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# POVERTY, INCOME INEQUALITY AND LIVING STANDARDS IN IRELAND: SECOND ANNUAL REPORT

Barra Roantree, Michelle Barrett, Paul Redmond



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**October 2022**

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*This report has been peer-reviewed prior to publication. The authors are solely responsible for the content and the views expressed*



## FOREWORD

The second in the series of reports on 'Poverty, Income Inequality and Living Standards in Ireland' represents an important piece of research, which at its core captures the true extent of hidden poverty.

While the report rightfully acknowledges the broad-based income growth experienced over recent years, it also shows that 695,000 people are living in material deprivation, of which 69 per cent are not being classified as 'at risk of poverty'. These are the hidden poor.

Our partners in the ESRI have used their expertise to identify a number of groups which are of particularly risk. These include households where someone has a disability, lone parents, renters and homes where no-one is employed.

As part of its equality mission, The Community Foundation for Ireland and its donors believe in 'Inclusive Communities' where no-one is left behind.

This research has identified that not only are large groups of people not enjoying the benefits of progressive growth and well-intentioned policy changes, but that many are below the radar, hidden or forgotten. Their situation is not captured by the official measure of poverty, which the research finds does not appear to adequately account for the additional costs faced by households where someone has a disability. The recommendation for a Commission to consider how housing and other unavoidable costs should be treated in the official measurement of poverty is an important one that we hope will be taken on board by Government.

Lastly, the finding that increases to the minimum wage are of limited effectiveness in achieving widespread poverty reduction demonstrates the importance of a broader policy focus on complementary measures, including greater subsidised childcare, measures to incentivise full-time over part-time work and a refocus on education and training to generate skills where they are needed.

If we are truly to achieve equality for all in thriving communities then it is vital that our methods of recording income and poverty meet the very best standards and give us an accurate picture. Only then can we further advance our policies so we can become a society where there is not only no hidden poverty, but no poverty at all.

Denise Charlton,  
Chief Executive,  
The Community Foundation for Ireland



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## ABBREVIATIONS

AHC	After housing costs
AROP	At risk of poverty
BHC	Before housing costs
CSO	Central Statistics Office
ECHP	European Community Household Panel
ESRI	Economic and Social Research Institute
EU	European Union
HAP	Housing Assistance Payment
HCTI	Housing cost to income (ratio)
LIIS	Living in Ireland Survey
LFS	Labour Force Survey
OECD	Organisation for Economic Co-operation and Development
PUP	Pandemic Unemployment Payment
RMF	Research Microdata File
RAS	Rental Accommodation Scheme
RS	Rent Supplement
SILC	Survey of Income and Living Conditions
SMC	Social Metrics Commission

## EXECUTIVE SUMMARY

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### KEY FINDINGS

This report is the second from an ESRI research programme funded by The Community Foundation for Ireland, which seeks to address gaps in our knowledge and understanding of poverty, income inequality and living standards in Ireland. It builds on last year's report, which found that while Ireland had experienced strong and progressive – if volatile – income growth over the past three decades (leaving income inequality in 2019 at its lowest recorded level), levels of income poverty and material deprivation have remained consistently high for certain groups (notably lone parents and those in working-age households where no one is in paid work).

However, these findings – in keeping with almost all existing research on income inequality and poverty in Ireland – are based on measures of disposable income after direct taxes paid and benefits received but before housing costs. This report develops consistent new measures of after housing cost (AHC), income growth, inequality and poverty, which provide the following additional insights about the evolution and distribution of material living standards in Ireland.

### Income growth and inequality

- **Income growth has been progressive – stronger at the bottom of the distribution than the middle or top – both before and after accounting for housing costs.** Between 2007 and 2021, AHC disposable incomes grew by around 2 per cent per year in real terms at the bottom of the distribution, compared to less than 1 per cent per year at the top. This is very similar to the evolution of before housing cost (BHC) income growth over the same period.
- **These patterns of growth have led to declines in standard measures of income inequality, both before and after accounting for housing costs.** Between 2007 and 2021, the Gini coefficient for AHC income fell from 0.328 to 0.286, while the 90:10 ratio fell from 4.0 to 3.5. Similarly, over the same period, the Gini coefficient for BHC income fell from 0.314 to 0.265, while the 90:10 ratio fell from 3.8 to 3.1. These declines left all these measures of income inequality at their lowest recorded level (since 2007 for AHC income and 1987 for BHC income).
- **These – perhaps surprising – results are driven by patterns of housing tenure and the evolution of housing affordability across the distribution of income.** Despite recent declines in homeownership, most individuals – even at the bottom of the distribution – live in owner-occupied accommodation, while the rise in the share of households renting privately without state supports has been concentrated around the middle of the distribution. The stability of

housing costs for homeowners, driven by a sustained decline in interest rates, and the expansion of the supported rental sector – primarily through the Housing Assistance Payment (HAP) – have therefore acted to insulate most lower-income households from the price pressures in (if not the insecurity of) the private rental sector.

- **Greater exposure to the unsupported private rental sector and the associated decline in housing affordability has acted to reduce the affordability of housing for lower income and younger private renters.** Average private rents rose from €589 to €1,084 per month between 2012 and 2021 in real terms, an increase of 84 per cent. This has resulted in a large decline in housing affordability, with median housing cost to income (HCTI) ratios – a measure of housing affordability – increasing from 0.226 to 0.304 between 2007 and 2021 for private renters in the lowest quintile (fifth) of the income distribution, and from 0.116 to 0.221 for private renters aged 18-34.
- **Addressing these challenges of housing affordability will require much greater supply, particularly of social and cost rental housing, for a sustained period of time.** Until that is achieved, and notwithstanding the large costs to the Exchequer involved, housing supports like HAP will continue to play a key role in the short- to medium-run. Given this, more regular review of the income and rent limits governing the scheme will be needed if the exposure of more households to unaffordable housing costs is to be avoided.

### Income poverty and material deprivation

- **While AHC measures of income poverty are higher than BHC measures, there have been substantial declines in both measures of low-living standards over the past two decades.** We estimate that the income poverty rate was 15.6 per cent on an AHC basis (amounting to 785,000 individuals) compared to 12.4 per cent on a BHC basis (625,000 individuals). However, both AHC and BHC income poverty rates have seen sustained declines in recent years, which have reversed the rise in both measures experienced in the years following the financial crisis.
- **The incidence of these low-living standards is particularly noticeable among certain sub-groups of the population.** Renters, lone parents, those in households where someone has a disability and those in households where no one of working age is in paid work stand out as groups at particular risk of income poverty, especially after accounting for housing costs. For example, around 45 per cent of lone parents and 55 per cent of those where no one of working age is in paid work were below the AHC income poverty line in 2021. The same groups also stand out as being at much higher risk of material deprivation (the inability to afford 2 or more items from a list of 11 deemed essential).
- **However, there is also a sizeable group of individuals who report being materially deprived but who are not classified as being at risk of poverty (AROP).** We estimate that in 2021, 69 per cent of the 695,000 people experiencing material deprivation were not classified as being AROP on an AHC

basis; the figure was 57 per cent on a BHC basis. Of these, almost half lived in a household where someone reported having a disability, with most of these less than €100 per week (in equivalised terms) above the poverty line. Given the significant extra costs of living incurred by households affected by disability, this raises questions about whether the official measure of poverty is adequately capturing the incidence of very low living standards or poverty, and suggests that there may be a case for revisiting the way the income-related component of this official indicator is measured.

### In-work poverty

- **Although they are at much lower risk of poverty, those living in households where someone of working age is in paid work still make up over one-third of those below the poverty line.** Such ‘working poor’ individuals make up approximately 220,000 of the 625,000 below the BHC income poverty line and 333,000 of the 740,000 below the AHC income poverty line. This is despite their much lower income poverty rates, and reflects the fact that households with someone in paid work make up the bulk of the working-age population.
- **These working poor are disproportionately likely to be lone parents and renters.** One-quarter of the working poor live in a lone-parent household, while over half lived in private or supported rental accommodation, compared to just 5.5 per cent and 28 per cent respectively of working households above the poverty line.
- **While the working poor are also disproportionately reliant on someone earning at or around the minimum wage, increasing the minimum wage will be of limited effectiveness in reducing the overall income poverty rate.** This is because just 40,411 – or 6 per cent – of the 625,000 below the BHC income poverty line in 2019 lived in a household where there was one earner paid less than €10 per hour: around the level of the minimum wage in that year. This underscores the need for other policies to tackle poverty, such as an expansion of the availability of subsidised high quality full-time childcare that would help facilitate an increase in full-time paid work by at least one adult in a household.



## CHAPTER 1

---

### Introduction

This report is the second from a research programme funded by The Community Foundation for Ireland exploring the evolution of poverty, income inequality and living standards in Ireland. Last year's report (Roantree et al., 2021) found that Ireland had experienced strong and progressive – if volatile – income growth over the past three decades, leaving income inequality in 2019 at its lowest recorded level. It also found that levels of income poverty and material deprivation have remained consistently high for certain groups: notably lone parents and those in working-age households where no one is in paid work.

However, these findings – in keeping with the vast majority of existing research on income inequality and poverty in Ireland – are based on measures of disposable income after direct taxes paid and benefits received but before housing costs.<sup>1</sup> To some extent, the amount spent on housing is a choice – reflecting people's constrained preferences over where, what type and what sized accommodation to live in – but it is also a necessity, reflecting an inescapable recurring cost paid by households. Given Ireland has experienced high levels of volatility in house prices and rents over recent decades (Keely and Lyons, 2020; Lyons, 2018; Lyons, 2015) and that housing costs vary significantly across groups,<sup>2</sup> the question can be asked as to whether these findings of progressive growth and declining inequality hold in terms of after housing cost (AHC) income. To address these questions, this report develops consistent new measures of AHC income growth, inequality and poverty that can provide additional insights about the evolution and distribution of material living standards in Ireland.<sup>3</sup>

#### 1.1 THE DEFINITION OF AHC INCOME

While much of the discussion around the cost of housing focuses on house prices, that is the up-front cost of owning a residential property, this does not represent the 'cost' of housing to individuals in a meaningful or comparable way. For one, most purchases of residential property – particularly by first-time buyers – are made with the assistance of a mortgage, which is paid back over a prolonged period at a rate of interest that depends on a range of factors. Furthermore, instead of living in the property themselves, the owner of a residential property can decide to let that property out to a renter, yielding a flow of income (rent). This gives residential property economic value as an asset – which can fluctuate over time –

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<sup>1</sup> Notable exceptions are Slaymaker et al. (2022), CSO (2022) and Russell et al. (2021).

<sup>2</sup> In particular, research has consistently found a high prevalence of affordability issues in the Irish private rented sector (e.g. Blackwell, 1989; Fahey, 2004; Fahey et al., 2004; Corrigan et al., 2019; O'Toole et al., 2020).

<sup>3</sup> A spreadsheet containing these measures is published alongside this report on the ESRI website.



as well as a necessity, and a consumption good through the flow of housing services it delivers (Mirrlees et al., 2011; Adam, 2013).

As a result, most economic analysis of AHC income deducts a measure of the recurrent or ongoing cost of housing, whether owned outright, with a mortgage, or rented (e.g. Slaymaker et al, 2022; Belfield et al., 2015). We follow such an approach in this paper, defining housing costs for renters as rents gross of (including) any rental supports received (such as Rent Supplement (RS) and the Housing Assistance Payment (HAP)), plus any rental contribution paid to local authorities (differential rent). For owner occupiers with a mortgage, housing costs include mortgage interest payments but exclude mortgage capital repayments on the principal private residence.<sup>4</sup> This is because mortgage capital repayments are more appropriately considered a form of saving as they contribute to the accumulation of equity – and so net wealth – in residential property. While we ideally would also like to include repairs, regular maintenance, structural insurance, mandatory services and charges, these are not separably identifiable in the data we draw on (the Survey of Income and Living Conditions (SILC) described in Appendix A). These components would also ideally be included in our measure of housing costs for outright owner occupiers who face no mortgage interest (or capital) payments and so whose housing costs we set to zero.

This definition of housing costs aligns with that used recently by the Central Statistics Office (CSO) in their inaugural release of statistics on income poverty after deducting rent and mortgage interest (CSO, 2022).<sup>5</sup> However, we differ from these statistics slightly in our definition of disposable (net of tax and welfare) income,<sup>6</sup> in how we adjust income for household composition,<sup>7</sup> and in how we calculate the rate of income poverty.<sup>8</sup> Unfortunately, it is not currently possible to construct a measure of AHC income for the 1980s, 1990s or early 2000s as the underlying data covering this period do not distinguish mortgage interest from capital repayments.<sup>9</sup> Consequently, when looking at measures of AHC income we use data from 2007 onwards when there is also reliable information on housing tenure in the Research Microdata Files kindly provided by the CSO. These

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<sup>4</sup> This definition also excludes mortgage interest payments where the respondent states the mortgage was taken out for a purpose other than financing the principal primary residence (e.g. to finance the purchase of a second home).

<sup>5</sup> See <https://www.cso.ie/en/releasesandpublications/ep/p-silc/surveyonincomeandlivingconditionssilc2021/povertyanddeprivation/>, accessed 12 October 2022.

<sup>6</sup> For example, we exclude the imputed value of company cars from disposable income in the interests of consistency in our measures over time.

<sup>7</sup> We adjust incomes using the modified OECD equivalence scale rather than the national equivalence scale adopted by the CSO for reasons of international comparability.

<sup>8</sup> We look at the share of the population with equivalised AHC disposable incomes below 60 per cent of the contemporary median equivalised AHC disposable income. This follows the approach of Cribb et al. (2022) and the 2017 Scottish Child Poverty Act (among others), but differs from that of the CSO and Eurostat who do not compute the poverty line using AHC disposable income but rather compare individuals' equivalised AHC disposable income to 60 per cent of median equivalised BHC disposable income.

<sup>9</sup> These data are the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey, and the Survey of Income and Living Conditions, which are all described in more detail in Appendix A.

underlying data are described in greater detail in Appendix A, along with the methodology used to construct the measures of poverty, deprivation, income inequality and living standards used in the report.

## **1.2 OUTLINE OF REPORT**

Chapter 2 explores how accounting for housing costs has meaningful implications for our understanding of the recent evolution in income growth and inequality in Ireland. Chapter 3 turns to measures of income poverty and deprivation and shows how they are impacted by taking account of housing costs. While previous work has highlighted jobless households as being particularly susceptible to poverty (see Roantree et al., 2021), many working households are also below the poverty line. As such, examining the incidence of in-work poverty and the characteristics of such households is the focus of Chapter 4, this year's thematic chapter. Chapter 5 concludes with a discussion around the implications of the report's findings for policy.



## CHAPTER 2

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### Income growth and inequality

Last year's report found that Ireland had experienced strong and inclusive – if volatile – real income growth over the last 30 years (Roantree et al., 2021). This is shown by the green series in Figure 2.1, which plots the growth in real disposable income at each centile (per cent) of the distribution from 1987 to 2019. Growth over this period was stronger at the bottom than top of the distribution, at around 3.5 per cent per year for the bottom fifth compared to 2.8 per cent per year for the top fifth.

We now have additional data covering up to 2021, which – while not fully comparable due to changes in data collection methods and the income reference periods<sup>10</sup> – suggests that this strong and progressive real income growth has continued despite the declines in employment experienced alongside the outbreak of the COVID-19 pandemic. The blue series in Figure 2.1 shows that over this period incomes grew by, on average, 4 per cent in the lower half of the income distribution compared to 2 per cent between the 80th and 90th percentiles. This suggests, as shown by Beirne et al. (2020), that measures such as the introduction of the Pandemic Unemployment Payment (PUP) did much to cushion the blow to incomes from these job losses, especially around the middle of the income distribution.

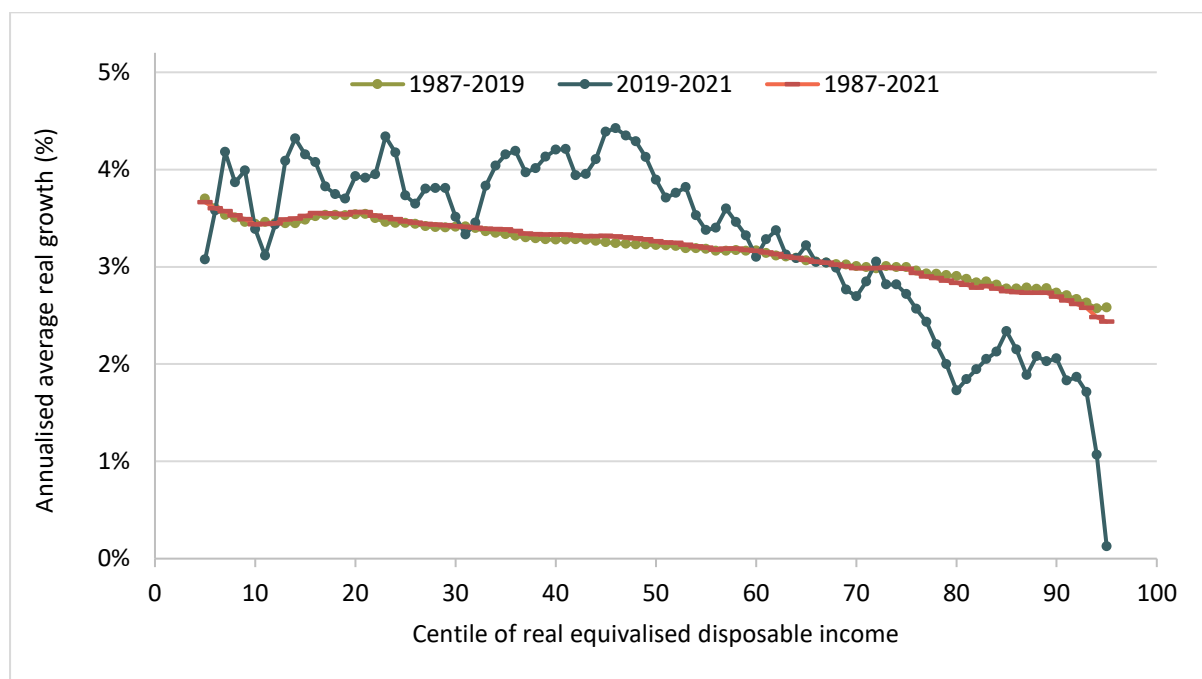
Unsurprisingly then, the red series in Figure 2.1 shows that growth experienced between 1987 and 2021 was also strongly progressive, with the addition of the extra years of data doing little to alter the pattern or level of the cumulative real growth. Figure 2.2 shows that, as a result, income inequality has continued to fall, reaching new recorded lows in terms of both the Gini coefficient – which summarises the level of income inequality as a number between 0 (where everyone has the same income) and 1 (where one person has all income) – and the 90:10 ratio – the ratio of the person at the 90th percentile of the distribution compared to the person at the 10th percentile of the distribution.<sup>11</sup>

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<sup>10</sup> From 2003 to 2019, the income reference period was the 12 months prior to the date of interview. From 2020 onwards, the income reference period is the year prior to interview (for example, respondents in 2021 reported their income in the calendar year 2020). In addition, 2020 saw changes to how information on housing tenure and the receipt of housing supports was recorded.

<sup>11</sup> This progressive pattern of income growth and declines in income inequality are also statistically significant, as shown in Appendix B.

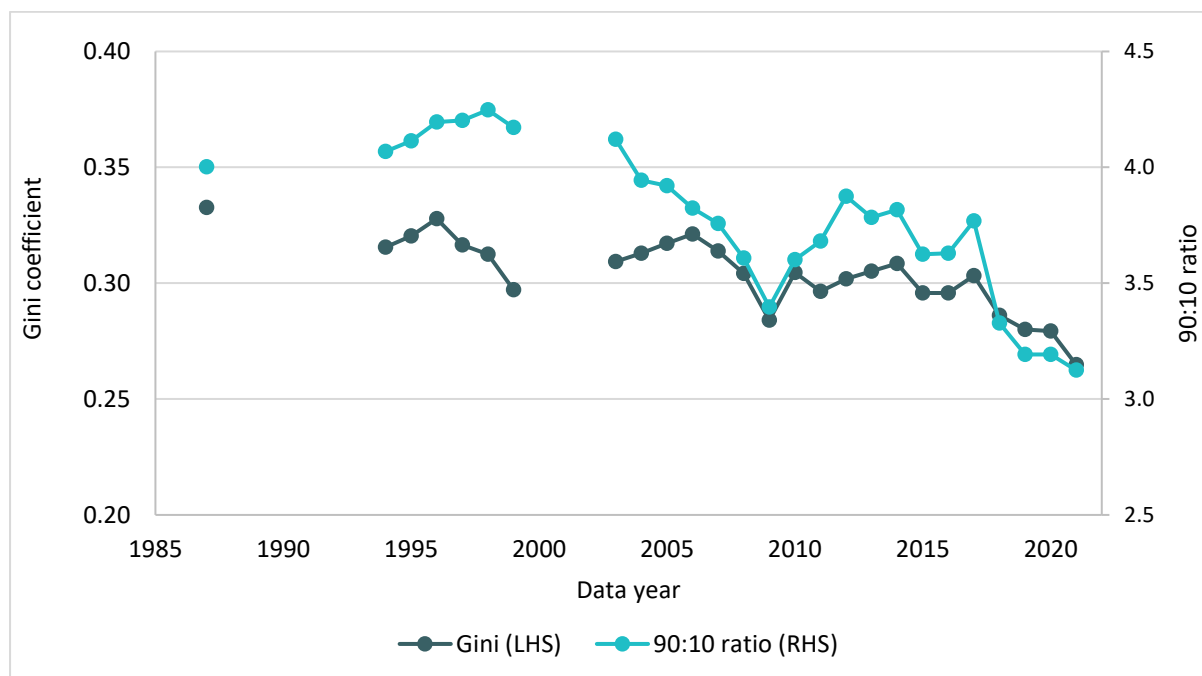
**FIGURE 2.1 GROWTH INCIDENCE CURVE FOR REAL EQUIVALISED BHC INCOME: 1987-2021**



Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

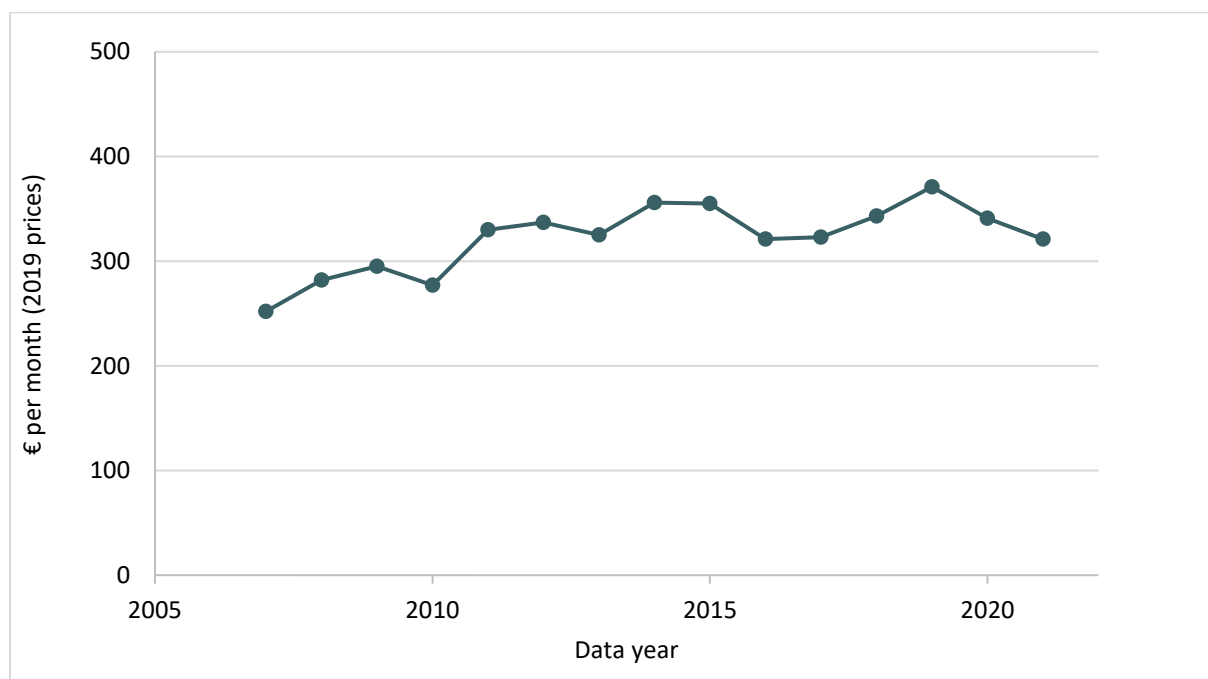
Notes: Incomes after direct taxes paid and benefits received but before housing costs, with growth rates calculated after accounting for inflation using the CSO's all-item Consumer Price Index.

**FIGURE 2.2 DISPOSABLE INCOME INEQUALITY (BHC)**



Sources: Authors' calculations using the 1987 ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes after direct taxes paid and benefits received, but before housing costs.

**FIGURE 2.3 AVERAGE (MEAN) REAL MONTHLY HOUSING COSTS**

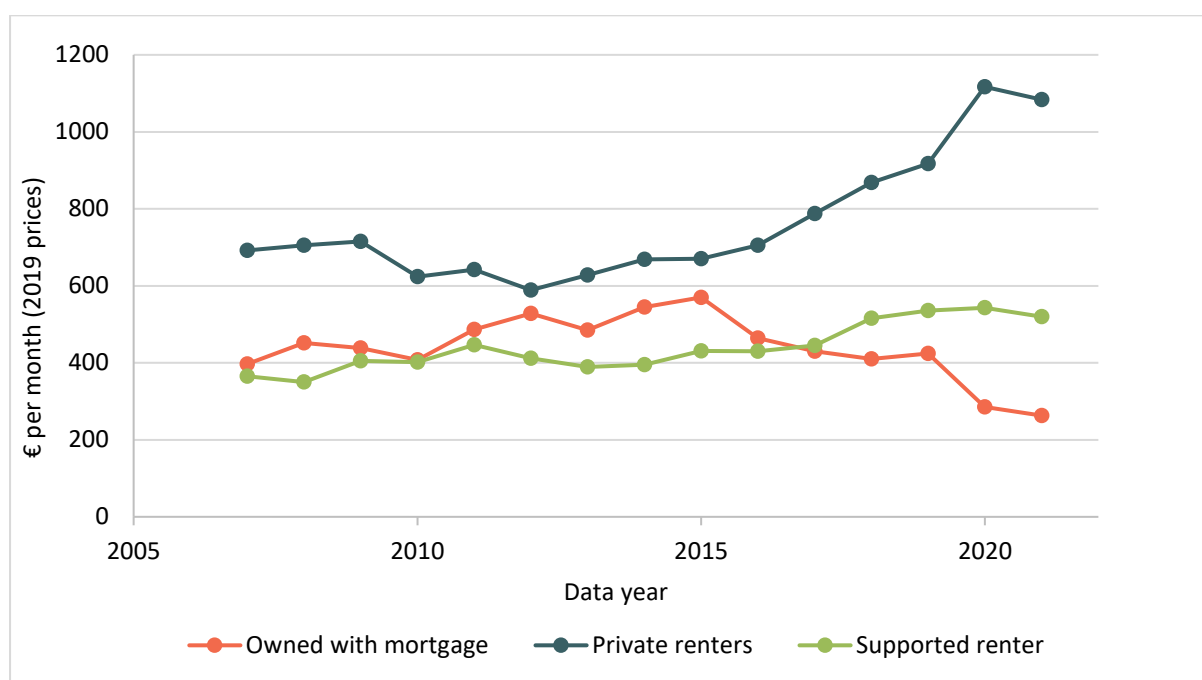
*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Expressed in 2019 prices using the CSO's all-item Consumer Price Index. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

As noted in Chapter 1, these measures of income growth and inequality are based on disposable income after direct taxes paid and benefits received but before any housing costs have been deducted. Although to some extent the amount spent on housing is a choice – reflecting people's constrained preferences over where, what type and what sized accommodation to live in – it is also a necessity, reflecting an inescapable recurring cost paid by households.

Figure 2.3 plots the evolution of average (mean) real housing costs over time since 2007.<sup>12</sup> As outlined in Chapter 1, for renters this is defined as rents gross of any rental supports received plus any rental contribution paid to local authorities. For owner occupiers with a mortgage, housing costs include mortgage interest payments but exclude mortgage capital repayments, while housing costs are zero for outright owners. The figure shows that, on average, housing have risen substantially in over the period real terms – by 27 per cent between 2007 and 2021 – with the bulk of this rise occurring over the period 2007 to 2014. However, this average is across all households (including outright owners with zero housing costs) and so conceals significant variation in both levels and changes across tenure types.

<sup>12</sup> We focus on the period since 2007 as we do not have a consistent measure of housing tenure before then.

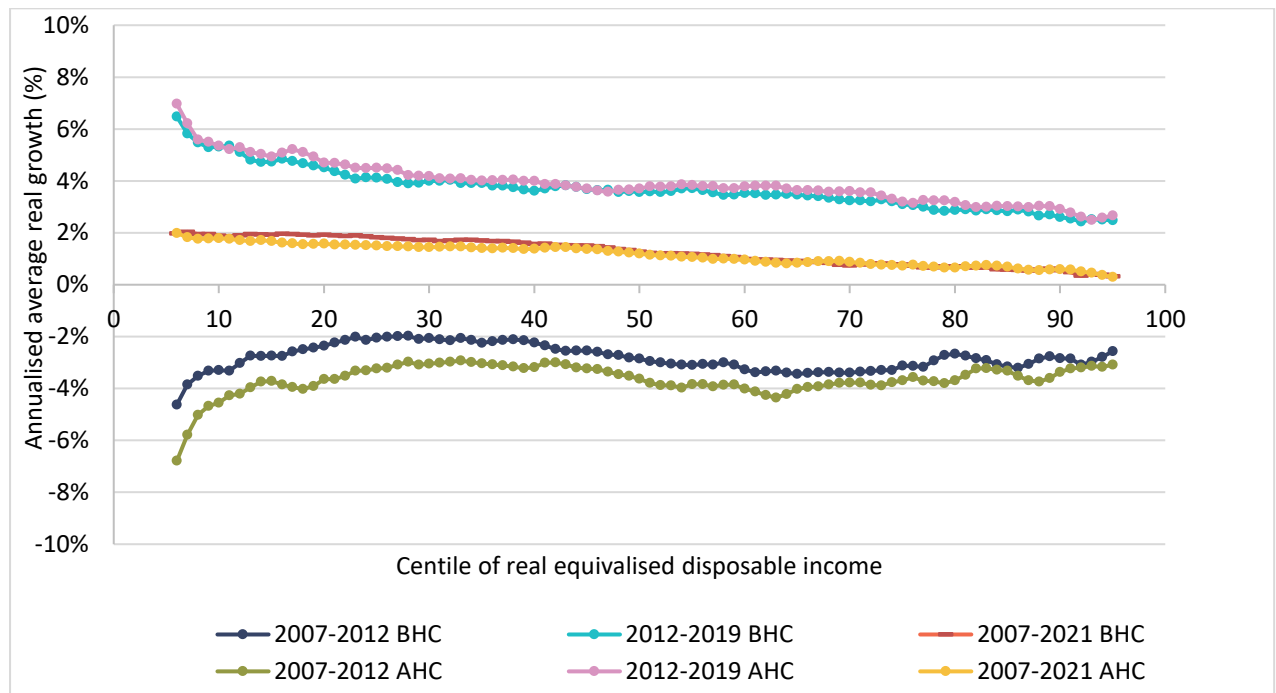
**FIGURE 2.4 AVERAGE (MEAN) REAL MONTHLY HOUSING COSTS, BY TENURE**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Expressed in 2019 prices using the CSO's all-item Consumer Price Index. Housing tenure is split four ways: owned outright, owned with mortgage, supported renter (HAP or RS recipients) and all other renters. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

Figure 2.4 plots the average real housing cost by tenure. This shows that although real housing costs for owner occupiers with a mortgage rose between 2007 and 2015, they have subsequently fallen significantly below their 2007 level. This reflects the sustained fall in mortgage interest rates since 2012, which has offset the rise in amounts borrowed (and so monthly interest repayments) for new borrowers.<sup>13</sup> By contrast, private rents initially fell between 2007 and 2012 (from €692 to €589 per month) but have since increased to €1,084 in 2021: an increase of 84 per cent. This reflects both the rapid rise in new rents over this period (O'Toole et al., 2022) as well as the changing composition of private renters, with the exit of many lower-income renters – paying on average lower rents – to the supported rental sector (Doolan et al., 2022). Housing costs for such supported renters – tenants of local authorities and approved housing bodies (AHBs), as well as those in receipt of supports like Rent Supplement (RS), the Housing Assistance Payment (HAP) or the Rental Accommodation Scheme (RAS) – have also risen: by around 40 per cent since 2007. These increases are the counterpart of the exit of many lower-income renters from the private to the supported rental sector, while also reflecting the shift towards the provision of indirect support for housing costs via RAS and HAP (where many tenants pay top-ups to landlords in addition to differential rents paid to local authorities).

<sup>13</sup> See Tables B.1.2 and B.3.1 in <https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/retail-interest-rates>.

**FIGURE 2.5 GROWTH INCIDENCE CURVES FOR REAL EQUIVALISED AHC AND BHC INCOME**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

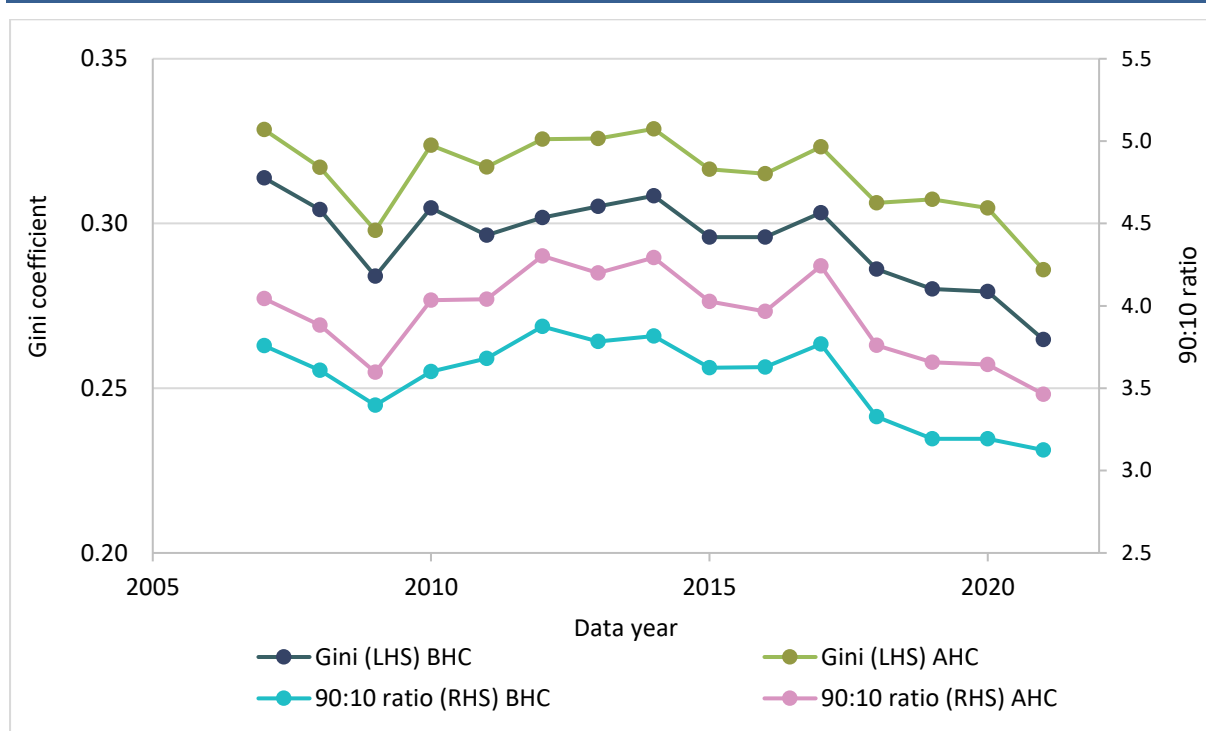
Notes: Incomes after direct taxes paid and benefits received, with growth rates calculated after accounting for inflation using the CSO's all-item Consumer Price Index. Household size and composition is adjusted for using the modified OECD equivalence scales. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

Given these stark differences in the level and evolution of housing costs, we examine whether the finding of progressive income growth and declining income inequality holds when looking at after housing cost (AHC) rather than before housing cost (BHC) income.

Figure 2.5 plots the average annualised real growth in both real AHC and BHC income across the distribution for three distinct periods. The green series shows that the collapse in AHC income between 2007 and 2012 was more pronounced than in BHC income. This was particularly true at the bottom of the income distribution, with incomes falling by more than 4 per cent per year on average at the lowest income decile (tenth) on an AHC basis compared to 2 to 4 per cent on a BHC basis. However, the blue and purple series show – perhaps surprisingly – that AHC income growth has also been stronger and more progressive than BHC income growth during the recovery. The red and orange series show that the net effect of this is that the pattern of income growth was very similar – and progressive – before and after housing costs over the period 2007-2021.



FIGURE 2.6 DISPOSABLE INCOME INEQUALITY: 1987-2021



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

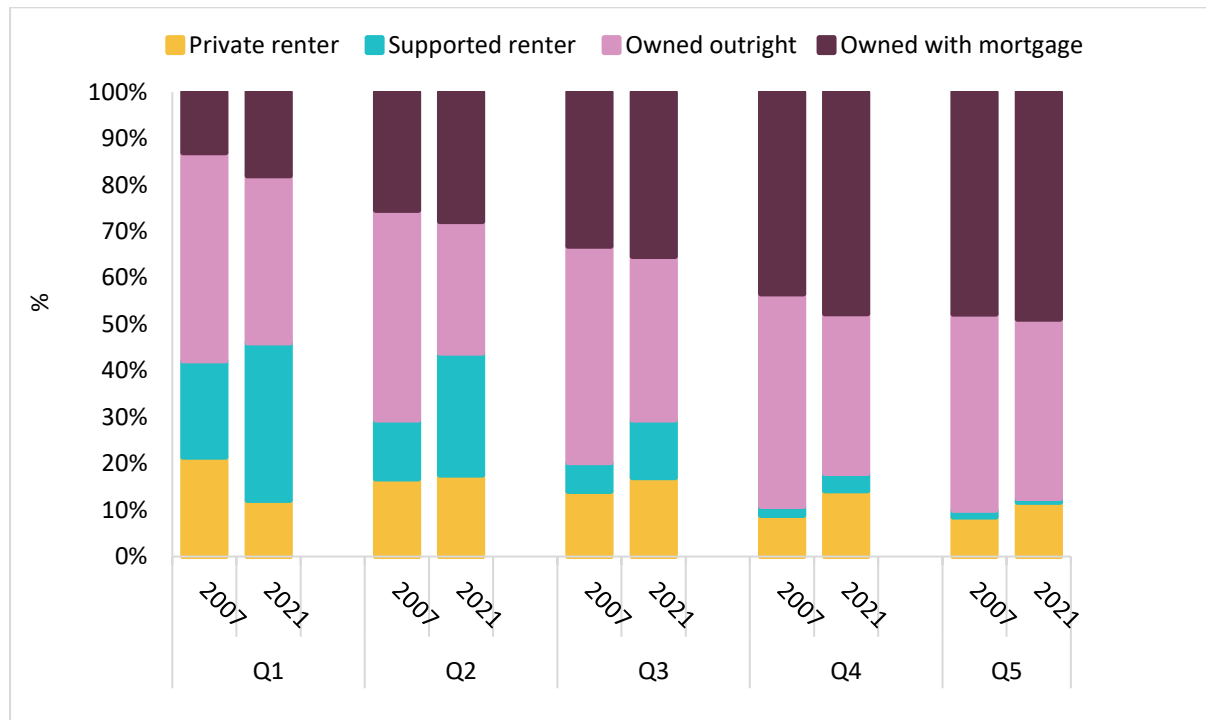
Notes: Incomes after direct taxes paid and benefits received, with growth rates calculated after accounting for inflation using the CSO's all-item Consumer Price Index. Household size and composition is adjusted for using the modified OECD equivalence scales. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

As with BHC income, this progressive pattern of growth in AHC income has led to declines in standard measures of income inequality. Figure 2.6 shows that by 2021 both the Gini coefficient and 90:10 ratio for AHC income inequality stood – like those for BHC income – at their lowest recorded levels, at 0.285 and 3.4 respectively.

Such progressive and inequality-reducing patterns of growth in AHC income may on first sight appear difficult to reconcile with the increases in housing costs seen earlier, particularly for renters. However, Figure 2.7 shows that the majority of households – even at the bottom of the income distribution – are homeowners both in 2007 and 2021, with most of these owning their home outright and so facing no recurrent housing costs. In addition, while the home ownership rate among those at the lower end of the income distribution has fallen, the share renting privately has also fallen (from 21 to 12 per cent in the lowest income quintile). As shown by Doolan et al. (2022), this has coincided with a growth in the supported rental sector (from 21 per cent in 2007 for the lowest income quintile to 34 per cent in 2021). By contrast, the share of those in the middle of the income distribution renting privately has risen, for example, from 14 to 17 per cent in the third lowest income quintiles. As we will see, this shift towards the private rental sector for those around the middle of the distribution and towards the supported rental sector for those at the bottom of the distribution has combined with

changes in the affordability of housing by tenure to shape the progressive pattern of AHC income growth observed.

**FIGURE 2.7 COMPOSITION OF HOUSING TENURE, BY BHC INCOME QUINTILE: 2007 AND 2021**

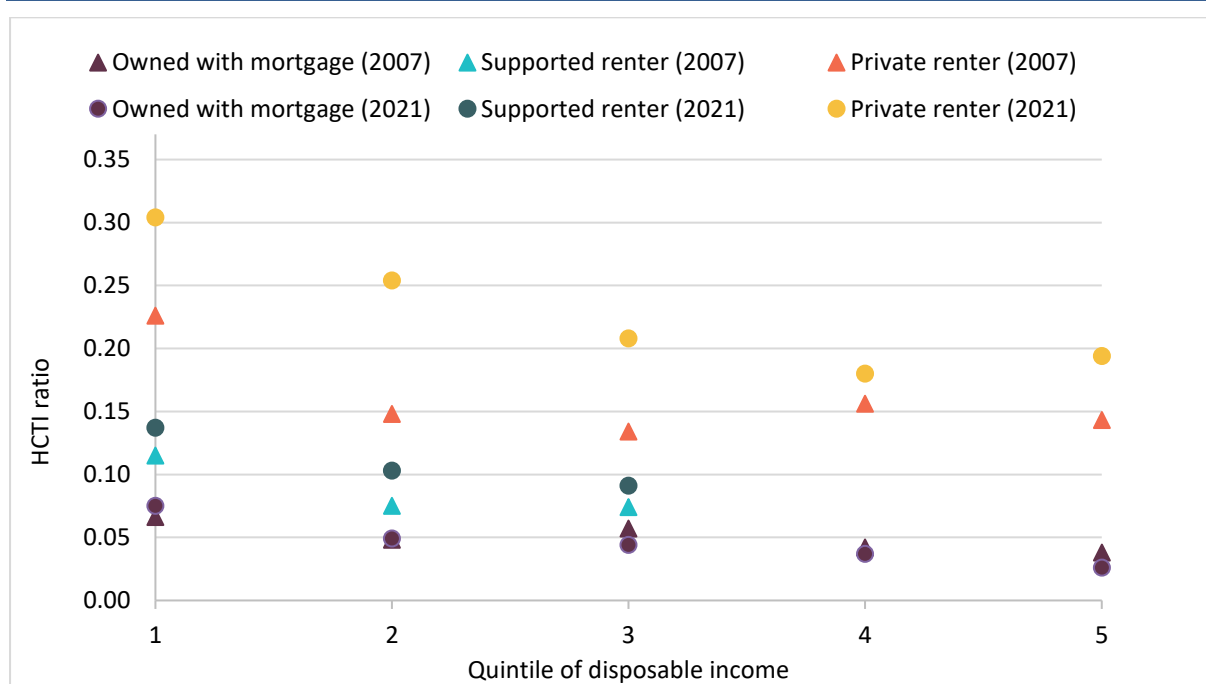


*Sources:* Authors' calculations using the 1987 ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Income quintiles are derived after direct taxes paid and benefits received, but before housing costs and adjusted for household size and composition using the modified OECD equivalence scales. Housing tenure is split four ways: owned outright, owned with mortgage, supported renter (HAP or RS recipients) and all other renters.

These differential changes in housing affordability are shown in Figure 2.8, which plots median housing cost to income (HCTI) ratios by housing tenure and income quintile. The purple series shows that the affordability of housing relative to income has remained largely unchanged for owner occupiers with mortgages across most of the distribution between 2007 and 2021. Again, this reflects the sustained decline in interest rates for all mortgage holders, which has offset the rise in amounts borrowed (and so monthly repayments) for newer borrowers.

While median HCTI ratios have risen somewhat for supported renters (from a relatively low level), the most striking change is the significant decline in housing affordability for private renters. This is particularly true for those in the bottom half of the income distribution, with median HCTI ratios rising from 0.226 to 0.304 for private renters in the lowest income quintile, and from 0.148 to 0.254 for those in the second lowest income quintile. In other words, just over half of private renters in the lowest income fifth of the population spend more than 30 per cent of their disposable income on rent, suggesting acute issues of affordability among this group (as previously highlighted by Fahey et al., 2004; Corrigan et al., 2019; and O'Toole et al., 2020, among others).

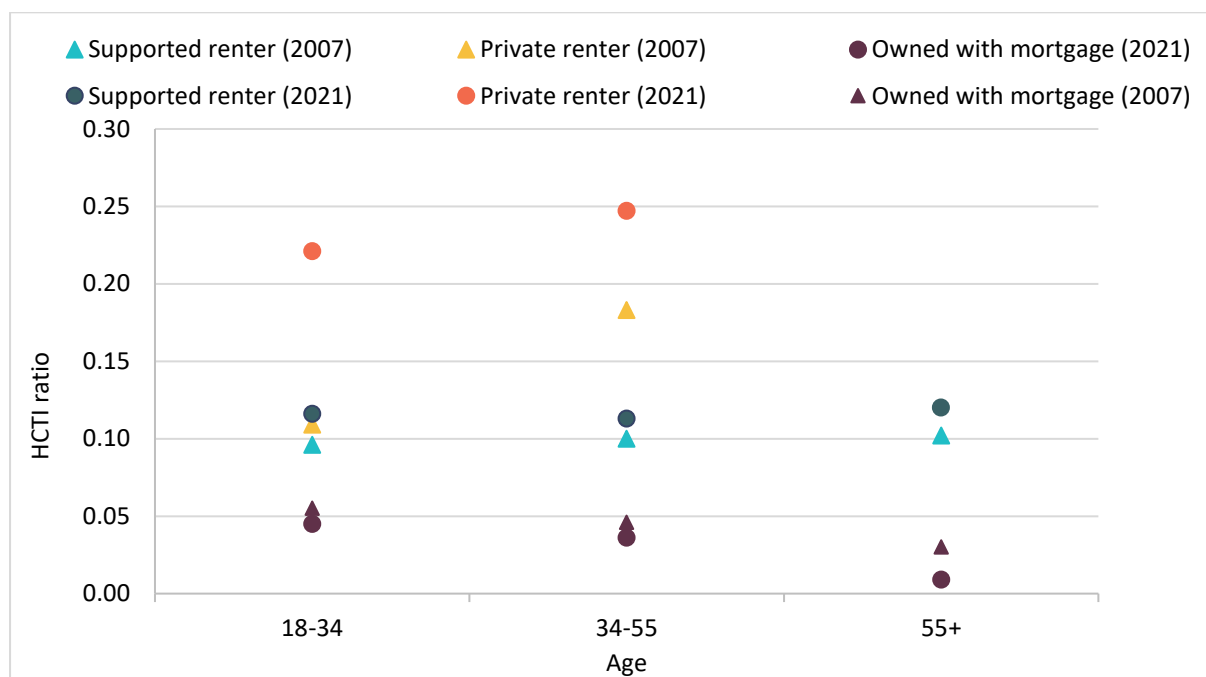
**FIGURE 2.8 HOUSING COST TO INCOME RATIOS, BY QUINTILE OF AHC INCOME: 2007-2021**

**Sources:** Authors' calculations using the 1987 ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

**Notes:** Incomes after direct taxes paid and benefits received, with growth rates calculated after accounting for inflation using the CSO's all-item Consumer Price Index. Household size and composition is adjusted for using the modified OECD equivalence scales. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

These patterns of tenure composition and changes in housing affordability, then, help to explain why AHC income growth has also been as progressive and inequality reducing as BHC income growth. Firstly, most individuals – even at the bottom of the income distribution – live in homes owned outright or with a mortgage, and so have faced relatively stable housing costs since 2007. Second, lower income renters are more – and increasingly – likely to receive support for their housing costs through the supported rental sector, which has helped to insulate many of them from the price pressures in the private rental sector. Instead, it is those lower-to-middle income households who do not qualify for housing supports that have been most exposed to rapidly rising private rents and have seen a significant weakening in housing affordability. The net result is that even after accounting for housing costs, the patterns of growth experienced since 2007 remain progressive and inequality reducing across the distribution of income.

This is not to say that the declining affordability of (particularly private) rental accommodation has not had important distributional implications. Figure 2.9 plots the change in HCTI ratios across tenure by age group and shows that the declines in housing affordability have been particularly pronounced for younger adults living in private rental accommodation. Median HCTI ratios for those aged 18-34 have more than doubled, from 0.109 to 0.221, between 2007 and 2021, with Table B.5 in the appendix also showing a doubling in the 25th percentile of HCTI ratios, from 0.072 to 0.169.

**FIGURE 2.9 HOUSING COST TO INCOME RATIOS, BY AGE: 2007-2021**

*Sources:* Authors' calculations using the 1987 ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Incomes after direct taxes paid and benefits received, with growth rates calculated after accounting for inflation using the CSO's all-item Consumer Price Index. Household size and composition is adjusted for using the modified OECD equivalence scales. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

While the increase is not as pronounced as for the youngest private renters, median HCTI ratios have also risen substantially for those aged 35-54: from 0.183 to 0.247 between 2007 and 2021. In other words, about half of this group spend more than 25 per cent of their disposable income on rent, with Table B.6 in the appendix showing that more one-quarter spend more than 30 per cent of their disposable income on rent. These HCTI ratios are far in excess of those experienced by most similarly aged homeowners and supported renters, and illustrate the importance of looking beyond summary measures of income inequality like the Gini coefficient. For this reason, the report now turns to measures of very low living standards and the difference that accounting for housing costs makes to measures of income poverty.



## CHAPTER 3

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### Income poverty and material deprivation

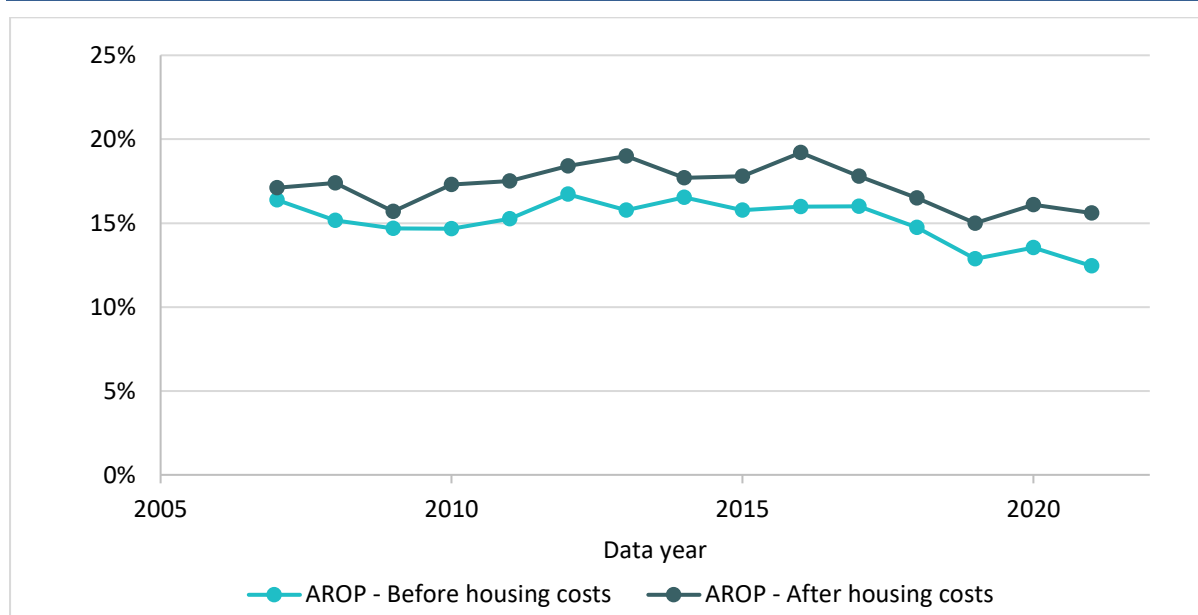
Our focus so far has been on income growth and inequality across the entire population. However, policymakers may have particular concerns about the living standards of those with the least resources. In this chapter, we build on the analysis in last year's report (Roantree et al., 2021), which highlighted the consistently high incidence of low living standards among certain groups despite the strong and progressive – if volatile – income growth experienced over the past three decades. We first consider measures of income poverty before turning to look at material deprivation and its overlap with income poverty. We again pay particular attention to the difference that accounting for housing costs makes to our assessment of low living standards, developing a consistent new measure of after housing cost (AHC) income poverty.

#### 3.1 INCOME POVERTY

Standard measures of income poverty conceptualise low living standards as not having sufficient resources to buy essential goods and services. However, what constitutes an essential good or service is a subjective question, with the answer evolving over time, reflecting changes in average living standards, technology and the views of society more generally. Because of this, most measures of income poverty are ultimately relative and indeed are explicitly defined with respect to average incomes, setting a 'poverty line' under which individuals are deemed to be in or at risk of poverty (AROP) if their incomes fall below. In what follows, individuals are termed AROP if their disposable household income – adjusted (equivalised) for household size and composition – falls below 60% of the median (equivalised) disposable income.

Figure 3.1 plots the AROP rate for the period 2003 to 2021 both in terms of before housing cost (BHC) and AHC income. The dark blue series shows that the AHC AROP rate is about one-tenth to one-quarter higher than the BHC rate. For example, in 2021 (the most recent year of data available), the BHC AROP rate is 12.4 per cent (amounting to around 625,000 individuals), but rises to 15.6 per cent on an AHC basis (around 785,000 individuals).

From 2009 to 2016, the AHC AROP rate increased by over one-fifth, whereas over the same time period the BHC AROP rate increased by less than one-tenth. This more muted rise in the BHC AROP rate in part reflects falling median incomes over this period, which acted to compress the distribution of income at the bottom of the distribution (Roantree et al., 2021). It also reflects the fact that, as we saw in Chapter 2, housing costs continued to rise over the initial years of the Great Recession while real incomes were falling.

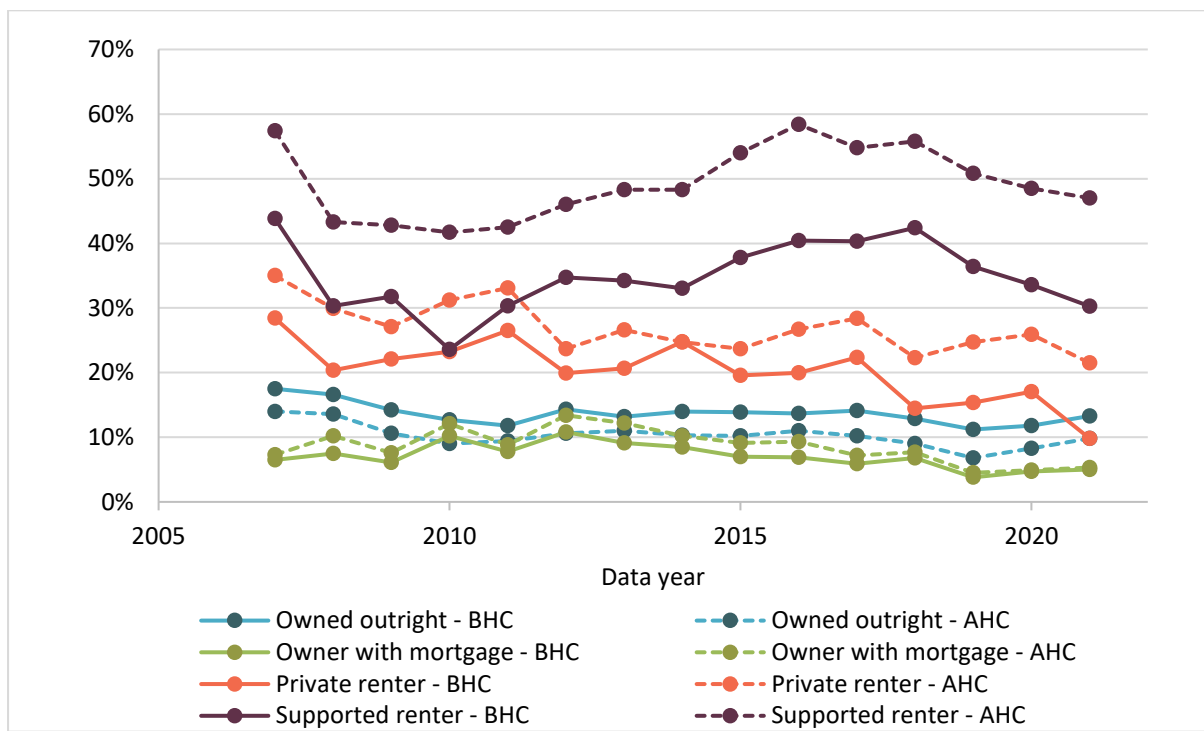
**FIGURE 3.1 AROP RATE, BEFORE AND AFTER HOUSING COSTS**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

Figure 3.2 plots the AROP rate by housing tenure, which shows that while both BHC and AHC AROP rates remained low for homeowners over the course of the financial crisis, they have typically been much higher for renters. This is especially true for supported renters, who faced an AHC AROP rate of 47 per cent in 2021 compared to 10 per cent for outright homeowners, 5 per cent for homeowners with a mortgage and 22 per cent for private renters. There was also a sustained rise in the BHC and AHC AROP rates for supported renters over the early 2010s, reversing the decline seen in the initial years of the Great Recession.

Given that – as we have seen in Chapter 2 and as shown in more detail by Doolan et al. (2022) – supported renters face far more affordable housing costs both in absolute terms and relative to their incomes than private renters, the high incidence of income poverty among supported renters is primarily a product of low levels of income rather than high housing costs. Indeed, in order to qualify for supported rental accommodation in the first place, individuals need to have – or have had at the point of application – low incomes relative to others. This is also demonstrated by the evolution of AROP rates for supported renters, which fell sharply over the late 2009s as welfare payments rose relative to wages but then fell as real cuts to welfare payments resulted in incomes of recipients falling behind median incomes (Roantree et al., 2021).

**FIGURE 3.2 BEFORE AND AFTER HOUSING COST AROP RATES, BY TENURE**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

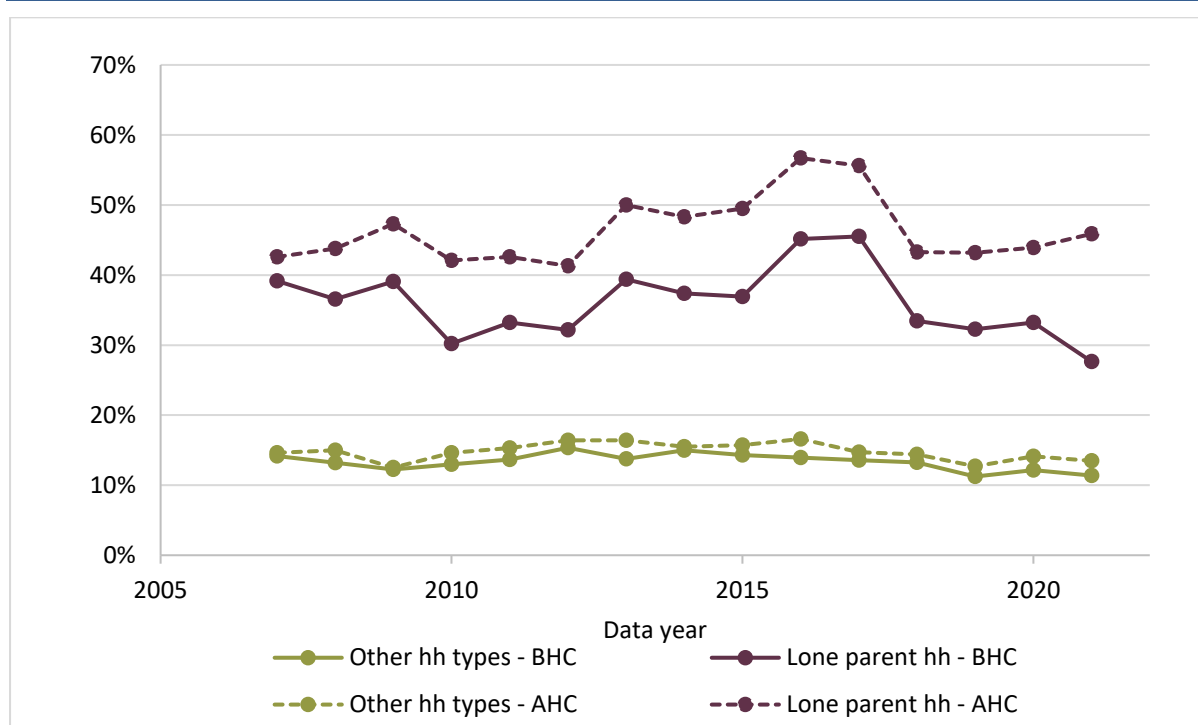
Notes: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales. Housing tenure is split four ways: owned outright, owned with mortgage, supported renter (HAP or RS recipients) and all other renters.

Last year's report showed that higher rates of income poverty for lone parents and their children, as well as those for working-age adults living in households without anyone in paid work, have been an enduring feature of Irish society since at least the early 1990s (Roantree et al., 2021). We now examine if this remains the case on an AHC income basis.

Figure 3.3 plots the evolution of the BHC and AHC AROP rates for lone parents and their children compared to those in non-lone-parent households. It shows that the AHC AROP rate for lone parents and their children has remained above 40 per cent since 2007, reaching a peak of 57 per cent in 2016 before falling back to 46 per cent in 2021: an estimated 153,000 people. This compares to a BHC AROP rate that peaked at 46 per cent in 2017 before falling to 28 per cent in 2021: an estimated 92,000 people.

Figure 3.3 also shows that these differences between AHC and BHC AROP rates are much more pronounced than for those in non-lone-parent households. Higher AROP rates among lone-parent families in Ireland are in part attributable to, relative to our European counterparts, lower rates of employment and so disposable income (Roantree, 2020; Maître and Nolan, 2022), with greater exposure to the private rental sector and so unaffordable housing costs contributing towards these even higher rates of AHC poverty (Russell et al., 2021).



**FIGURE 3.3 BEFORE AND AFTER HOUSING COST AROP RATE, BY FAMILY TYPE**

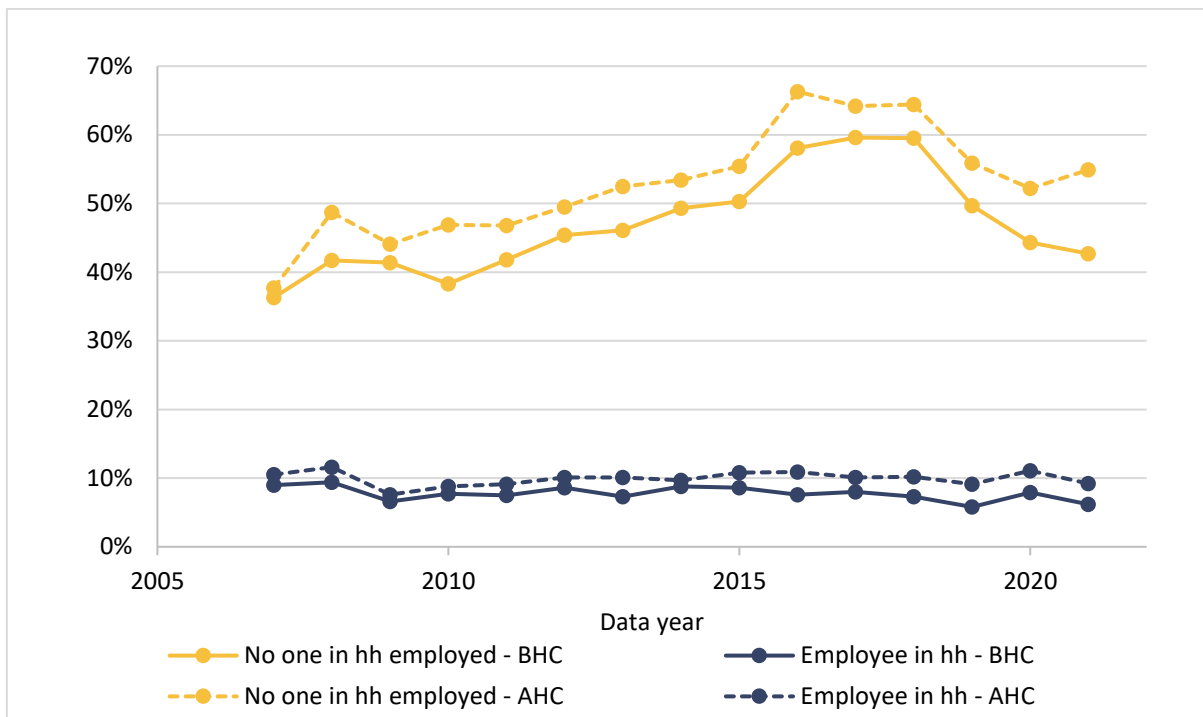
Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

Similarly, Figure 3.4 shows that the difference between BHC and AHC AROP rates for people in working age households with no one in paid work is larger than for other working-age households. For example, the AROP rate for those in working-age households without anyone in paid work stood at 54.9 per cent AHC compared to 42.7 per cent BHC in 2021. While AROP rates for those in working-age households with someone in paid work – at 6.2 per cent BHC and 9.2 per cent AHC – are much lower for households with someone in paid work, they nevertheless still make up over one-third of those who are AROP, given households with someone in paid work make up the bulk of the population. The characteristics of these working poor will be explored further in Chapter 4.

Figure 3.5 shows the AROP rates by whether or not there is someone in the household with a disability. This measure of disability is based on responses to this single question asked to all household members aged 16 and over: 'For at least the last 6 months have you been limited in activities people usually do, because of a health problem?' Respondents were asked if activities were 'strongly limited', 'limited', or 'not limited'. In our analysis, people who reported being strongly limited or limited are considered as having a disability. Therefore, the measure of disability we use is subjective, based on respondents' self-evaluation of whether or not they experience limitations in daily activities. This measure of disability has been used in previous research by Kelly and Maître (2021) in the Irish context.

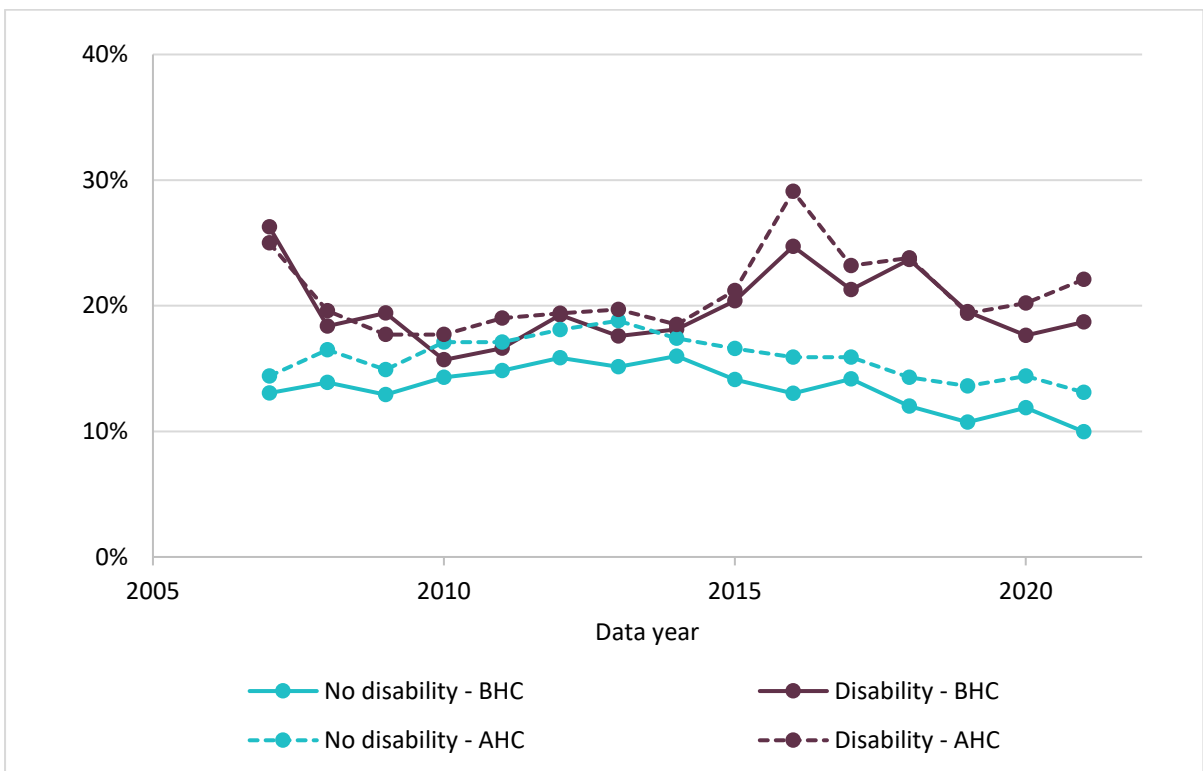
**FIGURE 3.4 BEFORE AND AFTER HOUSING COST AROP RATE, BY WHETHER SOMEONE IN THE HOUSHOLD IS IN PAID WORK**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

**FIGURE 3.5 BEFORE AND AFTER HOUSING COST AROP RATE, BY DISABILITY**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

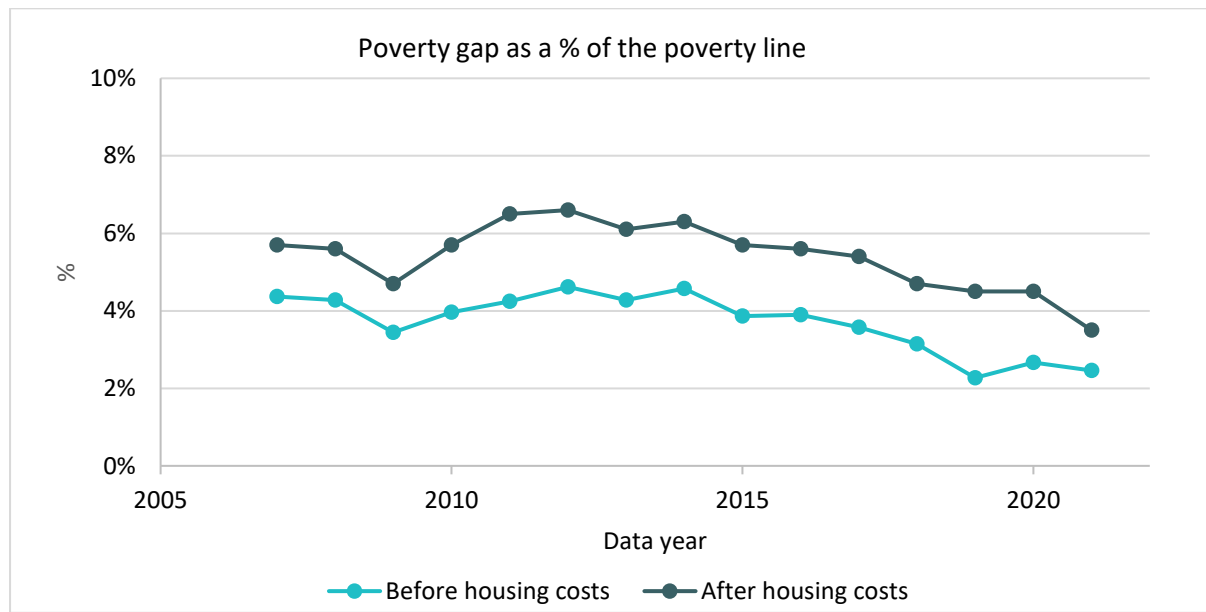
Note: Incomes after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

On the eve of the financial crisis, AROP rates for those in households affected by a disability were higher than those in households unaffected by a disability on both a BHC and an AHC basis. During the Great Recession, however, there was a degree of convergence across both AHC and BHC measures. This is in part due to the relatively low attachment of people with disability in Ireland to the labour force, meaning that the rise in unemployment resulted in the income of those in households unaffected by a disability falling more significantly during that period. Previous research found also that the employment rate gap between people with and without disability narrowed over the financial crisis (McGinnity et al. 2014).

Over the 2010s, AROP rates initially rose for those in households affected by disability, increasing from around 20 per cent in 2012 to 29.1 per cent in 2016 on an AHC basis, before falling back to the 2012 level by 2020. Over the same period, AROP rates for people in households not affected by disability declined steadily, by around one-quarter on both a BHC and AHC basis. However, AROP rates remain higher for those in households where someone reports a disability, standing at 18.7 per cent in BHC terms and 22.1 per cent in AHC terms in 2021 (equivalent to 267,000 and 315,000 people respectively). Although there are no significant differences in home ownership rates between those affected by disability and those who are not, recent research has pointed to a greater burden imposed by housing costs on households where someone reports a disability (Indecon, 2021; Russell et al., 2021).

While the AROP rate is the most commonly used measure of income poverty, it suffers from the shortcoming that – as with any headcount measure – it does not differentiate between the degree of hardship for those below the poverty line. A complementary measure that does so is the poverty gap: the extent to which, on average, AROP individuals are below the poverty line, expressed as a percentage of the poverty line.

Figure 3.6 plots the poverty gap in terms of both BHC and AHC income. It shows that the poverty gap for both measures initially declined following the Great Recession, before rising between 2009 and 2012. This indicates that those below the poverty line were further beneath it over this period: by an average of 6.6 per cent AHC and 4.6 per cent BHC in 2012. As AROP rates have declined, so too have these poverty gap measures, falling from their peak in 2012 to 3.5 per cent AHC and 2.5 per cent BHC by 2021.

**FIGURE 3.6 POVERTY GAP, BEFORE AND AFTER HOUSING COSTS: 2005-2021**

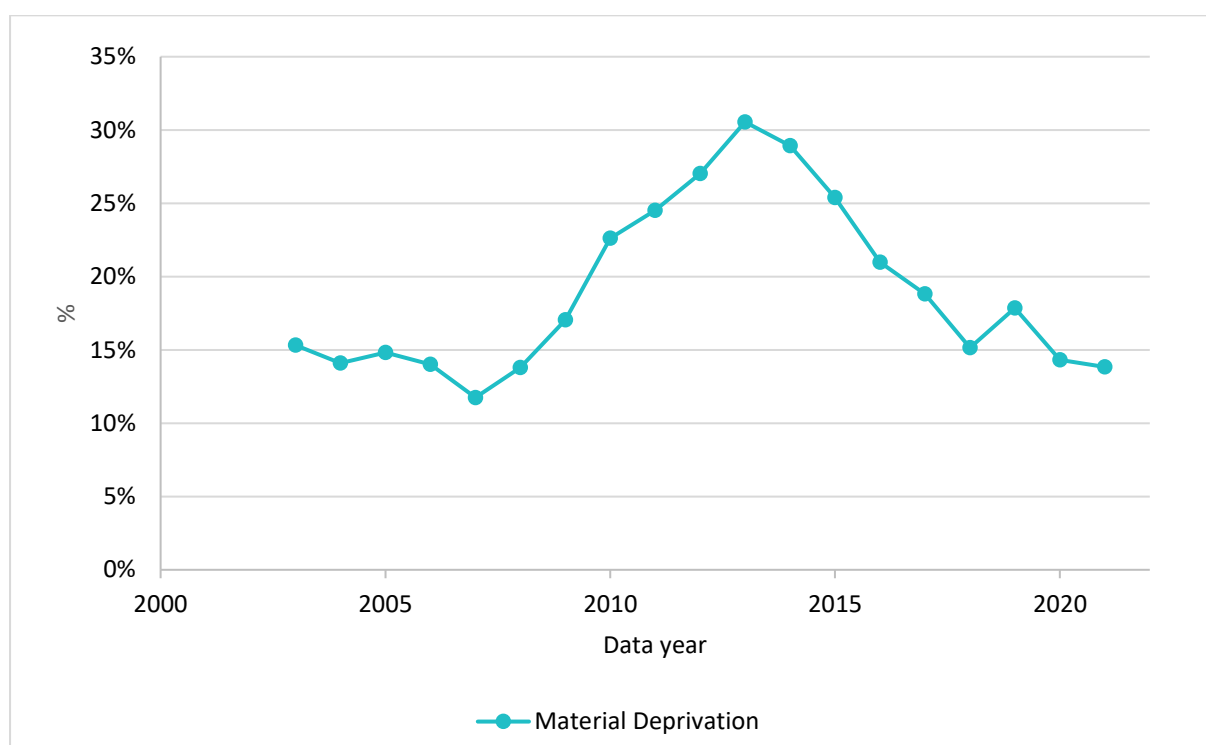
Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

Figures C.1 and C.2 in the appendix show that while the overall poverty gap fell between 2005 and 2021, there is substantial variation across the population: groups that faced sustained higher AROP rates are, on average, deeper in poverty. Lone-parent families, households with no one in paid work, supported renters and private renters AROP consistently experienced a greater BHC poverty gap, and the AHC poverty gap was even greater for these groups. That is, those AROP in these cohorts are on average further below the poverty line. While households affected by disability faced a similar poverty gap to the population overall until 2016, they have diverged since with households affected by disability now facing a higher poverty gap than the population overall. Conversely, the poverty gap for homeowners and people in households with someone in paid work is smaller than that for the population overall.

### 3.2 DEPRIVATION AND POVERTY

Standard measures of income poverty conceptualise low living standards as having insufficient resources to purchase essential goods and services. While low levels of income relative to the median is an important and useful measure of low living standards, there are limitations in using income alone as a measure of economic status. Factors such as savings, assets, debt and inescapable costs, such as housing, disability-related costs and childcare, can lead to households with equal incomes having very different standards of living and abilities to make ends meet (Social Metrics Commission, 2018).

**FIGURE 3.7 MATERIAL DEPRIVATION: 2003-2021**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

Maître and Privalko (2021) argue that, for these reasons, non-monetary indicators of deprivation can assist in identifying excluded groups in society. Material deprivation is defined as the enforced lack of ability to partake in society or afford goods, services, food and maintain adequate housing conditions. It is measured as the inability to afford 2 or more items from a list of 11 (Whelan and Maître, 2007).<sup>14</sup>

Figure 3.7 plots the material deprivation rate over time across the population as a whole. This exhibits a much more pronounced and sustained rise than measures of income poverty over the financial crisis, increasing from 11.8 per cent in 2007 to 30.5 per cent in 2013. The rate of material deprivation has declined as the economy has recovered and income growth resumed, falling to 13.8 per cent by 2021, around the same as its pre-crisis level.

<sup>14</sup> The 11 deprivation indicators used in the analysis are: gone without heating at some stage in the last year; unable to afford a morning, afternoon, or evening out in last fortnight; unable to afford two pairs of strong shoes; unable to afford a roast once a week; unable to afford a meal with meat chicken or fish every second day; unable to afford new (not second-hand) clothes; unable to afford a warm waterproof coat; unable to afford to keep the home adequately warm; unable to afford to replace any worn out furniture; unable to afford to have family or friends for a drink or a meal once a month; and unable to afford to buy presents for family or friends at least once a year. Unlike Roantree et al. (2021), which used a slightly different definition of deprivation – more than 2 of 10 indicators – in order to remain consistent across a longer time horizon (1 of the 11 being unavailable before 2003), the measure of deprivation shown in Figure 3.7 is consistent with that published by the CSO.

TABLE 3.1 DEPRIVATION RATE FOR VARIOUS POPULATION SUBGROUPS FOR SELECTED YEARS

Characteristics	2007	2011	2016	2021
<b>Tenure</b>				
Owned outright	6.9%	14.3%	11.7%	6.4%
Owned with mortgage	6.9%	20.3%	16.5%	5.8%
Private renter	24.2%	29.8%	25.4%	13.9%
Supported renter	41.6%	55.4%	53.3%	49.0%
<b>Lone-parent household</b>				
No	9.4%	21.8%	19.1%	11.7%
Yes	35.7%	55.8%	47.3%	43.9%
<b>Working household</b>				
No	22.8%	36.8%	35.9%	27.1%
Yes	7.5%	18.9%	15.8%	9.7%
<b>Disability in household</b>				
No	8.0%	22.5%	15.9%	9.6%
Yes	22.7%	30.9%	36.1%	24.4%

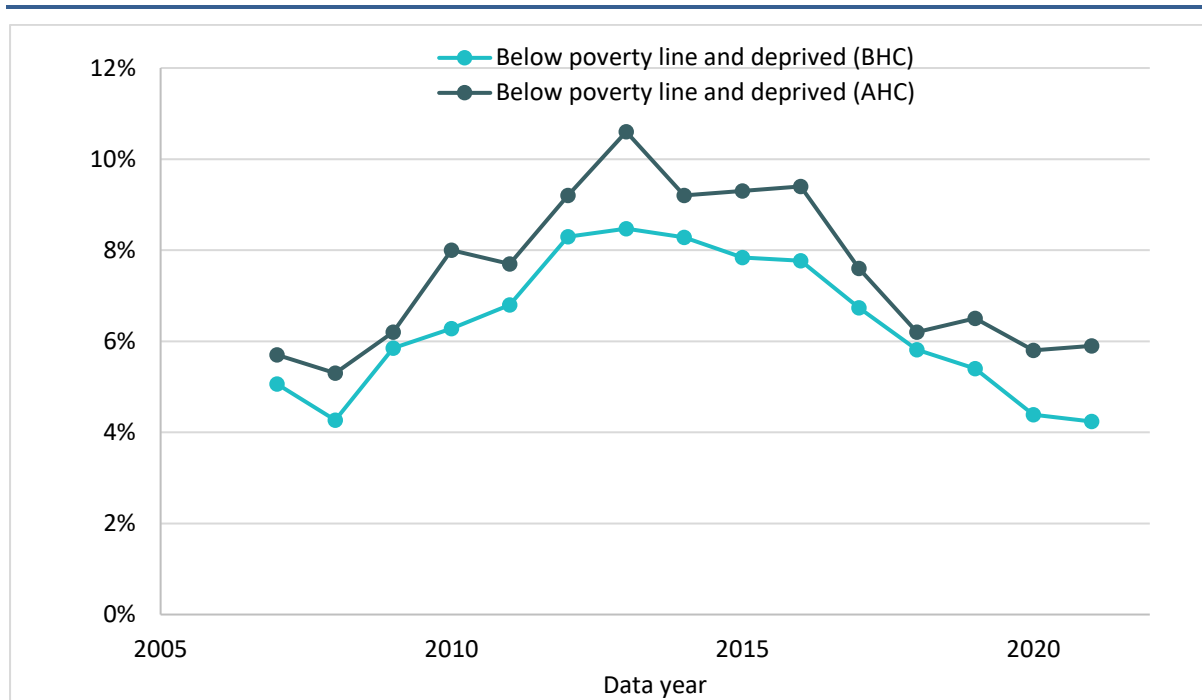
*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Incomes before direct taxes paid and benefits received, excluding pension income. 'Disability in household' indicates that one household member aged 16 or over has a disability.

Table 3.1 reports the rate of material deprivation in selected years for the groups that stand out as being at particular risk of poverty. It shows that these same groups stand out as also being at particular risk of material deprivation, with renters for example experiencing consistently higher rates of deprivation than homeowners. Similarly, those in lone-parent households experience much higher rates of deprivation than others, as do those living in working-age households where no one is in paid work and those in households where someone reports having a disability.

Figure 3.8 plots the share of the population who are both materially deprived and AROP, often termed consistent poverty. While these measures exhibit the cyclical pattern of material deprivation over the Great Recession, they are also (by definition) lower in level terms than either material deprivation or the AROP rate (Nolan and Whelan, 2010). Indeed, Figure 3.9 shows that more than half of those experiencing material deprivation are above the income poverty line, whether on a BHC or an AHC basis. We now turn to examine this group of individuals who report experiencing material deprivation but whose incomes are above the AHC AROP threshold.

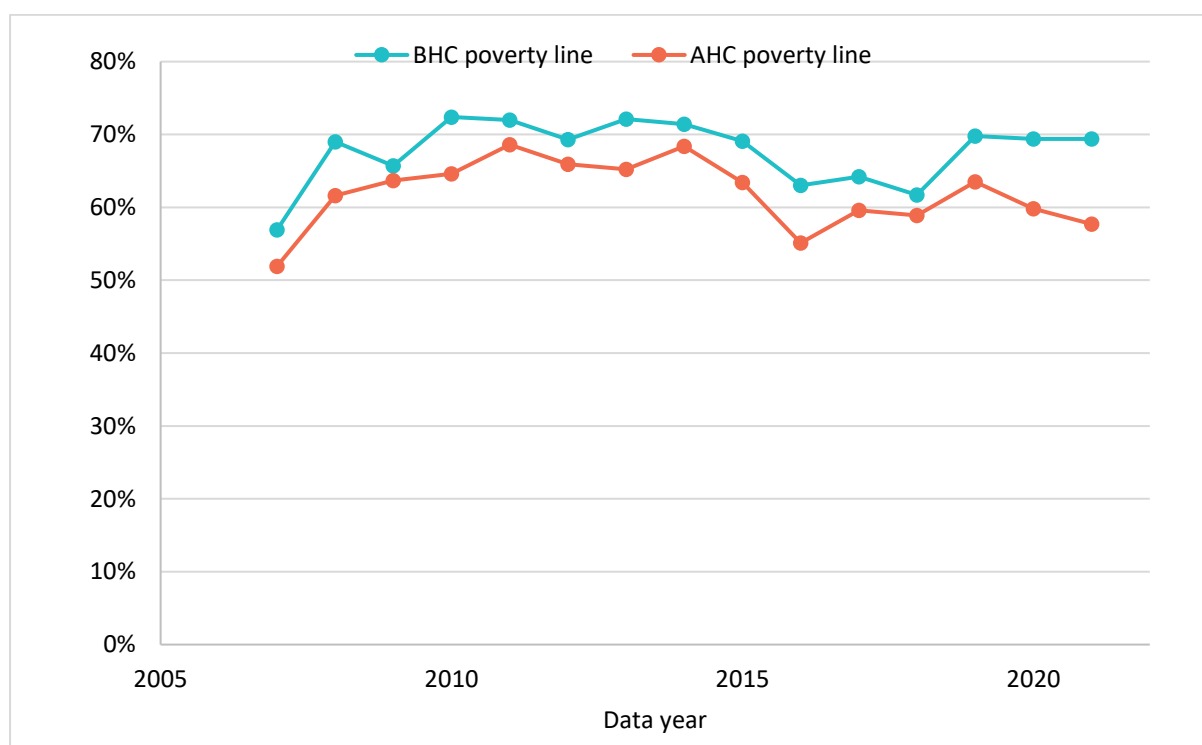
**FIGURE 3.8 SHARE OF POPULATION BOTH MATERIALLY DEPRIVED AND AROP, BEFORE AND AFTER HOUSING COSTS**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

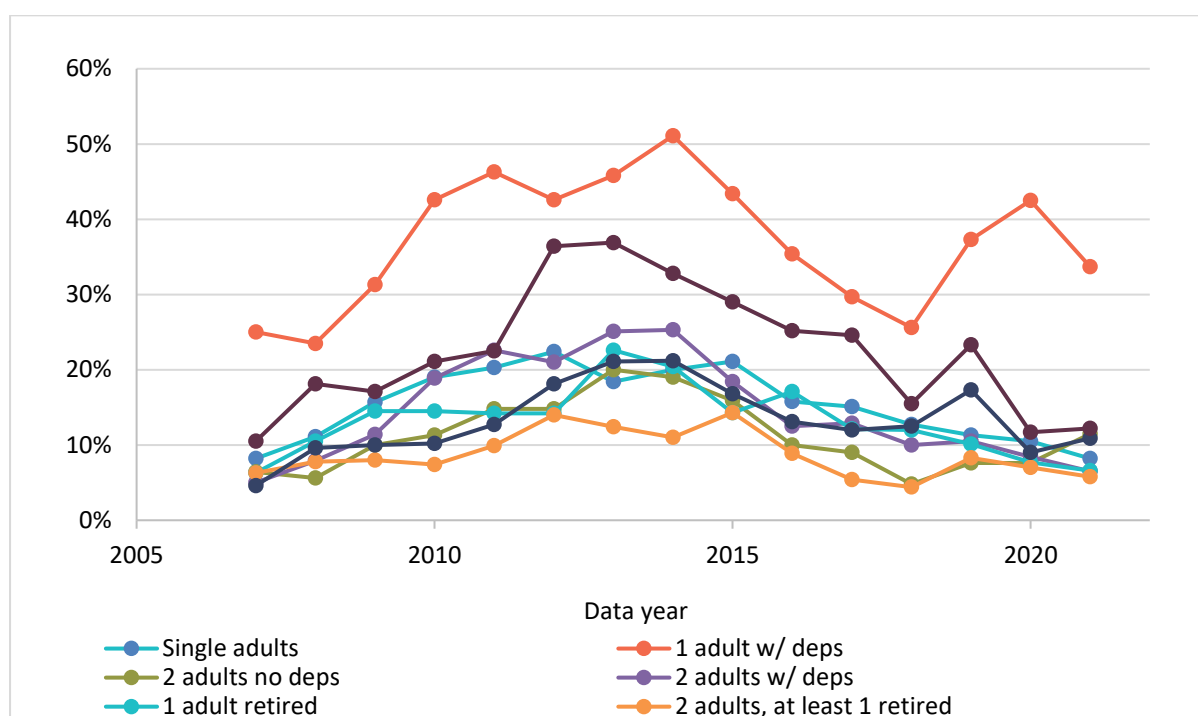
Notes: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

**FIGURE 3.9 SHARE OF MATERIALLY DEPRIVED POPULATION ABOVE THE POVERTY LINE**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

**FIGURE 3.10 RATE OF MATERIAL DEPRIVATION FOR THOSE NOT AROP (AHC), BY HOUSEHOLD TYPE**

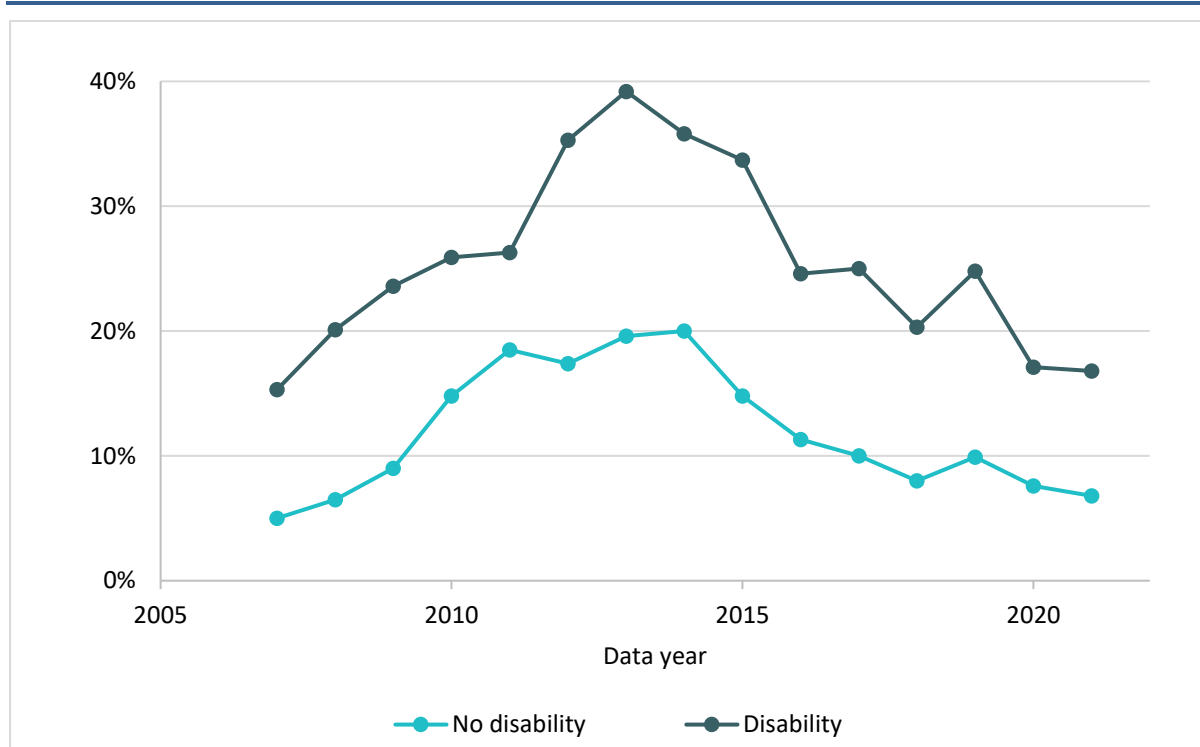
Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials. Dependents are defined as those aged under 17 or those aged 18-25 in education and living at with at least one parent.

Figure 3.10 shows the rates of material deprivation by household type for those with incomes above the AHC poverty line. Those in lone-parent households stand out, with around one-third above the AHC poverty line experiencing material deprivation. The other group to stand out comprises those in multi-adult households with dependents above the AHC poverty line, who in the aftermath of the financial crisis saw their rates of material deprivation rise to almost 40 per cent before declining again as the economy recovered.

As noted earlier, research suggests that households affected by disability face higher costs of living in order to match the standard of living of households not affected by disability. Cullinan et al. (2011) estimate that while costs vary with the severity of the disability, the cost of a disability in Ireland is on average between 20.3 and 37.3 per cent of average weekly income. Due to the extra costs borne by households affected by disability, measures of low living standards using income alone can understate the true difference in living standards between households affected and those not affected by disability.

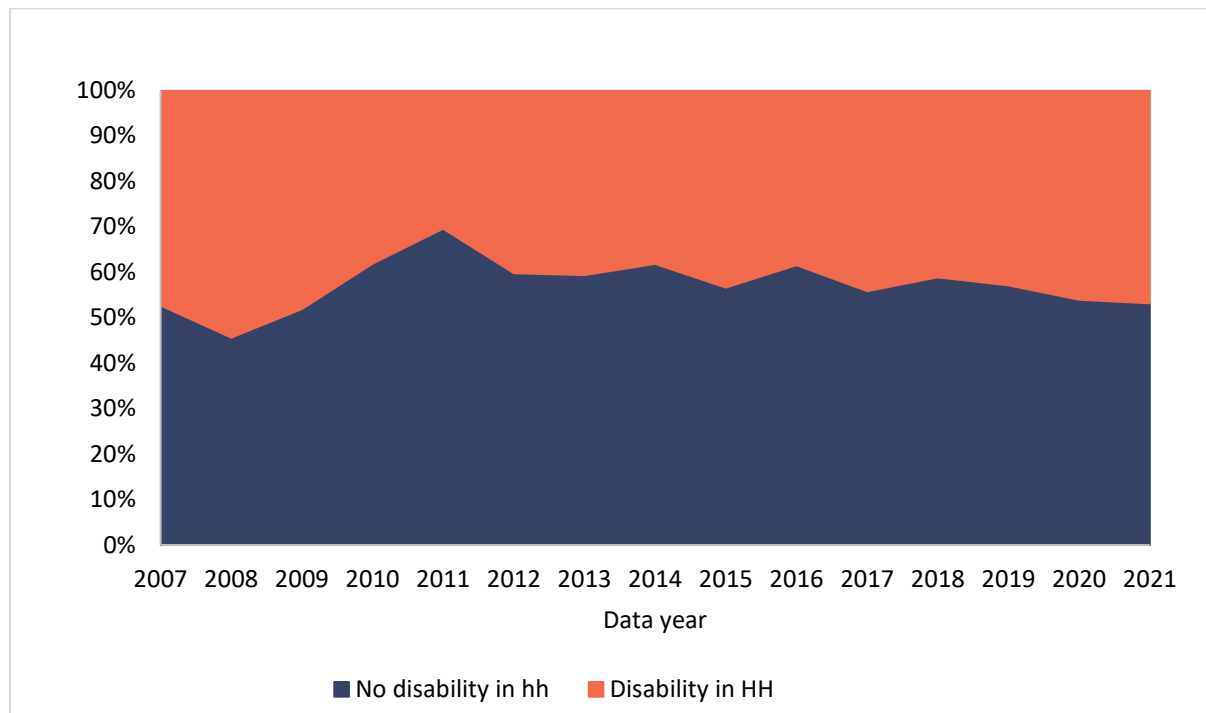


**FIGURE 3.11 RATE OF MATERIAL DEPRIVATION FOR THOSE NOT AHC AROP, BY WHETHER SOMEONE WITH A DISABILITY IS IN THE HOUSEHOLD**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

This is suggested by the rates of material deprivation for households that are affected by a disability but are not AROP, shown in Figure 3.11. Across the period considered, the rate of deprivation for households affected by disability but above the AHC income poverty line is substantially higher than that of households not affected by a disability and above the poverty line. While both have declined since 2013, the rate of material deprivation for those in households where someone reports having a disability was even in 2021 more than double that for other households: at 16.8 per cent compared to 6.8 per cent. Indeed, Figure 3.12 shows strikingly that across most of the years our data cover, between two-fifths and one-half of those above the AHC income poverty line who experience material deprivation live in a household affected by disability. Given that the extra costs incurred by households affected by disability are not accounted for by measures of BHC or AHC income, this raises questions about whether the official consistent poverty indicator – being both materially deprived and below the (BHC) income poverty line – is adequately capturing the incidence of very low living standards or poverty among households affected by disability.

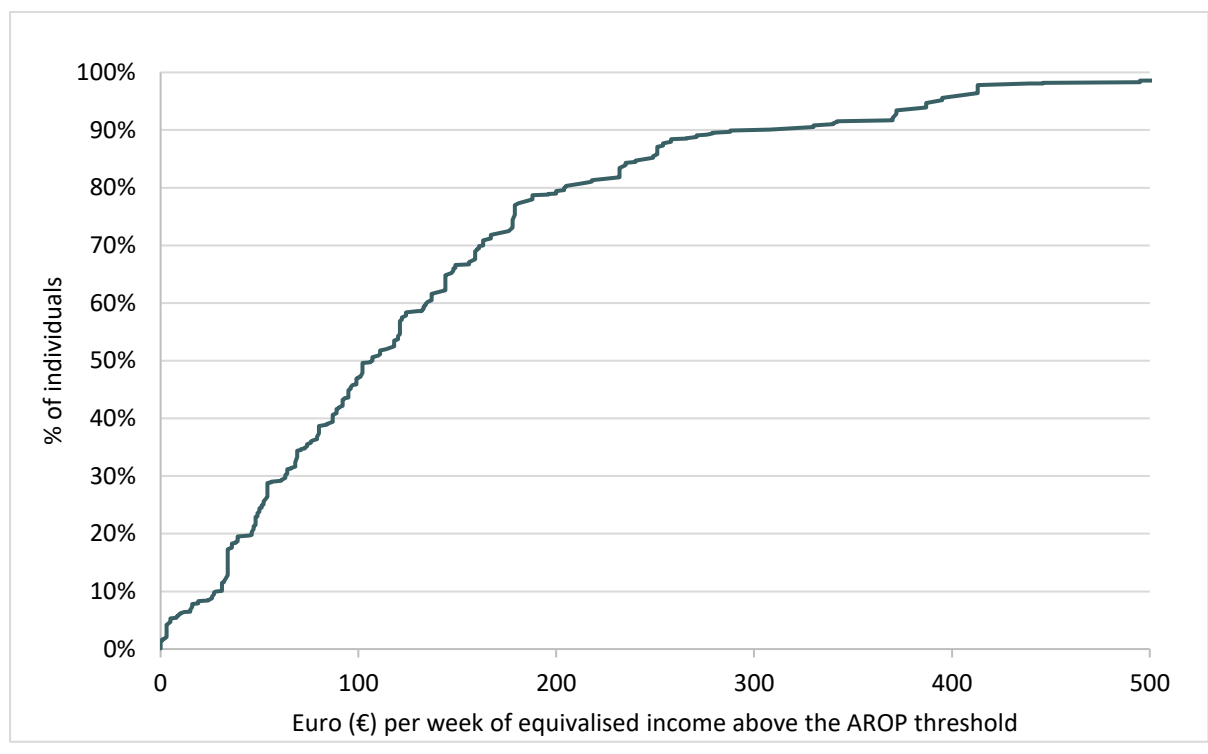
**FIGURE 3.12 COMPOSITION OF THOSE MATERIALLY DEPRIVED BY NOT AROP (AHC)**

*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Micro Files.

*Notes:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

This is reinforced by Figure 3.13, which plots the share of this population not classified as AROP but experiencing material deprivation by how far above the poverty line they are. This shows that 47 per cent of such individuals in materially deprived households where someone reports a disability are within €100 per week of the AHC poverty line in equalised real income terms, and almost 80 per cent within €200 per week. We return to discuss the implications of this for our measurement of poverty in Chapter 5.

**FIGURE 3.13 CUMULATIVE DISTRIBUTION OF INCOME FOR THOSE IN HOUSEHOLDS WHERE SOMEONE REPORTS A DISABILITY THAT ARE DEPRIVED BUT NOT AHC AROP: 2021**



*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received adjusted for household size and composition using the modified OECD equivalence scales. Those whose incomes are above the poverty line are considered to not be AROP. Deprivation defined as being unable to afford 2 or more items from a list of 11 essentials.

## CHAPTER 4

### Thematic chapter: In-work poverty

While much of the focus on poverty and deprivation relates to jobless households, the working poor represent a substantial group in Europe. Eurostat data (see Table 4.1 below) shows that in 2019, 9 per cent of workers in the EU aged 18-64 years were living in households that were at risk of poverty (AROP). However, there is considerable cross-country variation. At 4.4 per cent, Ireland has the third lowest in-work poverty rate among the EU-27 countries, behind only Finland and Czechia. Countries with a relatively high in-work poverty rate include Romania (15.4 per cent), Spain (12.8 per cent), Luxembourg (12 per cent), Italy (11.8 per cent) and Portugal (10.7 per cent).

TABLE 4.1 IN-WORK POVERTY RATES IN THE EU IN 2019 (PERSONS AGED 18-64)

Country	2019
Finland	2.9
Czechia	3.5
Ireland	4.4
Slovakia	4.4
Slovenia	4.5
Belgium	4.8
Croatia	5.0
Netherlands	5.4
Denmark	6.3
Malta	6.5
Cyprus	6.8
France	7.4
Austria	7.7
Sweden	7.7
Germany	7.9
Lithuania	8.1
Hungary	8.5
Latvia	8.7
Bulgaria	9.0
Poland	9.9
Greece	10.1
Estonia	10.3
Portugal	10.7
Italy	11.8
Luxembourg	12.0
Spain	12.8
Romania	15.4
European Union - 27 countries (from 2020)	9.0

Source: Eurostat Database on Income and Living Conditions.

In-work poverty has been linked with lower levels of subjective well-being, lower life satisfaction, problems finding adequate accommodation and feelings of social exclusion (Eurofound, 2017). As such, it is an area of concern among policymakers, with the European Pillar of Social Rights explicitly recognising the need to reduce in-work poverty in Europe.<sup>15</sup>

While the rate of in-work poverty in Ireland is relatively low compared to other countries, a considerable number of individuals still fall into this category. We saw in Chapter 3 that the before housing cost (BHC) AROP rate for the full population in 2019 was 12.9 per cent, amounting to about 625,000 individuals. Just over one-third (35 per cent) of these individuals lived in a household where at least one individual was in paid work. Therefore, we estimate that there were almost 220,000 ‘working poor’ in 2019. We focus on 2019 in this chapter as detailed information on hourly wages is not available for subsequent years, due to changes in the design of the SILC questionnaire. This may complicate the analysis of low pay and its role in income poverty in the future.<sup>16</sup>

In Table 4.2 below, we show in-work poverty rates for Ireland for a selected number of groups. We define the in-work poverty rate as the percentage of all individuals in working households that are AROP. Note that our calculation of in-work poverty differs from the definition used by Eurostat in Table 4.1, as our approach includes the total number of individuals in these households, thereby capturing children, the elderly and other non-working household members. Working households are defined as having at least one adult aged 18 to 64 whose self-defined economic status is working full or part time. More formally, we calculate the following:

$$\text{In-work AROP} = \left( \frac{\text{Number of individuals that are in working households and are AROP}}{\text{Number of individuals in working households}} \right) * 100$$

From Table 4.2, we see that 5.8 per cent of all individuals in households where at least person is working are AROP. We find that the risk of in-work poverty is particularly high for certain groups. In line with previous research that shows in-work poverty is associated with difficulties in finding accommodation (Eurofound, 2017), we find that 16.5 per cent of individuals in supported renter working households are AROP. In-work poverty is also high among individuals in lone-parent households (21.5 per cent) and in households where the main earner is in an elementary occupation (28 per cent).

<sup>15</sup> See [https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles_en).

<sup>16</sup> Gross monthly earnings from employment will no longer be collected in the SILC data.

**TABLE 4.2: IN-WORK POVERTY RATES IN 2019**

Country	2019	N living in working HHs
<b>Overall</b>	5.8%	3,768,000
<b>Supported renter</b>	16.5%	292,000
<b>Lone parent</b>	21.5%	248,000
<b>Elementary occupations</b>	28.0%	163,000

We next examine the composition of the group of individuals that are in working households that are AROP. We compare them to individuals in working households who are not AROP. In doing so, we highlight the type of households and individuals that are overrepresented among the working poor. To aid interpretation, we represent these results graphically, while providing the associated table in the appendix.<sup>17</sup>

Figure 4.1 shows there are notable differences between these groups when it comes to housing tenure. The working poor are disproportionately less likely to be home owners, with almost 56 per cent living in private rented or supported rented accommodation. This compares to just 28 per cent of individuals in working households above the poverty line.

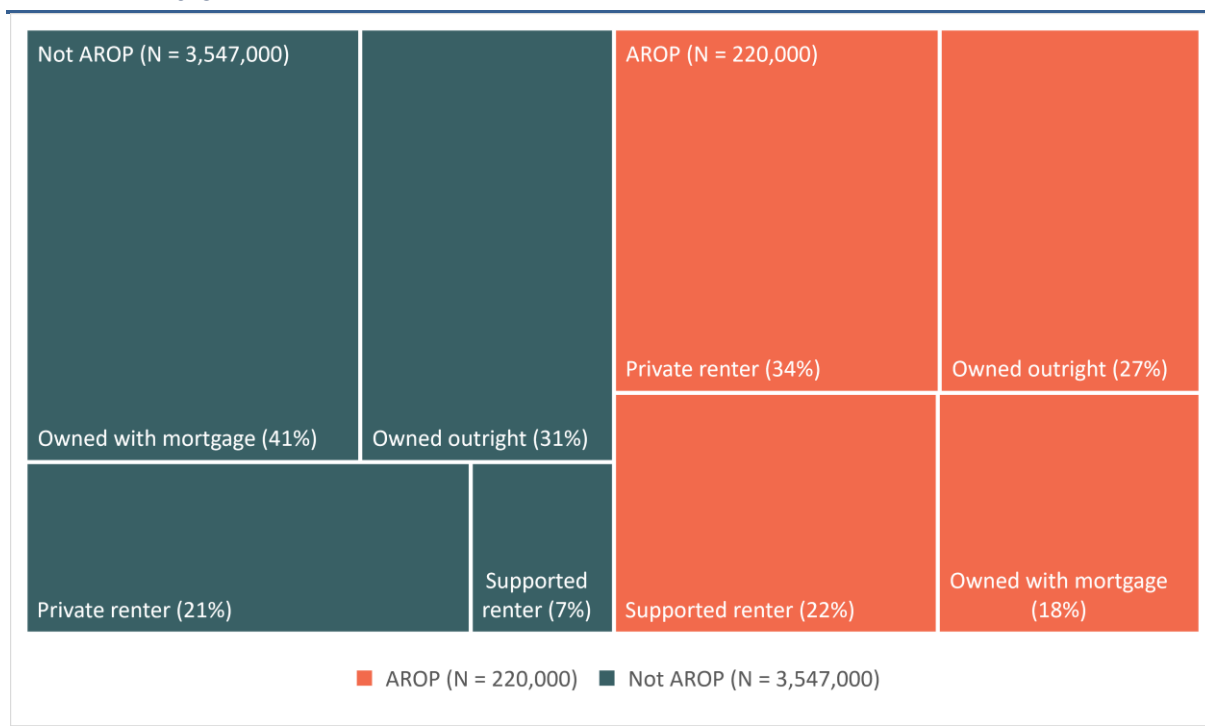
There are also significant differences with regard to educational attainment. Figure 4.2 shows that while 56 per cent of the working poor are in a household where at least one person possesses third-level educational attainment, the corresponding figure for those in working households above the poverty line is 76 per cent. Therefore, while it is true that, on average, those non-poor working households are more likely to include someone with third-level education, the educational attainment among the working poor is still relatively high.

We estimate that there are approximately 122,000 individuals who, despite being in a working household with a highly educated person, are still AROP. It is important to fully understand the reasons behind this. It may be that many highly educated individuals with valuable skills are precluded from fully utilising their qualifications due to, for example, childcare constraints. On the other hand, it may be that some individuals possess third-level qualifications that are not in demand in the labour market.<sup>18</sup> This could be due to, for example, technological change rendering skills obsolete.

<sup>17</sup> The corresponding tables can be found in Tables D1–6 in the appendix.

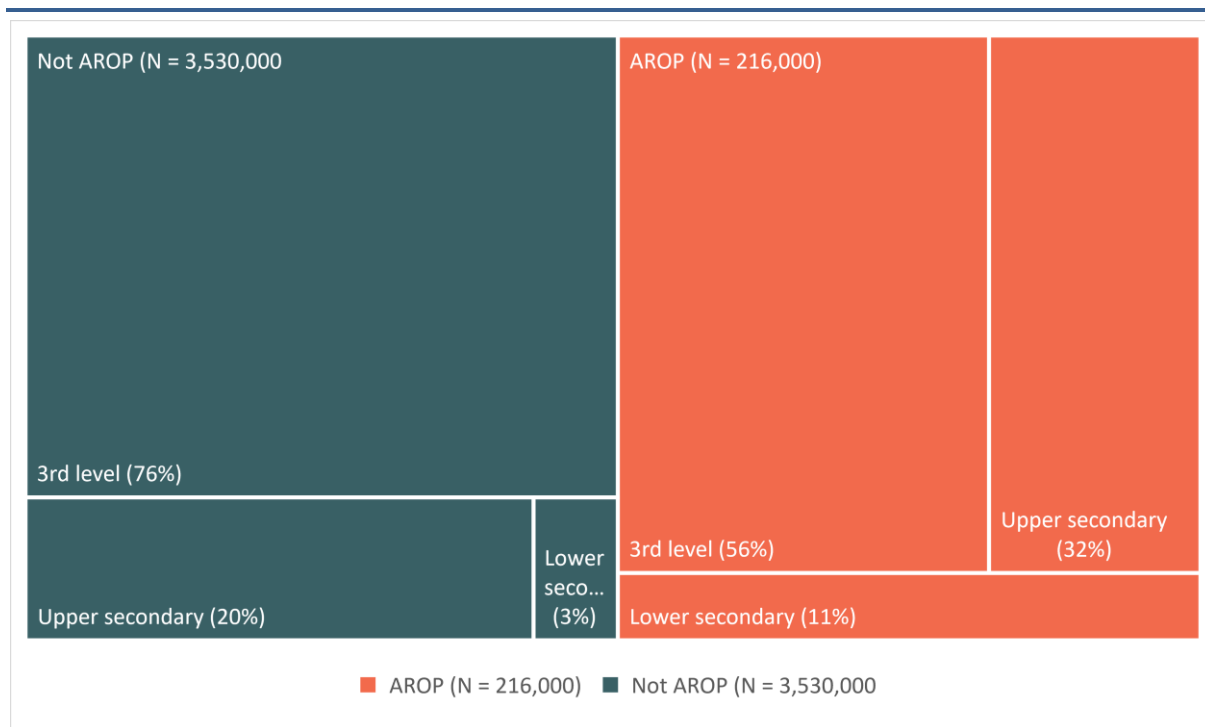
<sup>18</sup> The literature on educational under-utilisation indicates that this is more prevalent among graduates of social sciences and humanities, and in regions where commuting to other labour markets is difficult (see, for example, Ortiz and Kucel, 2008; Ramos and Sanroma, 2011; McGowan et al., 2015; McGuinness et al., 2018).

**FIGURE 4.1 COMPOSITION OF INDIVIDUALS IN WORKING HOUSEHOLDS, BY TENURE AND AROP STATUS: 2019**

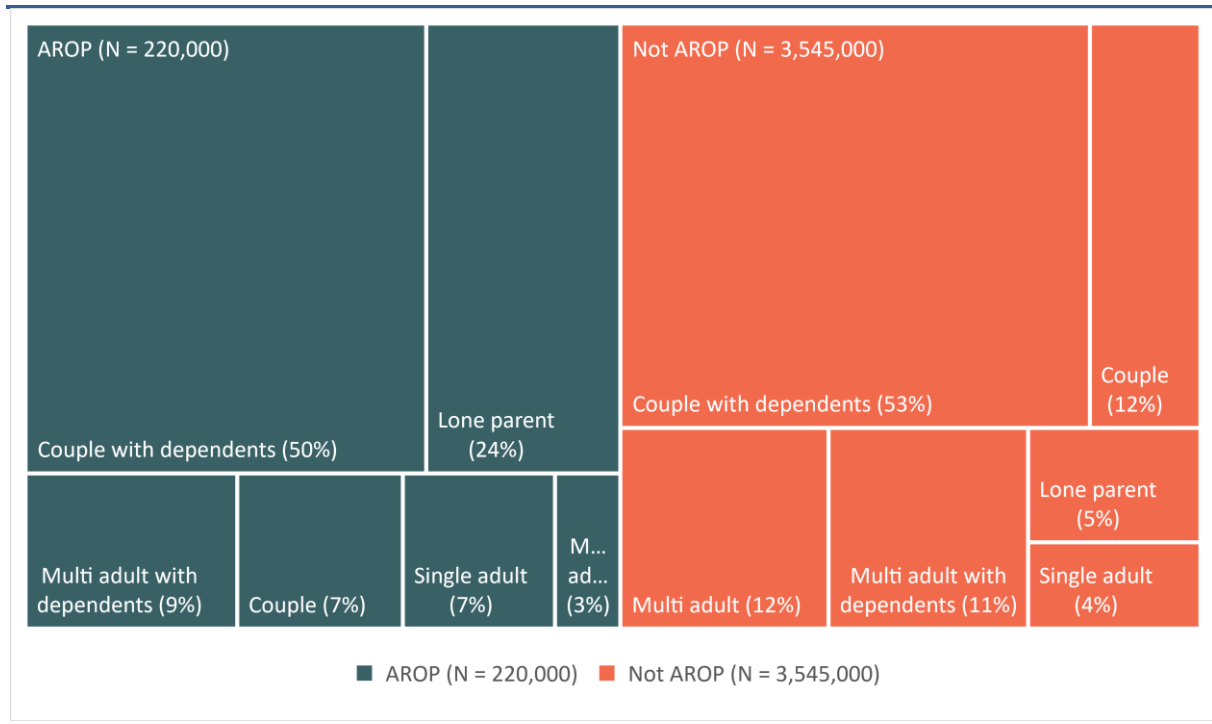


*Sources:* Authors’ calculations using the 2019 Survey of Income and Living Conditions Research Microdata Files.  
*Notes:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales. Housing tenure is split three ways: owned outright or with mortgage, supported renter (HAP or RS recipients) and all other renters.

**FIGURE 4.2 COMPOSITION OF INDIVIDUALS IN WORKING HOUSEHOLDS, BY HIGHEST LEVEL OF EDUCATION IN THE HOUSEHOLD AND AROP STATUS: 2019**



*Sources:* Authors’ calculations using the 2019 Survey of Income and Living Conditions Research Microdata Files.  
*Notes:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

**FIGURE 4.3 COMPOSITION OF INDIVIDUALS IN WORKING HOUSEHOLDS, BY HOUSEHOLD TYPE AND AROP STATUS: 2019**

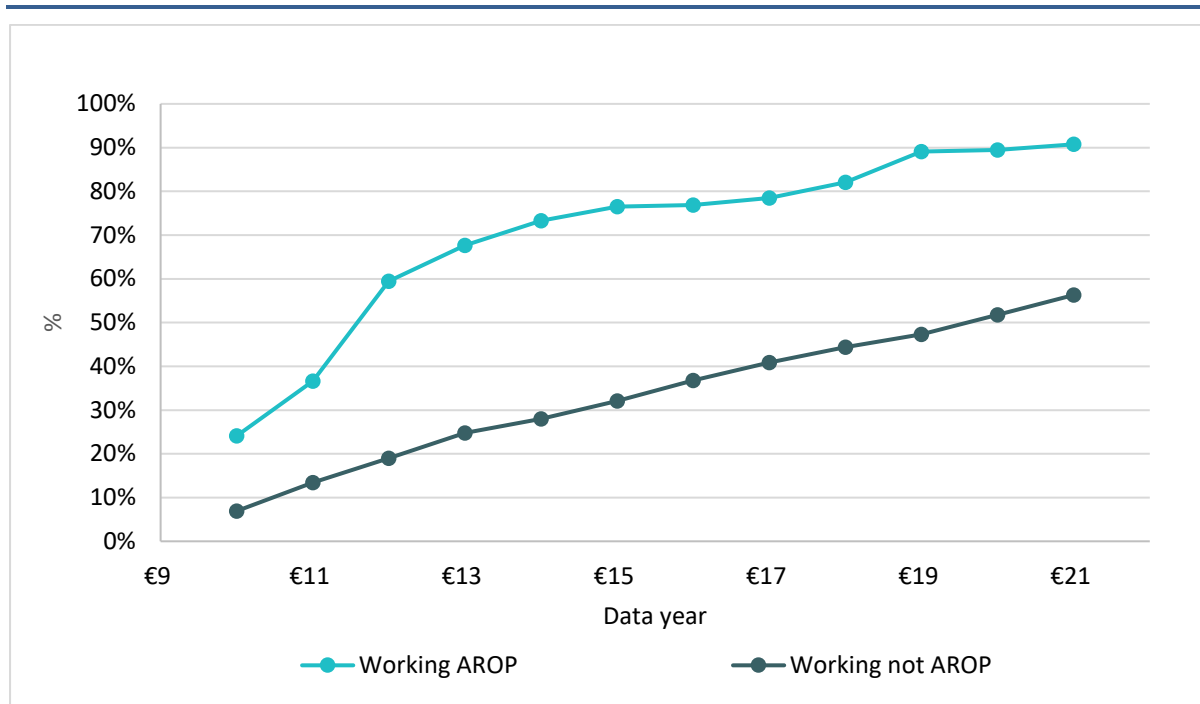
*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales. Dependents are defined as any children under the age of 17 or adults aged 25 or under living at home and in education.

One of the most striking differences between the working poor and their higher income counterparts relates to household composition, namely, the proportion of lone parents. Figure 4.3 shows that almost one in four (53,000 individuals) of the working poor are lone-parent households. The corresponding figure for those in working households above the poverty line is just 5.5 per cent.

In-work poverty among single-parent households is of international policy concern, as this group faces a variety of interrelated and reinforcing labour market disadvantages (Nieuwenhuis and Maldonado, 2017). Firstly, women make up the vast majority of parents in lone-parent households (Watson et al., 2012). In the presence of a gender wage gap, this may put many lone-parent households at a disadvantage from the outset. This is reinforced by the lack of a second earner, which reduces the potential household income and increases poverty risk. Moreover, there is also a lack of a second caregiver, which puts the caring responsibilities on the lone parent, making it difficult to combine full-time work and family responsibilities.



**FIGURE 4.4 CUMULATIVE DISTRIBUTION OF HOURLY WAGES FOR 1-EARNER WORKING HOUSEHOLDS, BY AROP STATUS: 2019**

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

Figure 4.4 plots the distribution of wages for the working poor compared to those above the poverty line. We focus on single-earner households only, as this gives us a better indication of the extent to which households are being supported by low-wage workers. For example, if we were to examine all employees in multi-earner households, we may find that there are many low-wage workers in households that are above the poverty line simply due to the presence of secondary earners (e.g., young people working part-time) in otherwise high-income households. It should be noted that, even when focusing on single-earner households, we are capturing the majority of AROP households. It is rare for a household with two or more earners to fall into the AROP category. As such, in over 80 per cent of cases where an individual is in a working household AROP, the household contains just one earner.

It is clear from Figure 4.4 that those in single-earner working poor households are generally lower paid than their counterparts in households that are above the poverty line. Almost one in four people in single-earner working poor households lived in a household where the main earner was on less than €10 per hour in 2019. Given that the minimum wage in 2019 was €9.80 per hour, this indicates that up to one-quarter of people in single-earner working poor households were

supported by a main earner on the minimum wage.<sup>19</sup> This compares to just 7 per cent of people in single-earner working households above the poverty line.

In 2019, the Living Wage Technical Group estimated that a living wage would amount to €12.30 per hour.<sup>20</sup> This is defined as a ‘wage which makes possible a minimum acceptable standard of living’.<sup>21</sup> From Figure 4.4, we see that 60 per cent of people in single-earner working poor households were supported by a main earner on €12 per hour or less in 2019. This suggests that an increase in the minimum wage to match the living wage would impact more than 60 per cent of people in single-earner AROP households. The corresponding figure for those in single-earner working households above the poverty line was just 19 per cent.

Despite the fact that such a minimum wage increase would impact a relatively large number of people in working poor households, increases are in general of limited effectiveness in terms of achieving widespread poverty reduction (Doorley et al., 2022). For example, while we have seen that a minimum wage increase in 2019 could have impacted up to 25 per cent of people in single-earner working poor households, this amounts to just 40,411 individuals. Given that there were 633,825 individuals below the poverty line in 2019, this group of 40,411 accounts for just 6 per cent of all those in poverty. The limited effectiveness of minimum wage increases in reducing poverty reflects the fact that most people who are AROP do not actually work, and even among those who do work, most earned above the minimum wage in 2019. Accordingly, the minimum wage has been described as a ‘blunt instrument’ for tackling poverty (Dorris et al., 2022; Redmond, 2020; Low Pay Commission, 2018).

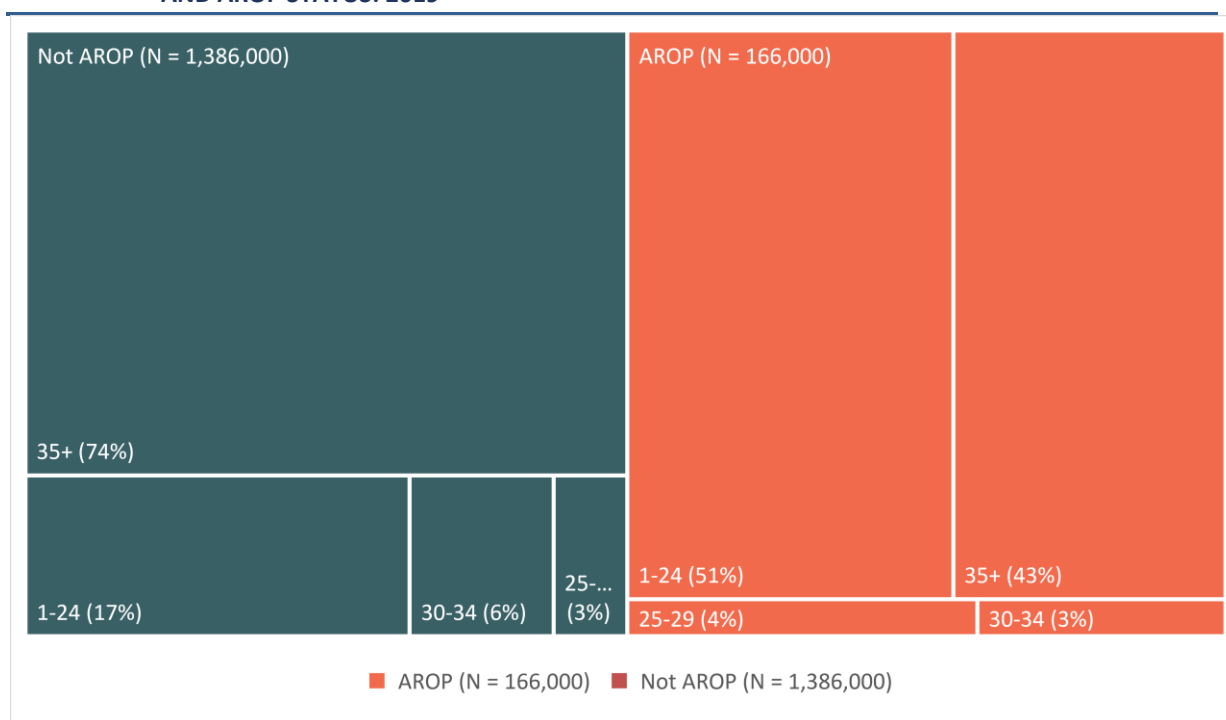
We also observe a striking difference in average hours worked for those in working poor households. Figure 4.5 shows that half of all people in single-earner working poor households depend on someone working less than 25 hours per week. This compares to just 17 per cent of people in single-earner households that are above the poverty line. This highlights the importance of work intensity in determining poverty risk. Even in the presence of significant wage increases, for example through minimum wage changes, the effect on poverty will be limited given the high incidence of low-hours employment.

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<sup>19</sup> When categorising minimum wage workers using survey data, it is common to add a degree of flexibility to the upper wage limit, as the hourly wage rate is calculated using usual reported hours and gross monthly earnings.

<sup>20</sup> See <https://www.livingwage.ie/documents/archive.html>.

<sup>21</sup> See <https://www.livingwage.ie/>.

**FIGURE 4.5 COMPOSITION OF INDIVIDUALS IN 1-EARNER WORKING HOUSEHOLDS, BY HOURS WORKED AND AROP STATUS: 2019**

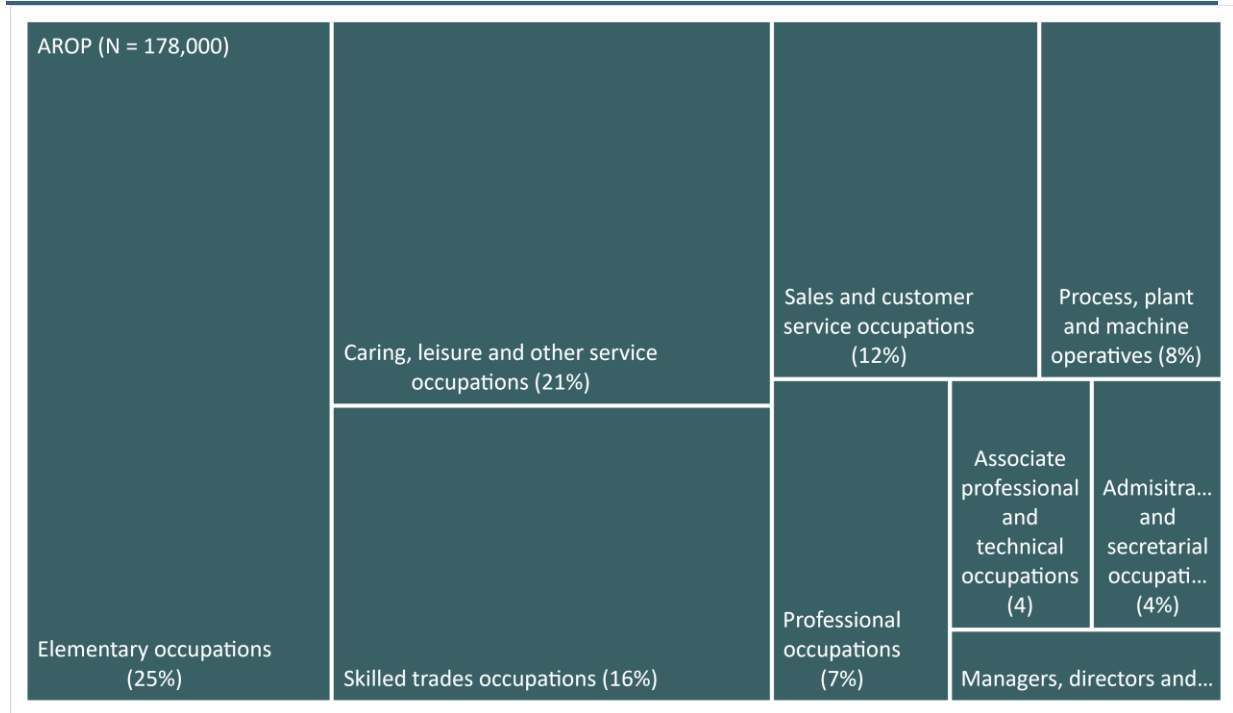
Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales. N for each group AROP/Not AROP.

The lower pay and hours among the working poor, compared to those above the poverty line, are also reflected in the prevalence of different occupations across the two groups. Figure 4.6 shows that for one in four individuals in a single-earner working poor household, the main earner works in an 'elementary occupation'. This compares to just 10 per cent of individuals in single-earner households above the poverty line (as shown in Figure 4.7). The working poor are also underrepresented in professional and managerial occupations, compared to single-earner households above the poverty line.

As in earlier chapters, we examine how accounting for housing costs affects our results by looking at measures of after housing cost (AHC) income poverty among working households. Tables containing these estimates are presented in Appendix D, with, as previously, the poverty threshold set at 60 per cent of median disposable income AHC. These show that in 2019 about two in five of the 740,000 (15 per cent) individuals below the AHC income poverty line live in a household where someone is in paid work, amounting to 333,000 individuals. The characteristics of the working poor, both before and after accounting for housing costs, are broadly similar. There is one notable exception relating to housing tenure: just over 72 per cent of individuals in working households AROP AHC are in rented or supported rented accommodation compared to 56 per cent of households AROP BHC.

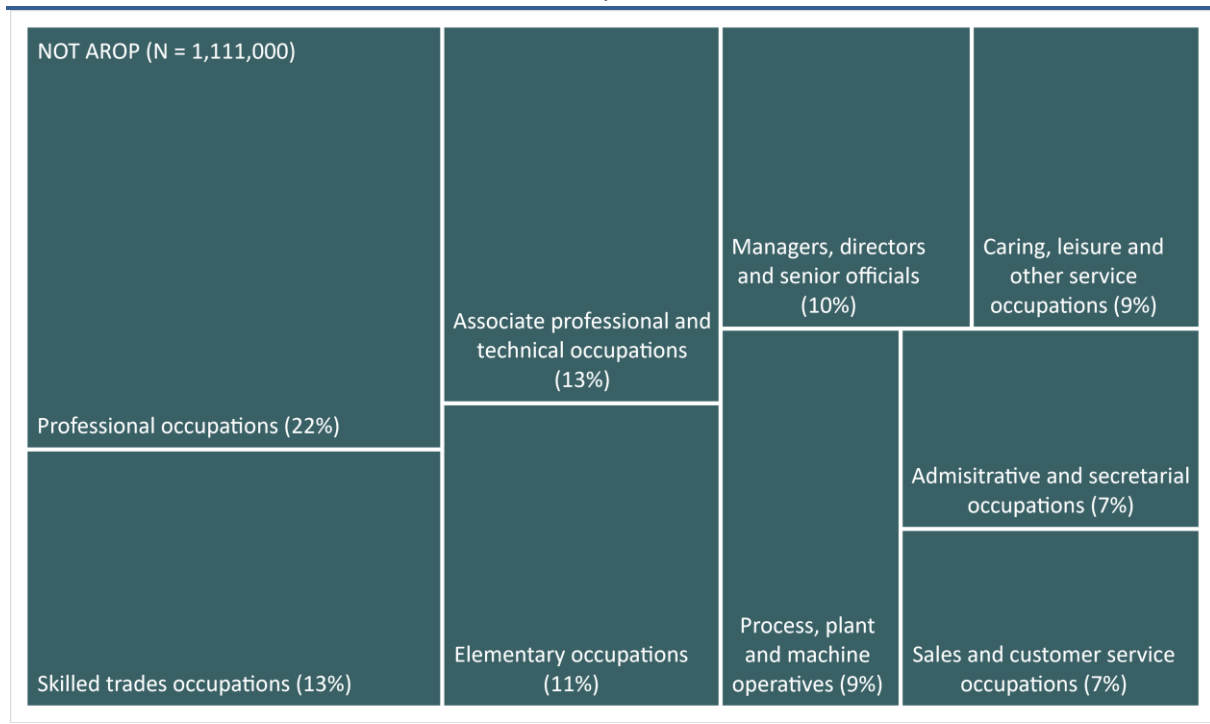
**FIGURE 4.6 COMPOSITION OF WORKING POOR, BY OCCUPATION: 2019**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

**FIGURE 4.7 COMPOSITION OF WORKING NOT AROP, BY OCCUPATION: 2019**



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.



## CHAPTER 5

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### Conclusion

This report has examined the evolution of income inequality, poverty and living standards in Ireland, and has shown how our impression is altered by accounting for housing costs. We conclude with a summary of the report's main findings and some implications for policy.

Chapter 2 showed that over the period 2007 to 2021, income growth was progressive, whether or not one accounts for housing costs. Between 2007 and 2021, incomes grew by around 2 per cent per year in real terms at the bottom of the distribution compared to less than 1 per cent at the top on both a before housing costs (BHC) and an after housing costs (AHC) basis. Although the decline in AHC income was larger than BHC income over the 2007-2012 recession (especially at the bottom of the distribution), so too was income growth during the recovery. In fact, AHC income growth has been stronger and more progressive than BHC income growth since 2012. These patterns of growth have led to declines in standard measures of income inequality, with the Gini coefficient for BHC income falling from 0.314 in 2007 to 0.265 in 2021, and from 0.328 to 0.286 for AHC income.

These perhaps surprising results are driven by the fact that the vast majority of households are owner occupiers, with mortgage holders seeing sustained decline in interest rates since 2012 alongside rapidly rising incomes. In addition, the rollout of the Housing Assistance Payment (HAP) and Rental Accommodation Scheme (RAS) – following the increased uptake of Rent Supplement (RS) over the financial crisis – has led to a rise in the share of households receiving supports for housing costs, especially at the bottom of the income distribution. As Doolan et al. (2022) showed, these supports do much to improve housing affordability for recipients – if at significant cost to the Exchequer – both in absolute terms and relative to incomes, providing many lower-income households with insulation from the price pressures in (if not the insecurity of) the private residential sector.

However, it is simultaneously the case that greater exposure to the unsupported private rental sector has acted to reduce the affordability of housing for lower-income and younger private renters. We have seen that median housing cost to income ratios – a measure of housing affordability – for private renters in the lowest quintile (fifth) of the income distribution rose from 0.226 to 0.304 between 2007 and 2021, and from 0.116 to 0.221 for private renters aged 18-34.

Fundamentally, these affordability challenges are a result of the insufficient availability of both private and social residential properties to rent, with the number of dwellings completed since the financial crisis well below the 30,000-

50,000 per year that Conefrey and Staunton (2019), Lyons (2018b) and Morgenroth (2018) estimate are needed to meet population growth through to 2050. In addition – and as highlighted by Doolan et al (2022) – income limits for social housing have also been frozen in nominal terms since 2011, contributing to the growing group that Lyons (2020) terms the ‘forgotten middle’, with incomes too high for social housing but not high enough to afford newly built rental accommodation at rents that make its construction viable for private developers.

There is a relative consensus among policymakers and researchers that the appropriate long-term policy response to these affordability challenges is the development of a large cost-rental sector – where rents are linked to the cost of provision rather than market rates – alongside an enhanced social rented sector and measures aimed at reducing the cost of building housing.<sup>22</sup> However, until that is achieved and notwithstanding the large costs to the Exchequer involved, housing supports like HAP and RAS are likely to remain an integral part of the short- to medium-run policy response. More regular review of the income and rent limits governing these schemes will also be required if an expansion of the ‘forgotten middle’ and exposure of more households to unaffordable housing costs is to be avoided. And while homeowners have in recent years been sheltered from worsening household affordability because of the sustained fall in mortgage interest rates, the prospect of rapid rises in these over the months ahead might lead to the emergence of housing affordability challenges for highly leveraged borrowers.

In addition to renters, three groups stand out for enduring a relatively high incidence of low living standards: lone parents; those in households where someone has a disability; and those in households where no one of working age is in paid work. As shown in Chapter 3, this holds across measures of material deprivation (the inability to afford 2 or more items from a list of 11), BHC income poverty and AHC income poverty, as well as in terms of the income poverty gap (how far below the poverty line individuals of these groups are, on average).

Chapter 3 also showed that although the estimated income poverty rate is higher in terms of AHC than BHC income (at 15.6 per cent or 785,000 individuals in 2021 compared to 12.4 or 625,000 individuals on a BHC basis), both rates have declined significantly in recent years. Nevertheless, a sizeable group of individuals report being materially deprived but are not below the poverty line (almost 60 per cent of those experiencing material deprivation), amounting to almost 400,000 individuals in 2021 on an AHC basis.

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<sup>22</sup> This includes the taxation of vacant or underdeveloped land (Morgenroth, 2016; Morley et al., 2015), as proposed by the recent Commission on Taxation and Welfare (2022).

This raises questions about whether the official measure of poverty – consistent poverty, defined as being both materially deprived and below the BHC income poverty line – is adequately capturing the incidence of very low living standards or poverty. While recent research has suggested that the measure of material deprivation remains fit for purpose (Maître et al., 2022), our findings suggest that there may be a case for revisiting the way the income-related component of this official indicator is measured. In particular, the current measure of income poverty does not appear to adequately account for the additional costs faced by households where someone has a disability, with this group making up almost half of those who report material deprivation but are not classified as income poor (and with the majority of these having incomes relatively close to the poverty line). An exercise such as that carried out by the Social Metrics Commission (2018) in Britain could provide a useful opportunity to consider, among other things, how housing and other unavoidable costs, such as those relating to disability, should be treated in the official measurement of poverty.

Finally, although those living in households where someone of working age is in paid work are at relatively much lower risk of BHC income poverty, AHC income poverty and material deprivation, they make up the bulk of the population and for this reason about one-third of those below the income poverty line. Chapter 4 showed there are some notable differences when comparing the composition of these working poor to those in households above the poverty line where someone is in paid work, especially with regard to household type and housing tenure. We found that approximately one in four people in working households AROP were located in lone-parent households, compared to just 5.5 per cent of individuals in higher-income households. Over half of the working poor were found to be in rented or supported rented accommodation, compared to just 28 per cent of individuals in higher-income households.

Chapter 4 also examined the hourly wages of working households with a single earner. We found that up to one-quarter of people in single-earner AROP households were located in households where the only earner was on the minimum wage. This compares to just 7 per cent of people in non-AROP households. However, while a relatively high percentage of people in single-earner households AROP are on a low hourly wage, the impact of a minimum wage increase in achieving widespread poverty reduction would be limited. For example, in 2019 there were 40,411 individuals located in single-earner households AROP, where the only earner was on the minimum wage. This accounts for just 6 per cent of all those in poverty, which reflects the fact that most people who are AROP are not in paid work and, even among those that are, most earned above the minimum wage or were self-employed.

Accordingly, the minimum wage has been described as a ‘blunt instrument’ for tackling widespread poverty (Dorris et al., 2022; Redmond, 2020; Low Pay



Commission, 2018).<sup>23</sup> This underscores the need – as also argued by Doorley et al. (2022) – for other complementary policies to tackle poverty, even among the working poor.

Our findings suggest that foremost among these are policies that would help facilitate an increase in full-time paid work by at least one adult in a household. This could include efforts to expand the availability of high quality, subsidised full-time childcare – which, in a similar policy environment, Brewer et al. (2022) find raises the employment rates of women substantially – as well as eligibility for the Working Families Payment (which is currently only available to low-income families with children but not those without).<sup>24</sup> However, Blundell (2019, 2022) also highlights the need to balance tax and benefit policies with others – including the minimum wage, human capital and labour market regulation – to enhance wage progression for lower-educated workers. In particular, he points to the importance of avoiding incentivising part-time work while encouraging individuals and firms to invest in training, with an emphasis on soft skills and on the match between workers and firms. Such a broad policy mix will require serious reform to our education, training and welfare systems, but is likely to be needed as part of any effective strategy for achieving continued broad-based and inclusive growth in Ireland over the decades ahead.

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<sup>23</sup> While limited in terms of overall poverty reduction, minimum wage policy has an important role in counteracting forces acting to increase earnings or wage inequality (Holton and O'Neill, 2017; Redmond et al., 2021), reducing the gender pay gap (Bargain et al., 2018) or limiting the extent to which employers with market power are able to capture gains from in-work transfers like the Working Families Payment (Joyce and Zilliak, 2020).

<sup>24</sup> Such an expansion of Working Families Payment has been suggested by, among others, NES (2020), Doorley et al. (2022) and Roantree (2020).

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## APPENDIX A

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### Data and methodology

This appendix provides additional details on the data sources used in this paper as well as the methodology used to derive indicators of poverty, deprivation and income inequality measures.

#### A.1 DATA SOURCES

##### **The Survey of Income Distribution, Poverty and Usage of State Services**

The Survey of Income Distribution, Poverty and Usage of State Services was carried out by the Survey Unit of the ESRI in 1987 with the support of the European Commission and the Combat Poverty Agency. Results were first published in Callan et al. (1988), which reports that 3,286 households responded out of a valid sample of 5,155: an effective response rate of 63.7 per cent. These households contained just under 8,200 adults, each of whom was interviewed individually about their income sources and experience of the labour market. Weights were derived to correct for the greater likelihood of larger households being sampled (a product of the sampling frame being based on the electoral register and so households with more voters being more likely to be selected for inclusion) and a slight over-representation of older and rural heads of households. Analysis was carried out on the anonymised Research Microdata Files held by the ESRI on its secure server.

##### **Living in Ireland Survey**

The Living in Ireland Survey was also carried out by the Survey Unit of the ESRI, beginning in 1994, again with the support of the European Commission. Each adult in a household completed an individual questionnaire through a face-to-face interview, with a similar initial sampling frame to the 1987 Survey. However, in keeping with the European Community Household Panel (ECHP) of which it was part, the survey adopted a longitudinal design with household members followed up in subsequent waves of the survey. By Wave 7 (2000), attrition was deemed to be a cause of concern and the original sample of individuals still in scope of the survey (i.e. who had not died, moved to an institution or outside of the EU) were supplemented with a booster sample selected via a similar procedure as that used for the first wave of the survey. Weights were derived to correct for attrition and biases in the distribution of observed characteristics compared to the population of interest. There was an influx of more than 1,500 new individuals into the survey as compared to 5,530 from the original sample. However, to avoid any potential concerns about the representativeness of these later waves, we use only Waves 1-6 of the Living in Ireland Survey, spanning the years 1994-1999, with analysis again carried out on the anonymised survey microdata files held by the ESRI on its secure server.

## Survey of Income and Living Conditions

The Survey of Income and Living Conditions (SILC) is an annual survey of households carried out by the Central Statistics Office (CSO) since 2003. Like the Living in Ireland Survey, it was initiated with the aim of collecting harmonised information on households for all countries in the European Union (EU). However, unlike the Living in Ireland survey, it is not primarily a longitudinal survey with the vast majority of respondents sampled anew each year.<sup>25</sup> For the most part, we use the anonymised Research Microdata File data made available by the CSO to researchers through a secure virtual desktop infrastructure. We also make use of the Eurostat User Database version of the data, which contains a more limited set of variables. Methodological changes to SILC in 2020 – including to the data collection and income reference period – have resulted in a break to the time series in a similar way to that between the Living in Ireland Survey and SILC.<sup>26</sup>

### A.2 INCOME CONCEPTS AND COMPARISONS

#### Before housing costs (BHC) disposable income

Our definition of BHC disposable income corresponds to that used by Eurostat for the purposes of SILC (Eurostat, 2018) with the exclusion of the imputed value of a company car – which is available only in the SILC data from 2007 – and net contributions to individual private pension plans, which represent deferred income and should be treated in a manner consistent with those to (predominantly public sector) defined benefit pension schemes. In essence, this adds pension and social welfare income to market income (that from employment, the rent of land or property, regular inter-household cash transfers received, interest, dividends and profit from capital investments in unincorporated businesses), then deducts taxes on income, social insurance contributions regular taxes on wealth and regular inter-household cash transfers.

#### After housing costs (AHC) disposable income

Our definition of AHC disposable income deducts from BHC disposable income our measure of housing costs. As discussed in Chapter 1, for renters this is defined as rents gross of (including) any rental supports received (such as Rent Supplement (RS) and the Housing Assistance Payment (HAP), plus any rental contribution paid to local authorities (differential rent). For owner occupiers with a mortgage, housing costs include mortgage interest payments but exclude mortgage capital repayments on the principal private residence. This is because mortgage capital

<sup>25</sup> A small number of households are included in a panel element: see CSO (2017, pp. 7-9).

<sup>26</sup> See <https://www.cso.ie/en/releasesandpublications/in/silc/informationnote-breakintimeseriessilc2020/> for further details.

repayments are more appropriately considered a form of saving as they contribute to the accumulation of equity – and so net wealth – in residential property.<sup>27</sup>

Our measures of market and disposable income are aggregated to the level of the household, before being adjusted for household size and composition (as discussed below). This implicitly makes an assumption of perfect income sharing within households. While appropriate for many households (e.g. a couple who both benefit from additional income in the household), it may be less so for others (e.g. students or young workers sharing a house). However, like Bourquin et al. (2020), we regard perfect income sharing as the most transparent and least arbitrary assumption given the data available.

As described in the main text, our measures of disposable income are adjusted for household size and composition using the modified OECD equivalence scale. This is to account for the fact that two households with the same level of disposable income, but different composition, will typically experience different standards of living. For example, a household income of €50,000 will – *ceteris paribus* – deliver a much higher standard of living to a single adult than a couple with two children. Equivalising incomes with the modified OECD scale is not the only approach one could take. For example, the CSO uses a ‘national’ equivalence scale that (as shown in Table A.1) gives greater weight to second or subsequent adults and children aged 14 plus, while there are likely characteristics other than age and the number of individuals that affect a household’s needs. Nevertheless, some method is needed for comparing incomes across different household types, and the approach we adopt allows us to produce estimates which can be compared to other EU Member States, the United States (US) (Joyce and Ziliak, 2020) and Britain (Bourquin et al., 2020).

TABLE A.1      EQUIVALENCE SCALES

	Modified OECD scale	CSO national scale
First adult	1	1
Second or subsequent adults	0.5	0.66
Child aged 14 plus	0.5	0.66
Child age under 14	0.3	0.33

<sup>27</sup> While a case can be made for deducting mortgage capital repayments in measures of AHC income poverty in order to try take into account the fact that, for many, these payments are inescapable in the short-term (e.g. Social Metrics Commission, 2018), that case is far weaker for measures of AHC income growth or inequality. This is because doing so would treat those with higher incomes accumulating net wealth in a residential property as having fewer resources available to them than someone with the same level of BHC income who accumulates net wealth through, for example, shares in a company. However, we have examined how much difference this makes to our estimates of income poverty and find that they are qualitatively similar, with AHC poverty rates for mortgage holders substantially below those of renters.



Although we aggregate income to the household level, the individual is our unit of analysis throughout. That is, we assign each individual in a household the equivalised income of their household, consistent with our assumption of perfect income sharing.

### **Adjusting for inflation**

All monetary amounts are converted to 2019 prices using the CSO's all-item monthly Consumer Price Index (CPM02). All growth rates in these monetary variables are calculated after accounting for inflation.

## **A.3 THE MEASUREMENT OF MATERIAL DEPRIVATION IN IRELAND**

The Survey of Income Distribution, Poverty and Usage of State Services was the first survey in Ireland to collect a wide range of information about households' and individuals' possession of items and activities; whether they considered those as essentials; and, in their absence, if that was because they could not afford them. The follow up survey, the Living in Ireland Survey that was conducted by the ESRI between 1994 to 2001, included 23 non-monetary indicators capturing enforced deprivation due to lack of resources. Using factor analysis techniques, Callan et al. (1993) and later Nolan and Whelan (1996) identified several dimensions of deprivation (basic lifestyle, secondary lifestyle, housing deprivation). The basic lifestyle dimension (labelled basic dimension) included eight items from not being able to afford new clothes, to having a meal with meat, fish or chicken every second day. This basic deprivation indicator was used to monitor deprivation in Ireland and people were considered to experience deprivation when they lacked one or more of the eight items. The measure of basic deprivation was also combined with the AROP measure to create a measure of consistent poverty – identifying people both at risk of income poverty and deprivation – which was officially adopted in 1997 by the Irish government in the *National Anti-Poverty Strategy* (Government of Ireland, 1997).

As living standards rose rapidly during the late 1990s and early 2000s, there was some concern that the eight-item basic deprivation measure was no longer able to capture poverty and social exclusion. Maître et al. (2006) used the release of the SILC survey to re-examine the dimensions of deprivation and derived a new measure of deprivation. Some items of the original eight were dropped and replaced by new items, including items about social interactions. The revised indicator of basic deprivation was in time extended to include 11 items, with people classified as being in material deprivation if they lacked 2 or more items: a definition that we follow in this report given our focus in Chapter 3 is on the period since 2003. Of the 11 items collected in SILC, 10 are available in the Living in Ireland

Survey. Roantree et al. (2021) use these to construct a consistent measure of deprivation across the two surveys, with individuals classified as deprived if they are lacking 2 of the 10 items.

In the first release of the 2003 SILC results, the CSO (2005) noted deprivation rates were about 3 to 5 percentage points higher than those observed in the final wave of the Living in Ireland Survey (2001) and highlighted two factors that could explain these differences. The first was that SILC adopted 'computer assisted personal interviewing', whereas the Living in Ireland Survey did not. The second possible explanation related to the longitudinal nature of the latter – with the associated issues of attrition discussed above – while the 2003 SILC sample was comprised entirely of households interviewed for the first time.



## APPENDIX B

### Additional tables and figures

TABLE B.1 SUPPLEMENTARY MEASURES OF DISPOSABLE INCOME INEQUALITY (BHC)

	Gini	90-10	90-50	75-25	50-10	GE(-1)	GE(0)	GE(1)	GE(2)
<b>1987</b>	0.333	4.0	2.1	2.2	1.9	0.319	0.193	0.202	0.302
<b>1994</b>	0.315	4.1	2.1	2.3	2.0	0.170	0.161	0.179	0.219
<b>1995</b>	0.320	4.1	2.1	2.3	2.0	0.176	0.170	0.213	0.232
<b>1996</b>	0.328	4.2	2.1	2.3	2.0	0.193	0.178	0.212	0.291
<b>1997</b>	0.316	4.2	2.0	2.2	2.1	0.176	0.168	0.217	0.252
<b>1998</b>	0.312	4.2	2.0	2.2	2.1	0.172	0.162	0.197	0.246
<b>1999</b>	0.297	4.2	1.9	2.2	2.2	0.147	0.150	0.200	0.175
<b>2003</b>	0.309	4.1	1.9	2.1	2.2	0.265	0.265	0.163	0.229
<b>2004</b>	0.313	3.9	1.9	2.2	2.1	0.225	0.225	0.182	0.284
<b>2005</b>	0.317	3.9	1.9	2.1	2.1	0.207	0.207	0.202	0.399
<b>2006</b>	0.321	3.8	2.0	2.1	1.9	0.197	0.197	0.201	0.420
<b>2007</b>	0.314	3.8	1.9	2.1	1.9	0.239	0.239	0.181	0.315
<b>2008</b>	0.304	3.6	1.9	2.0	1.9	0.213	0.213	0.169	0.319
<b>2009</b>	0.284	3.4	1.8	2.0	1.9	0.339	0.339	0.141	0.181
<b>2010</b>	0.305	3.6	2.0	2.0	1.8	0.271	0.271	0.165	0.235
<b>2011</b>	0.296	3.7	2.0	2.0	1.9	0.295	0.295	0.150	0.184
<b>2012</b>	0.302	3.9	2.0	2.0	2.0	0.357	0.357	0.158	0.209
<b>2013</b>	0.305	3.8	2.0	2.0	1.9	0.245	0.245	0.164	0.234
<b>2014</b>	0.308	3.8	2.0	2.0	1.9	0.262	0.262	0.164	0.225
<b>2015</b>	0.296	3.6	1.9	2.0	1.9	0.228	0.228	0.150	0.197
<b>2016</b>	0.296	3.6	1.9	2.0	1.9	0.374	0.374	0.159	0.233
<b>2017</b>	0.303	3.8	2.0	2.0	1.9	0.236	0.236	0.169	0.279
<b>2018</b>	0.286	3.3	1.8	1.9	1.8	0.234	0.234	0.163	0.330
<b>2019</b>	0.280	3.2	1.8	1.9	1.8	0.146	0.146	0.151	0.240
<b>2020</b>	0.279	3.2	1.8	1.9	1.8	0.172	0.172	0.160	0.292
<b>2021</b>	0.265	3.1	1.8	1.8	1.8	0.297	0.297	0.132	0.199

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Incomes after direct taxes paid and benefits received. Columns entitled GE(a) show estimates of the generalised entropy class of inequality measures, where a=-1,0,1 exclude a small number of observations with non-positive values for disposable income.

TABLE B.1.1 SUPPLEMENTARY MEASURES OF DISPOSABLE INCOME INEQUALITY (AHC)

	Gini	90-10	90-50	75-25	50-10	GE(-1)	GE(0)	GE(1)	GE(2)
2007	0.319	4.0	2.0	2.2	2.0	0.214	0.176	0.163	0.492
2008	0.309	3.9	1.9	2.1	2.0	0.241	0.183	0.175	0.353
2009	0.294	3.6	1.9	2.1	1.9	0.270	0.185	0.182	0.362
2010	0.316	4.0	2.0	2.1	2.0	0.257	0.183	0.179	0.457
2011	0.306	4.0	2.0	2.1	2.0	0.226	0.164	0.163	0.349
2012	0.316	4.3	2.0	2.1	2.1	0.267	0.180	0.178	0.493
2013	0.319	4.2	2.0	2.2	2.1	0.318	0.188	0.189	0.523
2014	0.318	4.3	2.0	2.1	2.1	0.370	0.163	0.181	0.261
2015	0.306	4.0	2.0	2.1	2.0	0.285	0.165	0.177	0.236
2016	0.312	4.0	1.9	2.1	2.1	0.342	0.169	0.187	0.268
2017	0.319	4.2	2.0	2.1	2.1	0.231	0.140	0.151	0.195
2018	0.302	3.8	1.9	2.0	2.0	0.370	0.163	0.181	0.261
2019	0.303	3.7	1.9	2.0	1.9	0.285	0.165	0.177	0.236
2020	0.304	3.6	1.8	2.0	2.0	0.342	0.169	0.187	0.268
2021	0.285	3.5	1.8	2.0	1.9	0.231	0.140	0.151	0.195

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes after direct taxes paid and benefits received. Columns entitled GE(a) show estimates of the generalised entropy class of inequality measures, where a=-1,0,1 exclude a small number of observations with non-positive values for disposable income.

TABLE B.1.2 SUPPLEMENTARY MEASURES OF GINI WITH CONFIDENCE INTERVALS

	Gini (BHC)	95% confidence interval		Gini (AHC)	95% confidence intervals	
2007	0.310	0.302	0.318	0.319	0.311	0.327
2008	0.298	0.290	0.307	0.309	0.299	0.318
2009	0.283	0.277	0.289	0.294	0.287	0.301
2010	0.300	0.292	0.309	0.316	0.308	0.325
2011	0.295	0.289	0.301	0.306	0.300	0.313
2012	0.300	0.294	0.305	0.316	0.310	0.322
2013	0.303	0.297	0.309	0.319	0.312	0.325
2014	0.304	0.298	0.310	0.318	0.311	0.324
2015	0.293	0.288	0.298	0.306	0.301	0.312
2016	0.294	0.288	0.301	0.312	0.305	0.319
2017	0.303	0.295	0.311	0.319	0.311	0.328
2018	0.285	0.272	0.298	0.302	0.288	0.316
2019	0.280	0.273	0.287	0.303	0.295	0.311
2020	0.279	0.269	0.289	0.304	0.293	0.315
2021	0.265	0.259	0.270	0.285	0.278	0.291

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Incomes after direct taxes paid and benefits received. Confidence intervals are calculated using the jackknife method. This table excludes a small number of observations with non-positive values for disposable income.

TABLE B.2 DECILE SHARES OF DISPOSABLE INCOME

	Bottom %	2 %	3 %	4 %	5 %	6 %	7 %	8 %	9 %	Top %
<b>1987</b>	3.1	4.7	5.5	6.6	7.5	8.8	10.3	12.3	15.2	25.9
<b>1994</b>	3.7	4.6	5.5	6.5	7.7	9.1	10.8	12.7	15.4	24.0
<b>1995</b>	3.5	4.6	5.4	6.5	7.7	9.1	10.7	12.6	15.6	24.2
<b>1996</b>	3.5	4.6	5.5	6.5	7.4	8.9	10.5	12.6	15.4	25.2
<b>1997</b>	3.4	4.7	5.5	6.6	7.8	9.2	11.0	12.3	15.5	23.9
<b>1998</b>	3.4	4.6	5.7	6.8	8.1	9.2	10.6	12.4	15.0	24.1
<b>1999</b>	3.4	4.7	5.8	7.1	8.4	9.5	11.0	12.7	15.2	22.3
<b>2003</b>	2.8	4.8	6	7	8.2	9.7	10.8	12.3	15	23.4
<b>2004</b>	3.3	4.7	5.7	6.9	8.1	9.3	10.7	12.4	14.7	24.3
<b>2005</b>	3.3	4.7	5.7	6.8	8	9.2	10.6	12.2	14.5	25
<b>2006</b>	3.2	4.8	5.7	6.8	7.9	9	10.5	12.1	14.6	25.3
<b>2007</b>	3.2	4.9	5.8	6.8	7.9	9.2	10.8	12.5	14.7	24.3
<b>2008</b>	3.1	5.1	6.1	7	8.1	9.4	10.4	12.4	14.6	23.9
<b>2009</b>	3.6	5.3	6.2	7.1	8.2	9.4	10.7	12.5	14.5	22.4
<b>2010</b>	3.2	5.2	6.1	7	8	9.2	10.5	12.1	15.1	23.9
<b>2011</b>	3.1	5.2	6.2	7.1	8.1	9.4	10.6	12.3	15	23
<b>2012</b>	3.1	5	6.2	7.1	8.1	9.3	10.6	12.5	14.9	23.3
<b>2013</b>	3.1	5.1	6	6.9	8	9.3	10.5	12.4	14.9	23.7
<b>2014</b>	3	5	6.1	7	8	9.5	10.2	12.4	15	23.9
<b>2015</b>	3.4	5.1	6.1	7	8.1	9.3	10.6	12.4	15	23.1
<b>2016</b>	3.4	5.1	6.1	7.1	8.1	9.4	10.6	12.2	14.6	23.4
<b>2017</b>	3.5	5.1	6	6.9	7.9	9.1	10.6	12.1	14.9	24
<b>2018</b>	3.7	5.3	6.2	7.3	8.2	9.3	10.3	12.1	14.3	23.3
<b>2019</b>	4	5.4	6.3	7.2	8.1	9.2	10.4	12	14.1	23.2
<b>2020</b>	3.9	5.4	6.4	7.3	8.2	9.2	10.4	12	14.1	23.1
<b>2021</b>	4.1	5.6	6.5	7.4	8.4	9.4	10.6	12	14.1	21.9

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Incomes after direct taxes paid and benefits received.

TABLE B.2.1 DECILE SHARES OF AHC DISPOSABLE INCOME

	Bottom %	2 %	3 %	4 %	5 %	6 %	7 %	8 %	9 %	Top %
<b>2007</b>	2.6	4.7	5.7	6.7	7.8	9.2	10.8	12.6	15.1	24.8
<b>2008</b>	2.7	4.9	6	7	8.1	9.3	10.5	12.2	14.8	24.5
<b>2009</b>	3	5.2	6.1	7.1	8.1	9.4	10.7	12.6	14.9	22.8
<b>2010</b>	2.5	4.9	5.9	6.9	8	9.2	10.6	12.3	15.2	24.7
<b>2011</b>	2.2	4.9	6.1	7.1	8.2	9.3	10.8	12.6	15.2	23.6
<b>2012</b>	2.2	4.7	5.9	7	8.1	9.2	10.7	12.7	15.3	24.2
<b>2013</b>	2.5	4.7	5.8	6.9	8	9.2	10.7	12.5	15.2	24.5
<b>2014</b>	2.3	4.7	5.8	6.9	7.9	9.2	10.7	12.5	15.2	24.7
<b>2015</b>	2.7	4.8	5.9	7	8	9.4	10.7	12.5	15.3	23.8
<b>2016</b>	2.9	4.7	5.9	6.9	8.1	9.5	10.7	12.4	14.7	24.2
<b>2017</b>	2.8	4.7	5.8	6.8	7.9	9.2	10.7	12.4	15.1	24.7
<b>2018</b>	3	5	6.1	7.1	8.1	9.3	10.5	12.2	14.6	24.1
<b>2019</b>	3	5.1	6.2	7	8	9.1	10.6	12.4	14.3	24.3
<b>2020</b>	3.1	5	6.1	7.2	8.2	9.2	10.5	12.2	14.3	24.2
<b>2021</b>	3.6	5.2	6.2	7.2	8.3	9.4	10.6	12.2	14.4	22.8

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Incomes after direct taxes paid, benefits received and housing costs deducted.

TABLE B.3 SUPPLEMENTARY MEASURES OF MARKET INCOME INEQUALITY

	Gini	90-10	90-50	75-25	50-10	GE(-1)	GE(0)	GE(1)	GE(2)
<b>1987</b>	0.522	19.5	2.5	3.2	7.7	0.360	0.588	27.231	0.591
<b>1994</b>	0.534	15.6	2.4	3.1	6.5	0.306	0.499	10,355.800	0.543
<b>1995</b>	0.531	13.3	2.4	3.1	5.5	0.307	0.491	2,256.663	0.555
<b>1996</b>	0.533	13.2	2.4	3.3	5.4	0.339	0.534	2,459.659	0.628
<b>1997</b>	0.519	11.5	2.4	2.9	4.8	0.310	0.507	338.426	0.559
<b>1998</b>	0.496	11.8	2.3	2.8	5.2	0.297	0.472	13.664	0.503
<b>1999</b>	0.469	7.4	2.1	2.4	3.5	0.252	0.416	14.004	0.433
<b>2003</b>	0.473	9.7	2.3	2.7	4.3	10.949	0.399	0.268	0.441
<b>2004</b>	0.501	8.9	2.2	2.7	4.0	25.862	0.414	0.326	0.743
<b>2005</b>	0.515	10.1	2.3	2.8	4.4	2.310	0.401	0.343	0.823
<b>2006</b>	0.512	10.7	2.3	3.0	4.7	2.580	0.421	0.346	0.815
<b>2007</b>	0.516	13.2	2.5	3.4	5.4	3.861	0.459	0.358	0.717
<b>2008</b>	0.515	11.8	2.4	3.4	5.0	3.315	0.430	0.340	0.634
<b>2009</b>	0.537	11.7	2.4	3.4	4.9	4.401	0.436	0.322	0.595
<b>2010</b>	0.595	15.9	2.6	3.7	6.1	14.400	0.551	0.394	0.869
<b>2011</b>	0.584	16.0	2.7	4.1	6.0	12.319	0.522	0.369	0.712
<b>2012</b>	0.574	17.4	2.6	3.9	6.6	11.695	0.530	0.351	0.653
<b>2013</b>	0.586	19.4	2.7	4.0	7.3	32.558	0.564	0.382	0.776
<b>2014</b>	0.580	16.0	2.7	4.0	5.9	18.802	0.544	0.379	0.757
<b>2015</b>	0.555	15.7	2.5	3.6	6.2	18.614	0.509	0.349	0.653
<b>2016</b>	0.549	12.4	2.4	3.5	5.1	8.661	0.488	0.354	0.702
<b>2017</b>	0.547	14.6	2.6	3.5	5.5	12.394	0.512	0.377	0.780
<b>2018</b>	0.537	12.5	2.4	3.1	5.3	31.557	0.518	0.405	1.095
<b>2019</b>	0.521	11.1	2.4	3.1	4.7	89.601	0.470	0.355	0.746
<b>2020</b>	0.504	12.5	2.3	3.3	5.5	2.939	0.434	0.327	0.592
<b>2021</b>	0.507	11.8	2.3	3.3	5.1	7.085	0.443	0.335	0.655

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Incomes before direct taxes paid and benefits received, excluding pension income. Columns entitled GE(a) show estimates of the generalised entropy class of inequality measures. All measures except the Gini and GE(2) exclude a significant number of observations with non-positive values.



TABLE B.4 DECILE SHARES OF MARKET INCOME

	Bottom %	2 %	3 %	4 %	5 %	6 %	7 %	8 %	9 %	Top %
<b>1987</b>	0.0	0.2	2.1	4.7	6.9	8.9	11.1	13.9	18.7	33.5
<b>1994</b>	0.0	0.0	1.0	4.2	6.8	9.2	11.8	15.0	19.6	32.4
<b>1995</b>	0.0	0.0	1.3	4.4	6.7	9.1	11.8	14.8	19.4	32.5
<b>1996</b>	0.0	0.0	1.6	4.2	6.6	9.1	11.4	14.6	19.4	33.1
<b>1997</b>	0.0	0.0	1.8	4.7	7.0	9.1	11.4	14.5	19.2	32.2
<b>1998</b>	0.0	0.2	2.6	5.3	7.4	9.1	11.6	14.2	18.4	31.1
<b>1999</b>	0.0	0.2	3.1	6.0	7.8	9.9	11.8	14.3	17.8	29.1
<b>2003</b>	0.0	0.4	3.2	5.7	7.7	9.6	11.7	14	18.2	29.6
<b>2004</b>	0.0	0.2	2.7	5.2	7.2	9.3	11.3	13.8	17.7	32.4
<b>2005</b>	0.0	0.2	2.4	4.9	7	9.1	11.3	13.9	17.8	33.4
<b>2006</b>	0.0	0.3	2.4	4.9	6.9	9	11.3	14.1	18	33
<b>2007</b>	0.0	0.4	2.3	4.6	6.7	8.8	11.3	14.4	18.4	32.9
<b>2008</b>	0.0	0.4	2.5	4.6	6.8	9	11.3	14.1	18.3	33.1
<b>2009</b>	0.0	0.0	1.5	4.1	6.2	8.9	11.8	15	19.4	33.1
<b>2010</b>	0.0	0.0	0.3	2.6	5.2	7.9	11.1	14.8	20.3	37.6
<b>2011</b>	0.0	0.0	0.5	2.8	5.2	8.1	11.4	15.1	20.6	36.4
<b>2012</b>	0.0	0.0	0.5	2.9	5.5	8.2	11.7	15.4	20.8	35
<b>2013</b>	0.0	0.0	0.4	2.6	5.3	8.2	11.5	15.1	20.5	36.4
<b>2014</b>	0.0	0.0	0.7	3	5.7	7.8	11.2	14.9	20.4	36.4
<b>2015</b>	0.0	0.0	1	3.5	6.2	8.5	11.5	14.9	20	34.4
<b>2016</b>	0.0	0.0	1.4	3.9	6.3	8.7	11.3	14.5	19.1	34.9
<b>2017</b>	0.0	0.1	1.7	4.1	6.2	8.5	10.9	14.2	19	35.3
<b>2018</b>	0.0	0.1	2.1	4.4	6.6	8.9	11	13.5	17.9	35.5
<b>2019</b>	0.0	0.2	2.4	4.6	6.9	8.8	11.2	13.9	18.3	33.7
<b>2020</b>	0.0	0.4	2.5	4.8	6.9	9.2	11.5	14.6	18.6	31.4
<b>2021</b>	0.0	0.4	2.5	4.7	6.7	9.2	11.8	14.5	18.5	31.8

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Incomes before direct taxes paid and benefits received, excluding pension income.

TABLE B.5 25TH PERCENTILE OF HOUSING COSTS TO INCOME RATIOS

	Owned w/ mortgage	Private renter	Supported renter	Owned w/ mortgage	Private renter	Supported renter
Data year	2007	2007	2007	2021	2021	2021
<b>Age</b>						
18-34	0.019	0.072	0.066	0.021	0.169	0.088
35-55	0.015	0.110	0.071	0.015	0.171	0.087
55+	0.013		0.071	0.003		0.094
<b>AHC income quintile</b>						
1	0.04	0.104	0.08	0.035	0.218	0.137
2	0.016	0.072	0.066	0.019	0.172	0.103
3	0.02	0.076	0.046	0.02	0.145	0.091
4	0.014	0.063		0.019	0.141	
5	0.015	0.107		0.009	0.162	

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Incomes after direct taxes paid and benefits received. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

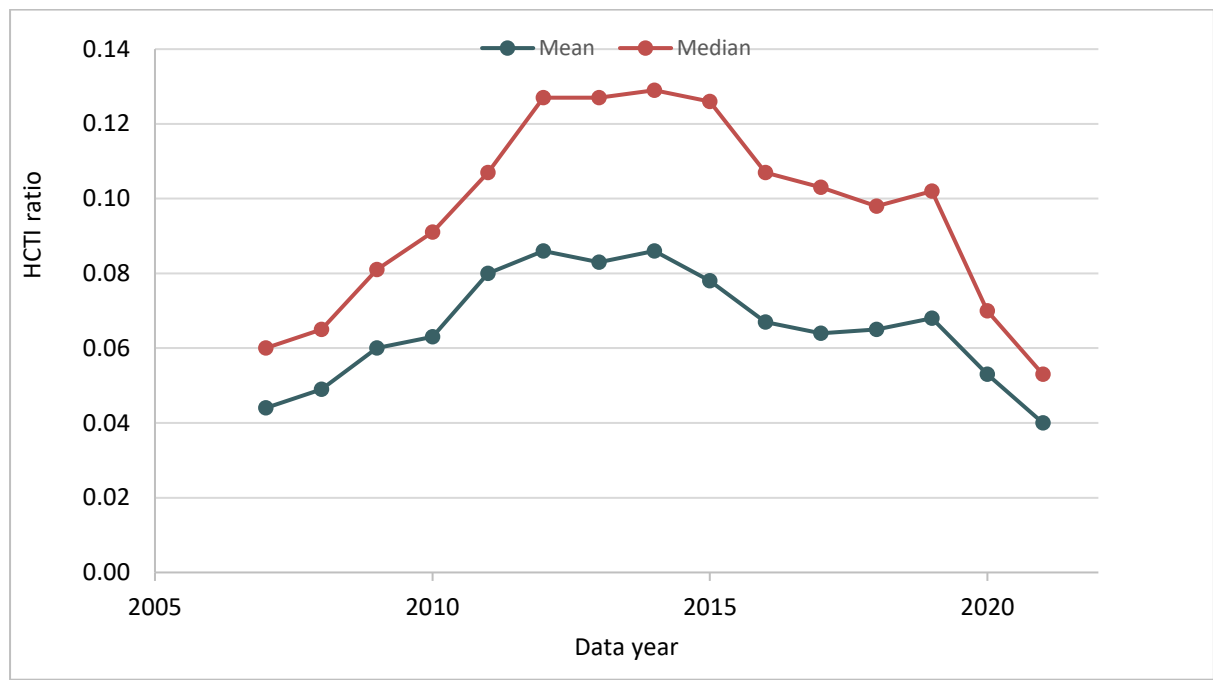
TABLE B.6 75TH PERCENTILE OF HOUSING COSTS TO INCOME RATIOS

	Owned w/ mortgage	Private renter	Supported renter	Owned w/ mortgage	Private renter	Supported renter
Data year	2007	2007	2007	2021	2021	2021
<b>Age</b>						
18-34	0.111	0.204	0.281	0.072	0.304	0.25
35-55	0.107	0.302	0.179	0.066	0.314	0.189
55+	0.086		0.135	0.034		0.157
<b>AHC income quintile</b>						
1	0.19	0.453	0.281	0.139	0.382	0.284
2	0.111	0.256	0.11	0.076	0.321	0.14
3	0.112	0.2	0.113	0.07	0.284	0.113
4	0.114	0.191		0.062	0.212	
5	0.081	0.172		0.052	0.236	

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Incomes after direct taxes paid and benefits received. Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

FIGURE B.1 MEAN AND MEDIAN HCTI RATIOS: 2007-2021



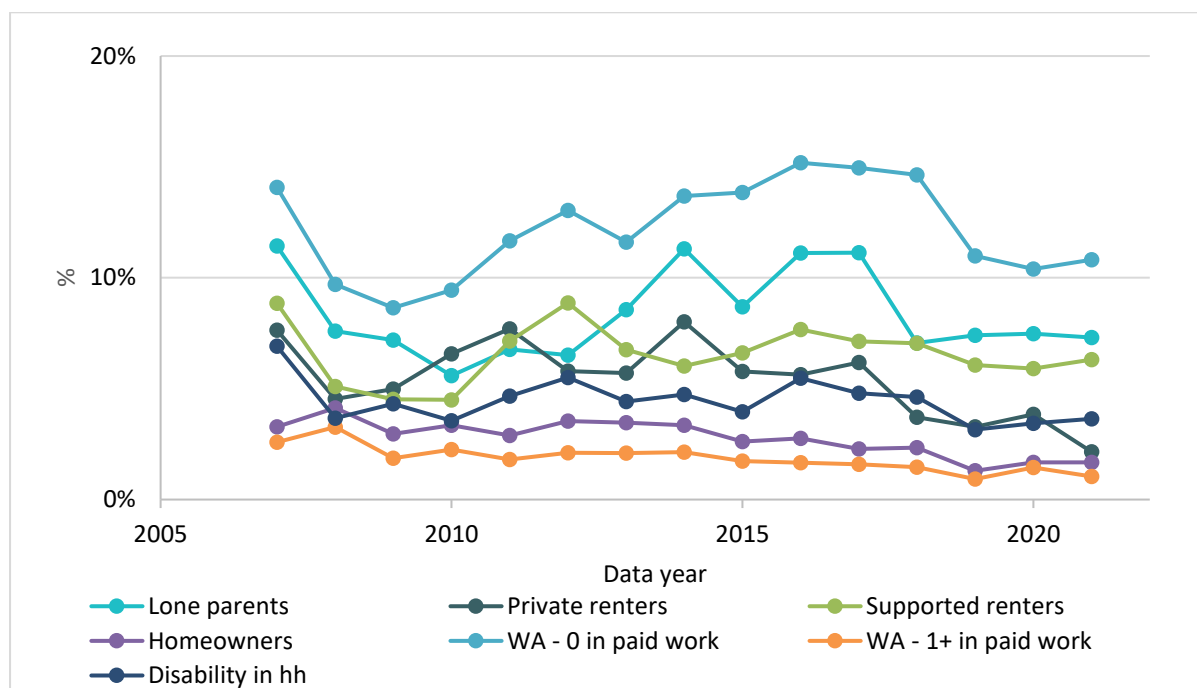
Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Notes: Housing costs defined as rents gross of any rental supports received plus any rental contribution paid to local authorities for renters and mortgage interest payments for owner occupiers with mortgages. See discussion in Chapter 1.

## APPENDIX C

## Additional tables and figures relating to Chapter 3

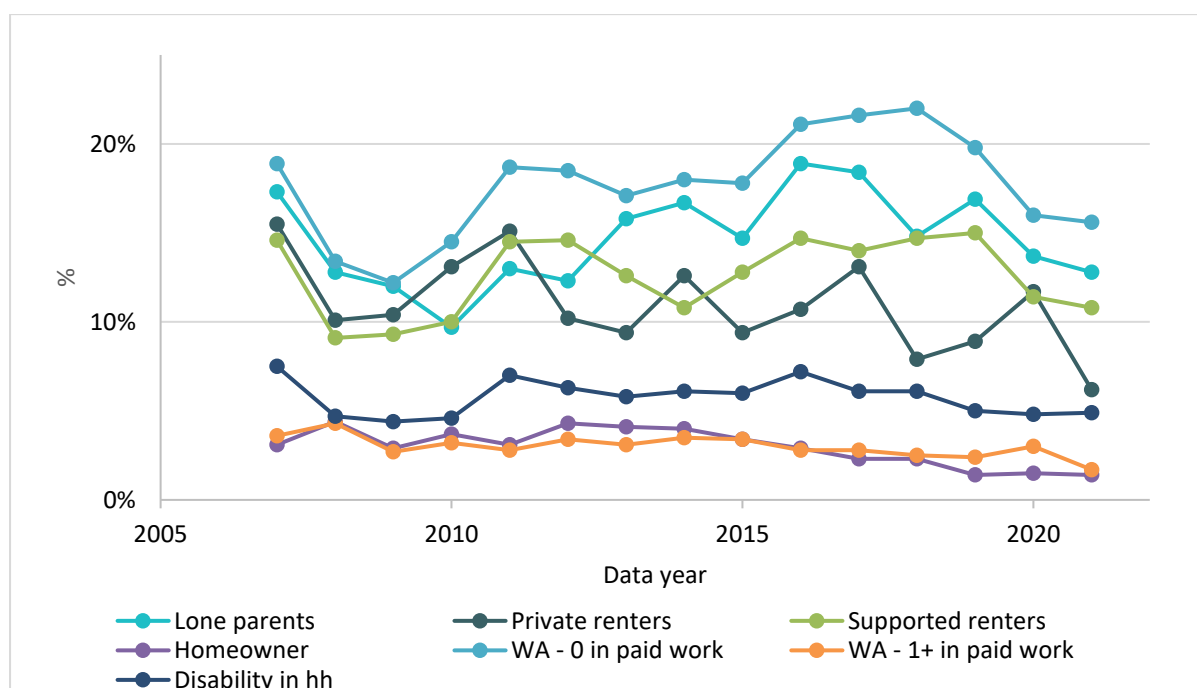
FIGURE C.1 POVERTY GAP, BEFORE HOUSING COSTS FOR POPULATION SUBGROUPS: 2005-2021



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

FIGURE C.2 POVERTY GAP, AFTER HOUSING COSTS FOR POPULATION SUBGROUPS: 2005-2021



Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

TABLE C.1 POVERTY LINE FOR VARIOUS HOUSHOLD TYPES (BHC)

Year	Single adult (€)	Adult with 1 child (€)	Couple (€)	Couple with 2 children (€)
2007	13,834	17,984	20,751	29,051
2008	13,594	17,672	20,391	28,547
2009	13,983	18,178	20,975	29,365
2010	12,814	16,658	19,221	26,909
2011	12,228	15,897	18,342	25,679
2012	11,896	15,465	17,844	24,982
2013	12,014	15,618	18,020	25,228
2014	12,229	15,898	18,343	25,681
2015	12,997	16,896	19,495	27,293
2016	13,524	17,582	20,286	28,401
2017	13,836	17,987	20,754	29,056
2018	14,862	19,321	22,293	31,211
2019	15,256	19,833	22,884	32,038
2020	15,748	20,473	23,622	33,071
2021	16,405	21,326	24,607	34,450

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

TABLE C.2 POVERTY LINE FOR VARIOUS HOUSHOLD TYPES (AHC)

Year	Single adult (€)	Adult with 1 child (€)	Couple (€)	Couple with 2 children (€)
2007	13,015	16,920	19,523	27,332
2008	12,923	16,800	19,385	27,139
2009	13,108	17,040	19,661	27,526
2010	12,001	15,602	18,002	25,203
2011	11,273	14,655	16,909	23,673
2012	10,722	13,939	16,083	22,516
2013	11,037	14,348	16,555	23,177
2014	11,054	14,370	16,581	23,214
2015	11,828	15,376	17,742	24,838
2016	12,584	16,359	18,876	26,426
2017	12,856	16,713	19,285	26,998
2018	13,762	17,890	20,643	28,900
2019	13,923	18,099	20,884	29,238
2020	14,527	18,885	21,790	30,506
2021	15,279	19,863	22,919	32,087

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*Sources:* Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

*Note:* Poverty line defined as 60 per cent of median equivalised disposable income, that is after direct taxes paid and benefits received, adjusted for household size and composition using the modified OECD equivalence scales.

TABLE C.3 DEPRIVATION RATE FOR VARIOUS SUBGROUPS WITH 95% CONFIDENCE INTERVALS

Characteristics	2007	95% confidence intervals		2011	95% confidence intervals		2016	95% confidence intervals		2021	95% confidence intervals	
<b>Tenure</b>												
Owned outright	6.9%	0.06	0.07	14.3%	0.13	0.15	11.7%	0.11	0.13	6.4%	0.06	0.07
Owned with mortgage	6.9%	0.06	0.08	20.3%	0.19	0.22	16.5%	0.15	0.18	5.8%	0.05	0.06
Private renter	24.2%	0.22	0.27	29.8%	0.28	0.32	25.4%	0.23	0.27	13.9%	0.12	0.16
Supported renter	41.6%	0.39	0.45	55.4%	0.53	0.58	53.3%	0.51	0.56	49.0%	0.46	0.52
<b>Lone parent household</b>												
No	9.4%	0.09	0.10	21.8%	0.21	0.23	19.1%	0.18	0.20	11.7%	0.11	0.12
Yes	35.7%	0.33	0.39	55.8%	0.53	0.59	47.3%	0.44	0.51	43.9%	0.40	0.48
<b>Working household</b>												
No	22.8%	0.22	0.24	36.8%	0.35	0.38	35.9%	0.35	0.37	27.1%	0.26	0.29
Yes	7.5%	0.07	0.08	18.9%	0.18	0.20	15.8%	0.15	0.17	9.7%	0.09	0.10
<b>Disability in household</b>												
No	8.0%	0.07	0.09	22.5%	0.22	0.23	15.9%	0.15	0.17	9.6%	0.09	0.10
Yes	22.7%	0.21	0.24	30.9%	0.29	0.33	36.1%	0.34	0.38	24.4%	0.23	0.26

Sources: Authors' calculations using the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes before direct taxes paid and benefits received, excluding pension income. The analytically derived variance estimator associated of the sample mean is used to determine the confidence intervals.

## APPENDIX D

### Additional tables and figures relating to Chapter 4

TABLE D.1 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP BHC

Characteristics	Working poor	In work not AROP	AROP & in work (N)	In work and not AROP (N)
<b>Household type</b>				
Single adult – Working age	6.6%	4.1%	14,000	147,000
Adult with dependents	24.3%	5.5%	53,000	195,000
Two adults	7.1%	12.4%	16,000	441,000
Two adults with dependents	50.1%	52.7%	110,000	1,871,000
Two adults, at least one retired	0.0%	2.4%	0	86,000
Multi adult	2.8%	11.6%	6,000	411,000
Multi adult with dependents	9.1%	11.1%	20,000	394,000
<b>Tenure</b>				
Owned outright	26.7%	30.9%	59,000	1,096,000
Owned with mortgage	17.8%	40.8%	39,000	1,447,000
Private renter	33.3%	21.4%	74,000	760,000
Supported renter	22.2%	6.9%	48,000	244,000
<b>Education</b>				
Lower secondary	11.0%	3.4%	24,000	119,000
Upper secondary	31.7%	20.3%	70,000	715,000
Tertiary	55.7%	76.4%	122,000	2,696,000
<b>Number in work in household</b>				
One in work in household	81.6%	31.6%	179,000	1,122,000
2+ in work in household	18.4%	68.4%	40,000	2,426,000

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes before direct taxes paid and benefits received, excluding pension income.



TABLE D.2 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP BHC

Characteristics	Working poor	In work not AROP	AROP and in work (N)	In work and not AROP (N)
<b>Age bands (age of worker in HH)</b>				
18-24	16.4%	5.2%	29,000	57,000
25-34	13.5%	17.6%	24,000	196,000
35-45	28.0%	26.4%	50,000	294,000
45-54	26.2%	32.2%	47,000	358,000
55-64	15.4%	18.7%	28,000	208,000
<b>Age bands</b>				
0-17	34.3%	29.9%	62,000	336,000
18-24	16.1%	8.2%	29,000	92,000
25-34	8.3%	10.9%	15,000	122,000
35-45	13.1%	15.4%	23,000	172,000
45-54	15.3%	18.5%	27,000	207,000
55-64	12.3%	15.1%	22,000	169,000
64+	0.6%	2.0%	1,000	23,000
<b>Occupation</b>				
Managers, directors and senior officials	2.4%	9.5%	4,000	106,000
Professional occupations	7.0%	22.0%	13,000	245,000
Associate professional and technical occupations	4.3%	13.1%	8,000	146,000
Administrative and secretarial occupations	4.0%	7.5%	7,000	83,000
Skilled trades occupations	15.9%	13.4%	29,000	149,000
Caring, leisure and other service occupations	20.7%	8.7%	37,000	96,000
Sales and customer service occupations	11.7%	6.7%	21,000	74,000
Process, plant and machine operatives	8.0%	8.5%	14,000	95,000
Elementary occupations	25.4%	10.6%	46,000	117,000
<b>Self employed</b>				
No	84.6%	89.3%	152,000.00	1,001,000
Yes	15.4%	10.7%	28,000.00	120,000

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Notes: Incomes before direct taxes paid and benefits received, excluding pension income. Only one household member in work.

TABLE D.3 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP BHC

Characteristics	Working poor	in work not AROP	AROP & in work (N)	In work & not AROP (N)
<b>Hourly wage</b>				
< €10	24.1%	6.9%	40,000	96,000
< €11	36.6%	13.4%	61,000	187,000
< €12	59.5%	19.0%	100,000	265,000
< €13	67.7%	24.7%	113,000	345,000
< €14	73.3%	28.0%	123,000	390,000
< €15	76.5%	32.1%	128,000	448,000
< €16	76.9%	36.8%	129,000	513,000
< €17	78.5%	40.9%	132,000	570,000
< €18	82.1%	44.4%	138,000	619,000
< €19	89.1%	47.3%	149,000	659,000
< €20	89.5%	51.8%	150,000	722,000
< €21	90.8%	56.3%	152,000	785,000
<b>Hours worked</b>				
0-18	21.8%	7.0%	37,000	97,000
19-24	28.7%	9.7%	48,000	135,000
25-20	3.6%	3.3%	6,000	45,000
30-34	2.5%	6.4%	4,000	88,000
35+	42.6%	73.7%	71,000	1,021,000

*Sources:* Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

*Notes:* Incomes before direct taxes paid and benefits received, excluding pension income. Only one household member in work and excluding the self employed.

TABLE D.4 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP AHC

Characteristics	Working poor	In work not AROP	AROP and in work (N)	In work and not AROP (N)
<b>Household type</b>				
Single adult – Working age	15.00%	4.0%	24,000	137,000
Adult with dependents	34.80%	4.7%	86,000	162,000
Two adults	5.30%	12.7%	24,000	433,000
Two adults with dependents	8.60%	52.9%	170,000	1,811,000
Two adults, at least one retired	0.50%	2.5%	0	86,000
Multi adult	4.70%	11.7%	20,000	397,000
Multi adult with dependents	4.00%	11.7%	17,000	398,000
<b>Tenure</b>				
Owned outright	13.0%	32.5%	43,000	1,112,000
Owned with mortgage	14.5%	41.9%	51,000	1,435,000
Private renter	44.9%	19.8%	155,000	679,000
Supported renter	27.5%	5.8%	93,000	199,000
<b>Education</b>				
Lower secondary	10.1%	3.2%	35,000	108,000
Upper secondary	33.3%	19.7%	111,000	674,000
Tertiary	56.5%	76.7%	191,000	2627,000
<b>Number in work in household</b>				
One in work in household	75.4%	30.6%	255,000	104,6000
2+ in work in household	26.1%	69.5%	86,000	238,1000

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes before direct taxes paid and benefits received, excluding pension income.

TABLE D.5 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP AHC

Characteristics	Working poor	in work not AROP	AROP and in work (N)	In work and not AROP (N)
<b>Age bands (age of worker in HH)</b>				
18-24	9.6%	6.1%	23,000	64,000
25-34	17.3%	16.5%	47,000	173,000
35-45	32.7%	25.2%	82,000	262,000
45-54	26.9%	32.0%	69,000	336,000
55-64	13.5%	19.4%	33,000	202,000
<b>Age bands</b>				
0-17	36.5%	29.1%	91,000	306,000
18-24	9.6%	9.0%	26,000	95,000
25-34	13.5%	9.7%	36,000	101,000
35-45	15.4%	15.1%	37,000	159,000
45-54	15.4%	18.7%	40,000	195,000
55-64	9.6%	15.8%	24,000	168,000
64+	0.0%	2.2%	1,000	23,000
<b>Occupation</b>				
Managers, directors and senior officials	1.9%	10.1%	5,000	105,000
Professional occupations	9.6%	22.3%	25,000	233,000
Associate professional and technical occupations	7.7%	12.9%	19,000	135,000
Administrative and secretarial occupations	5.8%	7.2%	17,000	73,000
Skilled trades occupations	17.3%	12.6%	44,000	134,000
Caring, leisure and other service occupations	13.5%	9.4%	36,000	97,000
Sales and customer service occupations	11.5%	6.5%	28,000	67,000
Process, plant and machine operatives	9.6%	7.9%	26,000	83,000
Elementary occupations	21.2%	10.4%	55,000	108,000
<b>Self employed</b>				
No	88.1%	88.8%	231,000	922,000
Yes	11.9%	11.2%	31,000	117,000

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Notes: Incomes before direct taxes paid and benefits received, excluding pension income. Only one household member in work.

TABLE D.6 COMPOSITION OF WORKING POOR AND THOSE IN WORK NOT AROP AHC

Characteristics	Working poor	In work not AROP	AROP and in work (N)	In work and not AROP (N)
<b>Hourly wage</b>				
< €10	22.0%	2.5%	55,000	82,000
< €11	34.0%	5.2%	83,000	165,000
< €12	50.0%	7.5%	124,000	241,000
< €13	58.0%	9.8%	142,000	316,000
< €14	64.0%	11.0%	158,000	355,000
< €15	70.0%	12.7%	170,000	406,000
< €16	70.0%	14.5%	173,000	469,000
< €17	74.0%	16.1%	184,000	517,000
< €18	82.0%	17.3%	200,000	557,000
< €19	84.0%	18.6%	209,000	600,000
< €20	88.0%	20.4%	216,000	656,000
< €21	90.0%	22.2%	221,000	716,000
<b>Hours worked</b>				
0-18	18.0%	12.9%	46,000	87,000
19-24	22.0%	4.0%	56,000	127,000
25-20	4.0%	8.6%	12,000	39,000
30-34	2.0%	98.6%	7,000	85,000
35+	50.0%	0.0%	122,000	970,000

Sources: Authors' calculations using the ESRI Survey of Income Distribution, Poverty and Usage of State Services, the Living in Ireland Survey and the Survey of Income and Living Conditions Research Microdata Files.

Note: Incomes before direct taxes paid and benefits received, excluding pension income. Only one household member in work and excluding the self employed.



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