OECD Statistics Working Papers 2018/01

Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database

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https://dx.doi.org/10.1787/7e1bf673-en

OECD

Organisation for Economic Co-operation and Development

SDD/DOC(2018)1

Unclassified **English - Or. English**

20 June 2018

STATISTICS AND DATA DIRECTORATE

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WORKING PAPER No.88

This paper describes how household wealth is distributed in 28 OECD countries, based on evidence from the second wave of the OECD Wealth Distribution Database.

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JT03433913

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Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database

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[1] The authors wish to thank Marco Mira d'Ercole (OECD Statistics and Data Directorate), Romina Boarini (OECD General Secretariat), Orsetta Causa (OECD Economics Department), Mathilde Mesnard (OECD Directorate for Financial and Enterprise Affairs), Michael Förster, Sebastian Königs, Horacio Levy and Céline Thevenot (all OECD Directorate for Employment, Labour and Social Affairs) for their comments on previous versions of the document, as well as Milenko Fadic and Christine Le Thi (both OECD Statistics and Data Directorate) for statistical assistance. Estimates drawn from the micro-data files of various countries were provided to the OECD by: Vanessa Nelson, Australian Bureau of Statistics; Brian Murphy, Statistics Canada; Marcus Cobb, Patricia Medrano and Francisca Uribe, Central Bank of Chile; Bo Møller and Jarl Quitzau, Statistics Denmark; Shunichi Shimakita, Statistics Bureau of the Japanese Government; You Kwon Park, Korean National Statistical Office; Noortje Pouwels-Urlings, Statistics Netherlands; Caroline Brooking, Statistics New Zealand; Jon Epland, Statistics Norway; Alan Newman and Richard Tonkin, Office for National Statistics, United Kingdom; and Kevin Moore, Federal Reserve Board, United States. For Austria, Belgium, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Latvia, Poland, Portugal, Slovenia, the Slovak Republic and Spain, estimates were computed by the OECD based on the public-use micro-data from the Eurosystem Household Finance and Consumption Survey conducted by the Household Finance and Consumption Network. The OECD wishes to acknowledge the essential contribution of these researchers and organisations, as well as the participants in the OECD COPE conference *"Wealth inequalities: Measurement and Policies"*, held in Paris on 26 April 2018.

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Abstract / Résumé

This paper describes how household wealth is distributed in 28 OECD countries, based on evidence from the second wave of the OECD Wealth Distribution Database. A number of general patterns emerge from these data. First, wealth concentration is twice the level of income inequality: across the 28 OECD countries covered, the wealthiest 10% of households hold, on average, 52% of total household wealth, while the 60% least wealthy households own little over 12%. Second, up to a quarter of all households report negative net worth (i.e. liabilities exceeding the value of their assets) in a number of countries. In addition, some countries feature large shares of households with high levels of debt relative to both their incomes and the assets that they hold; this potentially exposes such households to significant risks in the event of changes in asset prices or falls of their income. Third, more than one in three people are economically vulnerable, as they lack liquid financial assets to maintain a poverty-level living standard for at least three months. Fourth, one in three households has received some gift or bequest in their life, with this share being considerably larger among high income and high wealth households. The paper also describes changes in wealth distribution since the Great Recession among the sub-set of countries for which repeated observations are available in the OECD Wealth Distribution Database. Finally, the paper discusses a number of methodological challenges, notably on how to better account for the top end of the wealth distribution.

Keywords: household wealth, wealth inequality, OECD, database.
JEL Classification: C81, D31, D12, D63, I32.

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Ce document décrit la répartition du patrimoine des ménages dans 28 pays de l'OCDE, à partir de la deuxième vague de collecte de la base de données de l'OCDE sur la distribution des patrimoines. Il en ressort un certain nombre de tendances générales. Premièrement, la concentration du patrimoine est deux fois plus élevée que le niveau moyen de l'inégalité des revenus : dans les 28 pays de l'OCDE étudiés, les 10 % des ménages les plus aisés détiennent, en moyenne, 52 % du total de la richesse des ménages, contre un peu plus de 12 % pour les 60 % du bas de la distribution. Deuxièmement, jusqu'à un quart des ménages font état d'un patrimoine net négatif *(leurs créances excédant la valeur de leur patrimoine)* dans plusieurs pays. La part des ménages fortement endettés par rapport au niveau de leurs revenus et de leur patrimoine est dans certains cas très élevée, ce qui expose ces ménages aux fluctuations des prix de leurs actifs ou à une baisse de leur revenu. Troisièmement, plus d'une personne sur trois est économiquement vulnérable, faute d'actifs financiers liquides pour maintenir son niveau de vie au seuil de pauvreté pendant au moins trois mois. Quatrièmement, un ménage sur trois a reçu un don ou un legs sous une forme quelconque, cette proportion étant plus importante parmi les ménages qui affichent un niveau de revenus ou de patrimoine élevé. Ce document décrit également l'évolution de la distribution de la richesse depuis la grande récession pour les pays pour lesquels on dispose d'observations dans la Base de données de l'OCDE sur la distribution des patrimoines, ainsi qu'un certain nombre de problèmes méthodologiques, en particulier comment mieux comptabiliser le haut de la distribution des patrimoines.

Mots clés : richesse des ménages, inégalité de richesse, OCDE, base de données.
Classification JEL : C81, D31, D12, D63, I32.

Table of contents

Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database 2

1. Introduction and main findings 6

2. The distribution of wealth across OECD countries 10

3. Changes in household wealth, with a focus on developments since the Great Recession 33

4. Household debt 40

5. Inheritances and gifts 50

6. Asset-based poverty 56

7. Conclusion 64

References 65

Annex A. 68

1. Introduction and main findings

1. There is now widespread recognition (particularly following the 2009 report of the *Commission on the Measurement of Economic Performance and Social Progress* (Stiglitz, Sen and Fitoussi, 2009[1])) that GDP measures (or GDP per capita) are insufficient to understand households' economic well-being. In seeking alternative measures of material living standards, much of the focus has been on household income, with measures such as median disposable income as well as income inequality increasingly featuring in public debates.

2. However, even household income provides a partial view of the economic resources available to support people's consumption: it is also important to consider household wealth. Households can use wealth to consume more than their income, or may consume less than their income and add to their wealth. Wealth allows individuals to smooth consumption over time and to protect them from unexpected changes in income. Households with reserves of wealth can also use them to generate capital income and to support a higher standard of living. While some wealth is held in assets that are not easily converted into money, its existence may allow people to borrow to finance expenditures, e.g. for house extensions, motor vehicle purchases, and so on.

3. In addition to assessing the overall economic well-being of different groups within society, household-level data on wealth can help to understand how particular types of assets or liabilities are distributed within society, or the ways in which different types of households respond to financial shocks and other economic developments. This information is important not only for developing and evaluating policies designed to address the disadvantage of certain population groups, but also in identifying areas of risk, such as high levels of debt among certain groups, which might pose risks not just for them but for the broader economy.

4. In recognition of the importance of the distribution of wealth for household economic well-being, wealth inequality has become the subject of increasing focus among policy-makers, the media, and the general public. In order to inform this debate through the provision of high quality, comparable data across the OECD, the *OECD Wealth Distribution Database (WDD)* was launched in 2015, and has recently been updated and expanded to cover a wide range of measures including household assets, debt, inheritances and more for 28 OECD countries (Box 1.1).

5. This paper describes some of the latest findings from the wealth database, building upon the analyses contained in *In It Together* (OECD, 2015[2]) and *How's Life? 2017: Measuring Well-being* (OECD, 2017[3]). Section 2 provides an overview of how both mean wealth and its distribution vary across OECD countries, as well as evidence on how income and wealth are associated with each other at the household level. Section 3 describes changes in wealth levels and distribution, with a special focus on changes since the Great Recession for a sub-set of countries for which the OECD WDD contains a longer time series. Section 4 focuses on the levels and composition of household debt, as well as the level of over-indebtedness among different groups. Section 5 looks at the

likelihood of receiving an inheritance or gift, their size and the extent to which households use them to build wealth in the long-term. Finally, Section 6 presents measures of asset-based poverty, i.e. the extent to which individuals are vulnerable in the case of a sudden loss of income due to the limited liquid financial assets that they hold.

6. The main findings of this paper are as follows:

- Wealth inequality is twice the level of income inequality on average. Across the OECD, the wealthiest 10% of households hold 52% of total net wealth, compared with 24% of total income held by the 10% of people at the top of the income distribution. Wealth inequality, as measured by the net wealth share held by the top 10% of households, is highest in the United States, followed by the Netherlands and Denmark, and lowest in the Slovak Republic and Japan. In some cases, however, country-rankings may be affected by methodological issues (such as the treatment of pension wealth and the best ways to accurately capture wealth at the top of the distribution) that will require significant investigation and investment in the future.

- Households with the lowest net wealth are not necessarily 'poor' in terms of their income. On average, 19% of households in the lowest wealth quintile are in the top two income quintiles. Nor is it the case that households with the lowest levels of net wealth necessarily have little in the way of assets. In the Netherlands, Denmark, Norway and Ireland in particular, some households in the bottom wealth quintile combine quite substantial assets with high levels of debt.

- The Netherlands, Denmark and Norway also feature large shares of households with high debt relative to both their incomes and assets. This potentially exposes such households to significant risks due to changes in asset prices, interest rates or personal circumstances. Indeed, negative net wealth affects up to a quarter of households in some countries. In Ireland and the Netherlands, this seems to be associated with falling property prices since the crisis, leaving substantial numbers of homeowners with mortgages that exceed the value of their property.

- Out of the five OECD countries for which several observations are available, wealth inequality increased in both the United States and the United Kingdom since the Great Recession. These changes are associated with falling house prices in the aftermath of the crisis, lower rates of home ownership, and higher prices of financial assets in the recovery benefiting those at the top of the distribution.

- Over 1/3 of people with income above the poverty line are economically vulnerable, meaning they lack the financial resources necessary to deal with a sudden loss of income due to, for instance, unemployment, family breakdown, or illness. On average, while 14% of people in OECD countries are income poor, a further 36% lack the liquid financial assets needed to maintain a poverty-level living standard for at least three months. The prevalence of this problem varies widely across countries, ranging between 62% in Latvia to 4% in Korea.

- One in three households has received some form of gift or bequest in their life to date. Higher income households are more likely to have received an inheritance or gift and, among those who have received one, to have received inheritances of much higher value. The strong link between people's current income and the

wealth inherited will tend to lower intergenerational mobility. Similarly, the incidence and value of inheritances are higher for those in the top wealth quintile than for those at the bottom, implying that inheritances increase absolute differences in wealth across the distribution. However, in some cases, inheritances account for a larger share of wealth at the bottom of the distribution, meaning inheritances may reduce relative differences in wealth, at least in some countries.

Box 1.1. The OECD Wealth Distribution Database

The OECD Wealth Distribution Database (WDD) is based on national sources (see Table A.1 in the annex for an overview of sources and main characteristics; additional information is available at http://stats.oecd.org/Index.aspx?DataSetCode=WEALTH). Estimates referring to the most recent year (around 2015) are currently available for 28 OECD countries, while estimates referring to more than one year are available for 19 of them. Countries currently included in the database are Australia, Austria, Belgium, Canada, Chile, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, Latvia, the Netherlands, Norway, New Zealand, Poland, Portugal, the Slovak Republic, Slovenia, Spain, the United Kingdom (limited to Great Britain) and the United States. For 11 countries, estimates are obtained through a questionnaire completed by national contact points in National Statistics Offices (and central banks) that regularly collect micro-level information on household wealth; among these, estimates for Australia, Canada, Chile, Japan, Korea, New Zealand, the United Kingdom and the United States are based on household surveys, while those for Denmark, the Netherlands and Norway are based on tax and administrative records. For 17 countries (i.e. those participating in the Euro-System Household Finance and Consumption Survey), estimates for the two most recent years were computed by the OECD based on the public use file provided by the European Central Bank (complemented, in the case of France and Italy, by estimates for earlier years provided by national contact points). Concepts used in the OECD Wealth Distribution Database are in line with the OECD Guidelines for Micro Statistics on Household Wealth (OECD, 2013[4]), with data sharing the following characteristics:

- They refer to the distribution of financial and non-financial assets and liabilities across households (rather than across persons or adults), with no adjustment made to reflect differences in household size (which is the convention used by the OECD when analysing the distribution of household income). The data refer to the assets and liabilities held by private households resident in the country.

- Assets and liabilities are classified based on the nomenclature proposed by the OECD Guidelines, which distinguishes between five categories of non-financial assets, eight categories of financial assets, and three categories of financial liabilities. Among financial assets, assets held in the form of "pension schemes related to employment" are reported as a separate category and excluded from the key wealth measures described in this paper to improve comparability across countries (data on the value of such pensions is available in only a limited number of countries). Pension wealth is discussed in more detail in Box 2.4.

- Information is collected on net wealth broken down by housing status (three groups), age of the household head (six groups), number of household members (five groups), household type (six groups), education of the household head (four groups), main source of income (five groups), and wealth and income quintiles (with additional breakdowns for the top 10%, 5% and 1% of the distribution). Information is also collected on the share of households holding various types of assets and liabilities; on the mean value of assets and liabilities for households holding them; on the joint distribution of wealth and income across household quintiles; and on the extent of over-indebtedness across households (based on two measures: debt-to-asset ratio above 75%; and debt-to-income ratio exceeding 3). Information is also collected on the share of individuals with liquid financial assets or net wealth below a given threshold (e.g. 25 or 50% of the income poverty line).

Despite efforts made to ensure common treatments and classifications across countries, the measures included in the OECD WDD are affected by differences that may limit their comparability. Three of the most important are: i) differences between countries in the year when data are collected (ranging between 2012 and 2016, for the most recent year); ii) differences in the degree of oversampling of rich households across countries, which may affect comparisons of both levels and concentrations of household wealth (see Box 2.3 for a discussion of over-sampling); iii) differences in the income concept recorded: while most wealth surveys provide information on household disposable income, countries covered by the Household Finance and Consumption Survey rely on the concept of gross income (with the exception of Italy and Finland, for which information on disposable income is also available), which limits the cross-country comparability of estimates of the joint distribution of income and wealth.

2. The distribution of wealth across OECD countries

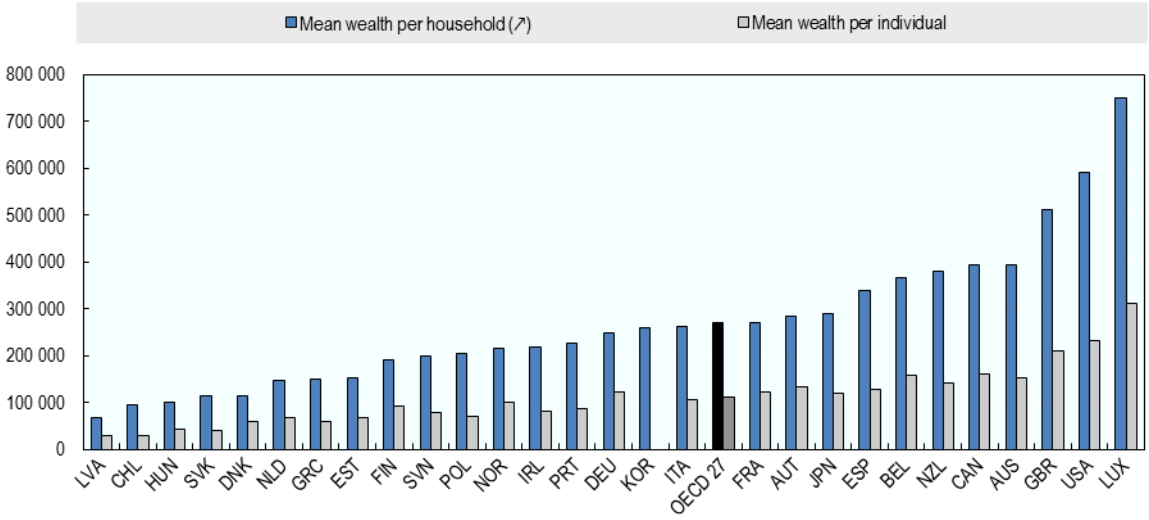
7. This section provides an overview of how the distribution of wealth varies across OECD countries, based on the latest data from the OECD WDD. It looks at many of the measures used in previous OECD analyses in this field, updating the information reported in *In It Together* (OECD, 2015[2]), including levels of mean/median wealth, various measures of wealth inequality, the relationship between the wealth and income distributions and the demographic characteristics of households holding wealth.

2.1. Levels of household wealth across countries

8. Mean household net wealth varies considerably across the 28 countries covered by the OECD WDD (Figure 2.1). According to the latest data, mean net wealth per household (measured through purchasing power parities) was highest in Luxembourg (USD 751 000), the United States (USD 592 000) and the United Kingdom (USD 511 000), and lowest in Latvia (USD 68 000), Chile (USD 95 000) and Hungary (USD 101 000).

Figure 2.1. Mean net wealth per household and per person

2015 or latest available year, values in 2011 USD



Note: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption. Per-individual estimates are not available for Korea. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

9. While the household is the preferred unit of analysis for data on wealth distribution (OECD, 2013[4]), other units such as the individual may useful in some circumstances. Figure 2.1 also shows values of mean wealth per person.[2] While the ranking of countries is largely unchanged, particularly in the tails of the distribution, there is more variation in country rankings in the middle. For example, mean wealth per household is higher in France and Italy than in Germany, while the opposite is true when considering mean wealth per person, reflecting the smaller average household size in Germany. Similarly, mean wealth per household is lower in Norway than in Portugal and Ireland, but higher when considering wealth per person.

10. In addition to household size, cross-country differences in the distribution of household wealth may also reflect other socio-demographic factors such as the age structure of the population. Cowell, Karagiannaki and McKnight (2017[5]) looked at the extent to which cross-country differences in household wealth are explained by demographic characteristics such as age and household composition, as well as economic variables including income. They concluded that the importance of these factors was limited, with the largest share of cross-country differences attributed to unexplained country-specific effects (including macro level economic factors and institutional differences). Similarly, Fessler, Linder and Segalla (2014[6]) show that controlling for household composition does not change the broad pattern of cross-country differences in household wealth in the euro area, although it affects the relative ranking of some countries (mainly due to differences in household size).

Box 2.1. How do the data from the OECD Wealth Distribution Database compare with the National Accounts?

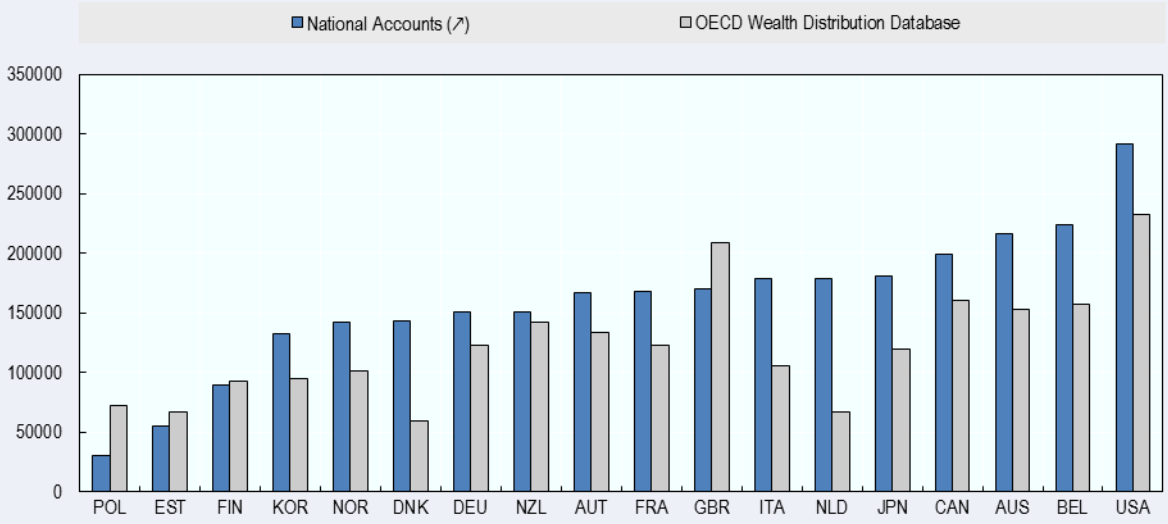
In addition to the household microdata included in the OECD WDD, information on household wealth is also available through the household balance sheet data in the OECD National Accounts. While these data can provide more timely and regular information on aggregate levels of household wealth (and simple per capita or per household averages), no distributional information is available from this source.

Comparing data from the OECD WDD and the National Accounts is not straightforward, due to differences in the populations covered, definitions used and underlying data sources. In addition, within the *OECD National Accounts database*, only information on financial assets (which represent only a small share of overall household wealth for most households, Figure 2.5) is available for many countries. For those countries where information on both financial and non-financial assets is available in the National Accounts data, Figure 2.2 compares the two sources for mean wealth per person (rather than per household). With the exception of Poland and the United Kingdom, net household wealth per person is always higher in the OECD National Account data than in the OECD WDD, with the largest difference in the Netherlands and Denmark (around 40% of the net household wealth per person recorded in the OECD WDD).

[2] While income (or consumption) measures presented at the individual level are generally equivalised to reflect economies of scale in consumption, no internationally agreed equivalence scales exist for household wealth, and there is no consensus on whether the scales used for income are also appropriate for wealth. As a consequence, per individual estimates are presented on a per capita basis.

Figure 2.2. Net household wealth per person in the OECD WDD data and National Accounts

2015 or latest available year, values in 2011 USD



Note: Wealth values are expressed in 2011 USD by first expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into USD through the use of purchasing power parities for household consumption. Information on non-financial assets from National Accounts only includes 'fixed assets' and 'land' and refers to both households and non-profit institutions serving households. OECD WDD data for Korea do not contain information on the number of individuals in the survey: the per-person estimate for Korea shown above is based on overall population count from administrative data, which will lower the estimate due to the inclusion of people living in collective institutions.
Source: OECD Wealth Distribution Database, oe.cd/wealth, and OECD National Accounts Database, http://stats.oecd.org/Index.aspx?DataSetCode=NAAG.

Differences between the wealth measures from household wealth micro-data and National Accounts household balance sheets reflect a range of factors (OECD, 2013[2]; Honkkila and Kavonius, 2013[5]). One is differences in the wealth concepts used in the two sources. Distributional statistics start from the perspective of individual households, whereas National Accounts focus on the household sector as a whole; therefore, some concepts may make sense from one perspective but not from the other. For example, consumer durables (e.g. vehicles) are excluded from the wealth concept used in the National Accounts but these items can form an important part of household wealth, particularly for those towards the bottom of the wealth distribution. Other differences in wealth concepts between the two sources are more pragmatic, as some concepts may be easier to measure at the macro than the micro level. For example, pension wealth held in occupational pension schemes is excluded from the main wealth measure in the OECD WDD, due to limited data availability across all OECD countries (though voluntary private pension schemes are included).

There are also differences due to population coverage. The distributional estimates primarily come from household surveys, whose coverage is limited to private households. This means that those living in communal establishments such as nursing homes and university halls of residence are typically excluded in the micro figures. Chakraborty et

al. (2016[7]) estimate that the population covered by the Household Finance & Consumption Survey is between 1% and 4% lower than in the national accounts, depending on the country. Unfortunately, there is little or no comparative information on the share of assets and liabilities held by this group of households. Another difference is that, in many countries, household sector balance sheets include wealth held by non-profit institutions serving households (NPISH); according to Honkkila and Kavonius (2013[8]), this sector accounts for between 1% and 8% of all household assets in those euro-area countries where it is possible to separate the two sectors.

There has been much interest in recent years in better understanding the differences between micro and macro statistics for household wealth (as well as income and consumption). In early 2016, the European Central Bank (ECB) established an Expert Group on Linking Micro and Macro Household Data (EG-LMM) to understand, quantify and explain the main differences between micro and macro wealth statistics, before seeking to combine information from both sources to produce distributional statistics within a National Accounts framework. Work by this group, as well as the OECD/Eurostat Expert Group on Disparities in a National Accounts Framework (EG-DNA, which is focussed primarily on income, consumption and savings), will help achieve more coherent statistics on household finances, as well as improve the quality and usefulness of both micro and macro statistics for a range of users.

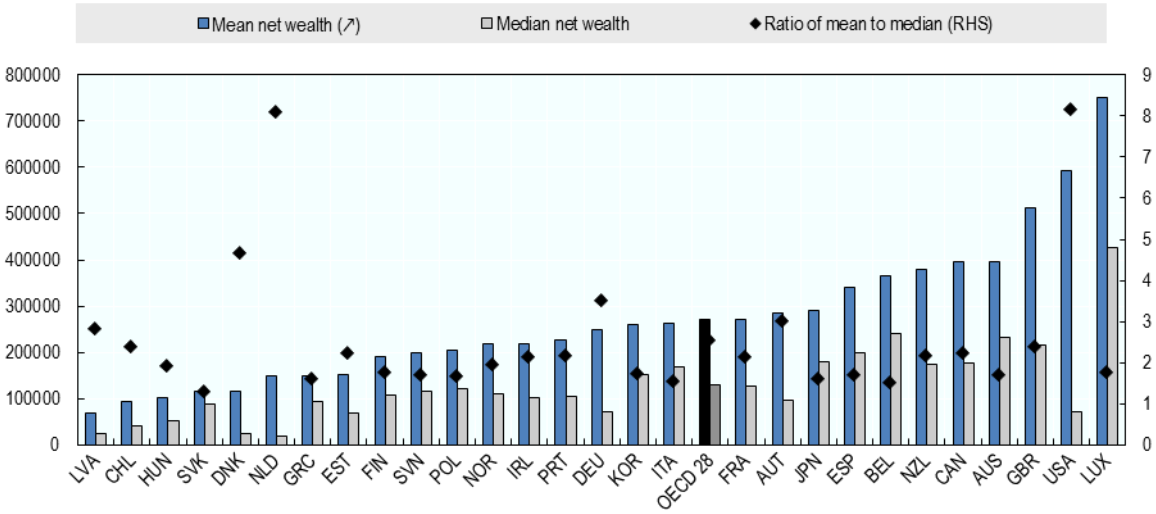
2.2. Household wealth inequality

11. Income inequality is typically measured using indicators such as the Gini coefficient or various inter-quantile ratios (e.g. the S80/S20 or the P90/P10). However, such indicators tend to be poorly suited to measure wealth inequality, due to the large number of households with negative net wealth (Amiel, Cowell and Polovin, 1996[9]; Cowell, Karagiannaki and Mcknight, 2017[5]; Morrisson and Murtin, 2013[10]). The ratio between mean and median net wealth therefore provides a useful alternative measure of wealth inequality within a country.

12. Median net wealth better represents the conditions of the 'typical' household, with larger differences between mean and median wealth reflecting higher levels of wealth inequality. On average, mean net wealth is 2.6 times higher than median wealth across the 28 OECD countries included in the OECD WDD (Figure 2.3). On this measure, wealth inequality is highest in the United States and the Netherlands, both of which have ratios in excess of 8, followed by Denmark, with a ratio of 4.7. By contrast, half of OECD countries have ratios below 2.

Figure 2.3. Mean and median net wealth per household and ratio of mean to median

2015 or latest available year, values in 2011 USD



Note: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

13. These differences in levels of inequality also lead to large differences in the ranking of countries by the two (i.e. mean and median) measures. For example, while the United States has the second highest mean net wealth, it is ranked 21st in terms of median wealth. Similarly, while the Netherlands is ranked 23rd in terms of mean net wealth it has the lowest median wealth among the 28 countries in the OECD WDD. There are also large differences in country ranking when going from mean to median for Germany (from 14th to 22nd), and Austria (10th to 18th).

14. A complementary approach to studying wealth inequalities is to focus on the share of wealth held by those at the very top of the distribution. Table 2.1 shows the household net wealth shares held by the 10%, 5% and 1% of households at the top of the wealth distribution in each country, along with shares of those held by the bottom 40% and 60%. Based on top wealth shares, household net wealth is most unequally distributed in the United States, where the richest 10% of households own 79% of total wealth, while the richest 1% holds 42%. By comparison, the bottom 60% of the wealth distribution in the United States own just 2% of total net wealth. Beyond the United States, countries in which the richest 10% of households own the largest proportion of wealth include the Netherlands (68%), Denmark (64%) and Latvia (63%). When considering these statistics, it is important to note that in some (but not all) countries they may represent an under-estimate of the wealth share held by the very rich, with other studies showing higher shares (Alvaredo et al., 2017[11]; Davies, Lluberas and Shorrocks, 2017[12]). Differences among sources may however also reflect differences in definitions and measurement approaches, as described in Box 2.2 and Box 2.3. The treatment of pension wealth, in particular, can have an impact on the level of wealth inequality in some countries (see Box 2.4).

Table 2.1. Selected indicators of the distribution of household net wealth

2015 or latest available year, percentages

	Bottom 40% share	Bottom 60% share	Top 10% share	Top 5% share	Top 1% share
Australia	4.9	16.5	46.5	33.5	15.0
Austria	1.0	8.0	55.6	43.5	25.5
Belgium	5.7	19.0	42.5	29.7	12.1
Canada	3.4	12.4	51.1	37.0	16.7
Chile	0.0	8.5	57.7	42.7	17.4
Denmark	-8.6	-3.9	64.0	47.3	23.6
Estonia	3.8	12.8	55.7	43.2	21.2
Finland	2.2	13.6	45.2	31.4	13.3
France	2.7	12.1	50.6	37.3	18.6
Germany	0.5	6.5	59.8	46.3	23.7
Greece	5.3	17.9	42.4	28.8	9.2
Hungary	5.0	15.4	48.5	35.6	17.2
Ireland	-2.1	7.2	53.8	37.7	14.2
Italy	4.5	17.3	42.8	29.7	11.7
Japan	5.3	17.7	41.0	27.7	10.8
Korea	6.0	17.7	..	..	..
Latvia	0.0	7.1	63.4	49.1	21.4
Luxembourg	3.9	15.3	48.7	36.3	18.8
Netherlands	-6.9	-4.0	68.3	52.5	27.8
New Zealand	3.1	12.3	52.9	39.7	..
Norway	-3.0	7.3	51.5	37.8	20.1
Poland	6.2	18.3	41.8	29.0	11.7
Portugal	3.2	12.4	52.1	36.5	14.4
Slovak Republic	10.6	25.9	34.3	23.0	9.3
Slovenia	5.6	17.3	48.6	37.9	23.0
Spain	6.9	18.7	45.6	33.3	16.3
United Kingdom	3.4	12.1	52.5	38.8	20.5
United States	-0.1	2.4	79.5	68.0	42.5

Note: "..." refers to non-available data.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

15. Looking at the concentration of wealth at the other end of the distribution, the share held by the bottom 60% of households is negative in both Denmark and the Netherlands, meaning that, on average, these households have liabilities exceeding the value of their assets. This reflects the large proportion of households in these countries with negative housing equity, i.e. a value of their mortgages and other real-estate debt exceeding the value of the property they own (see also Section 4). Household in the bottom 40% of the distribution also have a negative wealth share in Norway, Ireland and the United States, again reflecting household debt exceeding the value of their assets.

Box 2.2. How do the data from the OECD Wealth Distribution Database compare to other sources of information on wealth inequalities?

In addition to the *OECD Wealth Distribution Database*, other international studies assess wealth inequality across a subset of OECD countries (and beyond). These include the *Credit Suisse Global Wealth Report* and *Databook* (Davies, Lluberas and Shorrocks, 2017[12]) and the *World Inequality Database (WID)* used for the *World Inequality Report 2018* (Alvaredo et al., 2017[11]). Information on the wealth shares of the top 10% and top 1% for OECD countries across these studies is summarised below (Table 2.2).

Table 2.2. Top wealth shares across different international databases

Concentration of household wealth at the top of the wealth distribution, percentages

	Top 10% share			Top 1% share		
	OECD WDD	WID	Credit Suisse	OECD WDD	WID	Credit Suisse
Australia	46	..	52	15	..	23
Austria	56	..	66	26	..	31
Belgium	42	..	47	12	..	18
Canada	51	..	59	17	..	26
Chile	58	..	68	17	..	40
Denmark	64	..	68	24	..	33
Estonia	56	..	..	21	..	..
Finland	45	..	63	13	..	31
France	51	55	54	19	23	22
Germany	60	..	65	24	..	32
Greece	42	..	55	9	..	26
Hungary	48	..	35	17	..	11
Ireland	54	..	66	14	..	33
Italy	43	..	51	12	..	22
Japan	41	..	45	11	..	15
Korea	..	..	57	..	..	27
Latvia	63	..	..	21	..	..
Luxembourg	49	..	..	19	..	..
Netherlands	68	..	54	28	..	22
New Zealand	53	..	57	..	..	24
Norway	51	..	63	20	..	31
Poland	42	..	65	12	..	39
Portugal	52	..	59	14	..	28
Slovak Republic	34	..	..	9	..	..
Slovenia	49	..	..	23	..	..
Spain	46	..	54	16	..	25
United Kingdom	52	52	57	20	20	24
United States	79	73	77	42	39	38

Source: OECD Wealth Distribution Database, oe.cd/wealth; Credit Suisse Global Wealth Databook 2017; and World Inequality Database, http://wid.world/.

For the three countries for which estimates of the top 10% and top 1% shares are available from each of the sources (France, United Kingdom and United States), all three sources tell the same broad story: The concentration of wealth at the top of the distribution is much higher for the United States than for either the United Kingdom or

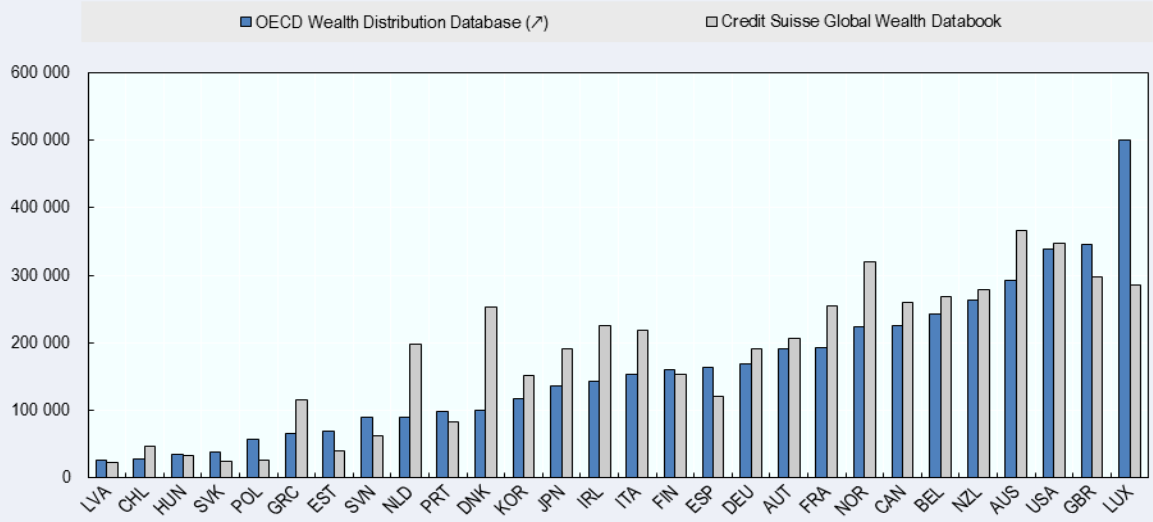
France. Top wealth shares for the United Kingdom and France are very similar in the three studies. Looking at the full range of countries covered by both the OECD WDD and Credit Suisse, in 19 (out of 22), the top 10% shares are larger in the Credit Suisse data (with an average difference of 6 percentage points), with a similar pattern for the top 1%.

These differences reflect a mixture of conceptual differences, different methodological assumptions, and measurement/estimation error inherent in each source. The Credit Suisse data use many of the same national sources as the OECD WDD for distributions, but rely on wealth totals from National Accounts household balance sheets when available (Box 2.1). The Credit Suisse estimates also focus on wealth of individuals aged 20 or over, rather than households, which is likely to influence the shape of the distribution. A further difference is that the Credit Suisse data rely on an adjustment made to the top tail of the distribution (based on information on the number of billionaires reported by the Forbes rich list to fit a Pareto distribution to the upper tail). The WID data also make use of National Accounts wealth concepts, alongside data from tax returns (for France), estates returns (for the United Kingdom) and survey data (for the United States).

Figure 2.4 presents mean net wealth from the OECD and Credit Suisse data on a more comparable basis, by: i) presenting the OECD data on a per adult (aged 20 or above) basis; and ii) using market exchange rates rather than purchasing power parities. On this basis, the two sets of estimates are broadly comparable for most countries (though the Credit Suisse estimates are higher than the OECD ones for 17 of the 28 countries considered, with large differences in the case of the Netherlands, Denmark, Norway and Australia, and smaller ones in Greece, Ireland and Italy; and significantly lower in the case of Luxembourg and, to a lesser extent, the United Kingdom.

Figure 2.4. Mean net wealth per adult from OECD Wealth Distribution Database and Credit Suisse Global Wealth Databook

2015 or latest available year, values in 2014 USD



Note: Unlike other charts in this working paper, values for OECD data are expressed in 2014 USD based on prevailing foreign currency rates, rather than using purchasing power parities.
Source: OECD Wealth Distribution Database, oe.cd/wealth; and Credit Suisse Global Wealth Databook 2017.

16. The composition of household wealth varies significantly both across countries and across the wealth distribution (Figure 2.5). While the gross value of assets (i.e. excluding liabilities) held by households in the bottom wealth quintile is relatively low in most countries, households in the Netherlands, Ireland, Denmark and Norway in this quintile own a fairly high level of assets on average (Panel A). Dutch households in this quintile have gross assets of USD 149 000 (in 2011 prices), more than the average held by the middle quintile. Assets held by the bottom quintile in these countries are mainly real-estate wealth, associated with mortgages exceeding the value of that property, meaning that average household net wealth is negative for the bottom quintile in each of these four countries.

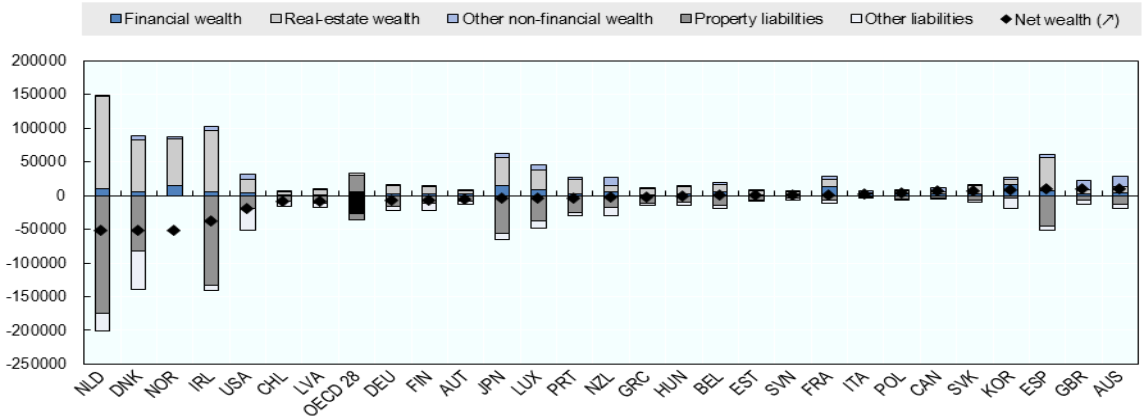
17. As might be expected, the value of financial assets held by households in the bottom quintile is relatively low, an average of USD 5 300, though again with some variation across countries. Households in the bottom wealth quintile own an average of USD 15 700 in financial assets in Korea and Japan. In both countries, this reflects the importance of deposits and voluntary private pensions/life insurance for this group, with other non-pension financial assets also significant in Korea. The average value of financial assets in the bottom wealth quintile is also relatively high in Norway and France, with deposits as the main source of financial wealth in Norway, and business assets in France.

18. Panel B of Figure 2.5 shows the main wealth components for households in the middle quintile of the wealth distribution. For all countries, real-estate wealth represents the largest share of gross assets in this part of the distribution, with a contribution varying from 53% in Germany to 89% in both Slovenia and Chile.

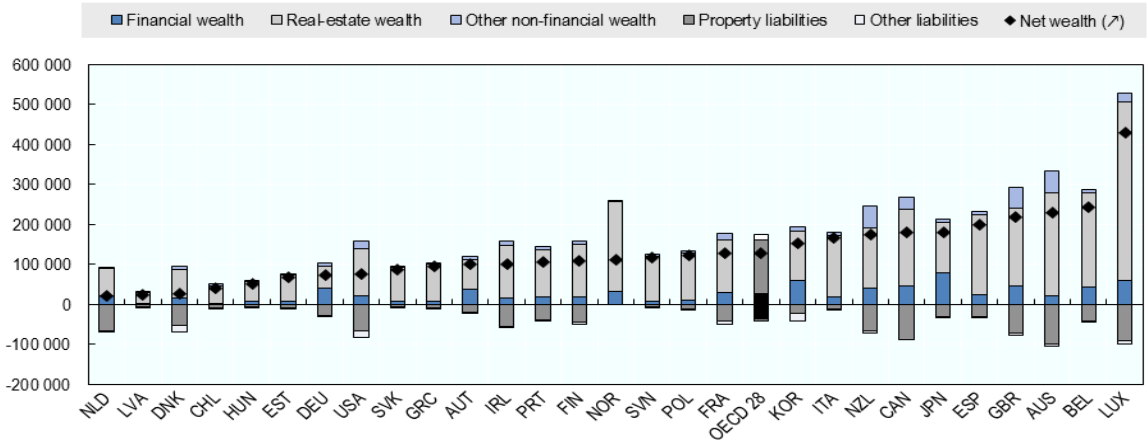
19. In absolute terms, households in Japan have the highest level of financial assets among those in the middle of the distribution, with an average value of USD 78 700, followed by Korea (USD 61 300) and Luxembourg (USD 59 400). Financial assets also make up a large proportion of overall gross assets in Germany and Austria. In most of these countries, deposits (including savings accounts) represent the largest component of financial assets for the middle quintile, though in Korea voluntary private pension funds, individual life insurance and other non-pension financial assets are also important.

Figure 2.5. Composition of household net wealth of bottom, middle and top quintiles

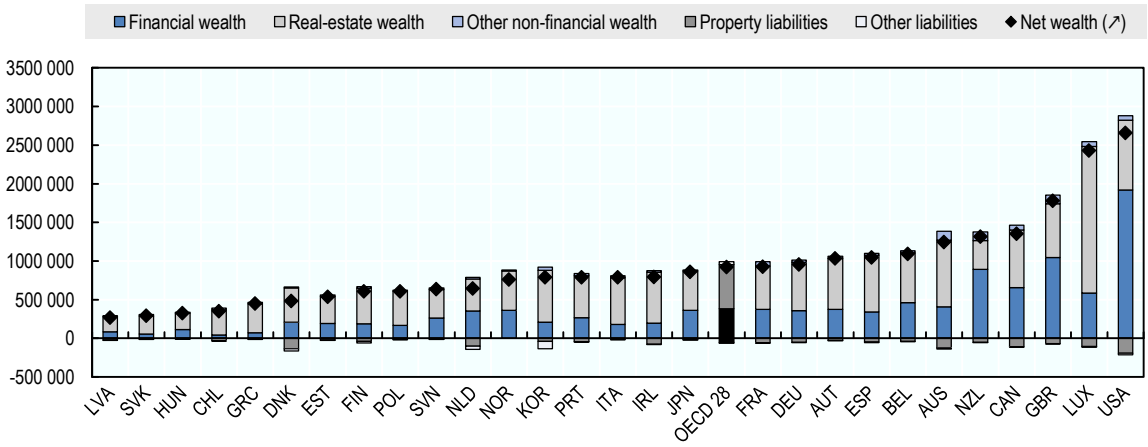
Panel A: Wealth composition of poorest 20% of households, 2015 or latest available year



Panel B: Wealth composition of middle 20% of households, 2015 or latest available year



Panel C: Wealth composition of richest 20% of households, 2015 or latest available year



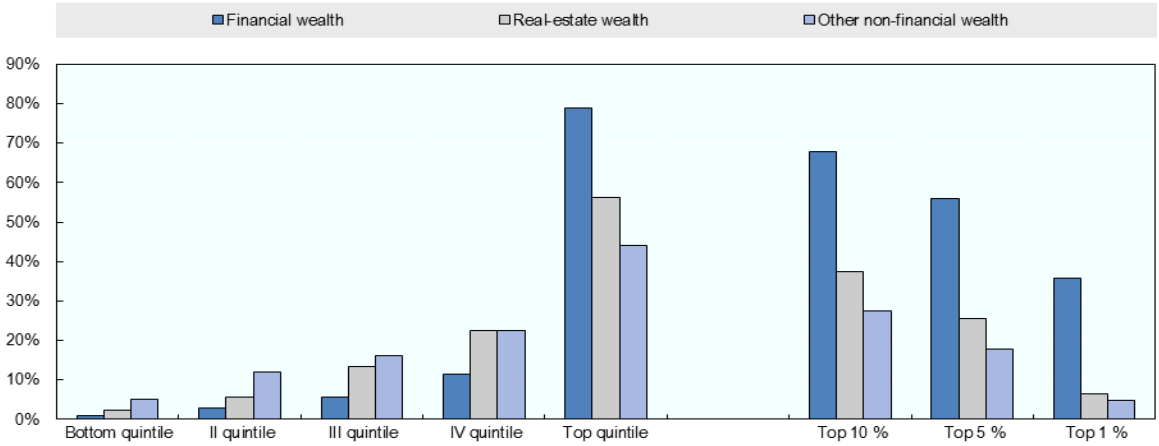
Note: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption. The breakdown of household liabilities is not available for Norway, so the real-estate liabilities figure also includes other (non-real-estate) liabilities.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

20. Financial assets are much more important at the top of the distribution, particularly in the United States, New Zealand and the United Kingdom, where they make up over half of gross assets of households in the top quintile (Figure 2.5, Panel C). Households in this quintile in the United States have the largest holdings of financial wealth, at around USD 1.9 million, mainly in the form of unlisted shares, mutual funds and other investment funds. The country with the second highest level of financial assets in the top quintile is the United Kingdom, with an average of USD 1.0 million, mainly made up of voluntary private pension funds, business assets and deposits. By contrast, high wealth among households in the top quintile in Luxembourg is largely made up of property, with average real-estate assets of USD 1.9 million, spilt evenly between households' main residences and other real estate (e.g. second homes and investment properties).

21. Financial assets are much more unequally distributed than non-financial ones (Figure 2.6). Across the 28 OECD countries covered by the OECD WDD, households in the top wealth quintile have average financial wealth around 72 times that of those in the bottom quintile, compared with around 23 times for real-estate wealth. The gap between the top and bottom quintiles for financial assets is even wider in some countries (with a value 525 times that of the bottom quintile in the United States and 405 times in the United Kingdom). By contrast, the ownership of financial assets is much more evenly distributed in Korea (13 times) and the Slovak Republic (19 times).

Figure 2.6. Shares of financial and non-financial assets for households belonging to different quintiles of the wealth distribution

OECD average, 2015 or latest available year



Source: OECD Wealth Distribution Database, oe.cd/wealth.

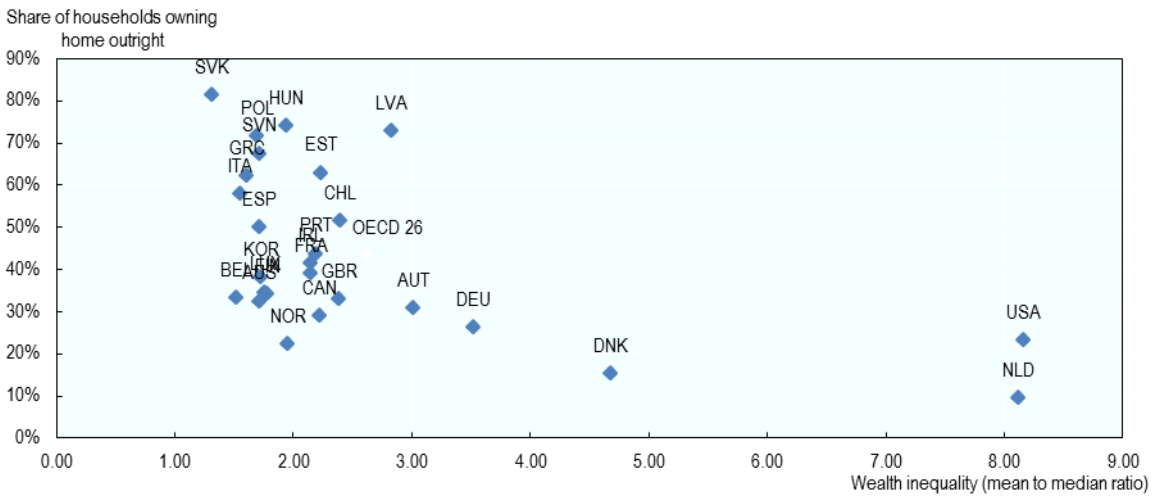
22. Because of the its high concentration at the top of the distribution, ownership of financial assets is the main factor influencing overall wealth inequality, something highlighted by OECD (2015[2]), which also showed that higher prices of financial assets are associated with a larger share of wealth going to the richest 10% of households.

23. Another important influence on overall wealth inequality is the level of home ownership, particularly the extent to which households own their main residence outright. Real-estate wealth makes up the largest share of overall gross assets for most of the wealth distribution; real-estate wealth is also more evenly distributed than financial

wealth. However, the impact of real-estate assets on wealth inequality is mitigated where its purchase is highly leveraged through mortgages. As shown by Figure 2.5 (Panel A), lower house prices following purchase can lead to a large proportion of households experiencing negative housing equity, where their liabilities exceed their assets, contributing to higher levels of wealth inequality. As depicted in Figure 2.7, countries characterised by a lower share of households owning their home outright are also those with higher levels of wealthy inequality. In particular, the three countries with the highest levels of wealth inequality (the United States, the Netherlands and Denmark) have among the lowest shares of households owning their home outright.

Figure 2.7. Household wealth inequality and percentage of household owning home outright

2014 or latest available year



Note: Data on housing refer to 2014 except for Canada (2011) and Chile (2013).
Source: OECD Wealth Distribution Database, oe.cd/wealth, and OECD Affordable Housing Database, www.oecd.org/social/affordable-housing-database.htm.

Box 2.3. Improving measurement of top wealth

Measuring the top of the wealth distribution is challenging, particularly when using household surveys such as those that underlie much of the OECD WDD. Accuracy of information on top wealth shares is potentially affected by a combination of sparsity, under-reporting, and (item and unit) non-response. This may lead to inequality being underestimated, though this does not necessarily follow (Deaton, 2005[13]). Some of the approaches used by statistical compilers and analysts to improve the measurement of wealth inequality include the following.

Oversampling wealthy households

To address the issue of unit non-response (or under-sampling), many of the surveys used for the OECD WDD oversample wealthy households. The wealthiest 10% of households make up more than 10% of the achieved sample in 18 out of 23 countries – up to 33% of the sample in Spain and 25% in the United States. The methods used for over-sampling vary considerably depending on the information available. For example, in the United States, a separate sampling frame is used to select wealthy households, based on a list of (specially edited) income tax returns developed by the Internal Revenue Service (Bricker, Henriques and Moore, 2017[14]). Similar methods are employed in other countries including Spain, France and the United Kingdom. Where such information is unavailable to those conducting the surveys, other approaches (such as over-sampling high income localities or major cities) are used instead, though these are likely to be less efficient.

The varying levels of over-sampling among the countries included in the OECD WDD raise the possibility that different values of the wealth shares accruing those at the top of the distribution may simply reflect the design features of the surveys used. To assess this, Figure 2.8 Panel A shows the relationship between the degree of oversampling and the wealth share of the top 10%. Whilst there appears to be a positive relationship, the correlation is not statistically significant. Furthermore, it may simply reflect that those countries anticipating greater wealth concentration at the top of the distribution are more likely to oversample. Figure 2.8 Panel B therefore shows the relationship between the degree of oversampling and the difference between the OECD and Credit Suisse estimates (which adjust for under-reporting of top wealth by fitting a Pareto curve to the top-tail of the distribution). This again shows no significant correlation, suggesting that the different sampling practices do not explain the differences between the top shares shown in the OECD and Credit Suisse data. Such differences are likely to reflect a combination of overall measurement error and differences in concepts and methodological assumptions used.

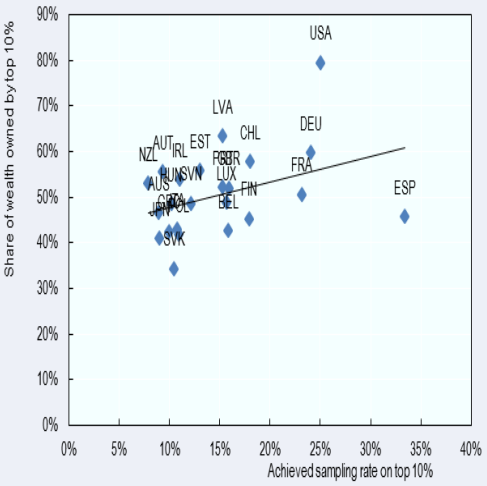
Direct use of administrative data

For some countries, (e.g. the Netherlands, Denmark and Norway in the OECD WDD) comprehensive statistics on the distribution of household wealth can be compiled based on information from administrative sources. For example, in the Netherlands, wealth and income statistics are compiled from the *Integral Income and Wealth Survey*, a register-based panel with information from different administrative registers. In 2015, this source covered approximately 16 528 000 people in 7 569 000 households. The panel provides detailed financial information for individuals and households, including on the composition (bank deposits, shares and bonds, company assets of the self-employed,

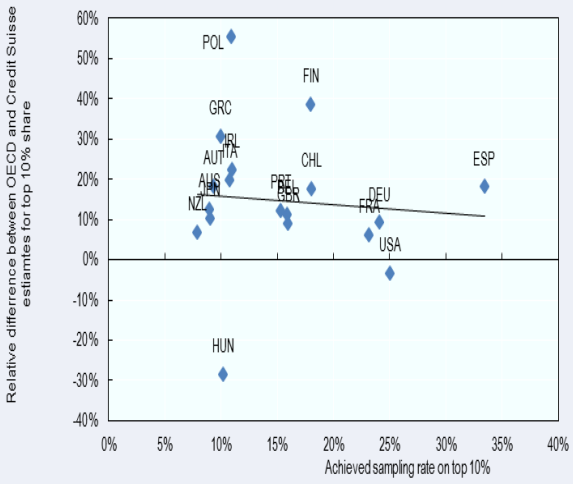
loans and mortgages etc.) and the distribution of wealth across households (Bruil, 2016[15]). While this approach provides many advantages for measuring top wealth (e.g. avoiding non-response), limited availability of administrative data on household wealth restricts its application to a small number of countries.

Figure 2.8. Top wealth shares and degree of oversampling

Panel A: Degree of oversampling and wealth share of top 10%



Panel B: Degree of oversampling and difference between OECD & Credit Suisse Estimates



Note: The achieved sampling rate on top 10% is calculated as the share of households in overall achieved survey sample that make up the top decile of the wealth distribution. An achieved sampling rate greater than 10% indicates over-sampling within the top 10% of households.
Source: OECD Wealth Distribution Database, oe.cd/wealth, and Credit Suisse Global Wealth Databook 2017.

Combining survey and non-survey data

In addition to the direct use of administrative data, it is possible to combine information from surveys and non-survey sources, drawing on the relative strengths of the two. One potentially important source of information on very rich individuals and families comes from the various 'Rich Lists' which are now available. These include lists for individual countries – such as the *Forbes 400* for the United States (Forbes, 2017[16]) or the *Sunday Times Rich List* for the United Kingdom (The Sunday Times, 2017[17]) – or global lists such as *The World's Billionaires* list (Forbes, 2018[18]). For example, the sampling frame of the US Survey of Consumer Finances (SCF) explicitly excludes members of the *Forbes 400* (as well as other 'public' figures). However, it is possible to augment the SCF data by adding in the wealth of those on the Forbes list; according to Bricker et al. (2016[19]) doing so increases top wealth shares by around 2 percentage points. Although potentially useful for correcting for survey-underreporting, the use of rich lists is not without problems, as such lists have measurement errors of their own (Capehart, 2014[20]).

In some countries, it may also be possible to use administrative and survey data together. For example, in compiling wealth distribution data, Statistics Finland use registers or register-based estimation wherever possible (including for most forms of debt, various financial assets including mutual funds and bonds, ownership of real-estate and listed shares), linked to survey data which collects only what is not available from other sources

(such as deposits and credit card debt) (Törmälehto, Kannas and Säylä, 2013[21]). Such an approach can enhance estimates of top-wealth by avoiding item non-response for those assets and liabilities obtained from registers, as well as improving survey response rates due to shorter and less intrusive questionnaires.

Where data linking is not possible, due to legislative or other restrictions, it may still be possible to use aggregate information from administrative records to supplement survey data. Burkhauser et al. (2018[22]) describe a method of adjusting survey-records at the top of the income distribution based on income-tax data (referred to as the 'SPI-2 adjustment' when applied to United Kingdom data). While applying such an approach to household wealth is challenging (due to the limited number of countries where administrative data on household wealth exist), it can be combined with methods for 'capitalising' income tax data such as those described by Saez and Zucman (2016[23]). The feasibility of such an application is currently being explored by the UK Office for National Statistics.

Application of Pareto distributions

Davies and Shorrocks (1999[24]) note that the top tail of the wealth distribution is well approximated by a Pareto distribution. For this reason, a number of researchers have used the Pareto distribution to address the under-coverage of top wealth by household surveys. While some of the research on top wealth and incomes has estimated Pareto distributions based on survey data alone, Jenkins (2017[25]) notes that such an approach may be unreliable, resulting in downward bias. Vermeulen (2017[26]) addressed this problem by integrating Forbes data on billionaires into the microdata for each country, in order to improve the estimation of the Pareto tail coefficients: his estimates of top wealth shares in HFCS countries are higher than those calculated from survey data alone, particularly for countries with no or low oversampling. Forbes data on the number of billionaires have also been used to fit Pareto distributions in the estimates for the *Credit Suisse Global Wealth Report* and *Databook* (Davies, Lluberas and Shorrocks, 2017[12]), from which estimates of top wealth shares for OECD countries are presented in Box 2.2.

Like all the approaches described above, the fitting of Pareto distributions to the upper-tail of the wealth distribution has its own limitations, in particular in the required assumptions. It is therefore important for statistical producers to do as much as they can to improve the underlying source data, ensuring that sampling and weighting strategies follow best practice, and making use of supplementary information where possible. As these data continue to improve, the range of sources and approaches for measuring top wealth and wealth inequality should be used by informed users to understand what findings are robust across approaches, and which may be more sensitive to the methods and assumptions applied.

Despite the progress that has already been made in improving the measurement of the top end of the wealth distribution, this is an area where further work is required by the statistical community, with statistical offices and other producers continuing to learn from emerging best practice, supported by the OECD and other international organisations.

2.3. Relationship between household income and wealth

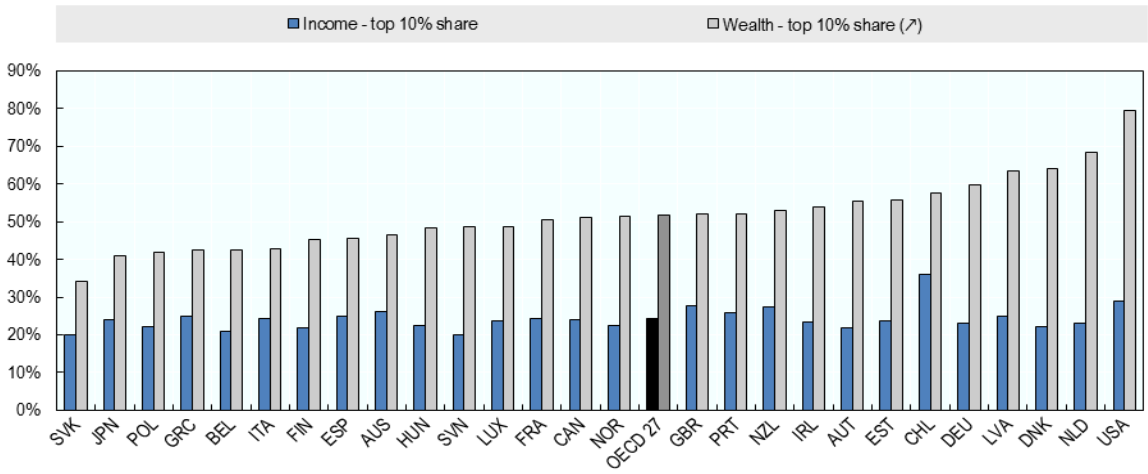
24. Wealth inequality is twice as large as income inequality, on average, across the countries covered by the OECD WDD. On average, the top 10% of people in the income

distribution received 24% of total income. By contrast, the top 10% of households in the wealth distribution held, on average, 52% of total net wealth (Figure 2.9).[3]

25. While wealth inequality is higher than income inequality in all countries reviewed here, the extent of this difference varies across countries. This in turn means the countries with the highest income inequality are not necessarily the same as those with the highest wealth inequality (and vice versa). The largest difference between levels of income and wealth inequality based on this measure is in Denmark, where the share of net wealth held by the top 10% of the wealth distribution is three times that of the top 10% share of income (64% and 22% respectively). Therefore, whilst Denmark features a low level of income inequality (it is ranked 22nd out of the 27 OECD countries included in Figure 2.10) it has the third highest level of wealth inequality (on this measure). By contrast, whilst the United Kingdom is 11th highest in terms of wealth inequality, it has the 3rd highest income inequality among these countries.

Figure 2.9. Shares of household income and wealth held by units in the top 10 of the distribution

2015 or latest available year



Note: Income data refer to 2016 for Finland, Latvia, the Netherlands, the United Kingdom and the United States; to 2014 for Australia, Hungary and New Zealand; and to 2012 for Japan (2012). The OECD average is the simple country average. Data refer to the share held by the richest 10% of households in the case of wealth; and by the richest 10% of individuals in the case of income.
Source: OECD Wealth Distribution Database, oe.cd/wealth, and OECD Income Distribution Database, http://stats.oecd.org/Index.aspx?DataSetCode=IDD.

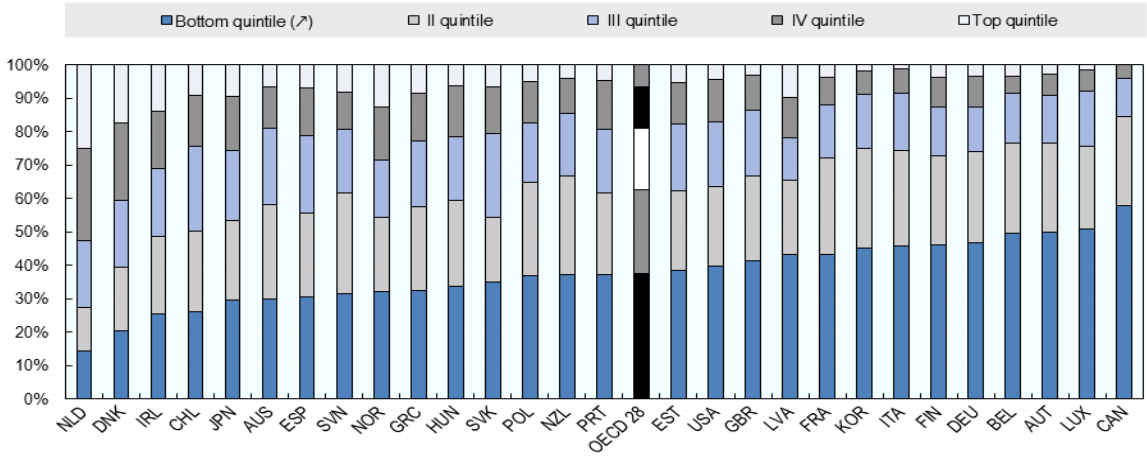
3 The income figures in Figure 2.9 refer to the share of *equivalised* disposable income held by the top 10% of *individuals*, whereas the wealth figures refer to the *unequivalised* net wealth of the top 10% of *households*, which is in line with the international standards and guidance available in this field (OECD, 2013[38]). While information on the wealth share of top 10% of individuals is not available from the WDD, across the 27 OECD countries covered, the top 10% of households in terms of net wealth account for of 11.3% of individuals on average; this implies that the household wealth share of the top 10% would be slightly lower in most countries when considering individuals rather than households. However, in the United States, New Zealand, Japan and the United Kingdom, the top 10% of households by net wealth contains less than 10% of people; in these countries, hence, the wealth share of the top 10% would be slightly higher if calculated on an individual basis than the values shown in Figure 2.9.

26. Intuitively, one might expect a strong relationship between wealth and income, with high-wealth households also having high levels of income. This is because financial assets and other forms of wealth such as second homes and other real-estate assets generate income, while households with higher income have greater capacity to save, thereby generating wealth. However, there are also reasons why the wealthiest households might not have the highest incomes (and vice versa). For example, a recently retired household may have generated substantial assets over its working life – including real estate, voluntary pensions and other savings – but, following retirement, has a modest level of income. Conversely, some younger people may have very high incomes but have not yet had the opportunity to accumulate comparably high levels of wealth.

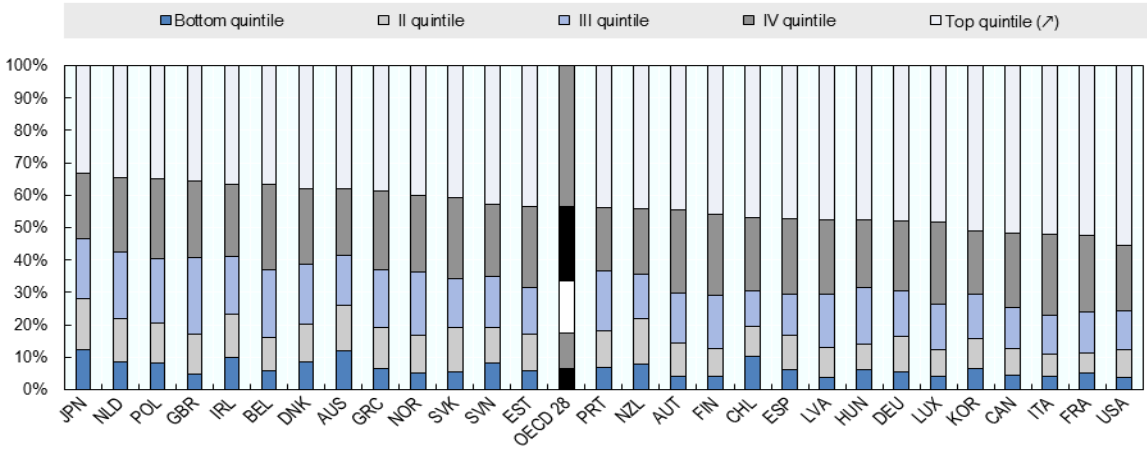
27. Figure 2.10 shows that in all countries, low-wealth households are more likely to be low-income households, whilst households towards the top of the wealth distribution are more likely to be at the top of the income distribution. However, this relationship is far from perfect. Households in the bottom quintile of the wealth distribution are most likely to also have low incomes in Canada, Luxembourg, Austria and Belgium (Figure 2.10, Panel A), while the proportion of households in the top wealth quintile also having high incomes is highest in United States, France, Italy and Canada (Figure 2.10, Panel B). The association between wealth and income is relatively low, at both the bottom and top end of the distribution, in the Netherlands, Denmark, Ireland and Japan. For example, in the Netherlands, just 14% of households in the bottom net wealth quintile are also in the bottom income quintile, with over half (53%) in one of the top two income quintiles.

Figure 2.10. Income distributions of the bottom and top wealth quintiles

Panel A: Income distribution of the bottom wealth quintile, 2015 or latest available year



Panel B: Income distribution of the top wealth quintile, 2015 or latest available year

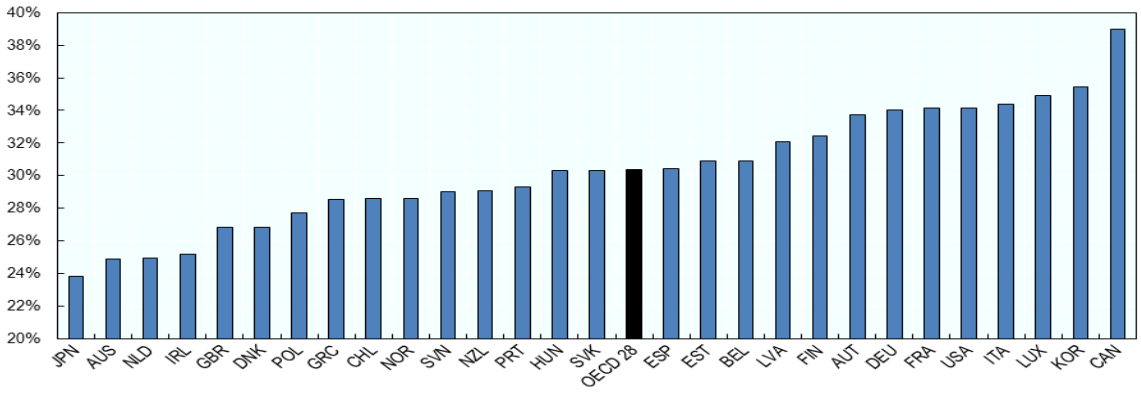


Note: The OECD average is the simple country average. For both income and wealth quintiles, data are defined at the household level and based on non-equivalised measures; this is the practice used in the WDD to study the joint distribution of household income and wealth.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

28. We can summarise the strength of the relationship between income and wealth across the whole distribution by considering the proportion of households that are in the same quintile of both distributions (Figure 2.11). If there were no relationship between levels of income and wealth, then one would expect this share to equal 20%, with higher values indicating a stronger relationship. Figure 2.11 suggests that the association between income and wealth is strongest in Canada, Korea and Luxembourg, and weakest in Japan, Australia, the Netherlands and Ireland.

Figure 2.11. Share of households belonging to the same quintile of both the income and wealth distributions

2015 or latest available year



Note: The OECD average is the simple country average. For both income and wealth quintiles, data are defined at the household level and based on non-equivalised measures; this is the practice used in the WDD to study the joint distribution of household income and wealth.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

Box 2.4. Pension wealth

Pension wealth refers to the discounted value of the lump sum necessary to deliver promised entitlements as part of a pension scheme (sometimes also known as retirement plans or superannuation schemes). Pension schemes may be defined contribution (where the pension depends on the value of contributions made by the employee and/or employer and associated investment earnings by the fund) or defined benefit (where the benefit is instead defined by other factors such as salary and length of service). These schemes may also be compulsory or voluntary, and public or private.

Within the OECD WDD, voluntary personal private pensions are included as a component of financial wealth, while both occupational and social security pensions are excluded from the standard wealth definition used. Coverage of voluntary personal private pensions varies considerably across countries, ranging from 4.5% to 74.8% of the working age population among those countries with available data (OECD, 2017[27]).

Pension schemes related to employment are reported in the OECD WDD as a separate category and excluded from the key measures of financial and net wealth described in this paper (Box 1.1). The reason for their exclusion is primarily to improve comparability across countries, particularly as consistent data on the value of occupational pensions are not available across all countries covered by the OECD WDD and, as discussed below, public pension schemes are also excluded from the wealth measures. The relative importance and nature of these occupational schemes varies across the OECD. There are mandatory or quasi-mandatory occupational schemes in some countries (e.g. Finland, Denmark, the Netherlands and Australia) while elsewhere (e.g. the United States, United Kingdom, Canada and Japan) occupational pensions are voluntary.

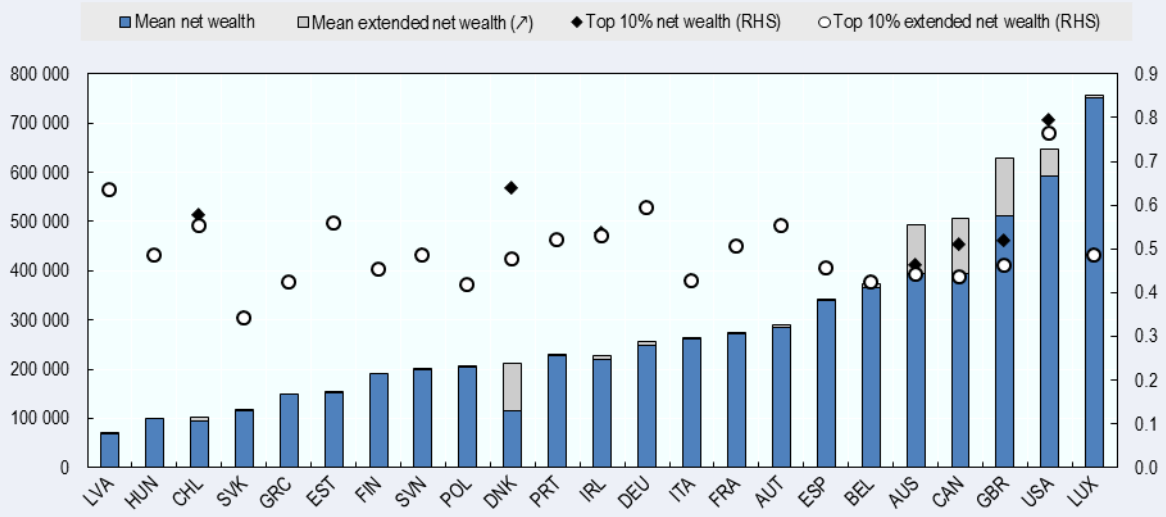
Figure 2.12 shows how mean wealth and wealth inequality (measured by the top 10% share) are affected by the inclusion of occupational pensions in an 'extended net wealth' concept for those countries where data are available within the WDD. For most of these countries, the impact of moving from net wealth to extended net wealth is small for both wealth levels and inequality. However, including occupational pension wealth lowers significantly wealth inequality in Denmark and (to a lesser extent) in Canada, the United Kingdom, Chile, Australia and the United States.

Pension entitlements accruing under government social security schemes are excluded from the wealth data in the OECD WDD, in line with the *OECD Guidelines for Micro Statistics on Household Wealth* (OECD, 2013[4]). This is in part for practical reasons; reliable estimates of pension entitlements in social security schemes are simply not available at the household or individual level in most countries.

Conceptually, there are arguments both for and against their inclusion in statistics on the distribution of household wealth. On the one hand, it can be argued that all pension entitlements should be covered, irrespective of the form of scheme, as the level and nature of such entitlements will affect savings behaviour and decisions around household debt, given the considerable variation which exists in pension systems across countries, including all forms of pension wealth would arguably provide the most comparable statistics.

Figure 2.12. Mean and top 10% shares of net wealth and extended net wealth

2015 or latest available year, values in 2011 USD.



Note: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

On the other hand, it could be argued that including estimates of social security pension entitlements would be of limited use governments can always change the basis of future entitlements. It could also be argued that other social security entitlements (such as disability pensions or unemployment benefits), should be included alongside old-age pensions, particularly where they have some form of contributory element.[4]

Figure 2.13 shows OECD model-based estimates of gross pension wealth for full-career workers from mandatory public schemes across countries and for different earnings levels. Gross mandatory public pension wealth for people with average earnings across their careers is highest in Luxembourg at 19.4 times average earnings, while they are lowest in Chile, Australia, Iceland and Mexico. Social security pensions are especially important for low earners, implying that their inclusion in the WDD would significantly lower wealth inequality, though their impact on such measures would vary across countries.

[4] The exclusion of social security pension entitlements from wealth distribution statistics also enhances comparability with the core system of national accounts (SNA 2008 and ESA 2010). However, national accounts practices are evolving and statistical offices are now required to report on the value of all pension entitlements in a supplementary SNA table. The production of these national accounts data may facilitate the inclusion of social security pension entitlements as supplementary information in the OECD WDD in future.

Figure 2.13. Gross pension wealth from mandatory public pension schemes by level of earnings

Full-career workers, multiple of mean individual earnings

Note: Low earners are defined as those with 50% of average worker earnings. High earners are those with 150% of average worker earnings.
Source: OECD pension models; based on Pensions at a Glance (OECD, 2017[27]).

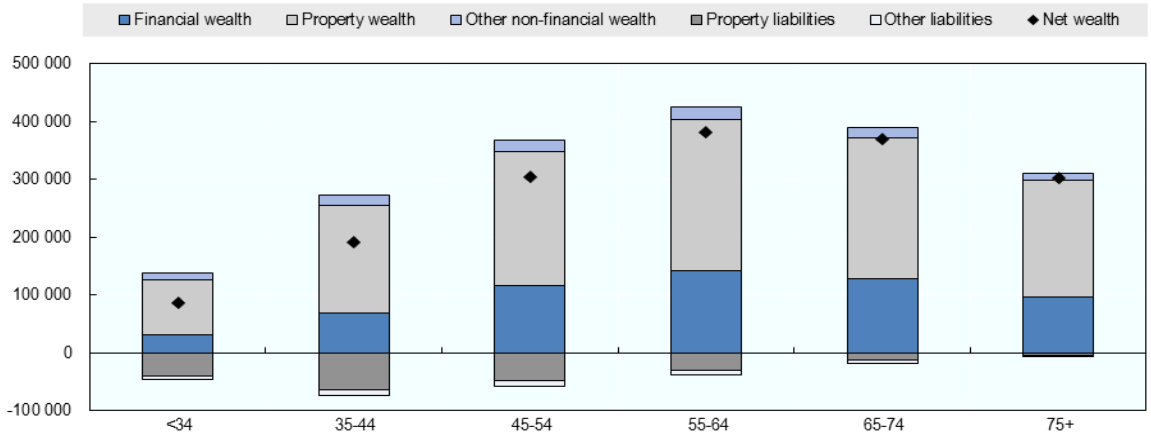
2.4. Net wealth over the life cycle

29. Levels of net wealth are strongly linked to people's life cycle, as wealth is built up over the course of working life and then reduced in retirement. Across the countries covered by the OECD WDD, average household net wealth is highest amongst households where the head is aged between 55 and 64 (Figure 2.14). Typically, this group is made up of people who are approaching, but not yet in retirement.

30. Among households with heads aged under 35, most wealth is made up of real-estate assets, offset by mortgage debt, equivalent to 49% of the value of those assets on average. Net real-estate wealth is highest amongst households with heads aged between 55 and 64, with average net real-assets 4.2 times higher than those of households with heads under 35. The pattern for financial wealth is similar, with households with heads aged 55 to 64 owning financial assets worth 4.4 times those owned by under-35s.

Figure 2.14. Composition of net wealth by age of household head

OECD average, 2015 or latest available year

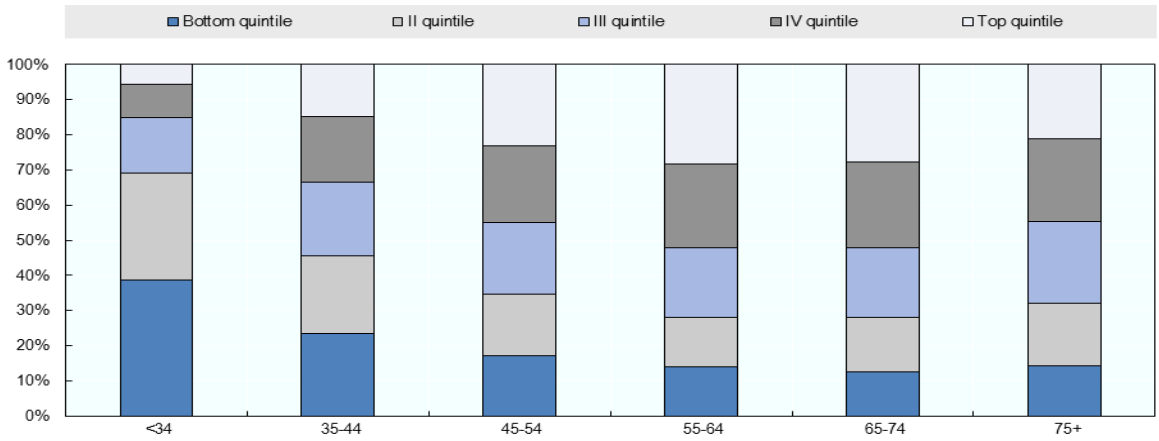


Source: OECD Wealth Distribution Database, oe.cd/wealth.

31. Figure 2.15 shows the share of households within each age group belonging to different quintiles of the wealth distribution. Among households with heads aged under 35, 69% are in the bottom two quintiles of the overall wealth distribution, while 6% are among the richest fifth of households. As a consequence, wealth inequality within this age cohort is higher than for any other group. By contrast, households in other age cohorts are more evenly distributed across the distribution, though the proportion of households towards the top of the distribution is highest for households with heads closest to retirement age (52% of households with heads aged between 55 and 74 are in the top 2 quintiles of the distribution).

Figure 2.15. Share of households in each wealth quintile by age of household head

OECD average, 2015 or latest available year



Source: OECD Wealth Distribution Database, oe.cd/wealth.

3. Changes in household wealth, with a focus on developments since the Great Recession

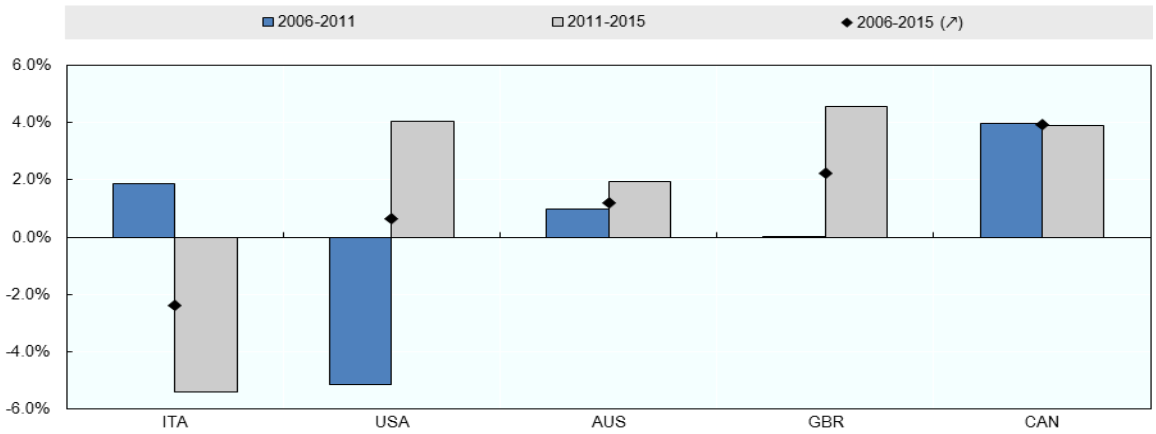
3.1. Changes in levels of household wealth

32. The regular collection of consistent, comparable microdata on household wealth is relatively new in most OECD countries, as is the OECD WDD itself. Therefore, only limited information is available in this database on changes in the distribution of household wealth. However, for Australia, Canada, Italy, the United Kingdom and the United States, longer time series are available, making it possible to examine trends in the wealth distribution since the financial crisis in these countries.

33. Mean net wealth per household has changed in very different ways across countries, both in the immediate aftermath of the Great Recession and more recently (Figure 3.1). In Australia and Canada, mean net wealth increased in real terms since 2006, with average annual growth rates of 1.2% in Australia and 3.9% in Canada. By contrast, during and immediately after the crisis, mean net wealth was broadly unchanged in the United Kingdom and fell by 5.1% a year in real terms in the United States. However, mean net wealth recovered strongly since 2010-11 in both countries, averaging 4.5% a year in the United Kingdom and 4.0% a year in the United States. Conversely, annual growth in mean net wealth was 1.9% in Italy between 2006 and 2011, and has fallen by an average rate of 5.4% a year since then.

Figure 3.1. Change in mean net wealth between 2006 and 2015

Annual percentage changes

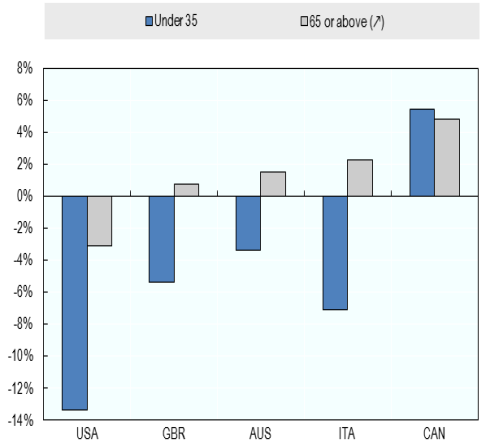


Note: Data for 2006 refer to 2005 for Australia and Canada; and to 2007 for the United Kingdom and United States. Data for 2011 refer to 2010 for United States and Italy; and to 2012 for Australia and Canada. Data for 2015 refer to 2014 for Australia and Italy; and to 2016 for Canada and the United States.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

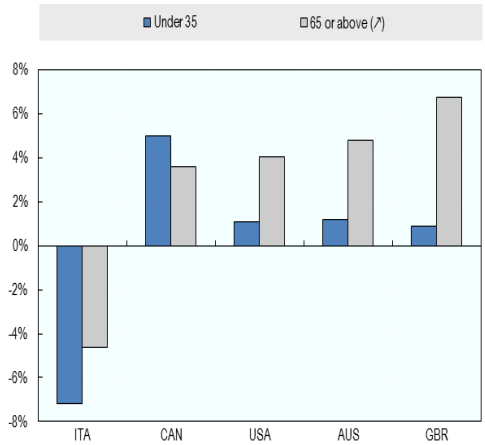
34. Figure 3.2 suggests that the impact of the Great Recession on household wealth has been felt most strongly by younger generations. During the financial crisis and in its immediate aftermath, mean household wealth fell considerably for households with heads under the age of 35 in Australia, the United Kingdom and Italy, while it rose in real terms in these same countries for households with heads aged 65 or older (Figure 3.2, Panel A). Similarly, while mean net wealth fell for both the under 35s and those 65 and above in the United States between 2007 and 2010, falls were more severe for younger households, with an average annual fall of 13.3% for households with heads under 35, compared with a 3.1% fall for the older group.

Figure 3.2. Change in real mean household wealth by age of household reference person, 2006 to 2015

Panel A: Annual % change 2006 to 2011



Panel B: Annual % change 2011 to 2015



Note: Data for 2006 refer to 2005 for Australia and Canada, and to 2007 for the United Kingdom and United States. Data for 2011 refer to 2010 for United States and Italy, and to 2012 for Australia and Canada. Data for 2015 refer to 2014 for Australia and Italy, and to 2016 for Canada and the United States.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

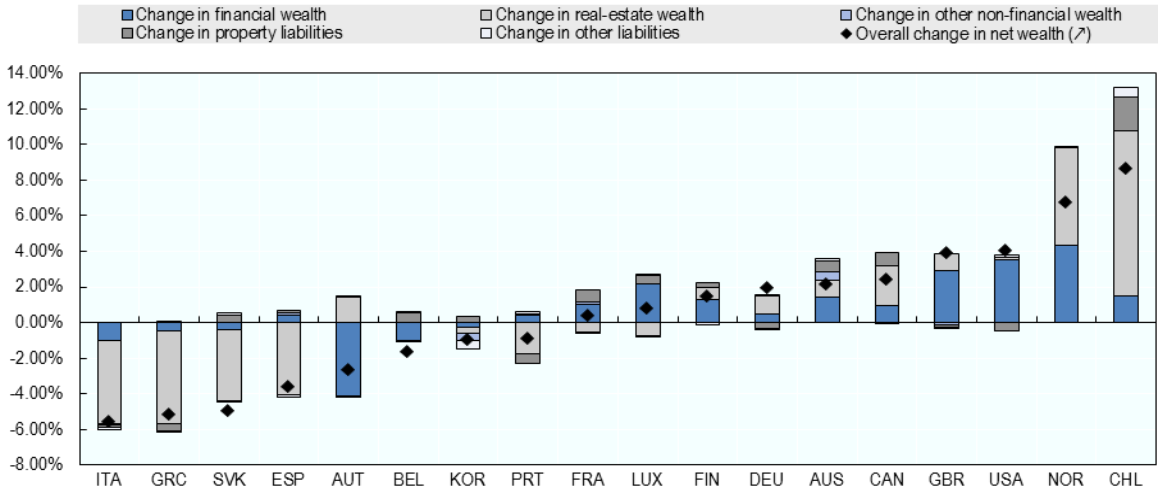
35. Since 2011, trends in household wealth for younger and older households have diverged in a number of countries (Figure 3.2, Panel B). In Australia, the United Kingdom and the United States, mean net wealth for households with heads aged 65 or above grew at an average annual rate of 4% or more between the start of the decade and the most recent year available. In contrast, growth in mean net wealth for households with heads aged under 35 has been much more modest, averaging close to 1% a year in these three countries. In Italy, where mean net wealth has fallen in real terms between 2010 and 2015, these falls have been larger for households with a head under 35 than for those with a head aged 65 or above.

36. Data in the WDD provide information on more recent changes in household wealth for a larger group of countries (Figure 3.3). Since 2010, mean household net wealth per household has grown in real terms in 10 OECD countries (out of the 18 for which comparable data covering this time period are available). The annual growth rate of net wealth per household was highest in Chile (8.7% per year in real terms), largely driven by rising real-estate wealth and partially offset by higher mortgage and other real-estate debt. By contrast, growth in the United States (4% a year) was mainly driven by financial wealth. The largest annual percentage falls in net wealth per household were

recorded in Italy (5.5%), Greece (5.1%), the Slovak Republic (4.9%) and Spain (3.6%), in each case largely driven by falls in the value of real-estate wealth.

Figure 3.3. Change in mean household net wealth, 2010 and 2015

Real annual percentage change in overall net wealth and contribution by component



Note: Separate data on real-estate mortgages/loans and other liabilities are not available for Norway.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

37. The macroeconomic data in Table 3.1 shed some light on the drivers of these changes. In particular, the large falls in net real-estate wealth per household in Spain, Greece and Italy (and to a lesser extent, the Slovak Republic) were associated with lower real house prices over the period. Conversely, strong growth in average wealth in Chile, the Norway and the United States was associated with high household savings rates (as reported in National Accounts). Growth in household financial wealth in Norway, Australia and the United States is likely to reflect strong gains in real share prices; by contrast, share prices in real terms fell by 3.2% a year in Austria, which translated into falling financial wealth over the same timeframe.

Table 3.1. Changes in asset prices and household saving rates

	Period	Gross households savings rate (%)	Annual growth rate of real prices (%)	
			Shares	Dwellings
Australia	2012-2014	7.4	9.5	5.5
Austria	2011-2014	7.6	-3.2	3.1
Belgium	2010-2014	5.6	5.9	0.1
Canada	2012-2016	4.1	2.4	4.2
Chile	2011-2014	10.2	-6.8	2.6
Germany	2011-2014	9.2	8.4	2.1
Spain	2009-2012	3.6	-7.8	-10.2
Finland	2009-2013	1.7	1.1	1.1
France	2009-2014	9.5	5.5	0.2
United Kingdom	2011-2015	1.0	2.0	2.4
Greece	2009-2014	-11.6	-13.2	-8.5
Italy	2010-2014	3.3	-0.6	-4.7
Korea	2013-2015	6.4	0.3	1.2
Luxembourg	2011-2014	14.5	-5.4	3.0
Netherlands	2010-2015	6.9	4.6	-3.5
Norway	2012-2014	7.9	14.1	1.2
Portugal	2010-2013	-0.5	-3.9	-6.0
Slovak Republic	2010-2014	0.8	-3.8	-2.6
United States	2010-2016	6.1	4.5	2.2

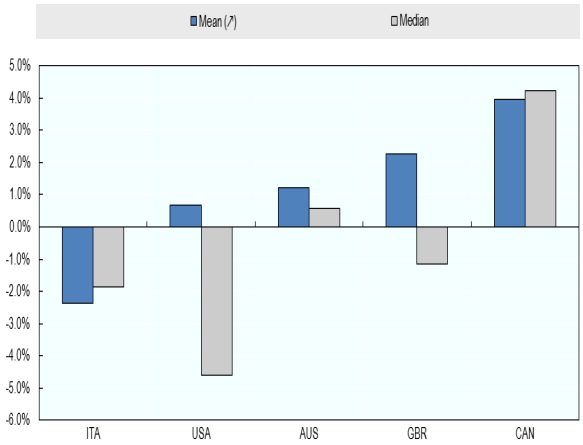
Source: OECD National Accounts Database, http://stats.oecd.org/Index.aspx?DataSetCode=NAAG, and Main Economic Indicators Database, http://stats.oecd.org/Index.aspx?DataSetCode=MEI.

3.2. Changes in the distribution of household wealth

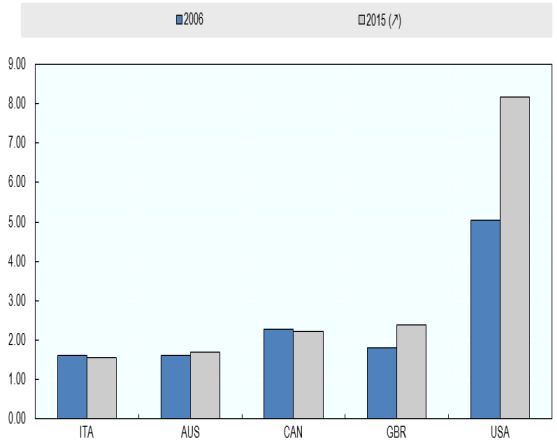
38. Trends in wealth inequality since the Great Recession have also differed across countries. Figure 3.4 compares annual percentage changes in mean and median net wealth, as well as the ratio of mean to median net wealth, in the five countries for which data since the mid-2000s are available. Between around 2006 and 2015, both mean and median net wealth changed by similar rates in Australia, Canada and Italy (Panel A), with wealth inequality (measured by the ratio of the two) relatively unchanged in these countries (Panel B). By contrast, the United States featured modest annual growth in mean wealth (0.7%) and large real declines in median wealth (which fell 4.6% a year in real terms, with this fall largely occurring between 2007 and 2010). According to Bricker et al. (2012[28]), this fall was driven mainly by the collapse in house prices, which particularly affected those in the middle of the distribution, for whom real-estate is the main form of wealth, though declines in the value of business and other financial assets were also important for some households. By contrast, between 2013 and 2016, the value of corporate equity holdings grew by 9% a year in the United States, leading to large increases in the value of financial wealth, which is mainly concentrated at the top of the wealth distribution (Bricker et al., 2017[29]). These changes resulted in a significant rise in wealth inequality in the United States since the Great Recession, with the ratio of mean net wealth to the median rising from 5.0 in 2007 to 8.2 in 2016.

Figure 3.4. Change in mean and median net wealth and wealth inequality, 2006 to 2015

Panel A: Annual % change in mean and median household net wealth



Panel B: Ratio of mean and median net wealth per household

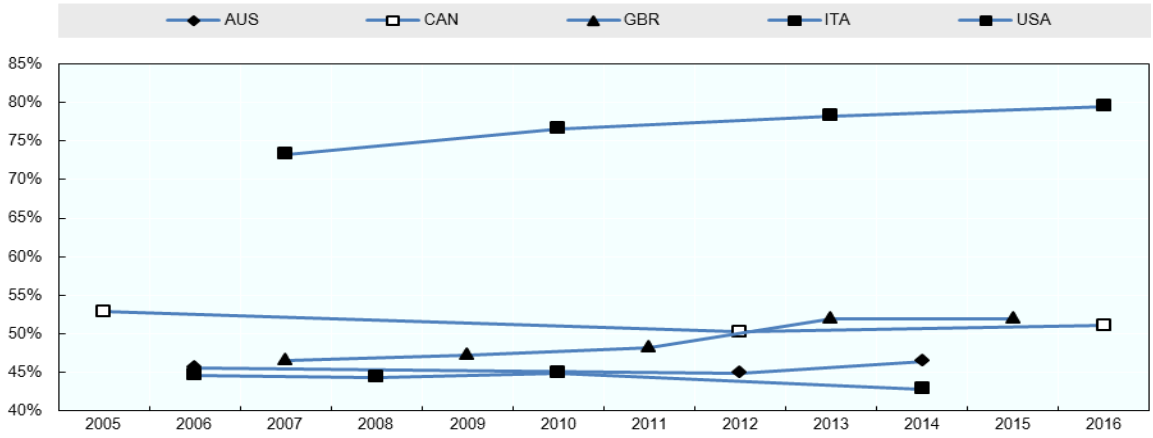


Note: Figures for 2006 refer to 2005 for Australia and Canada, and to 2007 for the United Kingdom and United States. Figures for 2015 refer to 2014 for Australia and Italy and to 2016 for Canada and the United States.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

39. A similar divergence between mean and median net wealth occurred in the United Kingdom. While mean household net wealth rose in real terms between 2007 and 2015, the value of median wealth fell by 1.2% a year. By construction, this means that wealth inequality has risen in the United Kingdom, with the ratio of mean net wealth to the median increasing to 2.4 in 2015, from 1.8 at the start of the period. This increase in wealth inequality is likely to reflect falling levels of home ownership, with the proportion of owner-occupiers in England falling from 69.6% in 2007 to 62.9% in 2015/16, whilst the share of private renters increased (MHCLG, 2018[30]); this implies that real-estate wealth became more concentrated among a smaller proportion of households. The distribution of financial wealth also became more unequal in the United Kingdom, particularly after the financial crisis, where the overall value of financial assets grew strongly (ONS, 2018[31]).[5] Figure 3.5 shows that the share of wealth held by the richest 10% of households also increased in both the United States and the United Kingdom.

5 The latest ONS data on wealth inequality (ONS, 2018) also show that, potentially off-setting the changes in financial and real-estate wealth, private/occupational pension wealth has become more evenly distributed across households in recent years, in part due to policy changes (e.g. auto-enrolment). These changes are not fully reflected in the OECD WDD data shown in this paper, which exclude the value of occupational pension schemes.

Figure 3.5. Top 10% wealth shares, 2005 to 2016



Source: OECD Wealth Distribution Database, oe.cd/wealth.

40. Table 3.2 shows increases in the top 5% and top 1% shares, and declines in the shares of the bottom 60% and 40%, in both the United Kingdom and the United States. By contrast, changes in top and bottom wealth shares in the other countries over this period have been more modest.

Table 3.2. Top and bottom wealth shares, 2005 to 2016

Percentages

		Bottom 40% share	Bottom 60% share	Top 10% share	Top 5% share	Top 1% share
Australia	2005	3.0	7.7	45.6	33.5	16.7
	2012	2.5	7.4	44.9	32.2	13.3
	2014	2.4	7.0	46.5	33.5	15.0
Canada	2005	1.7	5.3	52.9	39.8	19.0
	2012	1.6	5.4	50.3	36.5	15.5
	2016	1.7	5.4	51.1	37.0	16.7
United Kingdom	2007	2.2	6.6	46.5	33.1	14.9
	2011	2.1	6.1	48.3	34.7	16.7
	2015	1.6	5.1	52.0	38.0	19.9
Italy	2006	2.2	7.2	44.6	..	..
	2010	2.4	7.5	44.8	32.1	14.2
	2014	2.3	7.5	42.8	29.7	11.7
United States	2007	0.3	2.2	73.2	62.5	36.6
	2010	-0.2	1.4	76.6	63.5	37.3
	2016	-0.1	1.2	79.5	68.0	42.5

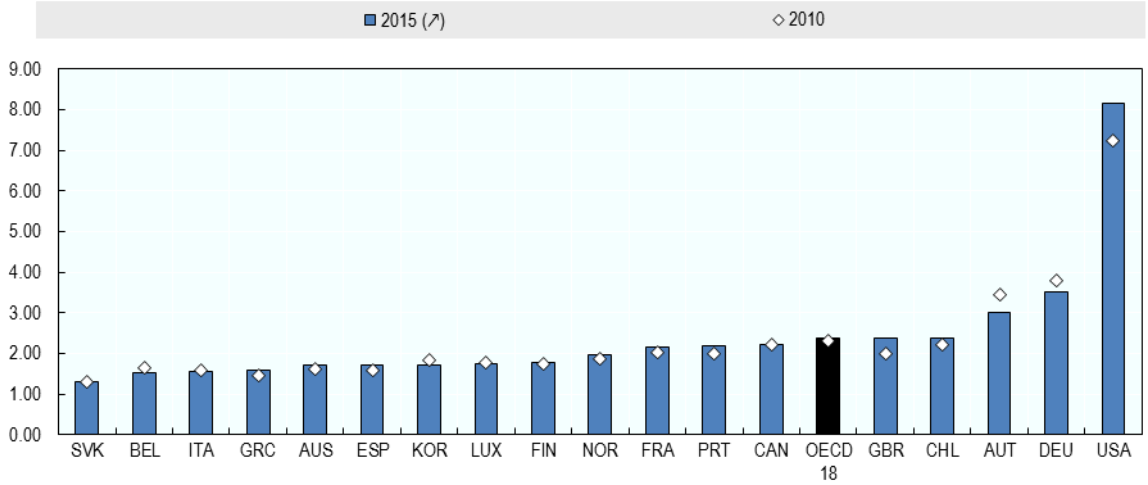
Note: ".." refers to non-available data.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

41. Figure 3.6 looks at changes in wealth inequality since 2010 for the wider group of 18 countries for which the WDD contains comparable data over this period, focussing on the ratio of mean to median net wealth (Panel A) and the top 10% share (Panel B). Beyond the changes for the United States and United Kingdom highlighted above, Figure 3.6 shows falling wealth inequality on both measures for Austria and Belgium, as

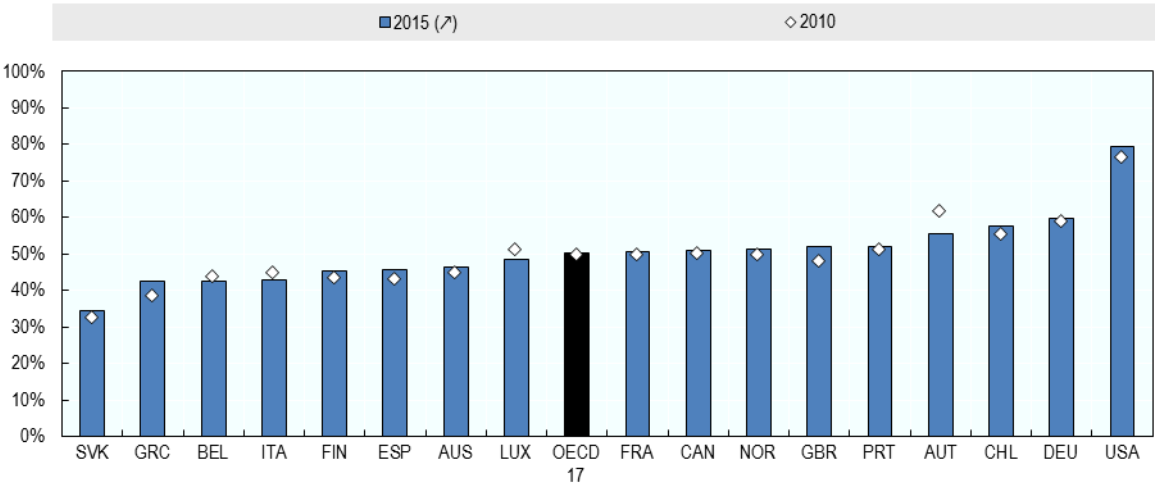
well as Germany based on the mean to median ratio, and modest rises for some countries, including Chile, Greece and Spain.

Figure 3.6. Changes in wealth inequality, 2010 and 2015

Panel A: Ratio of mean and median net wealth per households



Panel B: Share of net wealth of top 10% of households



Note: Data on the top 10% wealth share are not available for Korea.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

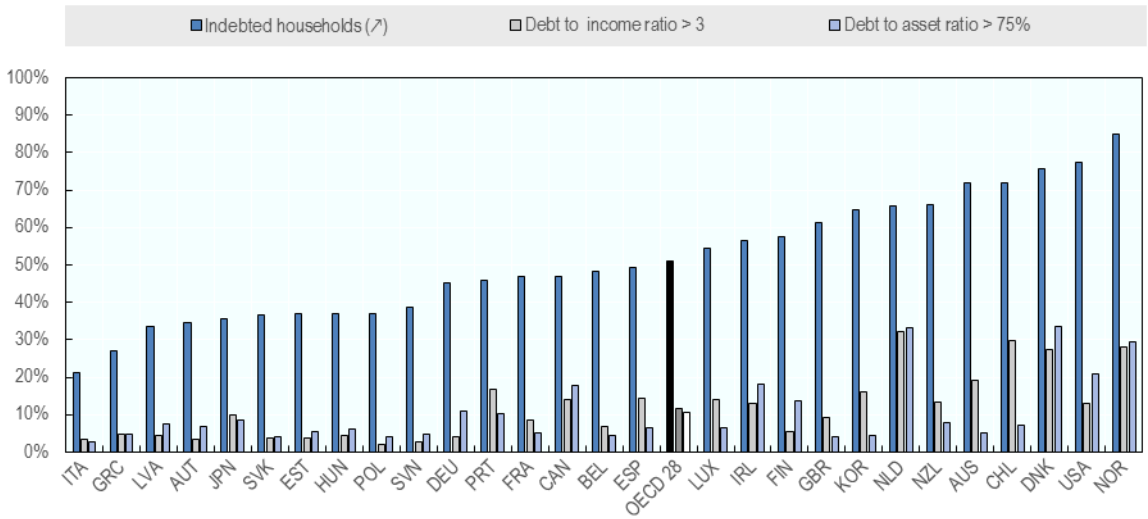
4. Household debt

4.1. Debt and over-indebtedness across OECD countries

42. Over half of households (51%) across the OECD have some form of debt, whether this relates to mortgages on their primary residence, loans on other real-estate or other types of loans (e.g. car loans, education loans, credit card debt and overdrafts). The share of households with liabilities varies largely across countries however, ranging from 85% in Norway, 77% in the United States and 76% in Denmark to 27% in Greece and 21% in Italy (Figure 4.1).

Figure 4.1. Percentage of indebted and over-indebted households

2015 or latest available year



Note: The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

43. Debt in itself can be beneficial for household economic well-being (Box 4.1). However, where households are over-indebted, relative to either their income or to the assets they hold, the risk of negative impacts on well-being becomes greater. Households with high debt-to-asset ratios are more exposed to sudden changes in asset prices, with high levels of over-indebtedness within a country highlighting potential vulnerability for the economic system as a whole. One measure of over-indebtedness used in the OECD WDD is therefore the share of households with debts exceeding 75% of the value of their

assets. Based on this measure, household over-indebtedness is highest (at around 30%) in the Netherlands. Denmark and Norway, and lowest (4%) in Italy (Figure 4.1).[6]

Box 4.1. Debt, over-indebtedness and problem debt

Over-indebtedness

For many households, debt may have a positive effect on their economic well-being. Mortgages allow people to buy a house or apartment, avoiding the need to spend potentially large amounts on rent; financing arrangements can facilitate the purchase of a durable good, such as a car, more quickly than would otherwise be the case; credit cards and loans can help people meet unexpected expenses or deal with temporary periods of low income. For effective policy-making and targeting, it is therefore important to be able to identify those situations where levels of debt and the demands of making payments are having a negative impact on households or where it could in the future.

Even where a household has no difficulty servicing their debt, a high level of debt relative to their income increases the risk they are exposed to. Sudden rises in interest rates could substantially increase the level of payments required, impacting on households' ability to purchase essential items. In addition, any fall in household income is more likely to affect their ability to keep up with repayments. For this reason, one of the indicators of over-indebtedness contained in the OECD WDD is the share of households with a debt-to-income ratio greater than 3.

It is also important to think about the level of debt relative to the assets owned by a household. Where this ratio is high, households are more exposed to the impacts of falling asset prices, such as the falls in real-estate prices experienced in many OECD countries following the Great Recession. For example, where a mortgage on someone's primary residence exceeds the value of their home, this makes it very difficult for them to sell the property, which in turn may have negative impacts elsewhere, such as on their flexibility in the labour market. It may also make it harder for them to re-mortgage and obtain the best possible interest rates, thereby increasing the cost of servicing the debt. A second indicator of over-indebtedness in the OECD WDD is therefore the share of households with a debt-to-asset ratio greater than 75%.

Problem debt

These over-indebtedness measures can be considered as indicators of the level of risk in an economy as a whole and for particular population groups. However, households identified as over-indebted by these indicators will not necessarily experience problems due to their debt. To distinguish further where household debt is causing a problem, some countries have developed measures of so-called 'problem debt'. For example, the UK Office for National Statistics (ONS) has developed a measure which combines both

[6] In interpreting data on debt-to-asset ratios, it should be recognised that the main net wealth concept used in this paper excludes the value of wealth in the form of occupational pension schemes (See Box 2.4). Including this pension wealth would likely lead to reductions in the number of over-indebted households, particularly in countries where these pension scheme are common. However, given that occupational pension wealth is generally illiquid (i.e. it cannot be accessed by individuals until retirement), assessing over-indebtedness based on the standard net wealth concept seems the most appropriate approach.

objective and subjective factors (ONS, 2017[32]); objective factors help to capture a households' financial situation, while subjective factors capture the impact debt can have on a household's economic well-being, living standards, attitudes and behaviours.

The ONS measure focuses on shorter-term financial liabilities, excluding longer term loans (e.g. mortgages and student loans), with a household defined as being in problem debt if it falls into one of the following two groups: *i)* liquidity problems, i.e. households with debt repayments representing at least 25% of their net monthly income, and where at least one adult in the household reports falling behind payments with bills or credit commitments, or households in 2 or more consecutive months of arrears on bills or credit commitments, and at least one adult in the household reports falling behind with bills or credit commitments; and *ii)* solvency problems, i.e. households whose debt represents at least 20% of their net annual income and where at least one adult considers their debt a heavy burden. Based on these measures, levels of problem debt in Great Britain fell from 7.7% in 2010/11 to 6.4% in 2013/14.

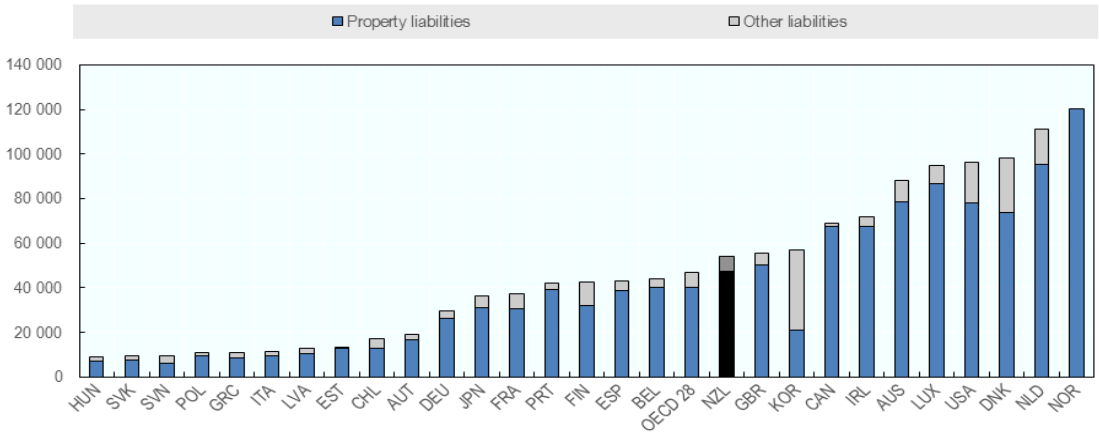
44. The same countries also top the list when considering over-indebtedness in terms of levels of debt relative to income, with the share of households having a debt-to-income ratio greater than 3 being 32% in in the Netherlands, 28% in Norway and 27% in Denmark. The share of households with a high debt-to-income ratio is also large in Chile (30%) and Australia (19%), though these countries have relatively low levels of over-indebtedness in terms of debt-to-asset ratios, indicating that the main risks in these countries are around affordability and households' ability to cope with changing circumstances. The countries with the lowest levels of over-indebtedness on this measure are Poland, Slovenia and Italy.

45. Countries with the highest over-indebtedness also have the highest average levels of debt, with mean household debt of USD 120 300 in Norway, USD 111 300 in the Netherlands and USD 98 400 in Denmark (Figure 3.2). Mortgages or loans relating to the purchase of property or real estate make up the bulk of household debt (85% across the OECD on average) in all countries except Korea, where a large part of household debt relates to the large deposits (equivalent to 50% or more of the market value of the property) often paid by tenants to their landlord as part of the '*Jeonse*' system of renting.[7] Non-real-estate debt also forms a relatively large proportion of overall household debt in Denmark (25%), as well as Slovenia (34%) and Chile (26%), though the absolute values involved are smaller in the latter two countries.

[7] In the 'Jeonse' or 'Key Money' system, instead of paying monthly rent, a renter makes a large lump-sum deposit to the landlord, who receives the interest on that sum for the period of the tenancy. The deposit is then returned at the end of the two-year contract period.

Figure 4.2. Composition of household debt

2015 or latest available year



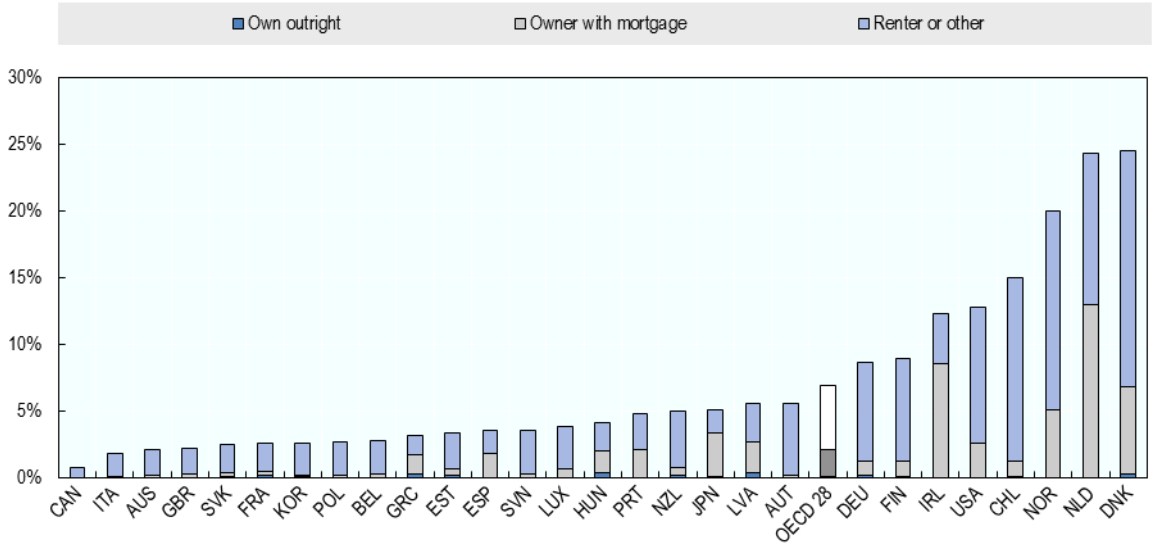
Note: The breakdown of household liabilities is not available for Norway, so the real-estate liabilities figure also includes other (non-real-estate) liabilities. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

46. As highlighted in Box 4.1, levels of household debt that exceed the value of assets held by the household (i.e. negative net wealth) can be problematic for the households themselves, the creditors involved, and for the economy as a whole. Around a quarter of households in both Denmark (25%) and the Netherlands (24%) have negative net wealth, along with a fifth (20%) of households in Norway. In contrast, just 1% of households in Canada and 2% in Italy have debts that outweigh the value of their assets.

47. In some countries, such as the Netherlands and Ireland, a large proportion of households with negative net wealth own their home with a mortgage. In these countries, the levels of negative net wealth are partly explained by falling house prices following the Great Recession, leading to negative equity for those who purchased near the peak of the market with large mortgages. For example, in 2014, nominal house prices were 17% lower than in 2007 in the Netherlands and 45% lower in Ireland. However, in many countries, the majority of households with negative net wealth are renters, and typically have relatively low levels of both financial and physical assets (Figure 4.3).

Figure 4.3. Households with negative net-wealth by housing tenure

Percentages, 2015 or latest available year



Note: It is not possible to distinguish between those that own outright and own with a mortgage in the Norwegian data. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

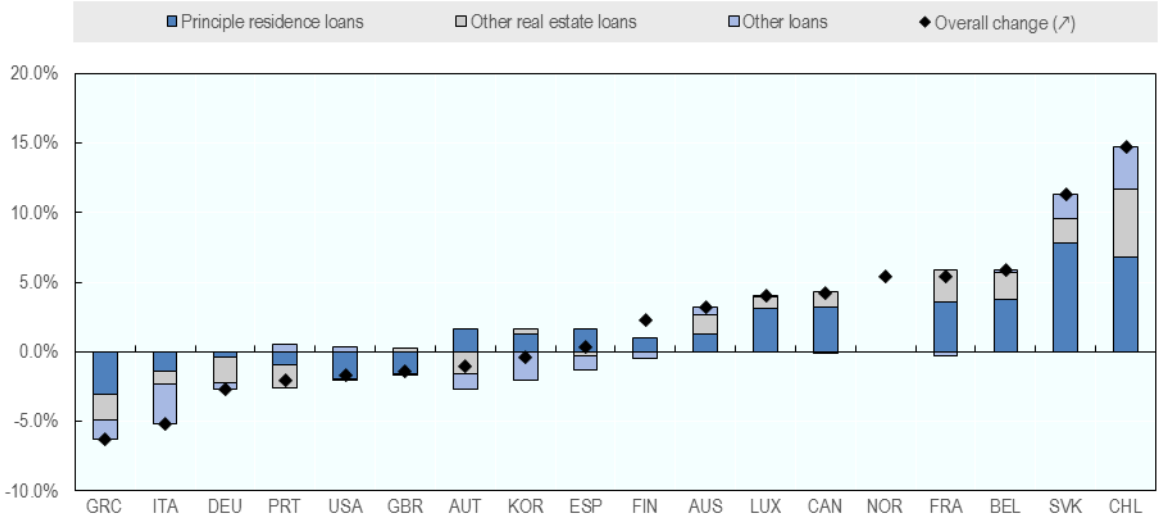
4.2. Recent changes in household debt

48. Since around 2010, mean household debt has risen in real terms in 11 out of the 18 OECD countries for which data are available (Figure 4.4). Household debt rose the most in Chile, at an average of 14.8% a year, with large increases also seen in the Slovak Republic (11.3% a year). These overall increases reflect rises in both real-estate and non-real-estate related debt. Household debt has also increased quickly in Belgium (5.9%) and France (5.5%), though these rises have mainly related to mortgages and other loans associated with the purchase of real-estate.

49. In some OECD countries, mean household debt declined in real terms over this period, with the largest falls recorded in Italy (5.2%) and Greece (6.3%). In Greece, lower debt levels were mainly driven by mortgages and loans for main residences and other real estate, while in Italy other forms of debt contributed the most to the overall reduction.

Figure 4.4. Change in mean household liabilities, 2010 and 2015

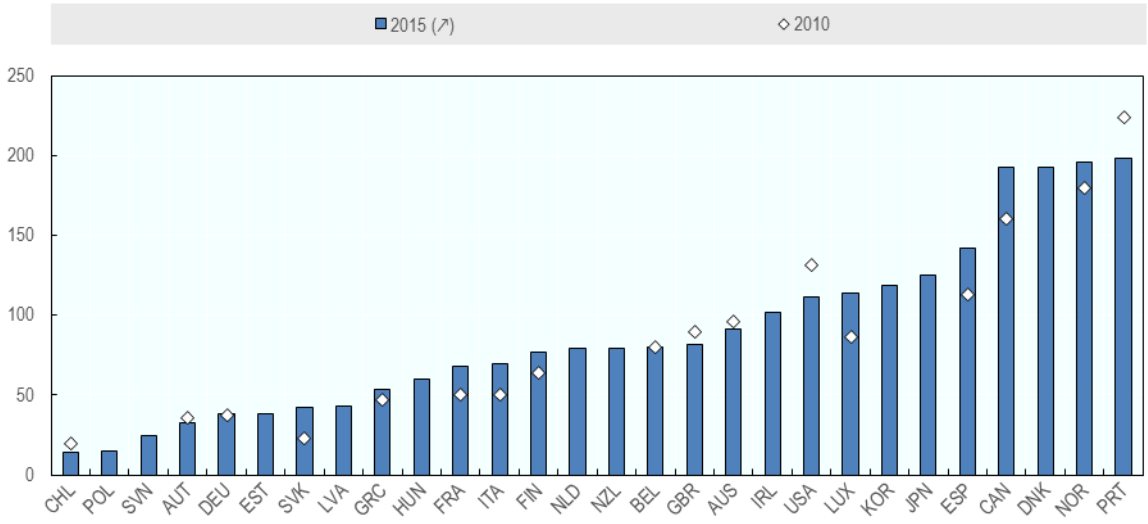
Annual percentage change in real value of overall liabilities and contributions by component



Note: Data on the composition of debt are not available for Norway.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

50. Figure 4.5 shows the median debt to income ratio for households in recent years. Unlike the over-indebtedness indicators (which highlight households with large levels of debt relative to their income or assets), this ratio tells us more about the typical level of debt amongst those with liabilities. In the latest data, Portugal has the highest median debt-to-income ratio, at almost two to one (199%), though this ratio has declined since 2010 (225%). Median debt-to-income ratios were also close to two in Norway (196%), Denmark (193%) and Canada (193%). For those countries where data are available for an earlier year, median levels of debt relative to income have increased between 2010 and 2015 in most, with rises in Canada, Spain, Luxembourg, Italy and France, among others.

Figure 4.5. Median debt to income ratio, 2010 and 2015



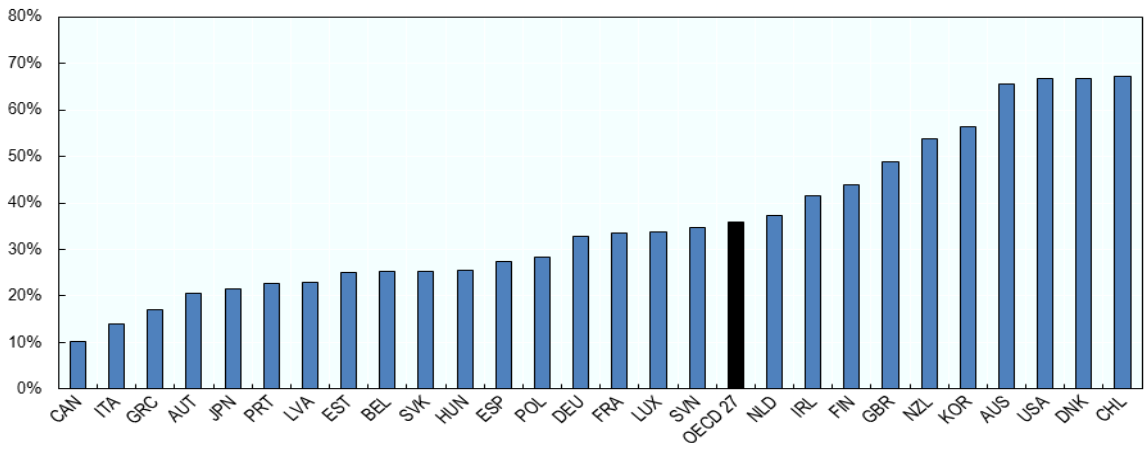
Source: OECD Wealth Distribution Database, oe.cd/wealth.

4.3. Non-real-estate debt

51. Whilst real-estate (or property) debt is normally associated with a physical asset that is worth more than the associated debt, this is not always the case with many other forms of debt, a situation that may make repayments unaffordable when interest rates or personal circumstances change. Non-real-estate debt includes car and other vehicle loans, instalment debt, education loans, non-mortgage loans from financial institutions, loans to purchase shares and other financial assets, loans from other households, credit card debt, lines of credit, and bank account overdrafts.

Figure 4.6. Percentage of households with non-real-estate debt

2015 or latest available year

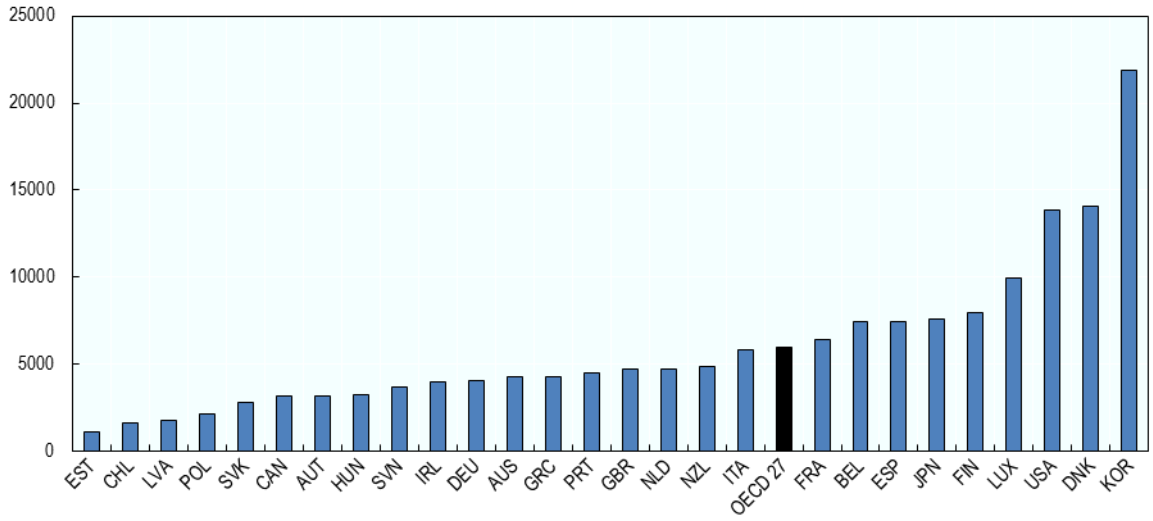


Note: Data are not available for Norway. The OECD value is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

52. Figure 4.6 shows that around two thirds of households in Chile (67%), Denmark (67%), the United States (67%) and Australia (65%) have some form of non-real-estate debt, compared with just 10% of households in Canada. Among those households who do have non-real-estate debt, the median value is highest in Korea (USD 21 900), though this is partly relates to the deposits for 'Jeonse' system of renting described in Section 4.1 (Figure 4.7). Other countries with high median levels of non-real-estate debt include Denmark and the United States, i.e. countries characterised by both a large proportion of indebted households and high levels of liabilities among those households.

Figure 4.7. Median non-real-estate debt

2015 or latest available year



Note: Data are not available for Norway. The OECD value is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

4.4. Household debt across generations

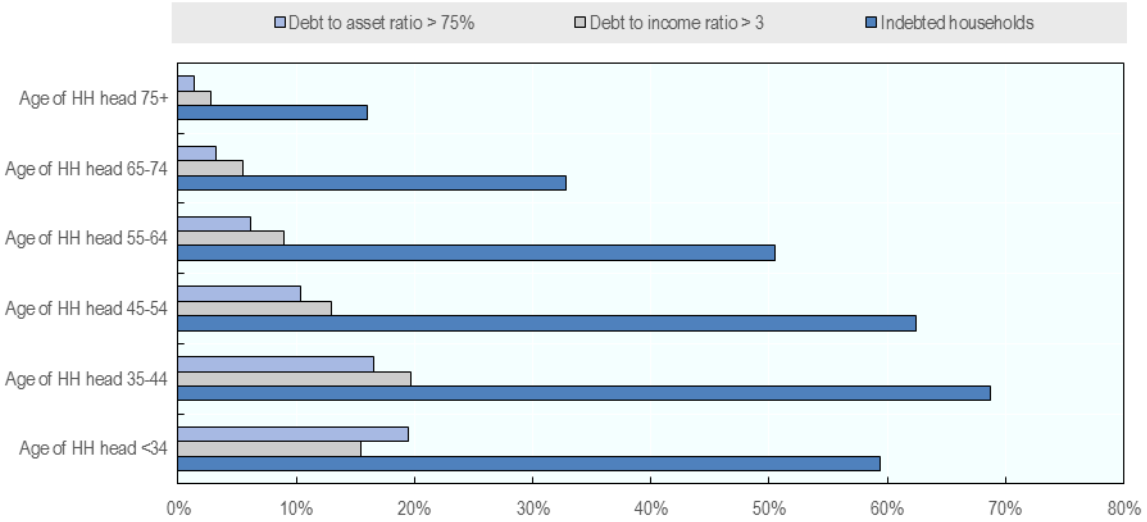
53. On average across the OECD, the shares of both households with any debt and of those that are over-indebted is highest among those with heads aged 35-44, with an average of 69% of households with some form of debt, and 20% with a debt-to-income ratio greater than three (Figure 4.8). The share of households with a debt-to-asset ratio greater than 75% is highest among those with a head under 35s (19%), i.e. those with fewer opportunities to accumulate substantial assets such as real-estate. Levels of debt and over-indebtedness are much lower among households with heads over the age of 65, many of whom will be entering retirement, with 33% of households with 65-74 year old heads and 16% of those with heads over 75 having any form of debt. Among the latter group, just 1% have a debt-to-asset ratio greater than 75%.

54. These patterns are consistent with a life-cycle perspective, whereby younger households use debt to pay for real-estate, cars and other durables, enabling them to benefit from these assets at an earlier age than they would if relying on saving alone. As working-age household heads get older, they have more opportunity to accumulate wealth through a greater number of years in the labour market, supported by household incomes that are, on average, higher than for younger households. As a consequence, their need for debt to support purchases is typically reduced. This reduction in indebtedness

accelerates as household heads enter retirement, when both current incomes and future income expectations are reduced, thus limiting households' capacity to borrow. In this phase, households are more likely to support consumption by, if necessary, drawing on savings accumulated earlier in life.

Figure 4.8. Age composition of indebted and over-indebted households

OECD average, 2015 or latest available year

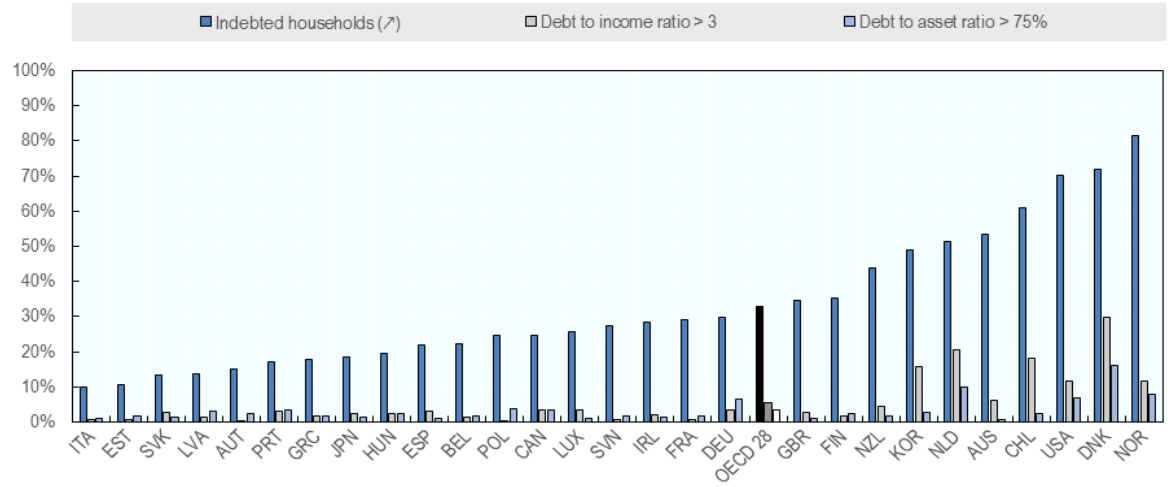


Source: OECD Wealth Distribution Database, oe.cd/wealth.

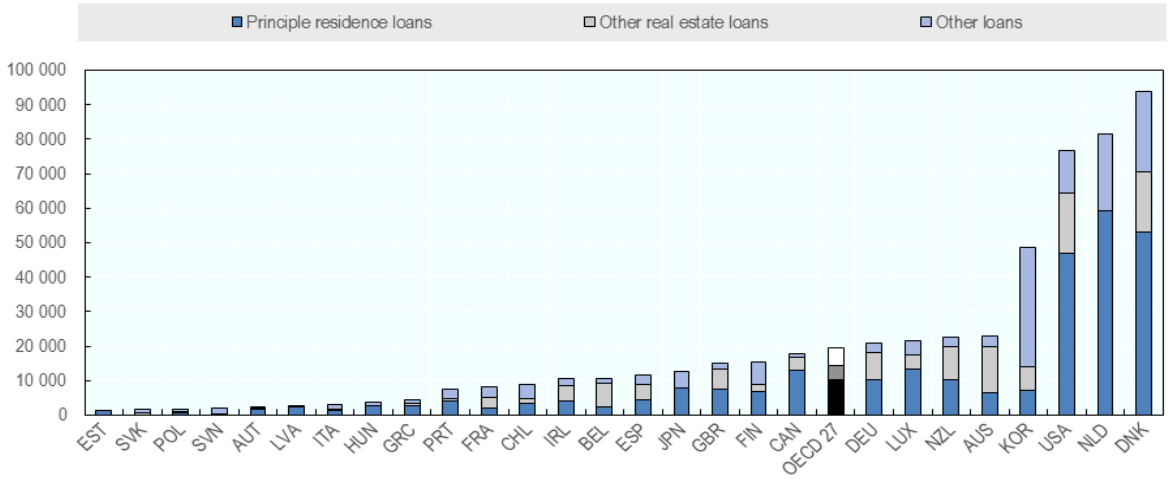
55. Despite this general pattern, there are countries featuring high levels of household debt and over-indebtedness among households with heads aged over 65 (Figure 4.9). For example, 81% of households in Norway with heads aged between 65 and 74 have some form of debt, with high levels also occurring in Denmark (72%) and the United States (70%). Over-indebtedness in this age group is also significant in some countries, with the share of households with heads aged 65-74 having a debt-to-income ratio greater than 3 at around 30% in Denmark and 20% in the Netherlands (Figure 4.9, Panel A).

Figure 4.9. Household debt and over-indebtedness for households with head aged 65-74

Panel A: Percentage of indebted and over-indebted households, 2015 or latest available year



Panel B: Composition of mean household debt, 2015 or latest available year



Note: The OECD value is the simple country average. Panel B: Data on the composition of debt are not available for Norway. Countries are ranked in ascending order of mean household debt.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

56. Looking at the composition of household debt for this group of older households reveals that, particularly in countries with the highest mean levels (Denmark, Netherlands and the United States), the bulk of it relates to loans on households' main residences; this suggests that in these countries a large share of households have mortgage terms extending beyond normal retirement age. There are also large levels of non-real-estate debt among 65-74 year olds in Denmark and the Netherlands, with mean amounts in excess of USD 20 000 per household. Non-real-estate debt for this age group is also high in Korea, likely relating to deposits held as part of the 'Jeonse' system described above (Figure 4.9, Panel B).

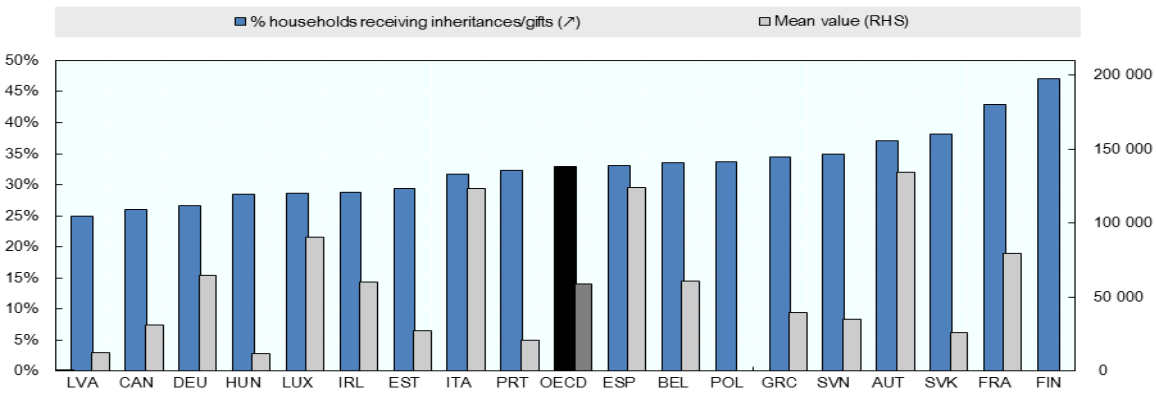
5. Inheritances and gifts

57. As household wealth in OECD countries has risen considerably over recent decades, older households today have much more accumulated wealth that they can leave to younger generations, either through inheritances or gifts (wealth transfers made during the donor's lifetime). This means that such gifts and bequests will likely have an increasing influence on household wealth and its distribution in the future. It is therefore important to understand more about their impact on wealth inequality, social mobility and the intergenerational transmission of advantages. Are inheritances and gifts received predominantly by those who are economically more advantaged? Do they reduce or increase levels of wealth inequality? To help address these questions, the OECD WDD has gathered information on which households receive inheritances and gifts and how much they receive. Further information on the inheritances data is provided in Box 5.1.

58. According to these data, members of one-in-three households have received some form of gift or bequest by the time they were interviewed, ranging from 25% of households in Latvia and 26% in Canada to 43% in France and 47% in Finland (Figure 5.1). These inheritances and gifts can be both financial and non-financial in nature, including bequests made up of real-estate and other physical wealth. There are also large cross-country differences in the average amount received in inheritances and gifts: In Austria, Spain and Italy, average inheritances per household are in excess of USD 120 000 among those that receive them, while, at the other end of the spectrum, the average value of inheritances in Hungary is less than USD 12 000.

Figure 5.1. Proportion of households receiving inheritances or gifts, and average amount received

2015 or latest available data, values in 2011 USD



Note: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption. Data on the value of inheritances are not available for Finland and excluded for Poland due to possible data issues. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

Box 5.1. Measuring inheritances in the OECD Wealth Distribution Database

The latest wave of the OECD WDD (completed in December 2017) has collected new information on the value of any inheritances and gifts received by household members in the past, expressed in today's prices. To achieve this, the historical net values of past capital transfers (i.e. inheritances and gifts) received by all household members, as reported by survey participants, were converted to present values by taking into account the changes in asset prices between the survey year and the year when the transfer took place. To perform this conversion, the total value of all past capital transfers received by each household member is first expressed at prices of the survey reference year *t*. If the capital transfer T_j was bequeathed in year *j*, the capitalized value of past transfers PVT_t expressed at reference prices of year *t* is then computed as:

$$PVT_t = T_j \frac{P_t}{P_j}$$

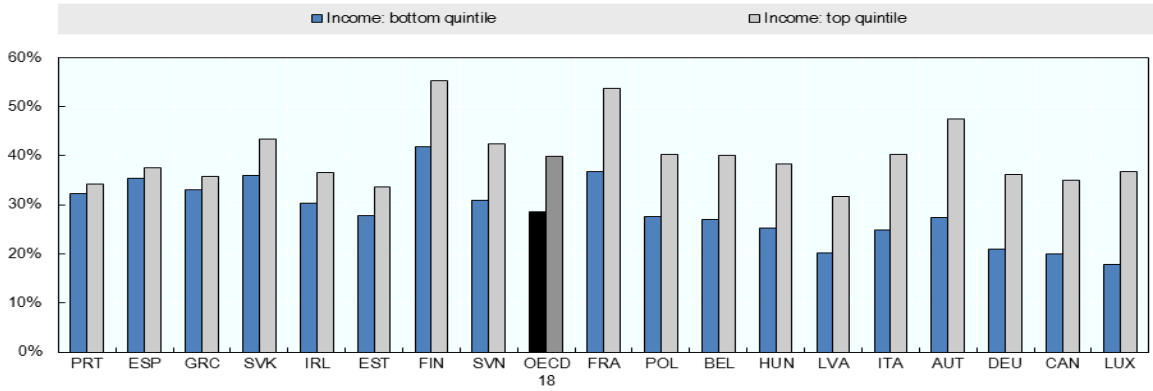
where P_j represents the price index in year *j* for the asset class considered (non-financial or financial assets) and P_t stands for the price index in year *t*. For non-financial assets, the price index used is either a house price index derived from the *OECD Analytical Database* or a comparable index from a national source. For financial assets, the price index corresponds to a share price index drawn from the *OECD Macroeconomic Indicators Database*. Neither of these price indices includes the value of services provided by the asset in question to the owner (i.e. rents in the case of housing, and dividends in the case of financial assets).

Estimates of this type require that national wealth surveys include questions on: i) whether household members have received capital transfers in the past; ii) the year when such transfers were received; and iii) the value of these capital transfers in the year when they were provided. Because of this, data are not available for all countries included in the OECD WDD. Information is available for 18 countries, mainly countries that take part in the Euro-System's Household Finance and Consumption Survey (HFCS). In addition, Canada's national wealth data also contains the relevant information.

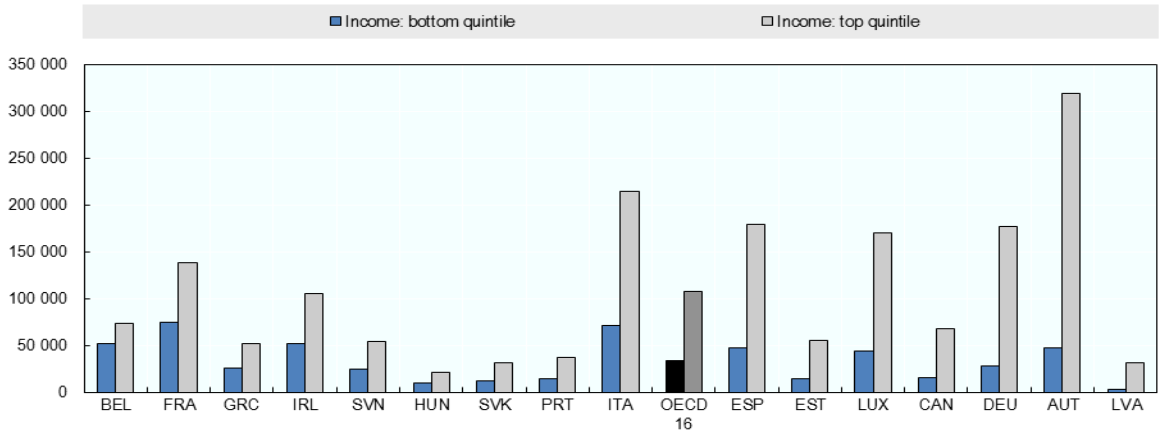
59. In all countries, households with higher incomes are more likely to have received an inheritance or gift, but the extent to which this is the case varies considerably across countries (Figure 5.2, Panel A). In some countries, including Luxembourg, Canada, Germany and Austria, the relationship between current household income and the likelihood of having received an inheritance is strong. For example, in Luxembourg, 37% of households in the top income quintile report having received an inheritance, compared with 18% of those in the bottom quintile. However, in some Southern European countries (Portugal, Spain and Greece), the relationship between income and the probability of receiving an inheritance is much weaker; For example, 34% of households in the top income quintile in Portugal declare having received gifts or bequests in their lifetime, compared with 32% in the bottom quintile.

Figure 5.2. Proportion of households receiving inheritance and average amount received for bottom and top income quintiles

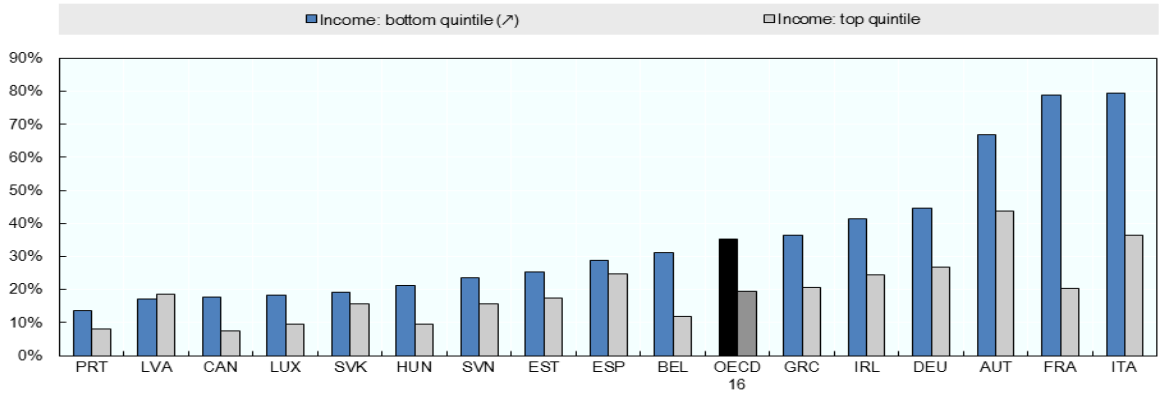
Panel A: Proportion of households who have received an inheritance, 2015 or latest available year



Panel B: Average value of inheritance received (in 2011 USD), 2015 or latest available year



Panel C: Average value of inheritance received as a share of mean net wealth, 2015 or latest available year



Note: The OECD average is the simple country average. Data on the value of inheritances are not available for Finland and excluded for Poland due to possible data issues. In Panel A and Panel B countries are ranked in ascending order of the relative difference between the values for top and bottom quintiles. Panel B: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

60. Among all households that report having received a gift or bequest, the value of that capital transfer is considerably higher for households in the top income quintile compared with those in the bottom quintile, with the average amount received by the top quintile varying between 1.4 times and 11 times that of the bottom group (Figure 5.2, Panel B). Even in countries where the relationship between people's income and the likelihood they have received an inheritance is weaker, the value of those gifts is considerably higher for high-income households. In Spain, for example, the average inheritance received by households in the top income quintile is USD 179 200, compared with USD 47 700 for those in the bottom quintile. This indicates a strong link between households' current income and the amount they may inherit (and therefore the wealth of their parents or other relatives), implying low levels of intergenerational mobility.

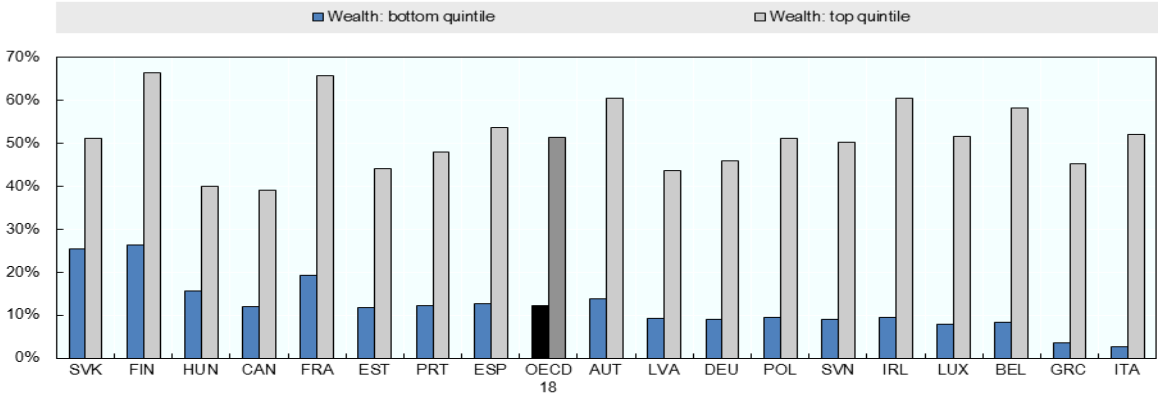
61. When considering the size of inheritances relative to mean net wealth of different quintiles, however, the average inheritances received by those in the bottom income quintile is always larger than for those in the top quintile in almost all countries (except in Latvia, where the relative size is roughly the same for both groups; Figure 5.2, Panel C). This suggests that, particularly in those Southern European countries where the likelihood of having received an inheritance is similar across the distribution, inheritances could play some role in reducing inequalities.

62. The relationship between the share of households receiving inheritances and their position in the wealth distribution is even stronger than for income (Figure 5.3). Households in the top wealth quintile are over four times more likely to have received an inheritance than those in the bottom quintile. These differences are particularly large in Italy, Greece and Belgium (Figure 5.3, Panel A). For example, 52% of households in the top wealth quintile in Italy have received a gift or inheritance, compared with just 3% among the poorest wealth quintile. An even steeper gradient is found when considering the average value of inheritances received by wealth quintile. In Italy, the average inheritance received by the top wealth quintile is USD 380 800, over 150 times the average amount received by households in the bottom quintile (Panel B).

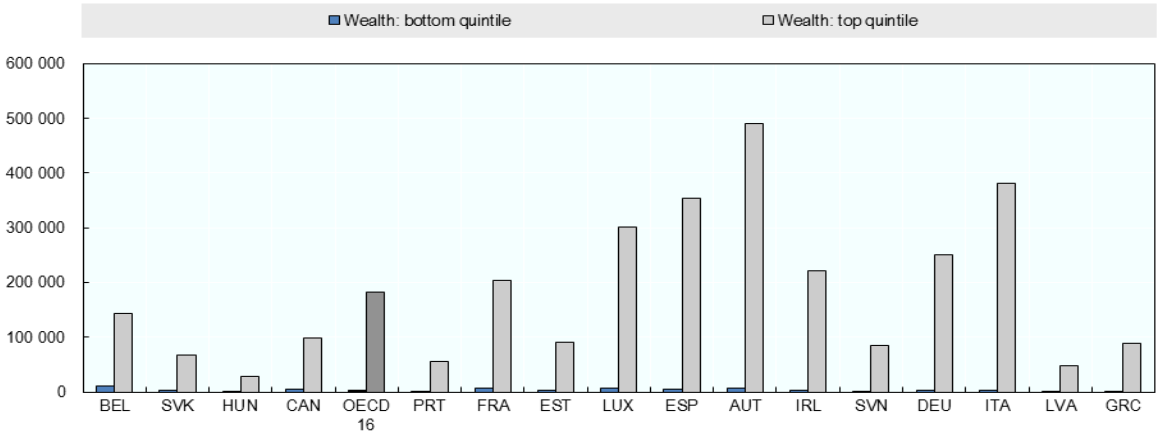
63. However, a different perspective emerges when considering average values of inheritances received as a proportion of mean gross wealth for each quintile (Figure 5.3, Panel C). In a number of countries, in particular Poland, Austria, Canada and Belgium, the mean value of inheritances relative to mean gross wealth is higher for the bottom wealth quintile, implying that, for those households that receive inheritances, their relative importance is larger towards the bottom of the wealth distribution. As in the case of Panel C from Figure 5.2, which looked at inheritances across the income distribution, this indicates that inheritances may play a role in redistributing wealth to households across the living standards spectrum, at least in some countries.

Figure 5.3. Proportion of households receiving inheritance and average amount received for bottom and top wealth quintiles

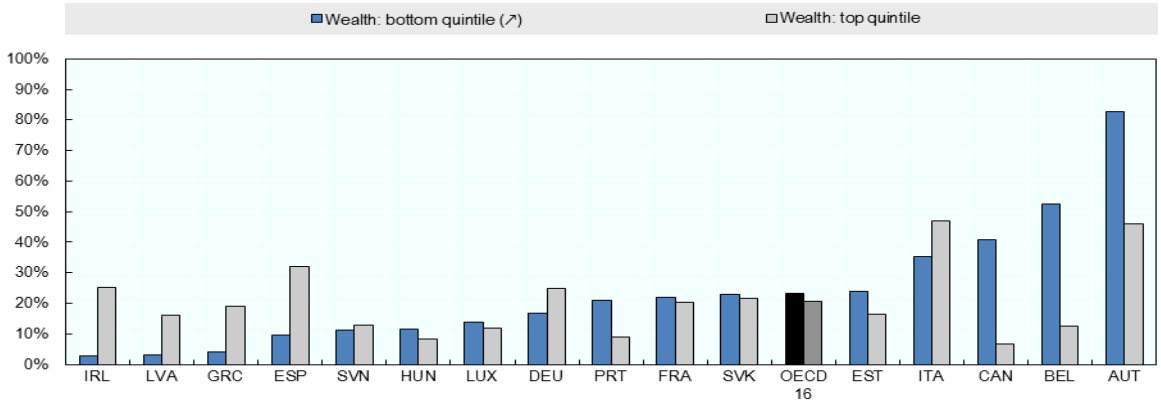
Panel A: Proportion of households who have received an inheritance, 2015 or latest available year



Panel B: Average value of inheritance received (in 2011 USD), 2015 or latest available year



Panel C: Average value of inheritance received as a share of gross wealth, 2015 or latest available year



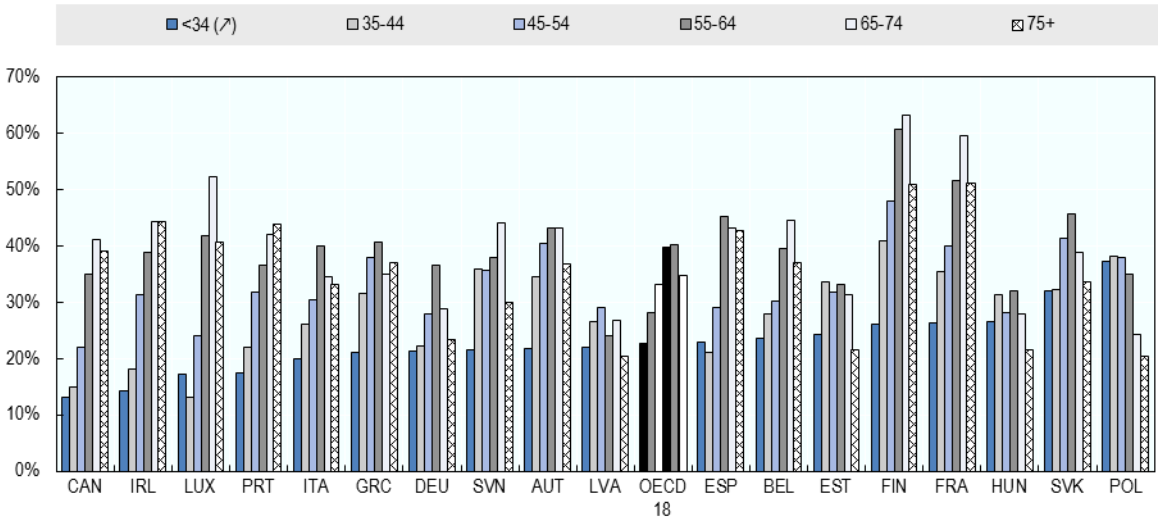
Note: The OECD average is the simple country average. Data on the value of inheritances are not available for Finland and excluded for Poland due to possible data issues. In Panels A and B, countries are ranked in ascending order of the relative difference between the values for top and bottom quintiles. Panel B: Wealth values are expressed in 2011 USD by, first, expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

64. The overall impact of inheritances on inequality is shaped, however, not just by the incidence and relative value of inheritances across the income and wealth distributions, but also by the extent to which households use those inheritances to build up their wealth in the long term rather than to fund current consumption. Research suggests that this is influenced by a variety of factors including income, the age when receiving the transfer, educational attainment and family formation (Arrondel, Garbinti and Masson, 2014[33]; Benton and Keister, 2017[34]).

65. Figure 5.4 shows that, in general, households with older heads are more likely to have received an inheritance. However, in countries such as Germany, Italy and the Slovak Republic, the probability of having received an inheritance is highest among households with a head aged 55-64 or even younger; this implies some form of cohort effect, with younger generations more likely to receive some gift or inheritance than those who are at retirement age now. Nonetheless, for those who do receive inheritances, many will not receive them until relatively late in life, after children have left the family home. Gardiner (2017[35]) has estimated, based on parents' life expectancies, that the most common age at which today's 20-35 year olds in the United Kingdom will inherit is 61.

Figure 5.4. Proportion of households having ever received an inheritance by age of household reference person

2015 or latest available year



Note: The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

6. Asset-based poverty

66. Poverty in OECD countries has traditionally been measured using household income. But what happens when a negative income shock occurs, perhaps due to unemployment, family breakdown or illness?[8] What about unexpected expenses the household needs to deal with? Such events highlight the importance of considering not only whether people have low income now, but also whether their limited financial assets means they are economically vulnerable and could experience significant economic difficulties if their income dropped suddenly.

67. Figure 6.1 shows the proportion of individuals who are experiencing both income and asset-based poverty in the countries covered by the OECD WDD. As with the main OECD poverty statistics, the income-poverty measure used in this section is a relative one, based on a threshold set at 50% of the national median.[9]

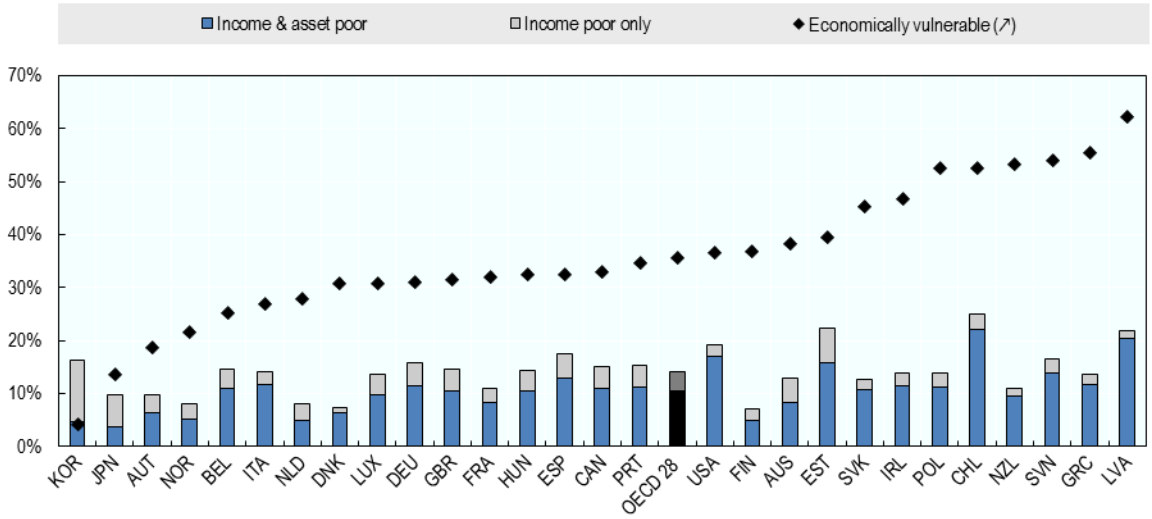
68. There is no standard definition of asset-based poverty. The main measure used in this paper is whether an individual belongs to a household with liquid financial wealth insufficient to support them at the level of the income poverty line for at least three months. Those asset-poor individuals who are not poor in terms of their income are described here as being 'economically vulnerable' (OECD, 2017[3]). By construction, this measure provides only a partial view of economic vulnerability, as it does not take into account social transfers (e.g. unemployment benefits) that people may receive in the event of some types of shocks depending on their individual circumstances. A broader approach to economic insecurity is provided by Hacker (2018[36]), while different variants of asset-based poverty are discussed in Box 6.1.

8 See OECD (2018[42]) for further analysis of these types of income shock.

9 The income poverty figures contained in this paper have been calculated from the data used for OECD WDD. This means they may differ from the main OECD poverty indicators contained within the OECD *Income Distribution Database*, where data providers use different sources for each database. In particular, for some countries, income poverty measures contained in this paper have been calculated based on equivalised gross (i.e. pre-tax) income rather than net (i.e. post-tax) disposable income, for those countries where the latter wealth concept is not available in national wealth data sources.

Figure 6.1. Percentage of individuals experiencing income and/or asset-based poverty

2015 or latest available year



Note: An individual is classified as being in income poverty if their equivalised household disposable income is less than 50% of the national median (income poverty line). An individual is classified as economically vulnerable if they are not income poor but their liquid financial wealth is less than 3 months of the national income poverty line. The OECD average is the simple country average.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

69. Figure 6.1 shows that the proportion of people who are economically vulnerable is substantially higher than the income poverty rate in almost all OECD countries. On average, 14% of people in OECD countries are income poor, but a further 36%, while not currently income-poor, are economically vulnerable due to the limited financial assets they hold.

70. The scope of the problem varies widely across countries. In Latvia, in addition to the 22% of the population who are currently experiencing relative income poverty, an additional 62% lack the liquid financial wealth needed to maintain a poverty-level living standard for at least three months. Over half the population are also economically vulnerable on this measure in Greece, Slovenia, New Zealand, Chile and Poland. By contrast, only 4% of individuals are economically vulnerable in Korea, with the next lowest level in Japan with 14%.

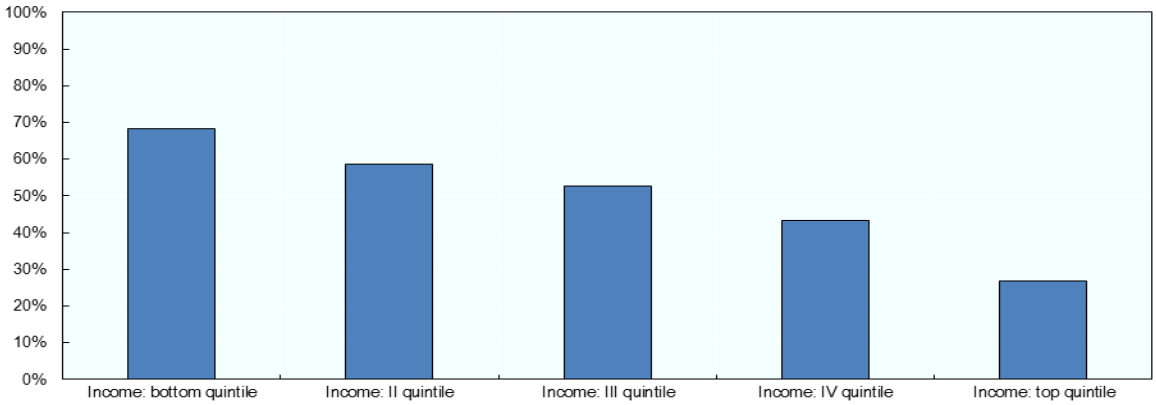
71. It is also important to consider the extent to which people are both income and asset-poor, as people in this group are obviously worse off than those who are only income poor, as they have limited access to liquid assets that might be used to alleviate the impact of their low income. In both Chile and Latvia, over one-in-five individuals are both income and asset-poor, whilst 17% of individuals in the United States are in this group. This in part reflects a high proportion of those in relative income poverty also having low levels of liquid financial assets in these countries: In Latvia, 93% of those who are income-poor are also asset-poor.

72. By contrast, the majority of the income-poor people in Korea and Japan are not asset-poor, meaning that they have sufficient liquid financial assets to supplement their income and support their material living standards, at least for a short period of time. This finding is consistent with Figure 2.4, which showed that the level of financial assets held

by households towards the bottom of the distribution is relatively high in Japan and Korea compared with other OECD countries.

Figure 6.2. Asset-based poverty by income quintile

OECD average, 2015 or latest available year



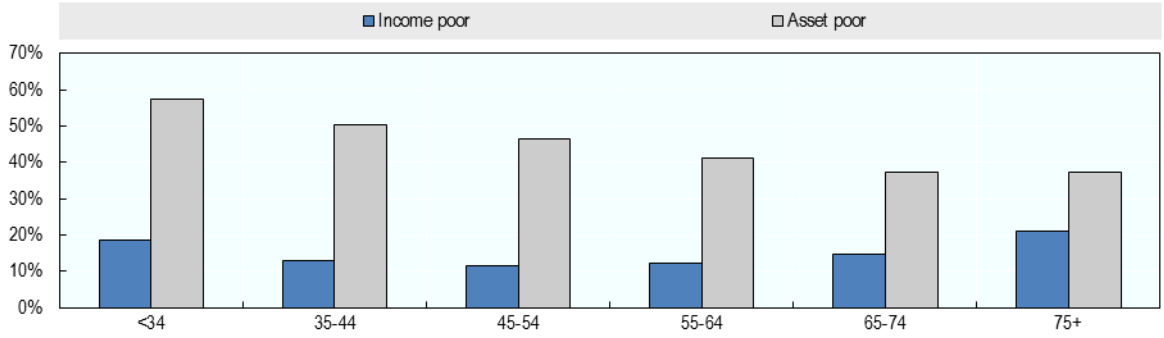
Source: OECD Wealth Distribution Database, oe.cd/wealth.

73. As might be expected, levels of asset-based poverty are highest among individuals in households at the bottom of the income distribution, with an average of 68% of households in the bottom income quintile having insufficient liquid financial wealth to maintain a poverty-level living standard for at least three months (Figure 6.2). However, there is also a substantial proportion of individuals in the top two income quintiles (who by definition are not income poor) who are asset poor, meaning that they are potentially vulnerable to a sudden loss of income. Across the OECD, 27% of people in the top income quintile and 43% of those in the second highest quintile can be considered economically vulnerable based on this measure.

74. Income and asset poverty generally follow different age patterns. While in most OECD countries the age profile of income poverty is U-shaped, asset poverty is typically highest for the youngest age group, and falls steadily in older ages, a finding consistent with the expectation that people normally accumulate wealth over the course of their life, and that older people are more likely to have accumulated significant assets than their younger counterparts (Figure 6.3).

Figure 6.3. Income and asset poverty by age of the household head

OECD average, 2015 or latest available year

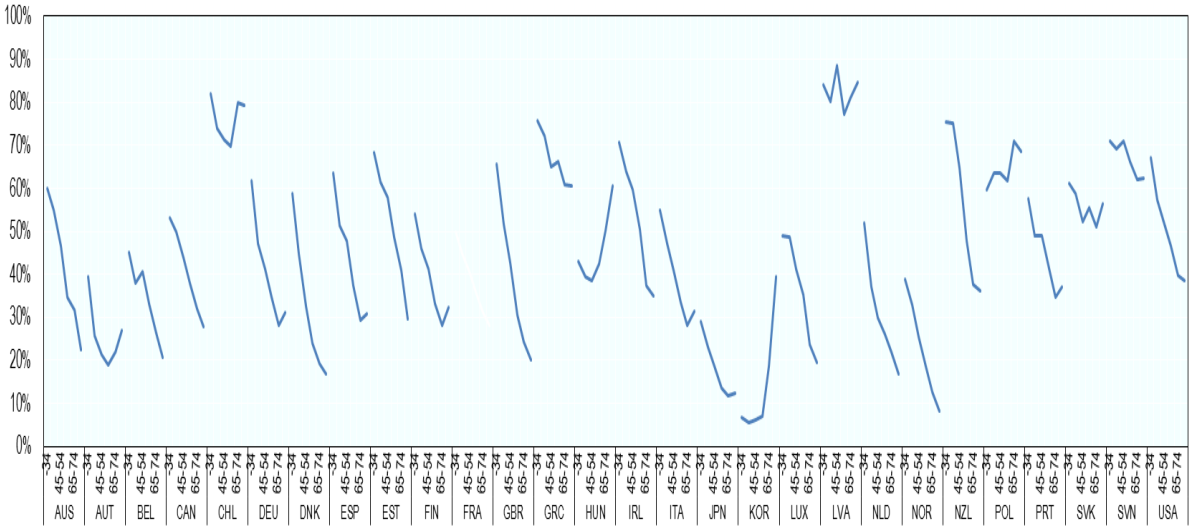


Source: OECD Wealth Distribution Database, oe.cd/wealth.

75. There are, however, some notable exceptions to this general pattern. Figure 6.4 shows asset-based poverty rates across age groups in different OECD countries. While in most countries asset-poverty is lower among those in households with older heads, the pattern is very different in Korea, where the proportion of people in households with working-age heads who are asset-poor is very low (between 5% and 7%) and where asset-based poverty is considerably higher among those living in households with older heads (with rates of 19% for those aged 65-74 and 39% for over-75s). Similarly, in both Hungary and Poland, asset-based poverty is highest amongst those living in households with heads aged over 65. In Latvia, the proportion of people who are asset-poor is high across all age groups.

Figure 6.4. Asset-based poverty by age of household head

Percentage values, 2015 or latest available year

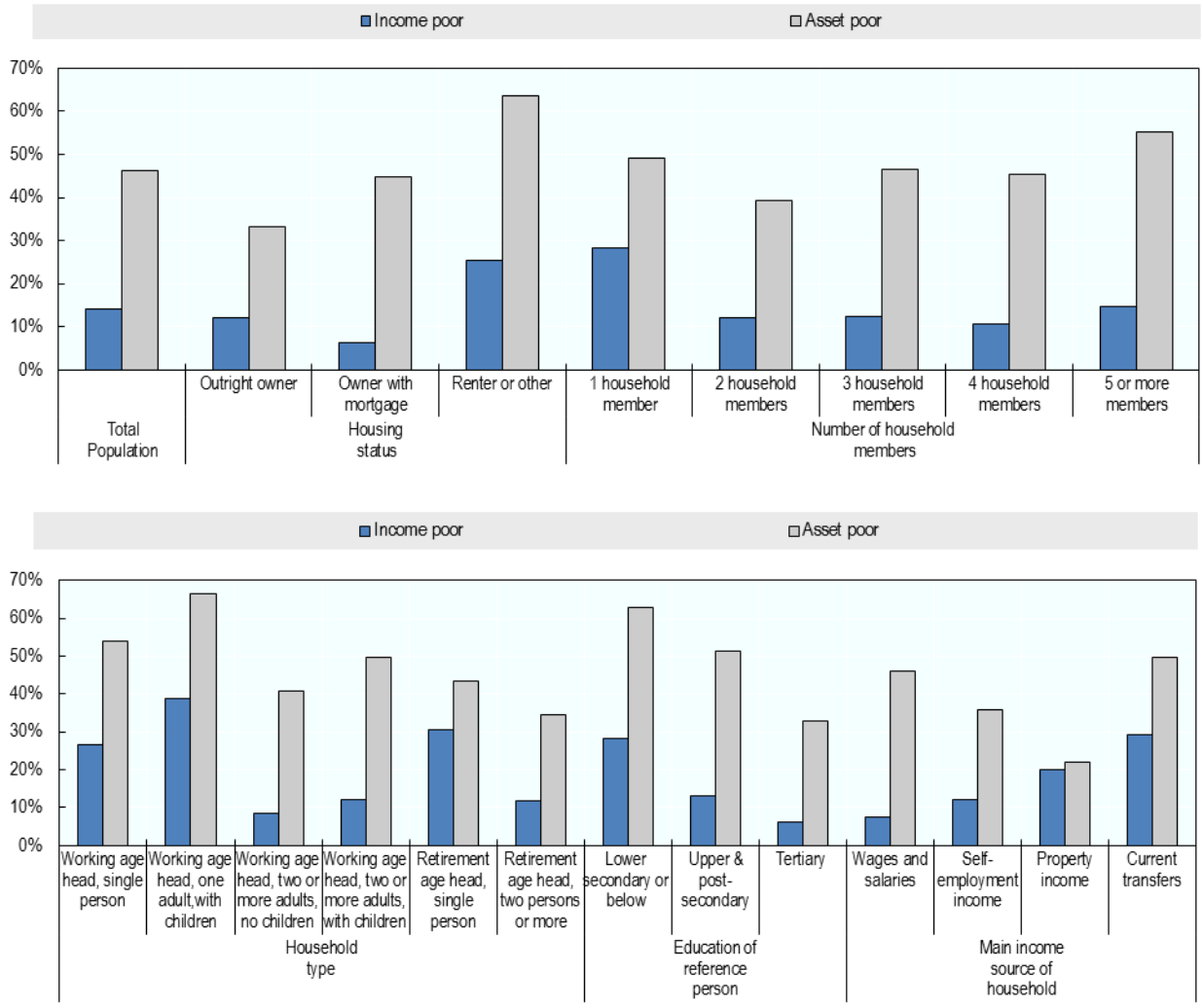


Note: The age of the head of household is defined over six age brackets: younger than 34; between 35 and 44; between 45 and 54; between 55 and 64; between 65and 74; and above 74.
Source: OECD Wealth Distribution Database, oe.cd/wealth.

76. Age is only one of many factors that shape poverty. Figure 6.5 shows how income and asset poverty are distributed according to other socio-demographic characteristics. Both asset and income poverty rates tend to be highest among working age single-parent households, and in households headed by a person with only a primary or secondary-level education.

Figure 6.5. Income and asset-based poverty by population group

Share of individuals who are income- and asset-poor, by population group, latest available year, OECD average, 2015 or latest available year



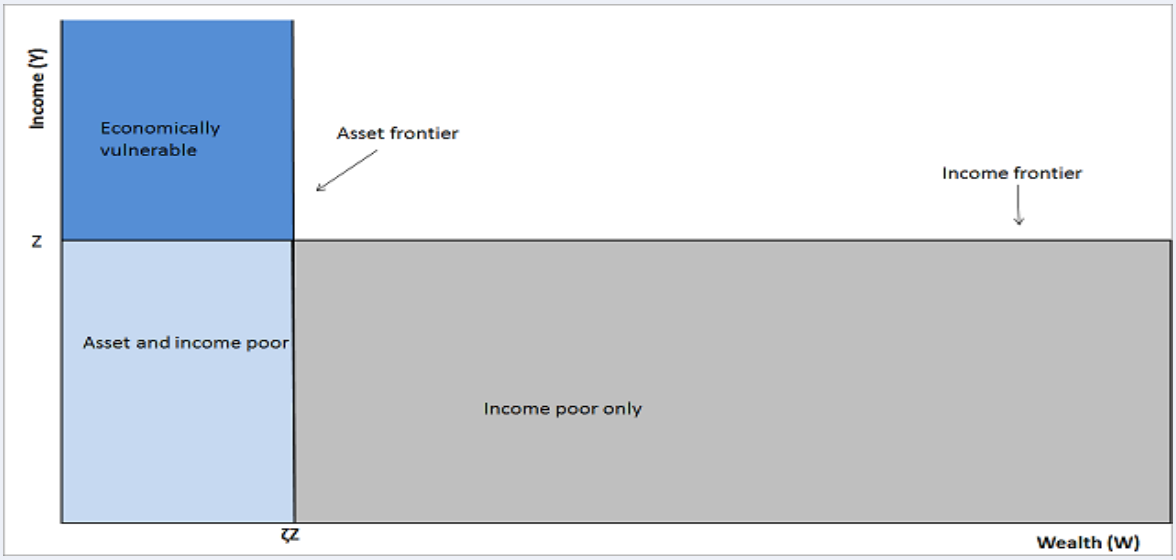
Source: OECD Wealth Distribution Database, oe.cd/wealth.

Box 6.1. Measuring asset-based poverty

Two approaches are usually employed when deriving a measure of asset-based poverty. The first is to combine both income and wealth into a single measure of total economic resources, i.e. a wealth-enlarged income concept (Brandolini, Magri and Smeeding, 2010[37]). The second approach, which is used here, considers income and assets as two distinct types of economic resources, i.e. viewing assets as a stock of material resources complementary to a flow of current income. In this approach, household wealth data is used to consider how long an individual can maintain a minimum way of life by drawing on their accumulated wealth, should their income suddenly fall because of a sudden adverse shock (e.g. loss of employment, disability, family disruption).

Figure 6.6 illustrates this concept and its relationship to income poverty. In this figure, Y represents an individual's income and W represents an individual's wealth; in this space, Z represents the income poverty line, while the asset poverty line (ζZ) corresponds to the income poverty line multiplied by a fraction ζ, equal to the length of the reference period (e.g. in the case of a three months period, ζZ is equal to one-quarter of the income poverty line). An individual is counted as asset poor if $W < \zeta Z$, and as income poor if $Y < Z$.

Figure 6.6. Asset- and income-based poverty



Source: Adapted from OECD (2013[38]), OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth, OECD Publishing. http://dx.doi.org/10.1787/9789264194830-en.

Taking wealth into consideration makes it possible to distinguish, within the income poor, those who have sufficient wealth to keep them above the poverty line for a period of at least ζ months (the "income poor only") from those who lack this buffer (the "asset and income poor", shown by the light blue area). Both groups experience low income, but the latter are clearly worse-off than the former. A third, and potentially much larger group, group comprises the "asset poor only", i.e. those individuals who currently have sufficient income to achieve the minimally acceptable standard of living but do not have enough assets to protect them from a sudden drop of their income. This group is described here as

being ‘economically vulnerable’.

The operationalisation of asset-based poverty depends on a number of methodological and conceptual choices, including those related to the unit of analysis (individuals or households), the choice of equivalence scale, the length of the reference period considered (ζ), the wealth and income concepts used (W and Y respectively):

- The estimates presented in Section 6 refer to individuals (rather than households, which is the unit typically considered in wealth distribution data) and equivalise wealth based on the same equivalence scale applied by the OECD to household income (i.e. the square root of household size), in line with the recommendations of the *OECD Guidelines on Household Wealth* (OECD, 2013[4]).

- The income definition should ideally be in line with that used for income poverty, i.e. household *disposable* income, based on a 12 month income reference period. However, in many cases, information on *disposable* income is not available in the data sources used for the computation of wealth statistics. For this reason, the choice made here (for those countries where no information on disposable income is available in wealth sources) is to rely on the concept of *gross* income (i.e. the total sum of wages and salaries, self-employment income, property income, and current transfers received, all recorded before payments of taxes); this choice implies an upward bias in estimates of asset-based poverty for those countries where information on disposable income is not available.

- The concept of liquid financial assets (i.e. cash, quoted shares, mutual funds and bonds net of liabilities of own unincorporated enterprises) is the main measure used in this section, as this represents the assets which are relatively accessible by households if needed urgently. Table 6.1 presents estimates of asset poverty based on both liquid financial wealth and overall net wealth (i.e. including housing wealth net of all financial liabilities) for comparison purposes. When net wealth is used, measures of asset based poverty are around 2/3 lower than those based on the liquid financial wealth concept.

- Different reference periods can be used, although most of the literature focuses on 3, 6 and 12 months. Table 6.1 allows an assessment of the sensitivity of the estimates to the different choices made. As expected, the share of the population identified as asset poor increases with longer reference periods, from an average of 46.3% of individuals with liquid financial assets worth less than 3 months of the income poverty line, to 68.6% when 12 months is used. However, the relative ranking of countries is insensitive to the reference period used (Spearman’s Rho is 0.98 for 3 and 6 month measures, and 0.95 for 3 and 12 month measures).

Table 6.1. Asset-based poverty rates according to different measures

2015 or latest available year

Country	Income poverty	Asset-based poverty							
		Share of individuals with							
		Liquid financial wealth				Net wealth			
	Equivalised disposable income below the income poverty line 50%	Liquid fin. wealth <25% of income poverty line (3 months)	Liquid fin. wealth <50% of income poverty line (6 months)	Liquid fin. wealth <100% of income poverty line (12 months)	Share of individuals liquid wealth poor (3 months) and income poor	Net wealth <25 % of income poverty line (3 months)	Net wealth <50 % of income poverty line (6 months)	Net wealth <100 % of income poverty line (12 months)	Share of individuals with net wealth poor (3 months) and income poor
Australia	12.9	46.7	58.0	69.5	8.3	5.7	9.0	15.1	1.7
Austria	9.7	25.0	39.1	56.8	6.4	13.8	18.8	26.6	4.7
Belgium	14.6	36.1	48.0	61.4	10.9	11.0	13.8	16.8	6.4
Canada	15.0	44.0	57.0	71.0	11.0	8.0	12.0	18.0	5.0
Chile	24.9	74.8	78.1	81.2	22.2	21.4	22.1	22.5	6.8
Denmark	7.3	37.1	51.5	64.6	6.3	34.0	38.6	44.3	4.6
Estonia	22.4	55.5	65.7	77.3	15.9	10.1	12.2	16.1	5.0
Finland	7.0	41.7	55.1	68.4	4.9	16.9	19.7	23.6	3.3
France	11.0	40.5	53.1	66.6	8.4	11.9	17.3	23.7	3.8
Germany	15.8	42.4	54.9	69.4	11.4	22.3	27.5	34.0	8.9
Greece	13.6	67.0	77.3	86.1	11.6	12.9	17.2	20.2	4.2
Hungary	14.5	43.0	49.7	73.4	10.4	9.8	11.7	16.8	3.4
Ireland	14.0	58.2	68.7	78.2	11.5	26.9	30.2	34.7	6.2
Italy	14.2	38.7	52.3	66.1	11.8	10.1	14.3	19.2	5.5
Japan	9.8	17.3	23.8	33.7	3.8	9.5	11.7	15.0	1.7
Korea	16.3	9.0	14.1	23.8	4.7	4.9	6.9	10.1	2.5
Latvia	22.0	82.6	88.3	93.3	20.4	18.1	21.0	28.0	7.8
Luxembourg	13.6	40.5	53.2	64.8	9.7	10.9	14.9	18.3	4.1
Netherlands	8.0	33.0	44.0	58.0	5.0	39.0	43.0	48.0	5.0
New Zealand	10.9	62.7	69.7	77.1	9.5	10.2	13.7	18.9	4.0
Norway	8.1	26.9	39.9	55.8	5.2	25.0	27.3	30.9	5.5
Poland	13.8	63.7	75.9	86.8	11.2	10.6	12.8	15.0	3.8
Portugal	15.3	45.9	55.3	65.7	11.1	14.1	16.3	19.8	5.1
Slovak Republic	12.8	55.9	69.3	82.6	10.7	7.2	10.4	14.2	2.8
Slovenia	16.4	67.9	75.5	83.9	13.8	9.9	11.9	15.0	4.1
Spain	17.5	45.5	57.1	69.6	12.9	8.6	10.4	13.9	3.4
United Kingdom	14.6	41.9	52.6	63.6	10.4	5.6	9.2	15.7	2.5
United States	19.1	53.5	64.2	73.0	17.0	25.1	30.3	37.3	9.8
OECD 28	14.1	46.3	56.8	68.6	10.6	14.8	18.0	22.6	4.7

Source: OECD Wealth Distribution Database, oe.cd/wealth.

7. Conclusion

77. The analysis of wealth inequality presented in this paper is much more detailed than would have been possible just a few years ago. Since the release of the OECD Guidelines for Micro Statistics on Household Wealth (OECD, 2013[4]) more countries have engaged in this field, as reflected in the broader country coverage of the OECD WDD: in 2015, 19 countries participated in the OECD data collection, while 28 did so in 2017. The analysis in this paper highlights that the distribution of wealth differs in many ways from that of income. How wealth is distributed is important for a range of policies, including macro prudential policy, tax and competition policy, social mobility, and political inequalities. In this context, the hope is that comparable statistics on the levels and distribution of household wealth will become available for more countries, including emerging economies.

78. Despite these improvements in the availability and quality of wealth data, significant challenges still confront the statistical community in terms of:

- Improving the measurement of the top end of the wealth distribution, and broadening the type of wealth holdings measured through surveys, registers and other survey sources.

- Strengthening the comparability of the available information through better alignment to the existing international guidance in this field.

- Better understanding, and where appropriate reconciling, the differences which currently exist between micro statistics and National Accounts measures of household wealth.

- Engaging in regular monitoring and reporting of household wealth, so as to allow more comprehensive analyses of changes in wealth inequality over time.

79. While much work on these issues is already underway within statistical offices and other organisations, these challenges should be addressed with renewed focus and urgency, given the importance of the policy issues that such data can help address. More generally, it is also important to move beyond the study of the distribution wealth on its own, and to consider its relations to income and consumption, so as to provide a better picture of household economic well-being and better targeting of policy interventions.[10]

[10] Work in this area is already underway under the auspices of a *Eurostat-OECD Expert Group on the Joint Distribution of Income, Consumption and Wealth at the Micro-Level*. This group, created in 2017, aims to develop methodological guidelines building upon existing practices by the two organisations and member countries, and to produce estimates of the joint distribution of income, consumption and wealth at the micro-level. Analysis based on first estimates of the joint distributions produced by this Expert Group, along with recommendations for how statistical producers can improve data collection, will be available by early 2019.

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Annex A.

Table A.1. Data sources and characteristics

	Source	Organisation undertaking the survey	Frequency of collection	Years used in the analysis	Sample size (number of households)	Response rate	Oversampling of rich households	Oversampling rate on top 10%[1]	Imputation for item non-response
Australia	Survey of Income and Housing (SIH)	Australian Bureau of Statistics	Every 2 years	2006, 2012, 2014	~ 14 500	0.84	No	..	Yes
Austria	Household Finance and Consumption Survey (HFCS-AT)[3]	Oesterreichische Nationalbank	Every 2 or 3 years	2011, 2014	~ 3 000	0.50	Yes	0.01	Yes
Belgium	Survey of the Financial Behaviour of Households (HFCS-BE)[3]	National Bank of Belgium	Every 2 or 3 years	2010, 2014	~ 11 400	0.38	Yes	0.1	Yes
Canada	Survey of Financial Security (SFS)	Statistics Canada	Every 6 or 7 years	1999, 2005, 2012, 2016	~ 20 000	0.69	No	..	Yes
Chile	Survey of Household Finances	Central Bank of Chile	Every 3 years	2011, 2014	~4 500	0.58	Yes	0.1	Yes
Denmark	Assets and liabilities	Statistics Denmark	Annual	2015	–	–	–	–	–
Estonia	Household Finance and Consumption Survey (HFCS-EE)[2]	Eesti Pank	Every 2 or 3 years	2013	~ 2 200	0.64		0.0	
Finland	Household Finance and Consumption Survey (HFCS-FN)[3]	Bank of Finland / Statistics Finland	Every 2 or 3 years	2009, 2013	~ 13 500	0.80	Yes	0.08	Yes
France	Enquête Patrimoine (HFCS-FR)[3]	INSEE	Every 2 or 3 years	2009, 2014	~ 24 000	0.65	Yes	0.1	Yes
Germany	German Panel on Household Finances (HFCS-DE)[3]	Deutsche Bundesbank	Every 2 or 3 years	2011, 2014	~ 20 000	0.29	Yes	0.14	Yes
Greece	Household Finance and Consumption Survey (HFCS-GR)[3]	Bank of Greece	Every 2 or 3 years	2009, 2014	~ 6 500	0.41	No	..	Yes
Hungary	Household Finance and Consumption Survey (HFCS-HU)[3]	Hungarian National Bank / Hungarian Central Statistical Office	Every 2 or 3 years	2014	~ 6 200	0.39	No	..	Yes

Ireland	Household Finance and Consumption Survey (HFCS-IE)3	Central Bank of Ireland / Central Statistics Office	Every 2 or 3 years	2013	~ 5 400	0.60	Yes	0.0	Yes
Italy	Survey of Household Income and Wealth (HFCS-IT)[3]	Bank of Italy	Every 2 or 3 years	2006, 2008, 2010, 2014	~ 15 500	0.53	No	..	Yes
Japan	National Survey of Family Income and Expenditure	Statistics Bureau, Ministry of Internal affairs and communication	Every 5 years	2014	~50 000	0.96	No	..	Yes
Korea	Survey of Household Finances (SHF)	Statistics Korea	Every 5 years	2013, 2015	~ 20 000	0.91	No	..	No
Latvia	Household Finance and Consumption Survey (HFCS-LV)[3]	Latvijas Banka	Every 2 or 3 years	2014	~ 1 200	0.53	Yes	0.1	Yes
Luxembourg	Household Finance and Consumption Survey (HFCS-LX)[3]	Banque Centrale du Luxembourg	Every 2 or 3 years	2011, 2014	~ 5 000	0.20	Yes	0.06	Yes
Netherlands	Wealth Statistics	Central Bureau of Statistics	Annual	2010, 2015	–	–	–	–	–
New Zealand	Household Economic Survey (HES)	Statistics New Zealand	Every 3 years	2014	~ 5 500	0.78	No	..	Yes
Norway	Income Statistics for Households	Statistics Norway	Annual	2012, 2014	–	–	–	–	–
Poland	Household Finance and Consumption Survey (HFCS-PL)[3]	National Bank of Poland / Central Statistical Office of Poland	Every 2 or 3 years	2014	~ 3 500	0.54	Yes	0.01	Yes
Portugal	Survey on the Financial Situation of Households (HFCS-PG)[3]	Banco de Portugal / Statistics Portugal	Every 2 or 3 years	2010, 2013	~ 8 000	0.85	Yes	0.1	Yes
Slovak Republic	Household Finance and Consumption Survey (HFCS-SK)[3]	Národná banka Slovenska	Every 2 or 3 years	2010, 2014	~ 2 000	0.53	Yes	0.01	Yes
Slovenia	Household Finance and Consumption Survey (HFCS-SI)[3]	Banka Slovenije	Every 2 or 3 years	2014	~ 2 500	0.41		0.0	Yes
Spain	Financial Survey of Households (HFCS-ES)[3]	Banco de España	Every 2 or 3 years	2009, 2012	~ 12 000	0.57	Yes	0.23	Yes
United Kingdom[2]	Wealth and Assets Survey (WAS)	Office for National Statistics	Every 2 years	2007, 2009, 2011, 2013, 2015	~ 20 000	0.64	Yes	0.1	Yes
United States	Survey of Consumer Finances (SCF)	Board of Governors of the Federal Reserve System	Every 3 years	2007, 2010, 2013, 2016	~ 9 000	0.68	Yes	0.15	Yes

Note: "..." means "not available"; "-" means "does not apply".
1. The oversampling rate is calculated as the difference between the number of wealthy households in the sample and in the population.
2. Data on the United Kingdom are limited to Great Britain.
3. These national sources are part of the Eurosystem Household Finance and Consumption Survey conducted by the Household Finance and Consumption Network.
Source: OECD Wealth Distribution Database, oe.cd/wealth.