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The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au).

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Abbreviations

ABS	Australian Bureau of Statistics
ACOSS	Australian Council of Social Services
CEDA	Committee for Economic Development of Australia
GDP	Gross domestic product
GFC	Global Financial Crisis
GST	Goods and services tax
HES	Household Expenditure Survey
HILDA	Household, Income and Labour Dynamics in Australia
IMF	International Monetary Fund
OECD	Organisation for Economic Cooperation and Development
PC	Productivity Commission
PPP	Purchasing power parity
RBA	Reserve Bank of Australia
SEM	Social Exclusion Monitor
SIH	Survey of Income and Housing

Executive summary

Over nearly three decades, inequality has risen slightly in Australia

In all societies some inequality occurs due to differences in ability, opportunity, effort and luck. Institutional and policy constructs can add to this, or detract from it.

Moreover, excessive inequality and entrenched disadvantage can erode social cohesion and hinder growth. It can also sap investment in education and skills and slow productivity growth. Yet there is no precise causative relationship, let alone a consensus on how much inequality matters. It is a topic that continues to draw diverse and competing views.

This study does not directly enter these debates. Rather, its purpose is to contribute a foundation to an informed discussion on inequality and its social impacts, bringing together and taking stock of the latest and most complete evidence measuring the level of and trends in inequality, poverty and disadvantage in Australia via multiple means.

While comprehensive, this study is not exhaustive; other studies examine geographic, racial or gender inequality.

Even this modest level of ambition is not without its challenges. No single metric is sufficient to give a definitive answer to the seemingly straightforward question: have inequality, poverty and disadvantage in Australia risen, fallen or remained steady in recent years?

Our focus, therefore, eschews the specific and often self-serving use of any one measure of inequality. Instead we use an array of indicators that examine the distributions of household incomes, consumption and wealth, their composition and importantly, movement within the distributions over time, and in response to life events, such as transitions to work, divorce and retirement. For poverty and disadvantage our approach goes beyond the standard metrics, giving weight to measures that capture the experience of those households in the bottom part of the distribution.

The broader context for this study has been an evident reduction in global income inequality and poverty since the late 1980s, the time-frame we most often apply. At the same time, however, there has been rising inequality *within* many developed countries. We review the Australian experience, which is less dire than some would have it, but not exemplary.

Sustained growth has delivered significantly improved living standards for the average Australian in every income decile

What also distinguishes Australia from most other developed countries has been its unprecedented 27-year period of uninterrupted economic growth, prompting many to ask how the economic gains from growth have been shared. While growth is no guarantee against a widening disparity between rich and poor, we show that it has delivered for the average Australian household in *every* income decile significantly improved living standards. This is in contrast with the United States (which had a similar rate of increase in income inequality as Australia) where the distribution is much more uneven, with income growth in the lower deciles about a quarter of that for Australian households.

What matters more than economic growth for understanding trends in inequality are the sources of income growth (labour, capital and transfers). These fluctuate in ways that sometimes favour those on high incomes and sometimes favour those on low incomes. For example, the mining boom was a period that favoured high income earners and capital income, lifting measures of inequality. In contrast, the post-Global Financial Crisis period has benefited lower income groups, despite weak overall growth in labour income. Among the various forces acting on inequality and poverty, the one constant that matters is having a job.

Over recent decades income growth rates by age group have also varied substantially, but for the most part, the variation reflects overall trends in the strength of income growth. That is, when the economy is strong, all age groups tend to benefit from higher income growth and when the economy is weak, all age groups tend to experience lower income growth. But at different times, some age groups have benefited more or less than others. Most recently, young people's incomes have grown relatively slowly. On average, however, each new generation has earned more income than the last at a given age, and reaches the same level of income earlier in life.

Examining more closely the demographics of the income distribution provides additional insights. We know for example that Australians in their prime working years are more likely to be in the middle and upper income deciles, whereas over-65 year olds are over-represented in lower income deciles, reflecting retirement and reliance on the Age Pension. We also know that individuals living in households where no person is in paid work are strongly concentrated in the lower deciles, especially if there are dependent children in the household. Similarly, households with dependent children and two or more income earners are over-represented in middle and upper income deciles, and working households without dependent children tend to be over-represented at the top of the distribution.

Australia's progressive tax and highly targeted transfer systems substantially reduce inequality

Another clear message from the data is that Australia's progressive tax system and highly targeted transfer system substantially reduce income inequality. Income tax and government

transfers have typically lowered the measure of overall income inequality (the Gini coefficient) by 30 per cent, an equalising effect that far outweighs the overall increase in the measure since the late 1980s. This equalising effect has fluctuated over time, but overall there has been no material change in the past thirty years. Redistributive tax policies can, however, also have unintended negative consequences on economic efficiency, for example, inciting a reduction in labour supply.

While income is usually given prominence in debates about inequality, how evenly consumption is distributed is often a better measure, as consumption contributes most directly to wellbeing. Moreover, income patterns alone do not capture the importance of in-kind transfers from government, such as health, education, childcare subsidies and government housing. These in-kind transfers have an additional equalising effect, because people with low incomes (and households with children) receive the largest amount of in-kind transfers. When the more expansive measure of final consumption is used, overall inequality (the Gini coefficient) is about 30 per cent lower again than that for disposable household income. In-kind transfers can also bear on future inequality by opening doors to greater opportunities and lifting incomes later on.

The distinction between income and consumption comes out most strongly in analysis by age. For example, while 25 to 34 year olds are over-represented in upper deciles for income, they are over-represented in lower deciles for final consumption. This reflects reduced reliance on the education and health system in this age group, as well as higher rates of savings. On the other hand, those aged 65 or older, who are strongly over-represented in lower deciles for income, are under-represented in lower deciles for final consumption.

The distribution of wealth is relevant too. Household welfare depends not just on resources at a point in time, but over time as well, and wealth provides a sense of financial security. Wealth can also provide an important safety net for older Australians, many of whom have relatively low incomes but high wealth, in terms of managing aged care costs and longevity risk.

Similar to income, growth in wealth has been spread widely across the population. On average, households in all but the bottom decile experienced real increases in wealth, predominantly in housing assets and superannuation balances over the past fifteen years. However, with the growth in wealth strongest in the upper deciles, some measures of wealth inequality have risen. While wealth distribution in Australia somewhat predictably is more unequal than income or consumption, Australia's wealth distribution remains less skewed than in other countries. Among 28 OECD countries, Australia ranks eighth most equal, as measured by the Gini coefficient of wealth.

The fact that inequality levels are so different among developed countries hints strongly at the scope for policies, institutions and political environments to shape inequality.

Economic mobility is high in Australia, with almost everyone moving across the income distribution over the course of their lives ...

The standard inequality measures considered thus far give a snapshot of the distribution at a point in time. While they show some widening of the gap between households, that does not mean that the rich and the poor households at the beginning and the end of the period are the *same* households.

The distinction is important because a society with a given level of inequality, and where household incomes are static over time, faces different and more serious policy challenges than a society with the same level of inequality but where household incomes are mobile.

There are two types of mobility: intergenerational mobility and life course mobility. Intergenerational mobility refers to the relationship between a person's economic position and that of their parents, and life course mobility refers to changes in a person's economic position throughout their life. The limited timeframe of Australian longitudinal data limits our capacity to assess intergenerational mobility. Instead, we present original analysis on the degree of life course mobility in Australia using the HILDA dataset. In other words, how much people move across the distribution for income or wealth from year to year.

It turns out that almost everyone moves across the income distribution over the course of their lives. Over a 16-year period, the average Australian was classified in five different income deciles; and for less than one per cent of people, the decile to which they belonged remained unchanged over the whole period. And nine per cent spent time in both the top and the bottom income decile. A lower, but still significant level of mobility was also apparent across the wealth distribution. This highlights the fluid nature of income and wealth: over time, any given decile consists of a different group of people — most of the people in the top decile today were not there fifteen years ago.

Life events — such as transitioning from education into work, career advancement, household formation, having children, divorce and retirement — underpin some of the observed trends in economic mobility. Typically, income rises during the working years, though this can be interrupted by childbearing and other life events, such as ill health. Similarly, Australians accumulate wealth in their middle years, and draw on this wealth in retirement when their earnings drop. These changes in income and wealth allow people to 'smooth' their consumption.

... but some Australians experience entrenched economic disadvantage

While life course mobility affects households across the entire distribution, the ends of the distribution are 'stickier' than the middle. Households in the top and bottom two income deciles at the beginning of the period were the most likely to be in the same decile fifteen years later. About three per cent of households were stuck in one of the bottom two deciles throughout the period. Stickiness at the ends of the distribution is indicative of some entrenched inequality.

Accordingly, the last chapter of this study updates earlier Commission research on the nature and extent of deep and persistent disadvantage in Australia. Disadvantage is a multidimensional concept that can take the form of low economic resources (poverty), inability to afford the basic essentials of life (material deprivation) or being unable to participate economically and socially (social exclusion). Because the elements of disadvantage encompass a diverse range of indicators, it is difficult to reach a single conclusion about the overall trend in disadvantage.

Many Australians experience economic disadvantage at some stage in their lives, but for most, it is temporary. About nine per cent of Australians (2.2 million people) experienced relative income poverty (income below 50 per cent of the median) in 2015-16, with children and older people having the highest rates of relative income poverty. This aggregate figure has fluctuated since 1988-89 but, despite 27 years of uninterrupted growth, has not declined.

Persistent and recurrent poverty affects a small, but significant proportion of the population. About three per cent of Australians (roughly 700 000 people) have been in income poverty continuously for at least the last four years. People living in single-parent families, unemployed people, people with disabilities and Indigenous Australians are particularly likely to experience income poverty, deprivation and social exclusion. For people in these circumstances, there is an elevated risk of economic disadvantage becoming entrenched, limiting their potential to seize economic opportunities or develop the skills with which to overcome these conditions.

These risks are particularly elevated for children living in jobless households, which is a group that has stood out among the multiple measures of inequality and disadvantage.

How the future of inequality in Australia evolves will depend on the opportunities that citizens have to improve their living standards today. For by far the largest number of us, sustained economic growth and reliable access to employment — complemented by skills and education improvements as specified in our 2017 report, *Shifting the Dial* — will offer these opportunities and the ability to embrace them.

But for a significant albeit much smaller group, the challenges are much more complex. Growth and complementary improvements in skills and education policies will not be enough. In some previous research, we found that needs in housing or health policies could better be fashioned to address more directly than today quite specific needs — what might be termed 'hand-made' policy — as we look out towards a fourth decade of uninterrupted economic growth.

1 About this study

1.1 What this study is about

Researchers, policy makers and the general public have always been interested in questions of economic inequality, but the level of interest in Australia and other developed economies has escalated in recent years. There is a vigorous debate about how inequality affects people's wellbeing, its causes and consequences, and whether and what type of policy responses might be required. It is a topic that continues to draw diverse and competing views (box 1.1).

Influential economists such as Thomas Piketty and Branko Milanović, organisations including the OECD and the IMF, and numerous commentators have contributed to this renewed interest. The OECD has identified inequality as one of the key challenges facing the world (OECD 2018c). So have some political leaders internationally and at home, the latter including a 2014 Senate Inquiry into the extent of income inequality in Australia (SCARC 2014, p. 18).

This study does not directly enter the debates these gathering comments have triggered. Rather, its purpose is to contribute to an informed discussion in Australia by bringing together and taking stock of the latest and most complete evidence measuring the prevalence of, and trends in, inequality, economic mobility and disadvantage across Australian society. It updates earlier Commission research for developments in the post-global financial crisis period, and adds to recent analyses on inequality, such as work by Whiteford (2018), Kaplan, La Cava and Stone (2018) and the Committee for Economic Development of Australia (CEDA 2018b).

While comprehensive, this study is not exhaustive. Other dimensions of inequality — such as the distribution of income, consumption and wealth by location or gender — are not examined in depth. Some analysis of economic conditions by geographic region can be found in the Commission's *Transitioning Regional Economies* study (PC 2017c). Nor does the study include a detailed analysis of disadvantage as it affects Indigenous Australians. For detailed discussion of such issues, readers can refer to the Commission's series of work on *Overcoming Indigenous Disadvantage* (SCRGSP 2016).

Even this study's modest level of ambition is not without its challenges. No single metric is sufficient to give a definitive answer to the seemingly straightforward question: have inequality, economic mobility and disadvantage in Australia risen, fallen or remained steady in recent years? This is the case because these concepts are multidimensional, and they link to each other — and to broader notions of wellbeing — in complex ways. It is also because different datasets can show different results. Our focus, therefore, eschews the specific and often self-serving use of any one measure of inequality.

Box 1.1 Contrasting views on inequality

Some commentators argue that inequality is not a major problem in Australia and does not require policy action.

The best available evidence demonstrates that income inequality is low and declining in Australia. ... Access to basic material goods is close to universal. Absolute poverty has been virtually eradicated, while relative poverty is low and has been declining in recent years. (Wild and Bushnell 2017, p. 40)

Most measures suggest income inequality [in Australia] has now stabilised or diminished ... And there is no reason to think that stabilisation has occurred at a level of inequality that is dangerously high, undermining equality of opportunity, worsening poverty or in other ways eroding the social fabric. On the contrary, far from income groups hardening into hereditary castes — with all the inequity and inefficiency that would bring — social mobility in Australia remains relatively high. (Ergas 2017)

Economic inequality is not intrinsically bad and equality does not equate to fairness. Policies need to give more attention to incentive. Australia's tax, social security and welfare systems are already highly redistributive towards a more equal income distribution and very effective in saving people from absolute poverty. (Carling 2017)

Others maintain that inequality is a growing problem that should be addressed.

A high-inequality society is a highly unstable society. When assets in a society are distributed in a way that most people believe is unfair, it creates a form of systemic risk. ... When we look at the rise of populist politics around the world, it's clear that inequality helps foster the sense that mainstream politics isn't delivering. ... A more equal nation will have higher levels of wellbeing, more mobility, and more stability. (Leigh 2017)

At the heart of Australia's society and economy is the idea of the 'fair go': the notion that, if we work hard enough, we will be able to get ahead no matter our gender, ethnicity, or our post code. But in recent years, the fair go has been under threat, particularly as wage and income inequality has widened, leaving more Australians behind. (Rajadurai 2018, p. 12)

Income inequality is indeed a drag on the ability to convert wealth to well-being. ... Such findings also serve as a vivid reminder for politicians and public servants alike that inequality is an issue that can be kicked down the road no longer. It needs confronting here and now ... (Chin 2017)

Human beings have deep-seated psychological responses to inequality and social hierarchy. ... [I]nequality colours our social perceptions ... which affect the way we relate to and treat each other. ... A growing body of research shows that inequality damages the social fabric of the whole society. (Wilkinson and Pickett 2014)

1.2 An overview of what we do

We use an array of measures and indicators to explore changes in the distribution of income and consumption (chapter 3) and wealth (chapter 4), drawing on the now extensive set of information in household surveys — namely the *Household Expenditure Survey* and the *Household, Income and Labour Dynamics in Australia* survey — collected over the past 15 years or more.

This provides for a richer analysis of economic inequality than using annual data or income alone, because consumption and wealth are distributed across the population in different ways, and it is the goods and services people consume, not the income they earn, that contributes to economic wellbeing. Wealth also contributes directly to wellbeing by providing a sense of financial security and social prestige. Measures of income, consumption and wealth are also decomposed into their constituent parts. This gives a better understanding of the forces influencing the distribution, and allows a top-down perspective on how Australia's tax and transfer system affects summary distribution measures, such as the Gini coefficient (described in chapter 2).

Economic opportunity and mobility

The inequality measures presented in chapters 3 and 4 reflect a snapshot of inequality among households at a point in time. This will change over time, as households' economic resources fluctuate — often by significant amounts. Yet, observing a widening gap over time between 'rich' households and 'poor' households does not mean that the rich and the poor households are the *same* ones at the beginning and the end of the period.

The distinction is important, because a society with a given level of inequality and where household incomes are static does not face the same challenges as a society with the same level of inequality but where household incomes are mobile. Indeed, there is greater consensus that policy should be more concerned about significant, persistent inequality of *opportunities* and barriers to economic mobility than inequality of *outcomes* (Argy 2006, p. 51). Accordingly, information on the degree and form of mobility is relevant, and can offer richer insights on how to interpret trends in income inequality.

Economic mobility is manifest in two forms.

- *Intergenerational* mobility refers to the relationship between parents' socioeconomic status and their children's socioeconomic status, and often focuses on the transmission of advantage or disadvantage across generations. When based on analysis of income alone, intergenerational mobility is sometimes framed in terms of 'intergenerational earnings elasticity' a quantitative measure of how a person's earnings are affected by their parents' earnings, where a higher earnings elasticity indicates less income mobility.
- *Life course (intragenerational)* mobility refers to the movements of individuals across the economic distribution throughout their lives (d'Addio 2007, p. 12). This form of mobility incorporates life events such as transitioning from education to work, cohabitation and family formation, and retirement. It can also reflect the impact of unexpected changes in circumstances (such as illness, injury or disability) that affect a person's capacity to work.

Due to the limited timeframe of Australian longitudinal data, intergenerational analysis of full life cycles is not possible, although we review existing studies that estimate Australia's intergenerational mobility using a variety of methods. We primarily examine people's changing life circumstances (life course mobility) — such as transitions from study to work, household formation or dissolution, and retirement — and use some cross-sectional analysis to draw out insights into the effect of these events (chapter 5).

As Australian longitudinal datasets continue to mature, future possibilities for a fuller analysis will open up. For example, there could be value in undertaking econometric analysis of the determinants of income mobility (demographic and otherwise).

Economic disadvantage

The presence of inequality does not *necessarily* mean that some people always live in poverty (a state of insufficient economic resources) or experience economic disadvantage more generally. Rich countries like Australia typically have a low prevalence of absolute poverty. But in practice, higher economic inequality often indicates that a greater proportion of people experience inadequate resources and opportunities (Bureau for Development Policy 2013, p. 27; Douglas et al. 2014, p. 22).

Poverty and other forms of disadvantage can suppress a person's ability to improve their economic situation, such as by affecting their ability to find work or to invest in their own skills through education and training. Those constrained opportunities can in turn limit a person's capacity to improve their economic circumstances or 'climb up the ladder', and may feed into a cycle of widening inequality if people with few economic resources are 'stuck on the bottom rung'. Looking at the prevalence of economic disadvantage is also relevant in its own right.

For these reasons, metrics of the prevalence of disadvantage, and people's movements into and out of disadvantage, add an important dimension to the discussion of inequality (chapter 6). For example, concerns about inequality may be assuaged if poverty spells are mostly temporary, if the prevalence of poverty is decreasing, and/or if income mobility allows people to improve their economic positions over time. It is also possible that increasing inequality could be accompanied by declining poverty if, for example, all incomes were rising but the income distribution was only 'stretching out' in the top deciles.

More detailed analysis of the severity and duration (persistence) of disadvantage, the characteristics of people experiencing disadvantage, and the causes, costs and consequences of disadvantage can also be found in the Productivity Commission's earlier analysis of *Deep and Persistent Disadvantage in Australia* (McLachlan, Gilfillan and Gordon 2013).

Framework and approach

The overarching framework for thinking about inequality, mobility and disadvantage from a broader wellbeing perspective, and how these concepts are related to each other, is outlined in chapter 2. Chapter 2 also explains the Commission's analytical approach.

This study uses the most up-to-date data sources. They include the late 2017 release of new waves of two major nationally representative household surveys: the ABS Household Expenditure Survey (HES) and the Melbourne Institute Household, Income and Labour

Dynamics in Australia (HILDA) Survey. The study also uses the ABS Survey of Income and Housing (SIH), which has been integrated with HES since 2003-04.

HES has been used as the main data source for cross-sectional analysis, because it is available over the longest period of time and (unlike SIH and HILDA) includes comprehensive consumption data in addition to data on income and wealth. All cross-sectional results based on HES have been compared with HILDA and, where discrepancies between HES and HILDA are apparent, these are indicated in footnotes. HILDA has been used for longitudinal analysis and for some cross-sectional analysis where it contains relevant variables that are not in HES. Finally, the SIH provides more frequent estimates for some summary measures, as the SIH is run more often than HES.

In longitudinal studies such as HILDA, the representativeness of the sample atrophies over time. One reason for this is attrition, which occurs when people drop out of a survey, and which affects all longitudinal studies. In HILDA, this attrition is not random (Summerfield et al. 2017, p. 180), which could bias the results in this study. Specifically, people who are relatively young (15–24 years), born in a non-English speaking country, unemployed or working in low-skilled occupations are particularly likely to leave the survey (Summerfield et al. 2017, p. 180).

The Melbourne Institute makes adjustments for this attrition by reweighting the sample; that said, these adjustments are not perfect. Another source of declining representativeness of the HILDA Survey is that immigrants arriving in Australia after 2001 could not be included in the initial sample. In 2011, the sample was topped up with new participants, including recent immigrants. However, Wilkins (2014, p. 78) found that including or excluding the top-up sample had little effect on 2010-11 income statistics.

1.3 The broader economic context

Changes in the distribution of household income, consumption and wealth occur in the context of changes in the broader economic landscape, internationally and within Australia.

The international context

Internationally, the forces of globalisation, technological advances and structural reforms have underpinned economic growth since World War II. Initially, rising incomes were concentrated in developed economies, and a few rapidly developing economies, such as South Korea. However, the late 1990s marked a dramatic change in the spread of economic growth, as emerging economies (most notably China and India) overtook developed economies in their rates of growth (Subramanian and Kessler 2013, p. 2). These economies continue to catch up with the developed world.

This pattern of economic growth has altered the distribution of global incomes over the past twenty years. Notably, high rates of income growth experienced by many in the bottom half of the global income distribution (figure 1.1) greatly reduced poverty: between 1990 and 2013, the number of people in extreme poverty (living on less than US\$1.90 per day) fell from 1.85 billion to 767 million (World Bank 2016, p. 5). This growth pattern suggests there has been some reduction in inequality *across* countries, albeit accompanied by high rates of income growth at the top of the distribution (depicted by the tip of the elephant's trunk in figure 1.1).



^a Vertical axis shows the change in real income (the difference between 1988 real income and 2008 real income for each percentile, as a percentage of 1988 real income), in constant international dollars. *Source*: Corlett (2016, p. 5), based on data from Milanović and Lakner (2013).

In contrast, inequality has been increasing *within* many countries, particularly in advanced market economies. The Gini coefficient of equivalised disposable income — a measure of overall income inequality — rose by an average of 9 per cent, across 13 OECD countries, between 1989 and 2011.¹ Chapter 3 provides further discussion on trends in income distribution in OECD countries.

¹ Or nearest years available. Commission estimate based on OECD (2015), Webber and Mallett (2017), LIS (2017).

The Australian context

To place trends in inequality in Australia into a broader context, it is instructive to look at the Australian economic landscape over the past three decades.

What distinguishes Australia from most other developed countries has been its unprecedented 25-year period of uninterrupted economic growth, which included a sustained period of disposable income growth between 1992-93 and 2007-08. Over the same period, the unemployment rate decreased from about 11 per cent to 4 per cent (figure 1.2).

In contrast, the post-mining boom period has included a four-year span of falling per capita disposable incomes (figure 1.2), with low wage increases and 'labour productivity ... lower than [during] both the "golden era" of the mid-1990s, and the lengthy prosperous period from 1950 to 1970' (PC 2017b, p. 29).





^a Chain volume measures of real net national disposable income per capita for year ended June (reference year 2015-16). ^b Unemployment rate is trend data, as at June.

Sources: ABS (Australian National Accounts: National Income, Expenditure and Product, Sep 2017, Cat. no. 5206.0; Labour Force, Australia, Dec 2017, Cat. no. 6202.0).

This period of growth coincided with a number of structural and cyclical developments.

Microeconomic reforms implemented through the 1980s and 1990s have been credited with underpinning sustained growth in output, productivity and incomes (PC 2005, p. xii). These included reductions in industry assistance measures and tariffs, privatisation of government business enterprises, the shift away from centralised wage determination to enterprise bargaining, and reducing barriers to competition in markets for essential infrastructure

services, such as electricity, gas, road transport and water. For example, productivity improvements and price changes that occurred during the 1990s in selected essential infrastructure services resulted in an estimated 2.5 per cent permanent addition to Australia's gross domestic product (GDP) (PC 2005, p. 35).

Significant growth in **housing prices** since the early 2000s (particularly in eastern seaboard capital cities) has been an important driver of household wealth among homeowners, particularly among older Australians (PC 2015a, p. 12). Residential property prices in capital cities more than doubled in nominal terms between 2003 and 2017 (figure 1.3). However, the growth in house prices has also been accompanied by a significant increase in household debt (Lowe 2017).

The **mining investment boom** between 2005 and 2013 contributed significantly to economic growth, employment and incomes. Downes, Hanslow and Tulip (2014, p. 1) estimated that by 2013, the mining boom had increased real per capita disposable income by 13 per cent and real wages by 6 per cent, and reduced the unemployment rate by 1.25 percentage points. Mining regions experienced particularly strong growth in average incomes during the boom, but slower growth in the aftermath (PC 2017c, p. 96).

Figure 1.3 Capital city house prices have grown strongly since the early 2000s, contributing to large increases in measured wealth



^a Residential Property Price Index (weighted average of eight capital cities). September quarter. Reference period is September 2011 = 100.0. ^b Median price of established house transfers, September quarter.
Source: ABS (*Residential Property Price Indexes: Eight Capital Cities, Sep 2017*, Cat. no. 6416.0).

Australia's experience after the **global financial crisis** (GFC) suggests a certain resilience to economic shocks. The GFC was characterised by a small and brief drop in per capita GDP growth, and a much smaller increase in unemployment than was experienced in the

early 1990s recession. It also marked the beginning of an extended period of low interest rates, and prompted a substantial fiscal expansion between 2008 and 2012 (Makin 2016, pp. 4–5). The post-GFC period has also featured:

- slower wage growth, with a trend towards smaller and less frequent wage increases (Bishop and Cassidy 2017, p. 17)
- higher labour productivity growth than the mid-2000s (attributed to increased physical capital), although lower labour productivity growth than the mid-1990s (PC 2017b, p. 33)
- an increased household saving ratio, reflecting increased precautionary savings due to a reduction in expected future incomes (Price and Finlay 2014, p. 1).

Employment and demographic trends also form an important part of the broader economic context underpinning trends in inequality, and they bear on trends in equivalised measures of household resources. Ongoing, structural changes in Australia's labour market (figure 1.4) are characterised by:

- a **rising labour force participation rate** (from 63 per cent in 1989 to about 65 per cent in 2016), with increased labour market participation among women (figure 1.4, panel a) as well as a steadily increasing share of part-time employment (Cassidy and Parsons 2017, p. 19)
- an **ageing population** (over the longer term), with an increasing proportion of the population aged 65 years and over (McDonald 2016, p. 65). However, more people aged 65 years and over are continuing to work: between 1989 and 2016, the labour force participation rate of people in this age group more than doubled to reach nearly 13 per cent (figure 1.4, panel b). This has contributed to a shift in the age composition of the workforce towards older people (figure 1.4, panel c).

A gradual sectoral shift has also been evident, as the proportions of workers employed in the manufacturing and agricultural sectors have halved since 1989 (figure 1.4, panel d).

Australia's strong economic performance and resilience have underpinned steady growth in average real household income and consumption. Average equivalised disposable household income rose from \$31 000 in 1988-89 to \$54 000 in 2015-16 (in 2016-17 dollars) (chapter 3). Household consumption rose by less over the same period, largely because the household saving rate rose following the GFC (ABS 2018b).

Changing perceptions about living standards

These broadly based increases in material living standards bear on trends in economic disadvantage and open up many new economic opportunities. That said, the overall increase in average incomes and consumption belies the perceptions of many Australians.

Many Australians report they are 'doing it tough'. ACOSS et al. (2015, p. 17) found that 'there is a widespread belief that a rising proportion of Australians are struggling financially'

and, in a recent survey, 51 per cent of Australians believed that their income had fallen behind the cost of living in the past two years (Essential Research 2018, p. 9). In another recent survey, 44 per cent of respondents felt that they had not personally benefited at all from 26 years of economic growth (CEDA 2018a, p. 14).²



^a As at June. ^b Annual averages (to August) calculated from quarterly data. Sources: ABS (*Labour Force, Australia, Dec 2017*, Cat. no. 6202.0; *Labour Force, Australia, Detailed — Electronic Delivery, Jan 2018*, Cat. no. 6291.0.55.001; *Labour Force, Australia, Detailed, Quarterly, Nov 2017*, Cat. no. 6291.0.55.003).

² The Commission has not directly investigated perceptions of inequality for this study, but it could form part of a future stream of research.

These views may reflect more on the real declines in per capita incomes in the post-mining boom years, rather than changes in the distribution of economic resources. Others have suggested it could be that 'Australians have lost perspective and ... confuse cost of living with cost of a lifestyle' (Wade 2017). Regardless of the reason, they indicate a risk of social fracture that cannot be ignored. This study places these debates on a level footing by presenting the facts.

2 Framework and approach

Key points

- Inequality, disadvantage and economic mobility are related concepts that each affect wellbeing in different ways.
 - Inequality affects people's wellbeing through their values and preferences in relation to the societal distribution of resources as well as their expectations about acceptable living standards.
 - Disadvantage (including poverty) directly impacts on wellbeing by limiting people's ability to achieve the life outcomes they value.
 - Economic mobility is an important indicator of the extent of, and access to, opportunities for people to improve their economic situation.
- Our approach focuses on analysing the distribution of three broad measures of economic resources: income, consumption and wealth. We consider how the distributions vary over time and across groups, and examine some of the contributors to their movements.
 - The measures of income, consumption and wealth are linked in an accounting sense and provide better insights than a single measure does. Analysing these three measures together has become possible with the maturing of Australian household surveys.
 - The analysis is based on equivalised household measures of income, consumption and wealth to account for differences in household composition and 'economies of scale' when sharing living costs.
- Many indicators can be used to analyse and report on inequality, mobility and disadvantage. It is even possible for two metrics to lead to different findings on the level of, or trends in, inequality. This is in part because of multiple data collections using different methodologies and sampling techniques. Accordingly, we present and draw conclusions based on an array of indicators.

This chapter sets out a conceptual framework for considering inequality from a wellbeing perspective and describes the analytical approach used to apply the framework. Section 2.1 places inequality in the broader context of wellbeing, and presents a conceptual model of how economic resources affect people's wellbeing. Section 2.2 then discusses how the model is operationalised using income, consumption and wealth as measures of economic resources. Section 2.3 outlines the study's analytical approach.

2.1 The conceptual framework

This study frames inequality, mobility and disadvantage — and how they relate to each other — within a wellbeing framework.

There are many definitions of wellbeing, but they all typically encompass ideas such as 'living well', 'functioning well' and enjoying a good quality of life (MHCNSW 2017, p. 9) and incorporate both objective and subjective elements (OECD 2011, p. 266; Stiglitz, Sen and Fitoussi 2010, p. 15).

- Objective aspects of wellbeing are about functioning well in life. These are easier to measure, using indicators such as employment, health status, education and housing conditions (OECD 2011, p. 19), but they do not account for differences in the levels of satisfaction that people derive from these circumstances.
- Subjective aspects of wellbeing are about how people feel and how they evaluate their lives (MHCNSW 2017, p. 13). They are measured using self-reported indicators, such as life satisfaction. Subjective wellbeing has the advantage of accounting for preferences and values, but it might be inaccurate in some situations, such as where people become acclimatised to extreme adversity (Sen 1992, p. 6).

Wellbeing is also a multidimensional concept (Bureau for Development Policy 2013, p. 16; Stiglitz, Sen and Fitoussi 2010, p. 14). Sumner and Mallett (2013, p. 675), for example, present wellbeing along three interrelated dimensions:

- a material dimension, consisting of a person's living standard and material resources
- a relational dimension, encompassing a person's relationships and connections within society that affect what they can do and be, with the resources they have
- a subjective dimension, involving personal values, perceptions and attitudes that affect how people evaluate particular ways of doing and being.

This broad and multidimensional notion of wellbeing has two important implications. First, economic resources are an important determinant of wellbeing, in conjunction with many other factors. Second, wellbeing does not exist in isolation: it is affected by characteristics of individuals and of society.

A capability model of wellbeing

In considering more specifically how economic inequality might affect wellbeing, this study uses Sen's (1992, 1993) capability model. Sen conceptualises wellbeing as a person's ability to achieve ways of living that they value. His model depicts how a person's *capability* is related to their economic resources and personal-level and societal-level factors (figure 2.1).

Sen's approach has been influential in shaping discussion on growth and inequality and on how economic and social progress is measured (Bureau for Development Policy 2013, p. 25; McLachlan, Gilfillan and Gordon 2013, p. 7), and departs from traditional approaches that focus exclusively on the utility derived from consumption (Robeyns 2005, p. 96).



Figure 2.1 Economic resources within a capability model of wellbeing

Source: Adapted from Robeyns (2005, p. 98).

Under the capability model, people convert *economic resources* into a *capability set* of *possible outcomes* from which people choose a particular combination of *realised* outcomes.

- *Economic resources* are the goods and services available as a result of income, in-kind transfers and non-market production (Robeyns 2005, p. 98).
- *The capability set* of possible outcomes ranges from the basic, such as achieving adequate nutrition and physical shelter, to the more complex and intangible, such as having a sense of control over one's life, and being socially included (Sen 1993, p. 31). They can include 'working, resting, being literate, being healthy, being part of a community, being respected, and so forth' (Robeyns 2005, p. 95).
- *Realised outcomes* are a particular combination from the 'capability set'. They can have flow-on effects on a person's future economic resources, and on the resources available to any dependent children.

The model assumes there is an intrinsic value in being able to make choices (Sen 1992, p. 41). So, for example, someone who has the means to be adequately nourished, but chooses to fast, is considered to be better off than someone who is involuntarily under-nourished (Sen 1992, p. 52).

Personal and social factors influence the extent to which people are able to convert resources into outcomes.

- Personal conversion factors include a person's physiological and intellectual characteristics, skills and knowledge, values and preferences. For example, a person with a chronic health condition would require a different level of economic resources to achieve the same outcomes (all else equal) than someone without such a condition, due to the costs of medical treatment.
- Social conversion factors include social norms and behaviours, social and legal institutions, public policies, geographic location and climate, environmental amenity, levels of crime and so on. For example, someone living in a neighbourhood with relatively high crime could experience lower wellbeing than if they lived in a safer area (even with the same level of economic resources), due to psychological effects and/or the costs of personal and home security.

Inequality and wellbeing within a capability model

The capability model depicts a person's *own* economic resources as affecting their ability to achieve valued life outcomes. In addition, it has three attributes that shed light on how inequality in the distribution of resources could affect wellbeing (without necessarily leading to a judgment that a particular level of inequality is better or worse than another).

First, the model allows for the possibility that people's wellbeing is affected by their personal values and preferences with respect to the distribution of economic resources (via personal conversion factors). That is, for a given level of resources, people might be able to achieve a higher or lower level of wellbeing according to whether their perceptions of the societal distribution of resources aligns with their preferences (Schneider 2016, p. 1727).

- People who prefer economic equality (for example, due to egalitarian values) could be negatively affected by an increase in societal inequality, even if their own level of economic resources did not change.
- Conversely, people who prefer relatively higher inequality (for example, due to valuing the potential for achieving high rewards through effort and risk-taking) could benefit from increased inequality.

Second, the model includes the possibility that the wellbeing derived from a given level of economic resources depends on a person's expectations and aspirations about material living standards, based on perceptions of *others*' living standards. This model attribute makes it possible for everyone to experience a real increase in economic resources, without a proportional increase in wellbeing, as people would adjust their expectations accordingly (Dolan, Peasgood and White 2008, p. 98; Easterlin 1995, p. 41).

Third, the model allows for broader social, cultural, environmental and technological conditions to affect how a person can use their own economic resources to achieve particular outcomes. If economic inequality is connected with these societal-level conditions, it could

have flow-on implications for wellbeing. For example, if inequality influences how people perceive and evaluate themselves and others, it could influence wellbeing by affecting people's quality of relationships and social participation (Delhey and Dragolov 2013, p. 154; Douglas et al. 2014, p. 22; Schneider 2016, p. 1727).

Mobility and wellbeing within a capability model

The capability model also helps in conceptualising the links between economic mobility and wellbeing.

The model implies that for a given level of economic resources, a person's access to opportunities to alter this level of economic resources (in accordance with their own skill, effort and risk-taking) *directly* influences their wellbeing. Low observed mobility *could* indicate that the outcomes available to someone are constrained by pre-existing factors, such as their parents' socioeconomic background (Martinez et al. 2017, pp. 381–2). Such constraints would represent a direct limitation on people's ability to influence their own situation, undermining their wellbeing.

A complicating factor is that a lack of observed mobility could also indicate a relative stability of people's resources. Just as a lack of opportunity represents a constraint on wellbeing, stability and security in one's level of economic resources could also provide certainty, contributing positively to people's wellbeing (this is more likely at the upper end of the distribution). So, there could be some trade-off between mobility and stability, particularly as people might differ in their preferences for greater opportunity (and therefore, risk) relative to certainty.

Disadvantage and wellbeing within a capability model

Finally, the capability model highlights the potential implications of economic disadvantage for wellbeing. It considers not only a lack of economic resources (poverty) but, more broadly, a lack of opportunities for social and economic participation, including the inability to achieve a standard of living that society considers acceptable (box 2.1).

Most obviously, where people have a low *absolute* level of economic resources, this can directly undermine the possibilities available to them. This occurs where a person lacks the resources to achieve basic life outcomes, such as adequate food and shelter.

Where people have a low *relative* level of economic resources, wellbeing is undermined via social conversion factors. A person in a developed economy such as Australia might be relatively well-off by world standards, but if they have a low level of income relative to the average Australian, this could affect their ability to participate in society and the economy. For example, if a person cannot afford to join a local sporting club, this could affect their ability to be socially included, constraining their wellbeing.

Box 2.1 What does disadvantage entail besides poverty?

Poverty has traditionally been understood as inadequate economic resources, and this condition in turn has most commonly been defined as receiving a low income (Scutella, Wilkins and Kostenko 2013, p. 5). But poverty is only one facet of disadvantage:

Two individuals with the same income can have very different living standards if their income does not measure adequately all the resources that are available to each of them and/or if their needs differ. (Fusco, Guio and Marlier 2011, p. 10)

Needs and costs of living vary widely across households and as such, a particular threshold level of income could be sufficient for most people, but would still leave some with insufficient economic resources to achieve a particular standard of living, due to their specific circumstances (McLachlan, Gilfillan and Gordon 2013, p. 36).

Disadvantage is best characterised as a lack of opportunities to participate economically and socially on a par with one's peers. While poverty might overlap with other aspects of disadvantage — such as low capabilities, deprivation or social exclusion — in some cases it will not represent deep or persistent disadvantage.

Furthermore, where people's realised outcomes are substantially constrained by their absolute or relative level of economic resources, this could have flow-on effects for their future economic resources, and those of their children (box 2.2). Through such channels, poverty — and other forms of disadvantage — can have longer-term effects on family wellbeing.

Box 2.2 Disadvantage can affect future wellbeing

Economic disadvantage can have a range of dynamic effects, where a lack of resources in one period affects a person's future resources and the resources (and opportunities) available to their children. For example:

- people with few resources can suffer poor physical and mental health, which undermines wellbeing directly and can also affect access to education and employment opportunities
- a lack of goods and services that are typically available to the average person (such as communications technologies, clothing for attending job interviews, or access to transport) could also constrain a person's employment opportunities, affecting current and future resources
- inadequate resources could affect children's social and educational opportunities such as by affecting their ability to engage in school or to participate in extra-curricular activities
- being unable to deal with unexpected events could be harmful to future material resources and, therefore, wellbeing for instance, a lack of insurance, savings or access to credit leaves people vulnerable to a sudden drop in income or an unexpected event (such as a broken appliance, medical emergency or car accident).

2.2 Operationalising the conceptual framework

From concepts to measures

Sen (1992, p. 52) acknowledged that a person's capability set is not directly observable, as it encompasses all possible combinations of outcomes that a person could have chosen, but did not. Even obtaining data on achieved outcomes is challenging, especially where these are intangible (such as social participation). It is easier to obtain measures of economic resources, and how these resources are distributed.

Accordingly, the main focus of this study is to assess the distribution of three measures of economic resources — income, consumption and wealth — and how those distributions vary over time and across groups. Income, consumption and wealth are also linked in an accounting sense (figure 2.2), and their individual components shed light on how people convert the stock and flow of resources into wellbeing.





Income

Income is the most commonly used measure of inequality, reflecting the relative frequency with which income data are available.

Disposable income (private income net of taxes and cash transfers) strongly influences the capacity for private consumption (current wellbeing). It can also be saved and invested, contributing to a person's wealth and, in turn, supporting their future economic wellbeing (figure 2.2). Income is also used as a proxy for measuring disadvantage (using absolute and relative income measures). Moreover, given that income affects people's future economic resources and those of their dependent children, it is likely to be a determinant of intergenerational economic mobility.

Nonetheless, using income alone for analysing people's economic wellbeing has its limitations. It does not directly measure the value of goods and services that people actually consume (as people might consume more or less than their current income). Nor does it account for the stock of other economic resources — that is, wealth — that might support wellbeing (through, for example, drawing down savings or borrowing against assets).

Consumption

Consumption is the measure of economic resources that contributes most directly to wellbeing. This is because it measures the value of goods and services that people consume, not the income they earn. If income and consumption were the same this would not matter, but typically there is a gap between people's income and their consumption in a given period.

The gap reflects people choosing their level of consumption based on their expected lifetime income, rather than their current income (PC 2015b, p. 15). Students and young families often consume more than they earn and finance the difference through borrowing. Middle-aged families often earn more than they consume and accumulate wealth, and retirees typically spend more than they earn and draw down their wealth.

Household consumption also includes two components that are important for people's current economic wellbeing: imputed rent and in-kind government transfers.

- Imputed rent captures the consumption value that people derive from living in their own home, rather than paying market rent *for that same home*. It is calculated based on the estimated value of the property.
- In-kind transfers capture the value of government services (such as public health and education) that a person uses.

Incorporating these two components has a significant equalising effect and provides a clearer view of economic inequality (particularly given age-related patterns in home ownership and in the use of government services) that would not be captured by examining income patterns alone. Furthermore, consumption can be a more accurate indicator of current economic resources than income and wealth for particular groups, including unincorporated business owners and people on very low incomes.

That said, even consumption is not a complete measure of household wellbeing. Due to data limitations, some aspects of household wellbeing are not captured by our estimates, including goods produced within the home and leisure time.

Wealth

The distribution of wealth is important because economic wellbeing depends not only on the goods and services people consume today, but on their consumption possibilities over time.

As noted above, wealth enables people to 'smooth' their consumption over their life through saving, borrowing and drawing on their assets. As such, people with low income but substantial net wealth can use their wealth to achieve a higher level of economic wellbeing than their current income would otherwise permit.

The distribution of wealth thus complements income and consumption measures by offering an indicator of both current and future economic inequality. Wealth is also a key determinant of intergenerational economic mobility (through bequests or by funding children's education) and can contribute to people's wellbeing in its own right by providing a sense of financial security and social prestige.

This study's measure of wealth includes accrued capital gains.

2.3 Our analytical approach

The 'equivalised' household is the unit of observation

The analysis in this study is based on equivalised household measures of income, consumption and wealth.³ Equivalised measures of economic resources adjust for household size and composition. They account for larger households needing more resources to achieve the same standard of living as a smaller household, and for some 'economies of scale' when sharing living costs. (For example, two people living alone in two separate households typically incur higher living costs in total than two people living in one household.)

The *process of equivalisation* involves adjusting household-level variables for differences in household composition (ABS 2013b, p. 1). The formula used for equivalisation is the ABS 'OECD-modified equivalence scale'. It involves allocating points to each household member:

- 1 point for the first adult
- 0.5 points for each additional person aged 15 years or older
- 0.3 points for each child aged under 15 years.

³ In earlier Commission analysis, Greenville, Pobke and Rogers (2013) also reported individual distributions; it is not possible to directly compare these with household distributions.

Total household income is divided by the sum of these points to yield the equivalised income (ABS 2013b, p. 1). Each person in a household is then allocated an equivalised income, consumption and wealth (figure 2.3).



The chosen measures of economic resources

The analysis primarily uses broad measures of income, consumption and wealth (figure 2.4). However, sometimes more narrowly defined measures are used — for example, to gain a top-down perspective on how Australia's tax and benefit system bear on measures of inequality.

More specifically, we use inflation-adjusted⁴ measures of:

• household *disposable* income, which includes labour, capital and other income, as well as the effect of income tax and government cash transfer payments (such as Newstart,

⁴ All results are presented in 2016-17 dollars, adjusted using the national Consumer Price Index (CPI). This is the standard approach employed in inequality research to account for changes in purchasing power over time and it is the only approach that allows for international comparisons of inequality measures. A potential

Family Tax Benefit and the Age Pension). It does not account for indirect taxes (such as GST) or in-kind transfers (the provision of government services), including childcare subsidies

household consumption, which includes private expenditure on goods and services (including consumer durables, such as vehicles and household appliances);⁵ imputed rent (an estimate of the housing amenity enjoyed by owner-occupiers);⁶ and in-kind transfers (the value of government services used by a household, such as health, education and childcare). In this study, consumption excludes income tax, the principal component of mortgage repayments, other capital housing costs, superannuation and life insurance.



shortcoming of this approach is that the CPI uses a single fixed basket of goods and services for all households — in reality, each household spends its income on a different mix of goods and services. However, preliminary calculations by the Productivity Commission indicate that using a custom basket of goods and services for each household has little impact on overall trends in income growth and income inequality.

- ⁵ Ideally, consumption would also incorporate a measure of the flow of benefits that arise from using consumer durables. One way to achieve this would be to calculate an imputed service flow based on the value of household durables. This has not been possible due to limited data availability.
- ⁶ Imputed rent refers to the consumption value that homeowners obtain from the property in which they live. It is usually calculated as the value the homeowner would have to pay to a landlord if they rented rather than owned their residence. In this study, imputed rent for homeowners is calculated as 5 per cent of the estimated sale price of their residence, following Dollman et al. (2015, p. 7). Some studies include imputed rent in income as well as consumption. In this study we have excluded imputed rent from our income measure. Excluding imputed rent from income was necessary to allow for international comparisons and for a measure better aligned with the common understanding of income.

Household net wealth (sometimes called net worth) is measured as the excess of total household assets (including superannuation) over total household liabilities.

Measuring inequality, economic mobility, and economic disadvantage

Indicators of inequality

Summary and quantile-based indicators are the main measures used to describe the distribution of income, consumption and wealth.

A summary indicator depicts inequality over the whole distribution. The Gini coefficient is the most commonly used summary indicator, taking a value between 0 and 1 (figure 2.5). A zero value indicates perfect equality (all people have the same income) and a value of 1 indicates perfect inequality (one person has all the income).


The Gini coefficient has the advantage of being a single statistic that summarises the extent of inequality for the whole distribution. Gini coefficients are also widely used in the literature, providing a basis for comparison with other studies and across countries. However, the Gini coefficient does not indicate *where* in the distribution any changes in inequality have occurred.

Quantile-based indicators refer to groups within the distribution. They are formed by ranking all observations from smallest to largest and then dividing these into equal-sized groups. For example, these could be quintiles (five equal groups), deciles (10 equal groups) or percentiles (100 equal groups).

So that each quantile contains the same number of people, the span of quantile ranges varies greatly (figure 2.2). Quantiles (specifically deciles) are used significantly in this study, in chapters 3, 4 and 5. There is also brief reference to the top 1 per cent, which has garnered a lot of interest and is used by others in highlighting inequality.

Quantiles can be used to calculate shares, such as the share of wealth held by the top decile of the wealth distribution. They can also be used to calculate quantile ratios, which indicate the relative gap between two points in the distribution. For example, the P90/P10 ratio represents the ratio of the upper value of the 90th percentile (9th decile) to the upper value of the 10th percentile (bottom decile) (ABS 2013b, p. 3).

While quantile ratios can be more intuitive than the Gini coefficient, there are drawbacks. They do not capture changes in the extremes of the distribution (for example, within the top or bottom decile). Quantile ratios can also be very volatile if the underlying data are volatile. For example, if the wealth held by the person at the 10th percentile doubles — say from \$5000 to \$10 000 — then the P90/P10 ratio will halve (assuming there is no 'shuffling' of the income ranking, and that the wealth held by the person at the 90th percentile does not change).

In this study, distributional patterns in income, consumption and wealth are primarily presented using decile charts. These show the absolute levels, absolute change or percentage changes in the average values of these variables for each decile. This metric has been chosen to aid reader interpretation and enable more detailed comparison across groups. That said, where appropriate we also report Gini coefficients, quantile ratios and average and median values, as it is possible for different metrics to reveal a different take on the level or trends in inequality (box 2.3).

Indicators of economic mobility

Indicators of economic mobility gauge the extent to which people move across a distribution of economic resources over time. As noted in chapter 1, they seek to depict either intergenerational mobility (the extent to which someone's relative position in the economic distribution relates to the position of earlier generations of their family), or life course (intragenerational) mobility over shorter periods of time.







^a 2016-17 dollars. Ranges are rounded to the nearest one thousand. Income bins are \$2000 wide, wealth bins are \$20 000 wide. The charts do not include those with very high or very low wealth or income. *Source*: Productivity Commission estimates using ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17).

Box 2.3 Different indicators of inequality can lead to different conclusions

The choice of indicator(s), and the way in which indicators are used and reported, can lead to different findings about inequality. This is because indicators measure different aspects of the distribution. For example, in the figure below, the Gini coefficient depicting the whole distribution suggests an increase in income inequality from 1988-89 to 2015-16, whereas the P50/P10 ratio suggests little overall change in income inequality for the same period.



Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17); ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17; ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17.

A commonly used indicator of intergenerational mobility is the relationship between fathers' and sons' earnings (at the same age), measured as an intergenerational earnings elasticity. The higher the value of this elasticity, the more that knowing a parent's place in the earnings distribution will tell us about where we can expect the child's place to be. And the lower the value, the less 'stickiness', so that a parent's relative earnings are a weak predictor of the child's 'rung' on the earnings ladder of the next generation (Corak 2013, p. 81).

Measuring economic mobility requires longitudinal data to compare outcomes for the same individuals over time. There are few longitudinal databases in Australia, and those that do exist have only been in operation for comparatively short periods of time, making it difficult to build a comprehensive picture of mobility. For this reason, this study does not present original estimates of intergenerational mobility.

Instead, the direction and magnitude of shifts across income, consumption and wealth deciles are used to report on life course mobility, presented using decile shift matrices and ribbon charts. Decile shift matrices show the proportion of people in each decile who moved to each of the other deciles (and the proportion who did not change deciles) and ribbon charts represent the decile shift matrices in a visual manner.

A commonly used indicator of intergenerational mobility is the relationship between fathers' and sons' earnings (at the same age), measured as an intergenerational earnings elasticity. This approach provides richer and more information on the specific transitions made by people at all parts of the distribution. Demographic analysis is also used to illustrate the effect of life events on observed mobility.

Indicators of economic disadvantage

There is an even greater diversity of measures to analyse and report on economic disadvantage (box 2.4).

As with inequality, the choice of indicator can critically influence findings about the extent of disadvantage. For example, analysing the prevalence of poverty using an income-only measure could classify people as poor who have temporarily low incomes but high net wealth (such as business owners experiencing a loss in one year: ABS 2013a, p. 3), thus overstating the extent of poverty.

This problem can be partly addressed by including some measure of both income and wealth in a poverty measure. That said, measures of economic resources could also give a more limited picture of broader disadvantage, compared with multidimensional indicators that incorporate people's level of access to educational, social and employment opportunities. The use of broader indicators helps to avoid misclassifying people as poor due to transitory variations in income (or, conversely, excluding people from classification as poor due to incomes above the poverty threshold, despite those incomes being insufficient to cover some people's specific needs).

For this study, a suite of indicators are used to present a detailed picture of the extent of economic disadvantage in Australia. They include:

- relative poverty having less than 50 per cent of median income or consumption
- *anchored poverty* having current income less than 50 per cent of the median income in 1988-89 (adjusted for inflation)
- *financial poverty* having low levels of income, consumption, and liquid assets simultaneously
- the *poverty 'gap'* the average dollar value that would be required to lift a person out of poverty (by raising their income or consumption above the relevant poverty threshold)
- the *persistence of poverty* time spent in poverty, and the extent of poverty recurrence
- *material deprivation* being deprived of goods and services that most people agree to be essential for life, due to a lack of economic resources (relative to household expenses)
- *social exclusion* limited access to material resources, as well as limited opportunities to participate socially, educationally and in employment.

Box 2.4 Indicators of economic disadvantage

Income poverty

Indicators of **absolute poverty** measure the proportion of people in poverty with reference to a minimum level of income calculated as necessary for supporting a minimum acceptable standard of living (Marks 2007, p. 1). In Australia, an absolute poverty line is not calculated, but it is common to see such indicators used in reference to developing countries — for example, the international (extreme) poverty line of \$US1.90 per person per day (World Bank 2016, p. 3).

Relative poverty thresholds are usually set at a given percentage of median household disposable income, most commonly 50 per cent (Wilkins 2017, p. 33). This indicator recognises that in developed economies, disadvantage is increasingly understood to depend in part on the material living standards of others in society. However, relative poverty indicators can be highly sensitive to changes in transfer payments and median incomes (ABS 2013a, p. 3). For example, an increase in relative poverty could indicate that real incomes at the bottom of the distribution are falling, but could also reflect strong growth in median incomes.

Persistence

To examine the dynamics of people's experiences of poverty, researchers use indicators such as the **survival rate**, which measures the likelihood that an episode of poverty lasts beyond a particular time period; and the **hazard rate**, which measures the likelihood that people exit poverty after a given time period (Azpitarte and Bodsworth, in CEDA 2015, p. 39).

Deprivation

Indicators of material deprivation measure the extent to which people lack access to goods and services that most people agree to be essential for life, for affordability reasons (Wilkins 2016, p. 83). For example, Saunders and Wong (2012, p. 38) constructed a deprivation indicator based on 24 essential items and activities (such as medical treatment if needed, secure locks on doors and windows, and a substantial meal at least once a day).

Deprivation indicators offer a more direct view of whether people have their basic needs met. It can also be particularly useful for measuring child poverty, given that resources may not always be shared equitably within a household (Wilkins 2016, p. 84).

Social exclusion

A broad conceptualisation of disadvantage includes the idea that it is not just a lack of economic resources or essential goods and services that affect people's wellbeing, but also a lack of access to opportunities to 'fully participate in social and economic life' (Azpitarte and Bodsworth, in CEDA 2015, p. 38). **Social exclusion** centres on the latter concept (participation, and engagement with society more broadly), though it also incorporates income poverty.

In Australia, social exclusion indicators are multidimensional, calculated by summarising information on people's level of exclusion across several life domains. For example, the Social Exclusion Monitor (measured by the Brotherhood of St Laurence and the Melbourne Institute) uses multiple indicators in each of seven domains (material resources, employment, education and skills, health and disability, social connection, community and personal safety) to compile a single summary statistic representing the extent of a person's social exclusion (Azpitarte and Bowman 2015, p. 1).

3 Income and consumption inequality

Key points

- Income inequality has increased modestly since the late 1980s, but the extent of the increase is contested, and since the global financial crisis the trend indicates a slight decline.
- Most developed countries have also experienced rising income inequality, and at a faster pace than in Australia.
 - Australia's level of inequality is close to the OECD country average.
 - The fact that inequality levels are so different among developed countries hints at the scope for policies, institutions and political environments to shape inequality.
- Unlike some other developed countries, Australia had relatively strong growth in incomes across all deciles. However, the sources of income growth (capital, labour and transfers) have fluctuated in ways that sometimes favoured those on high incomes and sometimes favoured those on low incomes, affecting 'point in time' measures of inequality.
 - In Australia, the increase in inequality occurred during the mining boom, an era that favoured high-income earners and capital income.
- More generally, when the economy was strong, all age groups benefited from higher income growth and when the economy was weak, all age groups endured lower income growth. But at different times, some age groups have benefited more or less than others.
 - Most recently, young people's incomes have grown relatively slowly. On average, however, each new generation has earned more income than the last at a given age, and reaches the same level of income earlier in life.
- Part of income inequality is also explained by life cycle effects.
 - People are most likely to have high household disposable income late in their working lives. This is when their labour earnings peak, their accumulated assets increase capital earnings and their children start earning income or leave home.
- Australia's progressive income tax and highly targeted transfer system has a powerful equalising effect on household incomes.
 - On average, income tax and transfers reduce income inequality by about one third.
 - Redistributive tax policies can, however, also have unintended negative consequences on economic efficiency, for example, by encouraging a reduction in labour supply.
- While income is usually given prominence in debates about inequality, consumption is a better measure as it contributes more directly to wellbeing.
 - Inequality of *private* consumption is only slightly lower than that of disposable income, but once in-kind government transfers (such as education and healthcare) are accounted for, *final* consumption inequality is 30 per cent lower than that of disposable income.
 - The benefits of in-kind transfers are also felt over time. They can open the door to greater opportunities, lift future incomes and in this way bear on future inequality.

Australia's economic performance in recent decades has been remarkable (chapter 1), with an unprecedented period of economic growth, rising household incomes and low inflation. Yet nagging questions persist about this extended period of prosperity. One question is: are Australia's economic gains sustainable? This question is addressed in the Commission's five-year productivity review (PC 2017b). Another is: how have the economic gains from growth been shared? We address this question in this and subsequent chapters.

In particular, we assess how the benefits of economic prosperity have been shared by examining changes in the distribution of disposable household income and consumption. Later chapters address other aspects of inequality and related questions about economic mobility and economic disadvantage. Unless noted otherwise, we use equivalised disposable income — a household's total available income after accounting for income tax, cash transfers from government and differences in household size and composition (chapter 2).

The chapter begins by examining trends in income inequality in Australia. Later sections address patterns of income growth across the distribution (section 3.2), the demographic composition of the distribution (section 3.3) and the relationship between the distribution of income and the distribution of consumption (section 3.4).

3.1 Trends in income and income inequality

Different datasets show different trends in income inequality

The period between 1988-89 and 2015-16 was one of strong income growth in Australia (figure 3.1). The ABS Household Expenditure Survey and Survey of Income and Housing (HES/SIH)⁷ report that average (equivalised) disposable income grew by 2.1 per cent annually, from \$31 000 to \$54 000, while median real (equivalised) disposable income rose from \$28 000 to \$46 000.⁸ Data from the Household Income and Labour Dynamics in Australia (HILDA) survey indicate slightly different levels for average and median income, but the sources agree on the general trend — incomes grew steadily during the 1990s, rose sharply during the mining boom of the mid-2000s and have flattened since the global financial crisis (GFC) (figure 3.1).

⁷ Chapter 1 discusses the main datasets used in this study: HES, SIH and HILDA.

⁸ All results are presented in 2016-17 dollars, adjusted using the Consumer Price Index.



Figure 3.1 The pace of rising real incomes has slowed

^a 2016-17 dollars. HES/SIH series estimates use HES for years 1988-89,1993-94 and 1998-99 and SIH for all other years.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17); ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17; ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17; Melbourne Institute (*Household, Income and Labour Dynamics in Australia (HILDA) Survey*, Release 16).

The trend in income inequality, however, is more contested territory (figure 3.2). The HES/SIH indicate that income inequality, as measured by the Gini coefficient, has increased slightly between 1988-89 and 2015-16. It was relatively flat through the 1990s, but shifted upwards during the mining boom and stabilised after the GFC.⁹ However, data from HILDA tell a different story. According to HILDA, there was no clear uptick in inequality during the mining boom and inequality has instead been fairly stable since the early 2000s.

⁹ Throughout this analysis, HES and SIH disposable income estimates are based on total current weekly household income less income tax. Consistent with the general convention for Gini coefficient calculation, all incomes less than zero are treated as zero.



^a Estimates for 1988-89,1993-94 and 1998-99 are HES. All others are SIH. The discrepancy between datasets is partly due to methodological differences (box 3.1).

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17); ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17; ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17; Melbourne Institute (*Household, Income and Labour Dynamics in Australia (HILDA) Survey*, Release 16).

This discrepancy is partly due to changes to the ABS definitions of income and survey methodology introduced during the mid-2000s (box 3.1). The changes improved the measurement of income (both conceptually and in terms of collection and processing) and the end result is a measure of income that better reflects international standards and provides a better representation of household income (Bray 2014, p. 475; Wilkins 2014, p. 86). But a side effect of these changes is that income estimates from HES/SIH are less comparable across years.

This means the HES/SIH Gini coefficient in 2015-16 is likely to be more accurate than in prior years, but the trend over time is less reliable. Many of the changes are likely to have improved the capture of income among higher-income earners, and the upwards trend in inequality apparent in the HES/SIH data at least partially reflects these changes. Unfortunately, it is not possible to quantify the effect of most of these changes. In summary, income inequality since the early 2000s may be little changed or it may have increased, but not by as much as the HES/SIH estimates indicate.

Box 3.1 Why do HILDA and HES inequality estimates diverge?

Changes to ABS income definitions and survey methodology that took place during the mid-2000s have affected the comparability of disposable household income estimates across time and account for some of the divergence in income inequality estimates between HES and HILDA (Wilkins 2014).

Definitional changes of income and modifications to survey questions taking effect in either the 2003-04 or 2009-10 HES affected:

- wage and salary income estimates, through the more explicit inclusion of salary-sacrificed income and inclusion of bonuses, termination payments and irregular overtime payments
- business and investment income estimates, through more explicit inclusion of dividend imputation credits, changes to the reporting period for unincorporated business income and reclassification of some types of income that improved income capture
- other income estimates, through the inclusion of lump sum workers' compensation payments and the inclusion of a wider range of financial support from non-resident family members (such as rent, food and clothing).

Many of these changes are likely to have increased both the average income and the Gini coefficient. For example, salary-sacrificed income is likely to be more common among higher-income households so more comprehensive capture of this income would tend to drive up the Gini coefficient. The ABS (2007, p. 55) estimated that the change in measurement of salary sacrifice alone increased the Gini coefficient by about 0.003.

Changes to survey methodology that are likely to have affected income estimates include:

- the introduction of computer-assisted personal interviewing in 2003-04, which can improve income reporting by, for example, reducing contradictory or implausible responses, and may disproportionately increase measured income among high-income households
- the introduction of wealth data collection in 2003-04, which improved the quality of reporting
 of associated income streams. Wealth is concentrated among households with higher incomes
 (chapter 4), so increased reporting of asset-related income streams would be likely to increase
 the Gini coefficient.

Changes to survey methods and income definitions, and sample attrition in the HILDA survey, may also account for some of the divergence, but Wilkins (2014, p. 78) indicated that such changes through the 2000s were minor and sample attrition was minimal.

Drawing on these insights, and comparisons with HILDA, tax records and National Accounts estimates, Wilkins (2014, p. 87) concluded that at least part of the increase in inequality apparent in HES was due to changes in ABS definitions and methodology, but the magnitude of the effect could not be quantified.

Quantile ratios (an alternative measure of income inequality, chapter 2) have varied in broadly similar ways to Gini coefficients (figure 3.3). Using HES/SIH data, the P90/P10 ratio increased fitfully between 1988-89 and 2007-08 and then steadily decreased to reach a level only slightly higher than that at the beginning of the period. The turning point coincided with the GFC, and with the levelling off of the Gini coefficient of income (figure 3.2). The P90/P50 and P50/P10 ratios varied over a smaller range. In percentage terms, the former

increased by a similar amount to the P90/P10 ratio, while the latter increased before the GFC before falling back to its 1988-89 level by 2015-16.



^a Estimates for 1988-89,1993-94 and 1998-99 are HES. All others are SIH.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17); ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17; ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17.

How Australia compares internationally

International comparisons provide some perspective on the degree of overall income inequality in Australia and the scale of any increase in inequality over recent decades (figure 3.4).

Among developed countries for which Gini coefficients are available over an extended period, Australia ranks close to the average. A comparison of Gini coefficients for 2015 shows that the degree of income inequality in Australia is below that of the United States and the United Kingdom, at about the same level as that of Canada and the Netherlands, and above most Nordic countries. (The ranking depends on whether the comparison is based on the HILDA estimate or the HES estimate for 2015-16.) The fact that inequality levels are so different among developed countries hints at the scope for policies, institutions and political environments to shape inequality.

Comparing the growth in Gini coefficients between 1989 and 2012 places Australia somewhere between the middle and lower end of developed countries. The rate of change in Australia's income inequality over this period was similar to that of the United States, well above that of the United Kingdom and well below that of Sweden (which experienced very strong growth in inequality, albeit off a low base). The countries where income inequality increased the least were mostly those that had relatively high levels of inequality at the start of the period (such as the United States, United Kingdom and New Zealand).

Figure 3.4 Income inequality is also rising elsewhere, and Australia is close to the OECD average





^a Only OECD countries with time series data dating back to the late 1980s are included. For comparability, Gini coefficients for Australia presented here differ from those presented elsewhere in this chapter, because disposable income has been equivalised using the OECD square root method rather than the ABS method, as used in the rest of the chapter. ^b Or closest year with available data. ^c The low estimate for Australia uses the HILDA Gini coefficient for 2015-16. The high estimate for Australia uses the HES Gini coefficient for 2015-16. ^d Growth rates cannot be compared after 2012 due to changes in the OECD income definition. The low estimate for the average annual growth rate takes the HES Gini coefficient for 1988-89 as the starting point and the HILDA Gini coefficient for 2011-12 as the end point. The high estimate takes the HES Gini coefficient for 1988-89 as the starting point and the SIH Gini coefficient for 2011-12 as the end point.

Sources: Productivity Commission estimates based on data from the ABS HES Basic confidentialised unit record file 1988-89 as available at 25/10/17; ABS SIH Basic confidentialised unit record file 2011-12 as available at 25/10/17; OECD (2015); Melbourne Institute (*Household, Income and Labour Dynamics in Australia (HILDA) Survey*, Release 16).

3.2 The distribution of income in detail

Gini coefficients are useful summary statistics for assessing overall trends in inequality and making international comparisons, but they tell us little about how the distribution of income has changed.

This section examines the distribution of income in more detail. All results are reported using data from HES because, unlike HILDA, it is available over multiple decades and, unlike the SIH, permits analysis of consumption and savings in addition to income and wealth. All results discussed have been compared to HILDA where possible. Where discrepancies between HES and HILDA are apparent, these are indicated in footnotes.

In absolute terms, average annual changes in income were larger for higher income deciles, over the period 1988-89 to 2015-16, with those at the top standing out (figure 3.5a). While the average income among the bottom 10 per cent of the population (the bottom decile) increased from \$10 000 to \$16 000, the average income of the top decile rose from \$69 000 to \$132 000.



Average equivalised disposable income by income decile, 1988-89 to 2015-16^a

^a Both percentage and dollar growth in real terms (2016-17 dollars).

Sources: Productivity Commission estimates using: ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record file for 1988-89 as available at 25/10/17.

These differences, however, do not translate into a larger increase in income inequality, because Gini coefficients respond to relative changes in income in *percentage* terms rather than in *absolute* terms. And in percentage terms, increases in income are distributed more evenly (figure 3.5b). While the annual growth rate was still the highest for the top decile (2.4 per cent), incomes grew by at least 1.8 per cent per year for all groups, and grew faster in the bottom decile than in the middle deciles.

Moreover, higher income growth at the top does not necessarily imply that the top 10 per cent of the population is 'pulling away' from everyone else. This is because the people in this group (and in any decile, for that matter) change from year to year. For example, according to HILDA data, during the 15 years between 2000-01 and 2015-16, 36 per cent of the Australian population spent at least one year in the top income decile, 43 per cent spent at least one year in the bottom income decile and 9 per cent spent time in both. Patterns of income mobility are discussed in more detail in chapter 5.

Patterns of income growth have fluctuated over time

Examining income growth over shorter time periods indicates that there is nothing inevitable about relatively even patterns of income growth across deciles. Over recent decades, some periods experienced strong income growth and others weak income growth. In some periods, income growth was relatively even and in others, income growth strongly favoured households with high incomes or low incomes (figure 3.6).

- During the period from 1988-89 to 1993-94 (which included a recession) disposable income growth was weak, particularly for those on lower incomes. For all but the top three deciles, average *labour* income declined. The largest declines came at the bottom of the income distribution as the unemployment rate increased (chapter 2). This decrease was partially offset by strong growth in average *transfer* income among lower and middle income earners as well as declines in income tax paid.¹⁰
- From 2003-04 to 2009-10, income growth was strong and favoured higher-income groups. The mining boom, and accompanying rise in Australia's terms of trade, were key drivers of income growth, with rising profits and real wage growth in both the resources sector and related sectors spilling over to other areas of the economy (RBA 2018). The unevenness of income growth during this period mainly reflects stronger rates of growth in labour income at the top of the income distribution than in the middle¹¹ and very strong growth in capital income at the top. This growth was only partially offset by changes in

¹⁰ Income growth in the bottom decile is particularly volatile across periods. This is mainly because this decile includes a number of self-employed people reporting negative labour incomes, which drives down the average income for the bottom decile. The average income in a given period is therefore often small relative to the average change in income.

¹¹ Rates of labour income growth were also strong for low income deciles, but this matters less for these groups because labour income accounts for a smaller share of total disposable income (figure 3.9).

income tax paid that strongly favoured lower-income groups.¹² This was the only period since 1988-89 when income growth strongly favoured high-income groups. But because incomes grew particularly strongly in this period, it had an outsized effect on the pattern of income growth across income deciles for the period from 1988-89 to 2015-16 as a whole.

• From 2009-10 to 2015-16, in the aftermath of the GFC and as the mining boom was winding down, average income growth was weaker than in any period since the early 1990s. However, unlike in the early 1990s, disposable income growth in recent years has favoured lower-income groups, with relatively low rates of growth in *labour* income concentrated in the middle- and upper-income deciles.¹³

Patterns of income growth also differ across countries

Compared to other developed countries, Australia has had strong income growth in recent decades,¹⁴ which has been fairly equal across income deciles. This is not true for all developed countries, and underscores the point that even income growth is by no means assured.

The United States and the United Kingdom — two countries for which income growth rates by decile are available — have had very different patterns of growth to Australia over recent decades (figure 3.7). Between the late 1980s and mid-2010s, income growth was lower in the United States (averaging 0.7 per cent per year) and the United Kingdom (1.0 per cent per year) than in Australia (1.9 per cent per year).¹⁵ The pattern of income growth across the distribution was also quite different. In the United Kingdom, income growth was stronger for lower-income groups, while in the United States, income growth was concentrated in upper-income groups, particularly the top income decile.

¹² HILDA estimates over this period suggest lower overall income growth rates than HES estimates, and a pattern of growth less favourable to upper income deciles. However, the overall pattern is similar — rates of income growth are high relative to other periods and growth rates are particularly high among the top income deciles.

¹³ HILDA estimates over this period suggest lower income growth rates than HES for most deciles. HILDA estimates suggest growth was clearly strongest in the bottom decile, but otherwise slightly favoured the top half of the distribution.

¹⁴ Productivity Commission estimates indicate that Australia ranked 11th out of 28 OECD countries with available data for disposable household income growth between 1996 and 2016. No country that had a higher average income than Australia in 1996 grew at a faster rate than Australia between 1996 and 2016. (Based on data from the OECD (2018b) using the OECD definition of gross household adjusted disposable income per capita, US dollars, current prices and current purchasing power parity terms.)

¹⁵ Growth in US dollars, purchasing power parity terms. See notes and sources in figure 3.7.



^a All growth rates are in real terms. The time periods are determined by HES data. HILDA data are available for only the two most recent periods. Between 2003-04 and 2009-10, HILDA shows a similar pattern, though with weaker growth generally. Between 2009-10 and 2015-16, HILDA shows lower income growth rates for most deciles, with growth clearly strongest in the bottom decile, but otherwise slightly favouring the top half of the distribution.

Source: Productivity Commission estimates using: ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

The contrast between the United States and Australia illustrates the limitations of comparing Gini coefficients across countries without context about income growth. As shown in figure 3.4b, Australia's Gini coefficient for income inequality grew at a similar, and perhaps faster, rate than that of the United States over recent decades. But unlike in the United States, any growth in inequality in Australia was accompanied by strong growth in incomes, even for those on lower incomes. Whereas Australia experienced a slight increase in inequality with strong growth in incomes across the board, the United States experienced an increase in inequality with strong income growth only at the very top.



Average annual income^a growth rate by income decile, late 1980s to mid-2010s^b



^a Equivalised disposable income expressed in US dollars using purchasing power parity exchange rates. Australia and the United Kingdom are equivalised using the OECD-modified scale; the United States is equivalised using the square root scale. ^b Period is 1988-89 to 2015-16 for Australia; 1989 to 2015-16 for the United Kingdom; and 1986 to 2013 for the United States.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record file for 1988-89 as available at 25/10/17 for Australia; UK Office of National Statistics (2018) for the United Kingdom; and Luxembourg Income Study data from UNU-WIDER (2018) for the United States.

Incomes at the very top are trending upwards

Recently, a lot of attention has been paid to growth in incomes at the very top of the distribution, particularly among the top 1 per cent of income earners. Income growth among the top 1 per cent is difficult to estimate, but it is possible to derive rough estimates using the HES (presented below). Such estimates should be treated with a degree of scepticism, because households with very high incomes are usually under-represented in surveys like HES and HILDA and this is not accounted for in sample weighting procedures (Greenville, Pobke and Rogers 2013, p. 55). Alternative estimates that attempt to correct for this issue are discussed in box 3.2.

Box 3.2 Alternative estimates of top income shares

Several attempts have been made to adjust for sampling issues among the highest income earners and to present more accurate estimates of the top 1 per cent income shares for Australia. Most recently, Burkhauser, Hahn and Wilkins (2016) estimated the share of equivalised disposable income held by the top 1 per cent of households using HILDA data augmented with tax data for the top part of the income distribution. They found that the income share held by the top 1 per cent of households was 4.8 per cent in 2011-12 and 5.4 per cent in 2013-14. (These estimates are at about the same level, or slightly lower, than those obtained from the HES without adjustment.)

Prior studies have often used personal income tax records in place of household surveys. Personal tax data tend to better capture the distribution of income, but limit the analysis to individuals and to tax-related definitions of income. Consequently, these studies most commonly report top income shares on an individual basis, based on gross taxable income. Using this measure, Atkinson and Leigh (2007) estimated top 1 per cent income shares for Australia back to 1921. They found these shares followed a U-shaped pattern — generally declining from 1921 through to the mid-1980s and steadily rising through the 1990s and 2000s.

Alvaredo, Atkinson, Piketty and Saez (2013) did a similar analysis to compare the top 1 per cent income shares for individual taxable income across countries. Differences in, and changes to, income tax systems across countries mean that fine-grained comparisons are ill-advised. However, it is notable that the United Kingdom and the United States have followed the same U-shaped pattern as Australia and that the top 1 per cent income shares in the United Kingdom and the United States are substantially higher than in Australia (see figure below).

25 **United States** 20 15 10 10 15 United Kingdom Australia 5 0 1913 1923 1933 1943 1953 1963 1973 1983 1993 2003 2013 Year

Top 1 per cent income shares by country

Per cent of unequivalised gross taxable income earned by the top 1 per cent of adult income earners^a

^a The unit of income varies by country. Based on individual adult income for Australia, 'equal-split' individual adult income (equal split of income among couples) for the United States, tax unit income for the United Kingdom 1921–1989 and individual adult income for the United Kingdom 1990–2014. *Source*: WID (2018).

Noting the caveats above, estimates derived from the HES suggest that the share of equivalised disposable income going to the top 1 per cent of households has risen over recent decades (figure 3.8a). In 2015-16, the top 1 per cent of income earners accounted for 5.3 per cent of total equivalised disposable income, up from 4.4 per cent in 1988-89. Between 1988-89 and 2015-16, the average income of this group grew by 2.8 per cent per year, significantly faster than for the top decile as a whole (2.4 per cent per year) and for the population as a whole (2.1 per cent per year).¹⁶

This rise has not been steady or continuous. HES estimates suggest that the top 1 per cent income share declined through the 1990s, but rebounded strongly in the 2000s (figure 3.8a). Incomes in the top 1 per cent are volatile because a relatively large share of income comes from capital, which is more erratic than income from labour or government cash transfers. In 2015-16, capital income accounted for about 27 per cent of gross income (before tax) accrued by the top 1 per cent of income earners; for the general population the equivalent figure was 11 per cent. While the top 1 per cent earned 5 per cent of all disposable income in 2015-16, they earned 18 per cent of all capital income (before taxes).





¹⁶ HILDA estimates suggest the top 1 per cent income share was 4.7 per cent in 2015-16. The share grew at an annual average rate of 2.3 per cent per year between 2000-01 and 2015-16 (compared to 1.9 per cent for the whole population over the same time period).

Another way to examine how the top 1 per cent shapes the distribution of income is to calculate how the Gini coefficient would change if the current top 1 per cent were removed from the calculation. On this basis, the concentration of income among the top 1 per cent makes a noticeable and rising contribution to the overall level of income inequality in Australia: the Gini coefficient for equivalised disposable income in 2015-16 is 7.9 per cent lower if the top 1 per cent of income earners are removed (this effect is 1.3 percentage points greater than it was in 1988-89) (figure 3.8b).

Labour contributes most to total income growth

One way to gain some insight into why income in some deciles has grown faster than in others is to break down disposable household income into its components: labour income, capital income, transfers income and income tax paid.

The relative importance of each income component varies across the income distribution (figure 3.9). For most people, labour is easily the most important source of income. For those in the top eight deciles, labour income accounted for between 59 and 91 per cent of equivalised gross income in 2015-16.¹⁷ For the bottom two deciles, transfer income figures more prominently, and labour income accounted for about a third of gross income in each. Capital income accounted for a similar share of gross income (7 to 10 per cent) across all groups, except for those at the top where the capital income share is 17 per cent.¹⁸

The downward sloping pattern of taxes and transfers across the income deciles indicates their role in reducing income inequality. Both in percentage terms and absolute terms, those on higher incomes tend to pay more in income tax and receive less in transfers.

Differences in the composition of income across income deciles affects the distribution of overall income growth because different types of income have grown at different rates over recent decades. Capital income grew by 3.2 per cent per year between 1988-89 and 2015-16, significantly above the rates of growth for transfer income (2.1 per cent) and for labour income (1.8 per cent). The concentration of capital income at the top of the distribution is one factor driving higher overall income growth for very high income earners.

¹⁷ Gross income is used so that capital, labour and transfer income add to 100 per cent. Equivalised disposable income is still used to define deciles.

¹⁸ In HILDA, results were mostly similar, although labour income accounted for only 15 per cent of gross income in the bottom decile, transfer income accounted for 74 per cent of income in the bottom decile, and capital income was 29 per cent for the top decile.



Figure 3.9 Income mostly comes from labour for most households

Types of income as a share of equivalised gross income, 2015-16^a

^a Labour, capital and transfer income add up to 100 per cent. Income deciles are for equivalised disposable income. In HILDA, labour income accounted for only 15 per cent of gross income in the bottom decile. Transfer income was 74 per cent for the bottom decile and 66 per cent for the second decile. Capital income was 29 per cent for the top decile.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

A second factor affecting the relative growth in incomes across the deciles is that income components have been growing at different rates for different groups (figure 3.10). Labour income and capital income have mostly grown at faster rates for high-income groups; this has been partially offset by higher rates of growth in income tax paid.

Taken together, these factors likely contributed to any increase in disposable income inequality since the late 1980s.

Also of note are the relative growth rates of different income components at the very bottom of the distribution. In the bottom decile, growth in labour income (and income tax paid) was much stronger than in any other decile, while growth in transfer income was much weaker than in any other decile. This mainly reflects a substantial increase in the proportion of bottom decile households engaging in paid work. Between 1988-89 and 2015-16, the proportion of people in the bottom decile that lived in households earning labour income rose from 29 per cent to 44 per cent.¹⁹

¹⁹ This includes people living in households with self-employed people reporting negative labour income. The proportion of people living in households with *positive* labour income rose from 26 per cent to 42 per cent.



Figure 3.10 The growth of income components varies across deciles

Income decile 1 2 3 4 5 6 7 8 9 10 Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and*

Housing, 2015-16, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record file for 1988-89 as available at 25/10/17.

Taxes and transfers have consistently reduced income inequality

Australia's tax and transfer system has consistently acted to substantially reduce income inequality (figure 3.11). In 2015-16, for example, income tax and government cash transfers reduced the Gini coefficient for household income by 31 per cent (from 0.46 to 0.32).²⁰ Relative to other OECD countries, Australia redistributes less income but does a better job of targeting this redistribution to low-income earners (Whiteford 2009, p. 57).

To further disentangle the effects of different income components on inequality it is necessary to examine their marginal effects on Gini coefficients. The marginal effect is calculated by finding what happens to the Gini coefficient when a given income component is added to all the others. For example, the marginal effect of labour income is calculated by finding the Gini coefficient of gross income *including* labour income and subtracting the Gini coefficient of gross income *excluding* labour income.²¹

 $^{^{20}}$ HILDA estimates suggest a reduction of 33 per cent (from 0.45 to 0.30).

²¹ Due to data limitations not all marginal effects can be calculated on a consistent basis. The marginal effect of labour income, capital income and transfer income are calculated relative to gross income, while the marginal effect of income tax is calculated relative to disposable income. This means the latter is not directly comparable to the former.



Housing, 2015-16, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

Each income component has a consistent negative marginal effect on income inequality (figure 3.12). Thus when any given income component is added to the others, overall income inequality is reduced. This may seem counterintuitive, but it reflects the fact that the components of income do not strongly favour the same high-income households (box 3.3).

The marginal effects also indicate that different components of income have had mixed effects on the overall trends in income inequality between 1988-89 and 2015-16. The marginal effects of income tax and capital income both meandered within a narrow range, making little contribution to the overall trend. By contrast, the marginal effects of labour and transfer income varied within relatively large ranges, mostly offsetting each other.

In the early 1990s, the marginal effects indicate that the role of labour income in reducing inequality got smaller while the role of transfer income in reducing inequality got bigger. Over subsequent periods, these trends reversed — the role of labour income in reducing inequality has gradually increased and the role of transfer income in reducing inequality has gradually decreased.

Figure 3.12 Changes in labour and transfer income have driven overall trends in inequality

Marginal effect of income components on the Gini coefficient of income^a



Labour income





^a For capital, labour and transfer income, this is the marginal effect on the gross income Gini coefficient. For income tax, this is the marginal effect on the disposable income Gini coefficient. Consequently, the income tax marginal effect is not directly comparable with the other marginal effects. Note differences in y-axis scales for each panel.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

Box 3.3 How can all the marginal effects be negative?

At first glance it may seem mistaken that each income component has a negative marginal effect on income inequality. For example, given labour income and capital income both favour high-income households one might expect that adding capital income to labour and transfer income would increase inequality. This is not the case because capital income and labour income are weakly correlated — they do not strongly favour the *same* high-income households. For example, people with high labour incomes may be young professionals with little accumulated capital, whereas people with high capital incomes may be retirees with no labour income. In 2015-16 only 12 per cent of people who were in the top labour income decile were also in the top capital income decile.

A thought experiment helps explain how all marginal effects can be negative. Imagine a society with a population of two. Person A earns \$100 in labour income and no capital income. Person B earns \$100 in capital income and no labour income. The Gini coefficient for labour income is 1 — perfect inequality — because only person A has labour income. The Gini coefficient for capital income is also 1, because only person B has capital income. But when labour and capital income are added together the Gini coefficient for gross income is 0 — perfect equality. The marginal effect of labour income is -1 and the marginal effect of capital income is -1. Though labour income and capital income are both highly concentrated, their distributions are negatively correlated so adding labour and capital together reduces inequality.

The overall trend in inequality over recent decades is mainly a tale of the relative strength of these offsetting effects. Data from the HES indicate an upward trend in income inequality because, since the early 1990s, the decline in the effect of transfer income in reducing inequality has been much faster than the increase in the effect of labour income in reducing inequality.²²

The V-shaped pattern of the effect of transfers on inequality in figure 3.12 is mainly the result of changes to family payments. While most payment categories have remained fairly stable over time²³, the inequality-reducing effect of family payments increased substantially in the 1990s (as payments were expanded and made more broadly available) before declining in the 2000s and early 2010s (as payments were reduced and made more targeted) (figure 3.13).

²² HILDA estimates (spanning 2000-01 to 2015-16) show relatively flat trends for taxes and capital income, a slight downward trend for transfers, and a V-shaped trend for labour income.

²³ Aged payments are somewhat of an exception. The slight upward trend of the marginal effect in figure 3.13 indicates that the inequality-reducing effect of aged payments has declined slightly over time.

Figure 3.13 Changes to family payments are the main reason that transfer payments do less to reduce inequality than in prior periods

Marginal effect of income components on the Gini coefficient of gross income^a



^a Transfer payments not easily categorised such as the Partner Allowance, Special Benefit, Utilities Allowance and Clean Energy Supplement are not shown. Combined, uncategorised transfers have had a very small (< –0.01) and stable marginal effect on the gross income Gini coefficient. Data are not available for 1993-94.

-0.05

-0.05

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

3.3 The demographics of the income distribution

Examining the demographic breakdown of the income distribution provides additional insights into how different groups have shared in income growth over recent decades.

Life cycle effects help explain the distribution of incomes

People of all ages are in all income deciles across the income distribution, but certain age groups are over- and under-represented in particular income deciles (figure 3.14). This in part reflects life cycle effects.

- People aged 15 to 24 are fairly evenly represented across deciles. This reflects a mix of people in different circumstances: some living at home and sharing in relatively high household income, others having just moved out and on relatively low incomes, some just entering the workforce and others engaged in full-time study.
- Those aged 25 to 34 are over-represented among middle and upper-income groups. This reflects higher incomes associated with greater workforce experience and higher rates of partnering.
- People aged 35 to 44 are also over-represented in middle and upper-income groups, but less so than those aged 25 to 34. They are also more strongly represented in lower-income groups. This reflects parents having children and taking time out of the workforce.
- Those aged 45 to 54, and even more so those aged 55 to 64, are over-represented among the top income deciles. This reflects parents returning to the workforce, children leaving home, workers moving through their peak earning years and savers benefiting from income associated with capital accumulation.
- People aged 65 and older are strongly over-represented in lower income deciles. This reflects retirement from the workforce, reliance on the age pension and drawing down savings to support consumption.²⁴

²⁴ Though, on average, retirees accumulate wealth through their retirement years (chapter 4).



Figure 3.14 Representation in income deciles varies by age

Income growth rates by age group have varied substantially over recent decades (figure 3.15). For the most part, this variation reflects overall trends in the strength of income growth in a given period. When the economy is strong, all age groups benefit from higher income growth and when the economy is weak, all age groups suffer from lower income growth. But at different times, some age groups have benefited more or less than others. Most recently, the incomes of young people (those aged 15 to 24 and 25 to 34) have grown relatively slowly.



Figure 3.15 Young people have seen little income growth recently

Average annual growth rates in equivalised disposable income by time period

Age group: 15 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65+ ^a Growth is based on real income (2016-17 dollars). Time periods are determined by HES data. Data are not available for 1993-94. HILDA only covers the two most recent periods. The broad trends are similar,

not available for 1993-94. HILDA only covers the two most recent periods. The broad trends are similar, although growth of the 55 to 64 group is about equal with other groups for 2003-04 to 2009-10, and in the period 2009-10 to 2015-16, growth is below 1 per cent for all groups except those age 65 and above.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

That said, longer-term trends suggest this might even out. Examining income growth for specific birth cohorts (with people grouped according to the decade in which they were born) indicates that average income growth trajectories through the working years have varied from one cohort to the next. On average, however, each new generation has earned more income than the last at a given age, and reaches the same level of income earlier in life. This is true for both equivalised household income and individual income (figure 3.16).

Low-income households often lack paid work

Examining household types provides additional insights into what is behind the distribution of income. Clear patterns emerge (figure 3.17) when households are classified according to:

- the presence or absence of dependent children
- whether anyone in the household is of working age
- the number of people receiving labour income.



Figure 3.16 Each generation earned more than their predecessors

Average income by age and birth decade, 1988-89 to 2015-16

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

In 2015-16, individuals living in households where no person was in paid work (with or without dependent children) were strongly concentrated in the bottom two deciles. Also concentrated at the lower end were retirees receiving the Age Pension.

Other household types, those with at least one member in paid work, are spread across the distribution. Individuals from households with dependent children and one income (described as 'family, 1 income' in figure 3.17) are over-represented in lower-income groups, households with dependent children and two or more incomes ('family, 2+ incomes') are over-represented in middle and upper-income groups, and working households without dependent children ('working age, employed') are over-represented at the very top. For the most part, the composition of income deciles has changed little between 1988-89 and 2015-16.



Figure 3.17 Households without paid work tend to have low incomes

^a Patterns are broadly similar in HILDA.

Source: Productivity Commission estimates using: ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

3.4 Comparing the distributions of income and consumption

While income is most often the focus of debate about inequality, consumption is arguably a better measure of the economic resources available to support a person's capabilities at a point in time (chapter 2).

Consumption has grown across the income distribution (figure 3.18). Between 1993-94 and 2015-16, final consumption — private consumption plus in-kind transfers received from government such as health and education — grew for all income deciles.

Despite these gains across the distribution, about 4 out of 10 people had lower private consumption in 2016-17 than in 2006-07,²⁵ as some people moved into lower deciles over the period (chapter 5).

The top income decile saw the largest growth, in both absolute and percentage terms. Consumption growth was particularly large for the top decile between 2003-04 and 2009-10,

²⁵ This statistic uses HILDA because HES does not allow longitudinal analysis. Private consumption here does not include expenditure on consumer durables such as vehicles (chapter 2).

a period coinciding with the mining boom, and during which the top income decile also saw particularly high income growth (figure 3.6).



^a Average equivalised consumption, including in-kind transfers, 2016-17 dollars. *Sources*: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1993-94 through 2009-10 as available at 25/10/17.

Though correlated, the distributions of income and consumption are quite different and this distinction is an important caveat to the emphasis on income so far. Relative to disposable income, the average level of consumption is higher at lower income deciles and lower at upper income deciles. Reflecting this difference, average savings are much higher at upper income deciles and negative at the lowest income deciles (figure 3.19).

Consumption inequality is lower on average than income inequality, and has been systematically lower (figure 3.20). How much lower varies over time, depending on movements in household saving rates, which tend to partially absorb temporary shocks to income (for example, losing one's job). In terms of the trend, both income and consumption inequality have increased slightly since the early 1990s, with the rise in consumption inequality reflecting a relatively big jump in consumption by the highest consumption households (the top decile of the distribution).



Figure 3.19 **Over income deciles, consumption is flatter than income** Average equivalised income, consumption and savings by income decile, 2015-16^a





^a 2016-17 dollars. In HILDA, the shape of the disposable income and private consumption distributions are the same, although measured private consumption is lower for all deciles (no final consumption or savings data available for HILDA).

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17).

The average level of *private* consumption is lower than disposable income across the top income groups but not across the bottom income groups (figure 3.19). When the more expansive measure of *final* consumption is used (which includes in-kind transfers) the distribution of consumption across income deciles, while still sloping upwards, looks

substantially flatter than the distribution of disposable income.²⁶ For all but those at the very top of the income distribution, final consumption is higher than disposable income.

Comparing Gini coefficients shows that private consumption is somewhat more equally distributed than disposable income (figure 3.20). This in large part reflects the ability of many households to borrow and save to offset transitory changes in income and smooth consumption. Furthermore, final consumption is much more equally distributed than private consumption. The reason for the difference is that in-kind transfers favour those with lower levels of private consumption. As an illustration, in 2015-16 the Gini coefficient of final consumption was 0.23, 24 per cent lower than the equivalent value for private consumption.



^a Gini coefficients for consumption are only available from 1993-94.

Sources: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

People with low incomes receive the largest amount of in-kind transfers (figure 3.21). The pattern of transfers varies across the income distribution. Welfare services and government housing are allocated mostly to people in the low to middle income deciles, while childcare support is fairly evenly spread across the distribution. Health and education account for the major share of in-kind transfers across the income distribution.

²⁶ This analysis does not include indirect taxes such as GST due to data limitations. Final consumption inclusive of direct taxes paid would likely be less evenly distributed.



The distinction between income and consumption comes out most strongly in analysis by

age (figure 3.22). For example, while 25 to 34 year olds are under-represented in lower deciles for income, they are *over*-represented in lower deciles for final consumption. This reflects reduced reliance on the education and health system in this age group as well as higher rates of savings. For those aged 65 or older, the balance of representation is reversed. This group is strongly over-represented in lower deciles for income, but *under*-represented in lower deciles for final consumption.

Given the potential for accumulated wealth to support a person's capacity for current consumption in excess of income, wealth inequality can be as important as income inequality. This is the focus of the next chapter.
Figure 3.22 Across age groups, consumption does not always track income

Share of people of a given age in each equalised income/consumption decile, 2015-16^{\bf a}



Final consumption



Final consumption decile 📕 1 📕 2 📕 3 📕 4 📕 5 📕 6 📕 7 📕 8 📕 9 📕 10

^a For income, HILDA shows broadly similar patterns across age groups. Comparable data are not available for consumption.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17).

4 Wealth inequality

Key points

- The distribution of wealth is important because economic wellbeing depends on people's consumption today and over time, and because wealth provides a sense of financial security.
 - Measures of the distribution of wealth thus complement measures of income and consumption distribution by providing an indicator of both current and future inequality.
- Average wealth in Australia has steadily increased over the 12 years to 2015-16.
 - Average household wealth rose by 43 per cent over the period, to just under \$530 000.
 - The gains have been across the distribution, but growth was stronger for the top half of the distribution.
 - Owner-occupied housing and superannuation balances accounted for most of the increase in wealth.
- Wealth inequality increased over the same period the Gini coefficient based on the ABS Survey of Income and Housing rose by 7 per cent. However, not all measures show a clear upward trend.
 - Almost all the rise in wealth inequality occurred in the mining boom period through to 2010 (income inequality also rose during this period). The trend has since been fairly stable.
- Wealth is much less evenly distributed than income and consumption.
 - The Gini coefficient for wealth (at about 0.6) is close to double the Gini coefficient for income (at about 0.3) and nearly triple that for final consumption (at about 0.2).
 - The person at the 90th percentile of the wealth distribution has almost forty times as much wealth as the person at the 10th percentile; for income, they have four times as much.
- Australia's households are wealthy, and household wealth is relatively evenly distributed, compared to other developed countries. Among 28 OECD countries:
 - Australia ranked fifth in average household wealth and third in median household wealth
 - Australia has the eighth most equal wealth distribution, as measured by the Gini coefficient.
- Considering wealth and income together provides a more complete picture of the economic resources available to support current and future consumption.
 - People in higher wealth deciles have, on average, higher income and consumption.
 - Low wealth or low income alone do not imply low material wellbeing, but low wealth and low income *together* usually means low consumption also, and relatively poor material wellbeing. Families with dependent children and no labour income are particularly likely to fall in this latter category.
- Age is a key driver of wealth patterns, as most people accumulate wealth over their lives.
 - Many retirees have low incomes, but considerable wealth accumulated over an entire working life, while many young adults have relatively high incomes but little wealth.
 - On average each new generation has accumulated more wealth than the last at a given age, and reaches the same level of wealth earlier in life.

The distribution of wealth is important because economic wellbeing depends not only on the goods and services that people consume today, but on their consumption possibilities over time, and because wealth in its own right provides a sense of financial security and social prestige (chapter 2). Measures of the distribution of wealth thus complement the measures of income and consumption distribution considered in the previous chapter, by providing an indicator of both current and future economic inequality.

Accordingly, this chapter explores how wealth is distributed among Australians and how the distribution has changed in recent years. This kind of analysis has not been feasible until relatively recently, due to limited data. But as Australian surveys have matured we are now able to examine wealth inequality in greater depth, going back as far as the early 2000s (a 12-year period).

The chapter begins by presenting overall trends in wealth and wealth inequality, and compares household wealth and its distribution in Australia with other developed countries (section 4.1). Later sections address trends in the distribution of components of wealth (section 4.2), how demographic factors shape the distribution of wealth, and the relationship between the wealth, income and consumption distributions (section 4.3).

We refer to wealth as assets less liabilities (that is, net worth or net wealth), and unless noted otherwise, we use equivalised wealth — the wealth owned and controlled by household members and available to provide for their current and future consumption, after taking account of differences in household size and composition. Further details on the data sources and approach used are provided in chapter 2.

4.1 Trends in wealth and wealth inequality

Wealth has grown since the early 2000s

Average and median household wealth increased at a modest pace in the early 2000s, steadied in the years following the global financial crisis, and then picked up in recent years (figure 4.1). Over the 12-year period from 2003-04 to 2015-16, the average annual increase in average wealth was 3 per cent.²⁷ While there is agreement on this broad profile, estimates of wealth differ depending on the dataset used (box 4.1), bearing on the level of wealth inequality.

In terms of the distribution, all wealth deciles except the bottom one saw real increases in average wealth since the early 2000s (figure 4.2). The top half of the wealth distribution experienced particularly strong growth, with each of the upper five wealth deciles growing at an average annual rate of more than 2.5 per cent over this period (figure 4.3).²⁸

²⁷ Calculated using SIH. In HILDA, the average annual increase in average wealth was 2.5 per cent over the period 2002-03 to 2014-15.

²⁸ In HILDA, average wealth in each of the upper five wealth deciles grew at an average annual rate of more than 2.25 per cent over the period 2002-03 to 2014-15.



Average wealth has steadily increased

a 2016-17 dollars.

Sources: Productivity Commission estimates using: ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17); ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17; Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

At the ends of the distribution, the average equivalised wealth of the top decile increased by about \$620 000 to reach \$2.2 million,^{29,30} which is more than double the average wealth of those in the next decile, and about seven times as much as the median person. The average wealth of the bottom decile actually fell over this period — from about \$10 000 to \$8000 (discussed below).³¹

It is important to note that the group of people in a given wealth decile changes over time. Indeed, only 10 per cent of people remained in the same wealth decile over the 12-year period for which we have longitudinal wealth data. It is possible, therefore, that despite

²⁹ All results are presented in 2016-17 dollars, adjusted using the Consumer Price Index.

³⁰ Calculated using HES. In HILDA, in 2014-15, the average equivalised wealth of the top decile was about \$1.9 million (in 2016-17 dollars) and the average wealth of the top decile grew by about \$490 000 between 2002-03 and 2014-15.

³¹ Calculated using HES. In HILDA, the average wealth of the bottom decile fell from about -\$5000 in 2002-03 to about -\$17 000 in 2014-15. The difference in wealth levels for the bottom decile is partly explained by the absence of home contents in HILDA (box 4.1). The difference in the change in wealth is mostly due to increases in HILDA of student debt and 'other personal debt' --- which includes investment loans (other than business and rental property), vehicle loans, and personal loans for other purposes (such as for holidays or consumer goods). Business wealth and other property wealth have also fallen in HILDA, whereas they increased modestly in HES.

growth in wealth across the distribution, not everyone's wealth has grown. That said, most did — about 7 out of 10 people had more household wealth in 2014-15 than in 2002-03. (Economic mobility is discussed in detail in chapter 5.)

Box 4.1 Why do HILDA and HES/SIH wealth estimates differ?

Wealth estimates based on the ABS Household Expenditure Survey (HES)/Survey of Income and Housing (SIH) are significantly higher than those based on the Household Income and Labour Dynamics in Australia (HILDA) Survey. The HES/SIH and HILDA datasets also show different growth rates and trends (over slightly different periods) (figure 4.1).

The differences between the two measures of wealth are in part linked to conceptual differences between wealth estimates drawn from HES/SIH and those drawn from HILDA.

- HES/SIH capture the value of home contents, which in HES had an average value of about \$41 000 (in 2016-17 dollars) across the three years for which data are available. The value of home contents is not included in HILDA. This difference accounts for a large part (roughly 50 to 70 per cent) of the difference between average wealth in HES/SIH and HILDA in recent years.
- HILDA (unlike HES/SIH) explicitly captures the value of life insurance, which grew from an average value of about \$4000 per household in 2002-03 to about \$11 000 in 2014-15.

There are also differences in the questions asked and the exact categories of wealth captured — for example, the two datasets capture investment assets, and some less common types of debt, differently. But these differences cannot clearly be linked to differences in wealth levels or trends between the datasets. And some difference in wealth levels or trends between the datasets have no clear conceptual explanation.

Unlike for income (chapter 3), there have been few significant changes in the collection of wealth data for HES/SIH (or HILDA) over the period considered. The ABS noted one change for HES/SIH — the value of offset accounts was collected separately for the first time in 2011-12 (ABS 2017a). In HILDA, overdue bills were collected separately for the first time in 2006 (Summerfield et al. 2017, p. 217). For consistency across time, we have excluded this (very small) category of debt from HILDA wealth estimates.



^a 2016-17 dollars. HILDA numbers are lower but the shape of the distribution and trends are similar.
Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).



^a Average equivalised wealth, 2016-17 dollars. This broadly matches HILDA, except for the bottom decile which in HILDA grew by an average of about 11 per cent per year, from -\$5000 in 2002-03 to about -\$17 000 in 2014-15.

Wealth decile

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

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Wealth inequality has risen

Notwithstanding differences in the level of wealth reported by different surveys, both series show average wealth increasing by more (in percentage terms) than median wealth. This implies that the wealth of the top half of the distribution grew at a faster rate than the wealth of the bottom half. This is consistent with overall wealth inequality as measured by the Gini coefficient using SIH data, which is now higher than it was in the early 2000s. However, using HILDA data there is no clear upward trend in the Gini coefficient (figure 4.4).

Virtually all of the increase in wealth inequality from the SIH survey occurred in the period through to 2009-10. Since then, the trend has been fairly stable. And while there is no clear upward trend using HILDA data, it shows a consistently higher level of inequality.

It is also noteworthy that wealth is much less equally distributed than income; the Gini coefficient for wealth (at about 0.6) is close to double the Gini coefficient for income (at about 0.3) (chapter 3).³² A similar relationship is apparent in many other advanced economies.



^a Consistent with convention for Gini coefficients, negative values are treated as zero.

Sources: Productivity Commission estimates using: ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17); ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17; Melbourne Institute (*Household, Income and Labour Dynamics in Australia (HILDA) Survey*, Release 16).

³² Throughout this study, 'income' refers to equivalised disposable income unless otherwise specified.

The top decile's share of wealth has been fairly constant over the past 12 years, while the share of those in the bottom half of the wealth distribution has trended down slightly (figure 4.5). In 2015-16, those in the bottom half of the distribution owned 11 per cent of all wealth, while those in the top decile owned about four times as much (45 per cent of all wealth).³³



^a HILDA shows similar levels and similar (although flatter) trends.

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17) and ABS SIH Basic confidentialised unit record files for years 1993-94 through 2013-14 as available at 25/10/17.

Australian households are among the world's wealthiest

It is hard to interpret in isolation the degree of inequality from summary measures, such as the Gini coefficient. While the highest and lowest possible values for the Gini coefficient are easy to interpret, values of, say, 0.5 or 0.55 are less intuitive. This is why analysts also look at changes in the Gini coefficient over time.

Another approach is to compare wealth inequality in Australia with that in other countries at a point in time. This approach reveals two significant insights. First, Australian households are on average wealthier than households in most other developed countries. Among

³³ In HILDA in 2014-15, the bottom half of the distribution owned about 9 per cent of all wealth, and the top decile owned about 45 per cent.

28 OECD countries, Australia ranked fifth for average (unequivalised) household wealth in 2014 — behind Luxembourg, the United States and the United Kingdom, and at about the same level as Canada and New Zealand (figure 4.6). Australia's median household wealth ranked third among the same group of countries (figure 4.6).³⁴



Source: OECD (2018d).

Second, Australia's wealth distribution is more equal than that of most other developed countries. Australia is ranked eighth among the same 28 OECD countries in the distribution of wealth, as measured by the Gini coefficient (figure 4.7). The United States has the least equal distribution, while some of the Baltic States and central European countries have the most equal. Notably, some Scandinavian countries (such as Denmark and Norway) that have relatively low income inequality have high wealth inequality.

Australia's system of compulsory superannuation is one reason for this relatively even distribution of wealth. Employed Australians build up superannuation assets over their working lives, even if they do not accumulate other wealth. In contrast, the elderly in many other countries rely more on public pension schemes for their retirement income, the assets of which are not included in household wealth.

³⁴ In 2017, an alternative ranking had Australia second for both average and median wealth per adult (Shorrocks, Davies and Lluberas 2017, p. 8). Notably, this study excluded Luxembourg but included Switzerland (which ranked first for both average and median wealth).

Another factor is the high level of home ownership in Australia. About two thirds of Australian homes are owner-occupied (ABS 2018a), and most of these homeowners have significant housing wealth. High property prices in Australia (chapter 1) mean that many of those who own even part of a home have high overall wealth relative to people in other developed countries. About 68 per cent of Australian adults have (unequivalised) household wealth above US\$100 000 — the fourth highest of any country (Shorrocks, Davies and Lluberas 2017, p. 59).



4.2 Trends in the distribution of components of wealth

The Gini coefficient is a useful summary measure, but other measures are needed to examine in more detail the distribution of wealth and how it has changed. It is particularly important to understand the sources of widening wealth inequality, as they can be dynamic factors that influence future income inequality. Increased wealth inequality may also reduce intergenerational mobility, through the inequality of inheritances (chapter 5).

Accordingly, this section looks at trends in the distribution of components of wealth and the following section examines the demographics of wealth ownership. Most results are reported using data from HES because this provides the most up-to-date wealth estimates, and allows for consistency with the presentation of income and consumption results. All results

discussed have been compared to HILDA, and where there are differences between HES and HILDA these are indicated in footnotes.

Rich and poor households hold different types of wealth

Household wealth in Australia is dominated by housing and superannuation balances (figure 4.8, top panel). Owner-occupied housing accounted for 39 per cent of total household wealth in 2015-16, and superannuation accounted for 21 per cent.^{35,36} However, people across the wealth distribution hold different types of wealth (figure 4.8, bottom panel). Business, financial and other property wealth are more important in the top decile, while superannuation, vehicles and 'personal wealth'³⁷ are more important in lower deciles.

The composition of wealth matters because some assets are highly liquid and others are not. Liquid assets (for example, financial wealth) are more readily drawn down, enabling consumption smoothing (which partly explains why private consumption is more equally distributed than income — figure 3.20). The liquidity of assets may also depend on the age profile of the owner. Superannuation, for example, is a low-liquidity form of wealth for people aged under 65, but becomes highly liquid for those aged 65 and over (or 55 to 64 and retired).

Wealth increases have been driven by property and superannuation

Growth in average household wealth reflects big increases in owner-occupied housing wealth and superannuation, but is not evenly spread across the distribution. Between 2003-04 and 2015-16:

- the rise in owner-occupied housing wealth was concentrated in the top half of the distribution (figure 4.9)
- all wealth deciles experienced growth in average superannuation wealth, although the top decile had the largest increase
- the large jump in superannuation wealth in the top decile was partly due to tax concessions provided for voluntary contributions during this period (Daley, Coates and Wood 2015, pp. 39–44)
- there was substantial growth in financial wealth³⁸ and other property wealth, concentrated in the top two deciles.

³⁵ Unequivalised wealth, using HES data.

³⁶ For HILDA in 2014-15, owner-occupied housing accounted for 39 per cent of household wealth and superannuation accounted for 26 per cent.

³⁷ Personal wealth is the value of home contents, minus student debt, credit card debt, and debt for 'other purposes' (such as holidays or consumer goods).

³⁸ Financial wealth include bank deposits, shares, bonds and trust funds, minus debt on investments.



\ldots but the top and bottom hold large shares in other types of wealth

Average shares of wealth by wealth type, for each wealth decile, 2015-16^{a,b}



^a 2016-17 dollars. Patterns are broadly the same in HILDA. HILDA does not include the value of home contents so personal wealth is much lower. ^b Negative values have been excluded from this chart. These are business, owner-occupied housing and financial wealth for the bottom decile.

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

These absolute changes in wealth are the combined effect of increased asset prices and increases in the amount of assets (and debt) held by households. Higher owner-occupied housing wealth reflects rising house prices for homeowners (chapter 1), and changes in holdings of housing wealth — for example, non-homeowners purchasing a home, or current homeowners 'trading up' to a higher-value home or paying down their home loan. Similarly, increased superannuation wealth incorporates price changes in the underlying assets, as well as the effect of the accumulation of superannuation (given that the superannuation system is still maturing) or the drawing down of superannuation by retirees.



^a Average equivalised wealth, 2016-17 dollars. This broadly matches HILDA, though superannuation growth was lower and business equity declined by more for the top wealth decile in the HILDA data.

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

4.3 The demographics of wealth and income

Wealthier people tend to have higher income and consumption

Low wealth alone does not necessarily imply low material wellbeing. For example, someone may have low income but plenty of wealth to draw on. A more complete picture of people's economic wellbeing is obtained by jointly considering trends in the distribution of wealth, income, consumption and savings.

In practice, wealth, income, consumption and savings typically move together. People in higher wealth deciles tend to be in higher income deciles, and people in lower wealth deciles tend to be in lower income deciles (figure 4.10). More generally, Murtin and d'Ercole (2015, p. 5) found that income and wealth are positively related at the household level across all OECD countries, although Australia (along with the United Kingdom and the Netherlands) is one of the few countries where this relationship is weakest.



^a Equivalised disposable income and equivalised wealth. Patterns of under- and over-representation are broadly consistent with HILDA.

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

While income and consumption are positively related to wealth, they are much more evenly spread across the wealth distribution compared to wealth itself (figure 4.11). In 2015-16, the person at the 90th percentile of the wealth distribution had about *forty* times as much wealth as the person at the 10th percentile.³⁹ In contrast, the person at the 90th percentile of the *income* distribution had about *four* times as much income as the person at the 10th percentile (chapter 3).

³⁹ In HILDA in 2014-15, the person at the 90th percentile had about *one hundred* times as much wealth as the person at the 10th percentile. The difference between HILDA and HES is mostly due to a difference in the wealth of the person at the 10th percentile — in HILDA it is about \$10 000, while in HES it is about \$28 000.





Average wealth, income, consumption and savings by wealth decile, 2015-16 a

^a All measures are equivalised and in 2016-17 dollars. Income is disposable income. Note that the wealth panel uses a different scale. Patterns for wealth and disposable income are broadly similar in HILDA. Data limitations mean that final consumption and savings cannot be compared to HILDA.

0

Bottom

Top

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Wealth decile

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

0

2

Bottom

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Wealth decile

4

8 9 Top

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Age is a key driver of wealth patterns

Certain age groups are over- or under-represented in particular wealth deciles, partly reflecting peoples' tendency to accumulate wealth over their working lives (figure 4.12).

- People aged 15 to 24 are over-represented in the lowest two wealth deciles.⁴⁰ In part this reflects that some have moved out of home and have little wealth, although many are still living at home and 'sharing' in their parents' relatively high household wealth.
- Most young adults aged 25 to 34 have accumulated little wealth and are in the lower half of the wealth distribution.
- The majority of people aged 55 and over have accumulated significant wealth, and because they are no longer 'sharing' this wealth with their children, they are in the top half of the wealth distribution. This is true even of those aged 65 and over, most of whom have retired.
- Adults aged 35 to 44 are mostly in the lower middle wealth deciles.
- Adults aged 45 to 54 are mostly in the upper middle wealth deciles.⁴¹

Many in these two latter groups are accumulating wealth, although the presence of children lowers household wealth (and wealth accumulation may slow as parents take time out of the workforce or reduce their hours of work to raise children). Having children thus reduces the measure of household wealth, and having more children reduces it by more. It is due to this effect of the equivalisation process that children aged under 15 are over-represented in the lower wealth deciles.

Although wealth and income are positively related across the population, some age groups buck this trend. Many retirees live on low incomes despite having accumulated wealth over an entire working life. Conversely, many young adults have relatively high incomes and little wealth (figure 4.12). Looking only at income or wealth can therefore give a lopsided view of these groups' economic wellbeing.

People build up their wealth over their working lives, at a pace that is largely the same across recent birth cohorts. The average wealth of those born in the 1950s, 60s, 70s and 80s has roughly tracked the wealth of those born in the decade before them (figure 4.13). In contrast, those born in the 1940s have a lot more wealth in their late sixties than did those born in the 1930s, who in turn have a lot more wealth in their late seventies than did those born in the 1920s. This latter pattern is similar to income, where each birth cohort has earned more on average than earlier cohorts did at the same age (chapter 3).

 $^{^{40}}$ In HILDA, people aged 15 to 24 are concentrated in the bottom wealth decile.

⁴¹ In HILDA, adults aged 45 to 54 are mostly in the middle wealth deciles.



Figure 4.12 Many older people have lower incomes but higher wealth

Share of age group in each income and wealth decile, 2015-16^a

^a Based on equivalised wealth and equivalised disposable income. Patterns are broadly consistent with HILDA.

35 to 44

Age group

25 to 34

45 to 54

55 to 64

65+

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

10

0

underrepresented

Under 15

15 to 24



^a Data points are 2002-03, 2006-07, 2010-11 and 2014-15, following the same group of people over time. *Source*: Productivity Commission estimates using Melbourne Institute (*Household, Income and Labour Dynamics in Australia (HILDA) Survey*, Release 16).

Retirees tend to maintain their wealth, rather than consume it

Many retirees use some of their wealth to fund their retirement, but the average wealth of those born in the 1920s, 30s and 40s has increased (rather than fallen) through their retirement years (figure 4.13). This implies that asset price increases and savings (such as from the reinvestment of capital income) have together counteracted any draw down on wealth to fund consumption (or asset price falls). The similar trends for those born in the 1920s, 30s and 40s suggest that asset price changes — notably for houses (figure 1.3) — have been an important driver of average wealth levels for these groups.

Evidence from other studies suggests that age pensioners generally preserve wealth in old age, spending cautiously and even continuing to save, with the result being that many leave substantial bequests (Wu et al. 2015). Wu et al. found that wealthier pensioners tended to decumulate wealth in early retirement but to *accumulate* wealth in later retirement, while *less* wealthy pensioners tended to *accumulate* wealth from *early* retirement onwards. This tendency to draw down slowly on household wealth in older age — rather than more rapidly, as might be predicted by life cycle theory (chapter 2) — is reflected in the relatively strong wealth positions of even the oldest households.

When older households do not draw their wealth down, or when they add to it by continuing to save, they forgo current consumption. Three key motivations are:

- bequests a preference to leave wealth to future generations reduces the incentive to draw it down in the person's own lifetime
- precautionary saving many older Australians are concerned about being able to afford health, medical and aged care costs late in life, as well as the need for sufficient savings to maintain their consumption during the rest of their lives (NSA 2013)
- a desire to 'age in place' many retirees do not downsize, preferring to remain in their family home, despite a common perception that such homes are too big for them (PC 2015a, p. 8).

Regardless of the motivation, the tendency of retirees to maintain their wealth through at least part of their retirement affects both current and future wealth distribution. It explains the over-representation of older people at the top end of the wealth distribution (figure 4.12). And because much of this wealth will be passed on to children, it could also affect intergenerational mobility and future economic inequality (chapter 5). The value of bequests appears to have grown in recent years (PC 2015a, p. 58).

For those born in the 1920s, 30s and 40s, median owner-occupied housing wealth has increased during retirement. This reflects both rising house prices and the desire of retirees to age in place, and aligns with survey evidence that finds that older Australians are reluctant to draw down their owner-occupied housing wealth, except as a last resort (such as to fund health, medical or aged care expenses) (PC 2015a, p. 61). There is also evidence that older homeowners who access their housing wealth by downsizing, or by selling up and renting (rather than by releasing equity via reverse mortgages or similar options), are likely to have been affected by poor health, relationship breakdown or bereavement prior to selling their home (Ong et al. 2013, p. 1).

Superannuation, in contrast, *is* being used to fund retirement. For those born in the 1940s, the median value of superannuation has fallen during retirement. Reflecting Australia's still-maturing superannuation system, most people born in the 1920s or 30s have no superannuation wealth — they did not spend enough of their working lives accumulating superannuation to have significant balances at retirement.

Poor material wellbeing is common among some household types

Examining other household characteristics can further enhance our understanding of the composition of the wealth and income distributions, and how they relate to each other. Clear patterns become apparent (figure 4.14) when households are classified according to:

- the presence or absence of dependent children
- whether anyone in the household is of working age
- the number of people receiving labour income.



Figure 4.14 Wealth is unevenly distributed among household types

Share of people from a particular household type in each wealth decile and each income decile, 2015-16^{a}

^a Based on equivalised wealth and equivalised disposable income. Patterns in HILDA are broadly similar. *Source*: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

Families with dependent children and no one in paid work mostly have both low income and low wealth. About 6 in 10 are in the bottom *wealth* decile, and about 8 in 10 are in the bottom two *income* deciles — with the majority of these relying on government transfers for most

of their income. Most families with dependent children and no one in paid work also have low consumption — more than 6 in 10 are in the bottom three final consumption deciles.

Retiree households who receive pension payments typically have low incomes, although many have substantial wealth. More than half of this wealth is in the form of owner-occupied housing. About 80 per cent of people in these households are in the top half of the wealth distribution (figure 4.14, top panel). This suggests that retirees towards the top of the wealth distribution can still meet the assets test to qualify for at least a part pension. For example, a single homeowner can have assets of up to \$556 500, not including their home — placing them in at least the third-highest wealth decile — and still be eligible for a part pension (DHS 2018b). Retiree households receiving no pension payments are overwhelmingly in the top wealth decile, although there are relatively few households of this type.

Adult households with no one in paid work are almost all in the bottom three *income* deciles, although their diverse circumstances are reflected in their varying levels of wealth (figure 4.14, bottom panel).

- About 20 per cent of people in adult households with no paid work are in the lowest *wealth* decile. These people may have had little attachment to the labour force or are long-term unemployed.
- However, many other people in adult households with no paid work are in higher wealth deciles, and more than 10 per cent are in the top wealth decile. These people may be between jobs or in early retirement, and are likely able to use their wealth to fund their consumption.

In this chapter and the preceding one, we have examined in detail trends in and the demographics of the wealth, income and consumption distributions. The next chapter examines mobility within these distributions, both between generations and over the life cycle.

5 Economic mobility

Key points

- People's incomes and wealth change over the course of their lives. The rich or poor people at one point in time may not be the same rich or poor people later on.
 - Measures of economic mobility complement standard inequality measures that only give a snapshot of the distribution at a point in time.
 - A high level of mobility is a proxy measure for equality of opportunity, although mobility at the lower end of the distribution could also reflect economic insecurity.
- Income mobility in Australia compares favourably with many other developed economies.
 - Close to 90 per cent of people had a difference of at least three deciles between the top and bottom income deciles they spent time in between 2000-01 and 2015-16. Less than 1 per cent of people remained in the same income decile over the whole period.
 - Adults move between income deciles more in Australia than in the United States, the United Kingdom or Italy, and less than in Canada and some Scandinavian countries.
 - High inequality does not imply high intergenerational mobility. Countries with high inequality tend to have low mobility, and countries with low inequality tend to have high mobility.
- Mobility allows inequality to be smoothed out over time. Australia's Gini coefficient for income falls 18 per cent when calculated using 16-year average income, instead of annual income.
- Wealth also changes over the course of people's lives, though there is less wealth mobility than income mobility, and more 'stickiness' at the top and bottom of the wealth distribution.
 - About 40 per cent of people had a difference of three or more deciles between the top and bottom wealth deciles they spent time in across the years that wealth data are available (2002-03, 2006-07, 2010-11 and 2014-15).
 - Only 10 per cent of people remained in the same wealth decile in all four survey years.
- Moving between income, consumption or wealth deciles is related to life events.
 - Income shifts may be due to moving from education into work, career advancement, having children, and/or retirement.
 - Most people build up wealth over their working lives.
 - Consumption typically fluctuates less than income and wealth, but often rises during a person's adult life, before levelling off in retirement.
- Intergenerational mobility the relationship between parents' economic position and their children's — is neither very high nor very low compared to other developed countries.
 - If a father's lifetime earnings are 10 per cent above average for his generation, we would expect his son's lifetime earnings to be 2–4 per cent above average for *his* generation.
 - A son is about four times more likely to be in the top decile for lifetime earnings if his father was in the 95th percentile than if his father was in the 5th percentile.

5.1 How does mobility relate to inequality?

Observing over time, as in chapters 3 and 4, a widening gap between 'rich' and 'poor' households does not mean that the rich and the poor households at the beginning and the end of the period are the *same* households. This is because people's income and wealth change regularly and often by significant amounts. Economic mobility (hereafter 'mobility') refers to the extent to which people move *across* the income, wealth and consumption distributions as their economic resources change.

There are two types of mobility:

- *intergenerational mobility* (between generations) refers to the relationship between a person's economic position and that of their parents
- *life course mobility* (sometimes referred to as *intra*generational mobility) refers to changes in an individual's economic position throughout their life.

This chapter examines the nature of economic mobility. Section 5.2 reviews Australian studies and cross-country comparisons of intergenerational income mobility. Section 5.3 presents original analysis using the longitudinal Household, Income and Labour Dynamics in Australia (HILDA) Survey dataset to show that Australians exhibit significant life course mobility. Compared to income and wealth, we present less detailed analysis on *consumption* life course mobility. This is because people tend to smooth consumption over their lives, leading to less (though still significant) mobility, and because HILDA does not have comprehensive consumption data. We also draw on OECD work to compare life course mobility in Australia with that in other developed economies.

Measures of intergenerational mobility and life course mobility provide context to measures of inequality. Intergenerational mobility refers to the strength of the relationship between an individual's position in the income or wealth distribution and their parents' positions. It is affected by the importance of factors such as family wealth, connections, education, and inherited characteristics such as intelligence and personality traits. Greater intergenerational mobility is therefore indicative of greater economic opportunity. Recent research shows an association between high intergenerational income *im*mobility and high levels of income inequality — the so-called 'Great Gatsby Curve' (figure 5.1).

Life course mobility refers to how a person's economic position changes over time. Greater life course mobility can have both positive and negative implications. It is related to economic opportunity, in that it reflects the ability of people to move up the income or wealth distribution through effort and ability. But it may also indicate economic insecurity. On average, people in poverty experience greater fluctuations in their incomes than those living above the poverty line (chapter 6).





Source: Corak (2013, p. 82).

5.2 Intergenerational mobility in Australia

Intergenerational mobility is concerned with the transmission of economic wellbeing between parents and their children. It is most commonly measured by an 'intergenerational earnings elasticity', which captures the relationship between the (unequivalised) lifetime earnings of a son and his father (chapter 2).

A larger elasticity indicates a stronger relationship between sons' and fathers' lifetime earnings, and hence less mobility (Mendolia and Siminski 2016, p. 365). For example, an elasticity of 0.4 suggests that a 10 per cent increase in a father's lifetime earnings is associated with a 4 per cent increase in his son's lifetime earnings. An elasticity of zero suggests that a son's lifetime earnings are unrelated to his father's.⁴²

Ideally, an intergenerational earnings elasticity would be calculated based on lifetime earnings for both fathers and sons, to abstract from earnings variation over the course of their

⁴² The focus on males (sons and fathers) is to avoid issues related to varying female labour market participation over time and between countries (Mendolia and Siminski 2016, p. 365).

lives. However, sufficient data are not available for Australia (or most other countries). That said, there have been a few attempts to estimate an intergenerational earnings elasticity for Australia, employing different techniques to deal with the limited data available.

- Leigh (2007) used sons' reports of their fathers' occupations, and assumed that fathers' earnings were equal to the average wage for a 40-year-old in that occupation. Leigh estimated an elasticity range of 0.22–0.33 and found little evidence that intergenerational mobility in Australia rose or fell significantly between the 1960s and the 2000s.
- Mendolia and Siminski (2016) followed the approach used by Leigh (2007), using a longer period of HILDA (2001–2012, whereas Leigh used just 2004). They estimated an elasticity of 0.35.
- Huang, Perales and Western (2016) used a similar approach and 2001–2013 HILDA data, but paid particular attention to methods regarding how occupations were recorded, and whether earnings were calculated on an hourly, weekly or annual basis. Their results were sensitive to these different methods they estimated an elasticity range of 0.11–0.30, with preferred estimates of 0.26–0.28.
- Murray et al. (2017) directly compared the earnings of fathers in HILDA in 2001–2003 with the earnings of their young adult sons in 2014–2016. Based on this selection of paired observations, they estimated an elasticity of 0.41.

Taken together, these estimates suggest a range of 0.22-0.41 for Australia's intergenerational earnings elasticity. This implies that if a father's lifetime earnings are 10 per cent above average for his generation, we would expect his son's lifetime earnings to be 2–4 per cent above average for *his* generation. Or if a father's earnings were 10 per cent *below* average for his generation, we would expect his son's earnings to be 2–4 per cent below average for his generation.

Intergenerational mobility across the lifetime earnings distribution can be estimated from intergenerational earnings elasticities. Based on an elasticity of 0.35, Mendolia and Siminski found that a son:

- is about four times more likely to be in the top earnings decile if his father was in the 95th percentile than if his father was in the 5th percentile
- is almost twice as likely to be in the top half of the distribution if his father was in the 95th percentile than if his father was in the 5th percentile
- has about a 10 per cent chance of being in each of the top or bottom earnings decile if his father had median earnings (the 50th percentile) (figure 5.2).



Probability of a son occupying a given position in the lifetime earnings distribution, given his father's position^a Father's earnings percentile: 5th 20th 80th 95th 60 50 The higher a father's earnings, the less likely the ... and the more likely the 40 Probability son has low earnings ... son has high earnings 30 20 10 0 Top half of Bottom two deciles Top decile Bottom decile Top two deciles the distribution Son's position in earnings distribution

^a Probabilities are based on Mendolia and Siminski's preferred intergenerational earnings elasticity estimate of 0.35. The probability estimates rely on further assumptions, including that fathers' and sons' earnings follow a bivariate normal distribution.

Source: Mendolia and Siminski (2016, p. 371).

How does intergenerational mobility in Australia compare to other countries?

Australia's intergenerational mobility is about average compared to other OECD countries. Considering the range of estimates of Australia's intergenerational earnings elasticity from the papers discussed above, Australia ranks around the middle of OECD countries for which comparable data are available (figure 5.3). The non-OECD countries for which comparable data are available mostly have low or very low levels of intergenerational mobility.

Italy, the United Kingdom, and the United States — countries with high income inequality — are estimated to have the *least* intergenerational mobility (highest elasticity) among OECD countries. Denmark, Norway, Finland and Canada — countries with relatively low inequality — are estimated to have the *most* intergenerational mobility.



Figure 5.3 Intergenerational mobility in Australia is about average relative to other OECD countries

^a Australia's low estimate (0.22) taken from Leigh (2007). Australia's high estimate (0.41) taken from Murray et al. (2017). All other countries from Corak (2016, p. 11).

Sources: Corak (2016, p. 11), Leigh (2007), Murray et al. (2017).

5.3 Life course mobility in Australia

Life course mobility refers to how a person's economic position changes throughout their life. It reflects life events that affect a person's income or wealth, but also the extent to which changes in a person's income or wealth translate into changes in their position in the income or wealth distribution.

Because we use *equivalised household* measures of income, consumption and wealth (chapter 2), life course mobility does not only reflect changes in a person's economic resources, but also changes in the composition of their household (that is, who the person shares their household and economic resources with). These changes include moving out of home, having children, household formation or dissolution, as well as transitioning from school or university to work, promotions and retirement.

Income mobility

People's incomes change over the course of their lives. As they do, people move up and down the income distribution. On average, each person spent time in five different income deciles between 2000-01 and 2015-16. Close to 90 per cent had a difference of at least three deciles between the top and bottom income deciles they spent time in (figure 5.4).⁴³ And less than 1 per cent of people remained in the same income decile over the whole period.





It follows from this mobility that income deciles do not represent a constant group of people. Using the same 16 years of HILDA data, we estimated that 36 per cent of the population spent at least one year in the top income decile, 43 per cent spent time in the bottom decile, and about 50–60 per cent spent time in each of the other eight deciles. In other words, not only does the group of people in a particular decile change over time, but all income deciles — apart from the top and the bottom — included more than half the population at some point during the past 16 years.

⁴³ 2000-01 to 2015-16 is the longest period for which longitudinal data (following individuals over time) are available. Longitudinal measures here and throughout this study can only take account of individuals alive and living in Australia in all the relevant years — thus, for example, children born during this period are not included in the population when examining mobility.

People at the bottom of the income distribution tend to move up, and people at the top of the distribution tend to move down (table 5.1 and shown graphically in figure 5.5). Most people in one of the bottom four deciles in 2000-01 were in a higher decile in 2015-16, and most people in one of the top four deciles in 2000-01 were in a lower decile in 2015-16.

While life course mobility affects people across the entire distribution, there is more income persistence ('stickiness') at the ends of the distribution than the middle. People in the top decile and in the bottom two deciles in 2000-01 were the most likely to be in the same decile in 2015-16 — each was about a one in four chance. However, the likelihood that these people remained in that same decile for the whole period was exceedingly rare. Of those who were in the bottom or the second bottom decile in 2000-01, less than 2 per cent remained in that decile for the entire 16-year period, and of those who started in the top decile, about 6 per cent remained there consistently over the same period.

Table 5.1Most people at the lower end of the distribution in 2000-01were in a higher decile in 2015-16

Proportion of people in each income decile in 2000-01, by income decile in 2015-16^a

		Decile 2015-16 \rightarrow										
		Bottom	2	3	4	5	6	7	8	9	Тор	
Decile 2000-01	Bottom	22%	28%	12%	11%	7%	5%	4%	3%	4%	2%	
\downarrow	2	18%	23%	15%	13%	6%	8%	7%	4%	4%	3%	
	3	11%	12%	15%	12%	12%	11%	10%	8%	7%	3%	
	4	9%	7%	13%	10%	13%	11%	15%	9%	10%	4%	
	5	8%	8%	8%	12%	11%	12%	10%	12%	10%	7%	
	6	6%	5%	10%	10%	12%	11%	10%	15%	11%	10%	
	7	6%	4%	6%	9%	11%	13%	10%	12%	14%	13%	
	8	9%	4%	9%	8%	11%	11%	12%	15%	10%	12%	
	9	6%	5%	7%	9%	7%	9%	8%	12%	15%	20%	
	Тор	6%	4%	5%	6%	10%	8%	12%	10%	15%	26%	

^a People may have spent time in other deciles in between 2000-01 and 2015-16. Deciles based on equivalised disposable income.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

Figure 5.5 **There is a lot of movement between income deciles**

Proportion of people in the top, 5^{th} and bottom income deciles in 2000-01, by income decile in 2015-16^a



^a People may have spent time in other deciles in between 2000-01 and 2015-16.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

The span of decile ranges varies greatly (figure 2.6), and this partly explains the stickiness at the top and bottom. In HILDA in 2015-16, the bottom income decile contained all those with incomes below about \$23 000, and the top decile contained those with incomes above \$90 000, while the 5th decile contained those with incomes between about \$41 000 and \$47 000.⁴⁴ Anyone in the 5th decile who experiences a drop in income of \$6000 will fall down to the 4th decile, but most of those in the top decile would remain in the top decile if they incurred the same drop in income, while all those in the bottom decile would still remain in the bottom decile if they too experienced the same fall in income.

Wealth mobility

People's wealth changes over the course of their lives — particularly as they accumulate wealth during their working years — and, as a result, they change positions in the wealth distribution. Across the four survey years for which we have longitudinal wealth data (2002-03, 2006-07, 2010-11 and 2014-15):

- about half the population had a difference of 1 or 2 deciles between the top and bottom wealth deciles they spent time in (figure 5.6)
- about 40 per cent of people had a difference of three or more deciles
- only 10 per cent of people remained in the same wealth decile in all four years and more than half of these were in either the top or bottom decile.

The ends of the wealth distribution are 'stickier' than the middle, and this stickiness is more pronounced for wealth than for income. Those in the bottom wealth decile in 2002-03 had about a 40 per cent chance of being in the same decile in 2014-15 (table 5.2), with about 60 per cent of this group also being in the bottom decile in both intervening years (2006-07 or 2010-11). Those in the top wealth decile in 2002-03 had about a 50 per cent chance of being in the same decile in 2014-15, with about 80 per cent of this group also being in the top decile in both intervening years. However, as discussed above, stickiness at the ends of the distribution (particularly at the top of the wealth distribution) is partly explained by differences in the span of decile ranges (chapter 2).

Stickiness at the top of the income and wealth distributions may also point to 'entrenched advantage' — people who are 'stuck at the top'. For example, people with very high levels of wealth can earn a large income from that wealth, and if enough of this income is reinvested then their wealth (and income from that wealth) will likely continue to grow. About one quarter of 1 per cent of people remained in both the top income and the top wealth decile in every year with available data from 2000-01 to 2015-16.⁴⁵ (Entrenched disadvantage is discussed in chapter 6.)

⁴⁴ These spans are based on the HILDA longitudinal sample and for this reason differ somewhat from those shown in figure 2.6.

⁴⁵ For income: every year from 2000-01 to 2015-16; for wealth: 2002-03, 2006-07, 2010-11 and 2014-15.



Figure 5.6 There is significant mobility across wealth deciles

^a For people in the HILDA sample in all 16 years.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

People move across the wealth distribution less than across the income distribution. Across the four survey years for which we have longitudinal wealth data, 40 per cent of people had a difference of three or more deciles between the top and bottom *wealth* deciles they spent time in, while 60 per cent of people had a difference of three or more deciles between the top and bottom *income* deciles they spent time in.⁴⁶ People were also twice as likely to remain in the same wealth decile over this period than they were to remain in the same income decile.

⁴⁶ For income, this number differs from the 'close to 90 per cent' cited above, because (to aid comparability with wealth mobility) we have only considered income mobility across 2002-03, 2006-07, 2010-11, 2014-15.

		Decile 201	14-15	Of those in the bottom decile in 2002-03, only 7 per \rightarrow cent were in the top half of the distribution in 2014-15								
		Bottom	2	3	4	5	6	7	8	9	Тор	
Decile 2002-03	Bottom	39%	23%	15%	11%	5% (3%	1%	1%	1%	1%	
\downarrow	2	17%	24%	23%	11%	9%	5%	4%	4%	2%	1%	
	3	12%	18%	18%	21%	10%	9%	5%	3%	2%	2%	
	4	9%	7%	15%	14%	21%	12%	12%	6%	3%	1%	
	5	6%	7%	9%	16%	19%	20%	11%	7%	5%	1%	
	6	5%	5%	9%	9%	16%	16%	15%	13%	9%	3%	
	7	4%	5%	4%	7%	9%	15%	19%	17%	13%	6%	
	8	4%	5%	3%	4%	6%	9%	16%	21%	20%	11%	
	9	2%	2%	3%	5%	4%	7%	12%	19%	23%	22%	
	Тор	2%	3%	2%	2%	2%	3%	5%	9%	23%	51%	

Table 5.2The top and bottom of the wealth distribution are least mobileProportion of people in each wealth decile in 2002-03, by wealth decile in
2014-15ª

^a People may have spent time in other deciles in between 2002-03 and 2014-15. Deciles based on equivalised wealth.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

Life events drive life course mobility

People's movements across the income, consumption or wealth distributions often relate to widely experienced life events. Figure 5.7 shows the median income, wealth and consumption deciles for people of a given age. These median paths do not reflect the life course of any *specific* individual. Rather, each dot represents the income, consumption or wealth decile (in the *overall* distribution) of a person who has the *median* income, consumption or wealth for a given age. Nonetheless, events that affect a large part of the population around a given age will similarly affect the median observation.

The path followed by a hypothetical person who has the median income, consumption and wealth at each age — let's call her Meg — is used here to illustrate these events and their effects.

• Meg's equivalised disposable income decile rises during her twenties as she moves from education into work and starts to climb the career ladder. Having children at about the age of 30 reduces her income decile, as income is spread among more household

members (and she or her partner may work less). Her income decile rises again late in her working life when accumulated experience increases labour earnings, accumulated assets increase capital earnings and as her children move out of home or start earning income themselves. Between the ages of 60 and 70, she reduces her hours at work and then retires completely, which leads to a fall of several income deciles.

- Meg's equivalised wealth decile falls when she moves out of home and stops sharing a household with her parents. Over her working life, Meg's wealth decile rises as she builds up wealth. She stops adding to her wealth after she retires, and draws a little on her wealth to fund consumption, but asset price rises mean that her level of wealth actually increases (chapter 4). Nonetheless, she falls a wealth decile or two as she is overtaken by working-age people who are still adding to their wealth.
- Over the course of her life, Meg's equivalised private consumption decile changes much less than her wealth or income decile. Meg inhabits her lowest consumption decile in her early 20s, soon after moving out of home. Her consumption decile rises when she gets her first well-paid job at about 23, and again when she has children. It rises to a higher decile again in the last decade of her working life. Meg's consumption levels off in retirement, and she drops one decile in early retirement, and another decile in late retirement, as the consumption of others rises above hers.

Other life events can also drive life course mobility. For example, family formation and separation are important drivers of shifts in both income and wealth deciles. Among adults who moved down four or more wealth deciles over a four-year period (such as between 2010-11 and 2014-15), there is a 25 per cent chance that they formed a family and a 6 per cent chance that they separated during the period (table 5.3). However, while we can observe relationships between some life events and mobility, a complete understanding of what causes people to move up or down the distribution is impeded by incomplete data and differences between individuals and families. We also cannot see the long-term effects of life events on mobility, which may differ from the short-term effects.



Figure 5.7 Life events drive life course mobility

Median equivalised income, wealth and consumption deciles for people of a given $\mbox{age}^{{\bf a}}$

a 'Median deciles' are the medians across all available years of the median decile for a given age. Due to this method, in some years the median lies *between* two deciles (for example, 6.5). Available years are 2000-01 to 2015-16 for income, 2006-07 to 2016-17 for consumption, and 2002-03, 2006-07, 2010-11 and 2014-15 for wealth. Private consumption here excludes expenditure on consumer durables such as vehicles.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).
Table 5.3	Major life events are associated with greater life course mobility
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Percentage of people moving deciles that experienced a given life event^a

Deciles moved	Down 4 or more	Down 3 or less	No change	Up 3 or less	Up 4 or more
Family formation/ separation and <i>wealth</i> decile changes ^b					
Coupled	25	7	4	8	18
Decoupled	6	6	3	5	7
No change in couple status	70	87	93	87	75
Family formation/ separation and <i>income</i> decile changes ^c					
Coupled	3	2	1	3	7
Decoupled	3	2	1	2	3
No change in couple status	95	95	97	95	90
Retirement and <i>income</i> decile changes ^c					
Just retired	7	3	2	2	2
Not just retired	93	97	98	98	98

^a That a person experienced a given life event and moved deciles does not imply that that life event alone *caused* the move. Life events other than retirement and family formation/separation would also be associated with greater life course mobility. Totals can add to more or less than 100 per cent due to rounding.
 ^b Over 4-year period.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

How does Australia's life course income mobility compare?

Australia has a high level of life course *income* mobility compared with that in other developed countries, although the level depends on the measure used.⁴⁷ The OECD (2018, p. 71) estimated the share of the working-age population that moved to a higher or lower *quintile* by the end of a four-year span (figure 5.8). By this measure, Australia ranks tenth-highest out of 31 OECD countries for life course mobility. Chile ranked highest and Japan lowest.

An alternative approach to measuring life course mobility is to compare Gini coefficients for annual income with Gini coefficients for income averaged over multiple years. If everyone had the same income every year, the Gini for annual income would be the same as the Gini for multi-year income. But income mobility allows some of this inequality to be smoothed out over time — the incomes of some high-income people will fall, and the incomes of some low-income people will rise. More of this kind of (life course) mobility

⁴⁷ Cross-country comparisons of life course mobility in wealth and consumption are much less common.

leads to a larger difference between the annual income Gini and the multi-year income Gini and brings us closer to a measure of inequality of lifetime incomes.



^a Working age is defined as aged 18–65. Income is equivalised household disposable income (equivalised using square root scale).

Source: Productivity Commission estimates based on OECD (2018, p. 71).

Australia's Gini coefficient for income is 18 per cent lower (0.25 instead of 0.30) when calculated using average income over the last 16 years, instead of annual income. Similarly, Australia's Gini coefficient for *consumption* is 12 per cent lower (0.22 instead of 0.25) when calculated using average consumption over the last 10 years, instead of annual consumption.⁴⁸ The same pattern holds across OECD countries: using 9-year incomes instead of annual incomes lowers the Gini coefficient by 9–19 per cent across eight OECD countries (figure 5.9). By this measure, Australia had the fourth-most life course mobility among these eight countries.

Absolute mobility versus relative mobility

Mobility has so far been discussed in *relative* terms. By definition, income and wealth deciles always include 10 per cent of the population, so a movement up a decile by one person must be matched by a movement down a decile by someone else.

⁴⁸ Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

While this approach is useful in providing context around measures of inequality, it obscures changes in individuals' *levels* of income, consumption or wealth. Changes in a relative position do not imply absolute changes — someone may move down a decile even though their income increases, if the incomes of others increase faster (chapter 1).



^a Nine-year Gini coefficients are calculated from income averaged over nine years. The United Kingdom (2010–2015) and Canada (2005–2010) are for 6 years. France is for 8 years (2007–2014). Switzerland, Germany, Australia and South Korea (all 2005–2013) and the United States (2004–2012) are for 9 years. For working-age population (aged 18–65). Income is person-level equivalised household disposable income (equivalised using square root scale).

Source: Productivity Commission estimates based on OECD (2018, p. 67).

Relative measures of life course mobility hide the substantial improvements in many people's material wellbeing over recent years. As shown in earlier chapters, income, consumption and wealth have been rising across most of the distribution over recent decades. Looking at individuals in HILDA over time, we observe that in real terms:

- about 7 out of 10 people had a higher disposable household income in 2015-16 than in 2000-01
- about 6 out of 10 people had greater private consumption (not including in-kind transfers) in 2016-17 than in 2006-07⁴⁹
- about 7 out of 10 people had greater household wealth in 2014-15 than in 2002-03.

⁴⁹ This also does not include consumption expenditure on consumer durables such as vehicles.

When groups are defined at constant levels of income or wealth — instead of being defined in terms of deciles so that each always contains 10 per cent of the population — most people move into higher income and wealth groups over time (figure 5.10). In 2000-01, one third of people had income less than \$30 000, 39 per cent had between \$30 000 and \$50 000, and 28 per cent had more than \$50 000 (all in 2016-17 dollars). By 2015-16, 46 per cent of people were in this top income group, while the lower two groups had shrunk to 23 per cent (less than \$30 000) and 32 per cent (\$30 000 to \$50 000) of the population.

Figure 5.10 Most people's incomes have increased

More than \$50,000 More than \$50,000 \$30,000 to \$50.000 \$30,000 to \$50,000 Less than \$30,000 Less than \$30,000 I 1 2000-01 2015-16

Income mobility with groups defined using constant (2016-17) dollar ranges^a

^a Equivalised disposable income.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

6 Economic disadvantage

Key points

- Disadvantage is about 'impoverished lives', not just 'depleted wallets'. It encompasses poverty (low economic resources), material deprivation (an inability to afford the 'basic essentials of life'), and social exclusion (an inability to fully participate in the ordinary activities of a community).
- Nine per cent of Australians (2.2 million people) lived below the relative income poverty line (half of median disposable income) in 2015-16.
 - The relative income poverty rate in Australia has fluctuated, but is currently close to its average level over the past three decades.
 - Changes in relative income poverty are often driven by changes in median income. This form
 of poverty increased during the mining boom when median income grew strongly.
 - Using a different poverty line anchored to the 1988-89 median income in real terms, the rate of poverty fell from 9 per cent in 1988-89 to 3 per cent (700 000 people) in 2015-16.
 - The demographics of poverty reveal that jobless households, particularly those with children, experience the highest poverty rates. Age-wise, children and older people (65+ years) have been the most likely to experience both income and consumption poverty.
- The length of time people spend in poverty is as important as the rate of poverty.
 - About half of Australians experienced income poverty at some point between 2001 and 2016.
 Most of these experiences (79 per cent) lasted less than three years.
 - However, a small proportion of people get 'stuck' in poverty for extended periods. Six per cent of poverty spells lasted six years or longer.
- Many people who exit poverty re-enter at a later date. Of those who were in income poverty in 2001, 30 per cent had returned to (or were still in) income poverty in 2016.
 - People in poverty often experience more fluctuations in their incomes than others. Between 2006 and 2016, people below the poverty line experienced more than twice as much income volatility, year on year, as people above the poverty line.
- Deprivation metrics provide a more accurate reflection of the balance between resources available and basic needs that have to be met.
 - Material deprivation affects a slightly higher proportion of Australians (a little under 12 per cent) than does income poverty. But the two often do not overlap; many people experience deprivation without being in poverty, and vice versa.
 - Children, lone parents, those with a disability, the unemployed and Indigenous Australians are most at risk of multiple deprivation.
- Social exclusion metrics are closely related to deprivation, but incorporate a focus on participation in the economic and social activities of a community. They help us to examine the relationship between poverty and the characteristics that make it difficult to participate economically.
 - The prevalence of marginal social exclusion was relatively steady between 2006 and 2015, but deep social exclusion showed a small and sustained rise after 2012.

6.1 How disadvantage relates to inequality

Disadvantage in Australia is most often conceptualised as synonymous with poverty (low economic resources, particularly incomes). But this is too restrictive, as disadvantage entails not only low economic resources and material possessions, but also low capabilities with which to obtain those economic resources in the future. Or, as Sen (2000, p. 3) observed, it is about 'impoverished lives, and not just depleted wallets'.

Poverty should not, therefore, be thought of as *equivalent* to economic disadvantage. Rather, poverty is only one of three elements of disadvantage (box 6.1). The other two are *deprivation*, being unable to afford to buy items or undertake activities that are widely regarded in society as things that everyone should have, and *social exclusion*, being unable to fully participate in the ordinary activities of a community.

There are several reasons why metrics of disadvantage add an important dimension to the story of inequality.

- Concerns about inequality may be assuaged if the prevalence of poverty is decreasing, if poverty spells are mostly temporary, or if opportunities exist for people to improve their economic positions. It is also possible that increasing inequality could be accompanied by increasing mobility or decreasing disadvantage (if, for example, all incomes were rising, but high incomes were growing faster than low incomes, as was the case during the mining boom).
- Greater inequality might also indicate that more people are at risk, or on the brink, of poverty. The concept of 'the precariat', meaning a large group of people in a precarious or vulnerable economic position, has garnered significant attention in the past decade (Standing 2016; Wright 2016).
- Finally, the presence of higher economic inequality might indicate a rationale for redistribution to alleviate disadvantage and, thereby, to minimise some of the associated personal and social costs.

Beyond the prevalence of disadvantage, it is also worth considering the costs of disadvantage, both to the people directly affected and to the community at large. Some of the costs cannot be measured or avoided, but conceptually it is useful to think about social costs (costs to the quality of life for the affected individual and others) and economic costs (such as forgone employment income). These issues are explored further in McLachlan, Gilfillan and Gordon (2013, p. 149).

Box 6.1 What does disadvantage entail besides poverty?

Poverty is only one element of disadvantage, as a household's needs and costs of living vary widely. A particular threshold level of income could be sufficient for some, but would still leave others with insufficient economic resources (McLachlan, Gilfillan and Gordon 2013, p. 36), because:

- they might have special expenditure needs (for example, as a result of sickness or disability),
- they might have high work-related expenses (such as childcare or transport costs), or
- they might face high costs of living (as often occurs in remote areas).

And, equally, for some people a low level of income may not represent significant disadvantage:

Low income ... does not automatically imply that disadvantage is present. It is possible, for example, that some people who have low incomes are simply moving between jobs and are not disadvantaged in any meaningful way. We then need to look at indicators other than income to decide who is actually disadvantaged. (Derby, in CEDA 2015, p. 13)

Conceptually, the three main elements that contribute to disadvantage — poverty, material deprivation, and social exclusion (see figure below) — are related, and often overlap, but it is also possible for someone to experience only one element at a time (McLachlan, Gilfillan and Gordon 2013, p. 53).



The prevalence and persistence of disadvantage are the focus of this chapter. We provide recent estimates on each of the three elements of disadvantage: poverty, material deprivation, and social exclusion.⁵⁰ Sections 6.2, 6.3 and 6.4 examine estimates and aspects of poverty

⁵⁰ This study does not analyse 'welfare dependence' (long-term reliance on government transfers as a major source of income: see, for example, Cobb-Clark et al. 2017). This subject is rapidly becoming one of major policy interest in analyses of disadvantage — in May 2018, the House of Representatives launched an Inquiry into Intergenerational Welfare Dependence (SCIWD 2018). In late 2017, the ABS and the Department of Social Services released the first version of the Australian Priority Investment Approach to Welfare Research Dataset (ABS, Cat. no. 4490.0.55.001), a longitudinal sample of income support

rates for income, consumption, and 'financial' poverty, and their persistence over time. Section 6.5 then examines updated estimates of the prevalence of material deprivation in Australia (and considers how deprivation overlaps with poverty) and section 6.6 does the same for measures of social exclusion.

6.2 The prevalence of poverty

Measuring poverty

The most common method of measuring poverty is using income, as it is straightforward to measure and income data are widely collected. The adequacy of a household's income is compared to some externally-defined threshold of 'need' (box 6.2). However, income is only one type of economic resource. People may also have access to assets or borrowings, so poverty metrics can offer more accurate insights by incorporating wealth or financial resilience information, or by adjusting for major expenses (such as housing costs) to better assess purchasing power.

This study includes five different measures of poverty, estimated using data from the ABS Household Expenditure Survey (HES), over the period from 1988-89 to 2015-16. They are:

- relative income poverty
- anchored income poverty (based on the 1988-89 relative poverty threshold)
- relative private consumption poverty
- relative final consumption poverty (though, as noted in chapter 3, our estimates of final consumption do not take into account indirect taxes) and
- 'financial' poverty a metric combining relative income poverty, relative consumption poverty, and a minimum level of liquid assets.

Relative income poverty rates are also estimated annually, using data from the Melbourne Institute Household Income and Labour Dynamics in Australia (HILDA) survey, for the period 2000-01 to 2015-16. The threshold for relative income and consumption poverty is set at 50 per cent of the median equivalised household disposable income, or 50 per cent of the median equivalised household consumption. And a person is defined as being in financial poverty if they simultaneously fulfil three conditions:

- they have less than 50 per cent of the median income
- they have less than 50 per cent of the median private consumption
- their total liquid assets (cash, bank deposits, and equity, plus superannuation if at least one person in the household is over the age of 65) are less than three months' worth of the equivalised income poverty line for their household size.

recipients currently spanning 14 years. This dataset's availability offers rich new possibilities for exploring this facet of disadvantage.

Box 6.2 Income poverty: relative, absolute or anchored?

Identifying who is living in poverty requires a threshold that separates the disadvantaged from the rest of the population (McLachlan, Gilfillan and Gordon 2013, p. 32). Indicators of income poverty use either relative, absolute, or anchored thresholds.

A relative poverty threshold is simple and self-adjusting, but is arbitrary

The relative income poverty approach considers that people are living in poverty if their income is below a certain percentage of median household income. For example, the main thresholds used by the OECD are 50 and 60 per cent of median equivalised household income. A relative income poverty threshold therefore reflects movements in the median standard of living.

This measure is simple to calculate, and self-adjusts to movements in incomes and to differences in cultural and temporal preferences (unlike an absolute threshold). It also takes into account the possibility that a low *relative* level of economic resources can bear on people's wellbeing (chapter 2).

However, the selection of a threshold is arbitrary and can produce counterintuitive results. Saunders, Wong and Bradbury (2016, p. 97) note that a fall in the United Kingdom's median income resulted in a lowering of the relative poverty line and a consequent decline in the proportion of people living in relative poverty — even though deprivation increased as living standards declined (Fahmy 2014). Conversely, an increase in all incomes could produce a rise in the relative poverty rate, as was observed in Australia during the mining boom.

An absolute threshold reflects 'essential needs', but is complex

Under an absolute income poverty approach, people are considered to be poor if their income is not sufficient to cover the costs of a basket of 'necessary' goods and services, which is updated as community norms evolve.

This approach focuses on the minimum resources required to live at an acceptable standard, rather than pegging those needs to the rest of the population. However, as incomes grow, so do community expectations as to what constitutes an acceptable standard of living (Phillips et al. 2013, p. 8). Furthermore, absolute poverty thresholds can be complex, as they depend on the changing prices of hundreds of goods and services and the selection of the basket is affected by cultural trends and norms (Boarini and d'Ercole 2006, p. 12).

Absolute poverty thresholds are rarely used in the Australian context. However, the concept of a minimum acceptable level of economic resources has been used in setting minimum wages (stretching back to the Harvester decision of 1907), and Saunders and Bedford (2017, p. 1) note that the 'budget standards' produced by the University of New South Wales' Social Policy Research Centre are used by governments in setting minimum wages and assessing the adequacy of income support payments.

An anchored threshold lies somewhere in the middle, conceptually

An anchored poverty threshold is one that is not based on a fixed basket of goods and services, but whose real value (and therefore purchasing power) is held constant over time. Often the starting value is the relative poverty threshold from a particular year, which is then adjusted only for inflation, rather than keeping pace with median incomes.

How has the prevalence of poverty changed?

Figure 6.1 shows all four measures of relative poverty in Australia. The major features of each poverty measure over the past 30 years are as follows.

- **Income poverty** was just over nine per cent in 2015-16, representing about 2.2 million people. Of the four poverty measures, it fluctuated the most over the period, but nevertheless remained within a relatively narrow band around an average of roughly 10 per cent.
 - There was a prolonged increase between 1993-94 and the late 2000s, peaking at close to 12 per cent in 2009-10, probably reflecting the period's strong growth in median incomes as a result of the mining boom, as well as the impacts of the Global Financial Crisis (GFC). The post-GFC period has seen income poverty fall by about one-quarter, and in doing so return to the same level it was in 1988-89.



^a Income and consumption are equivalised as described in chapter 2. For all indicators, estimates of disposable household income are based on total current weekly household income (including transfers), less income tax.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

• **Private consumption poverty** is estimated to be slightly higher than income poverty, at just under 10 per cent of the population, representing about 2.4 million people in 2015-16. Private consumption poverty, like relative income poverty, was at its lowest in 1993-94 — these results were partly due to low median income and private consumption

in the wake of the early 1990s recession. Private consumption poverty has risen in every survey interval since 1993-94.

- **Final consumption poverty** is much lower, at about 2.7 per cent of the population (650 000 people) in 2015-16. This measure has showed less movement than income or private consumption poverty, fluctuating by less than 1 per cent, with a longer-term average of about 2.5 per cent.
- **Financial poverty** is lower again, at about 2.4 per cent (580 000 people) in 2015-16. Prior to 2009-10, financial poverty had increased slightly; interestingly, the financial poverty rate has tracked the *final* consumption poverty rate closely over the last three HES surveys.⁵¹

How do the different relative poverty metrics compare?

The gap between income poverty and private consumption poverty fell between 2009-10 and 2015-16, a period during which incomes in the bottom decile grew at a faster rate than any other decile.

The difference between private and final consumption poverty was significant over the entire time period and has increased steadily over the past 25 years (in 2016, the gap was about seven percentage points, representing just under 1.7 million people). This suggests that in-kind transfers are relatively effective at alleviating consumption poverty by helping to lift many poor households — but not all — above the consumption poverty line.⁵²

The difference between the low rate of financial poverty and the roughly one-tenth of people living in income poverty may indicate that many of those with low incomes (such as age pensioners and other retirees) have access to borrowings or assets with which to fund their consumption.

As Wilkins (2017, p. 34) notes, one reason why income poverty estimates fluctuate more than consumption poverty estimates is because many income support recipients in Australia have incomes close to 50 per cent of the median income, so that relatively small changes to government transfers can bring about sizable movements in the poverty rate (see figure 6.4, below, for more detail).

⁵¹ Some or all of the above estimates are likely to slightly understate the true prevalence of poverty, because surveys often under-sample the most disadvantaged Australians. Section 6.4 provides more detail.

⁵² Note that households in final consumption poverty are not *necessarily* also in private consumption poverty. A household may have private consumption above the poverty line, but simultaneously consume no value (or very little value) via in-kind transfers. Regardless of the degree of overlap between the two cohorts, though, it stands to reason that for every household experiencing private consumption poverty but *not* final consumption poverty, something — such as in-kind transfers — is lifting that household above the final consumption poverty line.

Anchored poverty has fallen significantly as real incomes have grown

The anchored income poverty rate is calculated based on a threshold set at 50 per cent of the median equivalised household disposable income in 1988-89, with this threshold inflated according to the Consumer Price Index (figure 6.2).

Anchored income poverty fell substantially, from 9.1 per cent in 1988-89 to 2.9 per cent in 2015-16. This most recent estimate represents about 700 000 people who have an equivalised disposable household income of less than \$13 900 (the 1988-89 relative poverty line).

The sustained fall in anchored poverty sits in contrast to the relative poverty rates presented in figure 6.1. One of the major reasons why the relative income poverty rate has not fallen significantly below its long-term average of roughly 9 per cent is because median incomes have grown substantially in real terms over the period (chapter 3, figure 3.4).



^a Incomes are equivalised as described in chapter 2. Estimates of disposable household income are based on total current weekly household income (including transfers), less income tax.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

Poverty gap measures have been broadly steady

The poverty gap indicates the difference between a poverty threshold and someone's income or consumption. This indicator is often used to examine the 'depth' of poverty, with a larger gap representing deeper poverty. We have estimated the average (population-wide) poverty gaps from 1988-89 (or 1993-94) to 2015-16, in 2016-17 dollars and as a percentage of the relative poverty lines for income, private consumption and final consumption (figure 6.3).

While the relative income poverty gap has trended upwards over the past decade in real dollar values, the income and consumption poverty gaps as a percentage of the poverty line have remained relatively stable. Of note is the spike in the income poverty gap at the time of the early 1990s recession, after which the poverty gap took close to a decade to return to its pre-recession level. (The difference between this spike and the *decrease* in the prevalence of income poverty at the same time highlights the manner in which relative poverty rates can sometimes reflect movements in the median wage rather than in actual standards of living.) The absence of a similar spike in the income poverty gap at the time of the GFC suggests it had a far smaller impact on the depth of poverty than the 1990s recession.



^a Dollars are constant 2016-17 dollars.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

The persistent difference between the (percentage) poverty gaps for private and final consumption — about one-third the size of the final consumption poverty gap — suggests that a reasonable proportion of people in private consumption poverty utilise in-kind transfers such as Medicare, public schools or public housing, thereby reducing the depth of their consumption poverty (though, as noted above, there is not necessarily any overlap between the two cohorts).

Long survey intervals can hide sizable fluctuations in the poverty rate

One shortcoming of the poverty rate analysis presented so far is the length of time (four to six years) between surveys. There are significant year-on-year variations observable in our estimate of annual poverty rates according to HILDA data (figure 6.4), which are not apparent in the HES poverty rates shown above.



^a HILDA poverty rate is based on equivalised disposable income. ^b ACOSS poverty rates are calculated on an after-housing costs basis and using SIH data from 2003-04 to 2013-14 inclusive. Where ACOSS has calculated multiple poverty rates for one year to reflect changing definitions of income in the SIH, we have shown the estimate that uses the most recent definition of income. Identical result for 2003-04 is a coincidence.

Sources: ACOSS (2016, p. 17); Productivity Commission estimates based on Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

There are many other measures of poverty that utilise a range of different methodologies and datasets. For example, the Australian Council of Social Services (ACOSS) uses data from the ABS Survey of Income and Housing (SIH) to estimate 'after-housing' poverty rates (relative income poverty after accounting for housing costs), also presented in figure 6.4. The most recent update of the ACOSS poverty measure estimated that 13.3 per cent of people, or just under 3 million, were living in after-housing poverty in 2013-14 (ACOSS 2016, p. 11).

While the levels of the two poverty rate estimates have often been quite different (given that housing costs do not necessarily move in tandem with median incomes, and taking into account that the estimates use two different data sources), there are some consistent trends. Both estimates show an increase in relative income poverty in, or shortly after, 2006-07,

a year that saw significant restrictions introduced around eligibility for Parenting Payments (Brady and Cook 2015, pp. 2, 19; Summerfield et al. 2010, p. 74).⁵³ Recalling that many income support recipients have incomes quite close to the poverty line, these eligibility changes may have been a major driver of this spike in the poverty rates shown. This was followed by a significant *decrease* in both relative poverty rates, in part reflecting slowing growth in median incomes in the period after the GFC (chapter 3, figure 3.6).

6.3 The demographics of poverty

Not all demographic groups are equally likely to be in poverty. Rates of poverty are much higher among some household types and some age groups than others. This section discusses these differences as well as trends in rates of poverty over time for particular demographic groups.⁵⁴

Who was poor in 2015-16?

Poverty rates vary significantly between household types (figure 6.5). Not surprisingly, both income and private consumption poverty are highest for working-age households in which no person has paid work (with the major source of income for those households likely to be public transfers, such as Austudy, Newstart, Parenting Payments or the Disability Support Pension).

Jobless families (households with at least one child under the age of 15 and no paid work) experience the highest poverty rates, followed by jobless child-free households.⁵⁵ Private consumption poverty is lower than income poverty for both types of jobless households, suggesting that some jobless households may have access to credit (or financial assistance from family or friends) with which to lift their consumption.

⁵³ Some may attribute this to measurement error. While errors are possible, it is unlikely that the same error would occur across two different datasets (SIH and HILDA) with different time intervals.

⁵⁴ Results presented in this section should be treated with caution. General trends in income poverty rates for demographic groups are mostly consistent across data sources, as are the rankings of demographic groups by income poverty rate. But specific poverty rates for individual demographic groups sometimes differ considerably depending on whether the source dataset is HES or HILDA. The largest discrepancy is apparent in the poverty rate for people aged over 65 — in 2015-16, HES data indicate a poverty rate of 9 per cent, whereas HILDA data indicate a poverty rate of 22 per cent. These differences likely reflect a number of factors including sampling error, slight differences in median income translating to differences in poverty thresholds, and differences in the capture of income for low-income people (particularly retirees).

⁵⁵ Note that joblessness is a broader categorisation than unemployment, as it also includes people who are not in the labour force (for example, because of disability, illness or caring responsibilities) but are of working age.



Poverty rates by household type, 2015-16^a

Household type

^a The general ranking of poverty rates by household type is consistent with HILDA estimates, but specific poverty rates differ.

Source: Productivity Commission estimates using ABS (Microdata: Household Expenditure, Income and Housing, 2015-16, Cat. no. 6540.0, released 25/10/17).

Retirees also experience higher poverty levels than working households, but less than unemployed households, perhaps reflecting a combination of superannuation income and the higher rates of the Age Pension compared to the Newstart Allowance (DHS 2018a, pp. 13, 28). In contrast to unemployed working-age households, income poverty for retirees was *lower* than private consumption poverty, suggesting that some retirees are still saving, as discussed in chapter 4.

In general, income poverty levels reflect the household type composition of income deciles (chapter 3, figure 3.17), where jobless households and retirees are disproportionately represented in the bottom two income deciles.

Household poverty trends fluctuate significantly

While the rankings of poverty rates by household type have been relatively consistent, individual household types show far more variation over time (figure 6.6).



^a General trends are mostly consistent with HILDA estimates, but specific poverty rates differ. *Source*: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

The greatest variation is apparent in the poverty rates of jobless families. After a sharp initial decline in the early 1990s, income poverty grew rapidly among jobless families, almost tripling between 1993-94 and 2009-10. In 2015-16, the private consumption poverty rate for jobless families reached a new high, while the income poverty rate for jobless families was just below the peak reached in 2009-10. Poverty also increased a great deal among working-age people without paid work — particularly income poverty. This may reflect income support payments (which are indexed to the Consumer Price Index, and therefore do not increase in real terms) growing more slowly than median incomes.

The sharp drop in the rate of income poverty among retirees after 2009-10 is not reflected in their private consumption poverty rate. This suggests that small increases in the Age Pension during this timeframe may have pushed large numbers of retirees from just below the income poverty threshold to just above it, without substantially increasing their purchasing power.

Children and older people are the most likely to be in poverty

Income and consumption poverty exhibit a handful of patterns with regard to age groups (figures 6.7 and 6.8), which generally reflect the household types discussed above.



^a General trends across age groups are mostly consistent with HILDA estimates, but group rankings and specific poverty rates differ.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

Figure 6.8 **Consumption poverty rates by age group**^a 1993-94 to 2015-16



^a These estimates have not been compared to HILDA estimates because equivalent variables are unavailable in HILDA.

Source: Productivity Commission estimates using: ABS (*Microdata: Household Expenditure, Income and Housing, 2015-16*, Cat. no. 6540.0, released 25/10/17) and ABS HES Basic confidentialised unit record files for years 1988-89 through 2009-10 as available at 25/10/17.

For both measures, children under 15 years and people over 65 years have generally had the highest poverty rates, but for over 65s these rates have declined substantially in recent years.⁵⁶ Another movement that stands out is consumption poverty for people aged 15–24, which has more than doubled since 2003-04.

Estimates from HES indicate that children under the age of 15 exhibit the highest levels of both income poverty (11.5 per cent, or about 530 000 children) and consumption poverty (12.9 per cent, or a little under 600 000) in 2015-16. Child poverty is of particular concern because of the damage poverty may do to a child's development, their future productive capacity, and their life prospects more generally (Hampshire, in CEDA 2015, p. 51; Conti and Heckman 2012, pp. 363–364; Wilkins 2017, p. 35). For example, Najman et al. (2018, p. 10) recently concluded that childhood poverty acts as a statistically significant predictor of subsequent adversities, and that adverse events *themselves* predict subsequent poverty (underscoring the concept of a 'cycle of disadvantage').

6.4 How long does poverty last?

Why poverty duration matters

Concerns about entrenched disadvantage relate not only to concepts of equity and fairness, but also to the potential for social and political problems to arise from a lack of economic opportunities (Kelly 2000; Pare and Felson 2014; Weatherburn and Lind 1998). Disadvantage imposes economic and social costs — both directly and indirectly — on the people and families who experience it and on the broader community, including forgone employment income and economic activity, a lower quality of life, and a lower level of social cohesion (McLachlan, Gilfillan and Gordon 2013, p. 157). Persistent disadvantage heightens these costs to all parties.⁵⁷

From a policy perspective, therefore, the length of time that people spend in disadvantage is as important as the prevalence of disadvantage. One reason for this is that policies to alleviate persistent disadvantage can differ from those aimed at temporary disadvantage (Whiteford 2013, p. 58). For example, short-term loans may help those with temporarily low incomes, but are unlikely to alleviate (and may exacerbate) persistent poverty. Moreover, long-term disadvantage is of particular concern because it can have deleterious effects on human capital (including education, skills, work history and professional networks), reducing a person's ability to move out of disadvantage later.

⁵⁶ This holds true in both HES and HILDA data.

⁵⁷ The literature on disadvantage does not often quantify specific costs, due to conceptual difficulties distinguishing the causes and consequences of disadvantage, making it hard to construct a realistic counterfactual. Moreover, there are significant non-economic costs (relating to the quality, or enjoyment, of peoples' lives, rather than their material standards of living) arising out of disadvantage, which are difficult to measure with any accuracy. Rather, the literature has focused on proxy measures of the social and economic impacts of disadvantage, particularly those which may affect a person's chances of exiting disadvantage. See, for example, McLachlan, Gilfillan and Gordon (2013, pp. 147–184).

Longer periods of income poverty, at least, appear more difficult to exit

Due to the wider coverage and availability of income data (compared to consumption or wealth data), the majority of existing poverty duration analyses focus on income poverty.⁵⁸ Across a range of countries and time periods, persistent or heavily recurrent income poverty appears to significantly lower the likelihood that someone moves out of poverty in the future, compared to a single short episode of income poverty (McLachlan, Gilfillan and Gordon 2013, pp. 55, 66). (This phenomenon is broadly referred to as 'negative duration dependence'.)

In Australia, for example, Azpitarte (2012) estimated (based on HILDA data) that, for people who had experienced income poverty for only one or two years out of the previous nine years, the probability of exiting poverty in the following year (62 per cent) was about three times higher than that of someone who had experienced poverty for six or more years in the same interval (23 per cent). Older analyses, such as Buddelmeyer and Verick (2007), have drawn similar conclusions.

Azpitarte and Bodsworth (in CEDA 2015, p. 41) also found that the HILDA survey cohort experienced significant poverty recurrence. From 2000-01 to 2011-12, roughly 27 per cent of those who had exited from income poverty became poor again between one and two years after their initial exit.

However, a substantial proportion of those who exited poverty also remained out for a relatively long time — more than 35 per cent of those who exited did not become income-poor again within the first 11 years of the HILDA survey. Moreover, the probability of returning to poverty declined as the time spent out of poverty increased, in something of a complementary phenomenon to negative duration dependence. From 2000-01 to 2011-12, less than 10 per cent of respondents who had been out of poverty for more than four years returned to living below the poverty line.

In this section we estimate income poverty durations, rates of exit, and rates of recurrence across the life of the HILDA survey thus far (2000-01 to 2015-16).

Most, but not all, poverty spells are short

Income poverty is a common experience, with about half of Australians spending at least one year in income poverty between 2001 and 2016. Short-term spells were most common, with about 61 per cent of people exiting income poverty after one year, and another 18 per cent exiting after two years (figure 6.9). For respondents who entered *and exited* poverty during the period (including those who experienced multiple instances of poverty), the average poverty spell duration was 1.8 years.

⁵⁸ As such, the patterns observed cannot necessarily be extrapolated to *all* facets of poverty without further longitudinal analysis taking place.



^a Proportions represent the number of unbroken poverty spells recorded in at least one — and up to 16 — consecutive HILDA surveys, relative to the *total* number of poverty spells recorded (n = 11 726 953). Because the HILDA survey takes place annually, the minimum recorded poverty spell is one year (hence, 100 per cent of poverty spells are shown as lasting *at least* one year).

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

However, there was significant poverty recurrence. Among people who spent at least one year in poverty at any point, the average *total* amount of time spent in poverty over the period was 4.2 years. This substantially exceeds both the *most common* poverty spell duration (of just one year) and the *average* poverty spell duration, suggesting that many people experience multiple short spells of poverty.

Other key estimates of poverty recurrence support this observation. It was found that:

• exiting poverty comes with a substantial risk of re-entry. Of all respondents who moved out of income poverty during the period, 56 per cent later fell back into poverty. This represented almost a quarter of all respondents who had spent at least one year in poverty during the period.

- Of those falling back into poverty, about half (47 per cent) did so after remaining out of poverty for only one year.
- A further 18 per cent spent two years out of poverty before re-entering, and the remaining 35 per cent spent *at least* three years (and potentially several more) out of poverty before their incomes fell below the poverty line again.
- The latter result suggests that, in terms of future earning potential, the detrimental effects of poverty may be long-lasting in many cases. However, life cycle effects should not be discounted in this analysis. Some of the HILDA survey cohort reached retirement age during the period, in which case a move into income poverty is not entirely unexpected if someone's major source of income is the Age Pension (which is set at about 27 per cent of Male Total Average Weekly Earnings). Furthermore, as McLachlan, Gilfillan and Gordon (2013, p. 65) observe, a person's level of income is unlikely to change significantly over time once they have left the workforce (absent major changes to the Age Pension); consequently, income poverty in the post-retirement phase could be expected to persist for longer periods than income poverty during working age.
- recurrent poverty spells are relatively close together. For respondents who exited and re-entered income poverty, the average amount of time between poverty spells was 2.6 years.
 - Taking into account Wilkins's (2017, p. 34) observation regarding the impact of small welfare changes on poverty rates, as well as the generally fluctuating nature of relative poverty thresholds, this may suggest that many people spend several consecutive years *close* to the poverty threshold 'oscillating on the margins of poverty' (Saunders and Bradbury 2006, p. 361) before increasing their income in the longer term.

How many people were in long-term poverty?

Long-term — or frequently recurrent — income poverty affects a small but significant proportion of the population.

- Fifteen per cent of people spent *any* five or more years (consecutive or non-consecutive) in income poverty over the period, while a little under 9 per cent experienced at least one period of 5 or more *consecutive* years in poverty.
- Of the respondents who were in income poverty in 2001 (that is, those who started the HILDA survey already in poverty), 30 per cent were still in income poverty, or had returned to income poverty, in 2016. This is not dissimilar to the proportion of people who were in the lowest income decile in both 2001 and 2016 (chapter 5).

In terms of the dynamics of poverty persistence, survival analysis indicates that the likelihood of experiencing long-term or recurrent poverty (defined as being in poverty at both ends of a five-year period), given that a household was already in poverty, fluctuated slightly over the period — between 44 and 47 per cent — but does not show a clear upward

or downward trend (figure 6.10). There is, therefore, no clear indication that poverty recurrence — or the ease, or difficulty, of permanently exiting poverty — has either improved or worsened over the past 15 years.



(Note that these estimates of long-term poverty, in particular, should be treated with caution, due to the likelihood of the HILDA survey under-sampling the most disadvantaged Australians: box 6.3.)

How does income volatility compare?

Many people in poverty experience greater fluctuations in their incomes than those living above the poverty line. This can contribute to frequent poverty recurrence and make it difficult to plan their finances effectively for the future. Between 2006 and 2016, people below the poverty line experienced more than twice as much income volatility, year-on-year, as people above the poverty line (figure 6.11).

Box 6.3 A caveat about using HILDA to examine poverty persistence

While longitudinal surveys are essential for analysing poverty duration, they are also limited in their coverage of the most disadvantaged people in the community, for a number of reasons.

- People most likely to be experiencing disadvantage can also be difficult to contact, and so are more likely to be excluded from surveys. For example, the HILDA survey excludes homeless people and people living in very remote areas (McLachlan, Gilfillan and Gordon 2013, p. 192).
- The most disadvantaged people are less likely, or able, to respond if contacted in regards to surveys (McLachlan, Gilfillan and Gordon 2013, p. 192).
- Disadvantaged people are more likely to drop out from survey samples over time (Watson and Wooden 2004, p. 300). Efforts to replace these participants, in order to ensure the survey remains representative, may run into either, or both, of the two problems described above.

There are three main options for dealing with these difficulties.

- One is to undertake special-purpose surveys targeted at those with a higher risk of becoming disadvantaged, such as Journeys Home (which surveyed homeless people and those at risk of becoming homeless) and the Longitudinal Survey of Indigenous Children.
- Another option is to over-sample disadvantaged groups in the main longitudinal surveys, such as HILDA and the Longitudinal Study of Australian Children, which may allow a more granular examination of factors contributing to disadvantage as well as helping to compensate for attrition rates (McLachlan, Gilfillan and Gordon 2013, p. 193).
- Administrative records are also a potential source of large and granular datasets, but come with a range of privacy concerns and a corresponding web of privacy legislation (PC 2017, p. 138).

Recently, Hérault (2017), with Azpitarte and Johnson, analysed the effect of this under-sampling (of disadvantaged people) in measuring mobility out of poverty. They found that HILDA poverty exit rates were substantially higher than those measured in Journeys Home (by at least 28 per cent: pp. 10–12), and that, when decomposed, this difference could not be fully explained by observable characteristics (pp. 22–26). This research suggests that mobility out of poverty may have been overestimated for the most disadvantaged Australians.

However, for the volatility of private consumption, the measures were much more similar. This seemingly reflects the general tendency for people to smooth their consumption over longer periods of time.⁵⁹

Who 'gets stuck' in poverty?

This study does not undertake detailed analysis of the characteristics of Australians most likely to experience persistent poverty (or, indeed, other facets of disadvantage). However, previous work has concluded that some of the groups displaying the highest rates of

⁵⁹ Note, though, that the bottom income decile — which, given a long-term average poverty rate of about 10 per cent, includes the vast majority of people in poverty — typically contains a large number of self-employed people reporting negative labour incomes (chapter 3), particularly in the lowest 3–4 per cent of the distribution (Saunders and Bradbury 2006, p. 346). Even when negative incomes are set to zero, this drives down the average income for the bottom decile. The average income therefore tends to be small relative to the average change in income, and may magnify the volatility of incomes below the poverty line.

persistent disadvantage include lone parents, Indigenous Australians, people with low educational attainment, and people with disabilities or other long-term health conditions. For more detail, see chapter 4 and appendix A of McLachlan, Gilfillan and Gordon (2013).



Volatility of income and private consumption, 2005-06 to 2015-16



^a Volatility is measured as the standard deviation of the 2-year arc percentage change in income (see Hardy 2017 for more detail). Only survey respondents of working age (25–59 years) were included in the calculation of volatility. Negative incomes were set to zero. ^b Consumption does not include expenditure on consumer durables, such as vehicles or home appliances.

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

6.5 Material deprivation

Material deprivation exists 'when people do not have and cannot afford to buy items or undertake activities that are widely regarded in society as things that everyone should have' (Saunders and Wilkins, in Wilkins (ed.) 2016, p. 83). Deprivation metrics aim to provide a more accurate reflection (compared to poverty alone) of the balance between the resources available to a household and the basic needs that have to be met. Our analysis uses data from deprivation surveys conducted by Saunders (with Naidoo, Wong and Bradbury) and the Social Policy Research Centre in 2006 and 2010. These surveys (carried out by post) use a two-stage approach.

- The first stage involves a set of questions around the goods, services and activities respondents consider essential, and identifies 25 items regarded as essential by a majority of the population.
- The second stage examines whether respondents possess those items (or have access to the services and activities) and, if not, whether this is because respondents *cannot afford them*, or simply chose not to have them (Saunders and Wilkins, in Wilkins (ed.) 2016, p. 84).

Saunders's survey methodology has also been incorporated into a new material deprivation module of the HILDA survey. From 2014, every fourth survey will include a suite of material deprivation questions. This means that in the future, it will be possible to conduct longitudinal analysis of deprivation. At this point, however, only cross-sectional analysis is possible.

Due to methodological variations between Saunders's surveys and HILDA, the aggregate deprivation scores from the two earlier surveys are not comparable to the 2014 results. In particular, the use of postal surveys for Saunders's 2006 and 2010 studies resulted in much lower response rates than the HILDA face-to-face interviews (Saunders and Wong 2012, p. 23; Watson 2006, p. 15). There is, therefore, a risk that postal survey respondents may have self-selected based upon specific characteristics. For example, people may have been more likely to answer if they felt that they personally experienced material deprivation, which could bias the earlier results upwards.

The prevalence of material deprivation

Saunders and Wilkins' (in Wilkins (ed.) 2016) analysis of the first HILDA material deprivation module examined 22 goods, services and activities that were regarded as 'the essentials of life' by a majority of respondents. All but one of these items were also considered essential by a majority of respondents to the 2006 and 2010 postal surveys (a motor vehicle being the exception). These items, their deprivation rates (the percentage of respondents who did not have and could not afford them), and overall deprivation scores (the average number of essential items of which people are deprived) are listed in table 6.1.

Of the seven essential items with the highest deprivation rates, it is notable that five (at least \$500 in savings for an emergency, home contents insurance, comprehensive motor vehicle insurance, dental treatment when needed, and a yearly dental check-up for each child) relate in some way to risk management. For example:

• a lack of insurance means that in the event of damage or theft, people are forced to pay the entire replacement costs of their possessions

- a lack of regular dental treatment can lead to much more serious, and costly, dental issues later on
- a lack of savings may result in people turning to payday lenders, or other high-interest credit, in the event of an emergency.

That is, deprivation of these items — due to insufficient economic resources — can itself render a person's economic situation even worse.

	2006	2010	2014	
Survey method	Postal	Postal	In-person interview (HILDA)	
Mean deprivation score (population-wide)	1.43	1.30	0.47	
Essential item	% who did not have it and could not afford it			
At least \$500 in savings for an emergency	19.6	17.8	12.2	
Home contents insurance	11.1	9.5	8.3	
New school clothes for school-age children every year ${}^{m c}$	4.0	3.4	6.8	
Dental treatment when needed	14.5	13.1	5.2	
Comprehensive motor vehicle insurance ^a	9.8	9.1	4.6	
A hobby or a regular leisure activity for children b	5.7	5.2	3.7	
A yearly dental check-up for each child b	9.8	8.0	3.3	
Getting together with friends or relatives for a drink or meal at least once a month	4.7	4.9	2.5	
A roof and gutters that do not leak	4.8	5.1	2.3	
Children being able to participate in school trips and school events that cost money c	3.7	3.0	2.1	
A motor vehicle			1.9	
Medical treatment when needed	2.1	1.7	1.1	
A separate bed for each child ^b	1.7	2.1	0.8	
A home with doors and windows that are secure	5.0	4.4	0.7	
When it is cold, able to keep at least one room of the house adequately warm	2.1	2.5	0.6	
Medicines when prescribed by a doctor	4.5	3.5	0.5	
Furniture in reasonable condition	2.8	2.2	0.4	
A washing machine	1.1	1.0	0.3	
A decent and secure home	7.1	6.7	0.3	
A substantial meal at least once a day	1.2	0.9	*0.1	
Warm clothes and bedding, if it is cold	0.3	0.4	*0.1	
A telephone (landline or mobile)	1.9	3.8	*0.1	

Table 6.1 Rates of item-specific material deprivation

^a Households that have a motor vehicle. ^b Households with children aged under 15. ^c Households with children aged under 15 and attending school. .. Not available. * Estimate not statistically reliable.

Sources: Saunders and Wilkins (2016, p. 85); Saunders and Wong (2012, p. 46).

Who suffers from multiple material deprivation?

While it could be argued that the inability to afford *any* one of the identified 'essentials of life' indicates material deprivation, it is common for deprivation studies to set a higher threshold (or multiple thresholds for different levels of severity) in order to estimate the incidence of deprivation. Saunders and Wilkins (2016, p. 86) use two-item deprivation as their minimum threshold, to allow for response errors and other factors that might otherwise cause deprivation to be exaggerated.

In addition to examining the overall proportions of people experiencing multiple deprivation, Saunders and Wilkins (2016, p. 87) present the deprivation rates of various specific groups (figure 6.12).

Some of their major observations include the following.

- Age-wise, the highest rates of multiple deprivation are found in children under the age of 15 years; the lowest are found in respondents 65 and over.
 - This low level of material deprivation in older Australians is in direct contrast to their higher relative poverty rates (compared to the population overall), but potentially reflects their tendency to have a higher level of wealth compared to the general population (chapter 4, figure 4.12).
 - Note, however, that there are more deprivation items that apply to households with children (table 6.1). This may contribute to the higher deprivation rates of children (Saunders and Wilkins 2016, p. 86).
- Lone parents experience about three times the deprivation of partnered parents.
- There is a clear ordering of deprivation rates according to both labour force status and income quintile. The multiple deprivation rate for jobless households was almost four times that of households in which at least one person is employed full-time. Households in the bottom income quintile averaged a multiple deprivation rate of 26.3 per cent 3.5 times that of the middle quintile and 17.5 times that of the top quintile.
- People whose main sources of income are public transfers experience about three times as much deprivation as wage-earners.
- Indigenous Australians have very high rates of multiple deprivation, while immigrants from English-speaking backgrounds have low rates.
- Finally, there appears to be a strong relationship between work-restricting disabilities and deprivation: a quarter of people with a severely work-restricting disability experience multiple deprivation, compared to 10 per cent of people with a non-work-restricting disability and 9 per cent of people without a disability.



Per cent of people deprived of at least two essential items, 2014



Relatedly, Redmond and Skattebol (2017, pp. 9–14) have found that *youth* material deprivation in Australia (specifically regarding food and clothing) was also more concentrated among young people with disabilities and Indigenous young people, as well as young people who cared for a family member with illness or disability. The authors also

concluded that youth deprivation was associated with exclusion from participation in normal activities and low levels of engagement in education, which suggests a dynamic relationship between material deprivation and social exclusion.

Does income poverty drive deprivation?

As noted in box 6.1, a given level of income alone does not guarantee that a person can — or cannot — afford to meet their basic needs. Some people with low incomes have savings to draw upon; others have assets (such as a fully paid-off dwelling) that reduce particular expenditure needs and therefore free up income to be spent on other essentials. And conversely, some people have incomes above the poverty line, but nevertheless cannot afford all of the essentials due to high costs of living or special expenditure needs. Productivity Commission analysis of the 2014 HILDA deprivation module indicates that, for a majority of people experiencing income poverty or multiple material deprivation, there is little overlap (figure 6.13).

Figure 6.13 The overlap between material deprivation and income poverty is small (2014)^{a,b}



^a Percentages shown are proportions of the entire population. ^b 'Income poverty' refers to relative income poverty (less than 50 per cent of the median equivalised disposable household income).

Source: Productivity Commission estimates using Melbourne Institute (Household, Income and Labour Dynamics in Australia (HILDA) Survey, Release 16).

Roughly 680 000 people (2.9 per cent of the population) are simultaneously in poverty and deprived of two or more essential items; this represents about 29 per cent of all people in income poverty, and 25 per cent of all people experiencing multiple deprivation. And about 440 000 people, or 1.9 per cent of the population, experience both poverty and deprivation of 3 or more essential items (comprising 19 per cent of those in poverty, and 28 per cent of those in 3-item deprivation).

Are all deprivations equally bad?

One major limitation of this approach to measuring deprivation is its failure to take into account the seriousness of different forms of deprivation (because all the essential goods, services and activities hold equal weights as far as deprivation scores are concerned). For example, it is questionable whether children going without new school clothes has as serious an effect on quality of life as not being able to afford prescription medication when it is needed (McLachlan, Gilfillan and Gordon 2013, p. 38). An alternative to this approach is to place greater weight on deprivation of those items that were considered essential by larger proportions of the population (see, for example, Saunders 2011, pp. 133–7).

6.6 Social exclusion

The concept of social exclusion originally arose as a metric of deprivation (Scutella, Wilkins and Horn 2009, p. 7), but extends to a wider range of life domains, with a focus on *participation* in the economic and social activities of a community. In this way, it recognises the multi-dimensional nature of disadvantage — acknowledging that a lack of economic resources, inadequate access to services, and low levels of human capital all make it difficult for people to participate in society (The Smith Family 2003), and that these effects may be intergenerational. It also has some clear parallels with Sen's capability model (chapter 2):

Poverty is just one part of this picture. Language and cultural barriers, locational disadvantage or discrimination because of a disability can also play a part. Social exclusion is often the outcome of people or communities suffering from a range of problems such as unemployment, low incomes, poor housing, crime, poor health, disability and family breakdown. In combination, these problems can result in cycles of disadvantage, spanning generations and geographical regions. (QCOSS 2009, p. 1)

There is no generally accepted definition of social exclusion, but the concept is widely used among OECD countries. McLachlan, Gilfillan and Gordon (2013, p. 50) note that it frequently includes aspects of:

- a lack of agency exclusion lies beyond the narrow responsibility of the individual, and generally the individual would like to participate rather than being excluded
- dynamic effects the individual is excluded not only because of their current situation, but also because they have little prospect for the future (that is, their resources and capabilities are likely to remain low for the foreseeable future)

• relativity — social exclusion is relative to the norms and expectations of society at a given point in time (Atkinson and Hills 1998, p. 10).

In Australia, there are two long-running measures of social exclusion: NATSEM's Child Social Exclusion Index (Phillips et al. 2013, p. 29) and the Brotherhood of St Laurence and Melbourne Institute's Social Exclusion Monitor (SEM) (Horn, Scutella and Wilkins 2011). Due to its community-wide coverage, this analysis focuses on the SEM.

Developed in 2009, the SEM is based on seven life domains — material resources, employment, education and skills, health and disability, social, community, and personal safety — with 29 indicators spread across these domains (box 6.4). It uses a cumulative scoring system, where the greater the number of indicators or higher the score, the greater is the depth of an individual's social exclusion (Horn, Scutella and Wilkins 2011, p. 2). The SEM is based on HILDA survey data; as such, it lends itself to longitudinal analysis, and is able to be updated annually.

Box 6.4 Components of the Social Exclusion Monitor (SEM)

The SEM involves seven life domains, which are measured with varying numbers of indicators (ranging from two to five per domain, for a total of 29 indicators). Twenty-one of these indicators are measured in all waves of the HILDA survey, while others are available less frequently (as rarely as every fourth year). The domains are as follows.

- 1. *Material resources*: low income (less than 60 per cent of median household income)*; low net worth (less than 60 per cent of median household net worth); low consumption (less than 60 per cent of median household consumption); and financial hardship (three or more indicators of financial stress).
- 2. *Employment:* in a jobless household*; long-term unemployed*; unemployed*; underemployed*; and marginally attached to the workforce*.
- 3. *Education and skills*: low formal education*; low literacy; low numeracy; poor English; and little work experience*.
- 4. *Health and disability*: poor general health*; poor physical health*; poor mental health*; long-term health condition or disability*; and household has a child with a disability*.
- 5. Social connection: little social support*; and infrequent social activity*.
- 6. *Community*: low neighbourhood quality; disconnection from community*; low satisfaction with the neighbourhood*; low membership of clubs and associations*; and low volunteer activity*.
- 7. Personal safety: victim of violence and/or victim of property crime; and feeling of being unsafe*.

Indicators are generally (though not always) scored as fractions, so that each domain can garner a maximum score of 1.0 (with a maximum overall score of 7.0). Threshold-wise, a score of 1.0 or more signifies *some* level of exclusion. If respondents receive a cumulative score between 1.0 and 2.0 they are regarded as marginally excluded, while a score of 2.0 or more signifies the presence of deep exclusion.

* Measured in all waves of the HILDA survey.

Sources: McLachlan et al. (2013, p. 75); Scutella, Wilkins and Kostenko (2013, pp. 282-3).

The prevalence of social exclusion

The Brotherhood of St Laurence and Melbourne Institute updated the SEM in late 2017, using data from the 2015 HILDA survey. Figure 6.14 shows the rates at which different demographic groups experience social exclusion (in both marginal and deep forms).



Source: Brotherhood of St Laurence and Melbourne Institute (2017).

Some of the groups most likely to experience social exclusion include: people aged 65 years and over; Indigenous Australians; people with long-term health conditions and/or disabilities; people who have attained less than a Year 12 education; people living in public

housing; and lone parents. Several of these groups, such as lone parents and Indigenous Australians, are also likely to suffer from higher levels of material deprivation (and, as discussed earlier, older people are also more likely to experience income and consumption poverty, but *not* material deprivation).

Overall, more women than men experience both deep and marginal social exclusion. This is likely linked to the high prevalence of social exclusion among lone parents — in 2015, women made up 84 per cent of lone parents with children under the age of 15 (ABS 2017b). Relatedly, a socially excluded parent generally translates (in terms of measurement) to socially excluded children — the rate of social exclusion among children under 15 years is also relatively high compared to working-age Australians.

Caution is needed when interpreting these results, as some of the characteristics discussed are also *components* of social exclusion, or strongly linked to components. This creates a risk that a particular characteristic could be interpreted as being related to higher levels of social exclusion, when it may actually be driving people's *classification* as excluded. For example, low income is generally a criterion of eligibility to obtain public housing; as such, public housing tenants are very likely to score highly in the material resources domain of exclusion.

Some of the characteristics shown may also be correlated with each other, and a failure to consider these correlations could lead to misinterpretations of the results. Outright homeowners, for instance, have higher rates of both deep and marginal social exclusion than do mortgagees. This seems counter-intuitive, at least with respect to the material resources domain, but outright homeowners are more likely to be older, and older people display far higher rates of social exclusion. It is likely to be *other* characteristics of many older people (such as low incomes and long-term health conditions) that drive this higher level of social exclusion, as opposed to their home ownership. Box 6.5 explores some other caveats regarding the interpretation of the SEM.

Overall, social exclusion rates have risen slightly

The Brotherhood of St Laurence and Melbourne Institute (2017) also estimate community-wide rates of marginal and deep social exclusion for the period 2006–2015 (figure 6.15). For 2015 (the most recent year analysed) they estimated a deep exclusion rate of 5.3 per cent and a marginal exclusion rate of 17 per cent.

The prevalence of deep social exclusion remained relatively steady over the decade, with a small sustained rise after 2012. The rate of marginal social exclusion fluctuated more, particularly around 2008,⁶⁰ but did not show a clear upward or downward trend.⁶¹

⁶⁰ Given that the relative poverty rate also fell noticeably at this time (figure 6.4), and the 'low income' indicator is simply a variant of the relative poverty threshold applied in section 6.2, this suggests that the low income indicator may be a major driver of social exclusion prevalence under the SEM formula.

⁶¹ However, as a multidimensional measure, a relatively flat trend in social exclusion overall can nevertheless involve significant movements in the individual component domains. For example, Martinez and Perales (2017, p. 491) found that the period between 2009 and 2013 saw increases in aggregate exclusion

Box 6.5 Care must be taken when interpreting the results of the SEM

While the breadth of the SEM's many domains helps to capture the complexity of social exclusion as a concept, it also poses some analytical difficulties. It is important, therefore, to keep in mind that — as for any multidimensional indicator — the selection of the SEM components requires some subjective judgment calls, with potential consequences for analysis of the results.

Not all components directly reflect exclusion

Some of the components of the SEM — such as certain disabilities, or poor English — do not *necessarily* preclude participation in the normal activities of a community, but rather act more as proxies for other factors (such as discrimination) that are likely to engender exclusion.

Not all components have the same impact

As with material deprivation, all SEM components are weighted equally. But it is questionable whether — for example — a lack of volunteer activity has as much of a harmful impact on someone's social and economic participation as a low level of education or skills.

Not all components are independent of each other

Some components are likely to be closely related — and in some cases, they may cluster and become mutually reinforcing. For example, if someone has low literacy and/or low numeracy (and scores on these components of the education and skills domain accordingly), it is logically more likely that they also have attained an education of Year 11 or less. This is not because people with low formal education necessarily struggle with literacy and numeracy — rather, it is the opposite, in that low literacy and/or numeracy can make it more difficult to attain formal educational qualifications. Similarly, a disability or long-term health condition is likely to be closely related to several other components within the health and disability domain.

This could mean that, when a person scores on one component, they are likely to score on others in the same domain — but these multiple scores effectively reflect the same type of hardship. If the aim of the SEM is to indicate when people are experiencing *multiple* forms of hardship at once, this could run counter to that aim.

There is no 'offsetting' of components

The SEM does not include a mechanism for positive characteristics (representing *inclusion*) to offset the components of exclusion. Consequently, if a person displays a handful of the more common SEM components — such as less than 60 per cent of median net worth, low membership of clubs and associations, or low volunteer activity — they could be classified as socially excluded even if they are educated, employed, and have a strong social support network.

Despite these caveats, the SEM is a valuable data source

Importantly, none of this goes to say that the SEM is an invalid metric, or that social exclusion is not likely to be a fairly widespread phenomenon. Nor does it nullify estimates of the persistence of social exclusion. It is simply a characteristic of multidimensional indicators that their complexity is both a strength and a shortcoming, and that care must be taken when drawing conclusions from the results.

Source: McLachlan, Gilfillan and Gordon (2013, pp. 50, 80-81, 189).

scores for the health, material resources, employment and social support domains, while aggregate scores decreased for the education and community participation domains. Relatedly, Azpitarte and Bowman (2015, pp. 8–9) have previously found significant variation in the extent to which the individual component domains contribute to the depth and prevalence of social exclusion experienced by different age groups.



Figure 6.15 **Marginal exclusion has fluctuated more than deep exclusion** Total rate of social exclusion, 2006–2015 (per cent)

Source: Brotherhood of St Laurence and Melbourne Institute (2017).

Social exclusion is mostly short-lived

The 2017 SEM update presents estimates of the survival function for marginal and deep social exclusion (figure 6.16). This figure indicates that, while almost half of all Australians experienced some level of social exclusion between 2006 and 2015 (and well over 10 per cent experienced deep exclusion), social exclusion — particularly deep exclusion — is usually transitory.

Almost half of all the Australians who experienced deep social exclusion only did so for a single year over the decade shown, and less than one per cent of Australians experienced deep social exclusion for more than six years out of ten. (However, as noted in box 6.3, many people who are likely to be socially excluded will show a higher attrition rate than the total HILDA sample, so it is improbable that all socially excluded respondents will remain in the sample in the long term.)

Marginal social exclusion was more persistent than deep social exclusion. Slightly less than one-third of the people who experienced marginal social exclusion did so for only a single year, and about 4 per cent of Australians were marginally excluded for more than six years out of the decade shown (figure 6.16).


Figure 6.16 Social exclusion is mostly transitory, particularly deep exclusion

However, as noted in box 6.5, the subjective judgments involved in the selection of SEM components can affect measurement. This is also the case for the *duration* of exclusion, as certain components — for example, having a long-term health condition or disability, or having a child with a disability — are (by definition) likely to be long-lasting or permanent conditions. If these components could not realistically be 'removed' from someone's life, they would increase the likelihood of that person permanently scoring above the threshold for social exclusion, even if other aspects of their life (such as employment or social connections) improved significantly. The selection of components *could*, therefore, be a driver of some of the persistent exclusion observed in in figure 6.16.

This makes it difficult to compare the prevalence or persistence of social exclusion directly to those of poverty — especially given that the SEM itself includes a material resources domain, and therefore overlaps with poverty analyses to an extent. (It also makes it difficult to link changes in the prevalence of social exclusion to particular events.) However, given the breadth of indicators encompassed by the SEM — and the subjectivity of some indicators, such as 'low satisfaction with one's neighbourhood' or 'feeling of being unsafe' — it is certainly possible for poverty (income, final consumption, and financial) to be decreasing, as seen in figure 6.1, while social exclusion increases.

Source: Brotherhood of St Laurence and Melbourne Institute (2017).

Glossary

Assets	See wealth.
Capital income	See income.
Consumption	Private consumption : Household expenditure (money spent) on goods and services, including consumer durables (such as vehicles and household appliances) and imputed rent . In this study, consumption excludes income tax, mortgage repayments, other housing costs (such as repairs, council rates and renovations), superannuation and life insurance.
	• Imputed rent : An estimate of the housing amenity enjoyed by owner-occupiers, valued at market rental rates. In this study, imputed rent is calculated as 5 per cent of the estimated sale price of the residence.
	Final consumption : Private consumption plus in-kind transfers from governments.
	• In-kind transfers: The value of government services used by a household (including public education, healthcare, childcare, government housing and other welfare services). In this study, in-kind transfers are the same as social transfers in kind.
Decile	See quantile.
Deprivation	See disadvantage.
Disadvantage	In this study, disadvantage refers to economic disadvantage . Disadvantage is a multifaceted concept, encompassing three elements — poverty, material deprivation and social exclusion.
	Poverty: Having low economic resources.
	• Income poverty : Having low income, compared to some threshold of 'need'.
	 Absolute income poverty: Having income that is insufficient to cover the costs of a basket of 'necessary'

goods and services, which is updated as community norms evolve.

- Anchored income poverty: Having income that is below a particular threshold, the real value of which is held constant over time.
- Relative income poverty: Having income below a certain percentage of median household income. This study uses a relative income poverty threshold of 50 per cent of median income.
- **Consumption poverty**: Having a low level of consumption, compared to some threshold of 'need'.
- **Financial poverty**: Simultaneously having less than 50 per cent of the median income, less than 50 per cent of the median private consumption, and total liquid assets less than three months' worth of the equivalised income poverty line for a given household size.

Deprivation: Being unable to afford to buy items or undertake activities that are widely regarded in society as things that everyone should have. In this study, deprivation is the same as **material deprivation**.

Social exclusion: Being unable to fully participate in the ordinary economic and social activities of a community.

Disposable income See **income**.

Economic disadvantage See disadvantage.

Economic inequality See inequality.

Economic mobility See **mobility**.

Equivalisation Adjusting household-level variables for differences in the number and age of people in each household. This enables comparison of the economic resources available to different households, by accounting for the fact that larger households need more income to achieve the same standard of living as a smaller household, and households generally have some 'economies of scale' due to sharing living costs.

Expenditure See consumption.

Final consumption See **consumption**.

Financial wealth	See wealth.
Gini coefficient	A summary indicator of the overall distribution of income, wealth or consumption. It takes a value between 0 and 1. A value of 0 indicates perfect equality (all people have the same income) and a value of 1 indicates perfect inequality (one person has all the income). The smaller the value, the more equal the distribution.
Gross income	See income.
Household assets	See wealth.
Household income	See income.
Household liabilities	See wealth.
Imputed rent	See consumption.
In-kind transfers	See consumption.
Income	In this study, income refers to equivalised household income (total cash receipts that are received by a household or by individual members of the household, during a given period), adjusted for differences in the number and age of people in each household (see equivalisation).
	Gross income : Total income from labour, capital and government transfer payments, before tax.
	• Labour income: Wages, salaries and other employment-related income.
	• Capital income : Income received in respect of assets, such as business income, rental income, dividends, interest and royalties.
	• Transfer payments : Income received from direct government cash payments under the social security system, such as Newstart, Family Tax Benefit and the Age Pension.
	Disposable income: Gross income minus income tax paid.
Inequality	In this study, inequality refers to economic inequality , defined as differences in people's access to economic resources to support their wellbeing.

Intergenerational mobility	See mobility.
Intragenerational mobility	See mobility.
Labour income	See income.
Liabilities	See wealth.
Life course mobility	See mobility.
Liquid assets	See wealth.
Material deprivation	See disadvantage.
Mobility	In this study, mobility refers to economic mobility , defined as the extent to which people move across the income, wealth and consumption distributions. There are two types of mobility: intergenerational mobility and life course mobility.
	• Intergenerational mobility (between generations) refers to the relationship between a person's economic position and that of their parents.
	• Life course mobility (sometimes referred to as intragenerational mobility) refers to changes in an individual's economic position throughout their lives.
Net wealth	See wealth.
Net worth	See wealth.
Personal wealth	See wealth.
Private consumption	See consumption.
Quantile	Units of analysis formed by ranking all observations (for example, incomes of people or households) in a distribution from smallest to largest and then dividing these into a certain number of equal-sized groups.
	Decile : One of 10 groups formed by ranking all observations from smallest to largest and then dividing these into 10 equal-sized groups.

Percentile: One of **100** groups formed by ranking all observations from smallest to largest and then dividing these into 100 equal-sized groups.

Quintile: One of **five** groups formed by ranking all observations from smallest to largest and then dividing these into five equal-sized groups.

- Quintile See **quantile**.
- Social exclusion See **disadvantage**.
- Social transfers in kind See **consumption**.
- Transfer payments See **income**.

Wellbeing

Wealth Total household **assets** minus total household **liabilities**.

- **Household assets**: The value of entities owned by people in a household, from which economic benefits can be derived over time.
- **Household liabilities**: The value of loans outstanding, payable by people in a household.

Financial wealth: The value of accounts held with financial institutions (including offset accounts), shares, debentures and bonds, loans to non-household members, other financial investments, silent partnerships, public unit and private trusts, children's assets, and assets not elsewhere classified, less investment loans outstanding (excluding business and property loans).

Liquid assets: Cash, bank deposits, and equity, plus superannuation if at least one person in the household is aged over 65 years.

Net wealth: In this study, wealth is the same as net wealth.

Net worth: In this study, wealth is the same as net worth.

Personal wealth: The value of home contents less student and credit card debt, and loans for other purposes (such as holidays or consumer goods).

A person's ability to achieve ways of living that they value.

References

- ABS (Australian Bureau of Statistics) 2007, *Household Income and Income Distribution, Australia, 2005-06*, Cat. no. 6523.0, Canberra, http://www.ausstats.abs.gov.au/ausstats/ subscriber.nsf/0/447BC40F0713F454CA25732A00258F43/\$File/65230_2005-06.pdf (accessed 4 March 2018).
- 2013a, Household Economic Wellbeing: Low Economic Resource Households, Fact Sheet 3, Canberra, http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/ 6523.02011-12 (accessed 8 January 2018).
- 2013b, Household Economic Wellbeing: Understanding Measures of Income and Wealth, Fact Sheet 2, Canberra, http://www.abs.gov.au/AUSSTATS/abs@.nsf/ DetailsPage/6523.02011-12 (accessed 15 December 2017).
- 2017a, Household Expenditure Survey and Survey of Income and Housing, User Guide, Australia, 2015-16, Cat. no. 6503.0, Canberra, http://www.abs.gov.au/ausstats/ abs@.nsf/mf/6503.0 (accessed 14 June 2018).
- 2017b, Labour Force, Australia: Labour Force Status and Other Characteristics of Families, June 2017, Cat. no. 6224.0.55.001, Canberra.
- 2018a, ABS.Stat: B32 Tenure Type and Landlord Type by Dwelling Structure, Canberra, http://stat.data.abs.gov.au/Index.aspx?DataSetCode=ABS_CENSUS2011
 B32 (accessed 31 May 2018).
- 2018b, Australian National Accounts: National Income, Expenditure and Product, March Quarter 2018, Table 1 — Key National Accounts Aggregates, Cat no. 5206.0, Canberra.
- ACOSS (Australian Council of Social Services) 2016, *Poverty in Australia 2016*, Canberra, https://www.acoss.org.au/wp-content/uploads/2016/10/Poverty-in-Australia-2016.pdf (accessed 5 January 2018).
- 2015, Community perspectives on social inequality, https://www.acoss.org.au/wp-content/uploads/2015/06/Ipsos-ACOSS-Report_Final.pdf (accessed 23 May 2018).
- d'Addio, A.C. 2007, Intergenerational Transmission of Disadvantage: Mobility or Immobility Across Generations? A Review of the Evidence for OECD Countries, OECD Social, Employment and Migration Working Paper 52, Paris.
- Alvaredo, F., Atkinson, A.B., Piketty, T. and Saez, E. 2013, 'The Top 1 Percent in International and Historical Perspective', *Journal of Economic Perspectives*, https://eml.berkeley.edu/~saez/alvaredo-atkinson-piketty-saezJEP13top1percent.pdf (accessed 28 March 2018).

- Argy, F. 2006, *Equality of Opportunity in Australia: Myth and Reality*, Discussion Paper, April, 85, The Australia Institute.
- Atkinson, A.B. and Hills, J. 1998, Exclusion, Employment and Opportunity, CASE Papers, 4, Centre for Analysis of Social Exclusion, London School of Economics, London, http://eprints.lse.ac.uk/5489/1/exclusion%2C_employment_and_opportunity.PDF (accessed 28 May 2018).
- and Leigh, A. 2007, 'The Distribution of Top Incomes in Australia', *The Economic Record*, http://andrewleigh.org/pdf/topincomesaustralia.pdf (accessed 22 March 2018).
- Azpitarte, F. 2012, On the persistence of poverty in Australia: a duration analysis based on *HILDA data*, Working Paper, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
- and Bowman, D. 2015, *Social Exclusion Monitor Bulletin June 2015*, Research Bulletin, Brotherhood of St Laurence and Melbourne Institute of Applied Economic and Social Research, Melbourne.
- Bishop, J. and Cassidy, N. 2017, Insights into Low Wage Growth in Australia, RBA Bulletin, March Quarter 2017, Reserve Bank of Australia, Sydney, pp. 13–20, https://www.rba.gov.au/publications/bulletin/2017/mar/pdf/bu-0317-2-insights-intolow-wage-growth-in-australia.pdf (accessed 16 February 2018).
- Boarini, R. and d'Ercole, M. 2006, *Measures of Material Deprivation in OECD Countries*, OECD Social, Employment and Migration Working Papers, No. 37, OECD Publishing, Paris.
- Brady, M. and Cook, K. 2015, 'The impact of welfare to work on parents and their children', *Evidence Base (The Australia and New Zealand School of Government Journal)*, 3, http://apo.org.au/system/files/58790/apo-nid58790-47736.pdf (accessed 2 May 2018).
- Bray, J.R. 2014, 'Changes in Inequality in Australia and the Redistributional Impacts of Taxes and Government Benefits', in Podger, A. and Trewin, D. (eds), *Measuring and Promoting Wellbeing: How Important is Economic Growth?: Essays in Honour of Ian Castles AO and a Selection of Castle's Papers*, ANU Press, Canberra, pp. 423–475.
- Brotherhood of St Laurence and Melbourne Institute of Applied Economic and Social Research 2017, *Social Exclusion Monitor* 2017 Update, Melbourne, https://www.bsl.org.au/research/social-exclusion-monitor/ (accessed 7 January 2018).
- Buddelmeyer, H. and Verick, S. 2007, Understanding the Drivers of Poverty Dynamics in Australian Households, IZA Discussion Paper Series No. 2827, IZA — Institute of Labor Economics, Bonn, Germany, http://ftp.iza.org/dp2827.pdf (accessed 1 June 2018).
- Bureau for Development Policy 2013, *Humanity Divided: Confronting Inequality in Developing Countries*, United Nations Development Programme, New York.
- Burkhauser, R., Hahn, M. and Wilkins, R. 2016, Top Incomes and Inequality in Australia: Reconciling Recent Estimates from Household Survey and Tax Return Data, Working Paper Series No. 2016-19, Melbourne Institute of Applied Economic and Social

Research, The University of Melbourne, https://melbourneinstitute.unimelb.edu.au/ downloads/working-paper-series/wp2016n19.pdf (accessed 28 March 2018).

- Carling, R. 2017, *Whatever happened to incentive?*, Centre for Independent Studies, http://www.cis.org.au/commentary/articles/whatever-happened-to-incentive/ (accessed 1 February 2018).
- Cassidy, N. and Parsons, S. 2017, *The Rising Share of Part-time Employment*, RBA Bulletin, September Quarter 2017, Reserve Bank of Australia, Sydney, pp. 19–26, https://www.rba.gov.au/publications/bulletin/2017/sep/pdf/bu-0917-3-the-rising-shareof-part-time-employment.pdf (accessed 28 February 2018).
- CEDA (Committee for Economic Development of Australia) 2015, *Addressing Entrenched Disadvantage in Australia*, Melbourne, https://www.ceda.com.au/CEDA/media/ ResearchCatalogueDocuments/PDFs/26005-CEDAAddressingentrencheddisadvantage inAustraliaApril2015.pdf (accessed 6 December 2017).
- 2018a, Community Pulse 2018: The Economic Disconnect, Melbourne, http://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA-Comm-Pulse-June-2018-Final reduced 1.pdf (accessed 27 June 2018).
- 2018b, *How Unequal? Insights on Inequality*, Melbourne, http://ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA-How-unequal-Insights-on-inequality-April-2018-FINAL_WEB.pdf (accessed 30 April 2018).
- Chin, V. 2017, *Inequality has a major impact on a country's wellbeing. Why?*, World Economic Forum, https://www.weforum.org/agenda/2017/08/inequality-makes-us-unhappy-heres-why/ (accessed 1 February 2018).
- Cobb-Clark, D., Dahmann, S., Salamanca, N. and Zhu, A. 2017, Intergenerational Disadvantage: Learning about Equal Opportunity from Social Assistance Receipt, Working Paper Series No. 2017-17, ARC Centre of Excellence for Children and Families over the Life Course, University of Queensland, Brisbane.
- Conti, G. and Heckman, J. 2012, *The Economics of Child Well-Being*, Working Paper Series No. 18466, National Bureau of Economic Research, Cambridge, Massachusetts.
- Corak, M. 2013, 'Income inequality, equality of opportunity, and intergenerational mobility', *Journal of Economic Perspectives*, vol. 27, 3, pp. 79–102.
- 2016, Inequality from Generation to Generation: The United States in Comparison, IZA Discussion Paper Series No. 9929, IZA — Institute of Labor Economics, Bonn, Germany, http://ftp.iza.org/dp9929.pdf (accessed 10 January 2018).
- Corlett, A. 2016, *Examining an elephant: globalisation and the lower middle class of the rich world*, Resolution Foundation, London, http://www.resolutionfoundation.org/ publications/examining-an-elephant-globalisation-and-the-lower-middle-class-of-the-rich-world/ (accessed 5 June 2017).
- Daley, J., Coates, B. and Wood, D. 2015, *Super tax targeting*, Grattan Institute, Melbourne, https://grattan.edu.au/wp-content/uploads/2015/11/832-Super-tax-targeting.pdf (accessed 13 June 2018).

- Delhey, J. and Dragolov, G. 2013, 'Why inequality makes Europeans less happy: The role of distrust, status anxiety, and perceived conflict', *European Sociological Review*, vol. 30, 2, pp. 151–65.
- DHS (Department of Human Services) 2018a, *A guide to Australian Government payments:* 20 March 2018 30 June 2018, Australian Government, Canberra, https://www.humanservices.gov.au/sites/default/files/2018/03/co029-1803.pdf (accessed 2 May 2018).
- 2018b, *Assets test for the age pension*, Australian Government, https://www. humanservices.gov.au/individuals/enablers/assets (accessed 28 March 2018).
- Dolan, P., Peasgood, T. and White, M. 2008, 'Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being', *Journal of Economic Psychology*, vol. 29, 1, pp. 94–122.
- Dollman, R., Kaplan, G., La Cava, G. and Stone, T. 2015, *Household Economic Inequality in Australia*, Research Discussion Paper 2015-15, Reserve Bank of Australia, Sydney.
- Douglas, B., Friel, S., Denniss, R. and Morawetz, D. 2014, *Advance Australia Fair? What* to Do about Growing Inequality in Australia, Report following a roundtable held at Parliament House Canberra in January 2014, Australia21 in collaboration with The Australia Institute.
- Downes, P., Hanslow, K. and Tulip, P. 2014, *The Effect of the Mining Boom on the Australian Economy*, Research Discussion Paper 2014-08, Reserve Bank of Australia, Sydney.
- Easterlin, R.A. 1995, 'Will raising the incomes of all increase the happiness of all?', *Journal* of Economic Behavior & Organization, vol. 27, 1, pp. 35–47.
- Ergas, H. 2017, 'Shorten's fix for imaginary inequality issue is to tax the rich', *The Australian*, 29 July, https://www.theaustralian.com.au/news/inquirer/shortens-fix-for-imaginary-inequality-issue-is-to-tax-the-rich/news-story/054ae5b89322536d3e230645 b09aa049 (accessed 1 February 2018).
- Essential Research 2018, *Income and Cost of Living*, The Essential Report, http://www.essentialvision.com.au/wp-content/uploads/2018/01/Essential-Report_300 118.pdf (accessed 15 June 2018).
- Fahmy, E. 2014, 'Poverty in Britain 1999 and 2012: Some emerging findings', *Journal of Poverty and Social Justice*, vol. 22, 3, pp. 181–191.
- Fusco, A., Guio, A.-C. and Marlier, E. 2011, *Income poverty and material deprivation in European countries*, LISER Working Paper Series 2011-04, Luxembourg Institute of Socio-Economic Research, Luxembourg.
- Greenville, J., Pobke, C. and Rogers, N. 2013, *Trends in the Distribution of Income in Australia*, Productivity Commission Staff Working Paper, Canberra.
- Hahn, M.H. and Haisken-DeNew, J.P. 2013, 'PanelWhiz and the Australian Longitudinal Data Infrastructure in Economics', *Australian Economic Review*, vol. 46, no. 3, pp. 379–86.
- Hardy, B. 2017, 'Income instability and the response of the safety net', *Contemporary Economic Policy*, vol. 35, 2, pp. 312–30.

- Herault, N., Azpitarte, F. and Johnson, G. 2017, 'What is the real extent of poverty persistence?', presented at the *Brown Bag Seminar*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne, 7 November.
- Horn, M., Scutella, R. and Wilkins, R. 2011, Social Exclusion Monitor Bulletin September 2011, Research Bulletin, Brotherhood of St Laurence and Melbourne Institute of Applied Economic and Social Research, Melbourne.
- Huang, Y., Perales, F. and Western, M. 2016, 'A land of the "fair go"? Intergenerational earnings elasticity in Australia', *Australian Journal of Social Issues*, vol. 51, 3.
- Kaplan, G., La Cava, G. and Stone, T. 2015, 'Household Economic Inequality in Australia', *Economic Record*, vol. 94, 305, pp. 117–134.
- Kelly, M. 2000, 'Inequality and Crime', *The Review of Economics and Statistics*, vol. 82, 4, pp. 530–539.
- Leigh, A. 2007, 'Intergenerational Mobility in Australia', *The B.E. Journal of Economic Analysis and Policy*, vol. 7, 2, https://www.degruyter.com/view/j/bejeap.2007.7.2/bejeap. 2007.7.2.1781/bejeap.2007.7.2.1781.xml?format=INT (accessed 11 January 2018).
- 2017, 'Why corporate Australia should care about inequality', *Business Insider Australia*, 30 March, https://www.businessinsider.com.au/why-corporate-australia-should-care-about-inequality-2017-3 (accessed 1 February 2018).
- LIS 2017, *Inequality and Poverty Key Figures*, LIS: Cross-National Data Center in Luxembourg, http://www.lisdatacenter.org/lis-ikf-webapp/app/search-ikf-figures (accessed 2 July 2018).
- Lowe, P. 2017, 'Household Debt, Housing Prices and Resilience', presented at Economic Society of Australia (QLD) Business Lunch, Brisbane, 4 May, https://www.rba.gov.au/ speeches/2017/sp-gov-2017-05-04.html (accessed 26 March 2018).
- Makin, T. 2016, *The Effectiveness of Federal Fiscal Policy: A Review*, External Paper, 2016-01,
 Australian Government Treasury, https://cdn.tspace.gov.au/uploads/sites/
 99/2016/10/The-Effectiveness-of-Federal-Fiscal-Policy.pdf (accessed 15 February 2018).
- Marks, G.N. 2007, *Income Poverty, Subjective Poverty and Financial Stress*, Social Policy Research Paper No. 29, Australian Government Department of Families, Community Services and Indigenous Affairs, Canberra.
- Martinez, A. and Perales, F. 2017, 'The Dynamics of Multidimensional Poverty in Contemporary Australia', *Social Indicators Research*, 130, pp. 479–96.
- —, Rampino, T., Western, M., Tomaszewski, W. and Roque, J.D. 2017, 'Estimating the contribution of circumstances that reflect inequality of opportunities', *Economic Papers:* A Journal of Applied Economics and Policy, vol. 36, 4, pp. 380–400.
- McDonald, P. 2016, 'Ageing in Australia: Population Changes and Responses', in Kendig, H., McDonald, P. and Piggott, J. (eds), *Population Ageing and Australia's Future*, Australian National University Press, Canberra, pp. 65–84.

- McLachlan, R., Gilfillan, G. and Gordon, J. 2013, *Deep and Persistent Disadvantage in Australia*, Productivity Commission Staff Working Paper, Canberra.
- Mendolia, S. and Siminski, P. 2016, 'New Estimates of Intergenerational Mobility in Australia', *Economic Record*, vol. 92, 298, pp. 361–373.
- MHCNSW (Mental Health Commission of NSW) 2017, Wellbeing Language and Definitions Guide, Sydney.
- Milanović, B. and Lakner, C. 2013, *Global Income Distribution: From the Fall of the Berlin Wall to the Great Recession*, Policy Research Working Paper, 6719, Development Research Group, World Bank, Washington D.C.
- Murray, C., Clark, R., Mendolia, S. and Siminski, P. 2017, Direct Measures of Intergenerational Income Mobility for Australia, IZA Discussion Paper Series No. 11020, IZA — Institute of Labor Economics, Bonn, Germany, http://ftp.iza.org/ dp11020.pdf (accessed 26 March 2018).
- Murtin, F. and d'Ercole, M.M. 2015, *Household Wealth Inequality Across OECD Countries: New OECD Evidence*, OECD Statistics Brief No. 21, https://www.oecd.org/sdd/householdwealth-inequality-across-OECD-countries-OECDSB21.pdf (accessed 14 June 2018).
- Najman, J., Bor, W., Ahmadabadi, Z., Williams, G. and Alati, R. 2018, 'The inter- and intragenerational transmission of family poverty and hardship (adversity): A prospective 30 year study', *PLOS ONE*, vol. 13, 1.
- NSA (National Seniors Australia and Challenger) 2013, *Retirees' Needs and Their* (*In)Tolerance for Risk*, Brisbane, https://nationalseniors.com.au/sites/ default/files/Retirees_Needs_Tolerance_For_Risk.pdf (accessed 24 April 2018).
- OECD (Organisation for Economic Cooperation and Development) 2011, How's Life? Measuring Well-being, Paris, https://unstats.un.org/unsd/broaderprogress/pdf/ How%27s%20life%20-%20Measuring%20well-being.pdf (accessed 11 December 2017).
- 2015, OECD Income Distribution Database, http://www.oecd.org/social/incomedistribution-database.htm (accessed 1 March 2018).
- 2018a, *A Broken Social Elevator? How to Promote Social Mobility*, Paris, http://www.oecd.org/social/broken-elevator-how-to-promote-social-mobility-97892643 01085-en.htm (accessed 21 June 2018).
- 2018b, *Household disposable income (indicator)*, OECD Data, https://data.oecd.org/hha/household-disposable-income.htm (accessed 7 June 2018).
- 2018c, *Inclusive Growth*, http://www.oecd.org/inclusive-growth/#introduction (accessed 15 June 2018).
- 2018d, OECD.Stat, https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH (accessed 5 July 2018).
- Ong, R., Jefferson, T., Wood, G., Haffner, M. and Austen, S. 2013, *Housing Equity Withdrawal: Uses, Risk and Barriers to Alternative Mechanisms in Later Life*, AHURI Final Report no. 217, Australian Housing and Urban Research Institute, Melbourne.

- Pare, P.-P. and Felson, R. 2014, 'Income inequality, poverty and crime across nations', *The British Journal of Sociology*, vol. 65, 3, pp. 434–458.
- PC (Productivity Commission) 2005, *Review of National Competition Policy Reforms*, Report no. 33, Canberra.
- 2015a, *Housing Decisions of Older Australians*, Commission Research Paper, Canberra.
- 2015b, *Tax and Transfer Incidence in Australia*, Commission Working Paper, Canberra.
- 2017a, Data Availability and Use, Report no. 82, Canberra.
- 2017b, Shifting the Dial: 5 Year Productivity Review, Report no. 84, Canberra.
- 2017c, *Transitioning Regional Economies*, Study Report, Canberra.
- Phillips, B., Miranti, R., Vidyattama, Y. and Cassells, R. 2013, Poverty, Social Exclusion and Disadvantage in Australia: Report prepared for UnitingCare (Children, Young People and Families), National Centre for Social and Economic Modelling (NATSEM), Canberra, p. 8.
- Price, F. and Finlay, R. 2014, *The Rise in Household Saving*, RBA Bulletin, June Quarter 2014, Reserve Bank of Australia, Sydney, pp. 1–10, https://www.rba.gov.au/publications/bulletin/2014/jun/pdf/bu-0614-1.pdf (accessed 28 February 2018).
- QCOSS (Queensland Council of Social Services) 2009, *Poverty and Social Exclusion*, QCOSS Policy Position, Brisbane.
- Rajadurai, E. 2018, *Mapping Opportunity: A National Index on Wages and Income*, McKell Institute, Sydney.
- RBA (Reserve Bank of Australia) 2018, *Explainers: Australia and the Global Economy The Terms of Trade Boom*, Reserve Bank of Australia, https://www.rba.gov.au/education/ resources/explainers/australia-and-the-global-economy.html (accessed 6 July 2018).
- Redmond, G. and Skattebol, J. 2017, 'Material deprivation and capability deprivation in the midst of affluence: The case of young people in Australia', *Children and Youth Services Review*, http://www.sciencedirect.com/science/article/pii/S0190740917305029 (accessed 30 May 2018).
- Robeyns, I. 2005, 'The capability approach: A theoretical survey', *Journal of Human Development*, vol. 6, 1, pp. 93–117.
- Saunders, P. 2011, *Down and Out: Poverty and Exclusion in Australia*, 1st edn, The Policy Press, Bristol.
- and Bedford, M. 2017, New Minimum Income for Healthy Living Budget Standards for Low-Paid and Unemployed Australians, SPRC Report 11/17, Social Policy Research Centre, University of New South Wales, Sydney.
- and Bradbury, B. 2006, 'Monitoring Trends in Poverty and Income Distribution: Data, Methodology and Measurement', *The Economic Record*, vol. 82, 258, pp. 341–64.

— and Wong, M. 2012, *Promoting Inclusion and Combating Deprivation: Recent Changes in Social Disadvantage in Australia*, Social Policy Research Centre, University of New South Wales, Sydney.

- —, and Bradbury, B. 2016, 'Poverty in Australia since the financial crisis: the role of housing costs, income growth and unemployment', *Journal of Poverty and Social Justice*, vol. 24, 2, pp. 97–112.
- SCARC (Senate Community Affairs References Committee) 2014, *Bridging our growing divide: inequality in Australia*, Inquiry into the extent of income inequality in Australia, Parliament of Australia, Canberra.
- Schneider, S. 2016, 'Income inequality and subjective wellbeing: Trends, challenges, and research directions', *Journal of Happiness Studies*, vol. 17, 4, pp. 1719–1739.
- SCIWD (Select Committee on Intergenerational Welfare Dependence) 2018, Inquiry into Intergenerational Welfare Dependence, Parliament of Australia, https://www.aph.gov.au/Parliamentary_Business/Committees/House/Intergenerational_ Welfare_Dependence/IGWD (accessed 12 July 2018).
- SCRGSP (Steering Committee for the Review of Government Service Provision) 2016, *Overcoming Indigenous Disadvantage: Key Indicators 2016*, Productivity Commission, Canberra.
- Scutella, R., Wilkins, R. and Horn, M. 2009, Measuring Poverty and Social Exclusion in Australia: A Proposed Multidimensional Framework for Identifying Socio-Economic Disadvantage, Working Paper Series No. 2009-04, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.

—, — and Kostenko, W. 2013, 'Intensity and persistence of individuals' social exclusion in Australia', *Australian Journal of Social Issues*, vol. 48, 3, pp. 273–298.

- Sen, A. 1992, Inequality Reexamined, Oxford University Press, New York.
- 1993, 'Capability and Well-Being', in Nussbaum, M. and Sen, A. (eds), *The Quality of Life*, Oxford University Press, New York, pp. 30–53.
- 2000, *Social exclusion: Concept, application and scrutiny*, Social Development Papers #1, Office of Environment and Social Development, Asian Development Bank, Manila.
- Shorrocks, A., Davies, J. and Lluberas, R. 2017, Credit Suisse Global Wealth Report 2017, Zurich, https://www.credit-suisse.com/corporate/en/articles/news-and-expertise/globalwealth-report-2017-201711.html (accessed 14 March 2018).
- Standing, G. 2016, Meet the precariat, the new global class fuelling the rise of populism, World Economic Forum, https://www.weforum.org/agenda/2016/11/precariat-globalclass-rise-of-populism/ (accessed 20 April 2018).
- Stiglitz, J.E., Sen, A. and Fitoussi, J.-P. 2010, *Report by the Commission on the Measurement of Economic Performance and Social Progress*, Commission on the Measurement of Economic Performance and Social Progress, Paris.

- Subramanian, A. and Kessler, M. 2013, *The Hyperglobalization of Trade and Its Future*, Working Paper Series No. 2013-06, Peterson Institute for International Economics, Washington, DC.
- Summerfield, M., Bevitt, A., Freidin, S., Hahn, M., La, N., Macalalad, N., O'Shea, M., Watson, N., Wilkins, R. and Wooden, M. 2017, *HILDA User Manual — Release 16*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
- Summerfield, T., Young, L., Harman, J. and Flatau, P. 2010, 'Child support and Welfare to Work reforms: The economic consequences for single parents', *Family Matters (The Australian Institute of Family Studies Journal)*, 84, pp. 68–78.
- Sumner, A. and Mallett, R. 2013, 'Capturing multidimensionality: What does a human wellbeing conceptual framework add to the analysis of vulnerability?', *Social Indicators Research*, vol. 113, 2, pp. 671–690.
- The Smith Family 2003, *Barriers to Participation: Financial, Educational and Technological* — *A report into the barriers to societal participation among low-income Australians*, Sydney, https://www.thesmithfamily.com.au/~/media/files/research/research-evaluationarchive/barriers-to-participation-2003.ashx?la=en (accessed 16 May 2018).
- UK Office for National Statistics 2018, *Effects of taxes and benefits on household income: historical datasets* — *Income, tax and benefit data by income decile for all households*, https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinance s/incomeandwealth/datasets/theeffectsoftaxesandbenefitsonhouseholdincomehistoricald atasets (accessed 27 June 2018).
- UNU-WIDER 2018, *World Income Inequality Database (WIID3.4)*, https://www.wider.unu.edu/database/world-income-inequality-database-wiid34 (accessed 27 June 2018).
- Wade, M. 2017, 'Is Australia finding it harder to be generous?', Sydney Morning Herald, 20 May, https://www.smh.com.au/opinion/is-australia-finding-it-harder-to-be-generous-20170519-gw8tsc.html (accessed 12 March 2018).
- Watson, N. 2006, 'Options for a Top-up Sample to the HILDA Survey', presented at ACSPRI Social Science Methodology Conference, Sydney, University of Sydney, 10 December.
- and Wooden, M. 2004, 'Sample Attrition in the HILDA Survey', *Australian Journal* of Labour Economics, vol. 7, 2, pp. 293–308.
- Weatherburn, D. and Lind, B. 1998, *Poverty, parenting, peers and crime-prone neighbourhoods*, Trends & Issues No. 85, Australian Institute of Criminology, Canberra, https://aic.gov.au/publications/tandi/tandi085 (accessed 16 March 2018).
- Webber, D. and Mallett, L. 2017, *Dataset: Nowcasting household income in the UK*, Statistical Bulletin, UK Office for National Statistics, Newport, South Wales, https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinance s/incomeandwealth/bulletins/nowcastinghouseholdincomeintheuk/financialyearending2 017 (accessed 2 July 2018).

- Whiteford, P. 2009, 'Transfer Issues and Directions for Reform: Australian Transfer Policy in Comparative Perspective', Melbourne Institute (ed), presented at Australia's Future Tax and Transfer Policy Conference, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne, 18 June.
- 2013, Australia: Inequality and Prosperity and their Impacts in a Radical Welfare State, CAMA Working Paper Series, Crawford School of Public Policy, Australian National University, https://crawford.anu.edu.au/pdf/events/2013/8801/Whiteford-Australia-Inequality-and-Prosperity-final.pdf (accessed 11 October 2017).
- 2018, 'Good times, bad times', *Inside Story*, 5 July, http://insidestory.org.au/good-times-bad-times-and-the-growing-income-gap/ (accessed 8 July 2018).
- WID (World Inequality Database) 2018, *Data WID World Inequality Database*, http://wid.world/data/ (accessed 10 July 2018).
- Wild, D. and Bushnell, A. 2017, Understanding Inequality in Australia, Institute of Public Affairs, https://ipa.org.au/wp-content/uploads/2017/11/IPA-Report-Understanding-Inequality-in-Australia.pdf (accessed 20 December 2017).
- Wilkins, R. 2014, 'Evaluating the Evidence on Income Inequality in Australia in the 2000s', *Economic Record*, vol. 90, 288, pp. 63–89.
 - 2016, *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 14*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
 - 2017, *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 15*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
- Wilkinson, R. and Pickett, K. 2014, 'The Spirit Level authors: Why society is more unequal than ever', London, *The Guardian*, 3 September, https://www.theguardian.com/ commentisfree/2014/mar/09/society-unequal-the-spirit-level (accessed 2 January 2018).
- World Bank 2016, Poverty and Shared Prosperity 2016: Taking on Inequality, Washington, DC, https://openknowledge.worldbank.org/bitstream/handle/10986/25078/9781464809 583.pdf (accessed 26 March 2018).
- Wright, E.O. 2016, 'Is the Precariat a Class?', Global Labour Journal, vol. 7, 2, pp. 123–35.
- Wu, S., Asher, A., Meyricke, R. and Thorp, S. 2015, Age Pensioner Profiles: A Longitudinal Study of Income, Assets and Decumulation, Working Paper Series No. 2015-17, ARC Centre of Excellence in Population Ageing Research, Sydney.