

# Breaking Down Barriers



2 | Report  
series

Melbourne Institute research  
into understanding and  
overcoming disadvantage

## Spatial and Community Dimensions of Income Poverty

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# Executive Summary

The purpose of this report is to capture the dynamic state of poverty in Australia, using data from three waves of the Australian Census (2006, 2011, and 2016). We compute community level poverty rates for each of the three census years and then study the extent to which the poverty rates in the community, over time, have fallen, remained the same, or have increased. We further critically explore where and at what rate communities across Australia are experiencing entrenched income-based poverty, and what communities are breaking these cycles. Poverty is defined based on household income falling below 60 percent of median income, adjusted to account for household size.

Is poverty an issue in Australia? Poverty itself is a complicated concept. It is intended to represent an inadequacy in living standards that are the outcome of preferences, opportunities (or lack thereof), and capabilities. Poverty captures financial position, health, cognitive ability, physical ability and other aspects of well-being. For those who are less fortunate, having the ability to meet one's needs may require financial and non-financial support from society. But it is also important to understand the role individual choice plays in the ability to achieve a minimum standard of living.

While most countries adopt minimum standards of living thresholds, what should be an acceptable threshold for a country like Australia? Central to any discussion should be a consideration of whether one has sufficient resources to meet one's expenses. We accept that poverty is multi-faceted. The focus of this report is an exploration of poverty as measured by household income. The measurement of the poverty rate uses an equivalence scale to adjust income for household composition, that is, the number of people in the household ("equivalised household income").

Figure 1A. Poverty Rates by Country, 2012-2016

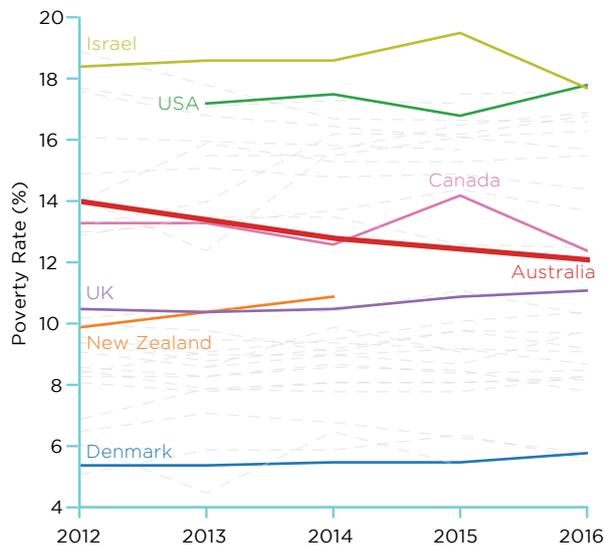
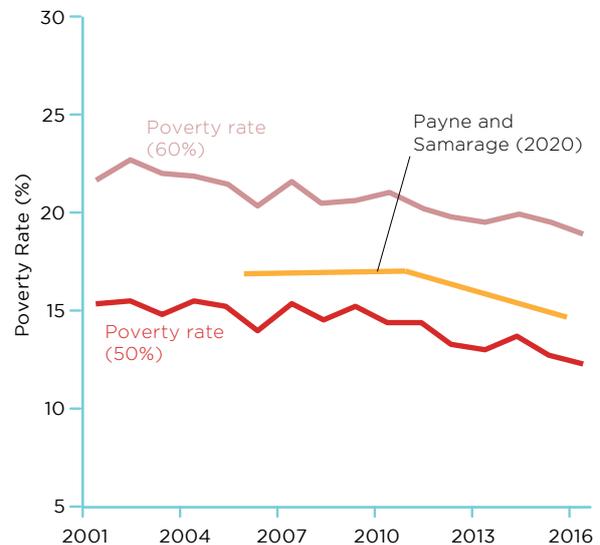


Figure 1B. Poverty Rates in Australia



**Notes for Figure 1:** 1A. Data for this figure are from the Organisation for Economic Cooperation and Development (OECD). Poverty rate in this figure is defined as income that is less than 50 percent of median income for the given country (OECD, 2020, Poverty Rate (indicator)). The dotted lines represent other countries in the OECD that are not highlighted with colour. 1B. Figure modified from Sila and Dugain (2019) that used HILDA survey data to analyse relative income poverty in Australia. The orange line represents the average community-level poverty rates presented in this report using Australian Census data for 2006, 2011 and 2016.

Understanding the importance of or urgency in addressing poverty in Australia depends, in part, on where we stand relative to comparable countries. Poverty is frequently measured by comparing adjusted household income to either 50 percent or 60 percent of median income in the country. In this report, we adopt a poverty rate that reflects 60 percent of median income. As discussed below, the choice of threshold does not greatly affect the cross-country pattern or relative positions of communities.

Figure 1A depicts overall poverty rates for OECD countries measured as that share of the population whose incomes are less than 50 percent of the median household income in that country. Across all countries, Australia falls roughly in the upper half, suggesting a relatively high rate of poverty. Australia's poverty rate ranks well below the United States but above New Zealand and the United Kingdom. While Australia's overall rate has fallen from 14 percent to just above 12 percent during the period shown, it remains far above the lowest observed rate of less than 6 percent for Denmark.

In Figure 1B we highlight the differences in poverty rates if using a 50 or 60 percent threshold for Australia based on work by Sila and Dugain (2019). Sila and Dugain used data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. Their poverty rate based on 50 percent of median income is similar to that reported in Figure 1A which relies on census data. Using the higher threshold of 60 percent of median income, the poverty rates follow a similar pattern to that depicted using the lower threshold rates.

In Figure 1B we also depict the average community poverty rate calculated for this report using a threshold that reflects 60 percent of median household income (middle line). The average community poverty rate is lower than the equivalently-calculated national poverty rate, reflecting the fact that the size of the communities in our study are not uniform, nor are their poverty rates. This difference is tied to the mechanics of the computations.<sup>1</sup>

1. ACOSS 2018 reports a poverty rate of 21.1 percent using 60 percent of the median income threshold and a different data set. This rate, however, is computed across the nation using person (versus household) level indicators of poverty. We compute community level poverty rates based on household income and size. Given these differences, it should not be expected that the national poverty rate reported in ACOSS 2018 equates to community level poverty rates.

This is not the first report on poverty or, more broadly, disadvantage in Australia. For example, the Australian Council of Social Service (ACOSS) in collaboration with researchers at the University of New South Wales has issued reports that capture the state of poverty country wide (see e.g. ACOSS, 2018). The ACOSS report focuses primarily on the current state of poverty at a national level. Their analysis of trends and changes across a range of factors is limited.

In 2018 the Productivity Commission (PC) also issued a report on inequality and entrenched disadvantage in Australia. The PC report highlights that disadvantage encompasses a diverse range of indicators. It also recognises that while economic mobility in Australia is high and the tax and transfer system is progressive and can be credited with reducing income inequality, many Australians have experienced disadvantage in their lifetime.

At a more community-oriented level, the ‘Dropping off the Edge’ series of reports (“DOTE”, Vinson and Rawsthorne 2007, 2015) measured disadvantage using a series of indicators to develop a disadvantage-based index. The report corroborates the need for looking within communities to understand the differences across communities for what contributes to poverty as well as to understand the factors that affect the exit from poverty. Communities are defined differently in DOTE but generally reflect the level of geography we use for this report.

This current report is part of a series of analyses being undertaken by researchers at the Melbourne Institute: Applied Economic & Social Research to explore poverty in Australia. We measure poverty using an equivalised household income to identify households that are observed as being in overall poverty (income less than 60 percent of median income), as well breaking the measures of poverty into three groups: households experiencing extreme poverty (less than 25 percent of median income); mid-poverty (between 25 and 50 percent of median income); and near poverty (between 50 and 60 percent of median income). We then explore household poverty rates at a community level using data from three census years: 2006, 2011 and 2016. Our geography-based definitions of community reflect the ABS Statistical Area level 2 (SA2) definition. This level of geography captures areas with populations that range from 3,000 to 25,000 persons. We also investigate potential correlates between our measures of poverty and community level socio-demographic measures.

## Key Findings

### 1. Poverty is a whole of Australia problem.

- a. 40 percent of communities report a poverty rate at or greater than 12 percent of the population.
- b. While we observe higher rates of poverty in communities in the Northern Territory, there are communities in all states with poverty rates that are well above the national average.
- c. Average rates of poverty in communities are highest for single persons and single parent households. They are lowest for two parent households.

### 2. Overall poverty rates improved slightly between 2006 and 2016.

- a. Much of the improvement in poverty rates, however, is attributable to improvements in the share of households with incomes just near our definition of poverty, that is those with incomes between 50 and 60 percent of median income. There was, however, a slight decline in the average share of households with incomes that range between 25 and 50 percent of median income.
- b. Changes in the proportions of households in each of the sub-poverty groupings, however, varies substantially based on household composition.

### 3. Poverty rates for households with very low incomes (e.g. less than 25 percent of median income which we define as extreme poverty) have slightly decreased or stayed stagnant in most communities between 2006 and 2016.

- a. Focusing on extreme poverty rates within household types, the average community extreme poverty rate is highest for single households (5 to 7 percent) and lowest for two parent households (-1 percent).

### 4. Overall poverty fell slightly over the most recent ten-year period (2006 to 2016). Community poverty rates, however, exhibited both increasing and decreasing rates.

- a. For 1,411 communities, poverty rates fell by more than 1 percent for (-66 percent of all communities). For these communities, the average fall was 4.3 percentage points.
- b. Poverty rates stayed relatively constant (+/- 1 percent) for 388 communities (-18 percent of all communities).
- c. Poverty rates increased by more than 1 percent for 343 communities (-16 percent of all communities). The average increase in poverty rates was 4 percentage points.
- d. While there are clear pockets of entrenched poverty, there are dynamic changes happening across communities, making it important to dig deep and to delve into a range of possible explanations for why poverty exists in these communities.

**5. Of approximately 2,142 communities, 428, by definition, fall within the top quintile in terms of high poverty rates. These communities exhibited poverty rates ranging from 22 to 59 percent in 2006. In 2016, the poverty rates for the highest quintile of communities ranged from 19 to 62 percent.**

- a. Communities with entrenched poverty over the period have higher shares of working-age individuals who are not employed or are out of the labour force, and higher shares of Indigenous or Torres Strait Islander residents.
- b. For the group of communities that ranked highest in 2006, only 62 percent of the communities remained in the top quintile of ranking. The poverty rates in the highest poverty communities in 2006, by 2016 ranged from 7 to 62 percent.
- c. Of the 265 of the communities that are observed in the top quintile in both 2006 and 2016 (entrenched poverty), 24 communities experience an increase in poverty of more than 5 percentage points. Fifty communities experience an increase in poverty between 0 and 5 percentage points. Close to half of these 265 communities experienced a decline in poverty of between 0 and 5

percentage points. The remaining 59 communities experienced a decrease in poverty rates by more than 5 percentage points.

- d. Between 2006 and 2016, 164 communities moved into the top quintile of high-poverty communities. The poverty rates for these communities ranged from 11 to 22 percent in 2006 compared with 19 to 42 percent in 2016. For half of these communities the increase in poverty was less than five percentage points. For 45 of the communities the increase in poverty rates was substantial. For the remaining 36 communities, there was a slight decline in poverty but because of the movement of other communities out of the highest quintile, these communities moved into the highest quintiles. Thus, a movement from one quintile to another can result from a change in “own community” poverty rates or can be attributable to changes in “other community” poverty rates.

**6. Poverty varies substantially across household types.**

- a. On average, single households have the highest average community poverty, ranging from 29 percent in 2006 to 23 percent in 2016. The biggest drop in poverty rates for this group was for those with incomes in the mid-poverty range (between 25 and 50 percent of median household income).
- b. The average community poverty rate for single parent household is also quite high, approximately 22 percent for all census years. Most single parent households fall into what is categorized here as the mid-poverty range.
- c. Couple households with children exhibit the lowest poverty rates (-6 percent) whereas couple households with no children have ranges just over 10 percent. Although the average poverty rate for couple households has low and remained low, over time there has been an increase in those with incomes in the mid-poverty range.

The analysis in this report confirms that poverty is not simply a household matter. Poverty affects almost all communities. Within these communities there are households with very low incomes far from the 60 percent of median household income threshold. One critical insight of the report is the importance of not simply using static measures of poverty. It is important to understand the dynamics of community level poverty. Equally important is the variation in poverty across household types. The report also highlights the strong correlations between community poverty rates and the cultural composition of communities, the level of employment by working age adults, the educational achievement of the residents in these communities, and the age distribution within communities.

The next report in this series will focus on poverty dynamics within households and the potential correlations between poverty and age, education, and employment. The current report demonstrates that low-income households in Australia are likely to face challenges in meeting basic needs. These challenges exist across all communities in Australia, and the levels and types of poverty faced across communities varies. The correlates that might explain what is happening across and within communities also vary substantially. Central to future studies of community level poverty is the importance of understanding the relationship between poverty and factors such as employment opportunities, educational achievement, and/or migration or opportunities to relocate for better opportunities.

# 1. Introduction





In 2015 the United Nations adopted an agenda aimed at achieving 17 sustainable development goals by 2030. The number one goal is to “end poverty in all its forms everywhere.” If this report had been written six months ago, the starting point would have been statistics from the OECD (see, e.g. Sila and Dugain, 2019) and the Australian Council of Social Services (ACOSS, 2018) report that suggests poverty in Australia compared to statistics from the previous decade has plateaued to a rate of 12 to 13 percent. The focus for our analysis would have been to better understand poverty at a community level to allow Australia to achieve the 2030 goal of ending poverty in all its forms.

The global COVID-19 pandemic and implications for the economy mean that addressing poverty has become even more important. Sumner, Hoy and Ortiz-Juarez (2020) estimate that a relatively small contraction in the Australian economy of around 5 percent would lead to an increase in income-based poverty to levels like those observed in 1990. Effectively this could mean the loss of decades of effort to reduce poverty.

Today, the challenge for reducing, and even eliminating, poverty is greater. We can and should anticipate that less fortunate households will suffer even more than we might have otherwise expected. We should expect economic recovery from the pandemic to last years, not months.

Poverty is a complex matter. Social, health and economic circumstances contribute to poverty. Factors such as unemployment, social exclusion, vulnerability to disaster and disease, political and social tensions, can lead one into poverty and affect one’s ability to exit from poverty. Providing opportunities for changing improving one’s circumstances (e.g. through education, access to health care, job training and social housing) are important, but individual choice and community dynamics can enhance or impede the effects of these opportunities.

Reducing poverty and supporting economic growth are whole of country goals, the actions required to achieve long lasting progress to reduce poverty, however, start at a community level. To achieve real progress in the elimination of poverty in Australia, we must engage with all layers of government: federal, state, and local.

Taking as a given that poverty is multi-faceted and complex, this report uses publicly available data to explore poverty rates across communities and over time to better understand the dynamics of poverty and to create a foundation for developing policies that encourage a reduction of poverty in Australia. We use household income data as reported in the Australian census for three years (2006, 2011, and 2016).

Poverty and disadvantage are issues that have been studied and reported on by a range of organisations and researchers in Australia. Prior studies are either dated or are structured differently from our report. The more recent reports are outlined briefly below:

- ACOSS (2018). Focuses on income.<sup>2</sup> This report studies income poverty for the whole of Australia. The ACOSS report provides a limited analysis of poverty rates at a geographic level lower than the overall country. It focuses on the correlates of income poverty and other characteristics such as labour force status, disability and housing tenure. The bulk of the report focuses on poverty as measured using data that covers 2015-16.
- Committee for Economic Development of Australia (CEDA) (2015). The CEDA report looks at entrenched disadvantage in five chapters. The first chapter, by Professor Peter Saunders, focuses on the scale and nature of poverty. He explores the different ways of measuring disadvantage and makes comparisons for Australia, overall, and for groups based on family

2. There is a 2020 Overview report which we have also referenced. The 2020 report updates some of the findings from the 2018. This report also focuses on poverty as measured at a national level.

formation and/or age. The second chapter relies on data from the HILDA (Household, Income, and Labour Dynamics in Australia) survey to examine the duration of poverty. The remaining chapters focus on specific dimensions of disadvantage amongst youth and Indigenous communities.

- Dropping off the Edge Report (DOTE) (2015). This report, produced by the Jesuit Social Services and Catholic Social Services Australia, presents an index of disadvantage at a community level. The DOTE index captures a range of variables, including income, housing cost, internet availability, employment, education and a range of other measures. While most of these components can be captured for all communities in Australia, some measures are state-based, making the report most effective when exploring community disadvantage within a state. The report also focuses on the most recent year data available. Thus, it does not capture the dynamics of disadvantage within communities.

A range of other reports have addressed poverty, disadvantage and/or income inequality. Most of these additional reports focus on statistics and measures for the whole of Australia overall or for sub-populations. Most do not examine poverty at a community level over time.

The current report differs from prior reports along the following dimensions:

- It uses a single measure to capture income poverty. This measure can be observed across all communities in Australia.
- It develops a range of community poverty rates for a ten-year period, for three census years (2006, 2011, and 2016).
- It studies variation in community level poverty rates, overall, and by household type within communities.

- It explores correlations between poverty rates and key socio-demographic characteristics. This is a first step to direct future work understanding the drivers of entrenched and persistent poverty.

In sum, we measure poverty at a community level, and study poverty rates over time to better capture the various types of community poverty in Australia. For example, we can better identify communities in entrenched poverty (i.e. with consistently high rates of income poverty), as well as those with fluctuating levels of poverty. We delve into the differences in community poverty rates by household types and explore socio-economic correlates with income poverty.

This report is designed to serve as a foundational framework for: pursuing deeper analyses of poverty, developing better practices and policies to combat poverty (and ultimately disadvantage), and promoting interventions that reflect the intersection between community-based initiatives and universal goals for poverty reduction.

The report is structured as follows. Section 2 provides a brief overview of poverty rates computed using the income measure available in the census data. This includes a discussion of our classifications of income poverty, and the level of geography used to define communities. Section 3 provides an analysis of community-level poverty rates across Australia and over time. Section 4 examines the correlates between community poverty rates and socio-economic measures. Section 5 explores poverty broken down into sub-measures of poverty (extreme, mid-, and near poverty). Section 6 explores poverty across household types and Section 7 provides a brief conclusion.

## 2. Defining Poverty and Data Development





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## 2.1

### Measurement of Poverty: Why a Reliance on Income?



Given poverty is multi-faceted, there are a range of measures we could use (alone or in combination) to capture poverty rates for a community. We have chosen to focus on a single measure: household income as reported in the Australian census. One benefit to using income as the measure of poverty is that income is captured relatively consistently in the census over time, permitting time varying analyses of trends and changes in poverty rates. Using Australian census data also means we can access other demographic and economic information on individuals and families over time. This enables an exploration of differences in poverty rates across different groups. In this report we focus on family structure (referred to as households). We also explore the correlations between poverty rates and the factors believed to be associated with poverty.<sup>3</sup>

To derive a poverty rate, we start by estimating the median weekly income for all individuals in Australia. There are three critical challenges in any attempt to measure poverty. The first is what income measure to use. Should income capture wages and government benefits? Should we include income derived from savings and assets? Should we try to capture overall wealth (e.g. the value of a house that is owned or the value of assets such as superannuation)? These are important questions. When using census data, however, one is constrained in what can or cannot be included in a measure of income. The measure available through the census captures: wages and salaries; government pensions, benefits, and allowances; profits or losses from unincorporated businesses and rental properties; and other income such as superannuation, child support, interest and

3. There is a slight difference in the use of family versus household. Household can reference all individuals living in a given dwelling or it can reference those individuals that would be easily grouped into a family. For this report our use of the term household is closer to the notion of family. If there are a group of individuals living in the same dwelling, we classify these as individual households. We do this because we cannot observe if a group of individuals are choosing to live in the same dwelling or are forced to live in the same dwelling due to financial circumstances.

workers' compensation. This measure captures, in effect, all resources that can be used to support a household's finances.

The second challenge is to consider how to address potential variation in income and living expenses across communities. For a large country such as Australia, there will be geographic variation in wages for similar jobs and in living costs. There are a range of possible methods of dealing with this issue. For example, ACOSS removes reported housing costs (rent or mortgage payments) from its income measure. While an acceptable approach, we have a few concerns about doing this with census data. The first concern relates to the value to attribute to these costs: should it be based on the actual amount spent by the household, or on a metric that reflects average costs across households of similar composition? The second concern relates to how one might differentiate housing costs tied to home ownership versus home rental. The third concern relates to considering how to factor in the availability and/or use of social housing in a community.

For the most part, data availability limits us to using observed housing costs. Embedded in such a measure, however, will be decisions reflecting a household's financial position and preferences. For example, assume there are two families with identical household income and composition, e.g. two parents and two children, both under the age of 10. The first family chooses to live in a small, two-bedroom home that requires a long commute to work resulting in relatively low housing costs. The second family chooses to live close to work in a three-bedroom home, resulting in higher housing costs. If we create an income measure net of housing costs, family one will have a higher net income than family two, even though their overall household incomes are the same. In assessing whether these families are likely to be experiencing poverty we might conclude that the

first family does not appear to be in poverty, but the second family does, based merely on their choices around housing and commuting distance. Thus, given that our data allow us to capture observed housing cost only, we prefer to use total household income to calculate poverty rates.

Further, while there is no dispute that housing costs differ across regions in Australia, there are variations in other costs as well, and not always in the same direction. For example, at the time of writing the median weekly rental for a three-bedroom unit in Mount Isa, Queensland is approximately \$400 and a litre of petrol costs \$1.36. In Geelong, Victoria, the median rental is \$410 and a litre of petrol \$1. While undoubtedly the cost of housing is a significant cost for most households, this simple example illustrates that constructing a poverty rate based on income net of housing costs may not accurately capture differences in living costs – especially if some living costs differ in one direction and others in the opposite direction.

For this report we use gross total household income, unadjusted for living costs and/or income variations across Australia.<sup>4</sup> Given we are using a consistently created measure for all three census years, we will be capturing important features of how we might identify areas that are entrenched in terms of having low levels of poverty over several years.<sup>5</sup>

The third challenge in measuring poverty is to define the threshold to be used. For the purposes of this report, we are anchoring our definition of poverty equivalised household income below 60 percent of median income across Australia. Equivalised household income takes household structure (number of persons and roles (adult/child)) into account in estimating an adjusted income.

4. Income taxes are included in our measure. While some studies use disposable income (income after the deduction of income taxes), gross income is used here because disposable income is not available from the census data. However, given a progressive income tax scale – the average tax rate increases with income – this will lead to higher estimated poverty rates than if disposable income is used. This is because gross incomes are not much higher than disposable incomes for low-income households but are substantially higher for middle-income households (which results in a higher median and therefore higher poverty threshold)

5. Alternatively, we could create median household incomes at a state level. Even at a state level we would miss potential measurement issues in terms of variation across communities within most states.

This means we can more easily compare the observed household income for a given household to what might be expected as the median income for a household of the equivalent size. This comparison allows us to identify the number of households in a community above or below the 60 percent threshold to identify those in poverty.

### Why equivalised household income?

The underlying assumption behind equivalised household income is that for many household expenses, the additional (marginal) cost of including one more person should be less than one. For example, if one is making dinner, the additional cost of cooking a bit more food is less than the cost of cooking for one. A similar analogy can be made with respect to housing costs (e.g. a 2 bedroom versus a 1 bedroom home). The use of equivalised incomes, however, has been criticised because families will incur expenses for outside of house costs that are not reduced based on family size. For example, the cost of two spots in daycare is likely not 1.5 times a single spot but closer to 2 times the cost of a single spot. The cost of two meals at a restaurant is two, not 1.5. Despite this shortcoming, however, the use of equivalised household incomes is one of the more common measures used to capture poverty in a community, state, or country.

To compute “equivalised income” benchmarks, we start with the median income observed for all adults. This income is then treated as the benchmark for single person households (a factor of 1). For households more than one person the median income is adjusted to reflect the size of the household. For the first adult, the median income is valued using a factor of 1.0. For an additional adult, the median income is reduced by using a factor of 0.50. For each child, the factor used is 0.3. Thus, for a household with more than one person will have an equivalised income that is the sum of the median incomes for all individuals in the household adjusted by the relevant factors. For example, for a couple household with one child, the equivalised income would be 1.8 times the median income for a single person. The factors used are as per OECD definitions.

For each household in a community we computed household income based on family composition, that is, according to the number of adults and children in the household (equivalised income). Table 1 reports the weekly equivalised income amounts per household type for the years we are studying.<sup>6</sup> For example, the median annual income in 2016 for a single household was \$34,632 (\$666 per week). Thus, to be defined as in poverty (less than 60 percent of median income) would mean earning less than \$20,880 (approximately \$400 per week). The median income for a couple was close to \$52,000 (\$999 a week) in 2016. A couple in poverty would earn less than \$31,200 (or \$600 per week).

**Table 1. Equivalised Median Income (weekly), by Household Type, Australia**

	2006 (1)	2011 (2)	2016 (3)
<b>By Household Type</b>			
Single households	\$469	\$582	\$666
Single parent households			
With 1 child	\$610	\$756	\$866
With 2 children	\$751	\$931	\$1,066
With 3 children	\$892	\$1,105	\$1,266
Couple households			
With no children	\$704	\$872	\$999
With 1 child	\$845	\$1,047	\$1,199
With 2 children	\$985	\$1,221	\$1,399
With 3 children	\$1,126	\$1,396	\$1,599

**Notes for Table 1:** As explained in the text, the starting point for measuring equivalised household income is to measure the median individual income across Australia. This value is then multiplied by a factor of 0.5 for an additional adult and a factor of 0.3 for an additional child.

6. For this report we used income as reported in the census data and used a smoothing algorithm to address issues related to the use of income bins to report individual incomes (additional information available from the authors). Other reports will rely on incomes as measured through the household expenditure survey (ABS). We have chosen to use the measures as captured in the census data given the census captures close to the whole population whereas the household expenditure survey is a sampling of the population. Our benchmarks, however, are similar to those created using the household expenditure survey.



## 2.2

### Data Development



The data used for this report are collected by the Australian Bureau of Statistics (ABS) in the five-yearly census.<sup>7</sup> The use of census data means we can obtain data on a range of variables, whose definitions remain relatively consistent over time. Critical to this report were decisions about the population to study and the level of geographic classification to use. We address each of these decisions briefly here.

#### 2.2.1 Population Studied

On each census night, the ABS solicits information from all individuals present in Australia. Questions are asked about both the location of the individual on enumeration night as well as the usual residence of the individual. This report focuses on the measure that captures the usual residence.<sup>8</sup> We have excluded from our analysis those

individuals who would be classified as visitors to Australia. We also exclude information from individuals for whom there is insufficient information collected. Detailed information on the exclusions is available from the authors.

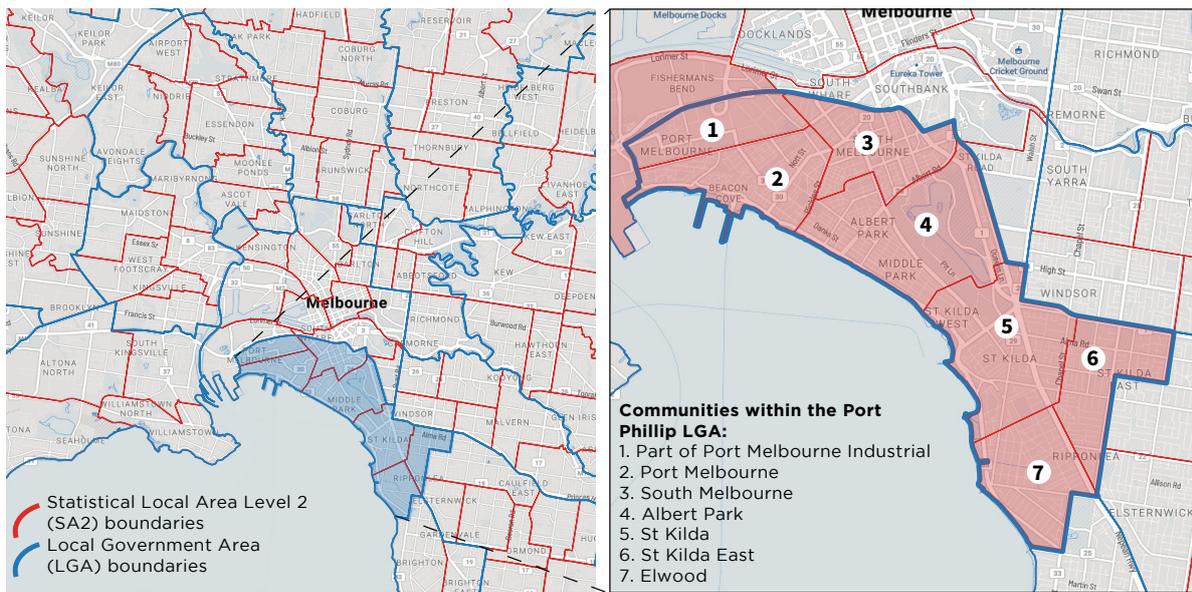
#### 2.2.2 Geography Used

Our goal was to use a geography that effectively captures a community. The census geographical structure starts with a mesh block. The 2016 Census captures 358,122 mesh blocks. While there are a range of criteria considered when establishing a mesh block, key features include the location of main roads and natural boundaries. Information on the residents located in neighbouring mesh blocks can be rolled up into what are called statistical areas. Statistical Area Level 1 (SA1) captures geographical areas that typically have a population that ranges from 200 to 800 people. An attractive feature of the

7. Details on how the data set was constructed are available from the authors.

8. Note that for the past three censuses, the share of census respondents that were in the location of their usual residence is 93.9 percent in 2016, 95.2 percent in 2011 and 95.3 percent in 2006.

Figure 2. Geographic Boundary Illustration



Notes for Figure 2: The boundaries in red represents the boundaries of the ABS defined Statistical Area 2 (SA2) geographies. The boundaries in blue capture the geographical boundary for the local government areas (LGA).

SA1 classification is that it is designed to capture Aboriginal and Torres Strait Islander communities with the aim of excluding as much of the non-indigenous population as possible. This geographic breakdown, however, could result in a high degree of suppression of information about the area due to low observed counts for a given measure.

Our analysis relies on the data available at the geographic level defined as Statistical Area Level 2 (SA2). An SA2's population typically ranges from 3,000 to 25,000 persons, with an average population of 10,000 persons. This translates into 2,000 to 10,000 households per SA2. A small town is usually captured in a single SA2. It is not uncommon that a "local government area" (LGA) will be captured in a single SA2. In deciding whether to define an SA2 as the same as an LGA, the ABS took into account a series of factors which included such things as the recognition of the LGA by the broader public as a geographically designated area, its recognition across relevant stakeholders, and distinct geographical features associated with the LGA.

Metropolitan areas contain many SA2's, which are often smaller than an LGA. Figure 2 illustrates the boundaries we are using for communities for a part of Melbourne. The boundaries for SA2 geographies are outlined in red. We have also included the boundaries for the relevant LGA geographies (in blue). Prominent in this figure are the SA2's associated with the LGA known as Port Phillip. This LGA is captured by seven communities: Port Melbourne, Albert Park, South Melbourne, St. Kilda, St. Kilda East, Elwood and a part of Port Melbourne Industrial.

The SA2 geographic boundaries for the 2016 census are slightly different from the boundaries in the 2011 census. For the purposes of this report, we utilise the 2016 boundaries for the 2011 data. Prior to 2011 the ABS used a different geographic standard. To make the 2006 data comparable to the 2011 and 2016 data, we use the ABS correspondence table. In cases where the correspondence table splits the data across SA2's, we weight the values for each census measure based on the proportion of the population that has been attributed to the SA2.

**Table 2. Number of communities excluded from the study**

	2006 (1)	2011 (2)	2016 (3)
Total number of communities studied	2,143	2,155	2,162
Total number of excluded communities	102	119	119
Total population less than 500	59	49	35
Low number of households participating in census	43	56	73
Reported income for all households in community is zero or negative	0	14	11

**Notes for Table 2:** A community is defined as the covering a geographical area known as “Statistical Area 2” (SA2), as developed by the Australian Bureau of Statistics. Each SA2 represents ‘a community that interacts together socially and economically’. The population for an SA2 region ranges between 3,000 to 25,000 (ABS). More detailed information on the exclusions is available from the authors.

### 2.2.3 Household Types

As discussed above, whether a given household is treated as being in poverty depends on the composition of the household and household income relative to the equivalised measures of median income by household type. The analysis focuses on four household types: single households; couples; single parents with children; and couples with children. The census data, however, is geared towards capturing information at a dwelling level. We have arranged the data to focus on the information based on household configuration. For example, single persons can live on their own or with roommates in a group household. We capture the information for singles regardless of choice of housing. For families with children, a small proportion of families identify a non-maternal or non-paternal adult as the carer of the children in the household. For example, we observe an aunt caring for her nieces and nephews. For this report, we focus on the number of adults and the number of children instead of the familial relationship. In our tables we group families with children based on the number of adults in the household. To compute poverty rates, we take into account the number of children to use the appropriate equivalised income comparison.

### 2.2.4 Income Measures

We use several variables in the census data to capture income. For single households we use total personal income. The non-response rate for this variable was 9 percent in 2016 (7.9 percent in 2011 and 8.9 percent in 2006). For all other household types, total household income (ABS derived by summing the total personal income of each household member aged 15 years and over). The non-response rate for this variable was 1.5 percent in 2016 and 2 percent in 2011.

All income measures are reported by the ABS in binned amounts. For this report we assign the midpoint of the bin to capture the income for the given household type. We have explored using other parts of the bin to measure income. Our computation of poverty rates does not differ dramatically from what is reported when using the mid-point of the bin as the measure of household income.

Another issue to resolve is the treatment of incomes that are nil or negative. Studies conducted by the ABS (2011) suggest that the negative and nil income results include people who own their own business and report negative income due to losses or the negative gearing of assets in their investment portfolios. Thus, such households should not be treated as experiencing poverty when computing poverty rates.

### 2.2.5 Summary Information of the Communities Studied

In this section we present summary statistics of population size and number of households in the communities studied. We analyse more than 2,100 communities over the three census years. In Table 2, we report the number of communities we exclude from the analysis because they are in remote regions (population of less than 500 persons); a low number of households completed the census; or the incomes reported for all households in the community are zero or negative.

In Table 3, we report summary statistics for the communities we are studying. In Panel A, we report the counts of total households across Australia (column 2). Not surprisingly, the number of households increased from 6.8 million in 2006 to over 8 million in 2016. At the community level, the average number of households in 2016 is approximately 3,750, an increase of close to 18 percent from 2006.

**Table 3. Descriptive Statistics of Communities Studied**

	Year	Total number Households (millions)	Average number of Households per Community	Standard Deviation
	(1)	(2)	(3)	(4)
<b>Panel A: Number of Households</b>				
All communities	2006	6.82	3,179	(1,930.8)
	2011	7.52	3,484	(2,137.8)
	2016	8.12	3,750	(2,400.8)
Rural communities	2006	1.98	2,268	(1,369.9)
	2011	1.98	2,461	(1,538.9)
	2016	2.07	12,606	(1,719.2)
<b>Panel B: Number of Households by Household Type, 2016</b>				
Type of Household	Total number Households (millions)	Average number of Households per Community	% change in Household type: 2006 to 2016	
	(1)	(2)	(3)	
Single households	2.90	1,340	20.3%	
Couple households	2.08	962	17.4%	
Single parent households with children	0.81	376	15.2%	
Couple households with children	2.32	1,072	16.7%	

*Notes for Table 3:* See notes to Table 2 for definition of community.

The ABS classifies communities as rural if they are not located in an urban centre or are in a bounded locality. Approximately 35 percent of Australian communities are classified as rural, with approximately two million households residing in a rural region.

In Panel B of Table 3, we report the average number of households per community by household type. On average, single-person and couple households with children dominate, followed by couple households and then single parent households with children. In column 3, we report the changes between 2006 and 2016. The counts for all household types increased, with the biggest increase in the number of single-person households.

### 3. Capturing Poverty Across Our Communities





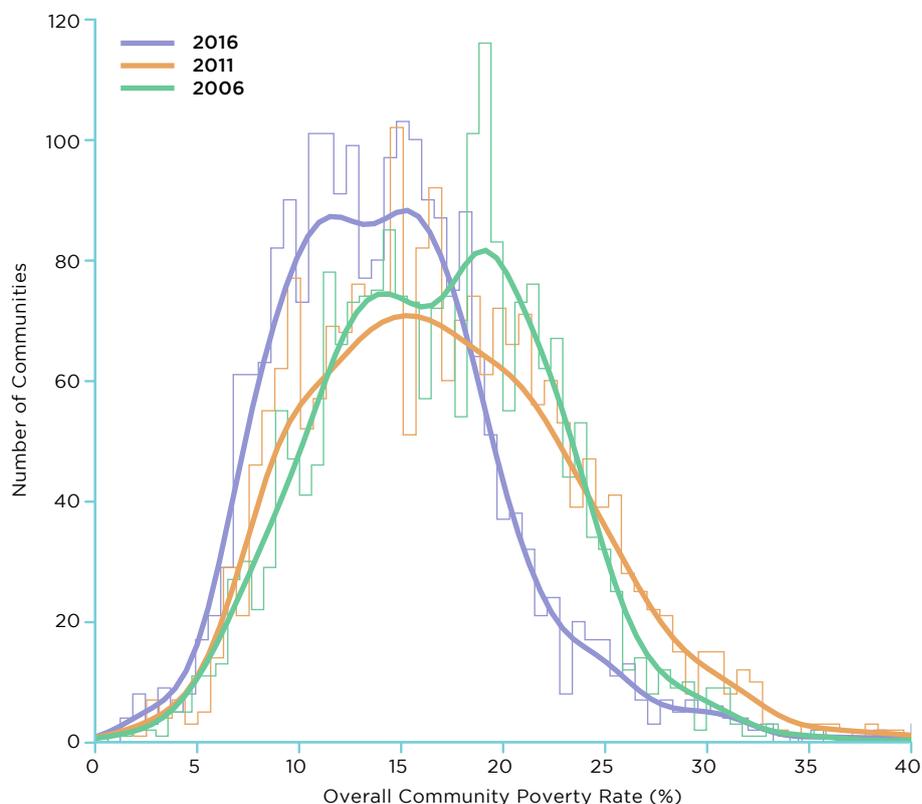
As discussed earlier, OECD data indicate that overall poverty in Australia has been high relative to many other developed countries, albeit improving from 2012 to 2016. The rest of this report analyses poverty in Australia at a community level, using Australian census data as outlined above.

Our first measure of poverty at a community level is what we will refer to as “an overall community poverty rate.” This reflects the share of households within a community whose equivalised income is less than 60 percent of the median income across all Australia. Figure 3 depicts the distribution of the overall community poverty rate for the three census periods. The x-axis reflects the community poverty rate. The y-axis depicts the number of communities for each poverty rate.

When compared to 2006 and 2011, a higher proportion of communities have lower overall poverty rates in 2016 than in 2006 and 2011. This is shown by the purple (2016) line being more to the left than the lines for the other years. At the same time, however, a small number of communities have quite high poverty rates. Recall that when measured at a country level, the poverty rate ranges from 12 to 14 percent. As Figure 3 illustrates, a high proportion of the communities have poverty rates that exceed 14 percent.

In Table 4, Panel A, we report the summary statistics across all communities for the three census years. The average community level poverty rate in 2006 and 2011 is 17 percent. The rate drops to closer to 15 percent by 2016.

**Figure 3. Overall Community Poverty Rate**



*Notes for Figure 3:* The faint stepped lines represent the histograms (for census years 2006, 2011 and 2016) for number of households experiencing total poverty (i.e. household incomes < 60 percent of median household income), while the solid thicker lines represent their smoothed counterparts.

**Table 4. Community Poverty Rates**

Overall Poverty (Household Income Less Than 60% Median Income)	2006 (1)	2011 (2)	2016 (3)
<b>Panel A: Summary Statistics by Community Level Poverty Rates</b>			
Average share of households in poverty across all communities (standard deviation)	17.1% (6.3%)	17.2% (6.9%)	14.7% (6.5%)
Maximum community poverty rate	59.3%	62.9%	61.6%
Minimum community poverty rate	0.64%	0.0%	0.0%
<b>Panel B: Range of Poverty Rates for Communities Grouped by Quintile</b>			
Quintile 1 (highest poverty)	21.8%–59.3%	22.7%–62.9%	18.5%–61.6%
Quintile 2	18.7%–21.7%	18.5%–22.6%	15.4%–18.4%
Quintile 3	15.2%–18.6%	14.8%–18.4%	12.6%–15.3%
Quintile 4	11.8%–15.1%	11.2%–14.7%	9.7%–12.5%
Quintile 5 (lowest poverty)	0.6%–11.7%	0%–11.1%	0%–12.4%

*Notes for Table 4:* For each community we compute the average share of households with equivalised incomes less than the threshold (60 percent of median income). The statistics reported in this table reflect the relevant statistic across all communities. For example, the average is the average community poverty rate observed. Communities are grouped based on a rank that reflects the poverty rate observed for the community. Quintile 1 captures communities with the highest poverty rates and quintile 5 captures communities with the lowest poverty rates.

The average community poverty rate is lower than the national rate for all years. The distribution of the community poverty rates, however, is extensive. There are communities with no observed poverty (a community in the ACT) but also communities with rates of greater than 50 percent (mostly in the Northern Territory).

To illustrate further the diversity in poverty rates at a community level, we report the range of poverty rates by ranking the communities based on the overall poverty rate and then grouping them into quintiles. In the “top” quintile, those communities with the highest poverty rate, the threshold poverty rate is 21.8 percent in 2006 and 18.5 percent in 2016. For this top quintile, communities in all states and territories are represented. Based on a count of communities, not weighted by population, in 2016, 35 percent of the communities are located in New South Wales; and 19 percent in Victoria. By 2016, the share of the communities in poverty in New

South Wales has declined (to 30 percent) and the share of communities in Victoria has increased (to 21 percent). Meanwhile, the number of communities in this top quintile has increased between 2006 and 2016 for Western Australia and Queensland but decreased for Tasmania and stayed relatively constant for South Australia.

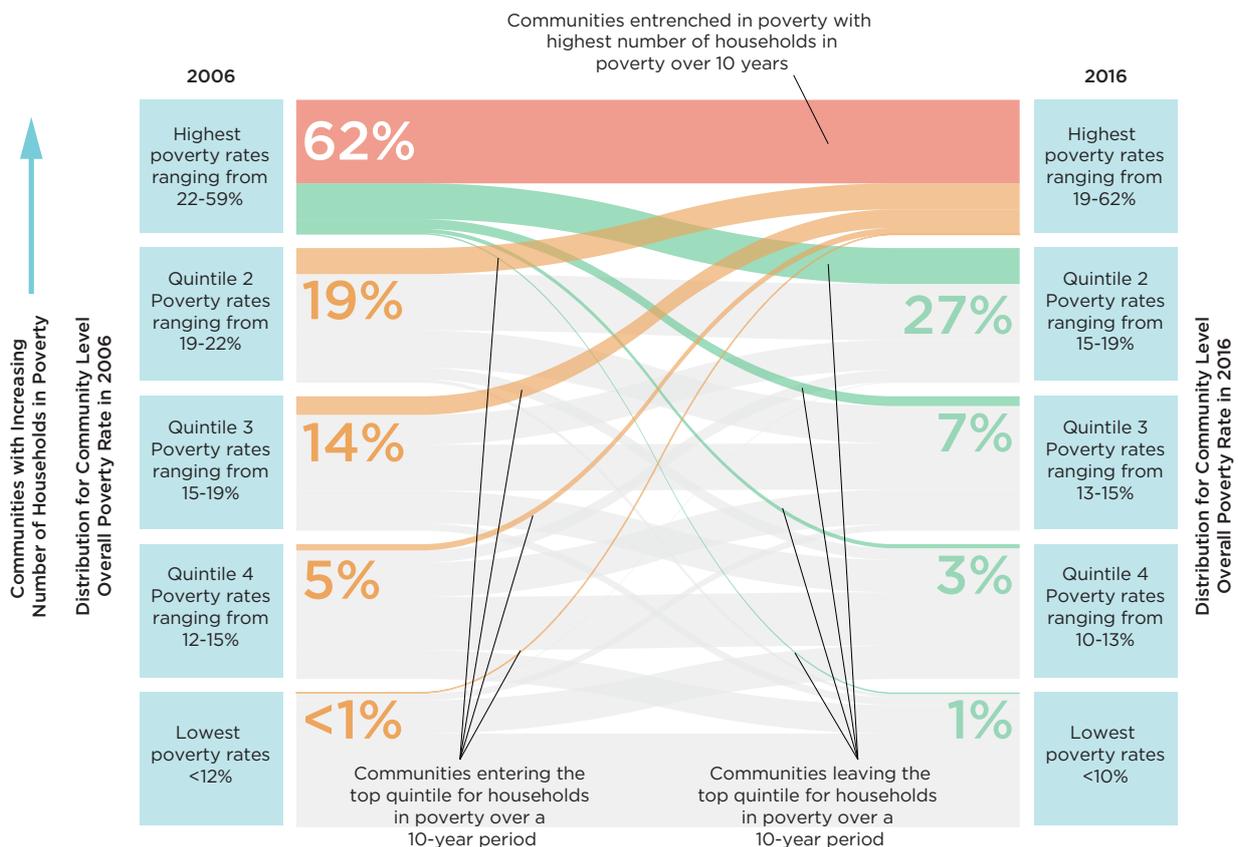
Do the same communities experience high poverty rates across all three census years? To answer this question, Figure 4 provides a Sankey diagram to illustrate the flow of communities based on their 2006 and 2016 poverty rates.<sup>9</sup> On the left-hand side, we depict the communities based on the rank of their community poverty rate in 2006. The top 20 percent represents the communities with the highest rates and the bottom 20 percent represents the communities with the lowest rates. On the right-hand side, we arrange the communities based on the 2016 community poverty rates.

9. A diagram used to visualise flows with arrows depicting the flow rate, first used in Engineering in 1898. Kennedy, Alex B. W.; Sankey, H. Riall (1898). Here we use this figure to visualise flows of communities in to different rank of share of households in poverty over a 10-year period from 2006 to 2016.

We highlight three flows. The flow in red represents the communities with the highest community poverty rates in both 2006 and 2016: what we term “entrenched” communities. The flow depicted in orange represents the communities that were not in the top quintile of community poverty rates in 2006 but moved into this top quintile by 2016: we call these communities those that “transitioned **into** higher poverty.” Lastly, the flow depicted in green illustrates the communities that were in the top quintile of high community poverty rates in 2006 and transitioned out of this top quintile by 2016: communities we call ones that “transitioned **out**

of high poverty.” Figure 4 illustrates that while a high proportion (62 percent) of communities that exhibited high poverty rates in 2006 remain that way in 2016, there are many communities that move into or out of high rates of poverty. Figure 4 also illustrates, however, that it may be easier to move into a high poverty rate than it is to move out of high poverty rates. Of the 38 percent of communities that moved out of the top quintile, 71 percent of these communities moved from the highest quintile to the second highest quintile. The community poverty rates for the second highest quintile in 2016 is still quite high, ranging from 15 to 19 percent.

**Figure 4. Flow of Communities Based on Overall Poverty Rates, 2006-2016**



**Notes for Figure 4:** Communities are grouped based on the overall poverty rate for the community in the given year. Overall poverty rate is defined as the number of households whose equivalised income is less than 60 percent of the median income across Australia. The groupings are based on quintiles. PR provides the range in poverty rates for the communities within the given quintile. Quintile 1 captures communities with the highest poverty rates while Quintile 5 captures communities with the lowest poverty rates.

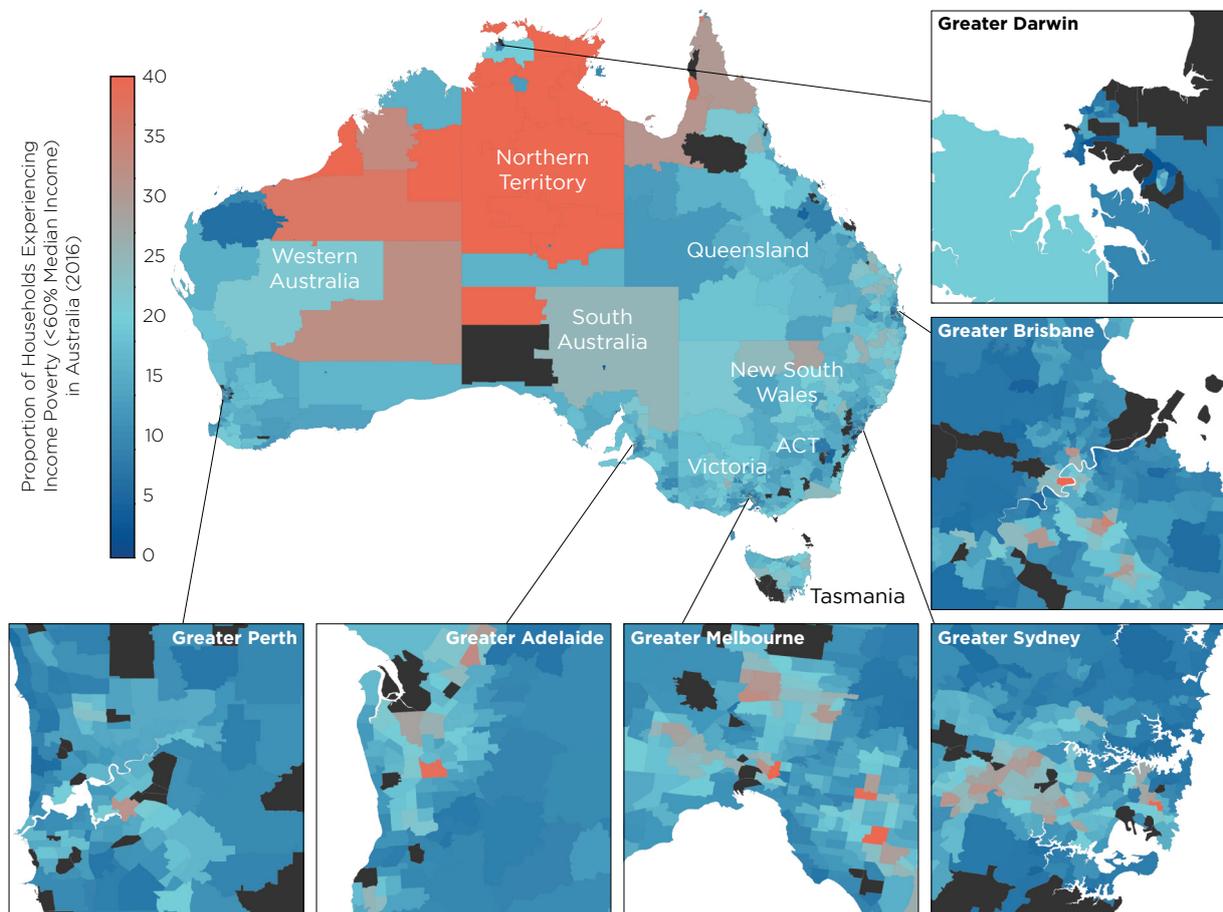
**Explore the distribution of community-level poverty rates across Australia**

Interactive versions of elements presented in this report are accessible online. They may be accessed under the Downloads panel on the *Breaking Down Barriers* report series landing page within the Melbourne Institute web site.  
<https://melbourneinstitute.unimelb.edu.au/research/reports/breaking-down-barriers>

Are these high-poverty communities located in the same geographic area of Australia? Or are there specific communities to which we can point to that are geographically based in each state? In Figure 5, we depict a map of Australia with boundaries at a community level (SA2). The colour coding in this map represents the overall community poverty rate for communities in 2016. Shading that is closer to red represents high community poverty

rates (30 to 45 percent) whereas shading close to deep blue represent low community poverty rates (e.g. 0 to 10 percent). This map demonstrates that high community level poverty is present across Australia.

**Figure 5. Distribution of Communities (Overall Poverty) across Australia, 2016**



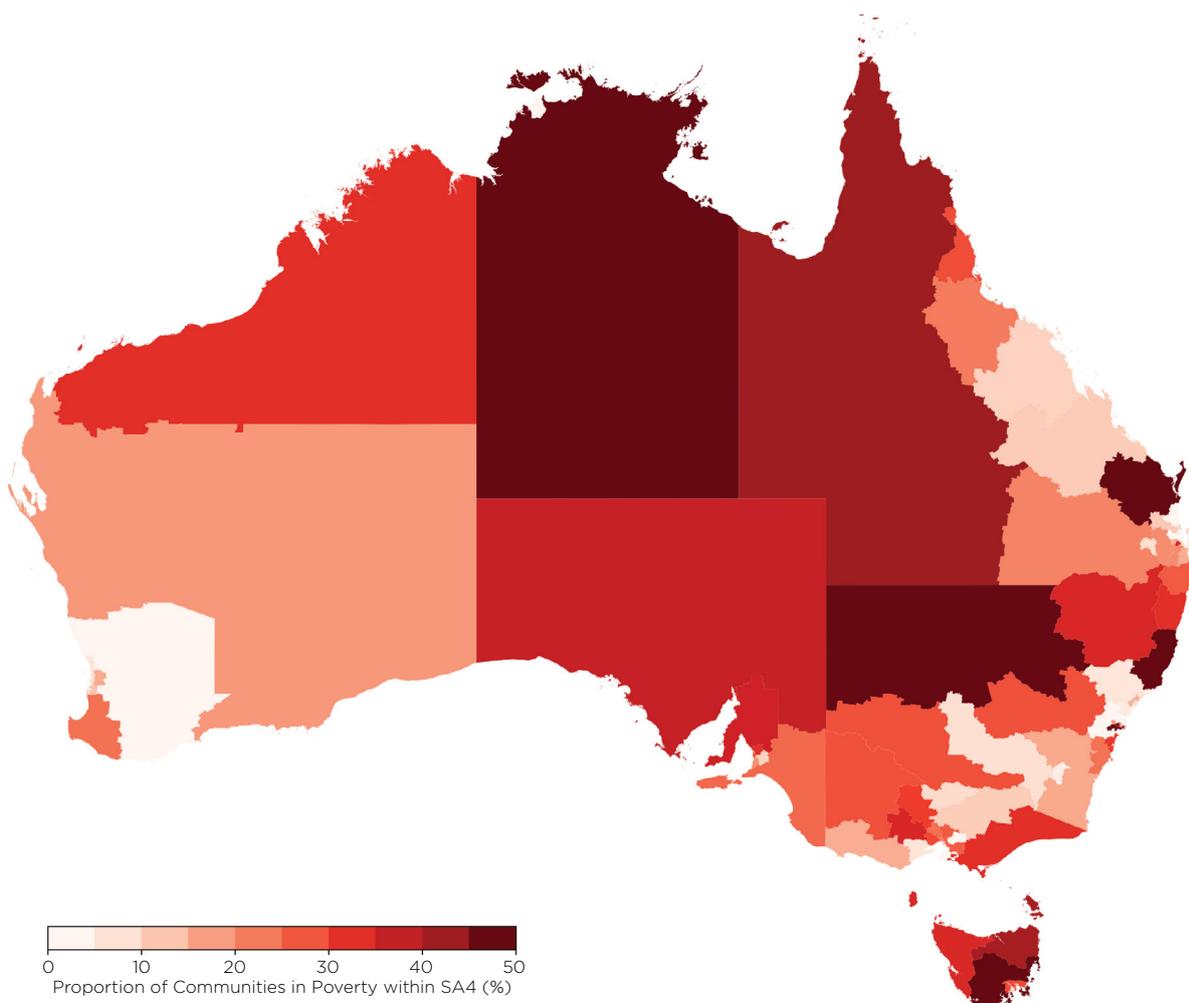
**Notes for Figure 5:** For each community, we compute localised measures for share of households experiencing poverty. Colour coding of communities ranges from dark blue for communities with low poverty rates to red for communities with high poverty rates. Black regions represent communities with low counts that have been excluded (numbers shown in Table 2) from the analyses used for this report. An interactive version of this figure is available online. Please refer the box on Page 31.

In Figure 6, we depict a map of Australia to illustrate the extent to which communities with high poverty rates are located next to each other. We do this by computing the share of SA2s within a higher-level statistical area (SA4) observed in the top quintile of community poverty rates in 2016. The ABS defines SA4 as the area that roughly represents the labour markets for the given region (ABS Australian Statistical Geography Standard). The population in most SA4s exceed 100,000. For regional (non-metropolitan) areas, an SA4 ranges from 100,000 to 300,000 in population. Metropolitan SA4s have populations that range from 300,000 to 500,000. The shading in Figure 6 is such

that the darker the red for the SA4, the higher the proportions of SA2s (communities) with community poverty rates in the top quintile. For example, in the Northern Territory, approximately 45 to 50 percent of the SA2s in the SA4 fall into the highest grouping of overall poverty as shown in Figure 3.

Figures 4, 5, and 6 illustrate that communities with high poverty rates are observed across Australia and that there are communities that stay at the bottom of the pack but also communities move into and out of the relative distribution of communities based on poverty rates.

**Figure 6. Distribution of High Poverty Communities Across Australia, 2016**



**Notes for Figure 6:** An SA4 is a higher-level geographic classification established by the ABS. For each SA4, we compute the share of SA2 communities contained in the SA4 that have poverty rates in the top quintile (quintile 1) of the 2016 distribution of poverty rates for the community. The darker the shading, the higher the proportion of communities with high poverty rates. For example at the highest measure, 45 to 50 percent of the communities in the given SA4 are classified as being in the top 20 percent of all communities in Australia for poverty.



# 4. Correlates of Socio-Economic Measures and Community Poverty Rates





In the last section, we established that community level poverty rates can be high and that there are differences in the movement into and out of the highest poverty rates. We turn next to looking at community characteristics based on key socio-demographic measures that might help us to better understand potential factors associated with high poverty rates. We group communities based on their falling into the top quintile of overall community poverty rates in 2006 and 2016: (a) **entrenched communities** are those in the top (highest poverty) quintile for both years; (b) **transitioned into high poverty** are those communities observed in the top quintile in 2016 but not in 2006; (c) **transitioned out of high poverty** are those communities observed in the top quintile in 2006 but not in 2016; and (d) **never in high poverty** capture the remaining communities.

Table 5 reports for the four community groups a range of economic and demographic characteristics. For each measure we report the average of the means for the communities within each grouping. Reported in Table 5 is the average group value in 2006, the average group value in 2016, and then an arrow to indicate whether the value has increased or decreased. The colouring highlights the importance of the change supporting a decrease in poverty rates (in green), an increase in poverty rates (in red), or no clear direction of the change as it relates to poverty (in black). Statistics highlighted in yellow indicate that the average for the community group has not changed over the 10-year period.

We begin by looking at differences in population growth (or decline) based on being identified as Australian born, Indigenous or Torres Strait Islander. Starting with Australian born, the communities that transitioned out of high poverty have relatively higher shares of Australian born individuals than the communities in the other community groups. Between 2006 and 2016, the share falls by 2 percentage points. In contrast, for the communities that transitioned into high poverty, the average share identified as Australian born is the lowest of all community groups. Between 2006 and 2016, this share fell by 8 percentage points. For the community group

that transitioned out of high poverty, the average share is over 4 percent.

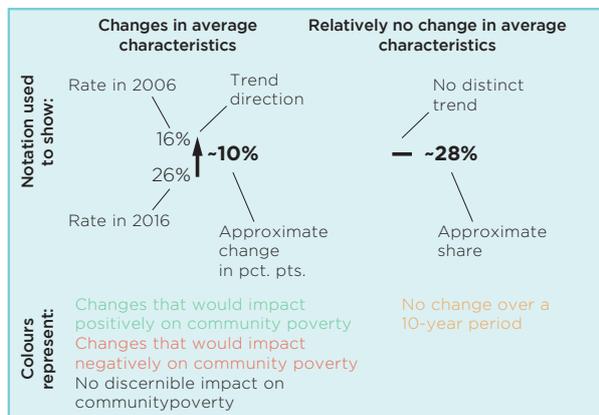
Moving next to the average share of the population who are Indigenous or Torres Strait Islander, with the exception of the entrenched communities, the average share of the population for the three other community groups is representative of the national average reported for this demographic, approximately 2 to 4 percent. For the community group that transitioned out of high poverty, the average share is over 4 percent. In contrast, for the group of communities identified as entrenched, the share of the population identified as Indigenous or Torres Strait Islander is high, approximately 11 percent.

The census measures for migration focus on whether the household remains in the same house over a five-year period. Ideally, we would measure moving communities. Thus, our exploration of migration into or out of communities is limited. Across all community groups, slightly more than half of the population remains in the same house over a five-year period and this statistic is relatively stable between 2006 and 2016. For the entrenched poverty communities, a slightly higher share of the population reports moving houses than those in the other community groups.

We next look at the average age distribution across the community groups. To study age, we grouped the population into three age groups: those less than 19, those of working age (20 to 64), and those 65 years plus. Across all groups, the average share of the population under 19 is approximately the same in both census years. Between 2006 and 2016, however, the share drops between two and three percent. Turning next to those of working age, there are slightly higher average shares (58 to 62 percent) for the groups identified as entrenched to as transitioning into high poverty. For those that are 65 years plus, the most noticeable statistic is that the share of the population represented by this age group is higher and increasing for the community group identified as transitioning out of high poverty.

**Table 5. Differences Across Community Types Based on Average Socio-Demographic Characteristics**

	Community Characteristic	All Groups	Entrenched Poverty	Transitioned into High Poverty	Transitioned out of High Poverty	Never in High Poverty
Population characteristics	Share of community that is Australian born	73% 70% ↓ -3%	73% 68% ↓ -5%	68% 60% ↓ -8%	79% 77% ↓ -2%	74% 71% ↓ -3%
	Share of community that is Indigenous or Torres Strait Islander	— -3.5%	— -11%	2.2% 4% ↑ -1.5%	— -4.2%	— -2.5%
Migration	Share of community that remained in the same house	53% 54% ↑ -1%	— -55%	51% 49% ↓ -2%	51% 53% ↑ -2%	49% 50% ↑ -1%
Age	Share of community that is 19 or younger	27% 25% ↓ -2%	27% 24% ↓ -3%	26% 23% ↓ -3%	26% 23% ↓ -3%	27% 25% ↓ -2%
	Share of community that is of working age (20-64)	— -57%	— -58%	— -62%	57% 56% ↓ -1%	60% 59% ↓ -1%
	Share of community that is older (65+)	13% 16% ↑ -3%	12% 16% ↑ -4%	14% 18% ↑ -4%	17% 22% ↑ -5%	12% 16% ↑ -4%
	Share of community Employed if working age (20-64)	Some divergence in patterns	60% 56% ↓ -4%	68% 62% ↓ -6%	63% 67% ↑ -4%	— -72%
Employment status	Share of community Unemployed if working age (20-64)	Increase for most groups	4.8% 6.5% ↑ -2%	3.6% 5.8% ↑ -2%	— -4.5%	2.9% 4% ↑ -1%
	Share of community not in labour force if working age (20-64)	Differential trends across groups	— -29%	21.6% 24.6% ↑ -3%	27.1% 22.2% ↓ -5%	17.1% 19.3% ↓ -2%
Unemployment by age group	Share of community Unemployed or not in labour force if young (20-34)	Differential trends across groups	31.4% 34.9% ↑ -4%	23.4% 30.5% ↑ -7%	28.8% 23.8% ↓ 5%	— -20%
	Share of community Unemployed or not in labour force if middle aged (35-49)	Differential trends across groups	27% 30% ↑ 3%	20% 25% ↑ 5%	24% 21% ↓ 3%	— -17%
	Share of community Unemployed or not in labour force if older population (50-64)	Mostly falling	42% 40% ↓ 2%	34% 35% ↑ 1%	42% 33% ↓ 9%	31% 27% ↓ 4%
Education by age group	Share of young population (20-34) with at most a high school certificate	Limited changes	— -28%	28.4% 29.5% ↑ -1%	— -24%	— -27%
	Share of middle aged population (35-49) with at most a high school certificate	Decrease across all groups -5%	35% 30% ↓ -5%	36% 31% ↓ -5%	36% 30% ↓ -6%	37% 32% ↓ -5%
	Share of older population (50-64) with at most a high school certificate	Increase across all groups -5%	36% 41% ↑ -5%	35% 39% ↑ -4%	40% 46% ↑ -6%	35% 41% ↑ -6%



**Notes for Table 5:** Depicted are changes in averages for the communities within the given grouping. Cells that are shaded red indicate a decline in the average for a characteristic; cells that are shaded green indicate an improvement in average for a characteristic; and cells that are shaded orange indicate relatively no change.

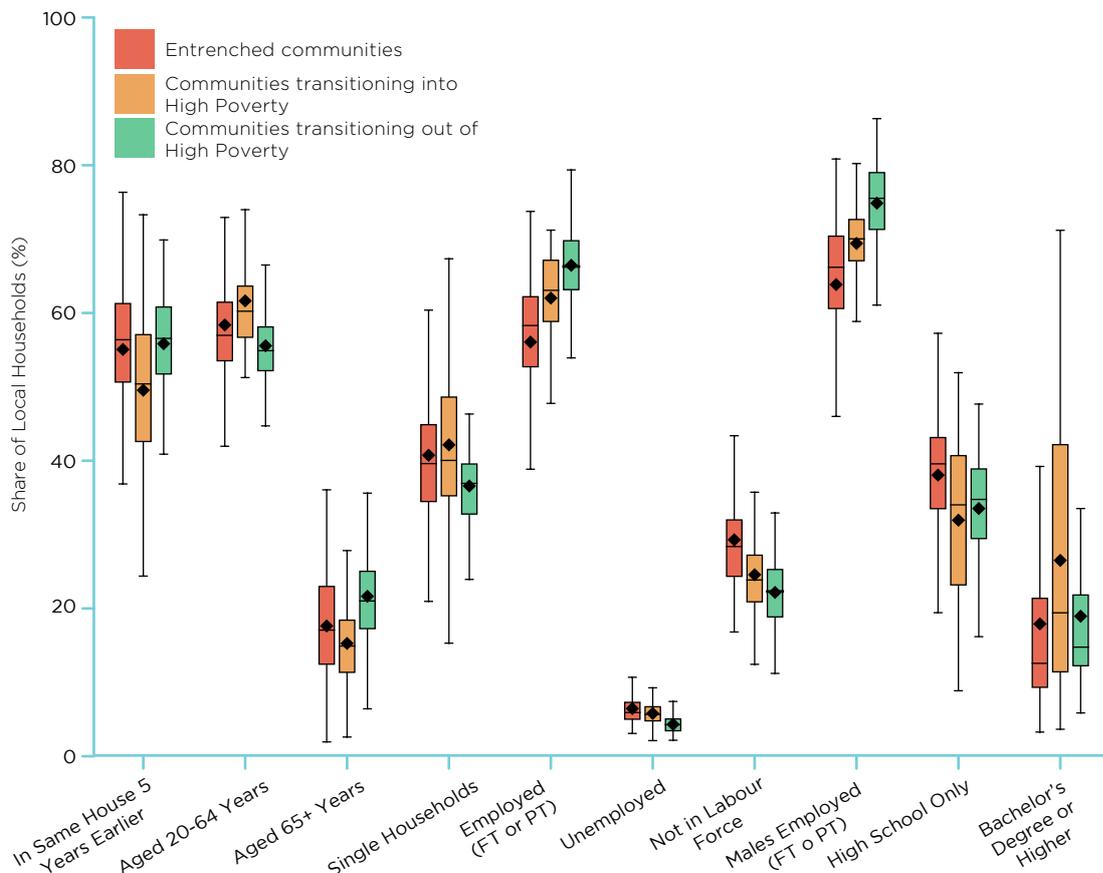
For employment status we focus on the working age population, those aged 20 to 64. Starting first with the group identified as entrenched poverty, this group has the lowest proportions of the population identified as employed and the highest levels of those not in the labour force. Between 2006 and 2016, the average statistics worsen as it relates to less employment and higher unemployment. There is minimal change in for those that are identified as not in the labour force.

For the group of communities identified as transitioning into high poverty, between 2006 and 2016 employment rates fell and unemployment and out of the labour force rates increased. A higher proportion of the population in this group in 2016, however, are employed relative to the entrenched poverty group.

Moving next to the group of communities that transitioned out of poverty, employment rates improved, unemployment rates were relatively stable (4.7 to 4.3 percent) and the share that report being out of the labour force declined between 2006 and 2016. Finally, for the community group identified as those never observed in high poverty, the average share of the population employed is high and stable over the period, however, the share of those unemployed increased by one percentage point.

To dig a bit deeper into unemployment rates, we grouped individuals that are identified as unemployed or not in the labour force into three age ranges: those 20 to 34; those 35-59; and those 50 to 64. The most disturbing set of statistics is that for the communities in groups identified as entrenched or transitioned into

**Figure 7. Distributions of Key Demographics for High Poverty Communities, 2016**



**Notes for Figure 7:** For this figure we group communities based on the change in poverty rates between 2006 and 2016. Only communities that are ever observed in the top quintile of poverty rates (2006 and/or 2016). Depicted are the shares of the population for each community for the given demographic measure. Bars represent distribution of data within the 25th and 75th percentiles, the range of whiskers represent 99.3 percent of the distribution; solid lines and diamond markers in the middle of the bar represent median and mean values of the distribution respectively. Entrenched communities (red) are those communities with the highest poverty rates (top 20 percent) for both years. Communities in orange are those that move into the top quintile of communities in 2016. Communities in green are those that move out of the top quintile in 2016.

high poverty, the unemployment rates increased substantially for those in the youngest age cohort. Across the three cohorts, the average share not employed for the entrenched group of communities is five percentage points greater than the equivalent average for the group of communities that transitioned into high poverty.

For the group of communities that transitioned out of high poverty, across all three age groups, the rates of not being employed fell substantially across all three age groups. For those aged 20 to 34, the rate fell by five percentage points, and for those aged 50 to 64 the rate fell by nine percentage points. Finally, for the group of communities never observed with high poverty rates, the rates across the younger two age cohorts remained relatively stable and the rate for those 50 to 64 fell by four percentage points between 2006 and 2016.

Finally, we grouped the population into three age groups (20 to 34, 35-49, and 50-64) to explore the role of educational achievement. We focus on a single metric, the proportion of the population with no more than a high school certificate.

Starting first with the youngest age group, we would expect this statistic to be low, but we should recognise that at the age of 20, many might still be pursuing a degree or certificate beyond high school. Across all community groups, the share is relatively the same and there has been little change between 2006 and 2016. Between 24 percent (communities that transition out of high poverty) and 30 percent (communities that transition into high poverty) of the population in this age range have at most a high school certificate.

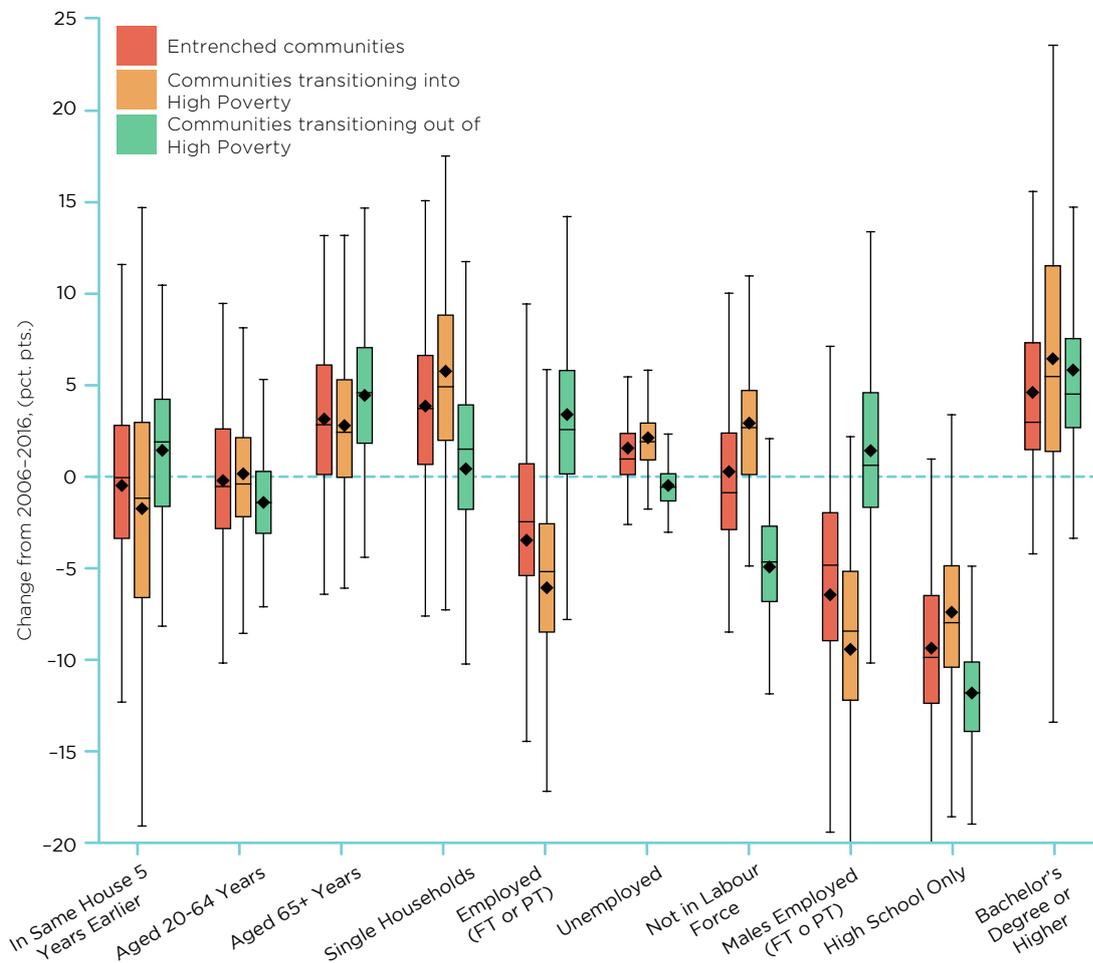
For the cohort aged 35 to 39, across all community groups there has been substantial improvements between 2006 and 2016. In 2006, the average for all community groups ranged from 35 to 37 percent. By 2016, the average share with at most a high school certificate dropped by least 5 percentage points for all groups.

Finally, for the cohort aged 40 to 64, the story is negative. Between 2006 and 2016, the share of the cohort with at most a high school certificate increased between 2006 and 2016.

Table 5 focused on measuring the statistics as averages across communities within the four community groups. Figure 7 further assesses the socio-demographic characteristics for the three community groups most tied to high poverty rates: those with entrenched poverty (red); those that transition into high poverty (orange); and those that transition out of high poverty (green). For a selection of the variables reported in Table 5, we depict the range of the average community statistics as observed in the 2016 census.

Figure 7 permits us to develop a deeper (and more consistent) story of the measures that are strongly correlated with high poverty communities. For example, Figure 7 illustrates the variation across the two “transition” community groups. It also illustrates, however, that there is not a single measure that easily identifies what might cause a community to be identified as in or out of high poverty.

**Figure 8. Change in Distributions of Key Demographics for High Poverty Communities Over a 10-Year Period Between 2006 and 2016**



*Notes for Figure 8:* Depicted is the distribution of the difference in shares of the population for each community with the communities grouped based on movement into, out of, or no movement for the 20 percent of communities exhibiting the highest poverty rates. See notes to Figure 7 for more information.

For the communities that transition out of high poverty, we observe high stability in staying in the same house, lower population rates for those aged 20 to 64, higher population rates for those over 65, lower proportions single households, higher employment, and higher male employment rates. Surprisingly, we also observe less variation in the rates of the population with at most a high school degree and lower rates of those with a bachelor's degree or higher.

For the last part of the analysis, we explore the changes in the key socio-economic measures for the three community groups observed being in high poverty for one or both years. In Figure 8, we depict the distribution of the ten-year change in these measures. For many of the measures, the median change is very close to zero (no

change). There are, however, clear differences in the ten-year changes between the group of communities that exit from high poverty and the group that enters into high poverty. Akin to Table 5 and Figure 7, there are positive changes in employment and housing stability for those communities that exit from high poverty. There is greater evidence of stronger educational achievement for this community group as evidenced by reasonably high drops in those with at most a high school certificate. Still perplexing, however, is the relatively little change in receiving a bachelor's degree or higher for this community group relative to the other two groups.



# 5. Poverty Rates at Sub-levels Differ Across Communities





This report, thus far, has focused on exploring the dynamics of poverty at a community level based on the 60 percent of median equivalised income threshold. Poverty, however, is not simply about being above or below a given threshold. The ratio of household incomes to equivalised median household income can vary widely. Unfortunately, not all households are just near the threshold for the poverty rate.

In this next section, we break community poverty rates into three groups based on the following thresholds:

- **Near poverty:** households whose income ranges from 50 to 60 percent of equivalised median income;
- **Mid-poverty:** households whose income ranges from 25 to 50 percent of equivalised median income; and
- **Extreme poverty:** those households whose income falls below 25 percent of equivalised median income.

Figure 9 illustrates the distribution of communities based on each of these poverty sub-groups. Starting first with extreme poverty (9A), less than 2.5 percent of households fall into this category across most communities. These shares, however, have become worse over time. A much higher proportion of households fall into the mid-poverty group for most communities (9B). There is a marked decline in these shares between 2006 and more recent years. The most striking figure in terms of improved circumstances is for the share of households that fall into the near poverty grouping (9C). There has been a very marked decline in these shares over the ten-year period 2006 to 2016. Figure 9, thus, depicts a story that conveys both good and bad news. The poverty rates for households with income nearest the poverty line are declining and those furthest from the poverty line are stagnant.

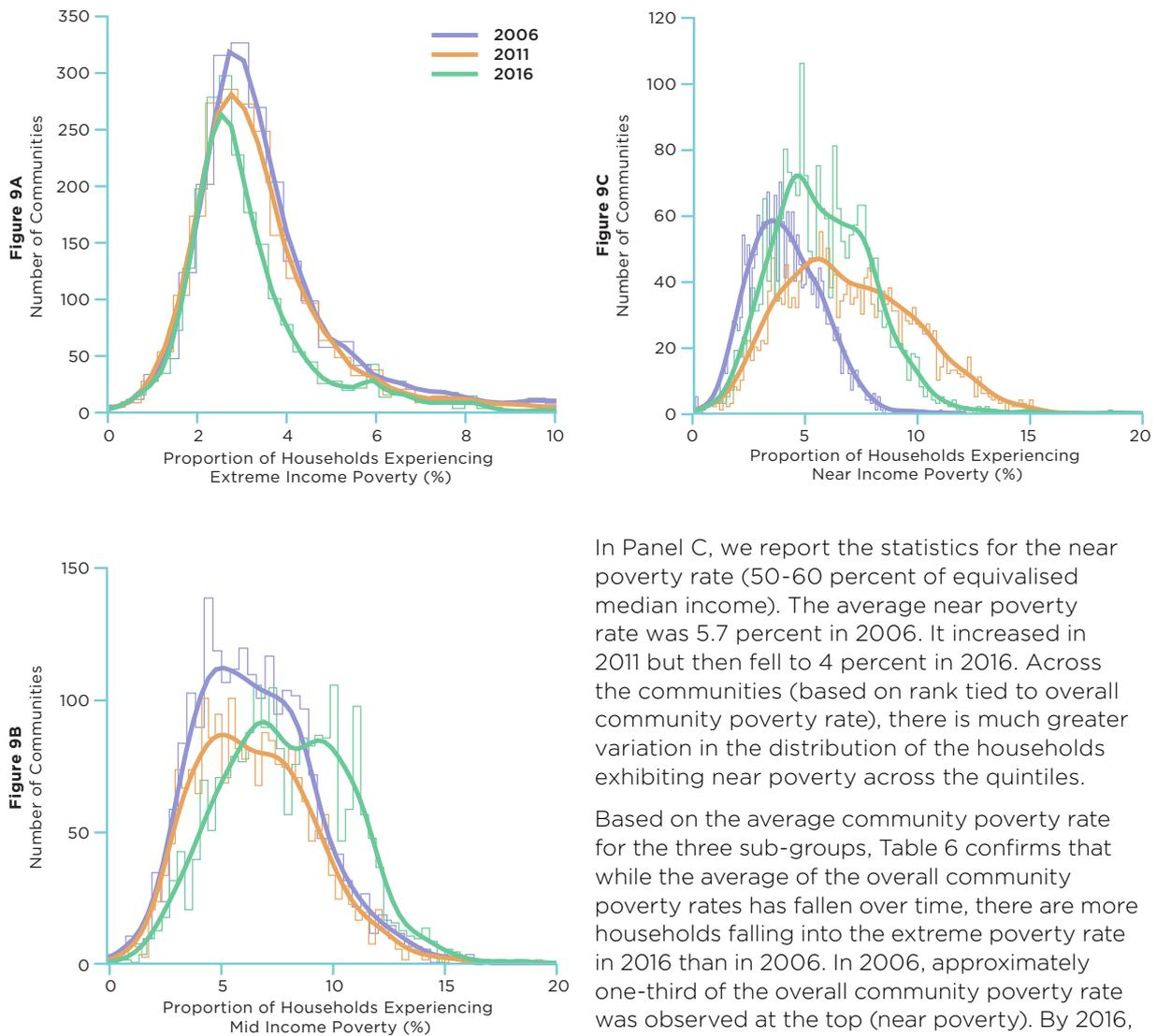
Figure 9 also reveals that most communities contain households that fall into each of these three categories of poverty. This is observable in the figures by the fact that there are very few communities with poverty rates less than 1 or 2 percent.

To illustrate further the range of poverty rates within communities based on the three sub-groups of poverty rates, in Table 6 we report the average, standard deviation, and maximum community poverty rate across for each of the sub-groups. In Panel A we report the statistics for extreme poverty rates. Across all years, the reported share of households with incomes that fall below the threshold for extreme poverty is relatively low. The share, however, increases from an average of 3.2 percent in 2006 to 3.9 percent in 2016. In addition, there are communities with very high rates of extreme poverty, ranging from 27.5 percent in 2006 to 39.1 percent in 2016.

Are households in extreme poverty only residing in communities with high overall poverty rates? To explore this question, we grouped the communities based on their ranking when we look at overall community poverty rates in each year. Quintile 1, thus, represents the communities with the highest overall poverty rates for the given census year, as reported in Table 4 above. For this group of communities, the average extreme poverty rate ranges from 0.7 to 27.4 percent in 2006 and 1.5 to 39.1 percent in 2016. This suggests that some of the communities with the highest overall poverty rate also have the highest extreme poverty rate. But this is not always the case. For the other quintiles, e.g. quintile 2 which is the group of communities exhibiting overall poverty rates in 2006 that range from 18.7 to 21.7 percent, the extreme poverty rate ranges from 1.5 to 14.8 percent. We observe a similar story for 2011 and 2016. Even for the lowest quintile, quintile 5, the group of communities with the lowest overall poverty rates, there are communities with extreme poverty rates that are above the average extreme poverty rate.

In Panel B, we report the summary statistics and range of poverty rates that meet the threshold for mid-poverty rate (25 to 50 percent of equivalised median income). The average mid-poverty rate is 8.2 percent in 2006, falling to 6.7 and 6.8 percent in 2011 and 2016, respectively. Across the communities, based on the rank tied to overall community poverty rates, the higher community mid-poverty rates are observed in the communities with the highest overall poverty rates, suggesting a positive correlation between the mid-poverty rate and the overall community poverty rates.

**Figure 9. Distribution of Households Across Poverty Groups**



**Notes for Figure 9:** The faint stepped lines represent the histograms (for census years 2006, 2011 and 2016) for number of households experiencing for the given poverty rate, while the solid thicker lines represent their smoothed counterparts.

In Panel C, we report the statistics for the near poverty rate (50-60 percent of equivalised median income). The average near poverty rate was 5.7 percent in 2006. It increased in 2011 but then fell to 4 percent in 2016. Across the communities (based on rank tied to overall community poverty rate), there is much greater variation in the distribution of the households exhibiting near poverty across the quintiles.

Based on the average community poverty rate for the three sub-groups, Table 6 confirms that while the average of the overall community poverty rates has fallen over time, there are more households falling into the extreme poverty rate in 2016 than in 2006. In 2006, approximately one-third of the overall community poverty rate was observed at the top (near poverty). By 2016, only 27 percent of the overall poverty is observed in this top sub-group. The share of the overall poverty rate attributable to extreme poverty has increased from 19 percent in 2006 to 27 percent in 2016. This last point confirms what was observed in Figure 9.

**Table 6. Disentangling Poverty Rates Into Three Groups, Summary Statistics**

	2006 (1)	2011 (2)	2016 (3)
<b>Panel A: Extreme Poverty: Household income &lt;25% median income</b>			
<i>Community Level Statistics</i>			
Average share of households in poverty across all communities	3.2%	3.2%	3.9%
(standard deviation)	(2.0%)	(2.5%)	(2.9%)
Maximum share of households	27.4%	36.0%	39.1%
<i>Range of Extreme Poverty Rates for Communities Grouped by Quintile</i>			
Quintile 1 (highest poverty)	0.7%–27.4%	1.7%–36.0%	1.5%–39.1%
Quintile 2	1.5%–14.8%	1.4%–13.4%	1.5%–9.9%
Quintile 3	1.5%–8.3%	0.9%–9.9%	1.2%–9.2%
Quintile 4	0.7%–6.7%	0.9%–8.4%	0.4%–9.5%
Quintile 5 (lowest poverty)	0%–4.8%	0%–5.5%	0%–4.5%
<b>Panel B: Mid-Poverty Household income 25–50% median income</b>			
<i>Community Level Statistics</i>			
Average share of households in poverty across all communities	8.2%	6.7%	6.8%
(standard deviation)	(3.5%)	(3.2%)	(3.5%)
Maximum share of households	34.2%	29.9%	38.9%
<i>Range of Mild Poverty Rates for Communities Grouped by Quintile</i>			
Quintile 1 (highest poverty)	6.4%–34.2%	5.1%–30.0%	3.9%–39%
Quintile 2	4.3%–12.9%	3.9%–10.6%	4.4%–11.4%
Quintile 3	5.2%–10.6%	3.4%–9.1%	3.4%–8.7%
Quintile 4	4.0%–9.1%	3.2%–8.8%	1.6%–8.2%
Quintile 5 (lowest poverty)	0%–7.5%	0%–5.2%	0%–6.0%
<b>Panel C: Near Poverty: Household income 50–60% median income</b>			
<i>Community Level Statistics</i>			
Average share of households in poverty across all communities	5.7%	6.9%	4.0%
(standard deviation)	(2.2%)	(2.9%)	(1.6%)
Maximum share of households	18.7%	15.4%	11.0%
<i>Range of Near Poverty Rates for Communities Grouped by Quintile</i>			
Quintile 1 (highest poverty)	2.8%–18.7%	3.0%–15.4%	2.3%–11.0%
Quintile 2	1.9%–9.8%	1.8%–12.0%	2.5%–6.8%
Quintile 3	3.1%–8.2%	1.6%–10.1%	2.1%–5.7%
Quintile 4	2.5%–6.6%	1.3%–8.1%	0.9%–4.6%
Quintile 5 (lowest poverty)	0.25%–5.0%	0%–6.0%	0%–4.6%

**Notes for Table 6:** Community quintiles are based on the ranking of all communities based on the community measure for overall poverty rate for the year under study.

### Definitions of Community Poverty Rates

*Overall Poverty Rate:*

Share of households within community with household incomes less than 60% of the median household income.

*Extreme Poverty Rate:*

Share of households within community with household incomes less than 25% of the median household income.

*Mid-Poverty Rate:*

Share of households within community with household incomes between 25% and 50% of the median household income.

*Near Poverty Rate:*

Share of households within community with household incomes between 50% and 60% of the median household income.

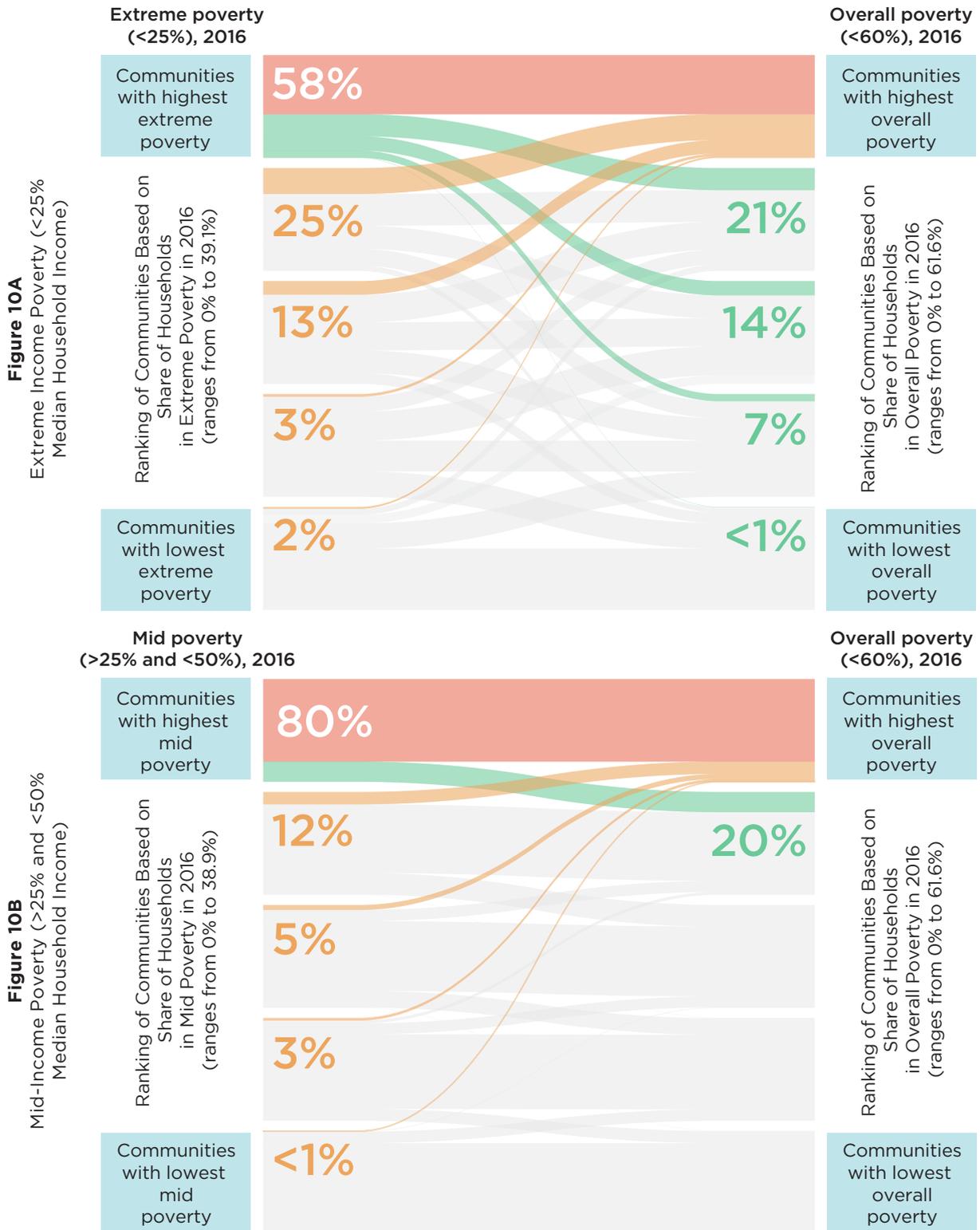
Is the distribution of our more finely scaled community poverty rates the same as the distribution for overall community poverty rates? To explore this question further, in Figure 10 we depict a flow diagram based on 2016 poverty rates. On the left-hand side of the flow we rank the communities based on the relevant sub-group community poverty rate. On the right-hand side of the flow we depict the ranking of the communities based on the overall poverty rates. The shading for these flow diagrams are as follows: red indicates communities that are ranked highest for both the depicted sub-group poverty rate and the overall community poverty rate; green indicates communities ranked highest in terms of the sub-group poverty rate but observed in the quintiles (2 to 5) that are not considered to be those in highest overall community poverty; yellow depicts communities in quintiles 2-5 in terms of the sub-group poverty rate but observed in the top quintile (high) for overall community poverty rate.

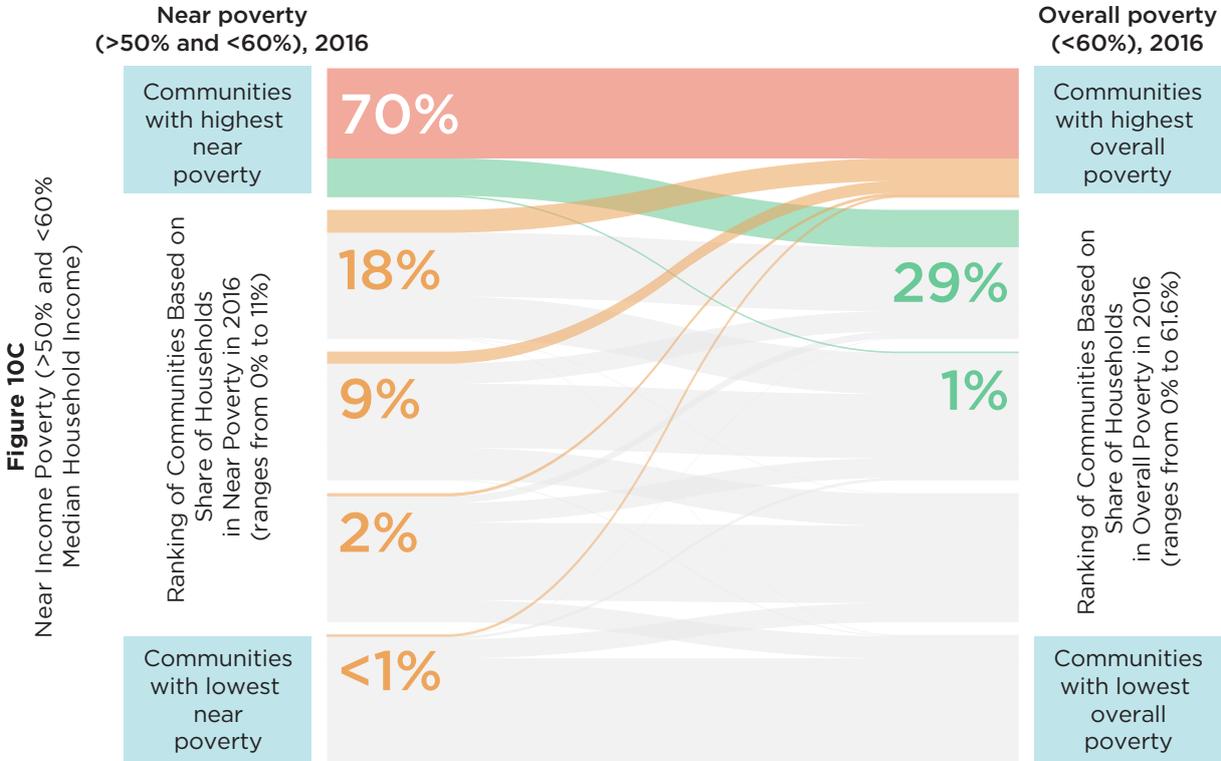
In Figure 10A, we compare the distributions for the extreme income community poverty rate. If we focus on the communities with the highest extreme poverty rates (quintile 1), 58 percent are also identified as falling into the highest quintile for overall community poverty rates. The remaining 42 percent of the communities with the highest extreme poverty rates are mostly distributed across quintiles 2, 3, and 4, with the bulk of the communities falling into the second quintile of communities based on overall poverty rates.

In Figure 10B, we depict the communities based on the ranking of the mid-income community poverty rates (left side) and their flow into the ranking of communities for the overall income community poverty rate (right side). Of the communities with the highest mid-income poverty rate, 80 percent are also observed in the top quintile of communities with the highest overall poverty rates.

Analogously, in Figure 10C, 70 percent of the communities with the highest near income community poverty rates are observed in the top quintile of communities with the highest overall poverty rate. This figure further illustrates that the poverty rates as well as the depth of poverty vary substantially across communities.

Figure 10. Ranking of Communities by Poverty Type, 2016





**Figure 10C**  
Near Income Poverty (>50% and <60% Median Household Income)

Notes for Figure 10A-C: See Figure 4 for definitions of Sankey diagram used in this report. For Figure 10, communities are ranked based on the given measure being depicted (e.g. extreme poverty rate in Figure 10A)

# 6. Poverty Across Household Types





In this penultimate section, we explore the dynamics of the average community poverty rates by household type. We classify the population in a community into four household types: single households, couples, single-parent households with children, and couple households with children. For each household type, we computed the average overall community poverty rate. As will be discussed in more detail below, there is variation in both the rates and the changes in the rates over time across the four household types.

In Table 7 and Figure 11, we report statistics for overall poverty rates by household type for the three census years. In Table 7, we report the average and maximum overall community poverty rate for each household type. Starting first with single households, the average community poverty rate is 29.2 percent in 2006, dropping to 23.1 percent in 2016.<sup>10</sup> Turning to Figure 11, we depict the variation in poverty rates across all communities for the three census years. Not only did the overall poverty rate fall for single households between 2006 and 2016, but the dispersion of the rates has tightened.

**Table 7. Community-Level Overall Poverty Rates, by Household Type**

		2006	2011	2016
		(1)	(2)	(3)
<b>By Household Type</b>				
Single households	Average	29.2%	26.9%	23.1%
	Maximum	75.5%	77.2%	75.5%
Single parent households with children	Average	21.8%	23.5%	21.6%
	Maximum	81.3%	75.6%	72.8%
Couple households	Average	11.6%	13.7%	10.1%
	Maximum	36.8%	45.5%	61.8%
Couple households with children	Average	6.0%	6.3%	6.0%
	Maximum	72.0%	74.5%	63.1%

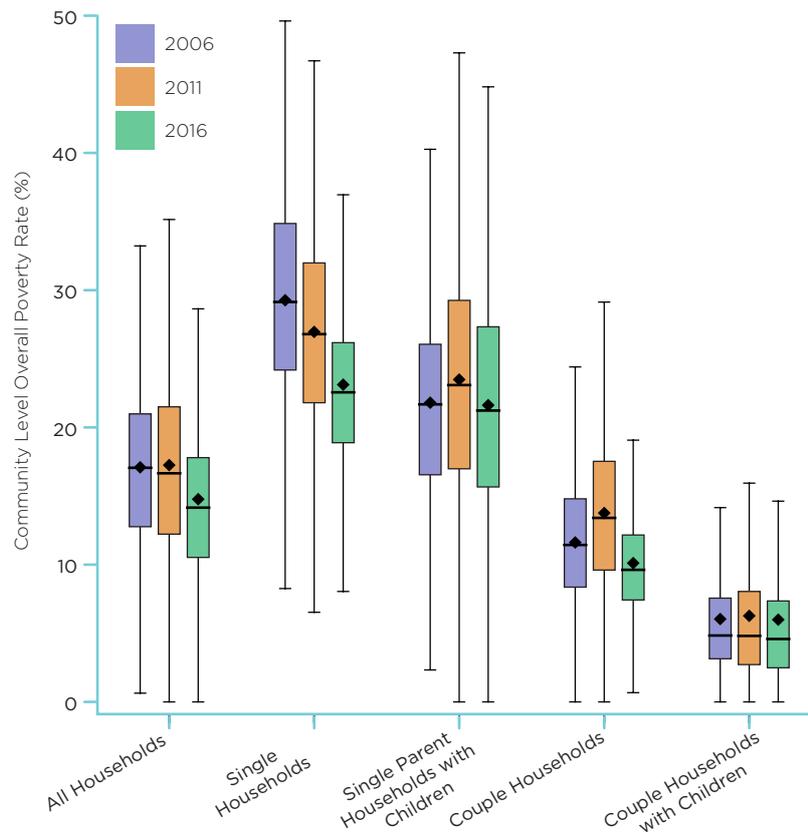
*Notes for Table 7:* For each household type a community-level poverty rate is calculated. The average and maximum rates across all communities are reported.

Moving next to single parent households with children, the average community poverty rates in 2006 and 2016 are just shy of 22 percent. In 2011, the rate slightly increased. The dispersion of the rates for this household type increased between 2006 and 2011. The poverty rates for this group is one of the more concerning rates. There is very little movement in the average poverty rate and there is increased dispersion in the rates over time.

We observe the lowest poverty rates for couple households and couple households with children. The average rate for couple households, although increasing in 2011, fell between 2006 and 2016. The maximum rate, however, increased substantially. The dispersion as depicted in Figure 11 which excludes extreme outliers, suggests that the distribution of poverty rates for couple households decreased between 2006 and 2016.

10. The ACOSS 2018 report provides statistics by family type across the country for 2016. For single households, they report a poverty rate of 34.9 percent for singles younger than 65 and 46.5 percent for singles older than 65. The differences in these rates illustrate the potential importance of not just relying on a national rate.

**Figure 11. Community-Level Overall Poverty Rates, by Household Type**



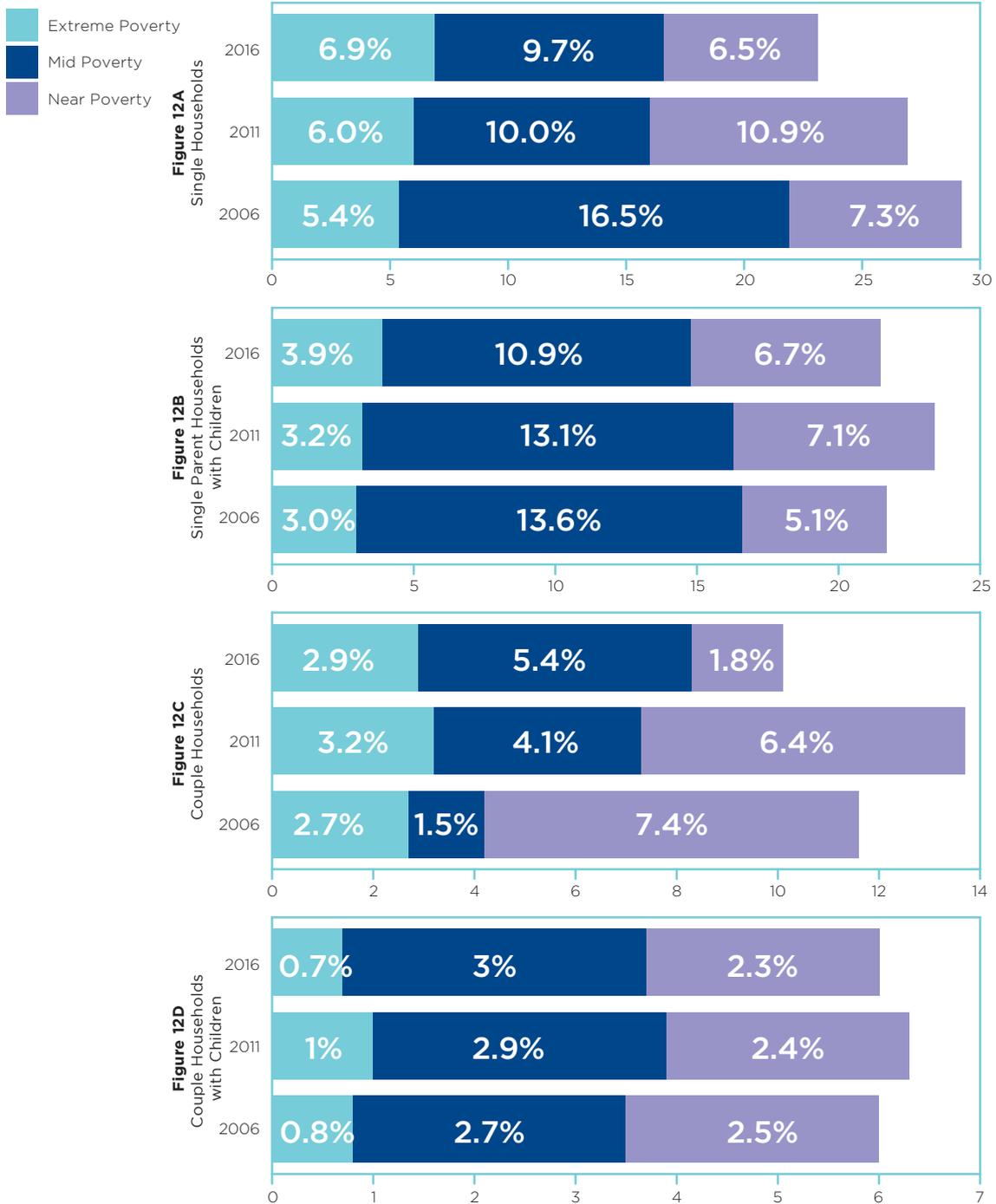
*Notes for Figure 11:* ‘All households’ indicate communities included for analysis in this report (Table 4). Bars represent distribution of data within the 25th and 75th percentiles, the range of whiskers represent 99.3 percent of the distribution; solid lines and diamond markers in the middle of the bar represent median and mean values of the distribution respectively.

Finally, we observe very low rates of poverty for couple households with children. The average rate is approximately 6 percent for all three census years.

For our final analysis, we separate the overall poverty rates for the four household types into the three sub-poverty rates: extreme income poverty, mid-income poverty, and near income poverty. Figure 12A depicts the average sub-group poverty rates for single-person households in each of the three census periods.

The top row reports the breakdown for 2016 and the bottom row reports the breakdown for 2006. Although the overall poverty rate for this household type fell over the period, the average extreme poverty rate for single households has increased over time, from 5.4 percent in 2006 to 6.9 percent in 2016. By contrast, the average mid-income poverty and near-income poverty rates fell during this period.

Figure 12. Average Community Poverty Rates



Notes for Figure 12A–D: Depicted are the average share of each poverty rate across all communities for the given household type. For example, in 2016, the average extreme poverty rate across all communities for couple households was 2.9 percent whereas the average mid-poverty rate was 5.4 percent.

Figure 12B depicts the average sub-group poverty rates for single-parent households with children. While the overall poverty rate has not fallen between 2006 and 2016, there has been a shift in the sub-group poverty rates. Extreme income poverty rates have increased slightly, mid-income poverty rates has fallen, and near-income poverty rates has increased.

Figure 12C depicts the average community poverty rates across the three poverty groups for couple households. Average extreme income poverty rates have stayed relatively stable over time. Average mid-income poverty rates have increased substantially over time, while the near income poverty rates have fallen over time. Thus, it appears that couple households are experiencing worse poverty in 2016 than in 2006.

Finally, we turn to the average rates for couples with children. For this group of households there is a relatively good news story. While the overall rates have not changed much over time, the average community poverty rates are lower across all poverty groups. The average rates are depicted in Figure 12D. The average extreme poverty rate is less than 1 percent and the average rate for mid-income and near income poverty is in the range of 2 to 3 percent.

Studying poverty rates based on household structure reveals further variation in the level and depth of poverty across communities. Single households and single parent households with children are experiencing the highest level of poverty, with many of the poverty types increasing or staying the same over the period 2006 to 2016. Relatively stagnant or slight increases are observed in the incidence of extreme poverty rates across households; extreme poverty ranges from less than one percent (couples with children) to over six percent (single persons). The fall in near poverty rates we observed for all households appears to be concentrated on couple and single-person household types. The average community rates for the mid-poverty measure has fallen for single persons and single persons with children but increased for couples and couples with children.

# 7. Conclusions





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This report provides a snapshot of community level income poverty rates in Australia across communities and over time. Given many previous poverty reports have focused on national poverty rates, this report provides important new insights that should challenge our assumptions about developing policy with just a national focus. While poverty elimination is and should be a national issue, it should not prevent us from seeking to address the specific needs of communities based on community level poverty rates, and the economic and demographic features of communities.

We have demonstrated that most communities exhibit poverty rates that exceed the national average. There are clearly entrenched communities with high rates of poverty over time. But poverty rates in most communities fluctuate, resulting in changes to the relative ranking of communities based on their poverty. Moreover, high poverty rates exist in communities across all states and territories in Australia. This report also demonstrates a variance in poverty rates based on household type.

We have also demonstrated that the correlations between high poverty and socio-economic measures vary across communities. It appears that employment, age, and educational attainment are key correlates. This report shows that there are likely to be a range of levers to combat poverty in Australia. At a community level, however, the levers likely to be effective will also depend on the types of households experiencing most poverty, as well as on the degree of entrenchment of the poverty.

The importance of this report is that it provides a foundation for understanding contemporary rates of community poverty and the types of households most affected. But it also deepens our understanding about these communities in terms of what has changed over time and where we might want to pursue substantive changes in practice and policy to address what appear to be stagnating poverty rates.

Moreover, we are operating in an environment impacted by the COVID-19 pandemic. Businesses and industries have closed, and some will not recover. Households are experiencing financial and mental stress. Schools have been operating through remote learning (at home, online) environment. While several pockets of the economy appear to be recovering from the pandemic, we are far from understanding the medium- and longer-term effects of the pandemic. It is quite reasonable to expect that community poverty rates will increase and that these increases will be felt differently across the country.

Poverty is a complex social and economic problem, which will require innovative practices and policy to resolve. Understanding what is needed to address this complexity involves exploring the dynamics of choice and household circumstances and the relationships between household characteristics and community environments. This report demonstrates that community poverty can be entrenched or persistent, but also rises and declines over time. Through a community lens, we can be better positioned to test new ideas and to understand where or why they are successful. If we are ever to achieve the UN's sustainable development goal of ending poverty and ensuring that poverty rates fall, not increase, following the COVID-19 pandemic, this report's analysis will be central.



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# About the Authors

## Professor A. Abigail Payne

Professor A. Abigail Payne is the Director of the leading Australian research institute on applied economic and social research. The Institute has a large team of academic researchers engaged in pathbreaking studies on a range of microeconomic and macroeconomic policy issues. She holds the Ronald Henderson Professor position in the Faculty of Business and Economics at the University of Melbourne. Professor Payne moved to Australia in 2016 from North America where she previously held positions in Canada and the US. She holds a PhD from Princeton University, a JD from Cornell Law School, and she graduated with honours from Denison University.

Professor Payne's research has emphasised understanding: the challenges faced by charities in their funding and delivery of public goods and services including understanding the donor motivation; the opportunities and constraints for individuals to pursue higher educational attainment; the role of school financing to promote equality in opportunity; and a general understanding of how government policy and expenditures affect individuals, communities, and underserved populations. While Professor Payne always has several projects on the go, she has turned her attention to understanding poverty and disadvantage. She has embarked on several projects that explore community poverty, the factors that support the exit from disadvantage, and the cyclical nature of poverty and disadvantage within households.

Professor Payne is actively involved in Australian economic and social policy as a member on multiple State and Commonwealth Government and University of Melbourne committees. Internationally she is a member of the Ifo Institute's Scientific Advisory Committee (SAC), serves on several boards, and is co-editor of the Economic Inquiry.

## Dr Rajeev Samarage

Dr Rajeev Samarage is the Data & Analytics Program Coordinator and a senior research fellow in data analytics at the Melbourne Institute: Applied Economic & Social Research. He holds a PhD in Biomedical Engineering from Monash University. His work on imaging in the fields of pulmonary systems and embryology led to an Outstanding Paper Award and a special editorial in the prestigious journal *Developmental Cell*.

Prior to joining the Melbourne Institute, Dr Samarage spent five years working in a medical imaging technology start-up where he led research and development efforts across the USA and Australia. In this role, Dr Samarage and his team developed methodologies underlying the company's core products and ensured these products are clinically relevant through pre-clinical and clinical studies.

Dr Samarage has extensive expertise in applying cutting edge data analytics and data visualisation techniques to effectively engage the reader. He is also skilled in public domain data extraction, machine learning and automation, and front-end development for creating interactive visualisations. Dr Samarage brings to the Institute his skills to enable best practices in data analytics and data protection to facilitate multi-disciplinary research, and translation of research evidence into policy and practice change.

## **Breaking Down Barriers**

The Breaking Down Barriers report series provides in depth analyses of questions that will help us to better understand the challenges faced by individuals, families, communities, and governments that affect the existence and persistence of deep and entrenched poverty and disadvantage in Australia. The analyses have been undertaken by Melbourne Institute researchers and utilise economic and statistical techniques which involves developing shared data environments to study disadvantage and developing data visualisations.

This report has been produced as part of an ongoing partnership between the Paul Ramsay Foundation and the Melbourne Institute with the goal of informing and shaping policy and practice to break cycles of disadvantage. This includes improving our understanding of the extent, nature, and causes of socio-economic disadvantage in Australia and encouraging solutions that enable program development and policy innovation that foster opportunity and reduce poverty and disadvantage.

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## **Melbourne Institute: Applied Economic & Social Research**

The Melbourne Institute is a research-only, academic department in the Faculty of Business and Economics at the University of Melbourne with over 58 years of experience informing and shaping economic and social policy. The Melbourne Institute's list of longstanding accomplishments includes playing an active role in the establishment of the Henderson Poverty Line (by inaugural director Ronald Henderson), the development of the blueprint for Medibank/Medicare (John Deeble and Dick Scotton), the execution of the HILDA Survey and resulting analyses (Mark Wooden), the creation and running of the Australian Economic Review, the establishment of the consumer sentiment index (our longest running survey having been established in 1973 and now conducted in partnership with Westpac), and a host of many other achievements that have resulted from the engagement of researchers as part of the bedrock that informs macroeconomic, microeconomic, and social policy in Australia.

The Melbourne Institute is home to more than 50 economic researchers that are supported by survey methodologists and data scientists. Their work is recognised internationally by both academic and policy communities. All work undertaken by the Melbourne Institute is independent and impartial.

From its inception, researchers have been engaged in understanding poverty and disadvantage from a range of perspectives in partnership with other organisations such as the Brotherhood of St. Laurence, as a node of the ARC funded Centre of Excellence for Children and Families over the Life Course, and a range of commonwealth and state government departments. Current projects that affect our understanding of poverty or disadvantage include studies to understand employment, family dynamics, social housing, tax and transfer policies, consumer expectations, the delivery of health care, intergenerational disadvantage, and studies of particular populations in Australia.

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## **Paul Ramsay Foundation**

The Paul Ramsay Foundation seeks to identify and partner with individuals, communities and organisations working to create an Australia where people can overcome disadvantage and realise their potential.

The late Paul Ramsay AO established the Foundation in 2006 and, after his death in 2014, left the majority of his estate to continue his philanthropy for generations to come.