them complex to use and to communicate on (Exton and Fleischer, forthcoming[7]). As such, the purpose of the framework determines its shape and size.

27. In addition to measurement framework, an increasing number of countries have started using well-being measures to inform policy-making processes. This can be done in different ways and at various stages of the po*licy cycle* (Figure 1.3).

28. While using evidence to inform the policy implementation process is not new, using a well-being approach to inform policy decisions allows providing a more complete and coherent picture, and to break through silos in government actors. A broad measurement approach ensures that government departments consider outcomes beyond their core remit and therefore promotes strategic alignment across government.

Figure 1.3. The policy cycle



29. The OECD has documented a number of different ways in which member states are using well-being metrics in the policy process (Exton and Shinwell, 2018[10]; Durand and Exton, 2019[11])(. Most commonly, these initiatives use well-being in agenda-setting (e.g. France, Italy and Sweden), in policy formulation (e.g. Ecuador, New Zealand) or in the evaluation phase (e.g. United Kingdom) – see Table 1.2.

30. All of these initiatives remain relatively recent and adjustments and modifications are to be expected. The Secretary of the New Zealand Treasury noted in 2019 that the presentation of the first New Zealand Well-being Budget was "just the first mile in a marathon". Refining processes and embedding well-being metrics into an institutional culture demands both time and political will.

Table 1.2. Examples of mechanisms and frameworks for integrating well-being metrics into policy-making

Type of use	Example:
Shaping budgetary decisions (parliamentary discussions, well-being budgets) France (Office of Prime Minister) Italy (Ministry of the Economy and Finance) Sweden (Ministry of Finance) Netherlands (Statistics Office) New Zealand (Treasury)	*In 2017, the Dutch Cabinet commissioned Statistics Netherlands to compile an annual Monitor of well-being. The Monitor will form the basis of Cabinet considerations on the state of well-being in the Netherlands. These Cabinet's considerations are subsequently part of the accountability debate in the House of Representatives. In addition, the policy assessment agencies in the Netherlands will contribute to the Monitor and "conduct a periodic exploration of well-being", based on the Monitor".*
Strategic Planning National Development Strategy Scotland (National Performance Framework)	*The Scottish government's National Performance Framework was first published as part of the 2007 Spending Review, and was refreshed in June 2018. It sets out a vision for Scotland which uses an outcomes-based approach to measuring government's achievements, rather than inputs and outputs. The National Performance Framework forms the basis of performance agreements with public service delivery bodies, and is used to monitoring their effectiveness.*
Creating new institutional structures Wales (Future Generations Act created independent Commissioner) UK (What Works Centre for Well-being)	*Efforts to bring well-being metrics into policy in the United Kingdom have taken several different forms. One is the What Works Center for Wellbeing, an independent collaborative center that aims to develop and boost generation of high quality evidence on well-being intended for decision-makers in government, communities, businesses and other organisations to use in their work.*
Multi-dimensional policy evaluation and civil servant capacity building New Zealand (Treasury's cost-benefit analysis based on Living Standards Framework) UK (Green Book)	*Treasury New Zealand has developed the CBAx tool, a spreadsheet model that contains a database of values, to help civil servants across government agencies monetise impacts and do cost benefit analysis, including of well-being outcomes. In the 2018 Well-being Budget, agencies were required to use CBAx to inform their budget bids.*

Note: This is a reduced version of summary Table 3.1 in (Exton and Shinwell, 2018[10]), "Policy use of well-being metrics: Describing countries' experiences", *OECD Statistics Working Papers*, No. 2018/07, OECD Publishing, Paris, https://doi.org/10.1787/d98eb8ed-en.

1.3. Current and past initiatives to monitor well-being in Slovenia

31. Slovenia, in the meantime, has pursued two initiatives to measure well-being and progress. First, the Indicators of Well-being in Slovenia (IWS) project was an initiative implemented in 2011 in collaboration between four government institutions: the Institute of Macroeconomic Analysis and Development (IMAD), the Statistical Office of the Republic of Slovenia (SURS), the Slovenian Environment Agency (ARSO) and the National Institute of Public Health (NIJZ).[2] This initiative was created in the absence of an equivalent national multi-dimensional performance framework as the National Development Strategy at the time had a more narrow focus. The Indicators of Well-being in Slovenia was closely informed by post-GDP discussions at the OECD level. The framework contained 20 indicators that were annually reported on in an online dashboard using a "traffic light system" for trends over time as well as to depict Slovenia's performance relative to the European Union average. Annual reporting on the IWS indicators was discontinued at the time of the introduction of the Slovenian National Development Strategy and the website is currently no longer updated.

32. The second national multi-dimensional performance measurement initiative in Slovenia is the most recent Slovenian National Development Strategy (NDS), adopted by the Slovenian government in 2017, to follow the previous strategy which ran from 2005-2013 (Šooš, 2017[12]). The NDS is built on a long-term vision, the Vision of Slovenia, which identifies five key long-term principles for Slovenia's development:

[2] See: http://www.kazalniki-blaginje.gov.si/en/.

trust, quality of life, innovation, identity and learning. The NDS itself contains 5 strategic orientations for achieving a high quality of life in Slovenia and 12 interconnected and interdependent development goals. The drafting of the NDS was coordinated by the Government Office for Development and European Cohesion Policy, following a whole-of-government consultation that included numerous inter-ministerial discussions and review cycles, discussions with experts and a large scale public consultation. The OECD, as well as the European Commission, the World Bank and other international institutions were also consulted in the drafting process.

33. At the core of the NDS stands a measurement framework that establishes clear links between these long-term targets, the current priority areas of government policy and the annual budgetary cycle. The dual aims of the framework were to help identify specific policy actions aimed at reaching the high-level and intermediate objectives of the Strategy as well as to support the monitoring and evaluating the impact of the policy actions foreseen by the Strategy.

34. The OECD specifically supported the creation of the measurement framework with a detailed mapping of potential indicators used in other best practice initiatives, including Slovenia's own ISW framework, the OECD Well-being Framework (2016 version), and initiatives in Australia, Canada, the United Kingdom, France and Finland.[3] In addition, from the outset, it was also envisioned that the NDS would be closely linked to Slovenia's efforts to reach the Sustainable Development Goals (SDGs) and the NDS includes a mapping of the NDS goals against the SDGs. The monitoring of the NDS is by law the responsibility of IMAD, which annually presents a Development Report to the government on Slovenia's progress against the NDS development goals. The Development Report reports on an extended set of 69 indicators, many of which were originally part of the ISW indicator set.

35. As part of this project on building analytical capacity, the MOLFSAEO intends to create a set of tools that will allow it to identify and assess the multi-dimensional impacts of its policies. This note serves to assist the Ministry to these purposes by leveraging Slovenia's existing tools, in particular those of the Ministry of Labour. Based on international best practices aims at creating a measurement framework that is suitable for its purposes. For this reason, the following section presents a detailed mapping of the indicator dashboards in the IWS, the Slovenia NDS, and the most recent version of the OECD Well-being Framework in order to understand the commonalities and differences between the different initiatives for identifying multi-dimensional impact of policies. This may then also inform the choice of indicators for a tailored well-being framework from the MOLFSAEO.

A comparison of indicator dashboards

36. The mapping presented in this section consists of two steps: first, individual indicators are aligned, in order to identify overlaps in the indicators included in each of the frameworks, as well as gaps. Second, the dimensions that these indicators are in are mapped against each other, in order to understand overlaps and differences at a higher level.

37. There are a few major conceptual differences between the three frameworks. While the OECD framework explicitly distinguishes between Current Well-being and Resources for Future Well-being, no such distinction is made in the two other frameworks. The IWS framework is decomposed into three broad areas: Material Well-being, Social Well-being and Environmental Well-being. Each of these areas contains 6 or 7 sub-areas, with one headline indicator and a number of supporting indicators. The NDS framework consists of 12 Goals, which are in different ways linked to the 5 strategic orientations. The result of this second step is presented in Table 1.3. The table is composed of two parts respectively: one for the

[3] This mapping, as well as mappings of the ISW and OECD frameworks against the SDGs, were presented in the OECD document "*Designing an indicator framework for the Slovenian National Development Strategy: key principles and functions*" (2017) that was submitted to the Government Office for Development and European Cohesion Policy as part of the OECD project supporting Slovenia in Developing the National Development Strategy.

dimensions of Current Well-being of the OECD Well-being Framework and one for the dimensions of Resources for Future Well-being. The mapping only considers the sub-areas of the IWS framework.

38. A few observations stand out immediately. First, the dimensions of the IWS framework align closely with the Current Well-being dimensions of the OECD framework. The framework contains a few more granular sub-areas than the OECD framework, such as in the "Income and Wealth" and "Environmental Quality" and "Natural Capital" dimensions. In addition, the IWS framework does not contain indicators corresponding to the "Economic Capital" dimension of the OECD Well-being Framework. Overall, however, there is close alignment between these frameworks.

39. In contrast, the Slovenia NDS framework places a stronger focus on the Resources for Future Well-being in the OECD Well-being framework, and contains less indicators on Current Well-being, or the outcomes of how people experience live in the here and now. The Slovenia NDS framework was primarily designed to evaluate the extent to which Slovenia is investing in the society that it wants to become, as set out in the strategy. It therefore places less focus on measuring aspects of people's experience of their life today, such as through indicators of "Work-Life Balance", "Social Connections" or "Subjective Well-being". In addition, the indicators included to measure progress in the NDS goals were selected to reflect priority policy areas for Slovenia, rather than provide a comprehensive picture of well-being in Slovenia. However, a few additional indicators on current well-being, such as life satisfaction, are included in the extended set of indicators that are reported on in the annual Development Report. The focus of the NDS on future and on selected goals limits the possibility to identify and assess ongoing multidimensional policy impact.

40. Finally, a number of dimensions that are included in the Slovenian frameworks are not reflected in the OECD Well-being Framework. Both the IWS and the NDS framework contain a dimension related to culture ("Culture and Language" in the NDS; "Culture and Leisure" in the IWS"), in line with similar concepts in other OECD countries. The NDS also includes goals that are focused specifically on the functioning of the legal system ("Trustworthy legal system), innovation and entrepreneurship systems ("Competitive and socially responsible entrepreneurship and research") and governance ("Effective governance and high quality public service"), each of which contain indicators that are reflective of concepts included in the OECD Well-being Framework, but to which no individual dimension is dedicated.

41. There are also conceptual differences between the frameworks at the indicator level. Annex Table 1.A.1 provides a summary of those indicators that are not part of the OECD Well-being Framework but that do feature in Slovenia's own progress measurement initiatives. This inventory is important, because it reveals concepts that have been valued by Slovenians but that may fall outside the scope of the OECD's conceptual framework or measurement capabilities. These include indicators on personal experiences of discrimination, Slovenia's role in contributing to global peace and militarisation, graduates with STEM degrees, and people using the Internet for interacting with public authorities. The table contains a short explanation of how each indicator is reflected in the OECD Well-being Framework, or, if this is not the case, with which considerations it is not included.

Table 1.3. Mapping of dimensions in the Slovenia NDS, OECD Well-being and Slovenia Indicators for Well-being frameworks

Note: This mapping and the underlying mapping at indicator level are available upon request.

Key findings on successes and challenges of existing initiatives

42. To better understand the successes and challenges of the Slovenian NDS and the IWS initiative from the point of view of encompassing key dimensions for identifying and assessing multidimensional policy impact, the OECD carried out a (virtual) fact-finding mission and additional desk research. The fact-finding mission included interviews with key stakeholders[4] involved in the development of the IWS and the NDS or that use these frameworks on a regular basis in their work as well as a series of workshops with

[4] Interviews were held with representatives of the Statistical Office of the Republic of Slovenia (SORS), the Institute of Macroeconomic Analysis and Development (IMAD), and the Ministry of Finance of Slovenia.

the MOLFSAEO's Analytical Unit and other Ministry Representatives. Desk research included a review of documents related to the publication of the NDS and further documents provided by the MOLFSAEO. Based on these inputs, the following lessons learned emerge with regards to past well-being measurement initiatives in Slovenia:

43. **Most stakeholders agree on the benefits of the inclusive drafting process of the NDS.** Broad stakeholder consultation matters for ownership in the design of any national well-being framework. The drafting of the Slovenian National Development Strategy was carefully designed to allow inputs from all corners of society, such as all government departments and various stakeholders, including civil society organisations, academia and the general public. This approach has ensured a degree of general ownership in the government.

44. **Monitoring of the NDS through the Development Report is well taken up across the government.** Tasking IMAD, as well-known governance institute that already monitors broad development objectives and directly answers to the President, with the monitoring of the NDS has led to broad awareness of the Development Report. The Annual Development Report published by IMAD, which presents the headline indicators of the NDS measurement framework as well as the extended set is familiar to government agencies. These uses of the Development Report are on an ad-hoc basis, and no systematic processes exist that facilitate informing policy processes with NDS measures.

45. **Changes in leadership have implied delays in policy implementation of the NDS**. The NDS stated that its implementation would be based on medium-planning through a four-year National Development Policy Programme (NDPP). In addition, medium-term planning would be tied to the medium-term fiscal framework and the establishment of a system of implementing documents which would be linked to the Public Finance Act. However, the implementation of the strategy has up to now be delayed due to changes in government and changes in political leadership at the Government Office for Development and European Cohesion Policy. As a result, a critical feature of the Strategy, namely the link between broad-based measures of progress and policy implementation, has up to now proven little effective.

46. **In the absence of an implementation plan such as the NDPP or other systematic tools, policymakers appear to have difficulties using the framework in an integrated manner to inform different stages of the policy cycle.** Stakeholders seem to use the framework in agenda-setting in an ad-hoc manner, by motivating policy options using evidence from the NDS measurement framework. However, little evidence was found that the NDS framework is regularly used for example for ex-ante policy evaluation and weighing policy options or for ex-post evaluations. One concern is that the NDS does not provide policymakers with sufficient prioritisation between different areas of the framework. Without the NDPP, the NDS does not fully perform a prioritisation function (even though it's selection of dimensions and indicators does so to a certain extent), yet it is also not fully comprehensive in the way that a full-fledged well-being framework is (as discussed in the previous section).

47. **The lack of a fully-fledged well-being database slows down analytical pursuits.** There currently is no central repository of well-being data (including of the NDS measures) in Slovenia. This means that line Ministries that want to use data for assessing multidimensional well-being impact on their own more detailed analysis beyond the Development Report findings need to collect data from individual sources. The data that feed into the Development Report are collected on an ad-hoc basis each year. Managing a comprehensive database of well-being indicators requires substantial resources, and human resource constraints were cited as one obstacle in the upkeep of the Indicators of Well-being in Slovenia initiative.

48. **Inter-ministerial exchange of data is effective, but more systematic collaboration could be envisioned in monitoring the NDS and informing policy processes.** Government departments and agencies appear to encounter no difficulties in requesting and exchanging well-being data amongst each other. Regular exchange relationships are facilitated by Memoranda of Understanding (MoUs). However, the NDS stated that "better mechanisms of horizontal and multilevel cooperation, linking of content and

understanding of cross-cutting topics should be developed in the future". There are few indications that such new horizontal collaborations on cross-cutting topics in the context of the NDS goals have been developed.

1.4. Monitoring well-being in the MOLFSAEO: relevance and potential uses

49. A well-being approach is rooted in an understanding that measuring progress in a broad sense is necessary in order to understand the full range of channels through which policies affect people's lives. For example, unemployment is known to have a large cohort of secondary effects beyond income loss, including psychological consequences such as anxiety, depression and loss of self-esteem, impacts on physical health through loss of activity and increased engagement in risk-behaviour (e.g. alcohol and substance abuse), loss of skills, and family disruptions and deteriorations in personal relationships (Brand, 2015[13]). Of course, the income effects from unemployment could result in another range of second order effects on various well-being outcomes, from housing to health and future investments in human capital. Hence, labour market and social protection policies can have wide-ranging and consequences on multi-dimensional well-being. For example, a well-being approach may provide additional evidence for steering people away from unemployment, given that being employed is likely to be more beneficial to a person's broad well-being than being unemployed and on benefits (Waddell and Burton, 2006[14]).

50. The analytical unit of the MOLFSAEO has indicated to have had little previous experience with identifying and monitoring well-being in the Slovenian population to uncover the multi-dimensional policy impacts of its policies. More broadly, it has had limited analytical capacity to use evidence, including from the NDS, to inform its own programme of work. Given the Ministry's responsibilities over a broad range of well-being outcomes that are amenable through labour, family and social policies, adopting a framework is likely to be particularly relevant for the MOLFSAEO. Considering the core role of employment, family and social inclusion in people's lives, and the many interlinkages between these areas and people's experiences, policy evaluation using a wide range of well-being measures and regular monitoring of well-being outcomes is a relevant endeavour for the Ministry. Importantly, these linkages should not be interpreted as definite or linear, and will require further investigation that takes the actual design of the various policy levers and which parts of the population they target into account.

Annex 1.A. **Indicator mapping**

Annex Table 1.A.1. Indicators in Slovenia NDS and IWS measurement frameworks not reflected in the OECD Well-being Framework

Indicators in Slovenia Development Strategy not reflected in OECD Well-being Framework	Framework	Explanation
Gender equality index	NDS	Differences in outcomes between gender groups is reflected in the form of horizontal inequalities in each dimension of the OECD Well-being Framework.
Adult participation in Learning	NDS/IWS	Primarily an input indicator
Personal experience of discrimination	NDS/IWS	Not included in OECD Well-being Framework due to lack of comparable data
Visits to cultural events; Share of cultural events performed abroad; Open Source Language Resources and Tools; Share of persons reading the written press, listening to the radio and watching television at least once a week	NDS/IWS	No comparable culture indicators at OECD level
European Innovation Index	NDS	Composite indicators are hard to interpret
The Digital Economy and Society Index	NDS	Composite indicators are hard to interpret
In-Work-at-Risk-of-Poverty-Rate	NDS/IWS	No comparable data at OECD level
Material productivity	NDS/IWS	OECD indicator focuses on material footprint per capita
Utilised Agricultural Area	NDS/IWS	Natural land cover is corollary outcome indicator
Biochemical Oxygen Demand in Rivers	NDS/IWS	No comparable data across OECD
Ecological footprint	NDS/IWS	Data quality limitations
Rule of Law Index	NDS	Data quality limitations
Time Needed to Resolve Civil and Commercial Court Cases	NDS	No comparable data at OECD level
Global Peace Index	NDS	Data quality limitations
Executive Capacity	NDS	Data quality limitations
Average pensions	IWS	Household net adjusted disposable income is corollary outcome indicator
Persons in temporary employment	IWS	Indicator does not have unambiguous interpretation
Graduates of maths, science and technology fields	IWS	Indicator does not have unambiguous interpretation
Share of early school leavers	IWS	Primarily an input indicator
Participation of children in pre-school education	IWS	No comparable data at OECD level
Cancer mortality rate	IWS	Life expectancy and avoidable mortality are corollary outcome indicators
Unmet medical care needs	IWS	Primarily an input indicator
Share of persons using the Internet for interacting with public authorities	IWS	Primarily an input indicator
Average number of library units borrowed from public libraries	IWS	No comparable data at OECD level
Waste generated in production and service activities	IWS	No comparable data at OECD level

2. Proposal for a framework of indicators for monitoring well-being trends

This chapter presents a proposal for a framework of indicators for measuring well-being trends in service of the Analytical Unit of the Ministry of Labour, Family, Social Affairs and Equal Opportunities of Slovenia. It is the culmination of a series of oral and written discussions with the Ministry in order to determine the desired purpose of the well-being framework for the Ministry as well as the desired content of the framework. The chapter starts with a data review and presents a selection of indicators for the purpose of monitoring well-being outcomes. It then provides recommendations for the measurement and reporting of well-being indicators and identifies a number of limitations and next steps for the measurement agenda. Based on the indicators chosen for Slovenia's well-being framework, it presents an overview of Slovenia's performance in terms of well-being. Finally, the chapter presents a compass of the Ministry's policy areas and which well-being outcomes they potentially affect.

2.1. Introduction

51. This chapter presents a proposal for a framework of indicators for measuring well-being trends in service of the Analytical Unit of the Ministry of Labour, Family, Social Affairs and Equal Opportunities of Slovenia. It is the culmination of a series of oral and written discussions with the Ministry in order to determine the desired purpose of the well-being framework for the Ministry as well as the desired content of the framework. Importantly, accompanying this chapter is a data infrastructure that allows the Ministry to summarise and illustrate this well-being framework, so that it can be put to use immediately.

52. The previous chapter has made a number of observations on past multi-dimensional progress measurement initiatives in Slovenia, including the Slovenia Indicators for Well-being initiative, which has since been discontinued, and the National Development Strategy (NDS) framework. The NDS measurement framework, which is currently still in use, allows measuring progress on political priorities but lacks the comprehensive multi-dimensionality that is desirable in a tool for holistic policy analysis. These findings have laid the foundation for the proposed well-being framework presented in this chapter.

53. This chapter first presents a conceptual framework for measuring well-being alongside a selection of indicators for the purpose of monitoring well-being outcomes, including illustrations of headline indicators and detailed metadata notes. This indicator set is the result of a comprehensive review of data sources for well-being indicators and current data limitations. In building a well-being measurement framework, the Ministry can largely build on packaged comparable data regularly produced by the OECD, Eurostat, and SORS. With the support of the data infrastructure provided by the OECD as part of this project, the Ministry will be able to produce regular updates of its well-being framework with relatively little time investment. There are a number of remaining measurement challenges that can form part of a statistical agenda ahead. Finally, this chapter presents an overview of Slovenia's performance based on all the well-being indicators in the measurement framework.

2.2. The proposed MOLFSAEO well-being framework and its dimensions

54. In conversations with the MOLFSAEO, it was agreed that a proposed well-being framework should follow international best practices when it comes to measuring well-being. Such international best practices are monitored by the OECD and have recently been documented among others in a 2019 quality review and expert consultation of the OECD Well-being Framework (Exton and Fleischer, forthcoming[7]) The broad parameters of best practices in measuring well-being are widely adopted by countries that use a well-being approach to inform policy decisions. In this broad approach, well-being consists of three conceptual parts:

1. **Current well-being** data focus on living conditions at the individual, household and community levels, and describe how people experience their lives "here and now". Dimensions include material conditions that shape people's economic options and quality-of-life factors that encompass how well people are, what they know and can do, and how healthy and safe their places of living are. Quality of life also encompasses how connected and engaged people are, and how and with whom they spend their time.
2. **Resources for future well-being** data consists of "capitals" (stocks of resources for future well-being), investments (or depletions) in these capitals, and risk and resilience factors that may affect future well-being. These capitals can be measured at the societal level or at the individual level. Separate reporting of current well-being and its sustainability helps to assess whether maximising the former comes at the cost of compromising the latter (or vice versa), which can inform intertemporal trade-offs in policy design.
3. As national averages often mask large inequalities in how different parts of the population are doing, the **distribution of current well-being** is taken into account by looking at three types of

inequality: gaps between population groups, or horizontal inequalities; gaps between those at the top and those at the bottom of the distribution in each dimension, or vertical inequalities; and deprivations, or the share of the population falling below a given threshold of achievement.

55. The importance of this structure was shared by the Ministry and should feature as part of the Ministry's well-being framework. In broad terms, the Ministry intends to adopt the dimensions that constitute the OECD Well-being Framework, which include 11 dimensions of current well-being and 4 dimensions of resources for future well-being. It is proposed that the Ministry makes two adaptations vis-à-vis the OECD Well-being Framework. These are:

- The inclusion of a dimension on **culture and identity:** The role of culture in shaping people's well-being has been increasingly acknowledged in national well-being frameworks across the OECD, and has been conceptualised in three different ways: i) cultural participation focuses on access to and participation in cultural activities,[5] ii) cultural heritage focuses on a country's cultural assets, such as man-made and natural spaces of special significance; iii) cultural identity focuses on people's identification with key characteristics and shared norms of their societies as well as their ability to express themselves and their culture freely.[6] In the absence of high-quality and internationally comparable statistics to capture culture in all aspects, an indicator on cultural participation (at the cinema, live performances or cultural sites) will be added for the time being to signal the importance of culture for well-being.
- Splitting **job quantity and job quality** in two separate dimensions to align with the labour market monitoring framework, also proposed as part of this project. The OECD Well-being framework captures indicators related to work and job quality in a single dimension. In order to align with the labour market monitoring component of this project, it has been proposed to create separate dimensions for indicators of job quantity, i.e. the number of jobs and people engaged in the labour market, and job quality, which captures earnings, labour market security and indicators on the quality of the working environment. This distinction mirrors the framework for measuring labour market trends, with the exception of the inclusiveness dimension, as inequalities are considered to be an integral part of the well-being framework and are assessed in each of the dimensions.

56. The resulting framework is presented in Figure 2.1 below.

[5] Australia, Finland, Israel, Korea, Latvia, New Zealand, Northern Ireland, Scotland, Slovenia, the UK, Wales. What counts as "cultural activity" can range from personal artistic endeavours, to attending an opera performance or a sports game.

[6] For instance, New Zealand Treasury's Living Standards Framework and StatNZ's Indicators Aotearoa New Zealand include measures of the "ability to be oneself", and the Northern Ireland Outcomes Delivery Plan features an indicator on "believing one's their cultural identity is respected by society".

Figure 2.1. A proposed well-being measurement framework for the MOLFSAEO

2.3. The indicator selection process

57. The proposed framework is the result of a review of available well-being indicators and discussions with the Ministry in order to ensure that the outcome indicator set is relevant from the viewpoint of the Ministry's responsibility areas. Where possible, the indicators are closely aligned with international best practices, including the OECD Well-being Framework, as well as Slovenia's own current and previous well-being monitoring initiatives. This is not a far leap since the indicators in the Indicators for Well-being in Slovenia framework were itself closely aligned with those in the OECD Well-being Framework, and the infrastructure to produce much of the data exists and feeds directly into the OECD *How's Life? Well-being Database* (2022[15]). Many of these indicators also feature in the extended NDS indicator set that is used for the Development Report. The MOLFSAEO Well-being Framework should ensure a close link with the measurement framework of the NDS, and where possible, overlap with the NDS should be achieved in order to align the Ministry's monitoring efforts with those of other government agencies.

Quality assessment

58. For the purpose of this report and in preparation of the development of a well-being framework for the MOLFSAEO in the future, the OECD conducted an initial data availability and quality assessment. Building a framework for measuring well-being at times presents trade-offs between the multi-dimensionality and comprehensiveness of the framework and the quality of the indicators. To apply a true well-being approach and consider a wide range of outcomes, it is critical that the framework is truly multi-dimensional and considers a broad range of outcomes.

59. The OECD abides to a Quality Framework for Statistical Activities and aspires to high standards of statistical quality, and the indicators in the framework present here have been vetted in terms of their statistical quality, but some limitations remain. In considering indicators for the MOLFSAEO well-being

framework, five dimensions were considered in particular, namely the relevance, accuracy, credibility and comparability, timeliness and frequency, and interpretability of the indicators.[7] An overview of these quality criteria can be found in Table 1.1 in the previous chapter.

60. In line with the OECD Well-being Framework, the framework considers mostly outcome indicators for current well-being and stocks, flows, and risk and resilience factors for resources for future well-being. In line with best practice, the framework should consider inequalities in an integral manner. Accuracy refers to the suitability of the indicator to measure the underlying concept that is to be measured, and credibility and comparability refer to whether the indicator is produced in a harmonised manner across countries. While the OECD strives for international comparability across all OECD countries, the Ministry has indicated that the set of EU countries is a sufficiently informative reference group, which opens up the possibility of including a number of indicators that are only available for EU countries but not the wider OECD and therefore excluded from the OECD Well-being Framework.

61. Even though these quality criteria played an important role in the selection of indicators, some indicators included in the framework have limitations when it comes to one or a number of these quality criteria. Timeliness is a particular issue, as some well-being indicators are only collected on an ad-hoc basis or do not even have regular data collection. This is problematic as it limits the usefulness of such indicators in providing information on policy impacts. By keeping such indicators, even if they have long lags, in the framework, they can act as placeholders and help serve to support the statistical agenda ahead towards more timely statistics. Table 8 of the inception note already presented the indicators for which data is not currently available or which have particularly long lag times. The inception note also laid out the availability of disaggregated data in order to monitor inequalities.

Data sources

62. As a result of the infrastructure put in place in existing and previous well-being measurement initiatives in Slovenia and beyond, a reasonably comprehensive set of well-being indicators can be compiled using existing databases and sources. The MOLFSAEO will not need to expend significant resources on processing and treating data in order to compile a broad set of well-being indicators (Table 2.1).

63. Out of a total of 86 possible suggested indicators for monitoring, 47 indicators can be retrieved straight from the OECD's *How's Life? Well-being Database* (2022[15]). An additional 24 indicators can be retrieved from Eurostat. Only a few indicators need to be retrieved directly from other sources, including other OECD databases or external sources. Finally, for a few indicators, data for Slovenia is currently not available but may become available in the future, and these are still included in the measurement framework.

Table 2.1. Access to well-being data for suggested indicators

Well-being data access	Indicators
OECD WB Database	47
Eurostat	24
EU-SILC	2
Other	8
Currently no available data	5
Total	**86**

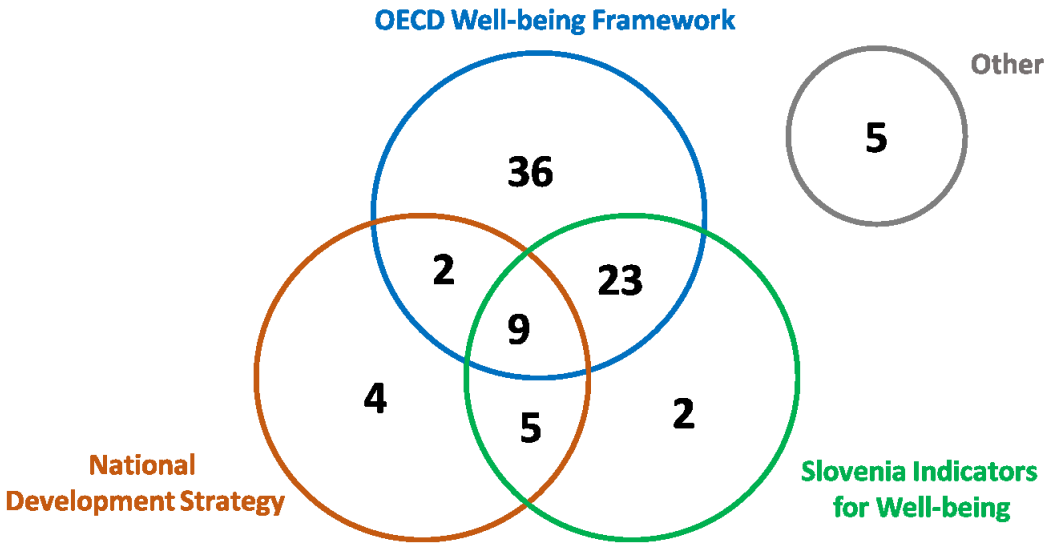
[7] The quality assessment has been provided to the MOLFSAEO in the form of an excel file.

2.4. Final indicator set

64. The final framework contains 56 indicators of current well-being and 30 indicators of resources for future well-being. The indicators were inspired by three main sources: the OECD Well-being Framework, the Slovenia National Development Strategy (NDS) measurement framework, and the Slovenia Indicators for Well-being (SIW) framework. There is a degree of overlap between these three frameworks, in particular between the OECD Well-being Framework and the SIW. Due to these conceptual commonalities, a large number of common indicators found its way into the proposed framework (see Figure 2.2, below). That being said, a few indicators were found uniquely in one of the frameworks, and the combined result is a rich and comprehensive multi-dimensional measurement framework. It should be noted that among the indicators that are noted below as a unique to the OECD Well-being Framework, many have conceptual counterparts in the other two frameworks, but with slightly differing definitions. Generally, the OECD Well-being Framework is considered a preferred source for indicators and data because it allows access to harmonised data across countries, allowing the Ministry to compare Slovenia's performance with peers.

65. While the proposed framework is largely built on proven indicators and frameworks, a number of indicators were added at the request of the MoLFSAEO in order to shine light on a few substantive areas that are important for the Ministry, but for which indicators were not included in any of the pre-existing frameworks for various indicators, including data availability and comparability among countries. These include labour market transitions from temporary to permanent contracts, people taking holidays away from home, the size of the homeless population, the share of owner-occupied homes, and digital skills.

Figure 2.2. Source frameworks of the MoLFSAEO Well-being Framework



Note: this figure denotes the number of indicators in the MoLFSAEO Well-being framework that were drawn from each of three existing frameworks (the OECD Well-being Framework, which is regularly reported on in the *OECD How's Life?* publication, the Slovenia Indicators for Well-being framework, which has been discontinued, and the Slovenia National Development Strategy indicator set). Overlapping fields imply indicators that were identical in multiple frameworks.

66. A subset of the proposed indicators in the MoLFSAEO well-being framework have been proposed to serve as headline indicators. These indicators were chosen in conversation with the MoLFSAEO, and reflect their Ministry priorities as well as data availability and substantive criteria. While ideally, the set of headline indicators should consist of high quality and timely indicators that are collected on a frequent basis, it is also important that these indicators represent a balance across all framework dimensions. The indicators chosen to some extent align with the OECD Well-being framework's headline indicators, which were also inspired by existing national well-being frameworks and other strategic OECD initiatives. As with

the choice of indicators, the Ministry might want to adapt this selection going forward depending on statistical developments and Ministry priorities.

Metadata and indicator illustrations

67. A summary of indicators of the proposed MOLFSAEO Well-being Framework can be found in Annex Table 2.C.1. The full set of metadata and sources are presented in Annex A at the end of this report, which also provides an illustration of the headline indicators. Each of the available indicators are included in the data infrastructure that the OECD team has developed for the Ministry as part of this project, which includes the programming code to retrieve and organise the data and to present the indicators.

2.5. Data limitations and measurement gaps

68. Even though a number of well-being indicators are readily available directly, some gaps exist. In this section, we discuss three types of data limitations, namely with regards to unavailable or infrequently collected indicators, data gaps with regards to horizontal inequalities, and data quality.

Availability of indicators

69. A number of data availability issues impede the design of a comprehensive well-being framework in Slovenia (Table 2.2). First of all, no time use survey has been conducted in Slovenia since the early 2000s, and therefore indicators on leisure time, unpaid working hours, and gender gaps in hours worked are currently absent. A time use survey is currently being planned by Statistics Slovenia (SORS) and will be implemented in the near future, although regular availability of time use data will likely remain an issue. SORS is also working on new measures of people's access to green space, for which no data is currently available. At the moment, no comparable official statistics on homelessness exist, although the OECD collects data on an intermittent basis through the OECD Affordable Housing Questionnaire. Despite these limitations, given the relevance of this topic to the MOLFSAEO, the indicator might still be included in a well-being framework, with the aim of advancing the statistical agenda.

70. A key limitation when it comes to data availability concerns the lack of regular data collection for a number of self-reported indicators, especially those that relate to self-reported satisfaction with certain dimensions of life. Questions on job satisfaction and satisfaction with time use have been included in the EU-SILC ad hoc modules of 2013 and 2018. A question on perceived loneliness was included in the ad-hoc module of 2018. Eudaimonia, which is a measure of whether people believe the things they do in life are worthwhile, was only included in the ad-hoc module of 2013. The SILC ad-hoc module on well-being is currently expected to be repeated every 5 years, which means that these indicators will be available, but on an intermittent basis. Eudaimonia will likely not be available in EU-SILC, unless Statistics Slovenia were to decide to include a question in its own survey.

71. Besides the indicators from the EU-SILC ad hoc module, many other indicators originate form survey vehicles that are not collected on an annual basis. This includes, among others, indicators originating from PIAAC (every 5 years), PISA (every 3 years) and the European Health Interview Survey (every 5 years). Lack of regular data collection impedes regular reporting, and the Ministry may consider devising two set of indicators: a short set for frequent reporting (e.g. annual) and an extended set for periodic reports (e.g. every 3 years).

Table 2.2. Indicators with significant time lags or that are not available

Indicator	Source	Most recent	Comment
Time allocated to leisure and personal care	n/a	n/a	New time use survey forthcoming by SORS
Long unpaid working hours	n/a	n/a	New time use survey forthcoming by SORS
Gender gap in hours worked	n/a	n/a	New time use survey forthcoming by SORS
Time spent in social interactions	n/a	n/a	New time use survey forthcoming by SORS
Access to green space	n/a	n/a	Measure forthcoming by SORS (2021)
Job satisfaction	EU-SILC	2018	Potentially every 5 years
Satisfaction with time use	EU-SILC	2018	Potentially every 5 years
Loneliness	EU-SILC	2018	Potentially every 5 years
Eudaimonia	EU-SILC	2013	No regular collection
Daily smokers	EHIS	2014	New EHIS results forthcoming
Obesity prevalence	EHIS	2014	New EHIS results forthcoming
Household median net wealth	National Accounts	2014	Potentially discuss lag with SORS
Homelessness rate	OECD Affordable Housing Database	2015	Very poor international comparability
Premature mortality	OECD Health Statistics	2015	Potentially discuss lag with SORS
Deaths from Suicide, Alcohol and Drugs	OECD How's Life? Well-being	2016	Potentially discuss lag with SORS
Homicides	OECD How's Life? Well-being	2016	Potentially discuss lag with SORS
Household net adjusted disposable income	National Accounts	2017	Potentially discuss lag with SORS

Data quality limitations

72. In general, substantial advances have been made by the international statistical community in the last 10 years in measuring well-being and improving the quality and robustness of well-being metrics. This is demonstrated for example by the inclusion of questions on domain satisfaction, interpersonal trust and subjective well-being in large official survey vehicles such as EU-SILC, advances in the measurement of resources for future well-being, and increased evidence on inequalities within well-being dimensions.

73. Despite such improvements, a number of data sources that the OECD relies on for regular reporting on well-being are constrained by limitations. A few indicators in this framework have particular relevance, comparability and credibility and accuracy issues and deserve extra attention in their reporting and use in policy impact assessment (See Table 2.3).These issues include a number of indicators that are based on small-sample, non-official survey instruments, where there remains poor international comparability, or that are not unambiguous outcome indicators or where more work might need to be done to determine their relevance and accuracy in the future. Because of the thematic importance of these indicators to the Ministry, these indicators can still be included in the proposed framework, but these limitations should be kept in mind when using the Well-being framework for monitoring or analytical purposes.

Table 2.3. Quality limitations of selected indicators

Indicator	Source	Quality criteria	Issue
Transitions to permanent contracts	EU-SILC	Relevance/Accuracy	Questionable as an unambiguous outcome indicator
Holidays away from home	Accuracy	Accuracy	This is an untested indicator in the area of work-life balance and it is not completely clear whether it captures the intended concept
Homelessness rate	OECD Affordable Housing Database	Credibility/Comparability	Very poor international comparability of data
Owner-occupied home	EU-SILC	Relevance	Questionable as an unambiguous outcome indicator
STEM graduates in tertiary education	Eurostat	Relevance	Questionable as an unambiguous outcome indicator
Trust in government	Gallup	Credibility/Comparability	Non-official survey with limited sample size
Personal experience of discrimination	Eurobarometer	Credibility/Comparability	Non-official survey with limited sample size and limited comparability over time
Cultural participation	EU-SILC	Accuracy	This is a largely untested indicator with limited/unknown accuracy and only captures a limited aspect of culture

Note: Full indicator descriptions can be found in the metadata notes in Annex A at the end of this report.

Gaps in measuring horizontal inequalities

74. With the Ministry's focus on social policies, inequalities in society and between groups are an important aspect of well-being monitoring. As noted earlier, measurement of inequalities in people's experiences is a central feature of the OECD Well-being Framework, and the well-being framework considers both differences between top and bottom performers in the population (vertical inequalities) and differences between groups (horizontal inequalities), for a large number of indicators. Measuring vertical inequalities requires microdata or pre-fabricated quintile or decile values, but involves no pre-requisites with respect to the survey design. To measure horizontal inequalities, however, the survey needs to include questions on group breakdowns of interest. When it comes to the more conventional group breakdowns, such as between men and women, age groups, and people with different education levels, horizontal inequalities are typically standardised and widely included. It is notably more challenging when it comes to horizontal inequalities for people with a migration background or disability, not the least because of measurement issues. For example, measuring country of birth may provide some information about migrant status, but this may provide only a partial picture. Similarly, there is insufficient harmonisation at international level in measuring disability, and so while certain surveys may include questions that can allow distinguishing outcomes for people with a disability, these measures may not be comparable with other sources.

75. Annex Table 2.A.1 presents results from a scoping of available group breakdowns for a selection of indicators for which horizontal inequalities are particularly relevant – notably those that are measured at the individual or household level and for which the data source allows measuring horizontal inequalities. As can be seen, only a subset of horizontal inequalities are available in a readily available, "pre-packaged" manner. Breakdowns for age, gender, and education level are especially available for many indicators. Computing and retrieving horizontal inequalities that are not readily available requires an investment of time and resources in the computation of group breakdowns with survey microdata on a regular basis.

2.6. Best practices for monitoring and reporting on outcomes

76. The dataset underlying the proposed framework allows monitoring outcomes along across three main vectors, each of which provide their own insights into Slovenia's performance (Figure 2.3). These three vectors are time series, cross-country comparisons and inequalities. A number of indicators in this framework allow analysis along each of these lines, although due to data availability limitations not all of these three lenses can be applied to every single indicator.

Figure 2.3. Three lenses for monitoring outcomes

77. Because national averages often mask large inequalities in how different parts of the population are doing, the distribution of current well-being is taken into account by looking at three types of inequality: gaps between population groups (e.g. between men and women, old and young people, etc., collectively described as horizontal inequalities); gaps between those at the top and those at the bottom of the achievement scale in each dimension (e.g. the income of the richest 20% of individuals compared to that of the poorest 20%, referred to as vertical inequalities); and deprivations (i.e. the share of the population falling below a given threshold of achievement, such as a minimum level of skills or health). To the extent possible, monitoring well-being outcomes should consider the various components of inequalities, although for some indicators, vertical inequalities and deprivations are not available or do not provide additional meaningful information.

Time series

78. A common challenge when reporting time series data is to adequately account for methodological breaks in series. For a number of well-being indicators, such as the income inequality ratio, there may be methodological breaks that limit the consistency of time series. In addition, when reporting on time series for the OECD average, it is important that data is consistently reporting for the same (sub)set of countries for the entire time series, in order to prevent any distortions in time series driven by the sample of available countries in a given year.

Cross-country comparisons

79. As for cross-country comparisons, it is evident that a high degree of methodological consistency is necessary in order to make comparisons between OECD or EU countries. While to a large extent this is the case for all indicators proposed in the MoLFSAEO framework, some limitations remain. For example, for many survey-based indicators, there may still be methodological differences in the administration of the survey. These can include differences in survey mode, the time of year the survey is administered, and even question order.

80. It should be noted that for one indicator in particular, the homelessness rate, international comparability is so limited that we have chosen not to present a ranking for Slovenia as the robustness of such a ranking in this instance cannot be guaranteed. Further details on this issue are described in the link included in the metadata notes on the homelessness indicator.

Horizontal inequalities

81. A range of horizontal inequalities are relevant to consider when going beyond evaluating average population outcomes of well-being indicators. A number of potential disaggregation should be considered when presenting indicators and assessing Slovenia's performance, namely gender, age (including children and the elderly), education level, migrants or people with a migration background, people with a disability and people from different regions. The availability of data for each of these groups depend on the data source.

82. While data tables such as those found in the OECD and Eurostat portals present some ready made horizontal inequalities, further disaggregation may be available in microdata sources, but need further processing. Within the context of the data infrastructure presented here and in the metadata below, only readymade horizontal inequalities are included. Further disaggregation, for example by income, region or disability would require microdata processing.

83. In addition to the limited availability of disaggregated data, the definitions of groups are not always identical. Various groups, whether by age, income, migration status or disability may be defined differently depending on the data source. Migration and disability status in particular are not always commonly defined across surveys or other data collection instruments. Where possible, the OECD attempts to contribute to the harmonisation of such definitions, although such efforts have not fully matured yet in all cases.

84. In the case of migration status, there are different ways of representing the migration background of different groups, for example through a person's own country of birth or citizenship, or that of their parents. For the horizontal inequality indicators presented in the illustrations in this framework, horizontal inequalities only refer to citizenship (Slovenian or foreign), which has clear limitations, as it does not consider people's country of birth or the migration background of their parents. (Balestra and Fleischer, 2018[16]) provide an overview of available race, ethnicity and migration statistics in OECD countries.

85. As for disability, the dominant definition of disability in the OECD Glossary of Statistical themes is "any limitation or lack of ability that a person experiences in performing an activity in the manner or within the range considered normal for a person, in other words, a limitation in learning, speaking, walking or some other activity (individual dimension)". This broad dimension is captured by covariates in some surveys such as EU-SILC, and can therefore be used to examine differences between the average population and people with a disability. So far, such analyses have not been systematically undertaken in the context of well-being statistics. One accompanying challenge is possible sample size limitations, especially when data are sourced from smaller surveys.

2.7. Slovenia's well-being performance using the MoLFSAEO framework

86. The proposed framework can be used to asses Slovenia's relative strengths and weaknesses when it comes to the current well-being outcomes of Slovenia's population and the resources the country has as its disposal to sustain well-being on the long run. Highlighting strengths and weaknesses can help policymakers identify vulnerabilities that they should focus on and ensure that particular dimensions of well-being do not fall through the cracks.

87. To this end, Table 2.4 and Table 2.5 presents Slovenia's rank on each of the indicators of the MoLFSAEO well-being framework. The tables are ordered by performance, where Slovenia is classified in one of three tiers for each indicator, depending on Slovenia's rank relative to other OECD or EU countries for which data are available. The tables in Annex 2.B show the same data but organised by well-being dimension, in order to provide a better idea of whether Slovenia performs better in specific dimensions than others. These tables also indicate which exact reference group is considered for each indicator (OECD or EU), depending on data availability. This overview sheds an important light on Slovenia's

performance, and provides some valuable lessons for the MoLFSAEO, as many indicators are either directly or indirectly influenced by one or multiple of the Ministries policy areas.

88. Slovenia's main well-being challenges are to boost productivity and increase performance on these economic indicators without compromising its low levels of inequalities in wealth and income and good outcomes in certain non-material well-being dimensions. Striving for better human capital outcomes, including health outcomes and adult skills, are key avenues through which both these objectives might be achieved. While Slovenia performs well on some non-material well-being dimensions, such as safety and social connections, on balance, it appears that people in Slovenia still lack the broad range of good well-being outcomes to reach the levels of subjective well-being that are achieved by high performers in the OECD. Besides lagging material living conditions and mediocre health outcomes and adult skills, other areas of attention include poor levels of civic engagement and environmental quality.

Current well-being

89. Slovenia performs comparatively well on **job quantity** indicators, marked by solid performance in employment and labour utilisation in comparison to peer countries, including of the young (the exception being a relatively high long-term unemployment rate). When it comes to **job quality**, the picture is a bit more mixed, because while the gender labour income gap is marginal, there is a relatively high degree of earnings inequality and while Slovenia is a moderate performer in terms of job satisfaction, the share of people in job strain (those that experience more job demands than job resources) is one of the highest in the OECD. Overall, a relatively strong social security net ensures a relatively low level of labour market insecurity. Due to the absence of time use surveys, it is difficult to definitively judge Slovenia's performance on **work-life balance**, although the country has moderate performance in terms of time use satisfaction.

90. As for **income and wealth**, good labour market outcomes and a strong safety also contribute to a moderately low level of people in poverty and social exclusion. While Slovenia's performance on severe material deprivation, one of the three components of the poverty and social exclusion indicator, is not in the absolute top, the share of people in severe material deprivation in Slovenia is still well below EU average. In addition, income inequality, defined as the ratio of the average income between the top and bottom quintiles, is particularly low in Slovenia. This said, Slovenia continues to lag behind its peers in terms of absolute levels of income and wealth, finding itself in the bottom tier for both of these indicators.

91. There are a number of non-material well-being dimensions in which Slovenia performs particularly well. To start with, Slovenia performs particularly well on indicators of **social connections**, with many people reporting they have friends and family to count on and low levels of loneliness, and high levels of satisfaction with social relationships. The country boasts high levels of perceived **safety** (albeit with notably differences between men and women), and while the homicide rate is higher than some peer countries, it is still well below the OECD average. In the dimension of **knowledge and skills**, Slovenia does particularly well on student outcomes, with its PISA scores on maths and science ranking at the high end of the spectrum among OECD countries and few students that have low performance.

92. While Slovenia's student outcomes are among the highest, adult skills continue to lag behind. In the last reiteration of PIAAC in 2014, Slovenia had one of the highest rates of adult poor performance in literacy, and its digital skills lag behind other EU countries. Beyond adult knowledge and skills, Slovenia has only moderate performance on another key component of human capital, namely **health** outcomes. Slovenia is in the lower second tier when it comes to both life expectancy, an objective measure of health outcomes, and people's perceived health, or the way people assess their own health. These mediocre health outcomes are paired with a moderate share of people reporting depressive symptoms and psychological distress, although the suicide rate in Slovenia is relatively high.

93. Finally, Slovenia is one of the worst performing countries in the OECD when it comes to **civic engagement** and people's voice, as the far majority of people feel like they don't have a say in what the

government does and voter turnout is low. **Environmental quality** outcomes are also poor, in particular because, like in a small number of other OECD countries, the entire population is exposed to air pollution above WHO recommended levels of fine particles, and, at last count, a subset of urban residents lived more than 10 minutes away from the nearest green space. **Cultural participation** is average compared to EU peers.

94. All in all, in terms of **subjective well-being**, people in Slovenia, on average in 2018, reported a life satisfaction score just below the average in OECD countries, although only 6% of Slovenians had a low level of life satisfaction (4 or below on a scale from 0 to 10), which is lower than the OECD average – a testimony to relatively low levels of inequalities in the country. While students have good learning outcomes, their subjective well-being is among the lowest in the OECD, suggesting that education systems may be well equipped for formal education outcomes but perhaps not fully adequate in responding to other student needs. Slovenians' affect balance scores, another component of subjective well-being that captures day-to-day positive and negative experienced emotions, are also poor. Conversely, a relatively high share of people reports feeling like their life is meaningful (also referred to as eudaimonic well-being).

Resources for future well-being

95. As for Slovenia's performance on resources for future well-being, performance on capitals shed more light on the current well-being outcomes that they are linked to. Relatively low per capita levels of **economic capital** and productivity constrain average levels of earnings and thereby income and wealth. Performance on **human capital** risk and resilience factors, such as adult learning and health risks (e.g. obesity, smoking), is poor, which have direct consequences for adult skills and health outcomes. Social capital outcomes are divergent. While trust in other people is high compared to other countries, and there is a relatively low level of experienced discrimination, trust in government is low. The share of women in management positions is average. Finally, at the current juncture, where the COVID-19 recovery needs to be accompanied by a transition towards a greener accompany, Slovenia's environmental footprint is too high, with mediocre **natural capital** outcomes across the board. In order to improve environmental quality outcomes for Slovenia today and preserve prosperity tomorrow, improvements in productivity and material well-being outcomes should go hand in hand with efforts to produce and consume more sustainably.

Horizontal inequalities

96. Headline indicators also suggest significant differences between population groups in Slovenia (see Annex 2.C). There are marked difference between the outcomes of **men and women** for a number of indicators, in different directions. Women's labour market outcomes, in terms of job quantity, are poorer than men's, with an employment rate that is 7% below that of men and a higher rate of unemployment. That being said, women typically are more satisfied with their jobs than Slovenian men, and experience job strain less frequently than men. They also boast higher adult skills outcomes, both in terms of literacy and digital skills, than men, and participate in adult learning at a higher rate. Conversely, while women have a higher life expectancy than men they have poorer perceived health outcomes and they experience higher levels of negative affect, or experienced well-being, on a daily basis. Men and women in Slovenia are about equally satisfied with their lives.

97. **Educational attainment** is well known to have a range of positive well-being externalities, and this is also evident in Slovenia. People with tertiary education tend to be more satisfied with their jobs and experience much less (almost 40 percentage points less) job strain than employed people with a secondary education. They also have a higher rate of cultural participation and feel like they have more of a say in what the government does than people with lower educational attainment, although this share remains low. People with a higher education also experience more social support, they feel safer (this might be a result of where they live), and they are overall significantly more satisfied with their lives –

1.4 points more on a 10-scale than people with a primary education, and 0.8 points more than people with a secondary education.

98. The young and the elderly are also important groups of focus. While certain inequalities by **age group** are inherent to the human life course and not fully policy amenable, many, including skills, labour market outcomes, income and wealth and social connections certainly can be responsive to policies. In Slovenia, as people increase in age, they report to be less satisfied with their jobs, participate in adult learning less frequently and experience less social support.

99. Finally, while data on people with a **migration background** is not available for many indicators, available data suggests that there are major inequalities between people residing in Slovenia with Slovenian citizenship and those with foreign citizenship. The latter are twice as likely to be at risk of poverty and social exclusion and have an unemployment rate that is 3.5% higher than Slovenians.

Table 2.4. Slovenia performance on current well-being indicators

Slovenia's performance rank on well-being indicators, by tier (top, middle and bottom third of countries)

Indicator	Rank	Tier
Transitions to permanent contracts	2	1
Feeling safe	2	1
Poverty and social exclusion	3	1
S80/S20 income share ratio	4	1
Housing cost overburden	4	1
Satisfaction with relationships	4	1
Housing affordability	6	1
Eudaimonia	6	1
Labour underutilisation rate	6	1
Gender labour income gap	6	1
Loneliness	6	1
Functional limitations	7	1
Student skills in science	8	1
Share of low-performing students	8	1
NEET rate	8	1
Perceived social support	8	1
Student skills in maths	9	1
Unemployment rate	9	1
Labour market insecurity	9	1

Indicator	Rank	Tier
Severe material deprivation	10	2
Job satisfaction	10	2
Depressive symptoms	10	2
Satisfaction with time use	11	2
Poor households without access to basic sanitary facilities	12	2
Psychological distress	13	2
Cultural participation	14	2
Broadband access	15	2
Broad earnings inequality	15	2
Household net wealth	16	2
Difficulties making ends meet	16	2
Overcrowding rate	16	2
Employment rate	16	2
Long hours in paid work	16	2
Home ownership	17	2
Holiday away from home	17	2
Student skills in reading	17	2
Access to green space	17	2
Adult skills in numeracy	20	2
Earnings quality	20	2
Life satisfaction	21	2
Life expectancy at birth	21	2
Perceived good health	22	2
Homicides	23	2

Indicator	Rank	Tier
Digital skills of adults	18	3
Household income	22	3
Adult skills in literacy	23	3
Students' life satisfaction	24	3
Deaths from suicide	26	3
Long-term unemployment rate	27	3
Low-performing adults (literacy)	28	3
Job strain	28	3
Having a say in government	29	3
Negative affect balance	31	3
Voter turnout	32	3
Air pollution	34	3

Table 2.5. Slovenia performance on resources for well-being indicators

Slovenia's performance rank on well-being indicators, by tier (top, middle and bottom third of countries)

Indicator	Rank	Tier
Biochemical O^2 Demand in Rivers	1	1
Recycling rate	2	1
Experience of discrimination	3	1
Household debt	6	1
Trust in others	8	1
Corruption	12	1

Indicator	Rank	Tier
Nitrates in groundwater	6	2
Women in management	10	2
STEM grads in tertiary education	11	2
Water stress	12	2
Natural land cover	13	2
Carbon footprint	13	2
Volunteering	14	2
Premature mortality	15	2
Adult learning	16	2
Greenhouse gas emissions	17	2
Renewable energy	17	2
Red List of threatened species	17	2
Tertiary educ. attainment	17	2
Material Productivity	18	2
Ecological footprint	19	2
Financial net worth of general government	19	2
Labour Productivity	20	2
Trust in government	20	2
Smoking prevalence	24	2
Waste generation	25	2

Indicator	Rank	Tier
Intellectual property assets	23	3
Produced fixed assets	24	3

Note: In Annex 2.B, these indicators are sorted by dimension and thereby provides a key to the colours denoting each dimension.

2.8. Mapping Policy Tools and Well-being Outcomes Slovenia's well-being performance using the MoLFSAEO framework

100. In order for a well-being framework to serve as a tool for policy analysis, an understanding is needed of which of the Ministry's policies have the potential to affect certain well-being outcomes (and inequalities therein). The chapter that follows is concerned with methodologies and tools for multi-dimensional policy analysis. For the purpose of this chapter, a mapping tool has been developed to guide the Ministry in monitoring well-being trends related to specific policy initiatives and as a first step in conducting further analytical work on the impacts of specific policies on multi-dimensional well-being. This policy mapping was developed using mixed methods, notably empirical and theoretical evidence on the relationship between policies and well-being outcomes, as well as a workshop between the OECD and Ministry officials that had the intention of identifying the linkages that the Ministry is aware of between policy interventions and well-being outcomes

101. Table 2.6 provides an overview of the potential linkages between policy levers of the MOLFSAEO and well-being dimensions. It aligns an inventory of the Ministry's "policy levers" with dimensions of well-being. These policy levers are concrete policy tools that the MOLFSAEO has at its disposal in its different areas of responsibility, and include transfers, benefits and allowances, social assistance programs, strategic documents and laws and regulations.

102. This mapping serves to establish the relevance of well-being for the various work streams of the Ministry, and can serve as first starting point for analysts and policymakers at the MOLFSAEO that wish to evaluate the Ministry's broad policy impacts. The next chapter will build on this mapping in order to allow the Ministry to build more detailed models of policy interventions.

Table 2.6. Illustrative table of mapping between policy levers and well-being outcomes at dimension level

Relationships between policy levers and well-being outcomes are indicative. Dark blue cells represent a direct relationship, light blue cells represent an indirect relationship.

Policy lever	Type	Inc. & wealth	Work & Job Q.	Housing	W-L balance	Health	Kn. and skills	Social conn.	Safety	Civic eng.	Env. quality	Subj. W-B.	Social capital	Human capital	Natural capital	Econ. capital	Culture
Transfers, benefits and allowances																	
Unemployment benefits	Social transfer																
Cash social assistance	Social transfer																
Family related benefits	Social transfer																
Housing related policies																	
Rent subsidy	Social transfer																
Homes for elderly	Program																
Employment policies																	
Incentives for employment	Program																
Job creation	Program																
Social Activation Project	Program																
Parental leave; Part-time work after child birth	Social transfer																
Child care allowance; kindergarten subsidy	Social transfer																
Labour market integration help for a family with a person with a disability	Program																
Minimum Wage Act	Legislation																
Health and Safety at Work Act	Legislation																
Health related policy levers																	
Help and care allowance	Social transfer																
Health insurance contribution	Social transfer																
Mental health programs for persons with specific conditions/problems/addictions	Program																
Education-related policies																	
State scholarship	Social transfer																
Training and education	Program																
Equal access to lifelong learning	Program																
Social care and equality of opportunity policies and programs																	
Foster care allowance	Social transfer																
Help for a family with a person with a mental or physical disability	Program																
Social inclusion, social rehabilitation or personal help for persons with specific conditions/problems/addictions	Program																
Violence prevention programs, assistance programs for victims of violence	Program																
Assistance and support programs for the elderly	Program																
Programs for social inclusion or inclusion of Roma	Program																
Resolution on the National Program for equal opportunities for women and men	Strategic document																

Annex 2.A. **Horizontal inequalities**

Annex Table 2.A.1. Future possibilities for measuring horizontal inequalities

Current well-being dimension	Label	Gender	Age	Income	Education	Children	Elderly	Migrants	Disability	Regions	Comment
Income and wealth	Household disposable income										Only for survey based measure
	Household net wealth										Need to discuss with SORS
	Difficulty making ends meet										Can be computed from EU-SILC
	People at risk of social exclusion										Can be computed from EU-SILC
Job Quantity	Employment rate										Depends on LM monitoring discussions
	Long-term unemployment rate										Depends on LM monitoring discussions
	Unemployment rate										Depends on LM monitoring discussions
	NEET										Depends on LM monitoring discussions
Job Quality	Job satisfaction										Can be computed from EU-SILC
	Long hours in paid work										Can be computed from PIAAC
	Earnings quality										Depends on LM monitoring discussions
	In work at risk of poverty										Need to explore further
Work-life Balance	Satisfaction with time use										Can be computed from EU-SILC
Housing	Housing affordability and deprivation										Can be computed from EU-SILC
	Households with h-s internet										Can be computed from ICT Survey
Health	Perceived health										Can be computed from EU-SILC
	Deaths from suicide										Need to explore further
	Depressive symptoms										Can be computed from EHIS microdata
	Functioning										Can be computed from EU-SILC
Knowledge and Skills	Student skills										Can be computed from PISA
	Adult skills										Can be computed from PIAAC
	Digital skills of adults										Can be computed from ICT Access and Usage

Social Connections	Perceived social support										Can be computed from GWP
	Sat. with personal relationships										Can be computed from EUSILC
	Loneliness										Can be computed from EUSILC
C. Engagement	Having a say in government										Can be computed from PIAAC
Environmental Quality	Access to green space										Need to discuss with SORS
	Exposure to outdoor air pollution										Regional data available from OECD
Safety	Feeling safe										Can be computed from GWP
Subjective well-being	Life satisfaction										Can be computed from EU-SILC
	Students' life satisfaction										Can be computed from PISA data
	Negative affect balance										Can be computed from EU-SILC
	Eudaimonia										Can be computed from EU-SILC
Resources for future well-being											
	Tertiary education attainment										Need to discuss with SORS
	Broad labour underutilisation rate										Need to discuss with SORS
	Smoking and obesity prevalence										Need to explore further
Social Capital	Trust in others										Can be computed from EU-SILC
	Experience of Discrimination										Can be computed from Eurobarometer
	Trust in government										Can be computed from GWP
Culture	Visits to Cultural Events										Need to discuss with SORS/IMAD

Note: Green boxes indicate that the group breakdown is readily available and can be retrieved pre-packaged from the data source; yellow boxes indicate that breakdowns are available but that data treatment is necessary for inclusion or that further investigation is required to assess availability; red boxes indicate that the group breakdown is not available; grey boxes indicate that the horizontal inequality is not relevant for this indicator.

Annex 2.B. **Slovenia's well-being performance by dimension**

Annex Table 2.B.1. Slovenia's performance in terms of current well-being, by dimension

Indicator	Group	Rank	Tier	Indicator	Group	Rank	Tier
Income and wealth				**Job Quantity**			
Household income	OECD	22	3	**Employment rate**	EU	16	2
S80/S20 income share ratio	OECD	4	1	**Unemployment rate**	EU	9	1
Poverty and social exclusion	EU	3	1	**Labour underutilisation rate**	OECD	6	1
Severe material deprivation	EU	10	2	Long-term unemployment rate	OECD	27	3
Household net wealth	OECD	16	2	NEET rate	EU	8	1
Difficulties making ends meet	EU	16	2	Labour market insecurity	OECD	9	1
Housing				**Job Quality**			
Housing affordability	OECD	6	1	**Earnings quality**	OECD	20	2
Overcrowding rate	OECD	16	2	**Gender labour income gap**		6	1
Housing cost overburden	OECD	4	1	Job satisfaction	EU	10	2
Poor households without access to basic sanitary facilities	OECD	12	2	Job strain	OECD	28	3
Broadband access	OECD	15	2	Long hours in paid work	OECD	16	2
Homelessness rate				Broad earnings inequality	OECD	15	2
Home ownership	EU	17	2	Low pay rate	OECD	n/a	n/a
Work-life balance				Transitions to permanent contracts	EU	2	1
Satisfaction with time use	EU	11	2	**Health**			
Time off for leisure/personal care	OECD	n/a	n/a	**Perceived good health**	EU	22	2
Long unpaid working hours	OECD	n/a	n/a	Life expectancy at birth	OECD	21	2
Gender gap in hours worked	OECD	n/a	n/a	Deaths from suicide	OECD	26	3
Holiday away from home	EU	17	2	Depressive symptoms	EU	10	2
Knowledge and Skills				Psychological distress	EU	13	2
Digital skills of adults	EU	18	3	Functional limitations	EU	7	1
Student skills in maths	OECD	9	1	**Social Connections**			
Student skills in reading	OECD	17	2	**Perceived social support**	OECD	8	1
Student skills in science	OECD	8	1	Time spent in social interactions	OECD	n/a	n/a
Share of low-performing students	OECD	8	1	Satisfaction with relationships	EU	4	1
Adult skills in numeracy	OECD	20	2	Loneliness	EU	6	1
Adult skills in literacy	OECD	23	3	**Safety**			
Low-performing adults (literacy)	OECD	28	3	**Feeling safe**	OECD	2	1
Culture and Identity				Homicides	OECD	23	2
Cultural participation	EU	14	2	**Civic Engagement**			
Subjective well-being				**Having a say in government**	OECD	29	3
Life satisfaction	EU	21	2	Voter turnout	OECD	32	3
Students' life satisfaction	OECD	24	3	**Environmental Quality**			
Negative affect balance	EU	31	3	**Air pollution**	OECD	34	3
Eudaimonia	EU	6	1	Access to green space	EU	17	2

Annex Table 2.B.2. Slovenia's performance in terms of well-being resources, by capital

Indicator	Group	Rank	Tier
Environmental Quality			
Natural land cover	OECD	13	2
Greenhouse gas emissions	OECD	17	2
Renewable energy	OECD	17	2
Red List of threatened species	OECD	17	2
Carbon footprint	OECD	13	2
Material Productivity	OECD	18	2
Ecological footprint	OECD	19	2
Waste generation	EU	25	2
Recycling rate	EU	2	1
Biochemical O^2 Demand in Rivers	EU	1	1
Nitrates in groundwater	EU	6	2
Water stress	OECD	12	2
Economic capital			
Labour Productivity	EU	20	2
Produced fixed assets	OECD	24	3
Intellectual property assets	OECD	23	3
Household debt	OECD	6	1
Financial net worth of general government	OECD	19	2
Human capital			
Tertiary educ. attainment	EU	17	2
Adult learning	EU	16	2
STEM grads in tertiary education	EU	11	2
Premature mortality	OECD	15	2
Smoking prevalence	OECD	24	2
Obesity prevalence	EU	14	3
Social capital			
Trust in others	EU	8	1
Trust in government	OECD	20	2
Women in management	EU	10	2
Experience of discrimination	EU	3	1
Corruption	OECD	12	1
Volunteering	OECD	14	2

Note: Slovenia's performance rank on well-being indicators, and by tier (top, middle and bottom third of countries). Data for Slovenia is missing for 5 indicators. No comparisons are made for homelessness data given limited harmonisation.

Annex 2.C. **Summary list of indicators with data codes**

Annex Table 2.C.1. List of current well-being indicators, including sources and data codes

	Indicator	Data access	Data origin	Data code
	Income and wealth			
A1	**Household income**	OECD WB Database	SNA	1_1
A2	**S80/S20 income share ratio**	Eurostat	Other	1_2
A3	**People at risk of poverty or social exclusion**	Eurostat	EU-SILC	ilc_peps
A4	**People in severe material deprivation**	Eurostat	EU-SILC	Ilc_mddd
A5	**People in households with very low work intensity**	Eurostat	EU-SILC	Ilc_lvhl
A6	Household net wealth	OECD WB Database	Other	1_3
A7	Difficulty making ends meet	OECD WB Database	EU-SILC	1_5
	Job Quantity			
B1	**Employment rate**	Eurostat	LFS	lfsa_ergan
B2	**Unemployment rate**	Eurostat	LFS	lfsa_urgan
B3	Labour underutilisation rate	OECD WB Database	LFS	13_2
B4	Long-term unemployment rate	OECD WB Database	LFS	2_3
B5	NEET rate (extended)	Eurostat	LFS	edat_lfse_36
B6	Labour market insecurity	OECD WB Database	Other	2_5
	Job Quality			
C1	**Earnings quality**	OECD WB Database	LFS	2_8
C2	**Gender labour income gap**	OECD WB Database	EU-SILC	2_2
C3	**Job satisfaction**	Eurostat	EU-SILC	ilc_pw05
C4	**Job strain**	OECD WB Database	EWCS	2_6
C5	Long hours in paid work	OECD WB Database	LFS	2_7
C6	Broad earnings inequality	OECD WB Database	LFS	2_8
C7	Low pay rate	OECD Earnings database	LFS	LPI
C8	Transitions to permanent contracts	Eurostat	EU-SILC	tepsr_wc230
	Work-Life balance			
D1	**Satisfaction with time use**	OECD WB Database	EU-SILC	4_4
D2	Time off	SVN not available	TUS	4_1
D3	Long unpaid working hours	SVN not available	TUS	4_2
D4	Gender gap in hours worked	SVN not available	TUS	4_3
D5	Holiday away from home	Eurostat	EU-SILC	ilc_mdes02
	Housing			
E1	**Housing affordability**	OECD WB Database	SNA	3_2
E2	**Overcrowding rate**	OECD WB Database	EU-SILC	3_1
E3	Housing cost overburden	OECD WB Database	EU-SILC	3_3
E4	Poor households without access to basic sanitary facilities	OECD WB Database	EU-SILC	3_4
E5	Households with high-speed internet access	OECD WB Database	ICT A&U	3_5
E6	Homelessness rate	OECD Affordable Housing Database	Other	
E7	Owner-occupied home	Eurostat	EU-SILC	ilc_lvho02
	Health			
F1	**Perceived good health**	OECD WB Database	EU-SILC	5_2

	Indicator	Data access	Data origin	Data code
F2	Life expectancy at birth	OECD WB Database	Other	5_1
F3	Deaths from suicide	Eurostat	WHO	tps00122
F4	Depressive symptoms	OECD WB Database	EHIS	5_4
F5	Psychological distress	OECD Health at a Glance	EU-SILC	
F6	Functional limitations	Eurostat	EU-SILC	hlth_silc_12
	Knowledge and Skills			
G1	**Digital skills of adults**	Eurostat	ICT A&U	tepsr_sp410
G2-4	Student skills in maths, reading and science	OECD WB Database	PISA	6_2
G5-6	Adult skills in numeracy and literacy	OECD WB Database	PIAAC	6_5
	Social Connections			
H1	**Perceived social support**	OECD WB Database	GWP	7_1
H2	Social interactions	SVN not available	TUS	7_2
H3	Satisfaction with personal relationships	OECD WB Database	EU-SILC	7_3
H4	Loneliness	EU-SILC microdata	EU-SILC	n/a
	Culture and identity			
I1	**Cultural participation**	Eurostat	EU-SILC	ilc_scp01
	Civic Engagement			
J1	**Having a say in government**	OECD WB Database	PIAAC	8_1
J2	Voter turnout	OECD WB Database	IIDEA	8_2
	Environmental Quality			
K1	**Exposure to outdoor air pollution**	OECD WB Database	ES	9_2
K2	Access to green space	OECD WB Database	EC	9_1
	Safety			
L1	**Feeling safe**	OECD WB Database	GWP	10_2
L2	Homicides	OECD WB Database	WHO	10_1
	Subjective well-being			
M1	**Life satisfaction**	OECD WB Database	EU-SILC	11_1
M2	Students' life satisfaction	OECD PISA	PISA	
M3	Negative affect balance	OECD WB Database	GWP	11_2
M4	Eudaimonia	Eurostat	EU-SILC	ilc_pw01

Note: SNA = System of National Accounts; EU-SILC = European Survey of Income and Living Conditions; LFS = Labour Force Surveys; EWCS = European Working Conditions Survey; TUS = Time Use Surveys; ICT A&U = Internet Access and Use Surveys; EHIS = European health Interview Survey; PIAAC = Programme for the International Assessment of Adult Competencies; GWP = Gallup World Poll; ES = OECD Environment Statistics; HS = OECD Health Statistics; TI = Transparency International.

Annex Table 2.C.2. List of indicators on resources for future well-being, including sources and data codes

		Natural Capital		
N1	**Natural and semi-natural land cover**	OECD WB Database	ES	12_1
N2	**Greenhouse gas emissions**	OECD WB Database	ES	12_8
N3	**Renewable energy**	OECD WB Database	ES	12_10
N4	Red List Index of threatened species	OECD WB Database	ES	12_7
N5	Carbon footprint	OECD WB Database	STAN	12_9
N6	Material Productivity	OECD Environment DB	Eurostat	GDP_DMC
N7	Ecological footprint	Global Footprint Network	GFN	n/a
N8	Waste generation	Eurostat	Eurostat	ceipc031
N9	Recycling rate	Eurostat	Eurostat	12_15
N10	Biochemical Oxygen Demand in Rivers	Eurostat	ARSO, EEA	sdg_06_30
N11	Nitrates in groundwater	Eurostat	ARSO, EEA	sdg_06_40
N12	Water stress	OECD WB Database	ES	12_12
		Human Capital		
O1	**Tertiary education attainment**	Eurostat	Eurostat	edat_lfse_03
O2	**Adult learning**	Eurostat	LFS	trng_lfse_01
O3	STEM graduates in tertiary education	Eurostat	Other	educ_uoe_grad04
O4	Premature mortality	OECD WB Database	HS	13_3
O5	Smoking prevalence	OECD WB Database	HS	13_4
O6	Obesity prevalence	Eurostat	HS	hlth_ehis_de1
		Social Capital		
P1	**Trust in others**	OECD WB Database	EU-SILC	14_1
P2	**Trust in government**	OECD WB Database	GWP	14_2
P3	**Women in management positions**	Eurostat	LFS	sdg_05_60
P4	Personal Experience of Discrimination	Eurobarometer	EB	QC2
P5	Corruption	OECD WB Database	TI	14_6
P6	Volunteering through organisations	OECD WB Database	EWCS/PIAAC	14_7
		Economic Capital		
Q1	**Labour Productivity**	OECD WB Database	Eurostat	TIPSNA71
Q2	Produced fixed assets	OECD WB Database	SNA	15_1
Q3	Intellectual property assets	OECD WB Database	SNA	15_2
Q4	Household debt	OECD WB Database	SNA	15_6
Q5	Financial net wealth of general government	OECD WB Database	SNA	15_7

Note: SNA = System of National Accounts; EU-SILC = European Survey of Income and Living Conditions; LFS = Labour Force Surveys; EWCS = European Working Conditions Survey; TUS = Time Use Surveys; ICT A&U = Internet Access and Use Surveys; EHIS = European health Interview Survey; PIAAC = Programme for the International Assessment of Adult Competencies; GWP = Gallup World Poll; ES = OECD Environment Statistics; HS = OECD Health Statistics; TI = Transparency International.

3. Evaluating structural reforms through a well-being lens

This chapter showcases a methodology to use the equivalent income approach to assess the impact of policy reforms on a welfare index that aggregates two dimensions of well-being, namely employment and household income. This methodology allows solving policy trade-offs when policy reforms have an ambiguous effect on welfare, and highlights the channels through which policy reforms have the largest impact on people's well-being. The results underline the importance of structural reforms for household well-being. The largest welfare impacts stem from the following policy reforms: i) a cut in regulation of the energy, transport and communication sectors; ii) an increase in ALMPs; iii) a cut in the average tax wedge on households; iv) a cut in the minimum wage; v) an increase in the number of weeks of maternity weeks; vi) a cut in the replacement rate of unemployment benefits.

3.1. Introduction

103. Dashboards of indicators are a useful and necessary step to monitoring progress and informing policy However, in absence of any aggregate welfare measure, no comparison of *overall* well-being across countries and time can be undertaken. (Nordhaus, 1973[17]) were the first to devise a monetary summary measure of well-being that incorporated some aspects of quality of life. Today, there is a myriad of composite indexes, with prominent examples such as the Human Development Index. While these indexes provide a single overall metric, they typically rely on ad-hoc choices for aggregation weights across well-being dimensions which makes it difficult to quantify and interpret the resulting indicator. For instance, (Ravallion, 2012[18]) finds puzzling implicit valuations of life expectancy in the Human Development Index.

104. Recent theoretical and empirical advances in welfare economics have provided new and stronger foundations for aggregating across well-being dimensions. Leading examples include (Fleurbaey, 2009[19]), (Jones, 2016[20]), (Fleurbaey, 2013[21]), (Decancq, 2016[22]) and (Boarini, 2021[23]). A particularly well-founded approach here is the measurement of equivalent income (or money-metric utility, (Samuelson, 1974[24])) to value non-income dimensions. The equivalent income approach has the virtue of providing consistent welfare evaluations even when individuals do not hold the same preferences over the bundle of well-being outcomes (Decancq, 2015[25]).

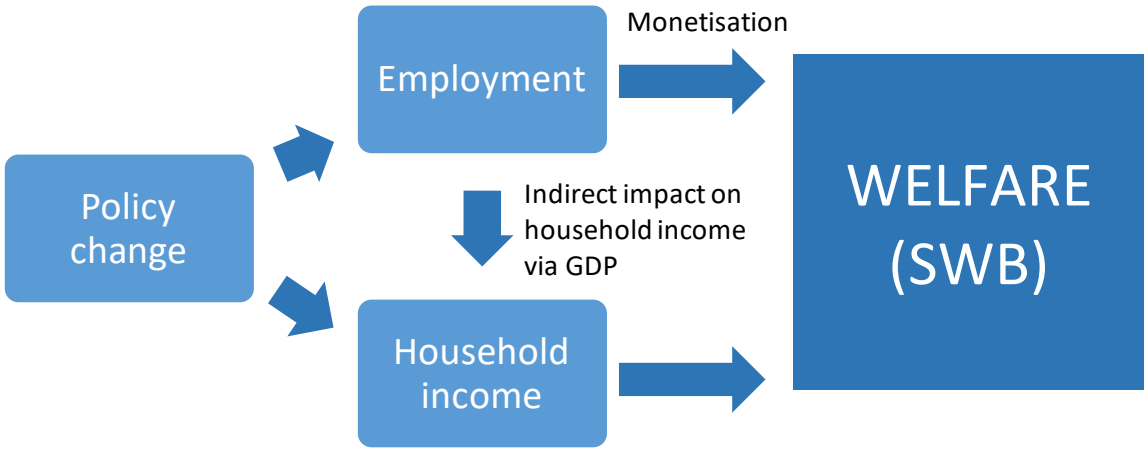
105. This chapter presents a methodology to use the equivalent income approach to assess the impact of policy reforms on a welfare index that aggregates two dimensions of well-being, namely employment and household income. This methodology allows solving policy trade-offs when policy reforms have an ambiguous effect on welfare, for instance when a structural reform raises employment but lowers household income, or vice-versa. It also highlights the channels through which policy reforms have the largest impact on people's well-being.

106. A multi-dimensional policy evaluation tool is particular useful for a Ministry with broad policy responsibilities like the MoLFSAEO, where assessing policy trade-offs and win-win policies is often necessary. The methodology proposed can be used directly by the Ministry's analytical unit to inform relevant and ongoing policy discussions, including on minimum wage levels, active labour market policies (ALMPs), the retirement age, maternity leave, etc. This is, of course, complementary to monitoring and analysis of the impact of policies on a wider range of well-being outcomes, as presented in the previous chapter, as not all well-being outcomes are incorporated in the methodology presented in this chapter.

107. In practice, the chapter first presents an empirical framework that uses an equivalent income approach to aggregate welfare, with life satisfaction as a proxy of utility (Section 4.2). Based on this empirical framework, the chapter derives the *shadow prices* of employment (and unemployment) for various population groups among OECD countries (Section 4.3). Life satisfaction regressions are used to capture the effects of employment above and beyond the gain of income for employed individuals. These effects relate to the gain in life satisfaction for the employed person but also to the positive impact of employment in general on *everyone*. Here, the employment rate acts as an 'environmental' variable. In terms of empirical results, we allow for heterogeneous preferences across individuals. This is an important step forward as it stands to reason that different parts of the population value the same situation and economic context differently, depending on their employment status or the particular income group they belong to.

108. Then, the multi-dimensional effects of structural policies on employment and average household income are calculated with the help from a system a production functions featuring common policy variables on the right-hand side (Section 4.4). This system of equations allows for an impact running from employment to household income via higher GDP, implying that policy reforms have both a direct impact on household income and an indirect one (via employment and GDP) as shown in Figure 3.1.

Figure 3.1. The structure of multi-dimensional policy evaluation



109. In a last step, the net impact of policy reforms on welfare, defined as the equivalent income of household income and monetised employment, is calculated. Welfare is here understood as the portion of life satisfaction that is explained by household income and employment, conditionally on people's socio-economic characteristics.

3.2. Empirical framework

The equivalent income approach

Defining welfare as equivalent income

110. The approach adopted here borrows the concept of equivalent income (or money-metric utility) that was introduced by (Samuelson, 1974[24]) and later extended to non-market dimensions by (Willig, 1981[26]). (Deaton, 1980[27]) used the approach as a convenient measure of people's access to resources. More recently, the equivalent income approach has been given a new foundation through the theory of fair social orderings (Fleurbaey, 2013[21]).

111. Consider an individual *i* with disposable income Y_i who enjoys non-market quality of life q_i, all represented by an indirect utility function $V(Y_i, q_i)$. The equivalent income is computed as the level of income Y_i^* that would give this person the same indirect utility if she enjoyed a reference quality of life q^*:

$$V(Y_i, q_i) = V(Y_i^*, q^*).$$

112. Identification of parameters relies on the separability of indirect utility into the life cycle actualisation factors (eventually shaped by longevity prospects, see (Boarini, 2021[23])) on the one hand and instantaneous utility *u* on the other hand. Assuming that agents receive the same actual income throughout their life, consume their income without saving, and face an interest rate equal to their actualisation rate, the equivalent income equation can be rewritten as:

$$u(Y_i, q_i) = u(Y_i^*, q^*) = u(Y_i.(1 - \delta_i{}^q), q^*), \quad (1)$$

where $\delta_i{}^q$ is the share of income compensating individual *i* for the change in quality of life from q_i to q^*. Income is measured with regard to a single reference price vector. We approximate this price vector by national accounts private consumption deflators and purchasing power parities so that all monetary variables are expressed in 2019 international dollars. The measure of equivalent income $Y_i^* = Y_i.(1 - \delta_i{}^q)$ thus corresponds to real disposable income with a quality of life adjustment. When all individuals' incomes

are made comparable, in that they reflect the same reference quality of life q^* and the same set of market reference prices, these equivalent incomes lend themselves to welfare comparisons between individuals.

Specifying the utility function

113. The next task is selecting a specific form for the utility function at hand. Following (Boarini, 2021[23]), we allow for the inclusion of several "environmental" variables that generate additional utility or disutility for people (i.e., positive or negative externalities), and also allow for heterogeneity of preferences across groups of people.

114. Employment and unemployment are the first in a set of "environmental" variables that affect people. Access to jobs and conversely, the loss of social connections and purpose in life for the unemployed, have been found to be determinants of well-being in empirical studies (Blanchflower, 2004[28]). Evidently, a status as employed or unemployed also has a direct effect on an individual's income that is captured via the income variable. In addition to direct status and income effects for the individuals, there are externalities in terms of security and social cohesion for everyone. We proxy these effects with the aggregate employment and unemployment rates measured at country level.[8]

115. Average disposable income in the country is the second 'environmental' factor that this paper considers. Several studies have considered national income as a determinant of life satisfaction in addition to individual income. This reflects individuals' utility gain from living in a relatively affluent country (see (Clark, 2008[29]) for a review). The relationship between life satisfaction and income is significant both across countries and within countries in recent data (Stevenson, 2008[30]). All this suggests controlling for both individual income (as a classical determinant of individual utility) and average income (as an environmental factor). Importantly, we can further account for heterogeneity in people's preferences by following (Decancq, 2015[25]) and introduce interactions between personal characteristics and the average income variable (see the discussion of the econometric model below).

116. In terms of the functional form and following empirical evidence provided by (Layard R., 2008[31]), we select a logarithmic utility function, defined over the current consumption bundle with an inter-temporal elasticity of substitution equal to unity, and environmental factors $\mathrm{X}.\Gamma$ that are both individual and country-specific:

$$u(Y_i, X_i) = \alpha.\log(Y_i) + X_i.\Gamma_i; \qquad (2)$$

where X is a matrix of observables, Γ a vector of coefficients.

117. Regarding the choice of reference values for the components of q^*, a "natural" reference value is the best possible outcome for (un)employment. This choice is the only one guaranteeing that among individuals who share identical objective situations, and fail to achieve the best outcome, the individuals who care more about these outcomes are indeed considered worse off. As soon as one selects another reference level, one can find paradoxical situations in which the individuals who suffer more from failing to reach the best level are considered better off. In practice, the benchmark is a 0% unemployment rate, and 102% of the maximum level of employment observed in the sample.[9]

[8] Earlier work has tended to only consider income effects to the unemployed and often failed to find any significant impact of unemployment on discounted utility due to the capacity of people to save and cushion income shocks. We go beyond this approach by adding a negative externality from the country's unemployment rate.

[9] Choosing 102% rather 100% of the maximum level of employment allows calculating the shadow price for all countries, including that achieving the highest level of employment.

Life satisfaction regression

118. Our key identifying assumption is that life satisfaction can be viewed as a proxy (or a linear transformation) of instantaneous utility, implying from (2) that

$$LS(Y_i, X_i) \quad = \alpha_i \log(Y_i) + X_i.\Gamma_i \; + \theta_i \qquad (3)$$

where α_i is an individual-specific coefficient reflecting individual preferences vis-à-vis income, and θ_i represents an error term with a structure discussed below. Our identifying assumption is supported by the empirical finding that most respondents to life satisfaction surveys are not forward looking and have a relatively short time horizon in mind. Hence, life satisfaction is deemed to reflect contemporary and large changes in socio-economic conditions rather than long-term transformations with small contemporary changes.

119. Individual preferences on income α_i are assumed to be group-specific and depend on individual characteristics *Z* such as age, gender or socio-economic position. The vector θ_i comprises country fixed-effects a_j that reflect systemic cross-country cultural (or other time-invariant) differences in the relationship between life satisfaction and individual utility, a period-specific component b_t allowing momentary shifts in the latter relationship, individual characteristics *Z* such as age and gender reflecting systemic differences in life satisfaction across population groups enjoying the same level of instantaneous utility, as well as an idiosyncratic error term:

$$\begin{aligned} \alpha_i &= \rho + Z_i.\mu \\ \theta_{i,j,t} &= a_j + b_t + Z_i.\pi + \varepsilon_{i,j,t} \end{aligned} \qquad (4)$$

120. As explained above, the set of environmental factors include : i) an individual (un)employment dummy U_i; ii) country's (un)employment rate $U_{j,t}$; iii) the log of country's average disposable household income, interacted with individual characteristics W_i including age, gender, (un)employment's status and income group (i.e. high, medium or low income in the national income distribution), which yields:

$$X_{i,j,t}.\Gamma_i = \beta.U_i + \theta.\; U_{j,t} + (\gamma + W_i.\Lambda).log\left(y_{j,t}\right) \qquad (5)$$

121. As a result, the estimated life satisfaction regression combines equations (3), (4) and (5) and reads as follows, ignoring constant terms:

$$LS_{i,j,t} = a_j + b_t + \pi.Z_i + (\rho + Z_i.\mu).log\left(y_{i,j,t}\right) + (\gamma + W_i.\Lambda).log\left(y_{j,t}\right) + \beta.U_i + \theta.\; U_{j,t} + \varepsilon_{i,j,t} \qquad (6)$$

where $\varepsilon_{i,j,t}$ is the residual. Importantly, in all regressions we calculate robust standard errors clustered at the country level in order to avoid the underestimation of standard errors pertaining to country-level variables (i.e. $log\left(y_{j,t}\right)$ and $U_{j,t}$). Other econometric specifications are tested below, including interactions between the (un)employment rate and individual characteristics.

122. The estimation of welfare effect of (un)employment from life satisfaction regressions faces several econometric challenges, some of which are described in (Ravallion, 2016[32]). First, life satisfaction regressions are capable of overestimating the welfare effects from (un)employment given that (un)employment is likely to be correlated with key personality traits that also influence personal happiness and satisfaction with life. To reduce the influence of unobserved heterogeneity, individual fixed effects could be introduced inside the regressions if a longitudinal panel was available, which is not the case as the available data are repeated cross-sectional observations. Meanwhile, one introduces country fixed-effects that reduce the risk of biased estimates due to country-level unobserved heterogeneity (i.e., omitted time-invariant country effects that are correlated with the regressors). In the sample of countries under study, there appears to be very low correlation (i.e., below 0.25) between changes in log income, longevity and (un)employment, and hence little risk of encountering multicollinearity problems.

123. Second, individual income in particular is affected by large measurement errors in the Gallup World Poll, which may bias its estimated coefficient towards zero. In this regard, (Murtin, 2017[33]) show that the use of individual income alone drawn from the Gallup survey yields a large attenuation bias on the income variable and hence an overestimation of shadow prices. Several other studies have raised the same econometric issue. For instance, (Fujiwara, 2013[34]) argues that the "wellbeing valuation" provides biased estimates of the value of non-market goods unless the income variable is instrumented. Strikingly, he finds in his case-study that the coefficient on log income jumps from 0.16 (non-instrumented income variable) to 1.10 (instrumented variable). However, we are less subject to this risk as we also control for average disposable income.

Willingness-to-pay to eliminate unemployment and increase employment

124. The willingness to eliminate unemployment is derived from (6) by considering a hypothetical situation with zero unemployment for both individuals and society ($U_i^* = U_j^* = 0$) in exchange for a relative reduction in income for both individuals and society by a factor $\delta_{i,j}^U$ for which it holds that[10]

$$(\rho + Z_i.\mu).log(y_{i,j}) + (\gamma + W_i.\Lambda).log(y_j) + \beta.U_i + \theta.\ U_{j,t} = \alpha.log((1-\delta_{i,j}^U).y_{i,j}) + (\gamma + W_i.\Lambda).log((1-\delta_{i,j}^U).y_j) \qquad (7)$$

which yields the individual willingness-to-pay to eliminate unemployment:

$$\delta_{i,j,t}^U = 1 - \exp\left(\frac{\beta.U_i + \theta.U_{j,t}}{\rho + Z_i.\mu + \gamma + W_i.\Lambda}\right) \qquad (8)$$

125. The willingness to increase employment to a cross-country benchmark level equal to U_j^* and a cross-group benchmark level U_i^* verifies a similar equation as (7):

$$\delta_{i,j,t}^U = 1 - \exp\left(\frac{\beta.((U_i - U_i^*) + \theta.(U_{j,t} - U_j^*)}{\rho + Z_i.\mu + \gamma + W_i.\Lambda}\right) \qquad (9)$$

126. The welfare loss $\delta_{i,j,t}^U$ due to sub-optimal (un)employment is calculated at the individual level and can be averaged among countries and population groups to highlight differences in environmental factors and group-specific preferences, as shown below. Finally, the unitary shadow price of (un)employment $p_{j,t}^U$ corresponding to the monetised value of the increase in employment or the reduction in unemployment by 1 percentage point, is defined as the average welfare loss in the country divided by the country's unemployment rate, or gap in employment:

$$p_{j,t}^U = \overline{\delta_{.,j,t}^U} / |U_{j,t} - U_j^*| \qquad (10)$$

127. This value will be used to calculate the change in welfare $\Delta W_{j,t}$ (or predicted life satisfaction) in a given country after a policy reform entailing a change in log average household income $\Delta log(y_j)$ and a change in the (un)employment rate $\Delta U_{j,t}$:

$$\Delta W_{j,t} = \Delta log(y_j) - p_{j,t}^U.\Delta U_{j,t}$$

128. The next section provides intermediate econometric results to obtain the latter quantity of interest.

[10] In this calculation, one assumes a certain degree of myopia as agent *i* applies her own willingness-to-pay on income reductions of all agents in society. Thus, she is ignorant of others' preferences.

3.3. Assessing the shadow prices of employment and unemployment

Unemployment

129. Table 3.1 presents life satisfaction regressions, starting with a simple set of interactions between the (un)employment rate and individual demographic variables. The coefficient on individual log income is strongly significant and larger than previously found in other studies ((Boarini, 2021[23]), (Murtin, 2017[33])). The coefficient on country's log income is not statistically significant. The coefficient on the (un)employment rate is significant and negative, while positive coefficients on interactions with dummies for young and mid-age people reveals a larger effect of (un)employment on the life satisfaction of older people.

130. Accounting for interactions between income and demographics (Column 2), unemployment status (Column 3) and position in the individual income distribution (Column 4) reveals a number of important features that underline the heterogeneity of preferences. Overall, the coefficient on individual income is always strongly significant, that on country's income is weakly significant. The elasticity on both individual and country's income is consistently lower for young and mid-age people relatively to older people across all regressions, and it is larger for unemployed people and for the poor. Said differently, income is a stronger predictor of life satisfaction for older people, the unemployed and the poor than for young and mid-age people.

131. These results drive ambiguous effects on the relative value of shadow prices across countries and population groups, which increase with the effect of unemployment on life satisfaction, and decrease with the effect of income on life satisfaction. As the effect of unemployment and income are the strongest among older people, and the weakest among young people, their relative ranking is unclear. As shown in Figure 3.2, the shadow price of unemployment is actually the largest among mid-age people, which is intuitive as they are the most attached to the labour market. The shadow price is about twice as large for mid-age people than for young people, and it is only marginally different between males and females.

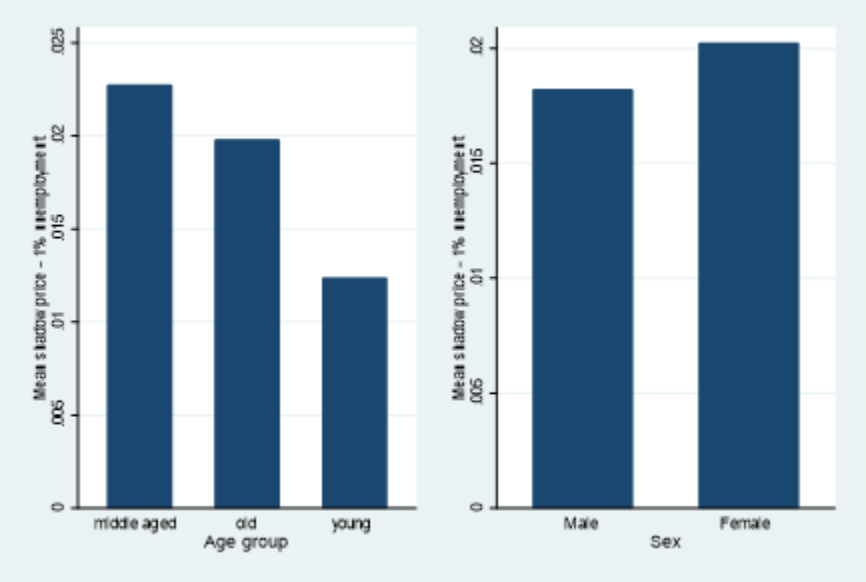
132. Figure 3.3 describes the average shadow price of unemployment by income quintile (left panel) and by unemployment status (right panel). As also reflected in Table 3.1, shadow prices are more than twice larger for the first income quintile than for the 5th quintile. This result is again intuitive and stems from the decreasing marginal utility of income or its decreasing marginal impact on life satisfaction. Moreover, the shadow price of unemployment is slightly larger for the unemployed than for non-unemployed people, which signals the higher value of work for those aspiring to have a job but who are unable to reach this desired labour force status.

Table 3.1. Life satisfaction regressions with unemployment

	(1)	(2)	(3)	(4)
	Dependent variable is life satisfaction			
Individual log income	0.764***	0.813***	0.812***	0.935***
	(0.045)	(0.083)	(0.083)	(0.097)
Country log income	0.381	1.025*	1.033*	0.987*
	(0.498)	(0.560)	(0.558)	(0.568)
Unemployed	-0.642***	-0.653***	0.192	0.087
	(0.027)	(0.026)	(1.416)	(1.456)
Unemployment rate	-0.058**	-0.042*	-0.042*	-0.033
	(0.021)	(0.021)	(0.021)	(0.021)
Unemployment rate x Male	0.006	0.004	0.004	0.003
	(0.004)	(0.005)	(0.005)	(0.005)
Unemployment rate x Young	0.051***	0.027*	0.027*	0.028*
	(0.015)	(0.013)	(0.014)	(0.014)
Unemployment rate x Middle-age	0.026***	0.009	0.010	0.011
	(0.008)	(0.009)	(0.009)	(0.009)
Male	-0.213***	0.508	0.514	0.510
	(0.044)	(0.870)	(0.869)	(0.879)
Young	-0.002	10.414***	10.358***	10.364***
	(0.140)	(2.125)	(2.158)	(2.171)
Middle-age	-0.189**	7.154***	7.120***	7.172***
	(0.090)	(1.672)	(1.679)	(1.685)
Married	0.323***	0.316***	0.316***	0.283***
	(0.023)	(0.024)	(0.024)	(0.024)
Interactions Income x Demographics				
Individual log income x Male		0.025	0.025	0.025
		(0.018)	(0.018)	(0.018)
Individual log income x Young		-0.273***	-0.281***	-0.285***
		(0.065)	(0.065)	(0.066)
Individual log income x Middle-age		-0.024	-0.029	-0.031
		(0.054)	(0.054)	(0.054)
Country log income x Male		-0.095	-0.096	-0.094
		(0.089)	(0.089)	(0.090)
Country log income x Young		-0.743***	-0.729***	-0.731***
		(0.254)	(0.257)	(0.260)
Country log income x Middle-age		-0.689***	-0.681***	-0.688***
		(0.203)	(0.204)	(0.204)
Interactions with individual unemployment status				
Individual log income x Unemployed			0.129***	0.104**
			(0.044)	(0.045)
Country log income x Unemployed			-0.200	-0.170
			(0.137)	(0.142)
Unemployment rate x Unemployed			-0.006	-0.001
			(0.006)	(0.006)
Interactions with individual income quintile				
Individual log income x Q1				0.052***
				(0.008)
Individual log income x Q2				0.025***
				(0.005)
Individual log income x Q3				0.021***
				(0.004)
Individual log income x Q4				0.011***
				(0.003)
Unemployment rate x Q1				-0.025***
				(0.008)
Unemployment rate x Q2				-0.011**
				(0.005)
Unemployment rate x Q3				-0.011**
				(0.004)
Unemployment rate x Q4				-0.005**
				(0.002)
N	3.3e+05	3.3e+05	3.3e+05	3.3e+05
R2	0.21	0.22	0.22	0.22

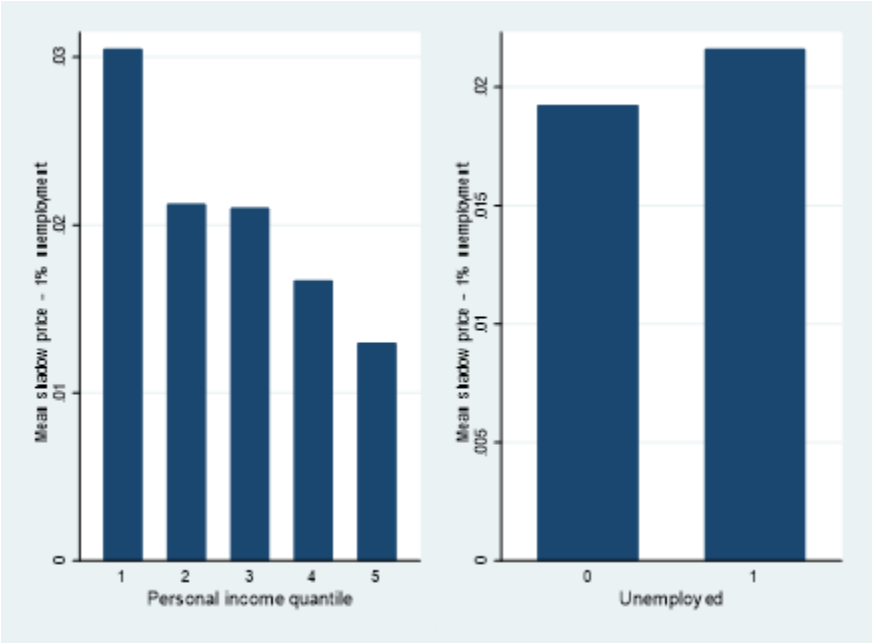
Note: individual income is equivalised household income as reported in Gallup micro-data; country income is equivalised household income as reported in National Accounts (OECD database); equivalence scale uses power 0.5 in both cases; age categories are Young (15<=age<34), Middle-age (35<=age<60), Old (60<=age); Income quintiles of individuals are observed by country and reported by Gallup in the micro-data. Standard errors in parentheses; * p<0.10; ** p<0.05; *** p<0.01

Figure 3.2. Average unemployment shadow price by age and gender



Source: OECD calculations based on Gallup World Poll.

Figure 3.3. Average unemployment shadow price by income quintile and labour force status

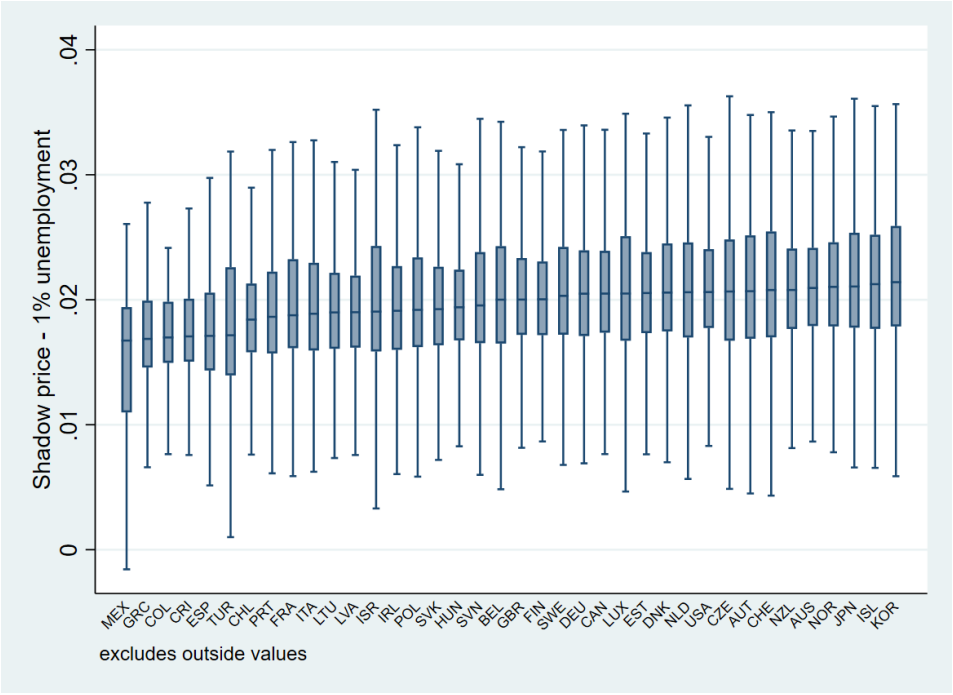


Source: OECD calculations based on Gallup World Poll

133. Figure 3.4 depicts the distribution of shadow prices by country, with the line in boxplots denoting the median shadow prices, and the thickers the 25% and 75% percentiles. On average across countries, the reduction in unemployment by 1 ppt entails an increase in welfare commensurate to a rise in income by about 2%, in line with (Murtin, 2017[33]) and a bit lower than (Boarini, 2021[23]). The dispersion of shadow prices is lower across countries than within countries. Differences across countries stem from complex composition effects due to the age structure as well as the level of unemployment. One regularity is that

median shadow prices are relatively lower in countries with a larger mid-age population and in those with high unemployment rates (Colombia, Greece, Mexico, Spain and Turkey), and relatively larger in those with older populations and low unemployment (Australia, Iceland, Japan, Korea, New Zealand, Norway, and Switzerland).

Figure 3.4. Distribution of the shadow price of unemployment by country



134. Table 3.2 reports average unemployment shadow prices by country and population groups. There are only slight differences across gender. The starkest difference concerns people at the bottom of the income distribution, who report an average shadow price of 3% and 3.1% for males and females respectively, compared to national averages of 1.9% and 2.0%. This shows that poor people care about the unemployment rate 50% more than other people. Second, the shadow price of unemployment is significantly higher for prime-age unemployed workers, who are in the middle of their active life and are also more likely to have larger family expenditures.

Table 3.2. Average unemployment shadow prices by country and population group

	Total	Males													Females										
		Not unemployed	Unemployed				Young	Mid-age	Old	Q1	Q2	Q3	Q4	Q5	Not unemployed	Unemployed				Young	Mid-age	Old	Q1	Q2	Q3	Q4	Q5
			Total	Young	Mid-age	Old										Total	Young	Mid-age	Old								
AUS	2.0	2.0	2.0	1.1	2.6	2.1	1.3	2.3	2.0	3.0	2.2	2.1	1.7	1.4	2.2	2.5	1.7	3.0	2.3	1.6	2.5	2.2	3.1	2.2	2.2	1.9	1.6
AUT	2.0	1.9	1.9	1.3	2.8	1.8	1.3	2.3	1.9	3.1	2.1	2.1	1.7	1.3	2.1	2.0	1.4	2.9	2.1	1.5	2.4	2.0	3.2	2.2	2.2	1.8	1.5
BEL	2.1	1.9	2.2	1.6	2.9	2.1	1.2	2.3	1.9	3.1	2.1	2.0	1.6	1.3	2.1	2.5	2.2	3.0	2.1	1.6	2.4	2.0	3.1	2.2	2.2	1.8	1.5
CAN	2.1	1.9	2.3	1.5	2.9	2.1	1.3	2.3	1.9	3.0	2.1	2.1	1.7	1.3	2.1	2.7	2.4	3.0	2.2	1.7	2.4	2.0	3.1	2.2	2.2	1.8	1.5
CHE	1.8	2.0	2.0	1.1	2.4	1.9	1.3	2.4	1.9	3.2	2.2	2.1	1.7	1.4	2.2	2.2	1.7	2.7	2.0	1.5	2.5	2.0	3.2	2.3	2.2	1.8	1.6
CHL	1.4	1.6	1.3	0.4	2.2	2.0	0.8	2.0	1.8	2.9	2.0	2.0	1.5	1.2	1.9	2.0	1.4	2.6	2.1	1.2	2.2	1.9	3.1	2.1	2.1	1.7	1.4
COL	1.6	1.3	1.0	0.3	2.2	1.7	0.6	1.8	1.7	n.a.	1.8	1.9	1.4	1.0	1.6	1.6	1.0	2.4	2.0	0.9	2.0	1.8	n.a.	2.1	2.0	1.6	1.2
CRI	2.0	1.4	1.2	0.6	2.4	2.0	0.7	1.9	1.7	2.9	1.9	1.9	1.4	1.0	1.7	1.7	1.3	2.5	2.0	1.2	2.1	1.8	2.8	2.0	2.0	1.6	1.3
CZE	2.0	1.8	2.2	1.3	2.8	2.1	1.0	2.2	2.0	3.2	2.1	2.1	1.6	1.1	2.1	2.5	1.6	3.0	1.9	1.5	2.5	2.1	3.2	2.2	2.2	1.8	1.4
DEU	2.1	1.9	2.0	1.2	2.8	2.1	1.3	2.2	1.9	3.1	2.1	2.1	1.7	1.4	2.1	2.4	1.6	3.0	2.2	1.6	2.4	2.1	3.1	2.2	2.2	1.8	1.6
DNK	1.7	1.9	2.3	1.8	2.8	2.1	1.4	2.2	2.0	3.0	2.0	2.1	1.7	1.3	2.1	2.4	1.7	3.0	2.1	1.7	2.4	2.1	3.0	2.2	2.2	1.8	1.5
ESP	2.0	1.5	2.2	1.8	2.6	2.1	1.0	1.9	1.7	2.6	1.9	1.8	1.4	1.1	1.7	2.3	1.9	2.6	2.1	1.3	2.0	1.8	2.6	1.9	1.9	1.5	1.2
EST	2.0	1.9	2.8	1.9	3.2	2.3	1.0	2.3	2.0	3.1	2.1	2.0	1.6	1.1	2.1	2.4	1.7	3.0	2.4	1.4	2.4	2.1	3.1	2.2	2.2	1.8	1.4
FIN	1.9	1.9	2.7	2.3	3.2	2.2	1.3	2.3	1.9	3.0	2.1	2.1	1.7	1.4	2.1	2.8	2.4	3.2	2.3	1.7	2.4	2.0	3.0	2.1	2.2	1.8	1.5
FRA	2.0	1.8	2.3	1.7	3.0	2.3	1.2	2.2	1.8	3.0	2.0	2.0	1.6	1.3	2.0	2.7	2.3	3.2	2.2	1.5	2.4	1.9	3.0	2.1	2.1	1.7	1.4
GBR	1.7	1.9	2.3	1.5	3.0	2.1	1.2	2.2	1.9	3.1	2.1	2.1	1.7	1.4	2.1	2.6	1.9	3.0	2.2	1.5	2.4	2.0	3.1	2.2	2.2	1.8	1.5
GRC	2.0	1.6	2.2	1.9	2.6	2.0	0.9	1.9	1.7	2.6	1.9	1.8	1.4	1.1	1.7	2.3	1.9	2.6	2.0	1.3	2.0	1.7	2.7	2.0	1.9	1.6	1.3
HUN	1.9	1.9	2.4	1.5	2.8	2.0	1.1	2.2	1.9	3.1	2.1	2.1	1.7	1.3	2.0	2.5	1.6	3.0	2.0	1.4	2.3	2.0	3.1	2.2	2.2	1.8	1.5
IRL	2.1	1.8	2.2	1.6	2.8	2.1	1.2	2.2	1.8	3.0	2.1	2.0	1.6	1.3	2.0	2.4	1.7	2.9	2.2	1.4	2.3	1.9	3.0	2.1	2.1	1.7	1.4
ISL	1.9	2.0	2.0	0.6	3.0	2.3	1.3	2.4	2.0	3.1	2.1	2.1	1.7	1.4	2.2	2.1	1.8	2.5	2.1	1.7	2.5	2.1	3.2	2.3	2.2	1.8	1.6
ISR	1.9	1.8	2.1	1.3	2.9	1.8	1.2	2.3	1.9	3.1	2.0	2.0	1.5	1.1	2.0	2.1	1.3	2.9	1.8	1.4	2.4	2.0	3.2	2.1	2.1	1.6	1.4
ITA	2.1	1.8	2.3	1.7	2.9	2.3	1.2	2.1	1.8	2.9	2.0	2.0	1.6	1.3	2.0	2.6	2.1	3.1	2.4	1.4	2.3	1.9	3.0	2.1	2.1	1.7	1.4
JPN	2.0	2.0	1.7	0.3	2.2	2.0	1.1	2.3	2.0	3.1	2.2	2.2	1.8	1.5	2.2	2.1	1.3	2.4	2.0	1.5	2.5	2.1	3.2	2.3	2.3	1.9	1.6
KOR	1.8	1.9	0.9	-0.4	2.3	2.1	1.0	2.3	2.2	3.0	2.1	2.0	1.5	1.1	2.1	1.4	0.4	2.2	2.3	1.3	2.4	2.3	3.1	2.2	2.2	1.8	1.4
LTU	2.0	1.7	2.3	1.3	2.9	2.3	0.9	2.1	1.9	2.9	2.0	2.0	1.5	1.0	1.9	2.3	1.6	3.0	2.2	1.2	2.2	2.0	3.0	2.1	2.1	1.7	1.3
LUX	1.8	1.9	2.1	1.3	2.8	2.3	1.3	2.3	1.9	3.1	2.1	2.0	1.6	1.3	2.1	2.2	1.6	2.9	2.1	1.5	2.5	2.0	3.2	2.2	2.2	1.8	1.5
LVA	1.4	1.6	2.1	1.2	2.7	2.2	0.9	2.1	1.9	2.9	2.0	1.9	1.5	1.0	1.9	2.4	1.7	2.9	2.2	1.3	2.2	2.0	2.9	2.1	2.1	1.7	1.3
MEX	2.1	1.3	-0.1	-1.1	1.3	1.5	0.5	1.8	1.7	n.a.	1.7	1.9	1.4	1.0	1.5	0.9	-0.2	1.8	1.5	0.8	2.0	1.8	n.a.	2.0	2.1	1.6	1.2
NLD	2.1	2.0	2.1	1.4	2.4	1.7	1.3	2.3	1.9	3.1	2.1	2.2	1.7	1.4	2.2	2.4	1.7	2.9	2.0	1.6	2.5	2.0	3.2	2.3	2.2	1.8	1.5
NOR	2.1	2.1	1.9	1.4	2.7	1.6	1.4	2.4	2.0	3.1	2.2	2.1	1.7	1.4	2.2	2.1	1.7	3.0	1.8	1.8	2.6	2.1	3.2	2.3	2.3	1.9	1.6
NZL	1.9	2.0	2.1	1.4	2.8	2.1	1.4	2.2	2.0	3.0	2.1	2.1	1.7	1.4	2.2	2.7	2.4	3.0	2.2	1.7	2.4	2.1	3.1	2.2	2.2	1.9	1.6
POL	1.8	1.8	1.8	1.0	2.8	2.3	1.0	2.2	1.9	3.1	2.0	2.0	1.6	1.1	2.0	2.3	1.7	3.0	2.2	1.3	2.3	2.0	3.1	2.1	2.1	1.7	1.3
PRT	1.9	1.7	2.2	1.4	2.8	2.2	1.0	2.1	1.8	2.9	2.0	2.0	1.5	1.2	1.9	2.4	1.8	2.8	2.1	1.3	2.2	1.9	2.9	2.1	2.1	1.7	1.4
SVK	2.0	1.7	2.5	1.9	3.1	2.1	1.0	2.1	1.9	3.0	2.0	2.0	1.6	1.1	2.0	2.8	2.2	3.2	2.2	1.4	2.3	2.0	3.0	2.1	2.1	1.7	1.4
SVN	2.0	1.9	2.4	1.4	3.0	2.2	1.0	2.2	1.9	3.0	2.1	2.1	1.6	1.3	2.0	2.6	1.9	3.2	2.1	1.4	2.3	2.0	3.1	2.2	2.2	1.8	1.5
SWE	1.6	1.9	2.4	2.1	3.0	2.2	1.3	2.3	1.9	3.0	2.1	2.1	1.6	1.3	2.1	2.6	2.1	3.2	2.3	1.6	2.4	2.1	3.0	2.2	2.2	1.8	1.5
TUR	2.1	1.5	1.7	1.2	2.9	2.1	0.9	2.1	1.8	2.9	1.9	1.8	1.3	0.8	1.7	1.9	1.5	2.9	2.0	1.2	2.2	1.9	2.9	2.0	2.0	1.5	1.1
USA	2.8	2.0	2.3	1.5	3.0	2.1	1.4	2.4	2.0	3.1	2.1	2.1	1.6	1.4	2.2	2.6	2.3	3.0	2.1	1.7	2.5	2.1	3.1	2.2	2.2	1.8	1.6
Average	1.9	1.8	2.0	1.2	2.7	2.1	1.1	2.2	1.9	3.0	2.0	2.0	1.6	1.2	2.0	2.3	1.7	2.9	2.1	1.4	2.3	2.0	3.1	2.2	2.1	1.7	1.4

Employment

135. Table 3.3 presents life satisfaction regressions with different employment rate variables on the right-hand-side of the equation, corresponding to the total employed population aged 15-64, the employed population aged 15-24, employed females aged 25-54, employed males aged 25-54 and employed population aged 55-64, respectively. A full set of interactions is selected as in the last column of the previous table. Individual income and the employed individual dummy are always strongly significant. The employment rate is also significant except in the case of the young population, meaning that the employment rate of the young population does not have a strong association with life satisfaction of the whole population. Conversely, the employment rate coefficients on columns (1) and (3) are large and strongly significant. This implies that the employment rates of the 15-64 population and of females aged 25-54 have a strong correlation with life satisfaction of the entire population. Finally, a number of interaction variables are strongly significant, entailing differences in shadow prices across groups.

Table 3.3. Life satisfaction regressions with employment

	(1)	(2)	(3)	(4)	(5)
Employment variable on RHS:	ER 15-64 Total	ER 15-24 Total	ER 25-54 Females	ER 25-54 Males	ER 55-64 Total
	Dependent variable is Life Satisfaction				
Individual log income	0.992***	1.039***	1.015***	1.013***	1.023***
	(0.089)	(0.094)	(0.089)	(0.088)	(0.092)
Country log income	-0.277	0.903**	0.374	0.386	0.867**
	(0.459)	(0.429)	(0.451)	(0.502)	(0.352)
Employed	0.205***	0.207***	0.204***	0.206***	0.206***
	(0.023)	(0.024)	(0.023)	(0.023)	(0.024)
Employment rate	0.066***	0.012	0.051**	0.034*	0.024**
	(0.016)	(0.012)	(0.019)	(0.017)	(0.009)
Male	-0.268	-0.319	-0.287	-0.301	-0.308
	(0.247)	(0.231)	(0.240)	(0.238)	(0.229)
Young	6.756***	6.749***	6.757***	6.740***	6.751***
	(0.896)	(0.894)	(0.887)	(0.888)	(0.898)
Middle-age	2.674***	2.610***	2.652***	2.637***	2.648***
	(0.516)	(0.510)	(0.516)	(0.515)	(0.509)
Married	0.273***	0.271***	0.271***	0.272***	0.272***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Individual log income x Male	0.027	0.017	0.022	0.023	0.019
	(0.019)	(0.020)	(0.020)	(0.019)	(0.019)
Individual log income x Young	-0.463***	-0.475***	-0.464***	-0.467***	-0.473***
	(0.077)	(0.079)	(0.076)	(0.077)	(0.079)
Individual log income x Mid-age	-0.126**	-0.139**	-0.129**	-0.131**	-0.138**
	(0.050)	(0.052)	(0.050)	(0.050)	(0.052)
Individual log income x Q1	-0.133**	-0.169***	-0.152***	-0.153***	-0.160***
	(0.051)	(0.058)	(0.052)	(0.054)	(0.056)
Individual log income x Q2	0.029	-0.009	0.011	0.008	-0.000
	(0.043)	(0.048)	(0.043)	(0.044)	(0.047)
Individual log income x Q3	0.019	-0.020	0.001	-0.001	-0.011
	(0.028)	(0.037)	(0.030)	(0.030)	(0.034)
Individual log income x Q4	0.009	-0.030	-0.008	-0.011	-0.020
	(0.017)	(0.026)	(0.019)	(0.020)	(0.021)
Employment rate x Male	-0.003	-0.000	-0.002	-0.002	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Employment rate x Young	-0.025*	-0.023*	-0.024*	-0.024*	-0.023*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Employment rate x Mid-age	-0.021***	-0.018**	-0.020***	-0.019***	-0.018***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)
Employment rate x Q1	0.022***	0.028***	0.025***	0.025***	0.026***
	(0.007)	(0.008)	(0.007)	(0.008)	(0.008)
Employment rate x Q2	-0.002	0.004	0.001	0.001	0.003
	(0.006)	(0.007)	(0.006)	(0.006)	(0.007)
Employment rate x Q3	-0.001	0.005	0.002	0.002	0.004
	(0.004)	(0.006)	(0.004)	(0.005)	(0.005)
Employment rate x Q4	-0.000	0.006	0.003	0.003	0.004
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)
N	3.0e+05	3.0e+05	3.0e+05	3.0e+05	3.0e+05

136. Table 3.4 calculates the average shadow prices by country for the various employment rate variables, after averaging across all population groups. The shadow price of 1 percentage point (ppt) of employment is on average equal to 3% of household income across OECD countries. It is higher among high-employment countries (e.g. Iceland and Switzerland) and lower among low-employment countries such as Turkey, Greece and Mexico. Across employment rate variables, the second largest shadow price corresponds to women aged 25-54 (2.3%), followed by men aged 25-54, people aged 55-64 and finally young people.

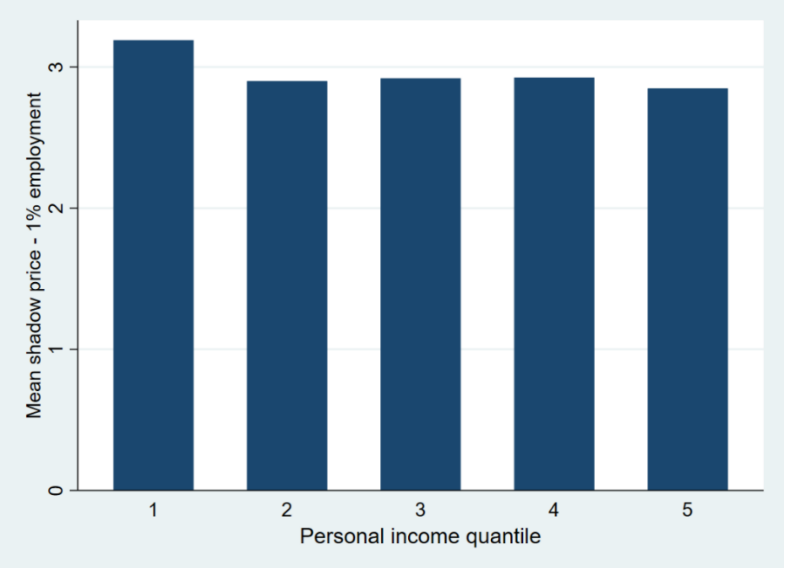
137. The valuations of the unemployment and employment rates are broadly consistent with each other, although the latter is a bit higher. Indeed a reduction in the unemployment rate by 1 ppt entails a welfare gain of 2% of income, but also an increase in the employment rate by *p* ppt, where *p* is the participation rate which is on average equal to 77% among OECD countries. The latter increase represents a welfare gain of about 0.77 x 3 = 2.3% of income, which is close to the 2% income gain implied by unemployment reduction.

Table 3.4. Average employment shadow prices by country

country	Total 15-64	Total 15-24	Females 25-54	Males 25-54	Total 55-64
AUS	3.3	0.5	2.3	2.2	0.9
AUT	3.2	0.4	2.5	2.1	0.7
BEL	2.6	0.3	2.3	2.0	0.7
CAN	3.3	0.5	2.4	2.0	0.9
CHE	4.1	0.5	2.6	2.5	1.0
CHL	2.6	0.2	1.8	1.9	0.7
CZE	3.0	0.3	2.4	2.5	0.8
DEU	3.4	0.4	2.5	2.3	0.9
DNK	3.3	0.5	2.5	2.1	0.9
ESP	2.4	0.2	1.9	1.6	0.7
EST	3.2	0.4	2.5	2.2	0.9
FIN	3.1	0.5	2.6	2.2	1.0
FRA	2.7	0.3	2.4	2.1	0.7
GBR	3.1	0.4	2.3	2.1	0.8
GRC	2.1	0.3	1.8	1.8	0.7
HUN	2.6	0.4	2.3	2.2	0.8
IRL	2.7	0.3	2.0	1.8	0.7
ISL	4.7	0.5	2.7	2.2	1.0
ISR	2.6	0.1	2.0	1.6	0.7
ITA	2.3	0.3	1.8	1.9	0.7
JPN	3.6	0.4	2.1	2.6	1.0
KOR	2.7	0.3	1.9	2.2	0.9
LUX	2.8	0.3	2.4	2.3	0.7
MEX	2.3	0.0	1.5	1.9	0.5
NLD	3.5	0.5	2.5	2.2	0.9
NOR	3.5	0.5	2.7	2.2	1.1
NZL	2.8	0.5	2.4	2.3	1.1
POL	2.6	0.3	2.3	2.0	0.7
PRT	2.7	0.2	2.3	1.8	0.7
SVK	2.6	0.3	2.2	2.0	0.8
SVN	2.8	0.4	2.7	2.1	0.7
SWE	3.6	0.4	2.7	2.2	1.0
TUR	1.9	0.1	1.3	1.7	0.5
USA	3.0	0.5	2.2	2.0	0.9
Average	3.0	0.4	2.3	2.1	0.8

138. As shown in Figure 3.5, the valuation of employment is slightly higher among the first quintile of the income distribution (about 3.2% for 1 ppt) and homogeneous among the rest of the population (2.9%). This contrasts with the shadow price of unemployment, which is more than two times valued by the bottom quintile as compared to the top quintile. This finding may be explained by the fact that people at the top of the income distribution are less subject to the unemployment risk and hence confer less value to unemployment, while everyone values the fact of having a job almost equally.

Figure 3.5. Average shadow price of employment by income quintile



Source: OECD calculations based on Gallup World Poll.

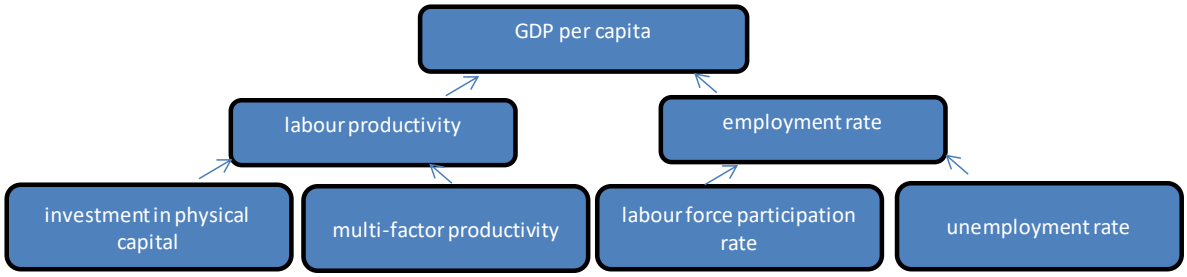
3.4. Multi-dimensional policy evaluation

Assessing policy impacts on employment and average disposable income

139. As explained in introduction, policy changes influence welfare and subjective well-being through their impacts on the employment rate and household average income. Policy impacts on household income are both direct effects and indirect ones stemming from the impact of policy reforms on GDP.

140. In practice, policy impacts on the employment rate, GDP and average household income are derived from the OECD Economics Department Quantification of Structural Reforms (QASR) Framework. This model, like previous ones used in the OECD Economics Department (Bouis and Duval, 2011[35]; Johansson et al., 2013[36]), relies on a production function approach. The influence of policies on GDP is typically assessed through their impact on supply-side components: labour productivity and employment. Each in turn can be further decomposed, into capital intensity and multi-factor productivity, and labour force participation and unemployment (Figure 3.6). Within the new framework, the impact of structural reforms is quantified from a range of cross-country reduced-form panel regressions on three channels: i.) Multi-factor productivity, ii.) Capital deepening; and iii.) Employment. The overall impact on GDP per capita is obtained by aggregating the policy effects of the various channels through a production function.

Figure 3.6. Channels of transmission to per capita GDP



Source: (Égert and Gal, 2017[37]), "The quantification of structural reforms in OECD countries: A new framework", *OECD Journal: Economic Studies*, vol. 2016/1, https://doi.org/10.1787/eco_studies-2016-5jg1lqspxtvk.

141. Among the main features, QASR i) covers a relatively large number of time-varying policy variables and channels through which they influence GDP per capita; ii) estimates relationships over a period including the immediate post-crisis years (1985-2011); iii) increases internal consistency of the estimated relationships by employing a common sample of countries and time span, and the same dataset (econometric estimates are obtained using the same up-dated dataset SPIDER); iv) the estimation method is also harmonised for the three supply-side channels; v) changes in policy measures and the horizons at which their impact is measured are standardised, and; vi) different levels of disaggregation of the supply side components are not mixed across policy areas (e.g. employment for some policies, the labour force participation and unemployment rate for others) (Égert and Gal, 2017[37]).

142. The effects of policies are estimated using the Dynamic OLS (DOLS) estimated by (Stock, 1993[38]) which controls for endogeneity and serial correlation in the residuals. Given the cross-country time series panel setting including country (and time) fixed effects, policy effects are identified through the within dimension of the dataset, that is the coefficient estimates reflect average effects over time rather than cross-country variation in the data. The estimation of the long-run effects alongside short-term dynamics embedded into an error correction framework helps model the adjustment path to the long-run effect, in particular policy effects over different time horizon include 2, 5 and 10 years.

143. A large number of policy variables have been scrutinised and a number of them were found to be connected to at least one of the three supply-side channels (MFP, capital deepening and employment). The set of policies that are considered in the paper are described in Table 3.5. Multi-factor productivity is influenced by: i) the degree of regulation of the energy, transport and communication sector; ii) employment protection legislation on permanent contracts; iii) spending on Active Labour Market Policies (ALMPs). Other contextual or structural variables are also considered, namely trade openness, business sector R&D, rule of law, and two indicators of corruption. Second, the investment in physical capital is influenced by the same latter three policies, plus corporate income tax. Third, the employment rate depends on the same three policies, in addition to the replacement rate of unemployment benefits, the minimum wage, excess coverage, the tax wedge (for single earners and couple with 2 children), maternity leave weeks, legal retirement age as well as family benefits in kind.

Table 3.5. Policy instrument influencing employment, GDP and household average disposable income

Policy	Channel		
	Multi-factor productivity	Capital deepening	Employment rate
ETCR indicator	X	X	X
EPL - permanent contracts	X	X	X
ALMP spending	X	X	X
Unemployment benefit replacement rate			X
Minimum wage			X
Excess coverage			X
Tax wedge: couple, 2 children			X
Tax wedge: single earners			X
Maternity leave weeks			X
Legal retirement age			X
Family benefits in kind (spending as % GDP)			X
Trade openness	X		
Business sector R&D as a % of GDP	X		
Corporate income tax		X	
Rule of law	X		
Corruption - Dreher et al	X		
Control of corruption	X		

144. Table 3.6 highlights the policy impacts that are identified as robust long-term determinants of the employment rate of various groups of population, namely the youth (aged 15-24), prime-age women and men (aged 25-54) and older workers aged 55-64 year-old. For all groups, generous unemployment benefits are associated with lower employment rates, with a stronger coefficient for the elderly. Conversely, more spending on ALMPs is associated with higher employment rates, especially for young workers. The tax wedge is negatively associated with the employment rate of all groups except prime-age women, and this adverse effect is stronger when wage bargaining agreement are automatically extended by sector despite a low unionisation rate (as characterised by a high 'excess coverage' indicator). This interaction effect described in (Murtin, 2014[39]) is a strong determinant of unemployment and hence the employment rate. Next, a higher minimum wage is negatively associated with the employment rate of the youth and of prime-age women. Likewise, tighter employment protection and regulation of product markets are associated with lower employment of prime-age women. Finally, the employment rate of women is positively associated with more generous family benefits in kind and longer weeks of maternity leaves, while a higher age of legal retirement is associated with higher employment of the elderly.

Table 3.6. Policy determinants of the employment rate

	Youth	Prime age women	Prime age men	Elderly
	(1)	(2)	(3)	(4)
Tax-benefit and activation policies				
UE benefit replacement rate	-0.183**	-0.204**	-0.147**	-0.343**
ALMP spending on unemployed, as % of GDP/capita (HP-trend)	0.147**	0.092**	0.047**	0.063**
Tax wedge (single, no ch.)	-0.866**			
Tax wedge (couple, 2 ch.)		0.004	-0.274**	-0.260**
Wage setting institutions				
Excess coverage	0.072	-0.171**	0.025	0.105
Excess coverage * Tax wedge (single, no ch.)	-3.627**			
Excess coverage * Tax wedge (couple, 2 ch.)		-0.938**	0.079	0.623*
Minimum wage (%median)	-0.311**	-0.421**	0.043	-0.093
Labour and product market regulations				
EPL regular contracts	1.599	-2.746*	-0.569	1.71
ETC regulation	1.032	-1.533**	0.232	0.63
Policies primarily affecting women				
Family benefits in cash (% of GDP)		-0.967		
Family benefits in kind (% of GDP)		4.698**		
Number of weeks of maternity leave		0.265**		
Pensions				
Legal age for pensions (total)				0.851**
Speed of adjustment	-0.303**	-0.145**	-0.294**	-0.160**
Adjusted R-squared	0.978	0.96	0.907	0.977
Country / year fixed effects	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes
No. of observations / countries	422 / 25	420 / 25	420 / 25	422 / 25
Years	1987-2010	1987-2010	1987-2010	1987-2010

145. Table 3.7 depicts the association between the change in policy instruments and the change in household average disposable income when constraining the coefficient on log GDP to 1 (column 1) or when estimating it (column 2). Typical reforms, highlighted in bold, are defined as favourable past changes in the policy indicators for the average OECD country over a two-year period, and they are reported on column 3. Only those reform periods when the policy indicator moves in a favourable (i.e. GDP-increasing) direction in two consecutive years are considered for further welfare analysis. These reforms involve both a direct effect on household income, and an indirect one channelled through GDP per capita, whose elasticity matches the wage share (0.673 on column 2).

146. Five reforms associated with higher GDP are considered, and the results can be interpreted in the following way: i) higher R&D by the private sector is associated with *lower* household income, most likely due to a substitution between capital and labour; ii) a lower corporate income tax is associated with *lower* household income, which may be partly explained by the tendency for lower corporate tax rates to attract foreign direct investment, which leads to higher GDP but with much of the resulting income remitted abroad rather than to domestic households; iii) conversely, a lower tax wedge for single earner couple with two children is associated with higher household income; iv) a lower replacement rate of unemployment benefits is associated with *lower* household income, which suggests that the positive direct effect from transfer overcomes the indirect negative impact channelled through employment; v) higher spending on in-kind benefits yield *higher* household income.

Table 3.7. Policy determinants of household average disposable income

	(1)	(2)	Typical reform
Dependent variable	**Log(ADI)**	**Log(ADI)**	
Constant	0.109	3.441**	
Log(real GDP)	1.000	0.673**	
Policies primarily acting through MFP and capital channels			
Energy, Communication and Transport Regulation (ECTR) indicator	0.011	0.028**	
Business R&D by private sector, % of GDP	**-0.015****	**-0.013***	**0.097**
Trade openness, adjusted for country size	-0.002**	-0.001**	
Corporate income tax revenues, % of GDP	**0.013****	**0.014****	**-0.980**
Long-term real interest rate	0.003*	-0.008**	
Logged relative investment prices	0.134**	0.081*	
Policies primarily acting through the employment channel			
Employment Protection Legislation (EPL) indicator, permanent contracts	0.005	-0.027*	
ALMP spending (per unemployed, % of GDP per capita)	-0.001**	-0.0001	
Average tax wedge (single earner couple with 2 children)	**-0.001***	**-0.001****	**-2.282**
Minimum to median wage	-0.001*	-0.0003	
Unemployment benefit replacement rate	**-0.001****	**-0.001****	**-1.417**
Excess coverage	0.0003	0.001	
Effective retirement age	-0.007**	-0.004	
Total cash benefits, % of GDP	0.016	-0.013	
Total in-kind benefits, % of GDP	**0.021****	**0.022****	**0.109**
Maternity weeks	0.0002	0.002**	
Regression diagnostics			
Error correction term	-0.169**	-0.250**	
Adjusted R-squared	0.969	0.994	
No. of observations	454	421	
No. of countries	27	27	
Country fixed effects	yes	yes	
Time fixed effects	yes	yes	

Results of multi-dimensional policy evaluation

147. Table 3.8 summarises the impacts of typical reforms consisting in an increase or a cut in the various policy indicators. Overall, no policy trade-off across employment and average household income emerges, which is fairly intuitive. Two reforms imply an ambiguous effect on household income with a negative direct impact and an indirect positive one, namely the increase in business R&D and a cut in corporate income tax.

148. Looking at the sum of potential effects on welfare from policy reforms, the total potential gain is large and equivalent to 12.4% of household income growth. This result underlines the importance of structural reforms for household well-being. The main channel of impact is the employment rate, with a potential gain equivalent to 7.4% of household income growth, followed by the indirect income effect going through GDP (5.9%). The direct income effect is negative but smaller (-0.9%). Out of the 13 policy considered, 9 of them imply a larger welfare impact going through employment than through household income, which underlines the importance of employment for people's well-being.

149. The largest welfare impacts stem from the following policy reforms: i) a cut in regulation of the energy, transport and communication sectors; ii) an increase in ALMPs; iii) a cut in the average tax wedge on households; iv) a cut in the minimum wage; v) an increase in the number of weeks of maternity weeks; vi) a cut in the replacement rate of unemployment benefits. Only one policy reform implies a loss in welfare, namely a cut in corporate income tax, which benefits to GDP but decreases household income.

Table 3.8. Multi-dimensional evaluation of policy reforms

Policies	Scenario	Typical policy change	Impact on employment rate		Impact on average household income			Impact on welfare (SWB)	
					Direct effect	Indirect effect via GDP	Total effect		
		Change in percentage points	Change in percentage points	Monetised impact (in %, comparable to income growth)	Change in percent	Change in percent	Change in percent	Change in percent	% due to employment
Business R&D by private sector %GDP	increase	0.097	0.00	**0.00**	-0.13	0.27	**0.14**	**0.14**	0
Corporate income tax revenues % GDP	cut	-0.980	0.00	**0.00**	-1.37	0.62	**-0.76**	**-0.76**	0
Average tax wedge, single earner couple with 2 children	cut	-2.282	0.39	**1.09**	0.23	0.31	**0.54**	**1.63**	67
Unemployment benefit replacement rat	cut	-1.417	0.31	**0.88**	0.14	0.32	**0.46**	**1.33**	66
Total in-kind benefits % GDP	increase	0.109	0.16	**0.45**	0.24	0.16	**0.40**	**0.85**	53
ETCR indicator - overall	cut	-0.307	0.142	**0.40**	0	1.50	**1.50**	**1.90**	21
EPL - permanent contracts	cut	-0.295	0.253	**0.71**	0	0.48	**0.48**	**1.18**	60
ALMP spending	increase	3.180	0.225	**0.63**	0	1.08	**1.08**	**1.71**	37
Minimum wage	cut	-2.479	0.407	**1.14**	0	0.41	**0.41**	**1.55**	73
Excess coverage	cut	-1.890	0.103	**0.29**	0	0.10	**0.10**	**0.39**	73
Tax wedge - single earners	cut	-1.385	0.120	**0.34**	0	0.12	**0.12**	**0.46**	73
Maternity leave weeks	increase	4.829	0.403	**1.13**	0	0.41	**0.41**	**1.54**	73
Legal retirement age	increase	0.566	0.129	**0.36**	0	0.13	**0.13**	**0.49**	73
Total				**7.4**	**-0.9**	**5.9**	**5.0**	**12.4**	

150. Some caveats and limitations are worth mentioning. First and foremost, the analysis focuses on average household income rather than income deciles' average income, and therefore it ignores distributional aspects. It is possible, and even likely, that this welfare analysis will yield different policy conclusions for the bottom and for the top of the income distribution. For instance, it is likely that cash transfers will have a significant and positive impact on the household income of poor households, and a negative one on rich households. This deeper analysis is left aside for future research. Second, the welfare calculations described above are not revenue-neutral. They highlight the positive welfare impacts of a cut in the tax wedge or an increase in benefits in-kind, but those two reforms appear to be partly contradictory as government budget has to be balanced.

Annex A. Metadata notes on the indicators of the proposed well-being framework and indicator illustrations

151. This annex provides metadata notes for each of the indicators, accompanied by an illustration of the available data for headline indicators. The indicator codes, which range from A1 to Q5, denote the codes used for indicators in the data infrastructure. Metadata, provided for all indicators, indicate the source of the data, information on timeliness, available horizontal inequalities, and gives an indication of indicator quality.

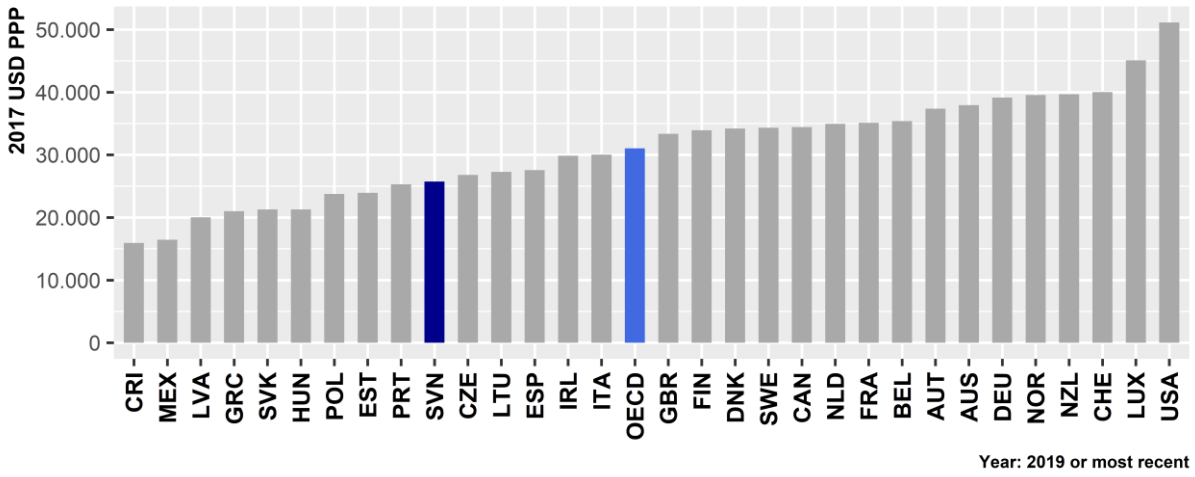
152. The following legend can be used to interpret the colour codes used for data quality assessment:

Sub-group availability:

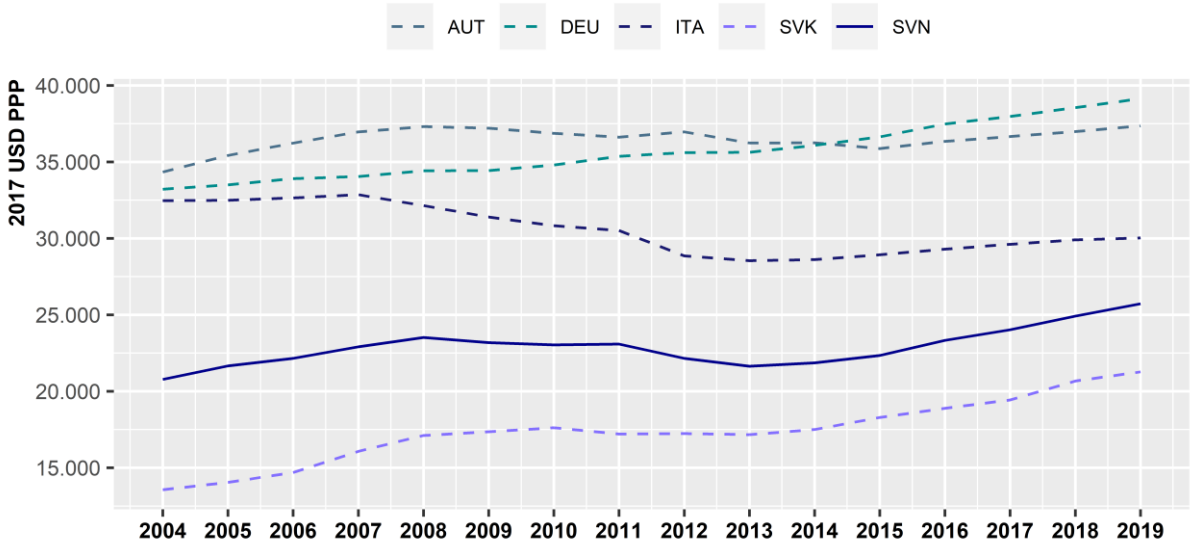
Data assessment:

1. Income and wealth

A1. Household net adjusted disposable income per capita



A1. Household net adjusted disposable income per capita



Household income

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

Average

OECD Well-being database

Frequency: Annual (T-2)

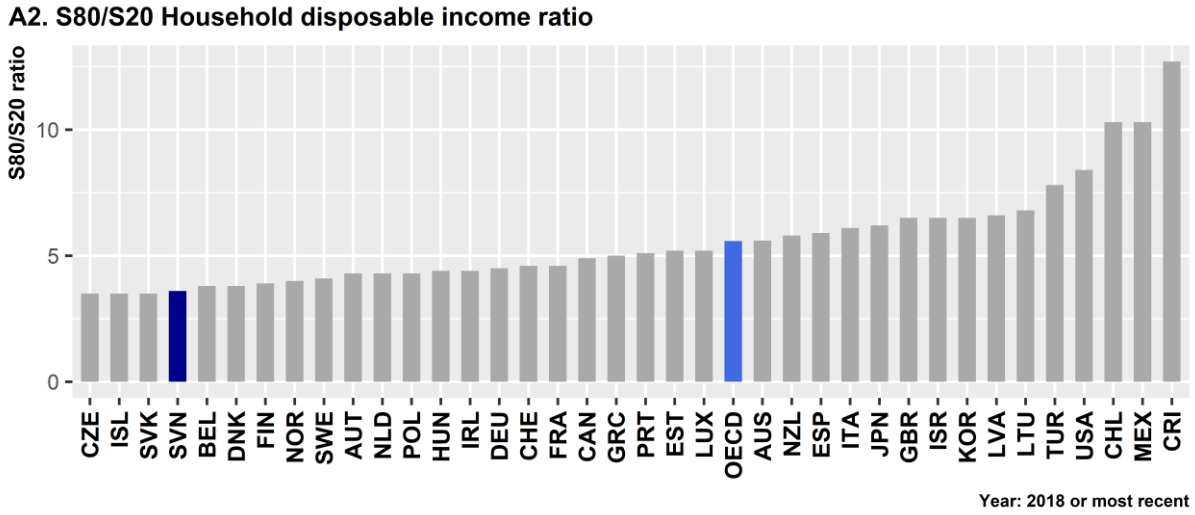
1_1

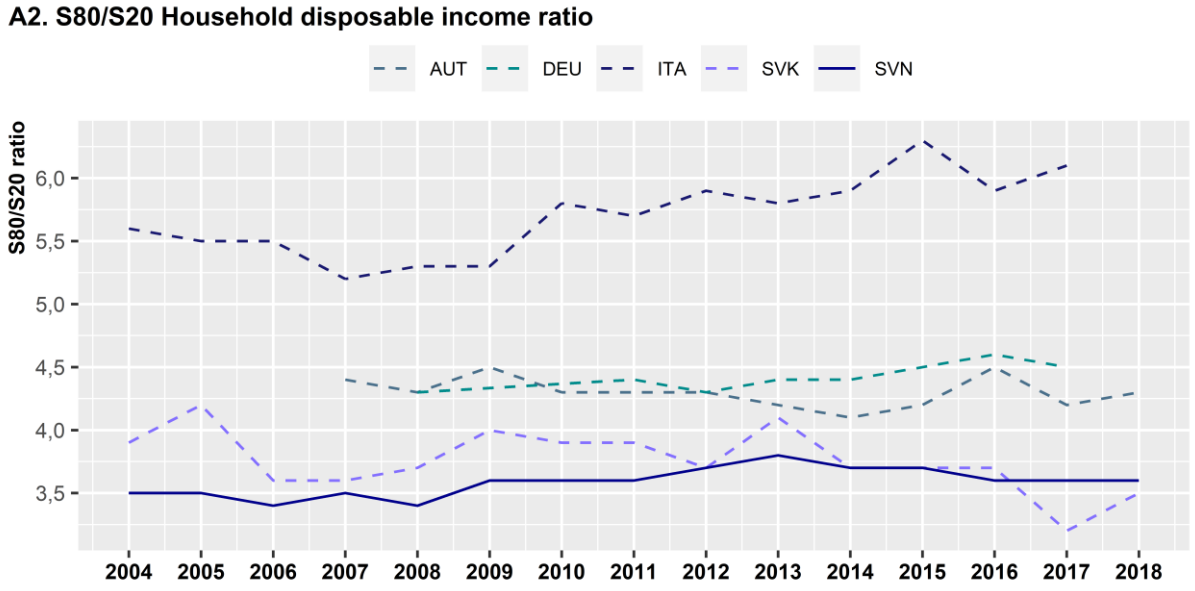
Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability





S80/S20 income ratio

Ratio of average (equivalised) household disposable income of the top 20% of the income distribution to the average income of the bottom 20% (in the previous year). Household disposable income is "equivalised", i.e. adjusted by an equivalence scale that divides the income of each household by the square root of household size, to account for economies of scale in household needs (i.e. the notion that any additional household member needs a less than proportionate increase of household income in order to maintain a given level of welfare).

Vertical inequality

OECD Well-being database

Frequency: Annual (T-3)

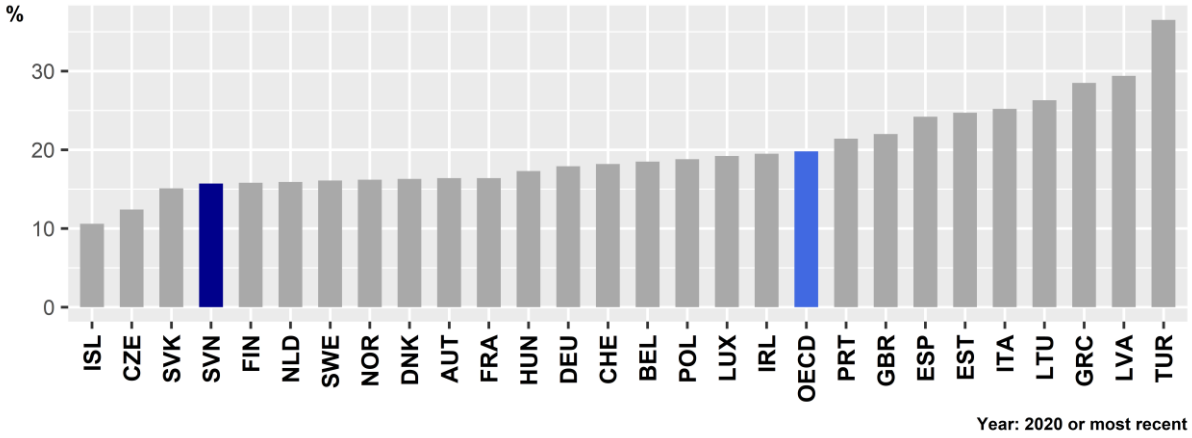
1_2

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

A3. People at risk of poverty or social exclusion

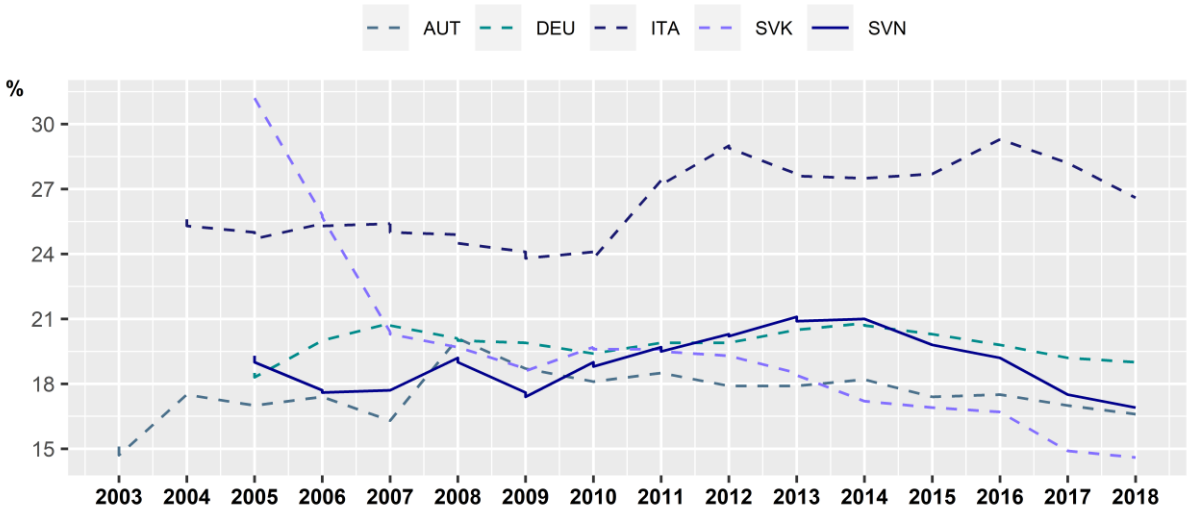
% people at risk of poverty, in severe material deprivation or living in households with very low work intensity



Year: 2020 or most recent

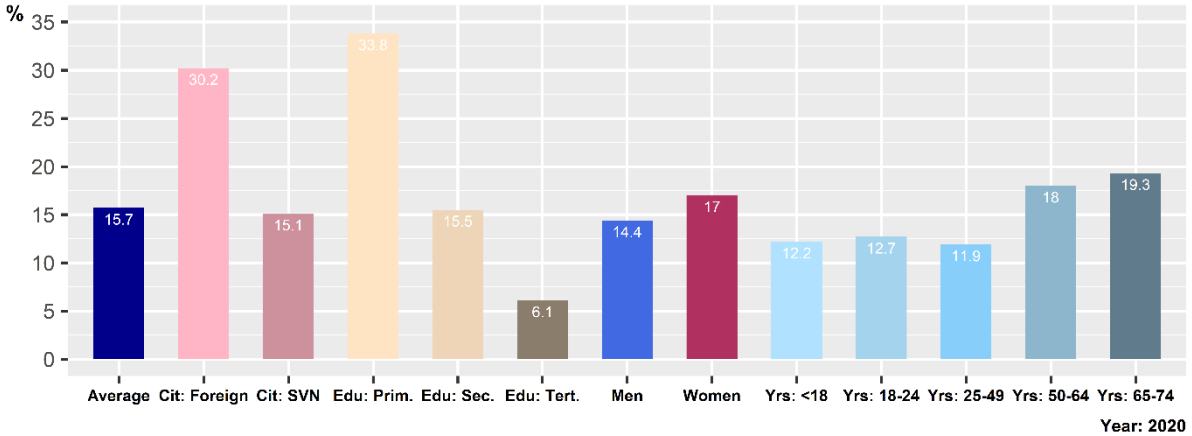
A3. People at risk of poverty or social exclusion

% people at risk of poverty, in severe material deprivation or living in households with very low work intensity



A3. People at risk of poverty or social exclusion

% people at risk of poverty, in severe material deprivation or living in households with very low work intensity



Year: 2020

People at risk of poverty and social exclusion

People at risk of poverty, in severe material deprivation or living in households with very low work intensity

Deprivation, Horizontal Inequalities

Eurostat (EU-SILC)

Frequency: Annual (T-2)

ilc_peps01; ilc_peps03; ilc_peps04; ilc_peps05; ilc_peps07

Sub-group availability:

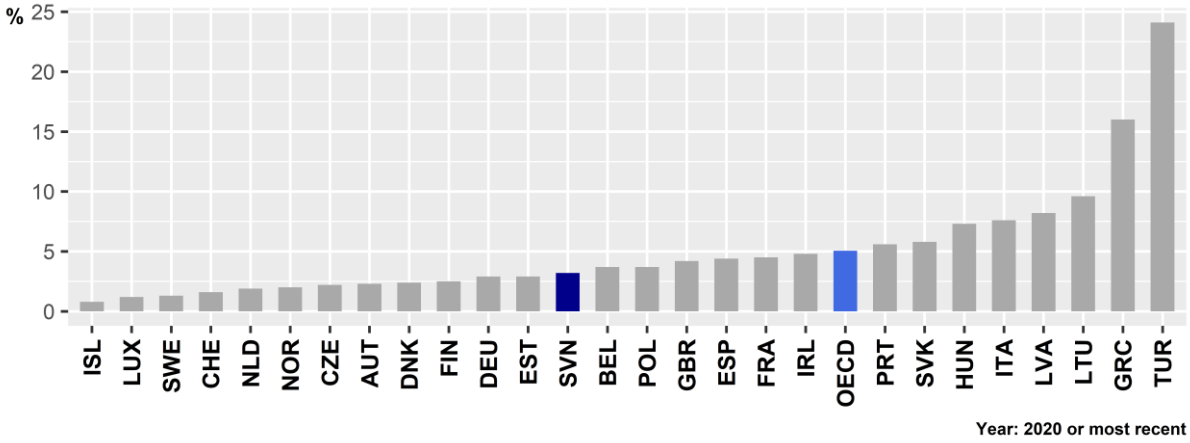
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

A4. People in severe material deprivation

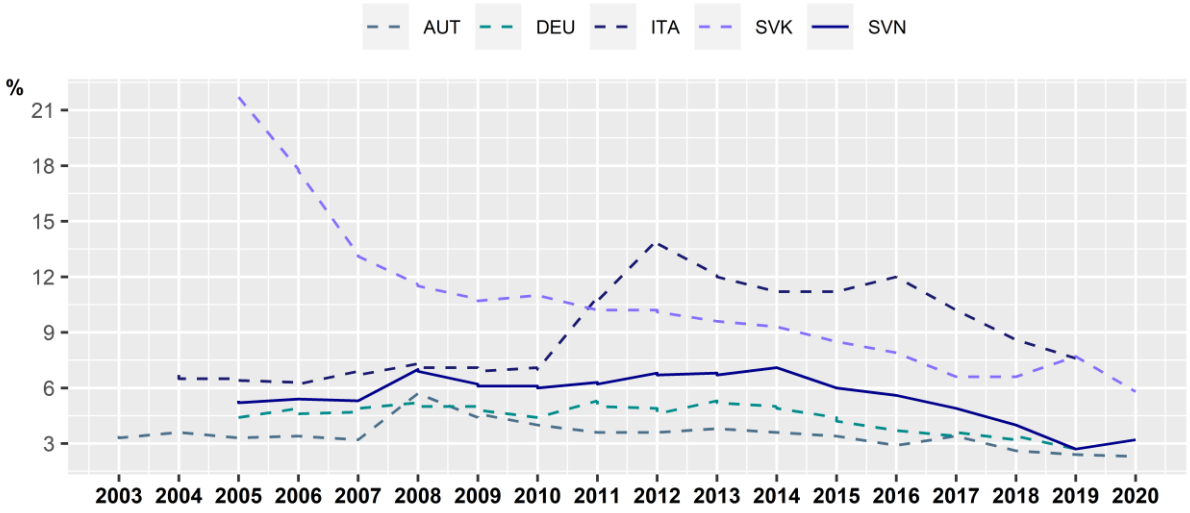
% of people living in households that cannot afford a number of basic expenditures



Year: 2020 or most recent

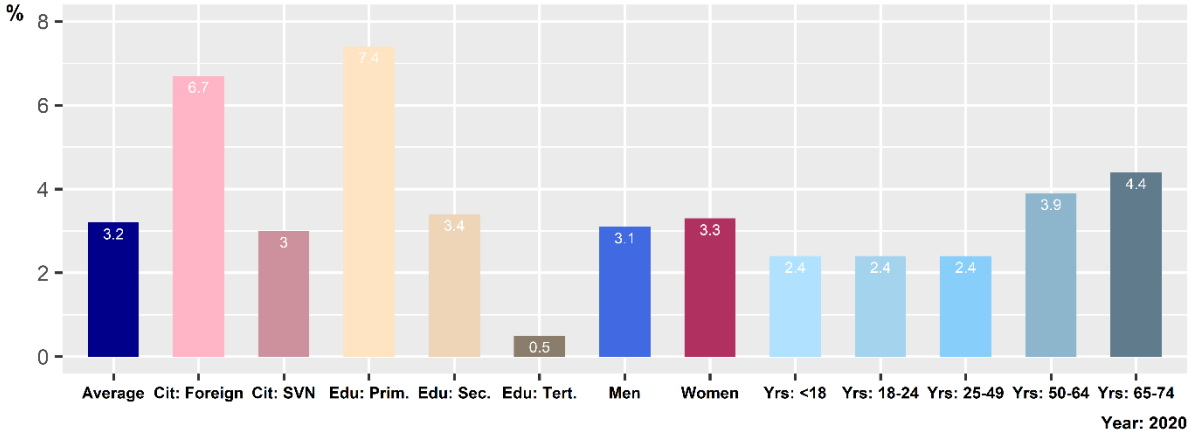
A4. People in severe material deprivation

% of people living in households that cannot afford a number of basic expenditures



A4. People in severe material deprivation

% people living in households that cannot afford basic expenditures



Year: 2020

People in severe material deprivation

Material deprivation rates represent the proportion of people living in households that cannot afford four out of nine items (mortgage or rent payments, utility bills, hire purchase instalments or other loan payments; one week's holiday away from home; a meal with meat, chicken, fish or a vegetarian equivalent every second day; unexpected financial expenses; a telephone (including mobile telephone); a colour television (TV); a washing machine; a car; and heating to keep the home adequately warm)

Deprivation, Horizontal Inequalities

Eurostat (EU-SILC)

Frequency: Annual (T-2)

ilc_mddd11; lc_mddd13; lc_mddd14; lc_mddd15; lc_mddd17; lc_mddd21

Sub-group availability:

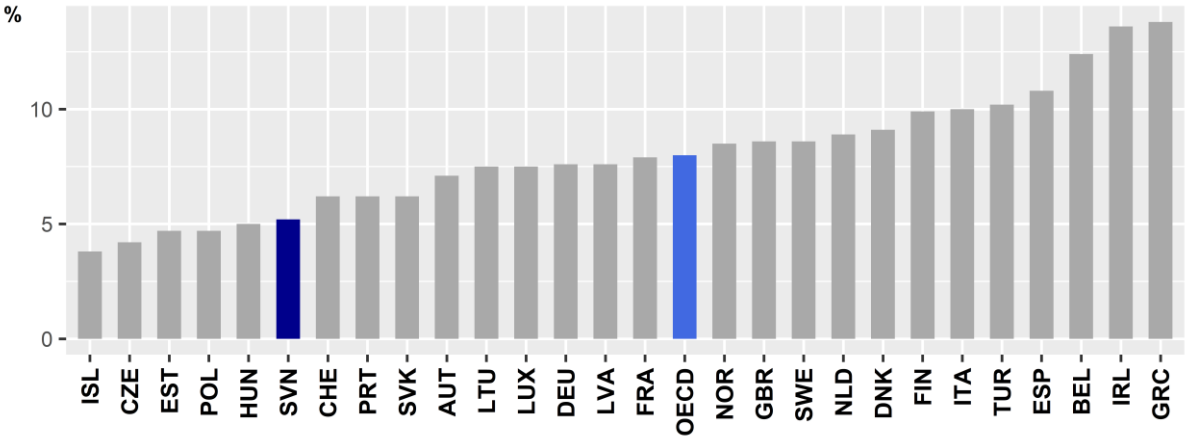
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

A5. People living in households with very low work intensity

% of people <60 living in households where the members of working age worked <20 % of their total potential



A5. People living in households with very low work intensity

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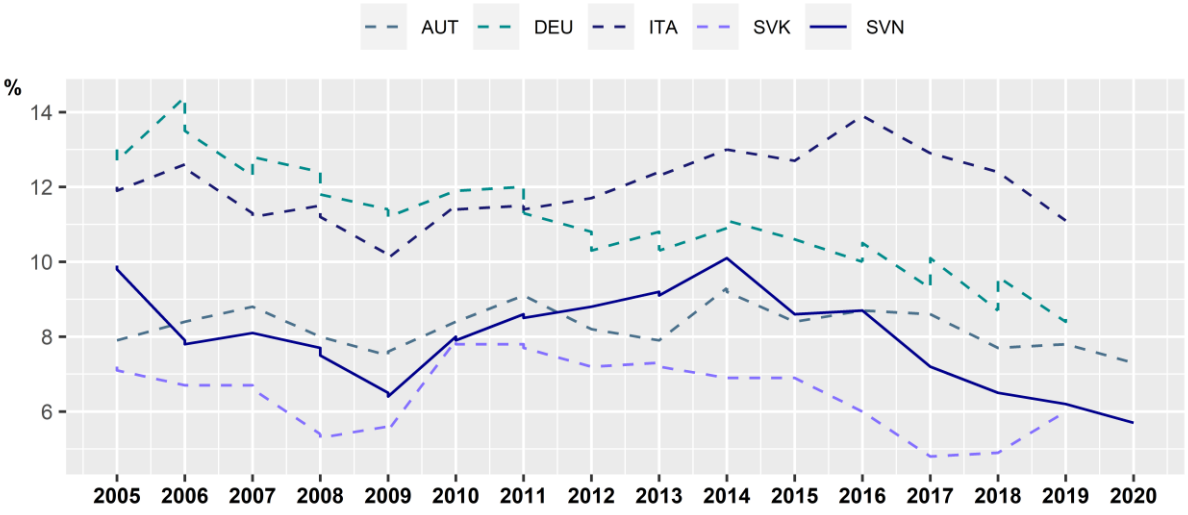
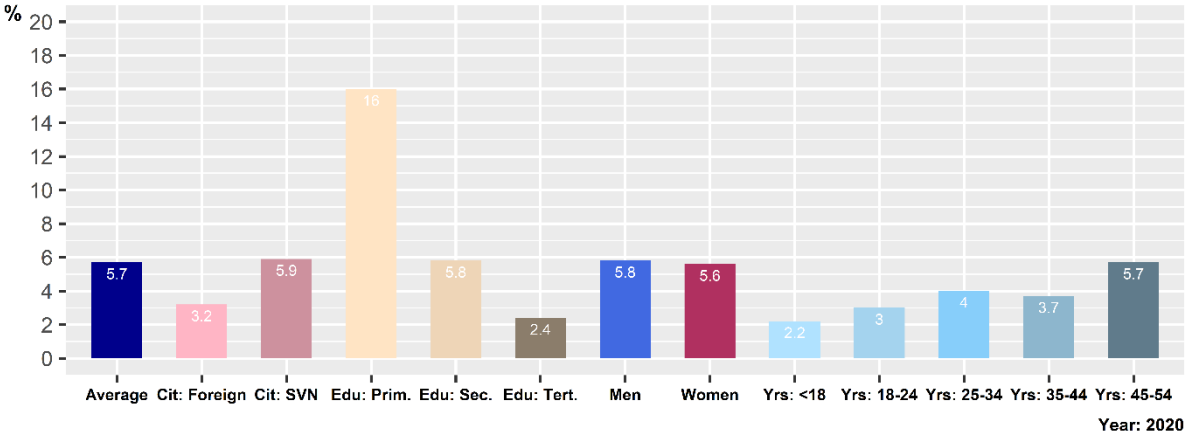


A5. People living in households with very low work intensity

% people <60 living in households where the members of working age worked <20% of their potential



People in households with very low work intensity

The indicator persons living in households with very low work intensity is defined as the number of persons aged 0-59 living in a household where the members of working age worked less than 20 % of their total potential during the previous 12 months

Deprivation, Horizontal Inequalities

Eurostat (EU-SILC)

Frequency: Annual (T-2)

ilc_lvhl11; ilc_lvhl13; ilc_lvhl14; ilc_lvhl15;

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Household net wealth

Household median net wealth, USD at 2016 PPPs

Average

OECD Well-being database

Frequency: Annual (T-6)

t2020_51

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Difficulties making ends meet

Share of individuals who declare to have difficulty or great difficulty to make ends meet.

Deprivation and Horizontal Inequalities

OECD Well-being database (EU-SILC)

Frequency: Annual (T-2)

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

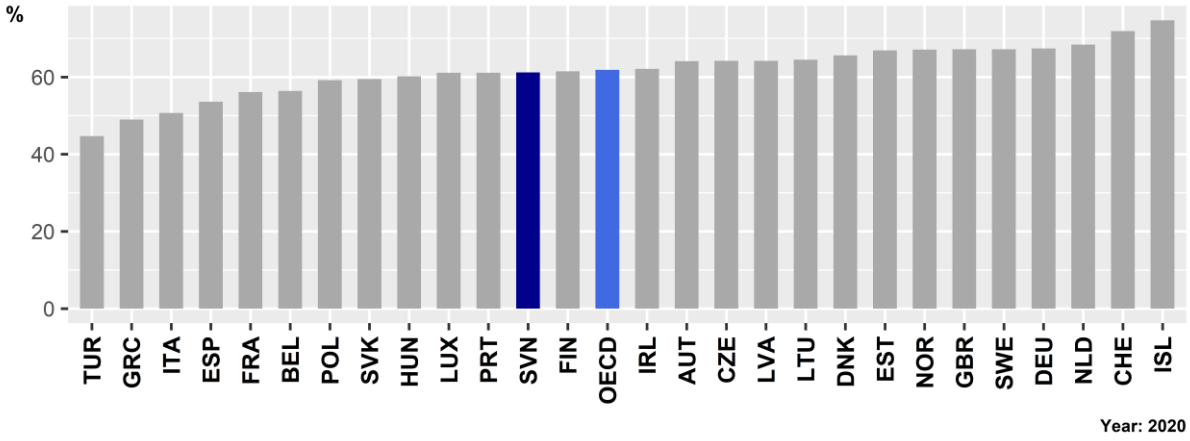
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

2. Job quantity

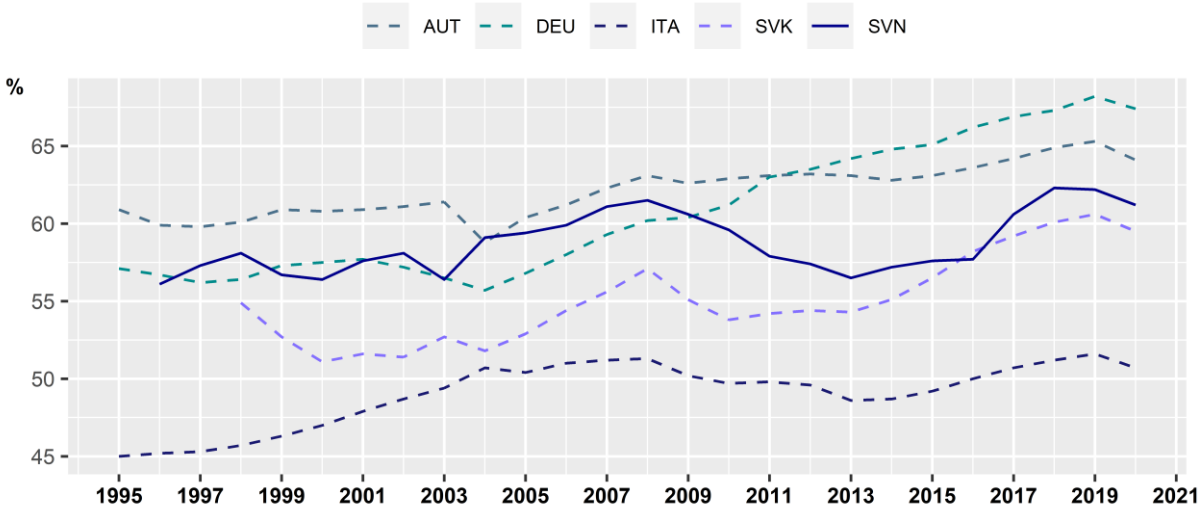
B1. Employment rate

Number of employed adults as a % of the total labour force



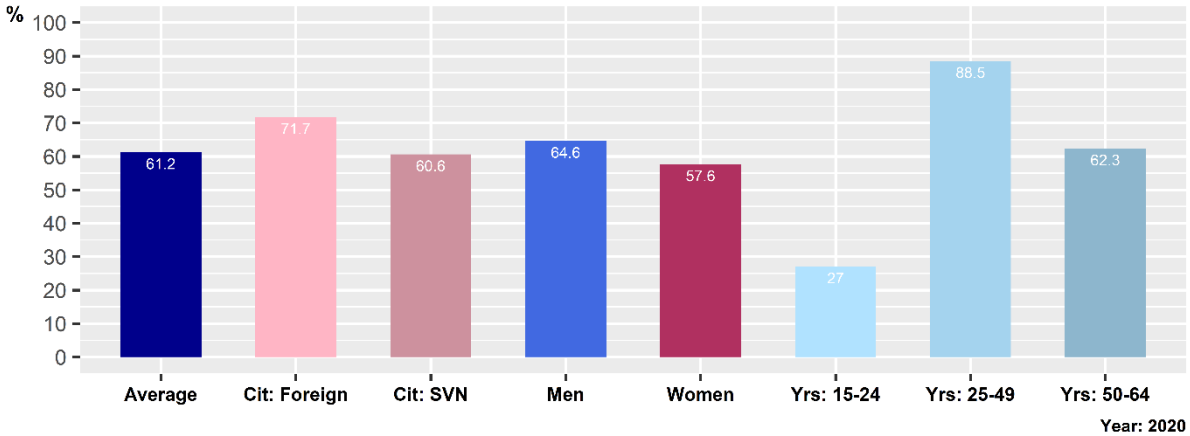
B1. Employment rate

Number of employed adults as a % of the total labour force



B1. Employment rate

Number of employed adults as a % of the total labour force



Employment rate

Share of employed adults aged 18-64 as a % of the total labour force

Average and Horizontal inequalities

Eurostat (LFS)

Frequency: Annual (T-1)

lfsa_ergan

Sub-group availability:

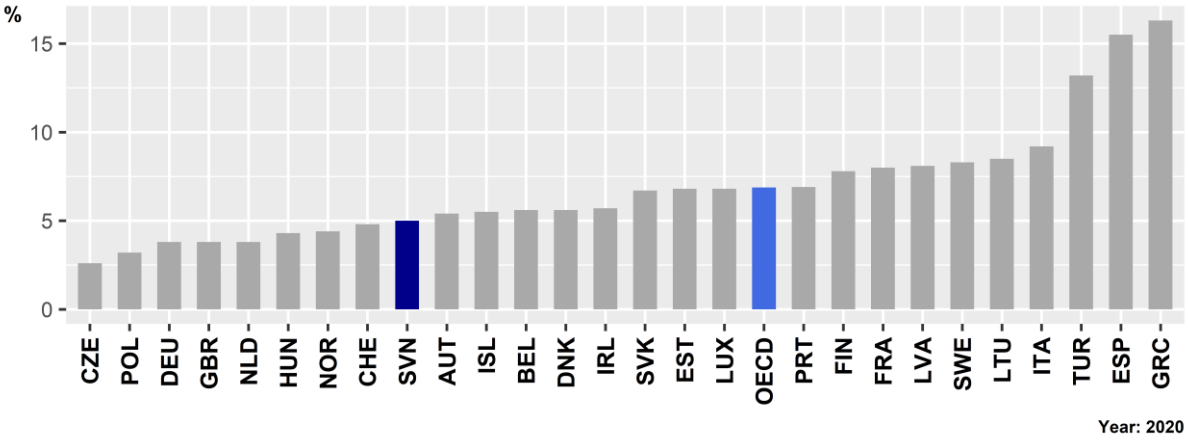
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

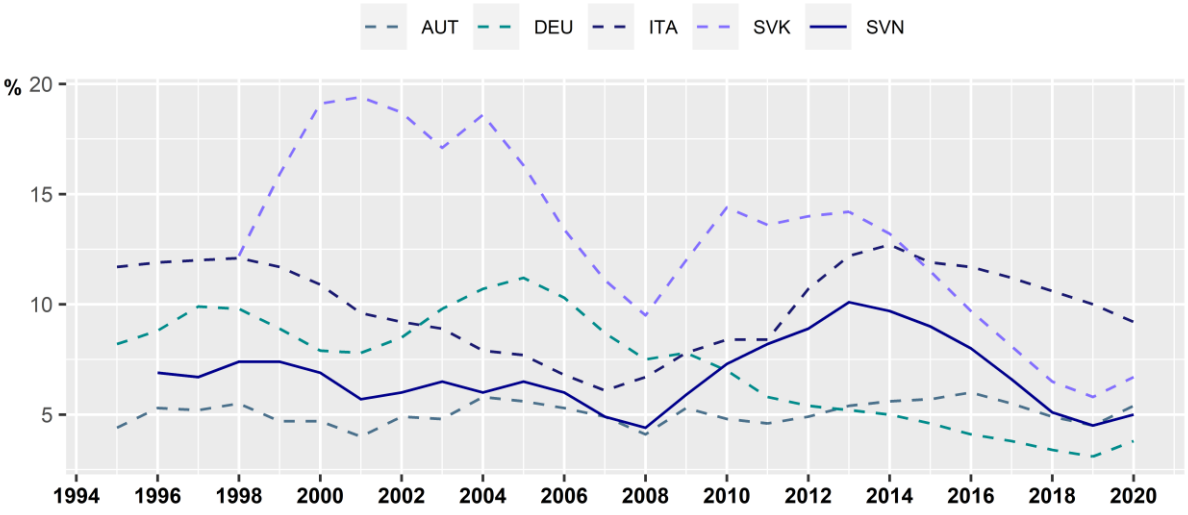
B2. Unemployment rate

Number of unemployed adults as a % of the total labour force



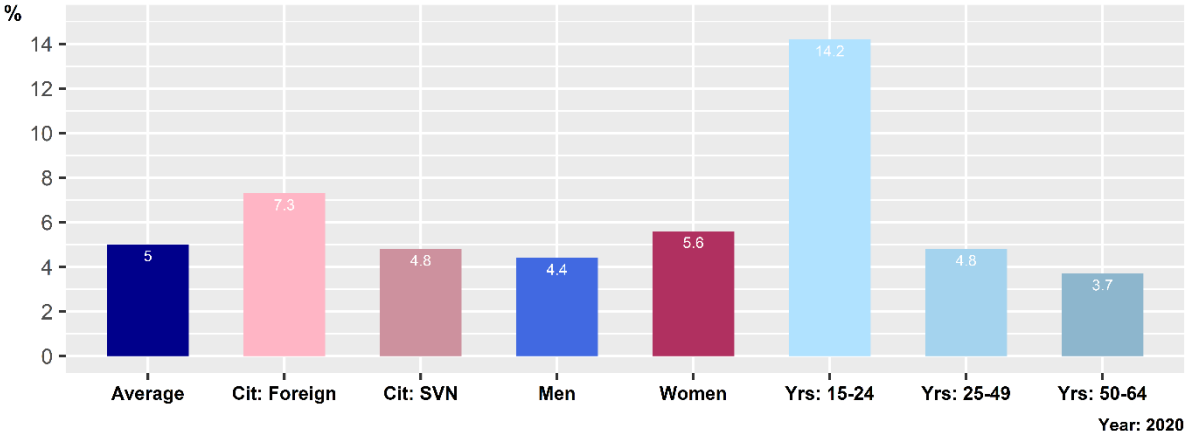
B2. Unemployment rate

Number of unemployed adults as a % of the total labour force



B2. Unemployment rate

Number of unemployed adults as a % of the total labour force



Unemployment rate

Share of unemployed adults aged 18-74 as a % of the total labour force

Average and Horizontal inequalities

Eurostat (LFS)

Frequency: Annual (T-1)

lfsa_urgan

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Labour underutilisation rate

Share of unemployed, discouraged (persons not in the labour force who did not actively look for work during the past four weeks but who wish and are available to work) and underemployed (full-time workers working less than usual during the survey reference week for economic reasons and part-time workers who wanted but could not find full-time work) workers in the total labour force

Deprivation

OECD Well-being Database (LFS)

Frequency: Annual (T-2)

13_2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Long term unemployment rate

Share of the labour force unemployed for one year or more

Deprivation and Horizontal inequalities

OECD Well-being Database (LFS)

Frequency: Annual (T-2)

2_4

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

NEET rate

Share of youth (aged 15-29) not in employment, education or training

Deprivation and Horizontal inequalities

Eurostat (LFS)

Frequency: Annual (T-2)

edat_lfse_36

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Labour market insecurity

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

Average and Horizontal inequalities

OECD Well-being Database

Frequency: Annual (T-5)

2_5

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

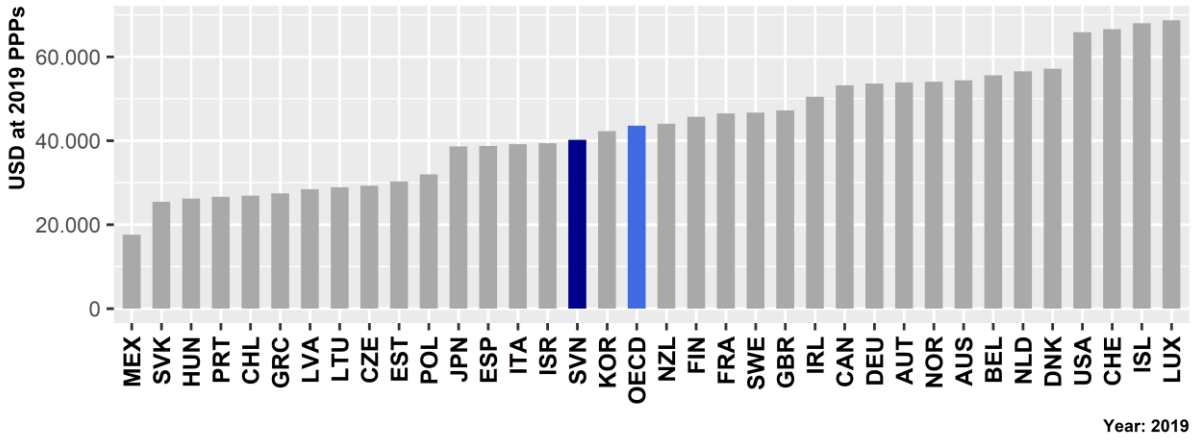
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

3. Job quality

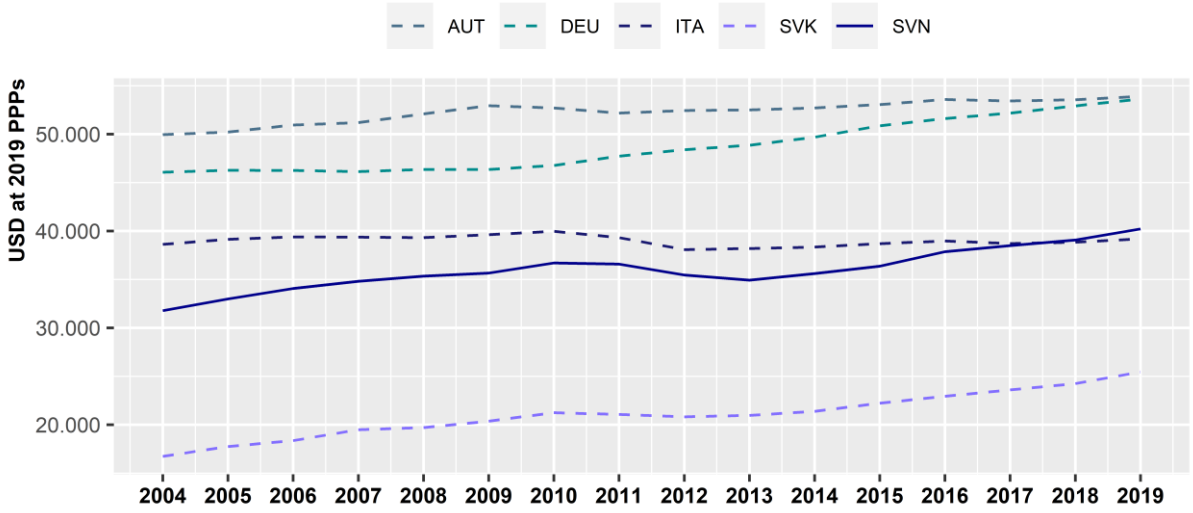
C1. Earnings quality

Average annual gross earnings per full-time employee



C1. Earnings quality

Average annual gross earnings per full-time employee



Earnings quality

Average annual gross earnings per full-time employee, USD at 2019 PPPs

Average

OECD Well-being Database

Frequency: Annual (T-2)

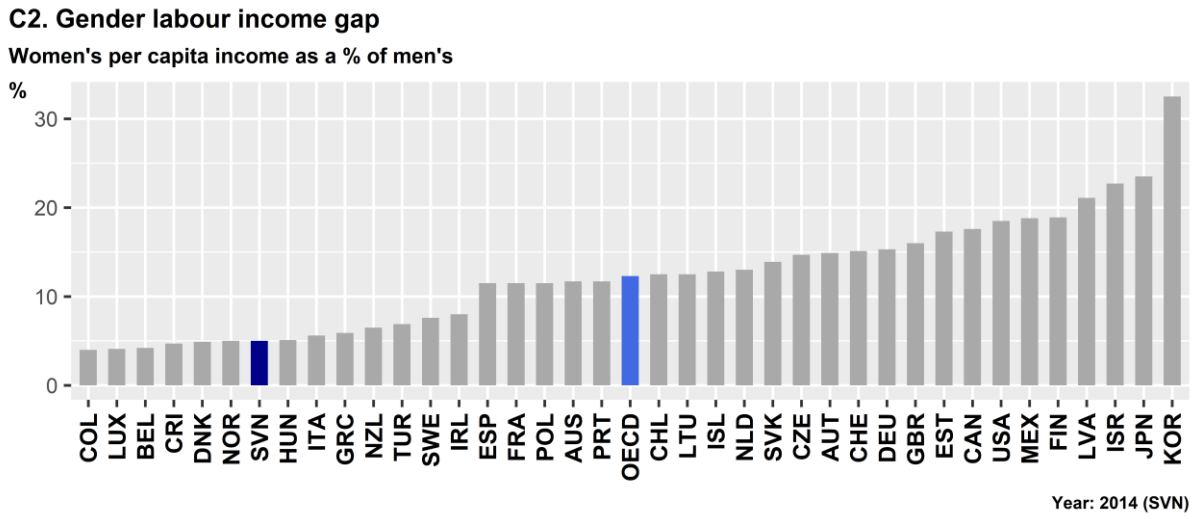
2-8

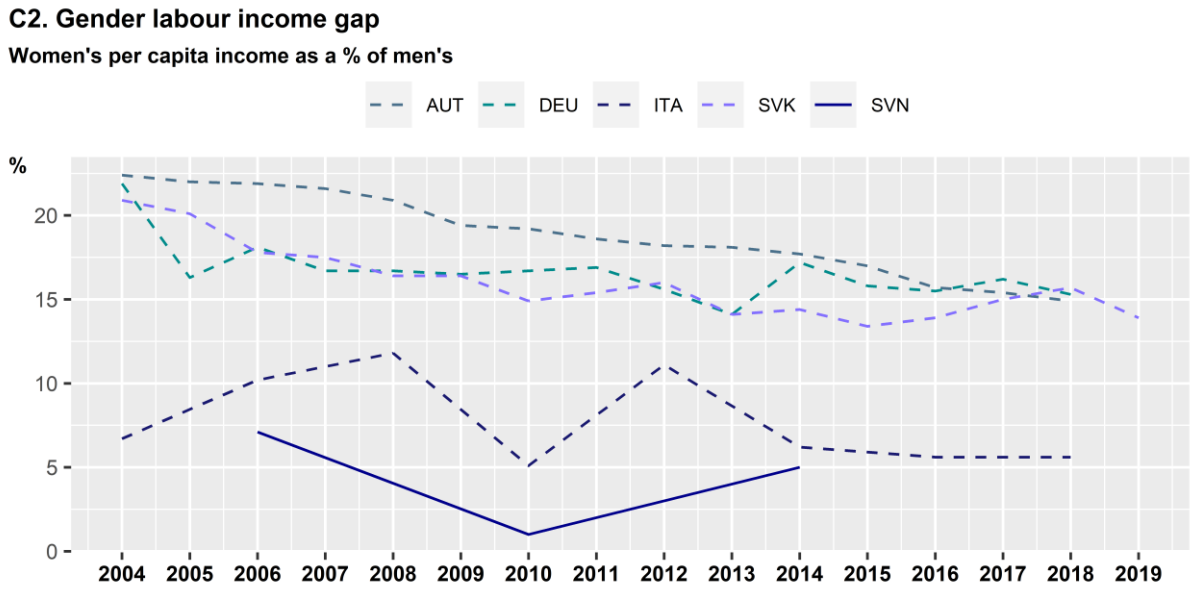
Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability





Gender labour income gap

Difference between men and women's per-capita annual labour income, as share of men's (accounts for gaps in wages, hours per week and weeks per month)

Horizontal inequality

OECD Well-being Database

Frequency: Annual (T-6)

2_2

Sub-group availability:

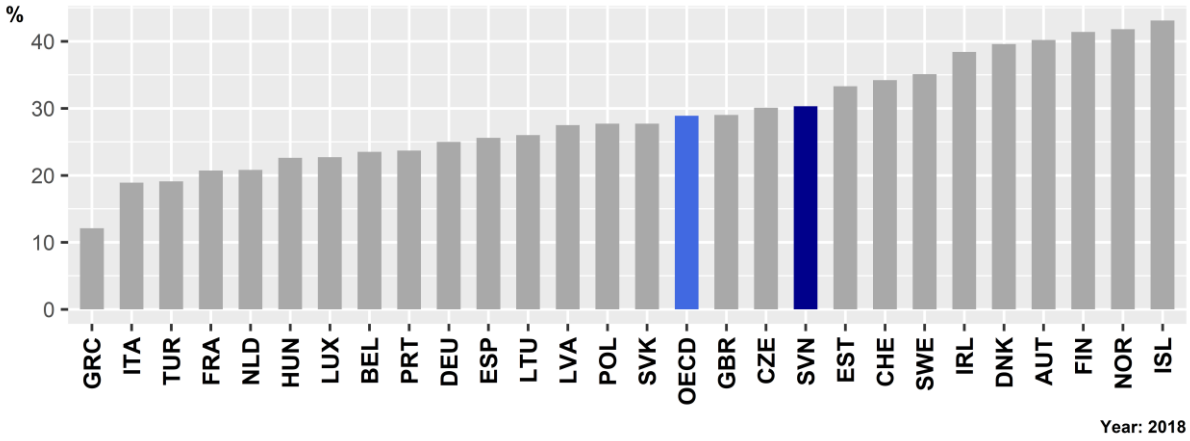
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

C3. Job satisfaction

% of people with a high level of job satisfaction



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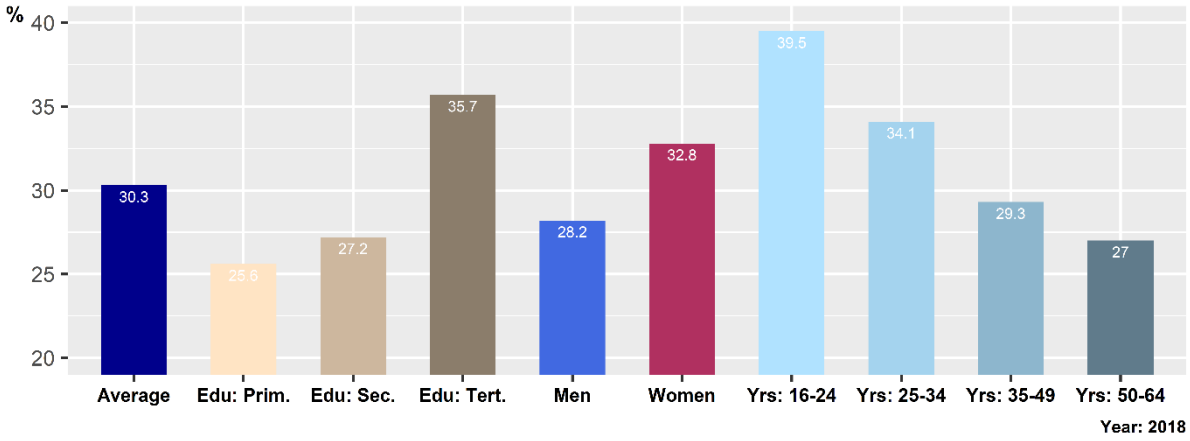
% of people with a high level of job satisfaction



Job satisfaction

% of people with a high level of job satisfaction%

Average and Horizontal inequalities

Eurostat

Frequency: Every 5 years

ilc_pw05

Sub-group availability:

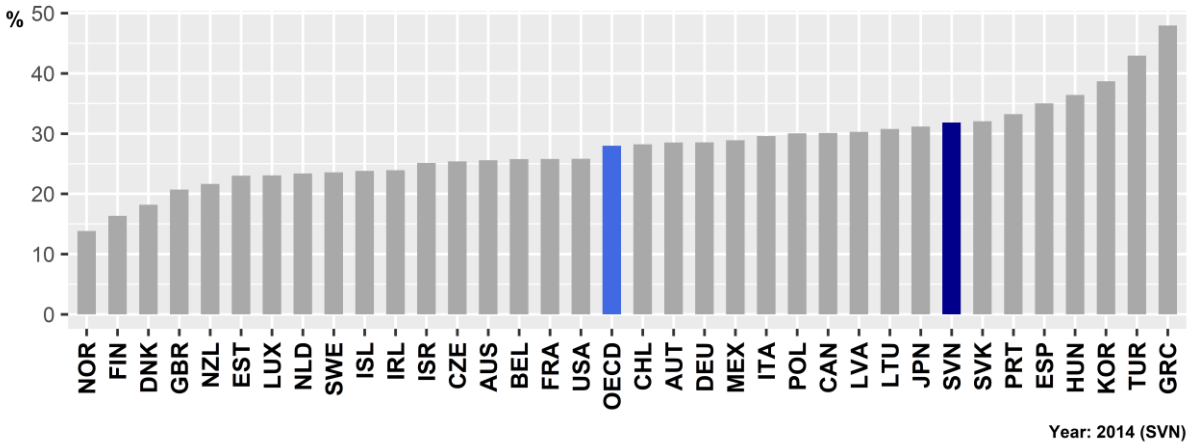
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

C4. Job strain

% of people facing job demands that exceed job resources



C4. Job strain

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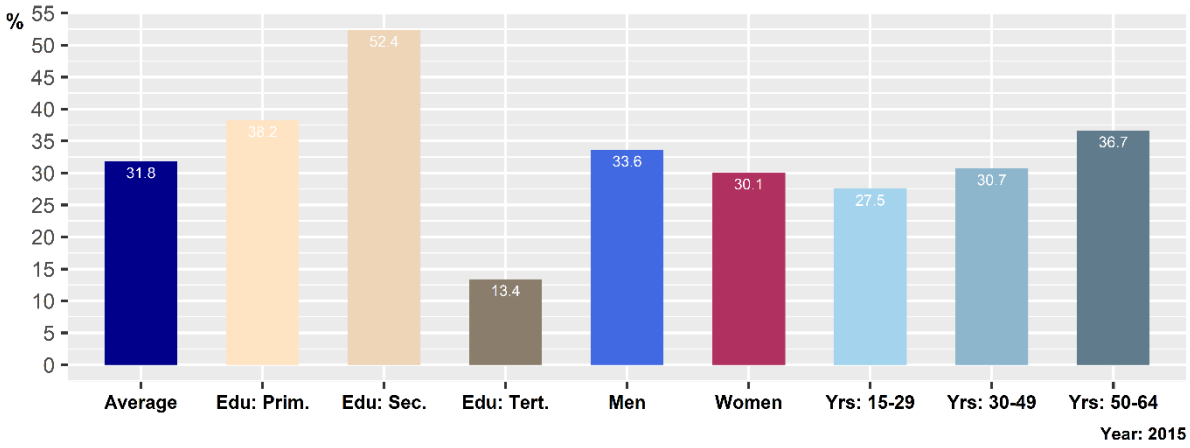


Job strain

Share of employees who experience a number of job demands that exceed that of job resources

Deprivation

OECD Well-being database

Frequency: Every 5-6 years

2_6

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Long hours in paid work

Share of employees usually working 50 hours per week or more

Deprivation

OECD Well-being database (LFS)

Frequency: Annual (T-2)

2_7

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Broad earnings inequality

D90/D10 ratio of gross earnings for full time employees

Vertical inequality

OECD Well-being database (LFS)

Frequency: Annual (T-3)

2_8

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Low pay rate

Full-time employees earning less than two-thirds of gross median earnings of all full-time employees

Deprivation

OECD earnings database (LFS). Not available for Slovenia

Frequency: Annual (T-2)

LPI

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparability	Interpretability

Transitions to permanent contracts

Labour transitions from temporary to permanent contracts

Average

Eurostat (LFS)

Frequency: Annual (T-2)

tepsr_wc230

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

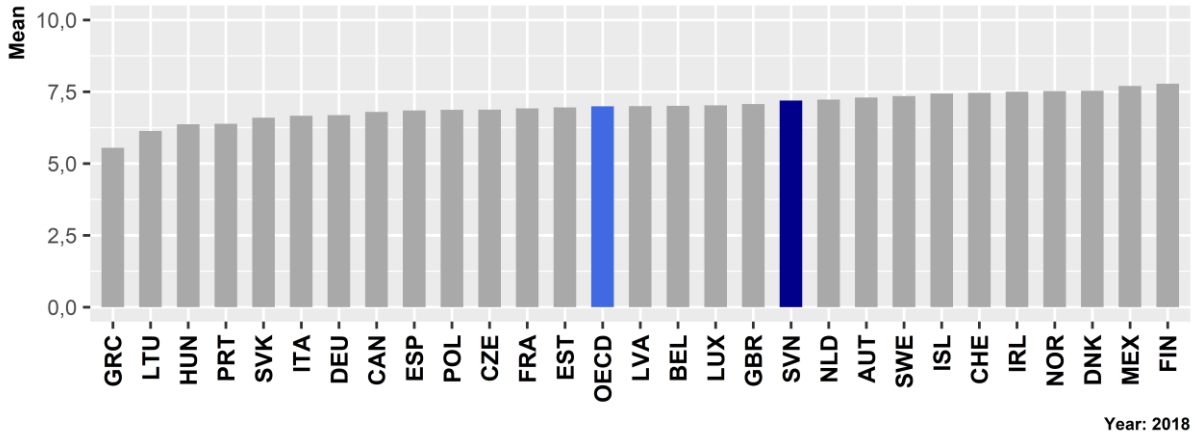
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

4. Work-life balance

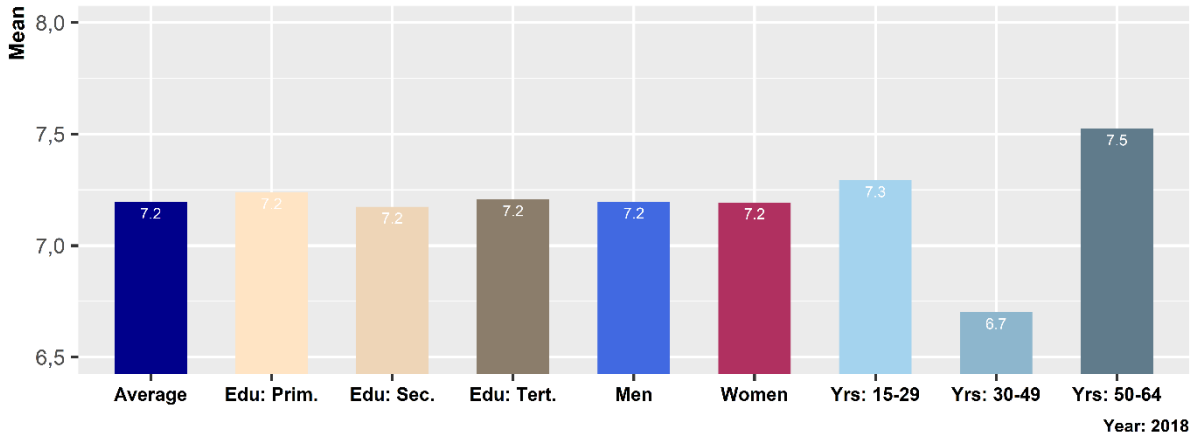
D1. Satisfaction with time use

Mean level of satisfaction on a 0 to 10 scale



D1. Satisfaction with time use

Mean level of satisfaction on a 0 to 10 scale



Satisfaction with time use

Mean level of satisfaction on a 0 to 10 point scale

Average, Deprivation, Horizontal Inequalities

Eurostat (LFS)

Frequency: Annual (T-2)

tepsr_wc230

Sub-group availability:

Sex	Age	Eucation	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Time off

Time allocated to leisure and personal care, hours per day, people in full-time employment

Average

Unavailable for Slovenia (no time use survey)

: 4_1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Long unpaid working hours

Share of the total working-age population who usually work more than 60 hours per week, of which at least 30 hours involve unpaid work

Deprivation

Unavailable for Slovenia (no time use survey)

: 4_2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Gender gap in hours worked

Extra minutes of total time spent working (paid and unpaid) that women work, relative to men (aged 15-64), minutes per day

Horizontal inequality

Unavailable for Slovenia (no time use survey)

Frequency: Annual (T-1)

: 4-3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Holidays away from home

Share of people that go on holiday away from home at least one week per year

Average

Eurostat (EU-SILC)

Frequency: Annual (T-2)

ilc_mdes02

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

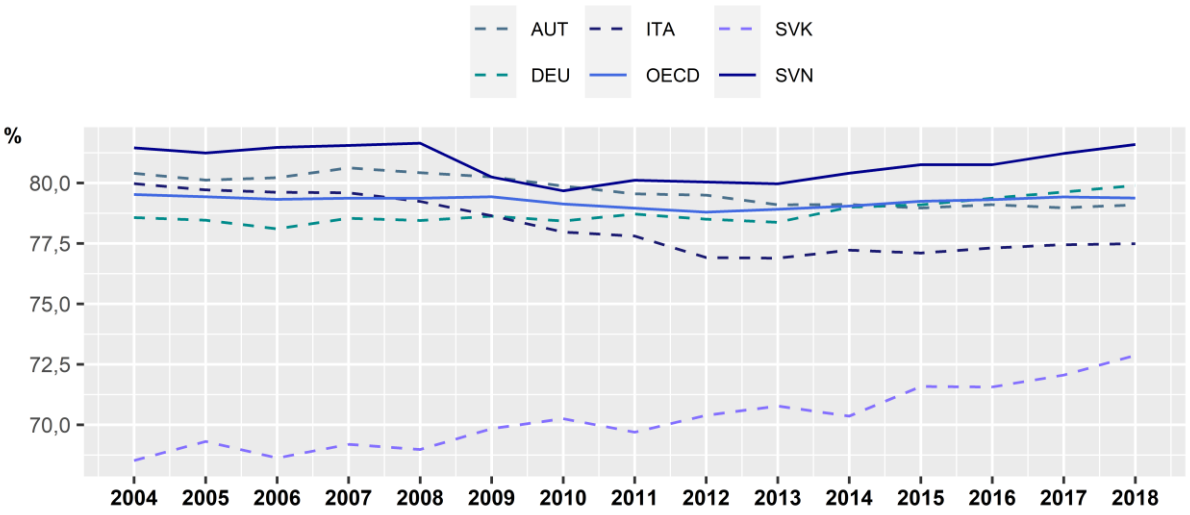
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

5. Housing

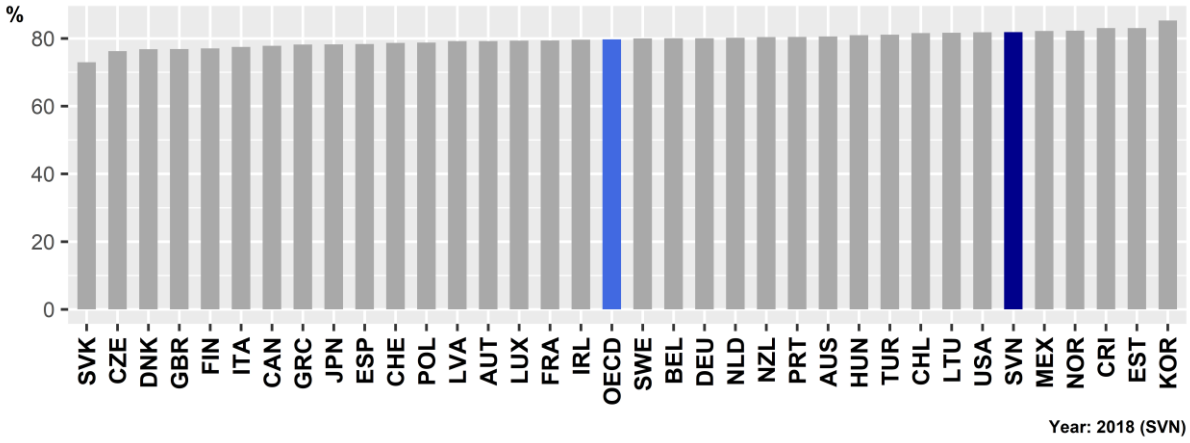
E1. Housing affordability

% of household income remaining after housing expenditures



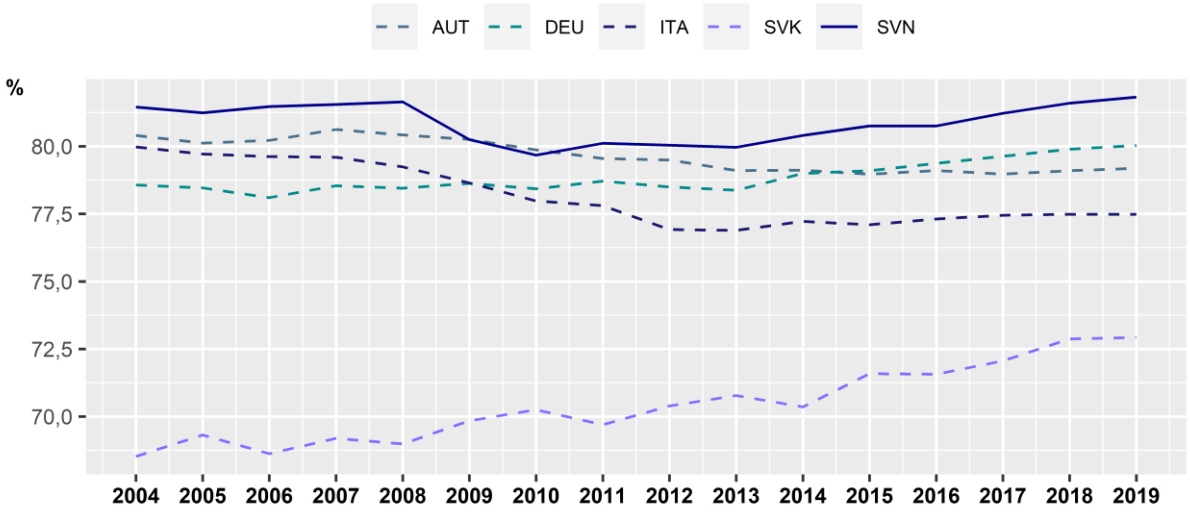
E1. Housing affordability

% of household income remaining after housing expenditures



E1. Housing affordability

% of household income remaining after housing expenditures



Housing affordability

Disposable income after housing costs, share of household gross adjusted disposable income remaining, after deductions for housing rents and maintenance

Average

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-2)

3_2

Sub-group availability:

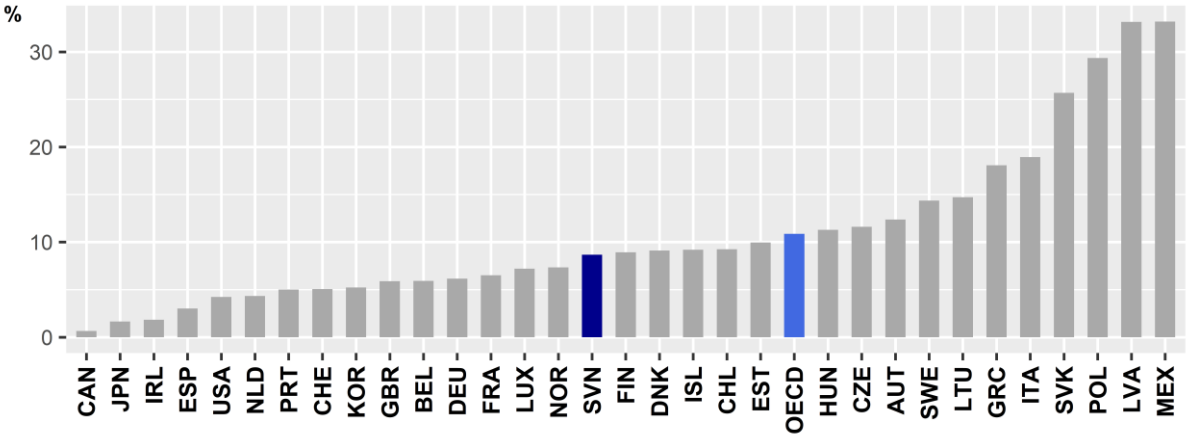
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

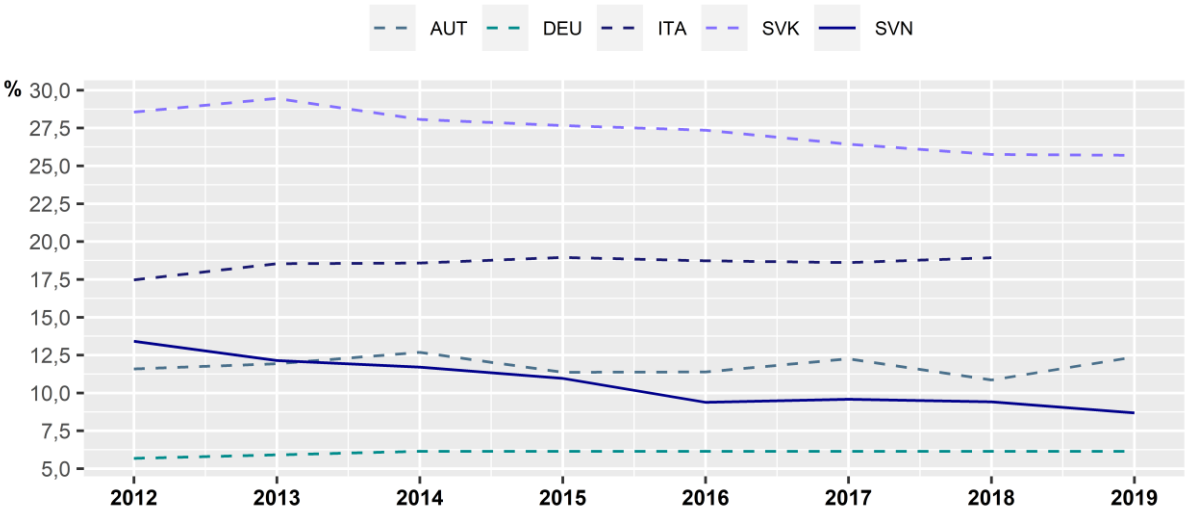
E2. Overcrowding rate

% of households living in overcrowded conditions (EU definition)



E2. Overcrowding rate

% of households living in overcrowded conditions (EU definition)



Overcrowding rate

Share of households living in overcrowded conditions (EU-definition)

Average

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-2)

3_1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Housing cost overburden

Share of households in the bottom 40% of the income distribution spending more than 40% of their disposable income on housing costs

Deprivation

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-4)

3_3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Poor households without access to basic sanitary facilities

Share of households below 50% of median equivalised disposable household income without indoor flushing toilet for the sole use of their household

Deprivation

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-4)

3_3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Households with high-speed Internet access

Share of households with broadband internet access at home

Average

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-2)

: 3_5

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Homelessness rate

Number of homesless people as a share of the population

Average

OECD Affordable Housing Database[11]

Frequency: Annual (T-2)

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Owner-occupied homes

Share of population living in owner-occupied home

Average

Eurostat (EU-SILC)

Frequency: Annual (T-2)

: ilc_lvho02

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

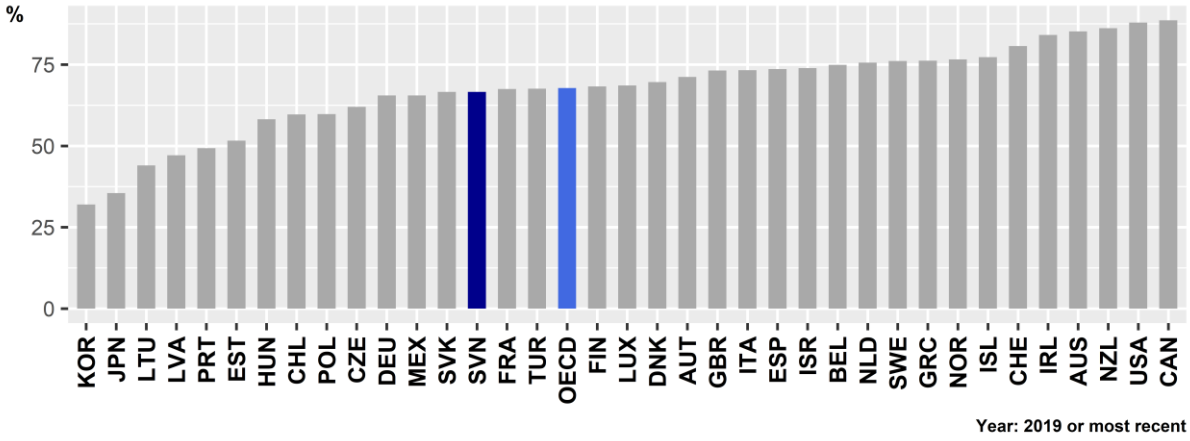
Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

[11] https://www.oecd.org/housing/data/affordable-housing-database/housing-conditions.htm

6. Health

F1. Perceived good health

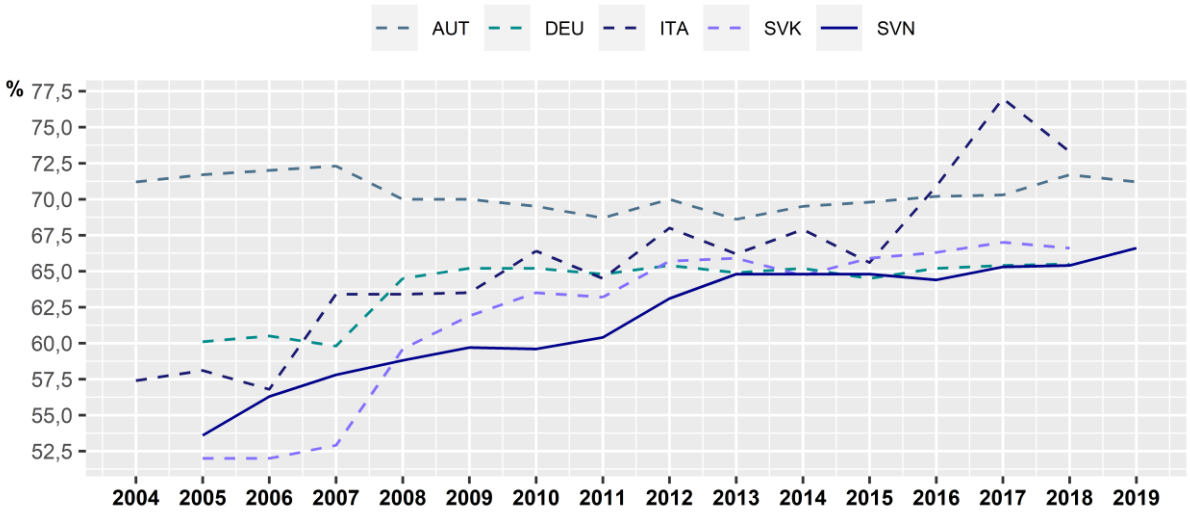
% of population indicating their health is good or very good



Year: 2019 or most recent

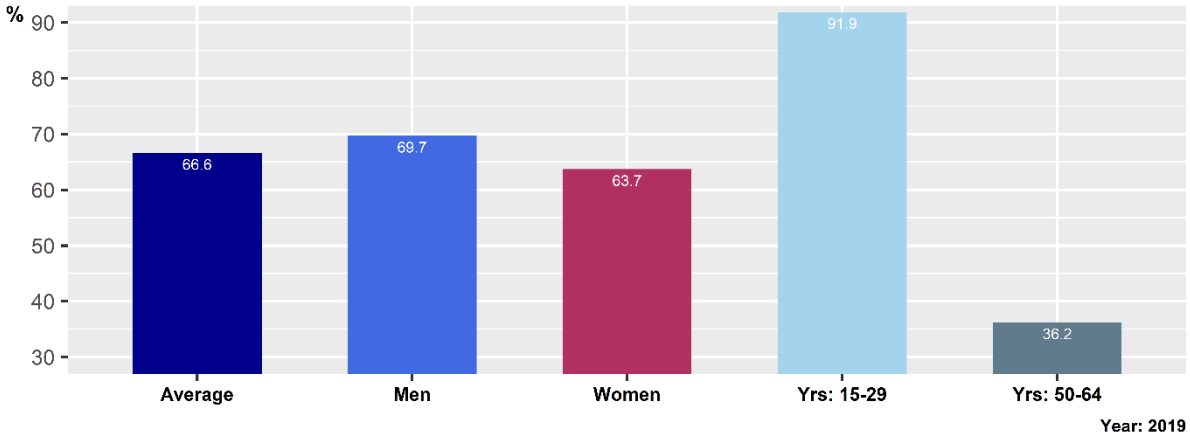
F1. Perceived good health

% of population indicating their health is good or very good



F1. Perceived good health

% of population indicating their health is good or very good



Year: 2019

Perceived good health

Share of the population 16 years or over reporting “good” or “very good” health

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-2)

: 5_2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Life expectancy at birth

Life expectancy at birth

Average, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-3)

: 5_1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Deaths from suicide

Deaths from suicide, per 100 000 population (age-standardised based on the 2010 OECD population structure)

Average

OECD Health Status Database (WHO Mortality Statistics)

Frequency: Annual (T-5)

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Depressive symptoms

Share of the population 15 years and over reporting having experienced a range of depressive symptoms in the past two weeks

Average, Horizontal Inequalities

OECD Well-being Database (European Health Interview Survey)

Frequency: Every 5 years (T-5)

: 5_4

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Psychological distress

% of psychological distress symptoms in the population aged 18 or over. Questions are based on the module on mental health of the SF-36 questionnaire. The prevalence is calculated from responses to five items such as “Have you been very nervous over the past four weeks?” on a 5-point scale (0-4) ranging from ‘at no time’ to ‘all of the time’. The scores can amount to a maximum score of 20, which is then multiplied by 5 to get a maximum of 100. Someone is considered with psychological distress symptoms if they scored above 50. Items refer to feeling nervous, feeling down, feeling calm, feeling down-hearted or depressed, and feeling happy. Prevalence is weighted by population size.

Average

OECD Health at a Glance (Europe)

Frequency: Annual (T-3)

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Functional limitations

Persons with self-reported long-standing limitations in usual activities due to health problems

Average

EU-SILC microdata

Frequency: Annual (T-2)

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

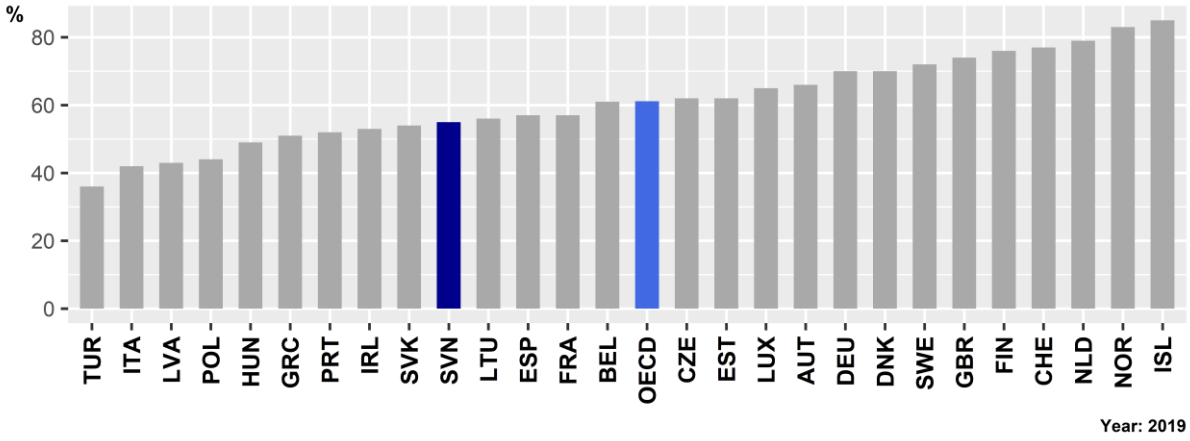
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

7. Knowledge and skills

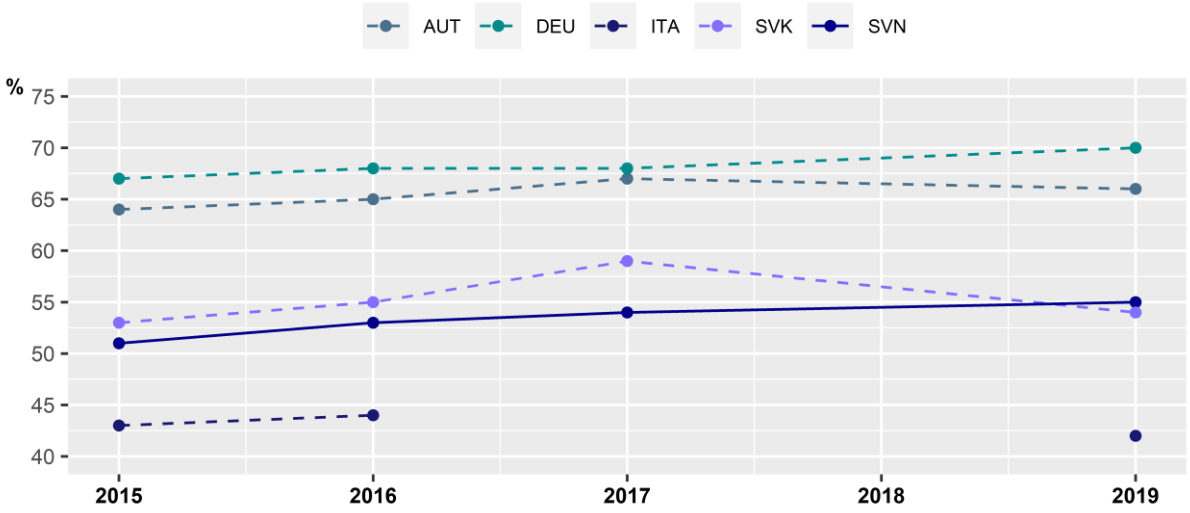
G1. Digital skills of adults

% of adults with above basic digital skills



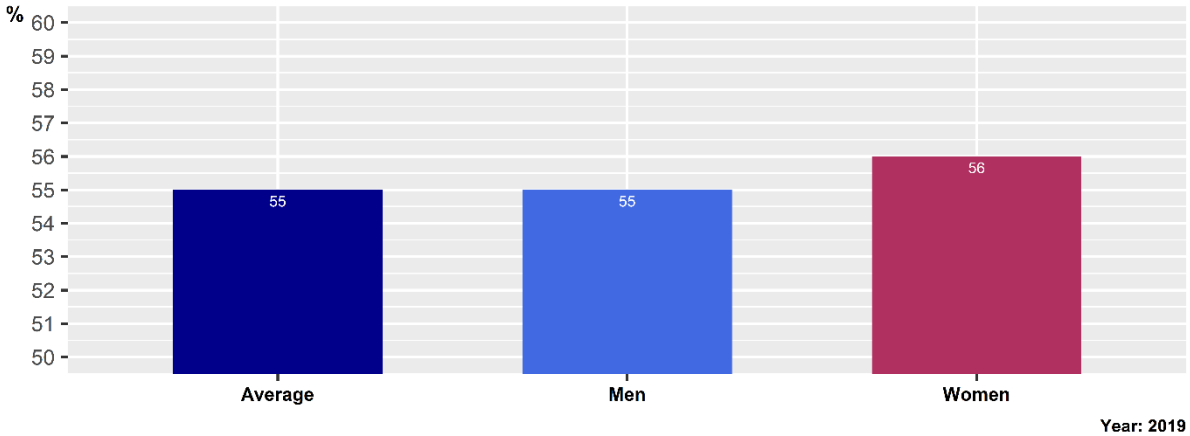
G1. Digital skills of adults

% of adults with above basic digital skills



G1. Digital skills of adults

% of adults with above basic digital skills



Digital skills of adults

Individuals aged 16-74 who have basic or above basic overall digital skills

Average, Deprivation, Horizontal Inequalities

Eurostat (ICT Access and Usage survey)

Frequency: Annual (T-2)

: tepsr_sp410

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Student skills in mathematics, reading and science

Cognitive skills of 15-year-old students, OECD Programme on International Students Assessment (PISA) – mean score

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (PISA)

Frequency: Every three years

: 6-1; 6-2; 6-3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Adult skills in literacy and numeracy

Mean scores in numeracy and literacy of adults in the Programme for the International Assessment of Adult Competencies

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (PIAAC)

Frequency: Every five years

: 6-4; 6-5

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

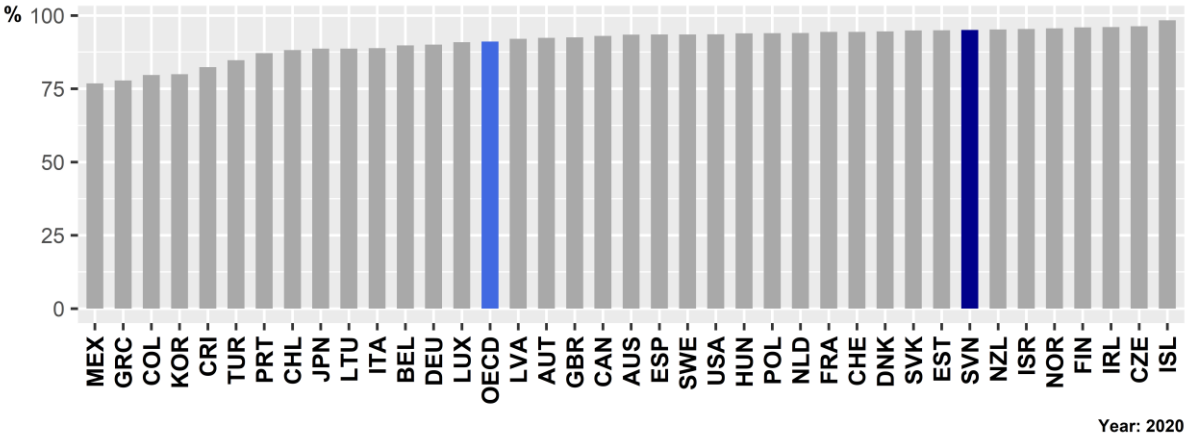
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

8. Social connections

H1. Perceived social support

% of people who have friends and relatives to count on



H1. Perceived social support

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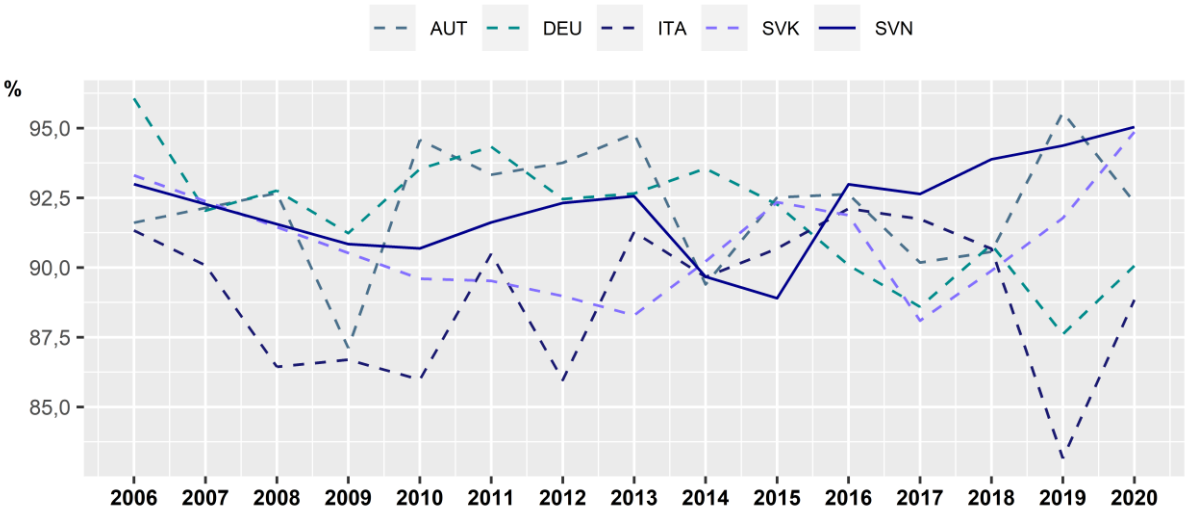
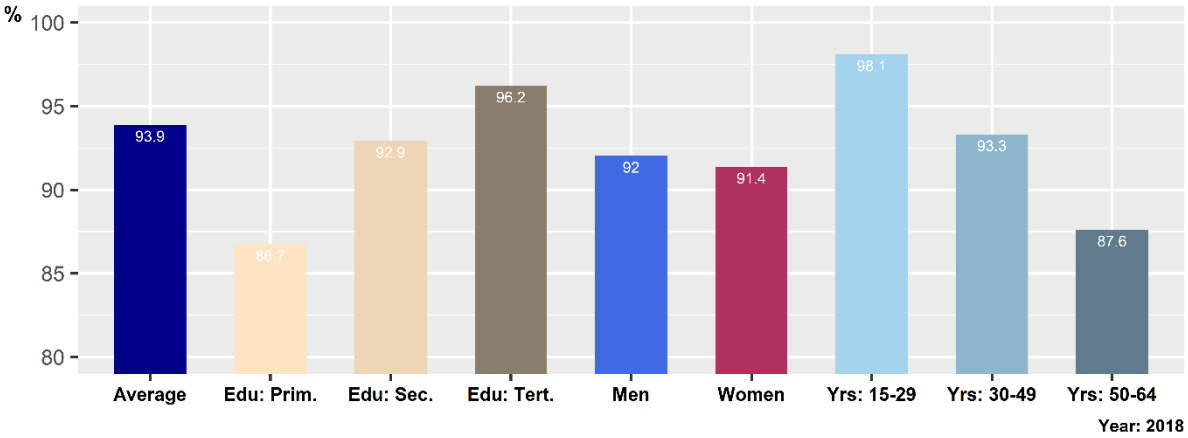


H1. Perceived social support

% of people who have friends and relatives to count on



Perceived social support

Share of people who report having friends or relatives whom they can count on in times of trouble

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (Gallup World Poll)

Frequency: Annual (T-1)

: 7-1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Social Interactions

Time spent interacting with friends and family as primary activity, hours per week

Average

Unavailable for Slovenia

Frequency: Annual (T-1)

: 7-2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Satisfaction with personal relationships

Mean average satisfaction with personal relationships on an 11-point scale, with responses ranging from 0 (not at all satisfied) to 10 (completely satisfied)

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: Every 5 years

: 7-3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Loneliness

Share of individuals reporting being lonely "all of the time" and "most of the time"

Deprivation

EU-SILC microdata

Frequency: Every 5 years

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

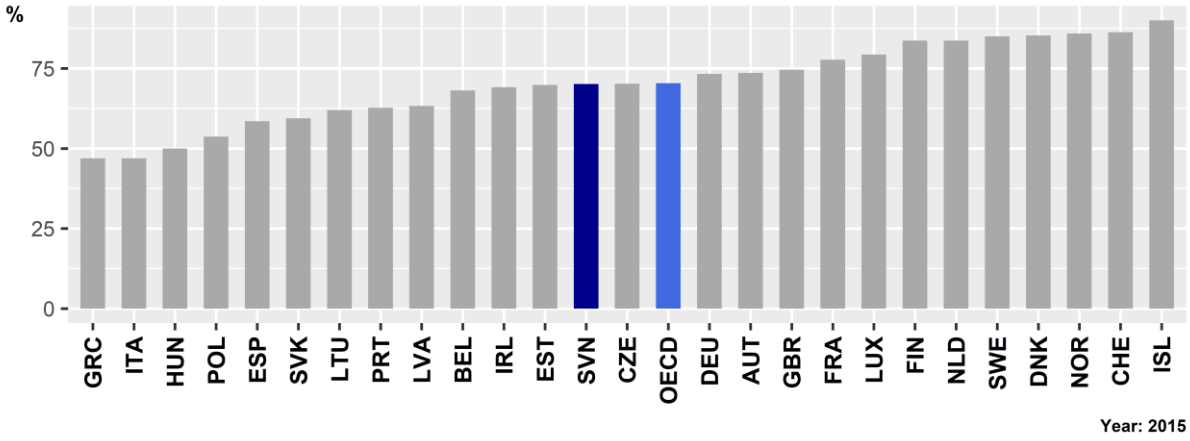
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

9. Cultural participation

I1. Cultural participation

% of people who participated in cultural activities at least once in the past 12 months



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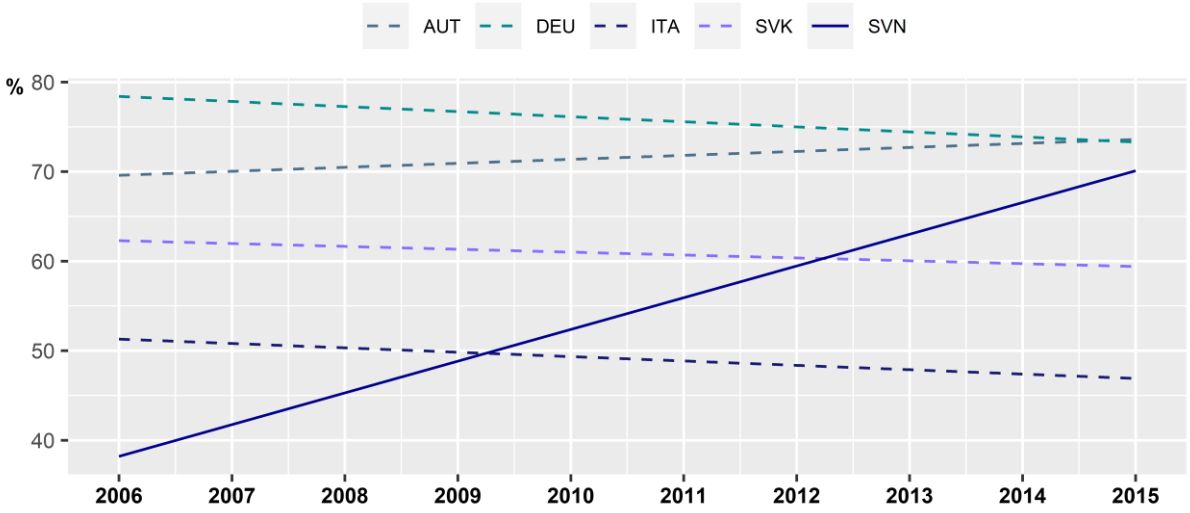

I1. Cultural participation

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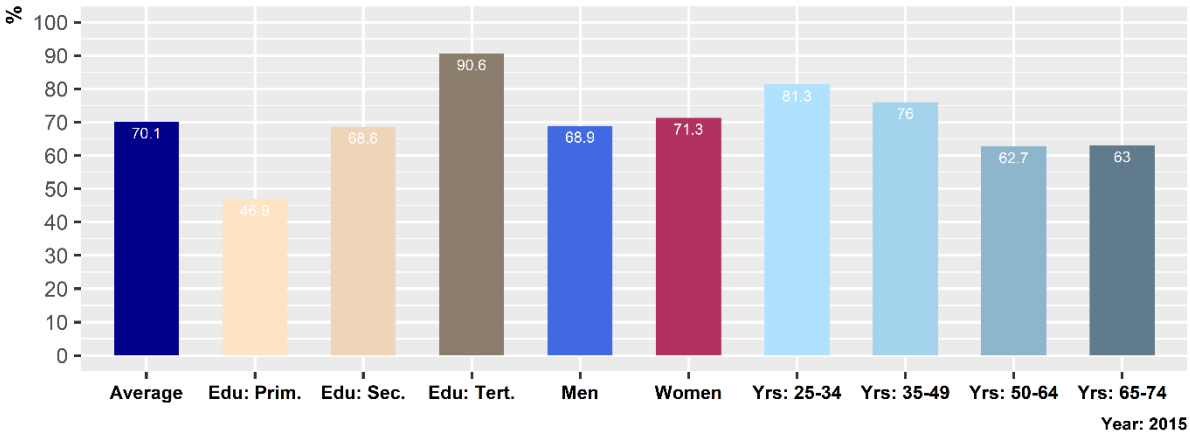


Cultural participation

% of people who participated in cultural activities (cinema, live performances or cultural sites) at least once in the past 12 months

Average, Horizontal Inequalities

Eurostat

: ilc_scp03; ilc_scp04

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

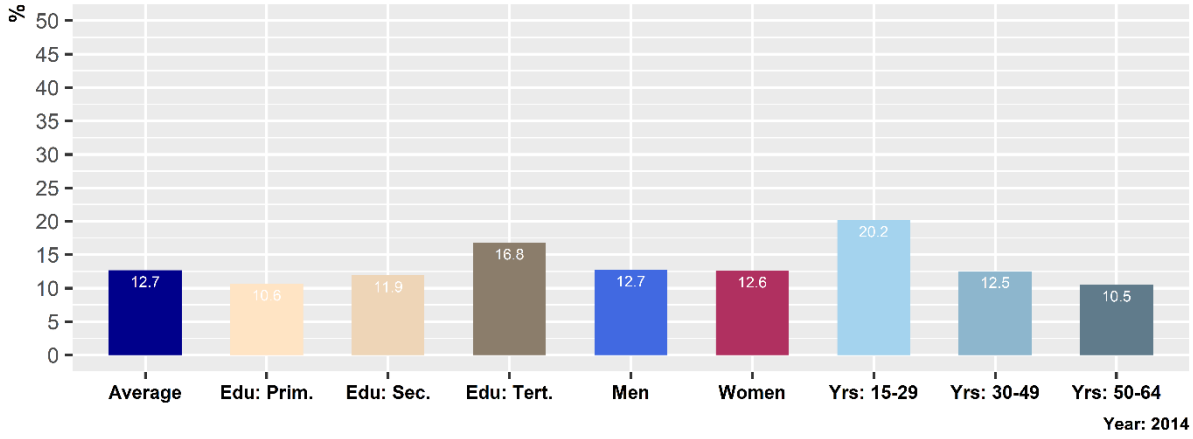
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

10. Voice

J1. Having a say in government

% of people who feel they have a say in what the government does



J1. Having a say in government

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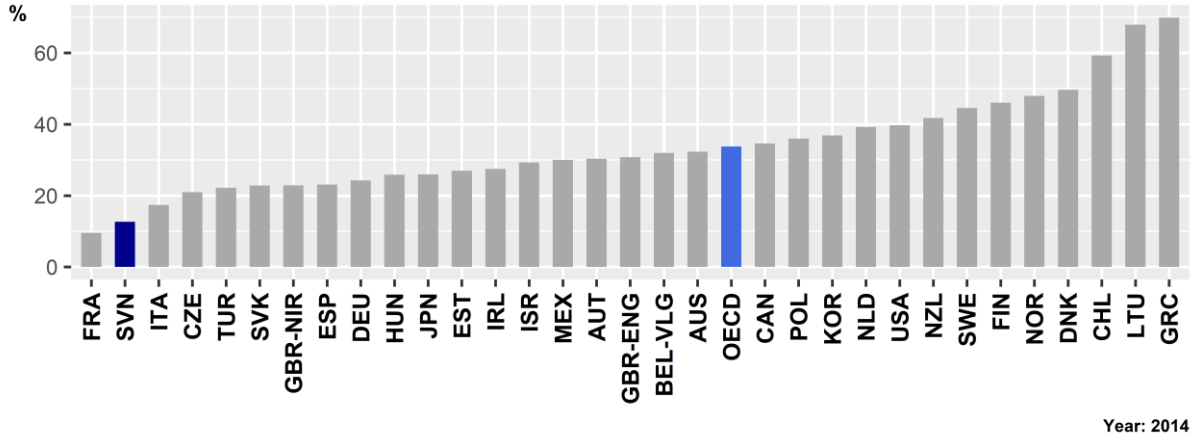


Having a say in government

Share of people aged 16-65 who feel they have a say in what the government does

Average

OECD Well-being Database (PIAAC)

Frequency: Every 5 years

: 8-1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Voter turnout

Share of votes cast among the population registered to vote

Average

OECD Well-being Database (International Institute for Democracy and Electoral Assistance (International IDEA))

Frequency: Variable

: 8-2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

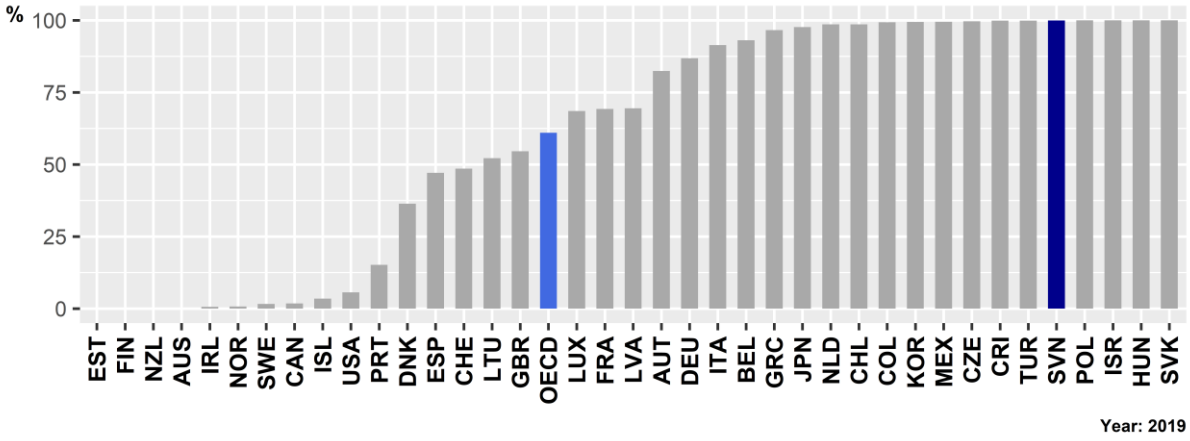
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

11. Environmental quality

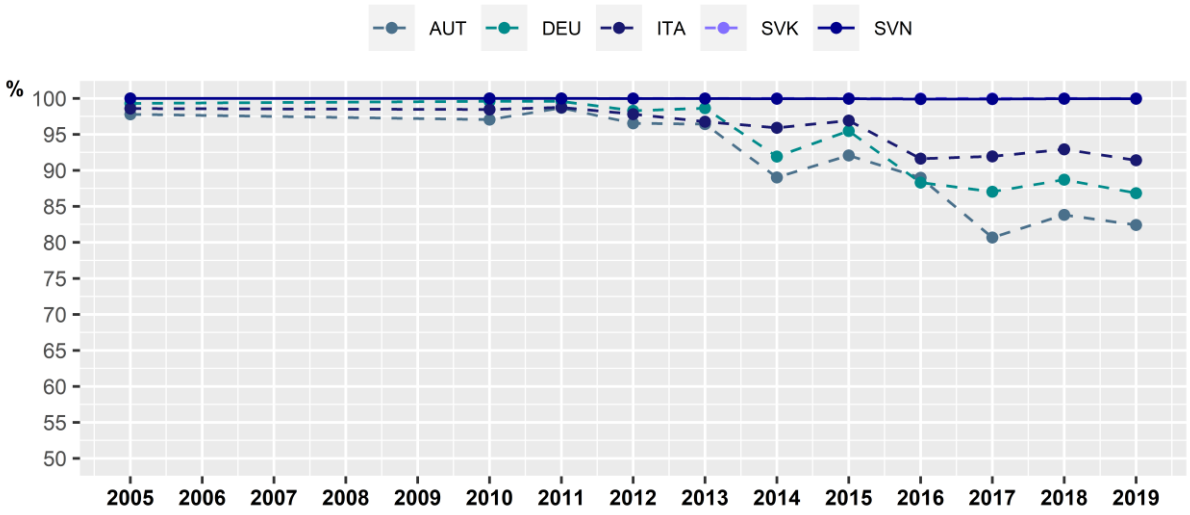
K1. Exposure to outdoor air pollution

% of people exposed above WHO threshold of 10 mg/m3



K1. Exposure to outdoor air pollution

% of people exposed above WHO threshold of 10 mg/m3



Exposure to outdoor air pollution

Population exposure to outdoor air pollution by fine particulate matter above World Health Organisation (WHO) Guidelines, share of population exposed to more than 10 µg/m3 of PM2.5

Average

OECD Well-being Database (International Institute for Democracy and Electoral Assistance (International IDEA))

Frequency: Every 2 years (T-2)

: 9-2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Access to green space

Access to recreational green space in urban areas refers to the share of the urban population with access to recreational green space within 10 minutes' walking distance from their home. Urban areas are defined as (greater) cities with an urban centre of at least 50 000 inhabitants. Green space refers to green areas with a minimum mapping unit of 0.25 hectares. They are predominantly areas for recreational use such as gardens, zoos, parks, castle parks, and suburban natural areas that have become and are managed as urban parks. Forests at the fringe of cities are also included. The underlying method consists of determining an area of easy walking distance – around 10 minutes' walking time (with an average speed of 5 km per hour) – around an inhabited European Urban Atlas polygon.

Average

OECD Well-being Database

Frequency: Every 2 years (T-2)

: 9-1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

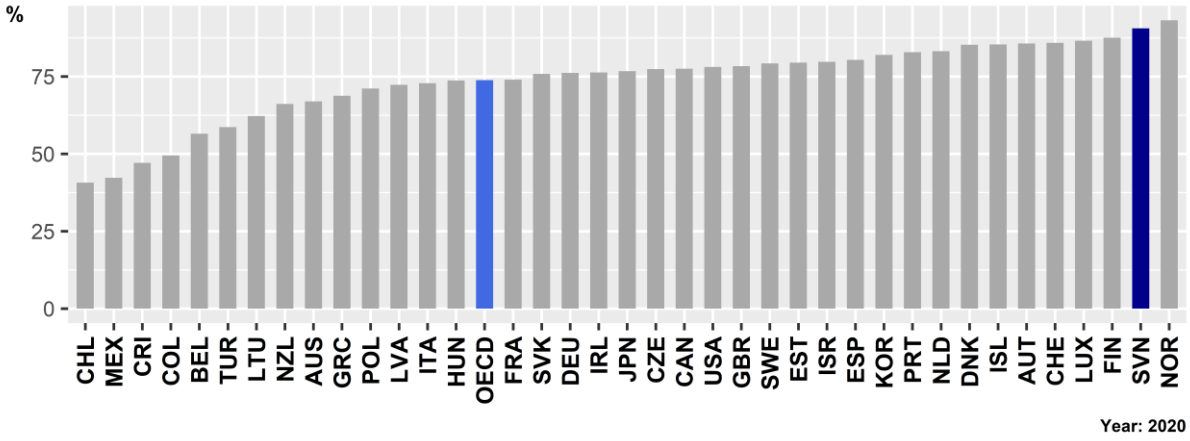
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

12. Safety

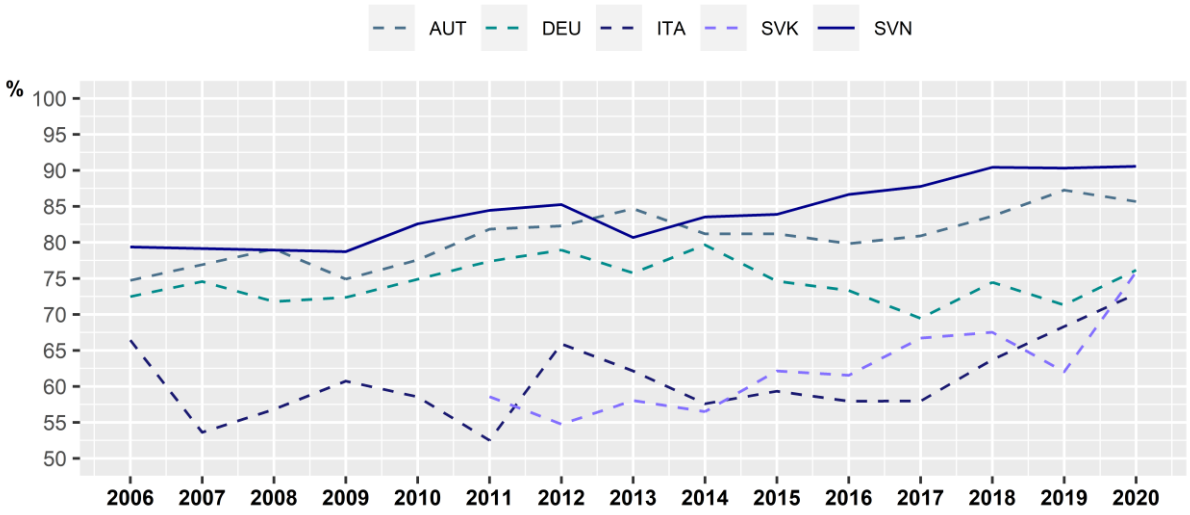
L1. Feeling safe at night

% of people feeling safe walking alone at night



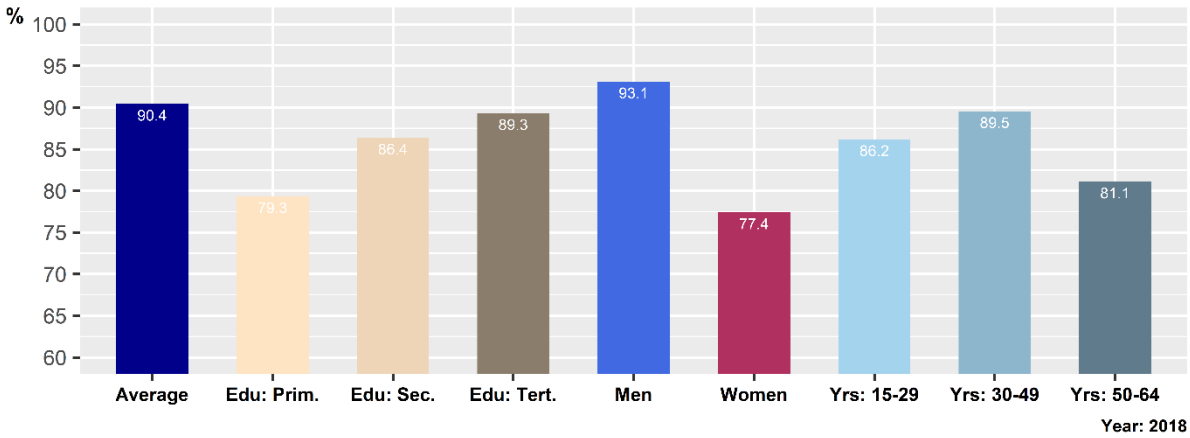
L1. Feeling safe at night

% of people feeling safe walking alone at night



L1. Feeling safe at night

% of people feeling safe walking alone at night



Feeling safe

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

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (Gallup World Poll)

Frequency: Annual (T-1)

: 10-2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Homicides

Death due to assault, age-standardised rate, per 100 000 population

Average, Horizontal Inequalities

OECD Well-being Database (World Health Mortality Statistics)

Frequency: Annual (T-1)

: 10-1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

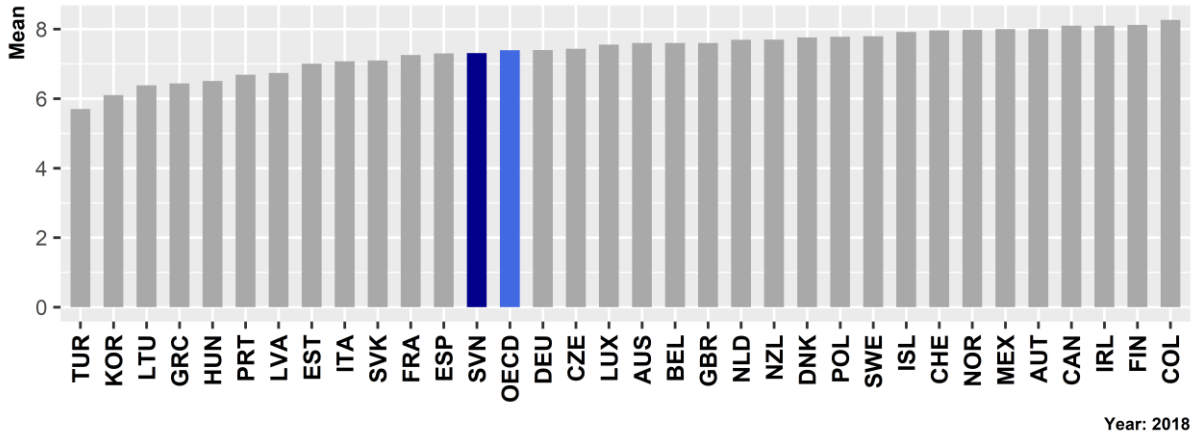
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

13. Subjective well-being

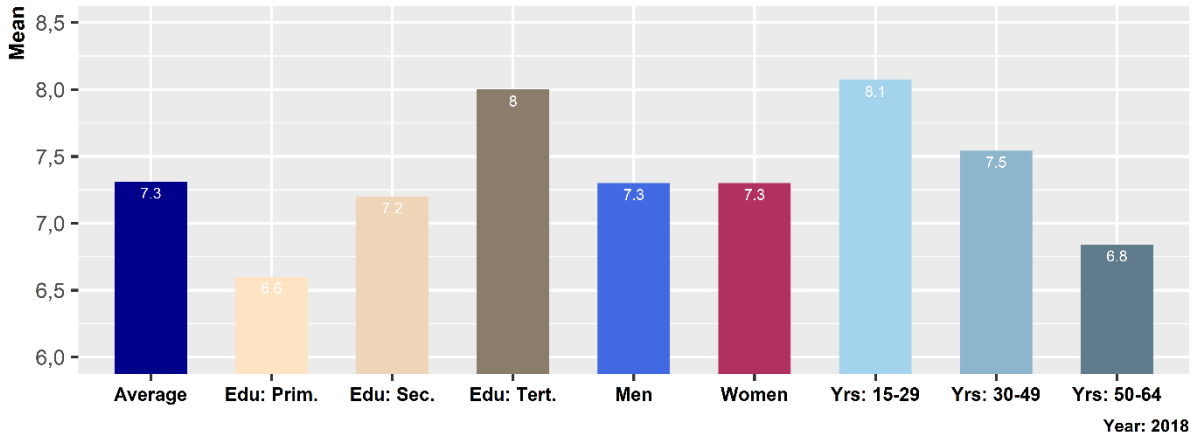
M1. Life satisfaction

Mean level of satisfaction on a 0 to 10 scale



M1. Life satisfaction

Mean level of satisfaction on a 0 to 10 scale



Life satisfaction

Mean values on an 11-point scale, with responses ranging from 0 (not at all satisfied) to 10 (fully satisfied)

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: Every 5 years

: 11-1

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Students' life satisfaction

Mean values on an 11-point scale, with responses ranging from 0 (not at all satisfied) to 10 (fully satisfied)

Average, Horizontal Inequalities

PISA report[12]

Frequency: Every 3 years

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Negative affect balance

Share of population reporting more negative than positive feelings and states in a typical day

Deprivation, Horizontal Inequalities

OECD Well-being Database (Gallup World Poll)

Frequency: Annual (T-1)

: 11-2

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Eudaimonia

% of people reporting a high level of meaning life

Average, Deprivation, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: No regular data collection

: ilc_pw01

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

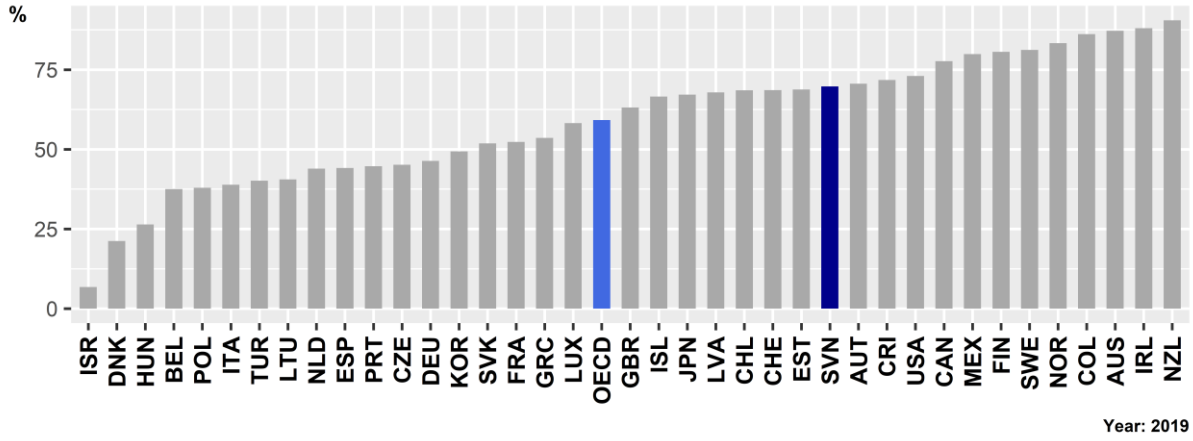
Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

[12] https://www.oecd-ilibrary.org/sites/c414e291-en/index.html?itemId=/content/component/c414e291-en#:~:text=As%20did%20PISA%202015%2C%20PISA,on%20the%20life%2Dsatisfaction%20scale

14. Natural capital

N1. Natural and semi-natural land cover

% of total land area



Natural and semi-natural land cover

Natural and semi-natural vegetated land cover (tree-covered area, grassland, wetland, shrubland and sparse vegetation) as a percentage of total land area

Stock

OECD Well-being Database

Frequency: Annual (T-2)

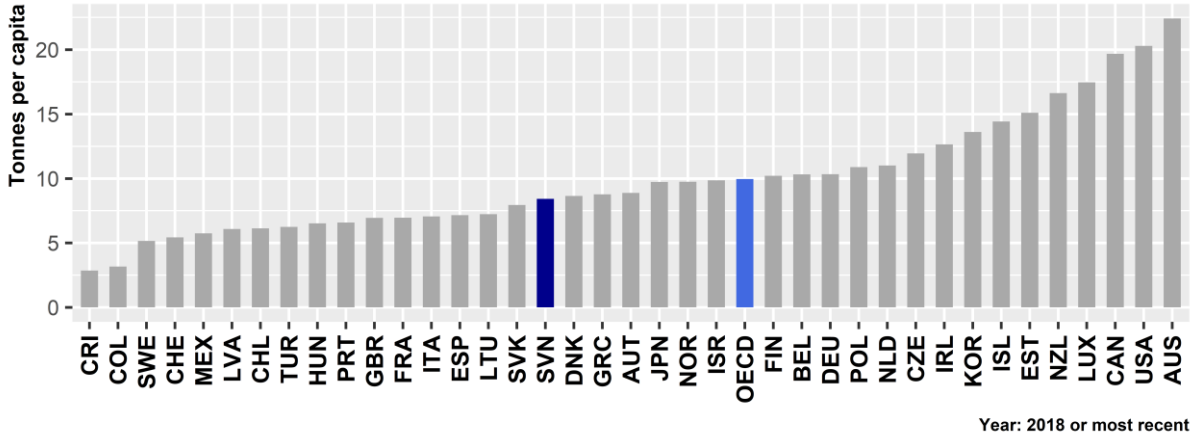
: 12-1

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

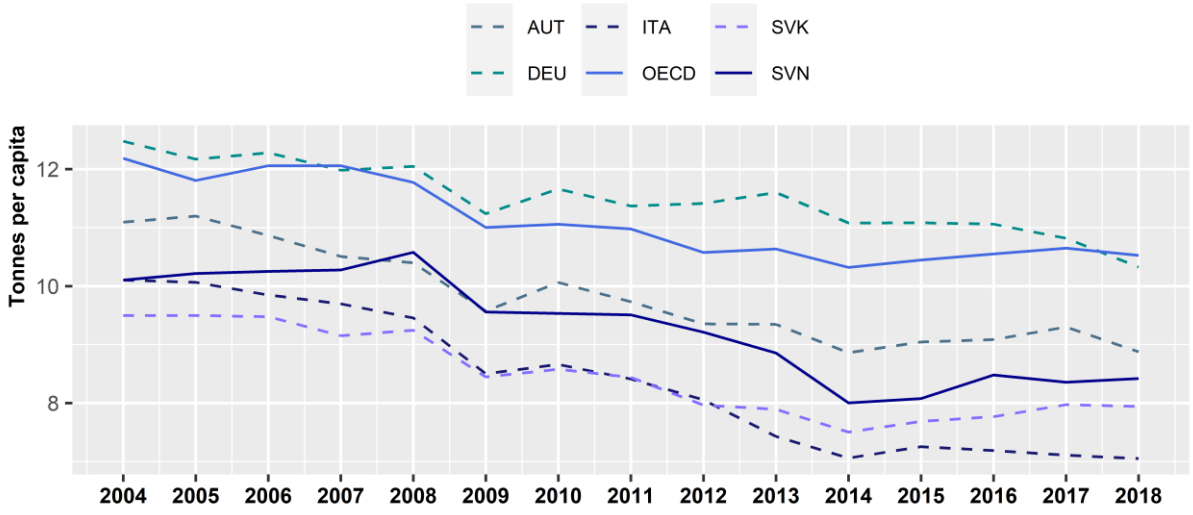
N2. Greenhouse gas emissions

Tonnes per capita, CO2 equivalent



N2. Greenhouse gas emissions

Tonnes per capita, CO2 equivalent



Greenhouse gas emissions

Total greenhouse gas emissions from domestic production, excluding those from land use, land-use change and forestry (LULUCF), tonnes per capita, CO2 equivalent

Flow

OECD Well-being Database

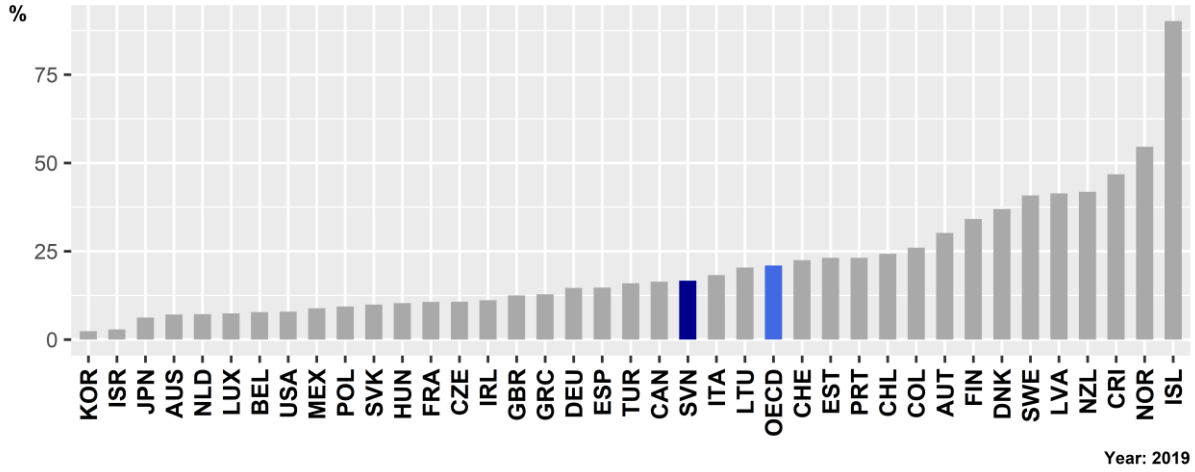
Frequency: Annual (T-3)

: 12-8

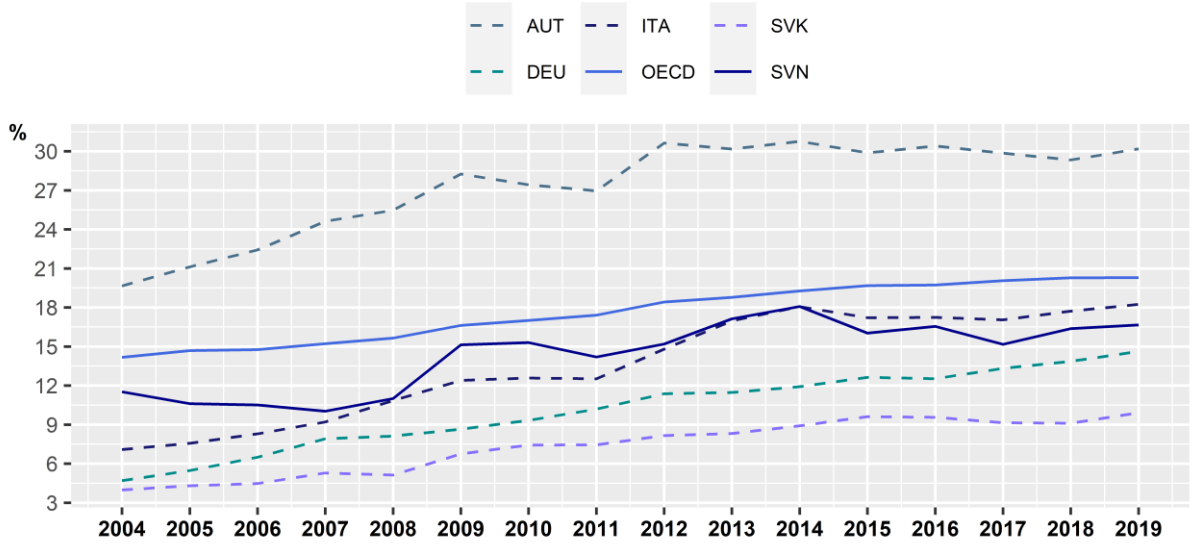
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

N3. Renewable energy as a share of total primary energy supply



N3. Renewable energy as a share of total primary energy supply



Renewable energy

Renewable energy as a percentage of total primary energy supply

Resilience factor

OECD Well-being Database

Frequency: Annual (T-2)

: 12-10

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Red List Index of threatened species

Combined indicator of extinction risk for birds, mammals, amphibians, cycads and corals. A value of 1.0 equates to all species qualifying as Least Concern (i.e. not expected to become extinct in the near future). A value of 0 equates to all species having gone extinct

Stock

OECD Well-being Database

Frequency: Annual (T-1)

: 12-7

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Carbon footprint in domestic demand

Carbon dioxide emissions embodied in domestic final demand, tonnes per capita

Flow

OECD Well-being Database

Frequency: Annual (T-5)

: 12-9

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Material productivity

GDP generated per unit of materials consumed domestically (USD/kg)

Resilience factor

OECD Environment Database

Frequency: Annual (T-2)

: GDP_DMC

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Ecological footprint

Biocapacity per person (gha/person)

Flow

Global Footprint Network

Frequency: Annual (T-5)

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Municipal waste generation per capita

Waste collected in kg per capita, by or on behalf of municipal authorities and disposed of through the waste management system. It consists to a large extent of waste generated by households, though similar wastes from sources such as commerce, offices and public institutions may be included.

Flow

Eurostat

Frequency: Annual (T-2)

: cei_pc031

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Recycling Rate

Municipal waste recycled or composted, as a share of treated waste

Flow

OECD Well-being Database

Frequency: Annual (T-4)

: 12-15

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Biochemical Oxygen Demand in Rivers

mg of O2/L

Flow

Eurostat

Frequency: Annual (T-4)

: sdg_06_30

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Nitrates in groundwater

Concentrations of nitrate (NO3) in groundwater, in mg/l

Risk factor

Eurostat

Frequency: Annual (T-3)

: sdg_06_40

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Water stress

Gross abstractions as a percentage of internal resources

Risk factor

OECD Well-being Database

Frequency: Annual (T-3)

: 12-12

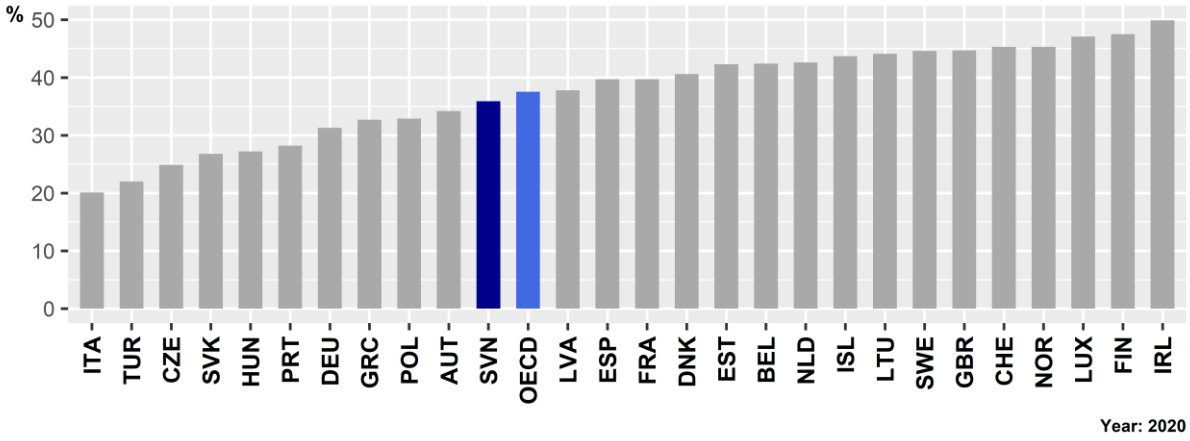
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

15. Human capital

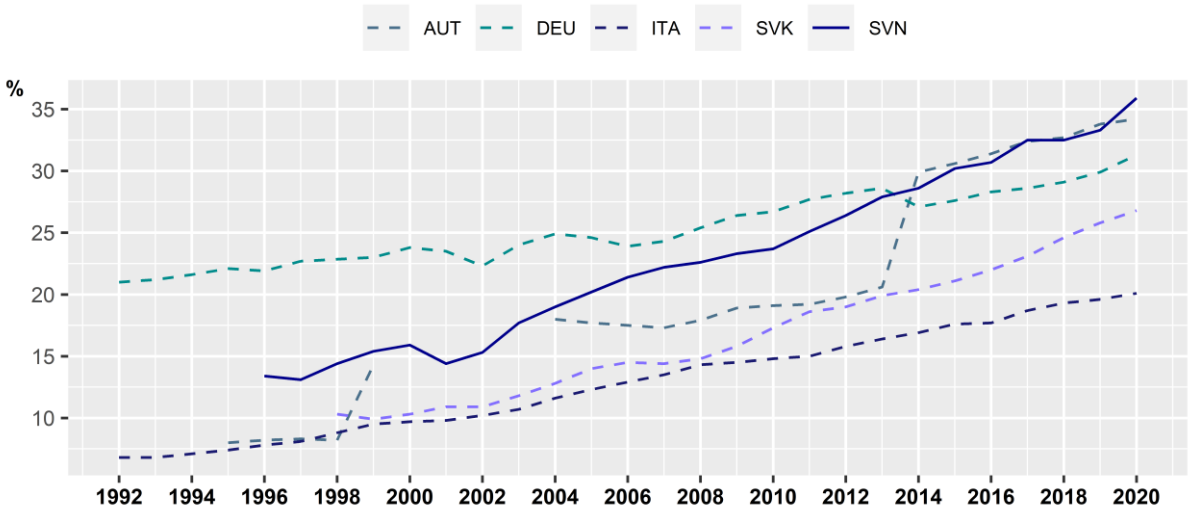
O1. Tertiary education attainment

% of 25-64 year olds with a tertiary education degree



O1. Tertiary education attainment

% of 25-64 year olds with a tertiary education degree



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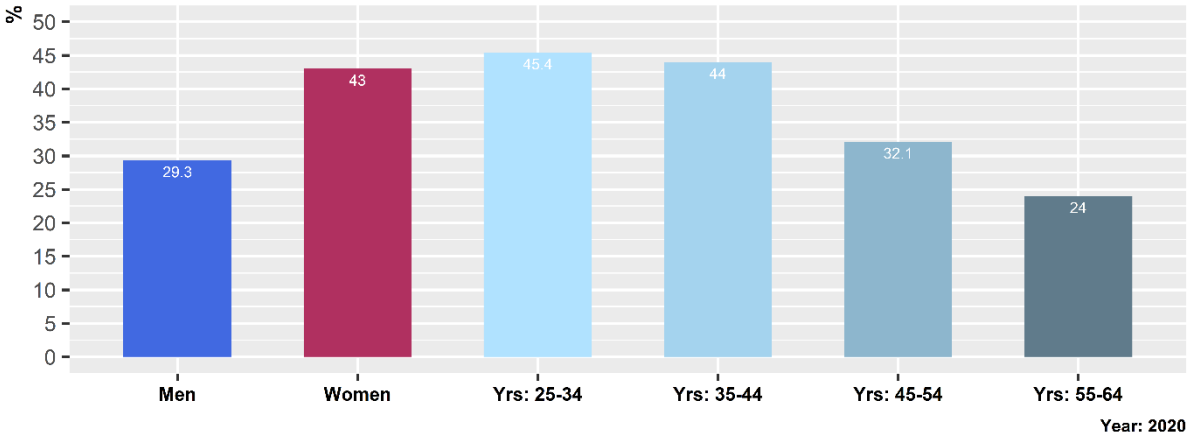


Tertiary education attainment

Percentage of the population aged 25-64 having completed a tertiary education

Stock, Horizontal Inequalities

Eurostat

Frequency: Annual (T-3)

: edat_lfse_03

Sub-group availability:

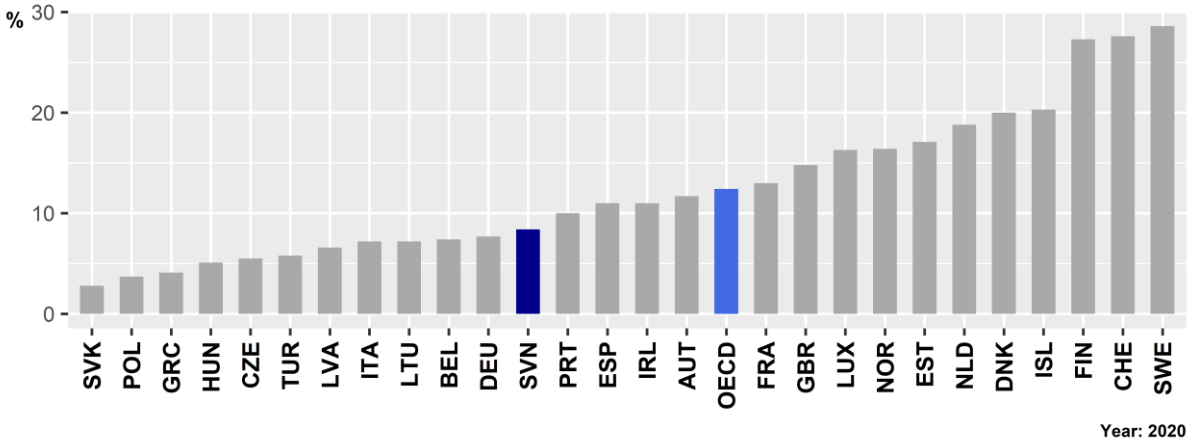
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

O2. Adult learning

% of 25-64 year olds participating in adult learning in the last 4 weeks



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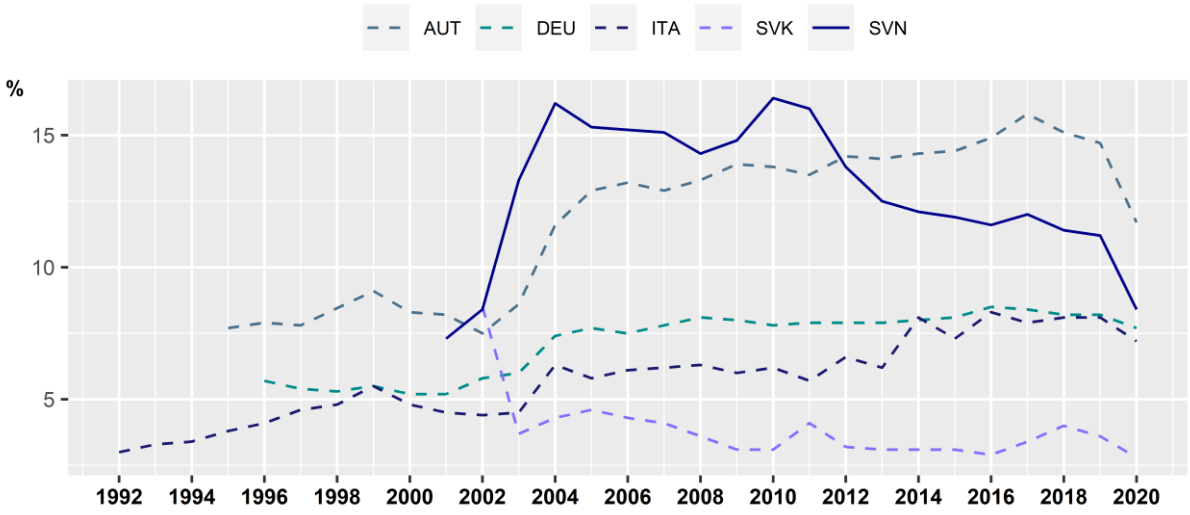
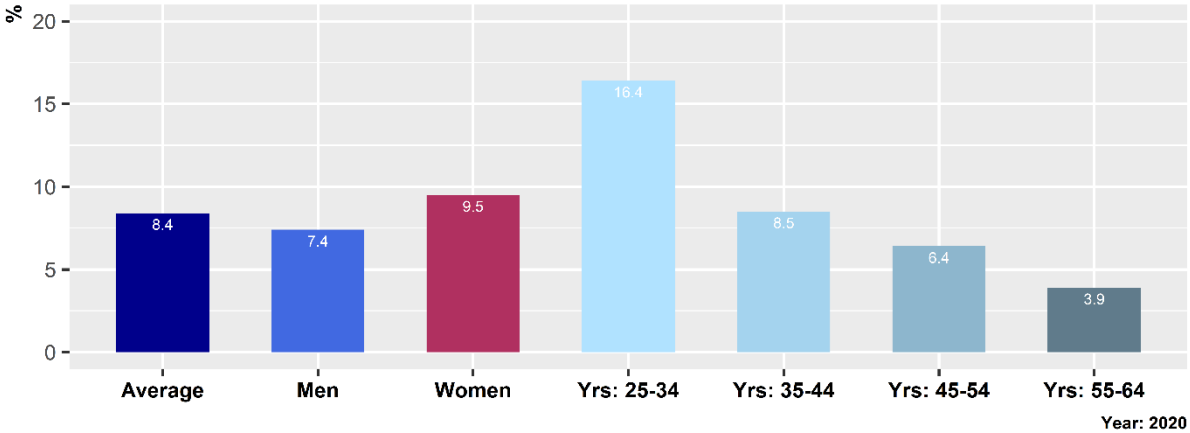


O2. Adult learning

% of 25-64 year olds participating in adult learning in the last 4 weeks



Adult learning

Participation rate in education and training (last 4 weeks), 25-64 year olds

Resilience factor, Horizontal Inequalities

Eurostat

Frequency: Annual (T-2)

: trng_lfse_01

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

STEM graduates in tertiary education

Graduates in tertiary education, in science, math., computing, engineering, manufacturing, construction, per 1000 of population aged 20-29

Flow, Horizontal Inequalities

Eurostat

Frequency: Annual (T-2)

: educ_uoe_grad04

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Premature mortality

Potential years of life lost due to a range of medical conditions and fatal accidents, years of potential life lost per 100 000 population (age standardised)

Flow, Horizontal Inequalities

Eurostat

Frequency: Annual (T-2)

: 13_3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Smoking prevalence

Share of people aged 15 or over who report smoking every day

Risk factor, Horizontal Inequalities

Eurostat

Frequency: Annual (T-6)

: 13_3

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Obesity prevalence

Share of the population aged 15 or older who are overweight or obese

Risk factor, Horizontal Inequalities

Eurostat (European Health Interview Survey)

Frequency: Annual (T-6)

: hlth_ehis_bm1e

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

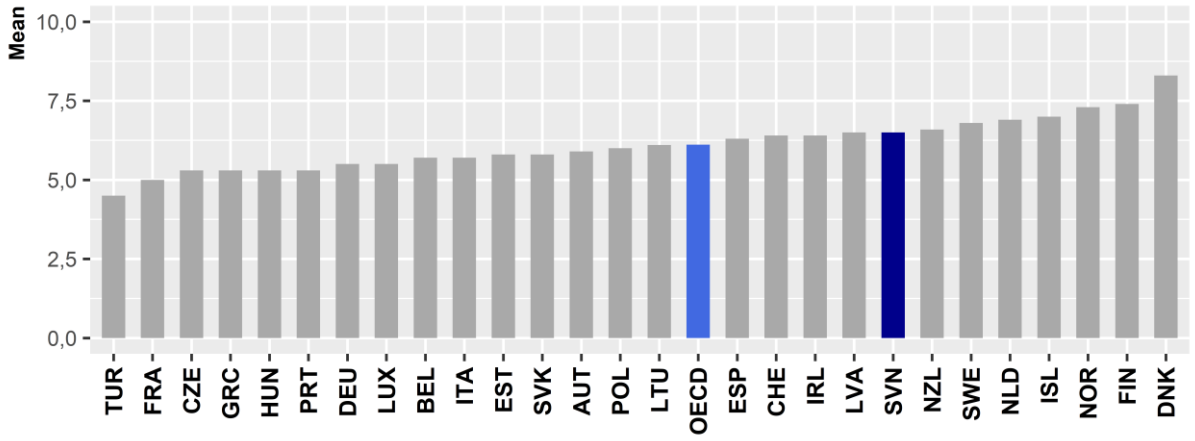
Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

16. Social capital

P1. Trust in others

Mean trust score on a 0 to 10 scale



Trust in others

Interpersonal trust, mean average, on a scale from 0 (you do not trust any other person) to 10 (most people can be trusted)

Stock, Horizontal Inequalities

OECD Well-being Database (EU-SILC)

Frequency: Annual (T-8); soon annual

: 14_1

Sub-group availability:

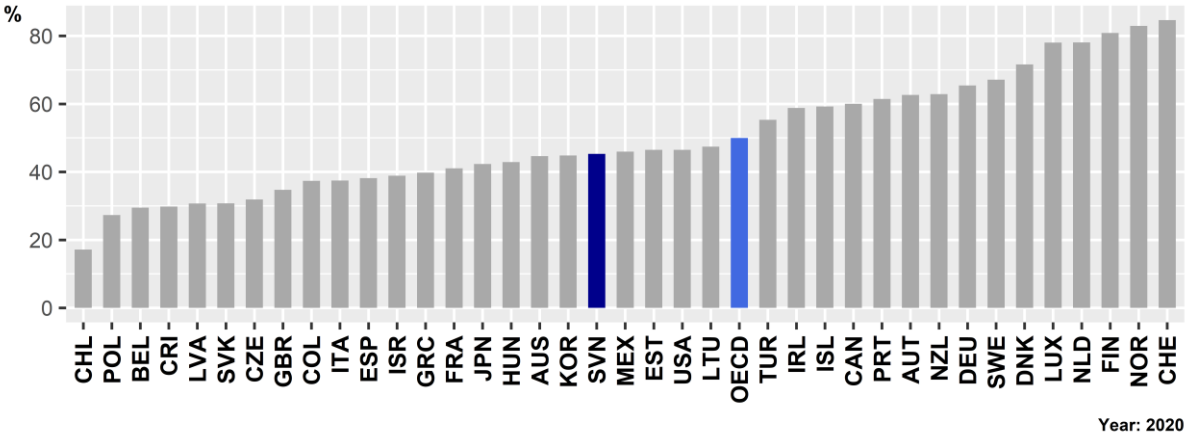
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

P2. Trust in government

% of people with confidence in the national government



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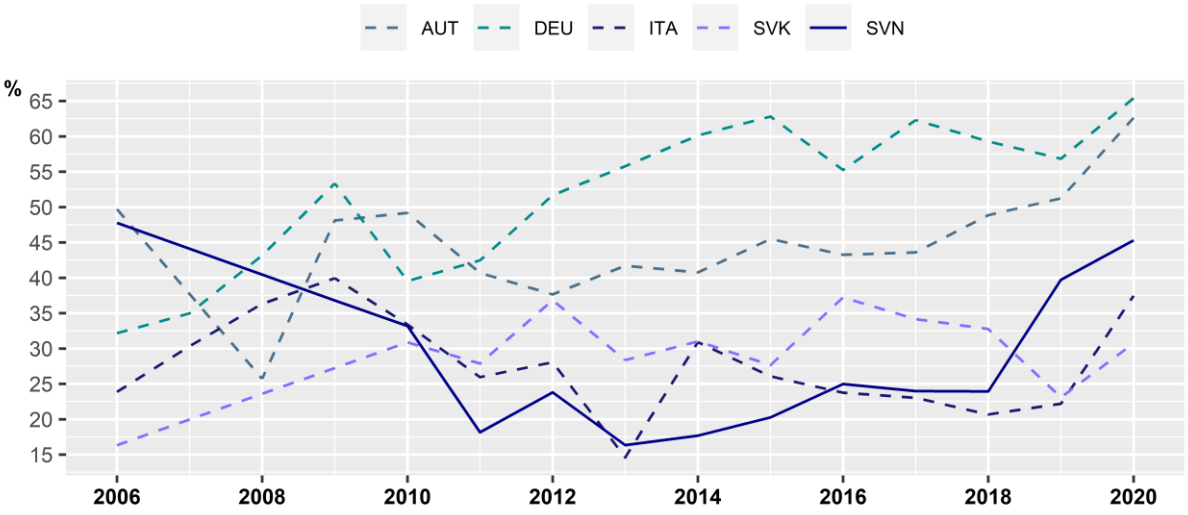


Trust in government

Share of population reporting having confidence in the national government

Stock, Horizontal Inequalities

OECD Well-being Database (Gallup World Poll)

Frequency: Annual (T-1)

: 14_3

Sub-group availability:

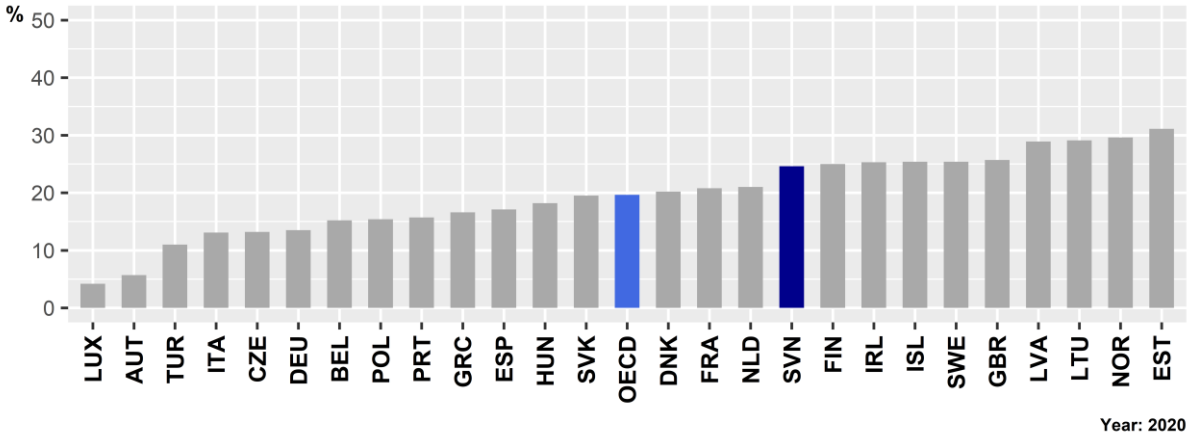
Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

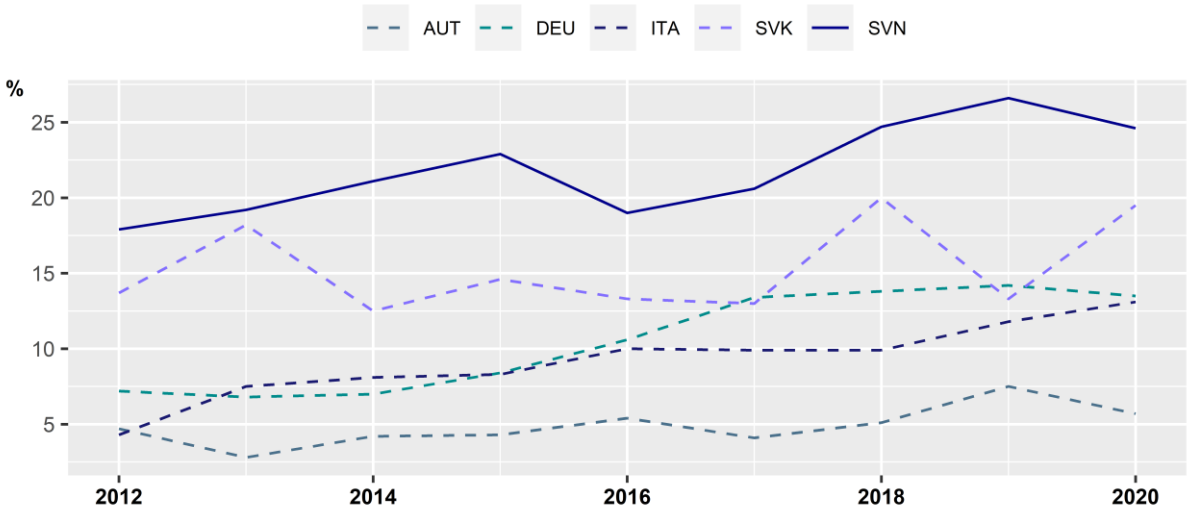
P3. Women in management positions

% of female managers



P3. Women in management positions

% of female managers



Women in management positions

Share of women holding occupations corresponding to ISCO-08 major group 1

Resilience factor

Eurostat (LFS)

Frequency: Annual (T-2)

: sdg_05_60

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Personal experience of discrimination

Share of people who report having felt personally discriminated against or who experienced harassment, for each of the following grounds: ethnic origin, skin colour, gender, sexual orientation, being Roma, being transgender, being intersex, age or religion/beliefs.

Risk factor

Eurobarometer

Frequency: Every four years

: Question QC2, Eurobarometer 91.4[13]

Sub-group availability:

Sex	Age	Education	Migration	Region	Disability	Income	Other

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Corruption

Corruption Perception Index score on a scale of 0 (highly corrupt) to 100 (very clean)

Resilience factor

OECD Well-being Database (Transparency International)

Frequency: Annual (T-3)

: 14_5

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Volunteering

Share of the working-age population who declared having volunteered through an organisation at least once a month over the preceding year

Flow

OECD Well-being Database

Frequency: Annual (T-7)

: 14_7

Data assessment:

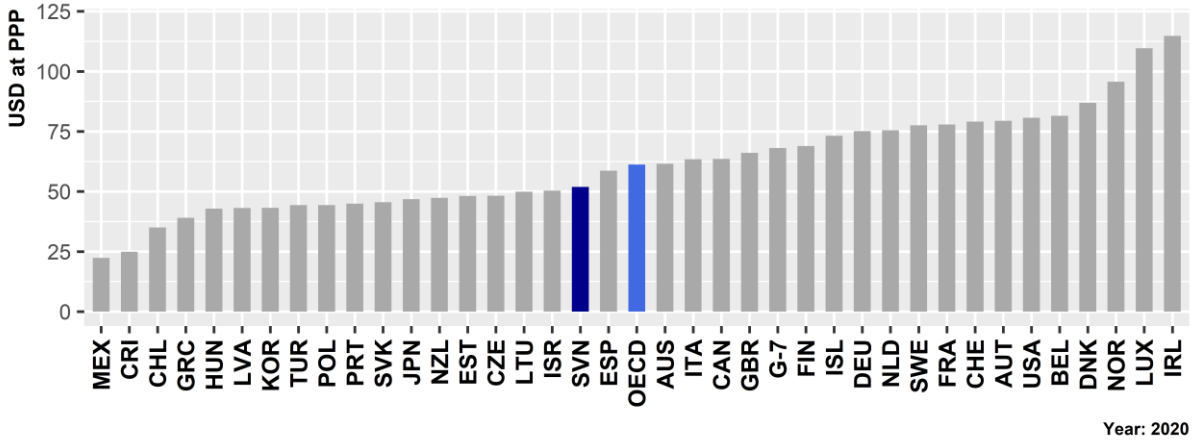
Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

[13] https://data.europa.eu/data/datasets/s2251_91_4_493_eng?locale=en

17. Economic capital

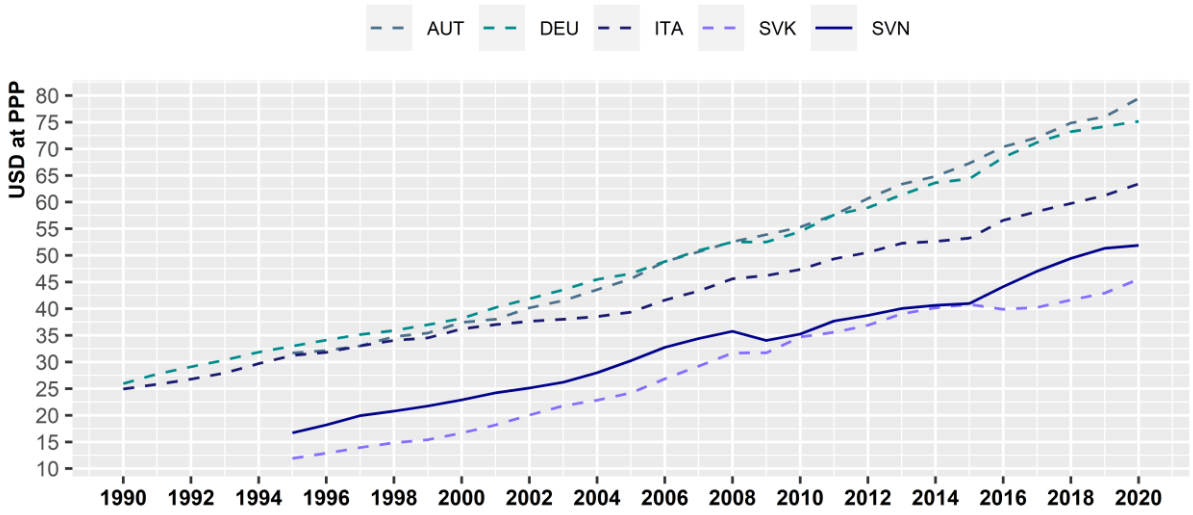
Q1. Labour productivity

GDP per hour worked



Q1. Labour productivity

GDP per hour worked



Labour productivity

Real labour productivity per person employed

Flow

Eurostat (National accounts)

Frequency: Quaterly

: tipsna71

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Produced fixed assets

USD at 2010 PPPs, per capita

Stock

OECD Well-being Database (National Accounts)

Frequency: Annual (T-2)

: 15_1

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Intellectual property assets

USD at 2010 PPPs, per capita

Stock

OECD Well-being Database (National Accounts)

Frequency: Annual (T-2)

: 15_2

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Household debt

Share of household net disposable income

Stock

OECD Well-being Database (National Accounts)

Frequency: Annual (T-2)

: 15_6

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

Financial net worth of the general government

Adjusted financial net worth of general government, percentage of GDP

Stock

OECD Well-being Database (National Accounts)

Frequency: Annual (T-2)

: 15_7

Data assessment:

Availability	Timeliness/ frequency	Accuracy	Comparabilty	Interpretability

References

Balestra, C. and L. Fleischer (2018), "Diversity statistics in the OECD: How do OECD countries collect data on ethnic, racial and indigenous identity?", *OECD Statistics Working Papers*, Vol. 2018/09, https://doi.org/10.1787/89bae654-en. [16]

Blanchflower, D. (2004), "Well-Being Over Time in Britain and the USA", *Journal of Public Economics*, Vol. 88, pp. 1359-1386, https://doi.org/10.1016/S0047-2727(02)00168-8. [28]

Boarini, R. (2021), "Well-being During the Great Recession: New Evidence From a Measure of Multi-dimensional Living Standards With Heterogeneous Preferences", *Scandinavian Journal of Economics*, pp. 1-34, https://doi.org/10.1111/sjoe.12461. [23]

Bouis, R. and R. Duval (2011), "Raising Potential Growth After the Crisis: A Quantitative Assessment of the Potential Gains from Various Structural Reforms in the OECD Area and Beyond", *OECD Economics Department Working Papers*, No. 835, OECD Publishing, Paris, https://doi.org/10.1787/5kgk9qj18s8n-en. [35]

Brand, J. (2015), "The Far-Reaching Impact of Job Loss and Unemployment", *Annual Review of Sociology*, Vol. 41, pp. 359-375, https://doi.org/10.1146/annurev-soc-071913-043237. [13]

Clark, A. (2008), "Relative Income, Happiness and Utility: An Explanation for the Easterlin Paradox and Other Puzzles", *Journal of Economic Literature*, Vol. 46/1, pp. 95-144, https://pubs.aeaweb.org/doi/pdfplus/10.1257/jel.46.1.95. [29]

Deaton, A. (1980), *Economics and Consumer Behaviour*, Cambridge University Press. [27]

Decancq, K. (2016), "Beyond GDP: Using equivalent incomes to measure well-being in Europe", *Social Indicators Research*, Vol. 126/1, pp. 21-55, https://link.springer.com/content/pdf/10.1007/s11205-015-0885-x.pdf. [22]

Decancq, K. (2015), "Happiness, Equivalent Incomes, and Respect for Individual Preferences", *Economica*, Vol. 82, pp. 1082-1106, https://www.jstor.org/stable/24751993. [25]

Égert, B. and P. Gal (2017), "The quantification of structural reforms in OECD countries: A new framework", *OECD Journal: Economic Studies*, https://doi.org/10.1787/eco_studies-2016-5jg1lqspxtvk. [37]

Exton, C. and L. Fleischer (forthcoming), "The Future of the OECD Well-being Dashboard", *OECD Papers on Well-being and Inequalities*, OECD Publishing, Paris. [7]

Exton, C. and M. Shinwell (2018), "Policy use of well-being metrics: Describing countries' experiences", *OECD Statistics Working Papers*, No. 2018/07, OECD Publishing, Paris, https://doi.org/10.1787/d98eb8ed-en. [10]

Fleurbaey, M. (2013), *Beyond GDP: Measuring Welfare and Assessing Sustainability*, Oxford University Press. [21]

Fleurbaey, M. (2009), "International Comparisons of Living Standards by Equivalent Incomes", *Scandinavian Journal of Economics*, Vol. 111/3, pp. 529-624, https://www.jstor.org/stable/40254847. [19]

Fujiwara, D. (2013), *A general method for valuing non-market goods using wellbeing data: Three-stage wellbeing valuation*. [34]

Johansson, Å. et al. (2013), "Long-Term Growth Scenarios", *OECD Economics Department Working Papers*, No. 1000, OECD Publishing, Paris, https://doi.org/10.1787/5k4ddxpr2fmr-en. [36]

Jones, C. (2016), "Beyond GDP: Welfare across Countries and Time", *American Economic Review*, Vol. 106/9, pp. 2426-57, https://www.aeaweb.org/articles?id=10.1257/aer.20110236. [20]

Layard R., G. (2008), "The marginal utility of income", *Journal of Public Economics*, Vol. 92, pp. 1846-1857, https://doi.org/10.1016/j.jpubeco.2008.01.007. [31]

Murtin, F. (2017), "Beyond GDP: Is There a Law of One Shadow Price?", *European Economic Review*, Vol. 100, pp. 390-411. [33]

Murtin, F. (2014), "Unemployment and the coverage extension of collective wage agreements", *European Economic Review*, Vol. 71/C, pp. 52-66, https://doi.org/10.1016/j.euroecorev.2014.06.010. [39]

Network, S. (ed.) (2019), *Global Happiness and Wellbeing Policy Report 2019*, Global Happiness Council (GHC), https://www.happinesscouncil.org. [11]

Nordhaus, W. (1973), *Is Growth Obsolete?*, National Bureau of Economic Research, https://www.nber.org/system/files/chapters/c3621/c3621.pdf. [17]

OECD (2022), *How's Life? Well-being Database*, https://stats.oecd.org/Index.aspx?datasetcode=HSL. [15]

OECD (2020), *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, https://doi.org/10.1787/9870c393-en. [8]

OECD (2017), *OECD Guidelines on Measuring the Quality of the Working Environment*, OECD Publishing, Paris, https://doi.org/10.1787/9789264278240-en. [4]

OECD (2017), *OECD Guidelines on Measuring Trust*, OECD Publishing, Paris, https://doi.org/10.1787/9789264278219-en. [5]

OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publishing, Paris, https://doi.org/10.1787/9789264191655-en. [6]

OECD (2011), *How's Life? Measuring Well-being*, OECD Publishing, https://doi.org/10.1787/9789264121164-en. [3]

OECD (2011), *Quality Framework and Guidelines for OECD Statistical Activities*, https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=std/qfs(2011)1&doclanguage=en. [9]

Ravallion, M. (2016), "Can Subjective Questions on Welfare be Trusted?", *Economic Development and Cultural Change*, Vol. 4, p. 64, https://doi.org/10.1086/686793. [32]

Ravallion, M. (2012), "Troubling Tradeoffs in the Human Development Index", *Journal of Development Economics*, Vol. 99/2, pp. 201-209, https://doi.org/10.1016/j.jdeveco.2012.01.003. [18]

Samuelson, P. (1974), "Complementarity: An Essay on the 40th Anniversary of the Hicks-Allen Revolution in Demand Theory", *Journal of Economic Literature*, Vol. 12/4, pp. 1255-1289, https://www.jstor.org/stable/2722379?seq=1. [24]

Sen, A., J. Stiglitz and J. Fitoussi (2009), "Report by the Commission on the Measurement of Economic Performance and Social Progress". [1]

Šooš, T. (2017), *Slovenian Development Strategy 2030*, https://www.gov.si/assets/vladne-sluzbe/SVRK/Strategija-razvoja-Slovenije-2030/Slovenian-Development-Strategy-2030.pdf. [12]

Stevenson, B. (2008), "Economic Growth and Subjective Well-being: Reassessing the Easterlin Paradox", *American Economic Review, Papers and Proceedings*, Vol. 101/3, pp. 598-604, https://www.nber.org/system/files/working_papers/w14282/w14282.pdf. [30]

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

Stock, J. (1993), "A Simple Estimator of Cointegrating Vectors in Higher Order Integrated Systems", *Econometrica*, Vol. 61/4, pp. 783-820, https://www.jstor.org/stable/2951763?origin=crossref&seq=1. [38]

Waddell, G. and A. Burton (2006), *Is Work Good for Your Health and Well-being?*, The Stationary Office (TSO), https://cardinal-management.co.uk/wp-content/uploads/2016/04/Burton-Waddell-is-work-good-for-you.pdf. [14]

Willig, R. (1981), "Social Welfare Dominance", *American Economic Review*, Vol. 71/2, pp. 200-204, https://www.jstor.org/stable/1815718?seq=1. [26]