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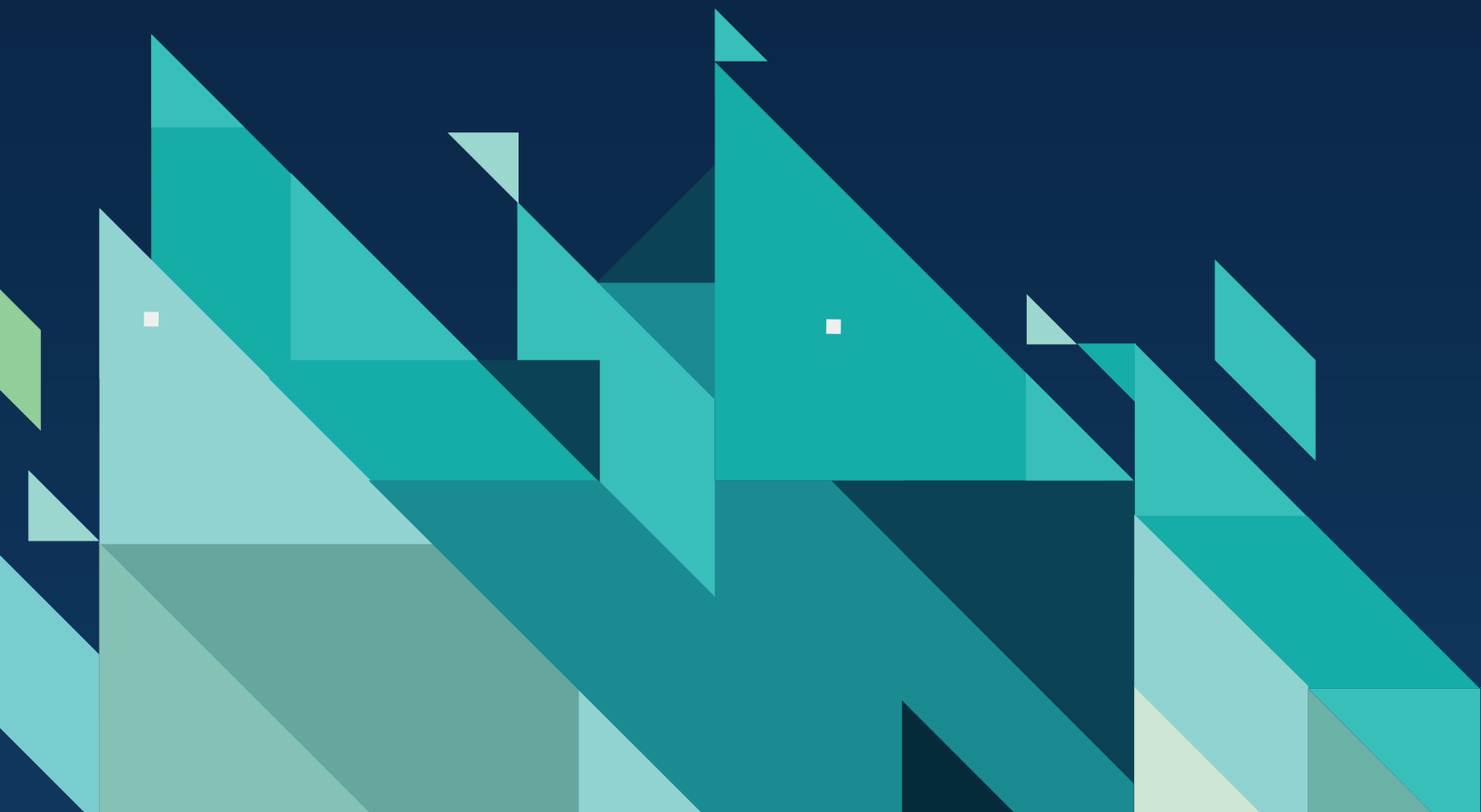
Barriers to social inclusion in Ireland: Change over time and space, 2016–2022

ANNE DEVLIN, SEAMUS MCGUINNESS
AND ADELE WHELAN



BARRIERS TO SOCIAL INCLUSION IN IRELAND: CHANGE OVER TIME AND SPACE, 2016-2022

Anne Devlin

Seamus McGuinness

Adele Whelan

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THE AUTHORS

Anne Devlin is a Research Officer at the Economic and Social Research Institute (ESRI) and an Adjunct Assistant Professor at Trinity College Dublin (TCD). Adele Whelan is a Senior Research Officer at the ESRI and Adjunct Associate Professor at TCD. Seamus McGuinness is a Research Professor at the ESRI and an Adjunct Professor at TCD.

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EXECUTIVE SUMMARY

Social inclusion is an increasingly important concept in policymaking, emphasising a more holistic measure of well-being beyond income and poverty indicators. The European Union defines social inclusion as ensuring citizens have the opportunities and resources necessary to participate fully in economic, social, and cultural life. This concept is central to European and Irish policy.

This study examines how potential barriers to social inclusion in Ireland have evolved over time and space, using Census 2016 and 2022 data. Despite Ireland's strong economic performance, substantial inequalities remain, particularly for people with disabilities and lone parents. Geographic concentrations of social disadvantage are evident, with barriers to inclusion having been found to be place dependent. This study focuses on numerous potential barriers to social inclusion: Unemployment, economic inactivity, low educational attainment, lone parenthood, being a carer, ethnic minority status, disability status and poor health. The majority, but not all, of these barriers decrease between 2016 and 2022. We find declines in the prevalence of unemployment, lone parenthood, and low educational attainment at the area level; this results in a degree of convergence between more and less disadvantaged areas. However, we see increases in poor health and disability, perhaps not surprising given the COVID-19 pandemic. And we also see higher shares of ethnic minorities.

Examining the prevalence of potential barriers to social inclusion at the spatial level also finds notable change between 2016 and 2022. Declines in unemployment were most pronounced in rural areas and 'independent urban towns'. This is particularly interesting given previous findings by Whelan et al. (2024) that those towns which tend to be further from cities are more likely to lack in economic opportunities. While economic inactivity was stable between the two time periods, it did increase in 'independent urban towns'. Low education levels decreased across all area types. The share of ethnic minorities increased in all areas, with the largest increases in cities and rural areas with high urban influence.

It is worth noting that these characteristics and attributes do not necessarily mean an individual is socially excluded but they do increase the likelihood of not being able to fully participate in society. These groups are also not homogeneous but display considerable differences between them which will impact how they interact with society. Furthermore, while these attributes may increase the likelihood of being socially excluded in Ireland, these groups also bring benefits to the economy and society e.g. healthcare provision provided by carers, the increase in the working age population due to inwards migration.

The decline in economic barriers suggests positive impacts from macroeconomic changes and government policies, although this is in light of higher costs of living, and we cannot account for job quality. The increase in health barriers indicates a need for improved healthcare planning and resource allocation. The study underscores the importance of understanding the dynamics of potential barriers to social inclusion over time. While some barriers have decreased, others have increased, reflecting the complex interplay of economic, social, and health factors. While recent policy changes and macroeconomic conditions may have supported these improvements in some social inclusion barriers, their resilience in the face of future challenges is uncertain. Policymakers should continue to focus on creating a fully inclusive society. At present, concerns around the long-term health impacts of COVID-19 are important particularly considering an ageing population. While lower proportionally in relative terms compared to the other barriers examined, the proportion of carers is also important as this will have impacts for the labour market, social security receipt as well as individuals' well-being. Further research on the quality of work and who has moved in to work and why would also be insightful.

CHAPTER 1

Introduction

Social inclusion is an increasingly important concept as governments move away from basing policy objectives exclusively around income and poverty indicators to more holistic measures of well-being and inclusion. The European Union defines social inclusion as:

> *Social inclusion is a process that ensures citizens have the opportunities and resources necessary to participate fully in economic, social and cultural life and to enjoy a standard of living and well-being that is considered normal in the society in which they live. It encompasses, but is not restricted to, social integration or better access to the labour market, and includes equal access to facilities, services and benefits. It is a concept that is now central to the European policy agenda.*

While income-based measures are objective and easier to capture, they do not provide a comprehensive picture of living standards, particularly at an area level. Prioritising social inclusion, which is a broader and more holistic concept incorporating a range of income and non-income related indicators (e.g. access to the labour market and access to facilities and services), helps ensure that policy is focusing on enabling citizens and residents to be fully included socially, politically and economically in society. The Irish government has for some time designed policy based on developing a fully inclusive society. The Roadmap for Social Inclusion 2020-2025 set out the government's ambition to decrease poverty and increase social inclusion in a bid to become one of the most socially inclusive EU countries (Sprong and Maître, 2023).

Understanding the prevalence and patterns of potential barriers to social inclusion is crucial in allowing for better policymaking. While Ireland has experienced robust economic growth in recent years, substantial inequalities persist particularly for people with disabilities and lone parents (Sprong and Maître, 2023). The area where people live also plays a key role; there is evidence of geographic concentrations of social disadvantage. Whelan et al. (2024) have found that, at least for a subset of the population, the prevalence of barriers to inclusion in Ireland are very much place-dependent.

Barriers to social inclusion are multifaceted and can be numerous. In this paper we specifically examine a range of potential barriers including labour market outcomes, lone parenthood, disability, health, ethnic minority status, and being a carer. While these characteristics do not specifically guarantee that individuals are socially excluded, they can increase the likelihood of social exclusion, and more so if multiple barriers are experienced. It is worth noting that these characteristics or

situations do not always mean an individual will be socially excluded but they are known to be more likely to face social exclusion. For example, while ethnic minority status can be a barrier to full social inclusion there is significant heterogeneity within the ethnic minority community in Ireland. Within the ethnic minority population there are varying levels of education, skills and language proficiency, all of which are important in determining integration. For example, that non-EU migrants face more barriers in integrating into the Irish labour market than those from other EU countries (Stapleton et al., 2022).

We set out to examine how barriers to social inclusion in Ireland have changed in recent years across small areas, using Census data from 2016 and 2022. We examine how barriers to inclusion have changed in that period as well as examining how they manifest across Ireland and whether spatial patterns are evident. We are interested in whether prevalence of barriers differs according to levels of area-level deprivation and the extent to which these have changed over time. As a secondary objective, we also investigate the extent to which levels of urbanisation are related to social exclusion and how these relationships are evolving over time. Whelan et al. (2024) reported that, relative to both more urban and more rural areas, economic-related barriers in Ireland were significantly more likely in 'independent urban towns'.[1] The 2016 to 2022 period examined in this study represents a period of considerable change, both within Ireland and globally. Globally, there was considerable international volatility due to the impacts of the COVID-19 pandemic as well as ongoing political instability and tensions, a global cost-of-living crisis and the continued rise of populism in EU and US politics. In Ireland, despite these significant global changes, the period between 2016 and 2022 was characterised by an increase in the population, low levels of unemployment, significant foreign direct investment (FDI) inflows as well as strong tax receipts. There were also significant policy changes in the interim period between the two Censuses which also may have impacted the prevalence of barriers to social inclusion.

In this study, we examine the following potential barriers to social inclusion:

1) Unemployment;
2) Economic inactivity;
3) Low levels of education;
4) Lone parenthood;
5) Caring responsibilities;
6) Ethnic minority status;

[1] Independent urban towns are towns of between 1,500 and 49,999 people where less than 20 per cent of the employed population are employed in cities. They differ from 'satellite urban towns' in that in satellite towns a larger proportion are employed in cities. For more info see CSO (2019).

7) Disability status;

8) Poor health.

As these are heterogenous groups, we cover the social inclusion literature as well as a review of literature which includes research relating to one or more of these specific subgroups and the COVID-19 pandemic. The analysis is area based, rather than individual based, as policy design on deprivation and social exclusion in Ireland generally has a strong spatial component.

The rest of the paper is set out as follows: Chapter 2 examines relevant literature and the current policy context which may impact barriers to social inclusion and Chapter 3 gives the data used and the methodology. The results are presented in Chapter 4 and finally the conclusions and policy implications which arise from this work are discussed in Chapter 5.

CHAPTER 2
Literature and policy context

2.1 POLICY CONTEXT

Our study compares barriers to social inclusion at two points in time (2016 and 2022). Therefore, it is prudent to understand relevant policy changes that occurred between these two periods. The most important policy approach regarding barriers to social inclusion is the Roadmap for Social Inclusion 2020-202*5* (RSI). The RSI is the primary government strategy for reducing barriers to social inclusion in Ireland. Social inclusion is defined in the RSI strategy document as outlined below:

> *Social Inclusion is achieved when people have access to sufficient income, resources and services to enable them to play an active part in their communities and participate in activities that are considered the norm for people in society generally. (Department of Social Protection, 2020)*

The RSI includes a range of policy goals, measures and indicators for evaluation of the achievement of policy goals. Broadly, the strategy aims to expand employment opportunities, improve working conditions, and support older people, families, people with disabilities and disadvantaged communities. Among the policies outlined in the RSI (that are relevant for our study) are incentives for lone parent employment, restructuring of disability payments (namely, the Disability Allowance Payment and the Invalidity Pension payment), to allow for varying capabilities to engage in paid employment and adjustments to welfare payments for carers to incentivise labour force participation (e.g. increasing the number of hours carers can work while remaining eligible for the Carers Allowance).

Given policy changes throughout this period, it is important to examine the outcomes of vulnerable groups. In an evaluation of the chosen RSI indicators, Sprong and Maître (2023) report that the consistent poverty rate – the headline poverty indicator in the strategy – declined from 5.6 per cent in 2018 to 4 per cent in 2021. Given the overarching goal of the RSI was to limit consistent poverty to below 2 per cent, the authors stress that despite progress, further work is needed for the goal to be met by the conclusion of the plan in 2025. It is also worth noting that this progress was not necessarily shared by some vulnerable groups. For example, Roantree and Doorley (2023) highlight that approximately 42 per cent of lone parents experienced material deprivation[2] in 2022, compared to 17 per cent across the broader population.

[2] Material deprivation is defined as a situation in which individuals cannot afford two or more items from a list of ten selected items. These items include 1) two pairs of strong shoes; 2) a warm waterproof overcoat; 3) new (not second-

Child poverty and well-being continue to be important policy areas for the Irish government with significant work ongoing to reduce childhood poverty given the detrimental long-term harm it can do (Children's Rights Alliance, 2024). Many of the policy approaches tackling childhood poverty are driven by EU level policy, and other recommendations from international bodies (e.g. the UN Committee on the Rights of the Child, 1989) are clear that fighting childhood poverty is an obligation of the State. The European Child Guarantee which was adopted in 2021 is designed to prevent social exclusion amongst children. It states that all children should have access to affordable early childhood education and care, free education, free healthcare, healthy nutrition and adequate housing (EU, 2021). In late 2024, the Irish government published an interim report on their progress with regards the European Child Guarantee which had mixed findings. The consistent poverty rate for children fell between 2021 and 2023, but the proportion of children experiencing deprivation increased. This is attributed to the cost-of-living crisis which was ongoing over the same period (DCEDIY, 2024). This also sheds light on the difficulties associated with measuring progress during a time of turbulence for the global economy.

While recent budget changes are examples of national policy which directly impact on poverty and well-being, particularly those changes related to social welfare. As a response to the high inflation seen in recent years, the government has increased welfare payments to mitigate some of the impact felt from rising costs. However it is argued that these increases are insufficient as the overall inflation rate used is likely to underestimate the rising costs experienced by some groups (e.g. families with children (Children's Rights Alliance, 2022) or people with disabilities (Disability Federation of Ireland, 2024)). The Children's Rights Alliance (2022) argues that many families in poverty were already struggling prior to the cost-of-living crisis and, thus, the increases to social welfare payments are not going to improve well-being in any meaningful way. For example, SVP (2024) calculate a Minimum Essential Standard of Living and found that between 2020 and 2024 the cost of meeting such a standard increased by 16.8 per cent.

Overall, while we examine changes to potential barriers to social inclusion over the pandemic period given other macroeconomic shocks as well as international and national policy changes in the same period, proving any causal link between changes in prevalence of barriers to inclusion and COVID-19 is difficult. It will not be possible within our framework to separate out the impacts of the pandemic

hand) clothes; 4) a replacement for worn out furniture; 5) a meal with meat, chicken, fish or a vegetarian equivalent every second day; 6) a roast joint (or equivalent) once per week; 7) home heating in the previous year; 8) presents for family or friends at least once per year; 9) drinks or a meal for family or friends once per month; and 10) a morning, afternoon or evening of entertainment once per fortnight.

from those related to policy changes or wider political/economic factors. Nevertheless, it is extremely important to examine the dynamics of barriers to social inclusion over time given their increasing importance in policymaking.

2.2 SOCIAL INCLUSION AND COVID-19 IN IRELAND

Using individual level data, McGuinness et al. (2018) provide insight into the profile of individuals reporting barriers to social inclusion in Ireland.[3] Specifically, the authors find a distinct gender gap in lone parenthood, showing that women were 25 percentage points more likely to report being a lone parent than males. Furthermore, age plays a substantial role in determining disability status and belonging to a jobless household, with older citizens being more likely to have a disability, and younger citizens being comparatively less likely to reside in jobless households. The authors also provide evidence of the role of education in alleviating the likelihood of social exclusion.

Geography also plays a critical role in social exclusion in Ireland. Whelan et al. (2024) use Census (2016) and SICAP[4] data to establish a link between geography and potential barriers to social inclusion. Rather than focusing on a more general urban/rural dichotomy, the authors make use of a six-way geographical classification to examine differences in social barriers on a more granular level. The authors' primary finding is that individuals living in areas classified as 'independent urban towns' – sufficiently built-up areas that are not adjacent to a city[5] – were substantially more likely to experience barriers related to economic participation than those who resided in other areas that were both more rural and more urban; these spatial impacts were observed over and above area-level deprivation measures.

Research examining the impacts of the pandemic on the prevalence of barriers to social inclusion in Ireland is limited. However the impact of COVID-19 on disadvantaged communities has been examined both locally as well as globally. Devlin et al. (2024) explored the health impacts of the COVID-19 pandemic on disadvantaged communities in Ireland. Specifically, the authors examine the relationship between area-level deprivation (as measured by the Pobal Haase-Pratschke (HP) Relative Deprivation Index) and both COVID-19 infection rates and intensive care unit (ICU) admission rates throughout the initial phases of the pandemic. The authors found that the most deprived communities exhibited

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3 The barriers to social inclusion examined in this study are 1) belonging to a jobless household; 2) being a lone parent; 3) having a disability; 4) homelessness or experiencing housing exclusion; and 5) belonging to an ethnic minority.

4 Data for the study came from the 2016 monitoring database for Ireland's Social Inclusion and Community Action Plan (SICAP). SICAP aims to tackle poverty, social exclusion and inequality through local engagement and partnerships between disadvantaged individuals, community organisations and public sector agencies (Pobal, 2024b).

5 The precise definition of an independent urban town is 'Towns/settlements with populations between 1,500 and 49,999, where less than 20 per cent of the usually resident employed population's workplace address is in Cities'.

higher infection rates than more affluent areas throughout the pandemic period examined. In an earlier paper, Whelan et al. (2023) also revealed differential economic outcomes between deprived and affluent communities because of the COVID-19 pandemic. By examining the uptake of the Pandemic Unemployment Payment (PUP),[6] the authors found that more disadvantaged communities were more likely to experience disproportionately high rates of pandemic-induced unemployment relative to more well-off communities. Disadvantaged areas therefore experienced more volatility in employment and more deprived areas were more susceptible to changes in government restrictions; employment disruption in deprived areas was greater than was the case in more affluent areas when restrictions were imposed, and fell faster when restrictions were eased. It is possible that these disproportionate economic and health impacts on deprived communities during the pandemic may also have been observed with respect to barriers to inclusion.

Some more recent evidence suggests that specific subgroups (that experience barriers to social inclusion) experienced disproportionate adverse effects of the pandemic, though the evidence base for this is limited. Using the Survey on Income and Living Conditions (SILC), Roantree et al. (2024) provide descriptive evidence that lone parents experienced a sharper decline in life satisfaction throughout the pandemic when compared to other groups. Furthermore, lone parents have consistently had the lowest levels of life satisfaction when compared to other household types since the early 2010s. Complementary research to this comes from Byrne and Sassi (2023), who shed further light on the experiences of lone parents, specifically those living in the private rental sector,[7] throughout the pandemic. In a series of interviews, the authors find that lone parents were particularly concerned about long-term residential security, despite the introduction of an eviction ban in March 2020. This was due in large part to their wanting their children to grow up in a secure environment. Furthermore, some lone parents outlined that the substandard quality of rental housing was brought to the fore during restrictions on physical distancing, due to more time being spent at home.

McHugh and Walsh (2024) shed light on the interplay between the pandemic, remote working policies, gender and carers' mental health. The paper uncovers several findings. First, the authors reported a striking gap in mental health status between carers and non-carers, with carers being far more likely to report poor mental health. The authors also found a substantial gender gap in worsening mental health for both carers and non-carers. Broadly, women were more likely

6 The PUP is Ireland's principal welfare payment afforded to those whose employment was disrupted due to the public health restrictions imposed throughout the COVID-19 pandemic.

7 It is worth noting that lone parent families are far more likely to reside in private rental accommodation than other families (Hearn and Murphy, 2017; Russell and Maître, 2024).

than men to report poorer mental health since the start of the pandemic (Silverio, 2025). However, this gender difference was three times as large among carers relative to non-carers. Vallières et al. (2022) come to a similar conclusion for Irish adults.

Much of the existing Irish research examines the outcomes of disadvantaged groups during the pandemic. Comparatively less research has focused on comparing both the incidence and outcomes of these groups pre- and post-pandemic. One exception to this is a recent report by Alamir et al. (2024), who examined differential labour market impacts of the pandemic on those with disabilities and lone parents using Labour Force Survey (LFS) data. Generally, the Irish labour market experienced a strong recovery period post-pandemic, with little to no differential impacts between specific subgroups of the population, albeit with the caveat that there are stark differences pre-pandemic (e.g. lower labour force participation rates amongst those with disabilities, lone parents).

2.3 INTERNATIONAL EVIDENCE

International evidence documenting the outcomes of subgroups of the population that experience potential barriers to social inclusion during the pandemic is varied. Brown and Ciciurkaite (2023) provide evidence of differential mental health and employment outcomes between those with disabilities and those without in the United States during the pandemic. Specifically, the authors highlight the role of discrimination and precarious employment in predicting psychological distress among those with disabilities, finding an elevated likelihood of experiencing distress among those with disabilities relative to those currently without. Additional evidence on employment outcomes (Maroto et al., 2021), and mental health (Ciciurkaite et al., 2022) further support evidence of a divide in employment outcomes on the grounds of disability due to the pandemic.

Much of the international research regarding lone parenthood during the COVID-19 pandemic focuses on the case of single mothers. Broadly, the pandemic led to the closure of formal childcare services and the introduction of physical distancing restrictions. In many cases, parents could not rely on formal childcare or informal childcare (i.e. via family or friends) due to public health restrictions. This left many parents with an elevated care burden. The elevated care burden disrupted many single mothers' ability to participate in both paid work (Radey et al., 2022; Wakai et al., 2023; Salin et al., 2023) and education (Trotter, 2023). Salin et al. (2024) conduct a survey to evaluate adequacy of resources, employment and policy responses for single mothers in Finland during the pandemic. The authors find that the added pressures of lockdowns led to single mothers experiencing substantial time barriers to employment (i.e. due to remote schooling, the absence

of formal childcare and the loss of support networks due to physical distancing restrictions).

While relatively few studies examine how the COVID-19 pandemic might have impacted the prevalence of carers, the literature on the emotional and psychological effects is more plentiful (see Sousa et al., 2022; Lightfoot et al., 2021; Liberati et al., 2021 for examples). In a systematic review of the literature, Bailey et al. (2022) show that those engaged in informal care experienced significant emotional and mental distress throughout lockdowns in a range of countries. Specifically, the authors reveal a pattern of carers citing concerns around the provision of healthcare, ambiguous government messaging concerning physical distancing policies, the decline of their social outlets and the acute physical vulnerability of those in their care.

That those who face potential barriers to social inclusion experienced disproportionate impacts as a result of the COVID-19 pandemic reinforces the need to better understand the prevalence and the spatial distribution of barriers to inclusion across Ireland in recent years.

CHAPTER 3
Data and methods

3.1 DATA

The data used herein are primarily from the Irish Censuses for 2016 and 2022. These allow us to examine the presence of barriers to social inclusion amongst the entire Irish population and allow for comparability over time. The Censuses for Ireland collect data on a wide range of personal and sociodemographic characteristics as well as labour market and education information, presence of disability and health status, as well as information at the household level such as household size, occupancy type and access to cars/internet etc. The Census information is collected using paper forms sent to every household in Ireland every five years. However, the 2021 Census was delayed due to the COVID-19 pandemic and became the 2022 Census.

The data collected contain a Small Area (SA) level indicator of which there are 18,641 in Ireland in 2016 and 18,919 in 2022. This is our primary level of analysis. Small areas have been used since 2011 and are the lowest level of geography used for data purposes, typically containing between 50 and 200 households. Given they are created based on population size and distribution they are redrawn with each new Census, hence the increase in the number of SAs between 2016 and 2022. As is to be expected, this causes some inconsistencies examining data at this level over time.

We include Census data as controls in our econometric modelling to account for differences between areas. We utilise information on the area-level sex composition, the age structure (those aged 18 and under and those 65 plus), the share of the population who are ethnic minority groups (for the purposes of this study we consider anyone not White Irish to be an ethnic minority), and the share of people in poor health. For those in poor health, it is those who report as having either 'very bad' or 'bad' health in the Census.

3.1.1 Barriers to social inclusion examined

The Census datasets are used to collect all the barriers examined. The barriers examined are based on the literature on social inclusion (e.g. Whelan et al., 2024), Pobal's 12 target groups for the Social Inclusion and Community Activation Programme[8] and the data which are available. Based on these considerations and

[8] 12 pre-defined target groups have been set for SICAP. These have been selected based on the socioeconomic context, the level of need in society, and government priorities. 1) People living in disadvantaged communities; 2) People

for the purposes of this study we therefore examine area-level rates of unemployment, economic inactivity, lone parent families, ethnic minorities, low educational attainment,[9] being a carer, being in poor health or having a disability. We note that these are potential barriers to social inclusion and that an individual that faces any of these potential barriers, or a combination of these barriers, is not necessarily socially excluded but is at risk of or more likely to be excluded than their peers.

For the purpose of this study, ethnic minority status is measured as anyone who does not report as 'White Irish'[10] (the most common ethnicity reported in the Irish Census). This definitional approach means we capture a range of ethnicities; 'other ethnicity' in this instance includes members of the Irish Traveller community. While there is considerable heterogeneity within this group, this approach allows us to pick up those who are different in some way from the majority population although this may be for different reasons (e.g. due to their race, language ability, accent etc). It is worth noting however that while minority status can be a potential barrier to inclusion it is not necessarily the case for all migrants that they are socially excluded. In Ireland, the migrant population have higher educational attainment and a higher employment rate than the Irish-born population (McGinnity et al., 2025). The higher educational attainment is particularly notable given Ireland has high education levels (Smyth et al., 2022). There has been progress in recent years in terms of the integration of some groups who previously did not fare so well in Ireland, in particular migrants from Africa (McGinnity et al., 2025). Issues remain however with access to English language provision and, not surprisingly, access to housing. Concerns also remain given the increased salience of immigration and, although overall attitudes towards migrants remain positive, there has been a slight downward trend in recent years (Laurence et al., 2024). The migrant population in Ireland plays a significant role in supporting the labour force participation rate (and therefore economic growth), given the migrant population is on average younger than the Irish-born population (Department of Finance, 2024).

It is worth noting that while disability is seen in the literature as a potential barrier to inclusion, health is not seen as an equivalent barrier. However, health is used here as an additional proxy measure, as the relevant question for disability in the Census changes slightly between the 2016 and 2022 Censuses. We use two health measures: firstly, those who report as being in very bad health and, secondly, those

impacted by educational disadvantage; 3) People living in jobless households or households where the primary income source is low-paid and/or precarious; 4) People who are long-term unemployed; 5) People with a criminal history; 6) Refugees; 7) International Protection Applicants; 8) Disabled People/People with Disabilities; 9) Heads of One-parent Families; 10) Travellers; 11) Roma; 12) Island residents (Pobal, 2024b).

9 Defined as those with no formal education or at most a primary level of education.

10 The options for ethnicity in the Census are 'White Irish', 'White Irish Traveller', 'Other White', 'Black or Black Irish', 'Asian or Asian Irish', 'Other', 'Not Stated'.

who report as being in very bad health as well as those in bad health. The former method allows us to collect those who are sickest, and it is likely that given they have the worst levels of health they may also be impacted in their day-to-day life as a result. However, the group that report being in very bad health is relatively small, so we also utilise a broader measure of poor health.

With regards the disability measure, in 2016 and 2022 the Census asks:

> *do you have any of the following long-lasting conditions or difficulties: blindness or a serious vision impairment, deafness of a serious hearing impairment, a difficulty with basic physical activities, an intellectual disability, a difficulty with learning, remembering or concentrating, a psychological or emotional condition, a difficulty with pain, breathing, or any other chronic illness or condition?*

While the question itself remains consistent across Census waves, the responses differ. In 2016, the possible responses are 'Yes' or 'No' compared to 'Yes, to a great extent', 'Yes, to some extent', or 'No' in 2022. For the 2022 data, we combine the two positive responses to compare to the 'Yes' responses in 2016. However, given people may answer these differently based on the choices available to them, we supplement with additional data on health to see if the patterns are consistent or whether changes may be reflective of differences in possible responses. Specifically, there is a strong risk that individuals reporting some disability in the 2022 Census will have answered 'No' in the 2016 data, pointing to a higher incidence in 2022 as a direct result of the change in the questions response categories.

Given we use an area-level dataset, it is impossible to account for compounding disadvantage amongst those who may face numerous potential barriers to social inclusion which is a caveat of this study.

3.1.2 Pobal HP Relative Deprivation Index

We are interested in whether the incidence of potential barriers to social inclusion have changed over time, with an emphasis on the extent to which deprived areas and affluent areas may have experienced any change differently. The Pobal Haase Pratschke (HP) Relative Deprivation Index is used to account for differing levels of area-level deprivation. The Pobal HP Relative Deprivation Index is a composite measure generated using the Irish Census data with a view to providing an up-to-date analysis of the geographic distribution of deprivation across Ireland.[11] The measure is based on three key factors: demographic profile, social class

[11] For more info on the Pobal HP Relative Deprivation Index see: https://www.pobal.ie/app/uploads/2018/06/The-2016-Pobal-HP-Deprivation-Index-Introduction-07.pdf.

composition, and the labour market situation of an area. Various Census variables from each of these dimensions are used in the production of the index. Figure A.1 in the appendix shows a basic model of the index.

The 2016 Pobal HP Relative Deprivation Index of small areas ranges from -39.3 (most deprived) to 40.5 (most affluent). For 2022, given the Pobal HP Relative Deprivation Index is re-generated using the latest Census data, it ranges between -56.1 and 29.4. As the Pobal HP Relative Deprivation Index is a continuous variable, we operationalise it here using categories which have been used in previous research.[12] Previous research found the relationship with deprivation not to be linear; therefore using a continuous variable is not deemed appropriate (Whelan et al., 2024). We categorise all small areas into one of four groups: the most deprived, marginally below average, marginally above average and the most affluent.

3.1.3 Six-way urban-rural classification

Using small area-level indicators, we match to the CSO six-way urban-rural classification of areas. This six-way classification system is detailed in Figure 3.1 for 2016. As it is based on population it also changes between 2016 and 2022,[13] although the methodology and definitions remain consistent. The development of the six-way classification of areas is based on best practice used elsewhere (New Zealand and Canada for example) and is driven by the fact that areas regardless of whether they are rural or urban will not be heterogenous (CSO, 2019). Distance to services, employment opportunities and amenities will have significant impacts on standards of living for those in rural areas and, by using employment in more urban areas as a proxy for this, the six-way classification allows some of these differences to be considered. Whelan et al. (2024) argue that the six-way classification should be used, when possible, for research as their findings differ considerably from what they found when using a simple urban-rural binary.

12 This categorisation has been utilised in numerous other relevant studies (e.g. Whelan et al., 2024; Devlin et al., 2024).
13 https://www.cso.ie/en/census/census2022/census2022smallareapopulationstatistics/.

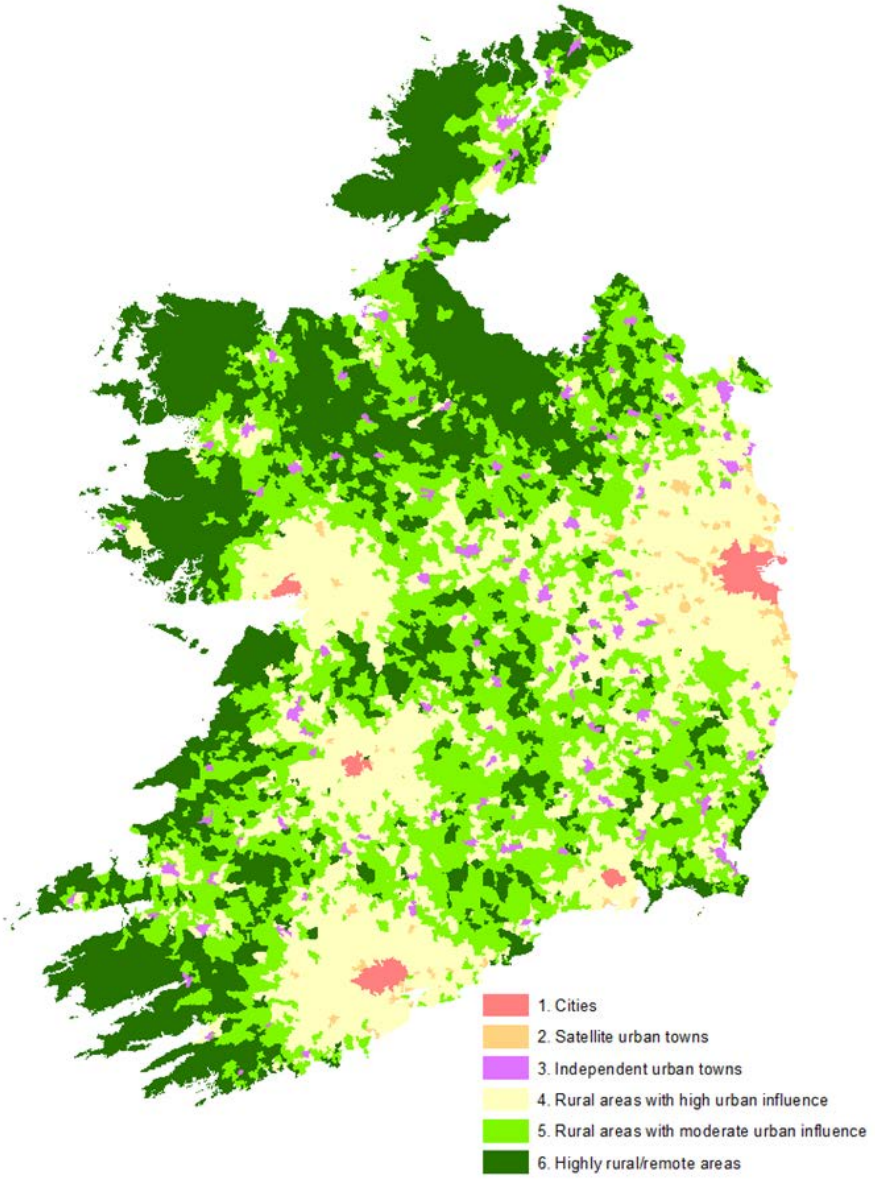
FIGURE 3.1 SIX-WAY URBAN-RURAL AREA CLASSIFICATION

	Type	Definition
Urban areas	Cities	Town/settlements with populations greater than 60,000 - using Census 2016 definitions/breakdowns.
	Satellite urban towns	Town/settlements with populations between 1,500 and 49,999, where 20 per cent or more of the usually resident employed population's workplace address is in 'Cities'.
	Independent urban towns	Towns/settlements with populations between 1,500 and 49,999, where less than 20 per cent of the usually resident employed population's workplace address is in 'Cities'.
Rural areas	Rural Areas with high urban influence	Rural areas (themselves defined as having an area type with a population less than 1,500 persons, as per Census 2016) are allocated to one of three sub-categories, based on their dependence on urban areas. Again, employment location is the defining variable. The allocation is based on a weighted percentage of resident employed adults of a rural Small Area who work in the three standard categories of urban area (for simplicity the methodology uses main, secondary and minor urban areas). The percentages working in each urban area were weighted through the use of multipliers. The multipliers allowed for the increasing urbanisation for different sized urban areas. For example, the percentage of rural people working in a main urban area had double the impact of the urban centre has on its surrounding areas. The adopted weight for: Main Urban areas is 2; Satellite urban communities is 1.5; Independent urban communities is 1. The weighted percentage is divided into tertials to assign one of the three rural breakdowns.
	Rural areas with moderate urban influence	As above
	Highly rural/ remote areas	As above

Source: CSO, see https://www.cso.ie/en/releasesandpublications/ep/p-urli/urbanandrurallifeinireland2019/introduction/.

Figure 3.2 is a map showing the six-way urban-rural classification across Ireland at the SA level. The cities of Dublin, Cork, Galway, Limerick and Waterford are clear and are surrounded by rural areas with high urban influence interspersed with satellite urban towns (or what might be known as commuter towns). Outside of these hinterlands are rural areas with moderate urban influence as well as highly rural/remote areas. Highly rural and remote areas are particularly common in counties Donegal, Leitrim, Sligo, Galway, and Kerry. Independent urban towns are then interspersed throughout these most rural areas and in particular are located in the border region and in a spine up the middle of the country.

FIGURE 3.2 SIX-WAY URBAN-RURAL CLASSIFICATION USING CENSUS 2016



Source – CSO Ireland.

3.1.4 Homelessness or housing exclusion

We recognise that homelessness and housing distress or housing exclusion are an important barrier to full social participation. This is particularly important given the ongoing housing crisis in Ireland. However, homelessness and housing distress are not examined in detail in this work, as they are hard to measure particularly at a spatially disaggregated level. For examining homelessness there are obvious issues with using Census data. Census data are based on where Census respondents are staying on Census night e.g. those who are staying in private emergency accommodation, supported temporary accommodation or family hub accommodation. The methodology used by the Central Statistics Office (CSO) to identify homeless individuals has evolved over time and has been created in

conjunction with the Census Homeless Methodology Liaison Group.[14] However, it should be noted that this methodology may be imperfect for detecting housing distress and is unlikely to pick up those who are homeless and not in some form of accommodation (e.g. rough sleepers). Furthermore, the data are not available at a spatially disaggregated level which would be necessary for the analysis which is conducted in this work. On that basis we do not examine homelessness or housing distress but recognise that this is a limitation of this work.

3.2 METHODOLOGY

3.2.1 Descriptive analysis

We begin with an extensive descriptive exercise to examine the prevalence of potential barriers to social inclusion, at the national level by deprivation categories, and then using the six-way urban-rural classification in 2016 and 2022. We then look at how the averages change based on deprivation categories and based on area type using the six-way classification.

3.2.2 Econometric analysis

We then go on to examine the determinants of barriers to social inclusion at the area level in 2016 and 2022. This follows a similar methodology to what is used in Whelan et al. (2024), albeit it is at the individual level. Given our outcome variables (the potential barriers to inclusion) are continuous variables as they are at the area-level we begin by using OLS regressions. These models take the form:

$$\text{Barrier}_i = \beta_0 + \beta_1 \text{Deprivation}_i + \beta_2 \text{Area Type}_i + \beta_3 \text{Controls}_i + \epsilon_i \quad (1)$$

where the outcome variable is the proportion of the population in each SA who experience that potential barrier to inclusion. The main variables of interest then are deprivation in the four categories as discussed above and the six-way urban-rural classification. Other area-level factors are then controlled for in the model. These are: share of females in an area; age structure of an area (share of young people and share of older people); share of ethnic minorities in a small area; and proportion of those in poor health in an area. The controls change slightly depending on the outcome in question; for example when the barrier being examined is poor health, health is not included as a control variable.

As there could be potential collinearity between deprivation and other controls which also influence the likelihood of barriers being experienced, this may lead to confoundedness and therefore biased estimates on the variables of interest. To

[14] For more information on how homelessness is captured in the Census see https://www.cso.ie/en/releasesandpublications/ep/p-cpp6/censusofpopulation2022profile6-homelessness/backgroundnotes/.

deal with these potential biases we use Propensity Score Matching (PSM) techniques. The propensity score is defined as the conditional probability of receiving a treatment given certain determining characteristics as per Equation 2:

$$p(X) = Pr\{D = 1/X\} = E\{D/X\} \quad (2)$$

where D indicates exposure to the treatment (barriers to social inclusion) and X is a vector of determining area-level characteristics.

In the second stage of the PSM technique, areas in the treatment group (i.e. specific levels of deprivation or specific area types) are matched with counterparts in the control group (the reference category for deprivation or area type) that have similar propensity scores. Using these propensity scores of being subject to the treatment we compare the actual outcomes. Rosenbaum and Rubin (1983) argue that matching individuals or areas in this way based on propensity scores is equivalent to matching on actual characteristics. This ensures any biases related to selection bias or confoundedness are nullified. It may not be possible, however, to get rid of all unobservable differences between the treatment and control groups and matching does not solve the problem of unobservable heterogeneity.

We are also concerned about potential endogeneity biasing our results, as some components of the Pobal HP Relative Deprivation Index (Figure A.1) are also barriers which we examine. Namely, unemployment, low educational attainment and lone parenthood are all intrinsic components of the Pobal HP Relative Deprivation Index. The relationship between unemployment and the overall deprivation measure is likely to be greater than these other barriers as unemployment is a key driver of the index. However, the endogeneity will be time invariant as it will be present in both 2016 and 2022. Therefore, we use a difference-in-differences approach which, given this time-invariant bias, will then see the endogeneity drop out of the estimation. The difference-in-differences model takes the following form:

$$\text{Barrier}_i = \beta_0 + \beta_1 \text{Deprivation}_i + \beta_2 \text{Area Type}_i + \beta_3 \text{Controls}_i + \epsilon_i \quad (1)$$

where the outcome variable is the proportion of the population in each SA who experience that potential barrier to inclusion. The post-treatment period is 2022, so post is 1 for 2022 and 0 for 2016. The treatment indicator is 1 if the area is in the most deprived category of small areas and 0 otherwise. The interaction term is then included as the interaction between the post-treatment period and the treatment group is what captures the difference-in-differences effect. The model is otherwise consistent with Equation 1.

CHAPTER 4
Results

4.1 BARRERS TO SOCIAL INCLUSION – ECONOMIC, SOCIAL AND HEALTH

We begin by examining the presence of the nine potential barriers to social inclusion in 2016 and 2022 at the national level. The prevalence of each barrier is calculated for each SA based on the proportion of individuals who report the barrier. Some potential barriers to social inclusion have increased over that time period while other barriers have become less prevalent. Unemployment fell substantially from 13.6 per cent in 2016 to 8.6 per cent in 2022 and, while this is a fall of 5 percentage points, it equates to a reduction in the rate by 37 per cent. Simultaneously, economic inactivity increases slightly from 38.6 per cent to 38.9 per cent,[15] an increase of 0.3 percentage points and equivalent to an increase of 1 per cent. We consider these barriers to be economic barriers to full social participation. In terms of other barriers, which are more social in nature, we see the prevalence of lone-parent families held consistently over the two censuses, the prevalence of ethnic minorities increases from 15.6 per cent to 18.3 per cent, and the presence of low levels of education falls over the period from 11.2 per cent to 8.8 per cent. The proportion of carers in the population increases from 4.2 per cent to 5.9 per cent.

In terms of health and disability, bearing in mind we have the change in possible responses in the 2022 Census,[16] we see increases of varying magnitudes. The proportion in very bad health increases from 0.3 per cent to 0.4 per cent while the proportion in either very bad or bad health increases from 1.7 per cent to 1.9 per cent. In terms of persons with a self-reported disability we see a much larger increase, with the prevalence going from 13.8 per cent in 2016 to 22 per cent in 2022. While changes in disability rates are in line with what we see for health and an increase is perhaps to be expected post-pandemic, it is also possible that the size of the increase is also in part driven by the change in possible responses to the census question in 2022. Respondents may have been more inclined to respond positively to a question on disability when they can indicate the degree of disability they experience.

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15 It is worth noting that the Census data are for 2022, and more up to date metrics of the labour market (e.g. the LFS) suggest falling economic inactivity post-pandemic.

16 That is that in 2016 the possible responses to the disability question were binary either positive or negative, but in 2022 there were two positive answers – 'to some extent' or 'to a great extent'.

TABLE 4.1 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION: IRELAND, 2016 AND 2022

Barrier to Social Inclusion	National				
	2016	2022	Change		Statistical Significance of Difference
			PP	% difference	
Unemployment	13.6	8.6	-5	-37%	***
Economic inactivity	38.6	38.9	0.3	1%	***
Low education	11.2	8.8	-2.4	-21%	***
Lone parent households	11.2	11.2	0	0%	***
Ethnic minority status	15.6	18.3	2.7	17%	***
Carers	4.2	5.9	1.7	40%	***
Very bad health	0.3	0.4	0.1	33%	***
Bad and very bad health	1.7	1.9	0.2	12%	***
Disability	13.8	22	8.2	59%	***

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

We examine the differences in the potential barriers to social inclusion over time based on levels of deprivation (Tables 4.2 to 4.4). Given we have seen that COVID-19 impacted the most deprived areas in Ireland to a greater extent in terms of both health (Devlin et al., 2024) and economic disruption (Whelan et al., 2023), this is a key aspect of the study.

The unemployment rate at the SA level fell across all areas with somewhat larger declines in more deprived areas, albeit with the caveat that rates were much higher in more deprived areas to begin with. In other words, the larger falls have led to some convergence by 2022 but with rates still significantly higher. Low education also fell across all deprivation categories between 2016 and 2022. The picture is less clear for economic inactivity. Amongst the most deprived and the marginally above average deprivation categories, inactivity increased by 2 per cent. The marginally below average group experienced an increase of 1 per cent while the most affluent group saw a fall of 1 per cent. There is no clear trend for inactivity, which may be reflective of the heterogeneity within economic inactivity subgroups.

TABLE 4.2 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY DEPRIVATION QUINTILES: ECONOMIC BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Unemployment				
Most deprived	28.7	17.3	-11.4	-40%
Marginally below average	15.1	9.6	-5.5	-36%
Marginally above average	9.2	6.1	-3.0	-33%
Most affluent	5.9	4.3	-1.6	-28%
Economic inactivity				
Most deprived	45.8	46.6	0.8	2%
Marginally below average	41.1	41.3	0.3	1%
Marginally above average	36.7	37.3	0.6	2%
Most affluent	30.7	30.5	-0.2	-1%
Low Education				
Most deprived	22.3	17.9	-4.3	-19%
Marginally below average	13.8	10.9	-3.0	-22%
Marginally above average	7.8	6.1	-1.6	-21%
Most affluent	3.0	2.5	-0.5	-18%

Source: Authors' analysis based on 2016 and 2022 Census.

With regards to the potential barriers to inclusion which are more social in nature (rather than economic or health related) (Table 4.3), the shares of ethnic minorities in areas increased across the board but the changes were largest amongst the most deprived SAs, albeit these increases were from lower baselines. The proportion of carers also increased for all deprivation categories; however in this instance the most affluent SAs saw the largest increases in the share of the population with caring responsibilities.

For lone parent households there were declines in prevalence in the most deprived category as well as the marginally above average category, by 4 per cent and 2 per cent respectively.

TABLE 4.3 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY DEPRIVATION QUINTILES: SOCIAL BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Ethnic minority status				
Most deprived	12.2	15.5	3.3	27%
Marginally below average	13.4	16.4	3.0	22%
Marginally above average	15.7	17.7	2.0	13%
Most affluent	23.2	27.0	3.7	16%
Lone parent households				
Most deprived	19.2	18.5	-0.7	-4%
Marginally below average	11.9	11.9	0.0	0%
Marginally above average	9.7	9.5	-0.2	-2%
Most affluent	7.2	7.2	0.0	0%
Carers				
Most deprived	4.4	5.9	1.5	33%
Marginally below average	4.4	6.2	1.7	39%
Marginally above average	4.2	6.1	1.9	45%
Most affluent	3.4	5.0	1.6	47%

Source: Authors' analysis based on 2016 and 2022 Census.

Table 4.4 shows how health has changed between 2016 and 2022 by deprivation category. In terms of poor health, there are increases across the board with the largest changes seen in the most deprived categories. While the percentage point increases are small, they are operating from a low baseline. And despite the magnitude, any increases in poor health prevalence would have significant impacts for healthcare policy and planning in Ireland, especially given the demographics of the country with migration playing a key role in combatting the potential pitfalls of a rapidly ageing population.

However, the same is not the case for the area-level disability rate, which is perhaps counterintuitive given the strong relationship between disability and deprivation which is well documented (and has been documented recently for Ireland (Pobal, 2024a)). Between 2016 and 2022, the largest increases in self-reported disability were found in the most affluent areas. This may be reflective of ageing as well as the impact of COVID-19 on older people who are more likely to reside in more affluent areas. The disability rate in the most deprived SAs increased from 20.4 per cent to 28.8 per cent between 2016 and 2022, compared to the most affluent SAs which have seen increases from 9.3 per cent to 17.3 per cent. However, while this does represent some convergence it must also be noted that there is a very strong relationship between disability and deprivation which remains despite these 2016-2022 changes.

TABLE 4.4 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY DEPRIVATION QUINTILES: HEALTH BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Persons with a disability				
Most deprived	20.4	28.8	8.4	41%
Marginally below average	15.0	23.3	8.4	56%
Marginally above average	11.9	20.1	8.3	70%
Most affluent	9.3	17.3	8.0	85%
Very bad health				
Most deprived	0.6	0.7	0.2	29%
Marginally below average	0.3	0.4	0.1	19%
Marginally above average	0.2	0.3	0.0	20%
Most affluent	0.1	0.2	0.0	22%
Bad/Very bad health				
Most deprived	3.1	3.7	0.5	17%
Marginally below average	1.9	2.2	0.3	14%
Marginally above average	1.3	1.5	0.2	14%
Most affluent	0.9	1.0	0.1	12%

Source: Authors' analysis based on 2016 and 2022 Census.

Table 4.5 displays the potential barriers to social inclusion which are economic in nature, broken down by the six-way area-type classification. Unemployment fell between 2016 and 2022 across all levels of urbanisation. However, it did not decline equally across all area types, which has led to some convergence in spatial inequalities in unemployment. In 2016 unemployment ranged from 4.9 per cent in rural areas with high urban influence to 10.6 per cent in independent urban towns; the comparable rates were 2.9 per cent and 5.9 per cent in 2022 respectively. This fall in unemployment reflects tighter labour market conditions in Ireland (and internationally) post-pandemic. That the falls in unemployment are greatest in independent urban towns is particularly positive given that individuals residing in these areas face more economic barriers to social inclusion (Whelan et al., 2024).

At the same time economic inactivity has increased slightly. However, given the low magnitude of the increase, this is perhaps less concerning than it might otherwise be, especially given the pandemic was known to cause significant disruption to the Irish labour market (Whelan et al., 2023).

In terms of educational attainment, we can also see in Table 4.5 that the proportion of the population with low levels of education has fallen across all levels of urbanisation between 2016 and 2022. This is in line with previous work by Smyth et al. (2022), which found that education levels in Ireland have improved consistently over the last two decades and continue to do so. These changes in

education over the COVID-19 period are reflective of long-term policy changes in Ireland. However spatial inequalities do remain, with higher prevalence of low educational attainment found in the most rural/remote areas, independent urban towns, and rural areas with moderate urban influence.

TABLE 4.5 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY LEVEL OF URBANISATION: ECONOMIC BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Unemployment				
Cities	7.0	4.5	-2.5	-36%
Satellite urban towns	6.6	4.1	-2.5	-38%
Independent urban towns	10.6	5.9	-4.7	-44%
Rural areas with high urban influence	4.9	2.9	-2.0	-41%
Rural areas with moderate urban influence	6.0	3.3	-2.7	-45%
Highly rural/remote	7.8	4.2	-3.6	-46%
Economic inactivity				
Cities	37.1	36.9	-0.2	-1%
Satellite urban towns	34.4	35.4	1.0	3%
Independent urban towns	39.0	40.4	1.4	4%
Rural areas with high urban influence	38.2	38.6	0.4	1%
Rural areas with moderate urban influence	40.4	40.5	0.1	0%
Rural/remote	44.1	44.5	0.4	1%
Low education				
Cities	9.4	7.5	-1.9	-20%
Satellite urban towns	7.4	5.9	-1.5	-20%
Independent urban towns	12.2	9.9	-2.3	-19%
Rural areas with high urban influence	9.8	7.7	-2.1	-21%
Rural areas with moderate urban influence	13.2	10.1	-3.1	-23%
Rural/remote	17.2	13.2	-4.0	-23%

Source: Authors' analysis based on 2016 and 2022 Census.

Table 4.6 displays the proportions of individuals in areas who face possible barriers to inclusion which are more social in nature. The share of ethnic minorities increased in all levels of urbanisation, albeit with increases largest in more urban areas. This is an interesting finding as, while migrants often move to areas where economic opportunities are greater and which are also associated with greater public services and amenities and existing migrant networks and support services (Centre for Cities, 2015), this has not been the case in Ireland with migrant populations fairly equally distributed across the country (Fahey, 2019). Cities and more urban areas also tend to have more liberal viewpoints and be more accepting of migrants (Luca et al., 2024).

In terms of lone parent households, these fell slightly below the two census periods although the magnitude of the difference is small for all areas. The proportion of carers increased for all levels of urbanisation from 2016 to 2022. More rural areas see higher proportions of carers than urban areas, although this may be reflective of the age structure of rural areas relative to urban areas, or representative of lower levels of formal health and social care support in these areas which therefore necessitates higher levels of family care. Seven per cent of the population are carers in rural/remote areas compared to 5.3 per cent in cities and satellite urban towns.

TABLE 4.6 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY LEVEL OF URBANISATION: SOCIAL BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Ethnic minority status				
Cities	8.5	11.9	3.4	40%
Satellite urban towns	6.2	8.4	2.2	35%
Independent urban towns	6.5	9	2.5	38%
Rural areas with high urban influence	1.5	2.1	0.6	40%
Rural areas with moderate urban influence	1.1	1.5	0.4	36%
Highly rural/remote	1.4	1.7	0.3	21%
Lone parent households				
Cities	11.9	11.7	-0.2	-2%
Satellite urban towns	12.2	12.2	0.0	0%
Independent urban towns	13.8	13.8	0.0	0%
Rural areas with high urban influence	8.9	8.6	-0.3	-3%
Rural areas with moderate urban influence	9.8	9.4	-0.4	-4%
Rural/remote	10.7	9.9	-0.8	-8%
Carers				
Cities	3.8	5.3	1.5	39%
Satellite urban towns	3.6	5.3	1.7	47%
Independent urban towns	3.9	5.5	1.6	41%
Rural areas with high urban influence	4.5	6.6	2.1	47%
Rural areas with moderate urban influence	4.6	6.7	2.1	46%
Highly rural/remote	5.0	7.0	2.0	40%

Source: Authors' analysis based on 2016 and 2022 Census.

In Table 4.7, we present the proportions of individuals facing barriers which are health-related by level of urbanisation. The share of individuals with disabilities has increased substantially between 2016 and 2022. However, as discussed, this may be partly due to the changes in the possible answers in the 2022 Census. Between 2016 and 2022 the proportion who report as disabled increased by at least 8 percentage points across all levels of urbanisation, although proportionately this differed due to varying levels of disability in 2016. Satellite urban towns have seen

the largest increases from 12.4 per cent in 2016 to 20.9 per cent in 2022, an increase of 69 per cent. The most rural areas saw the smallest increases proportionally from 14.8 per cent in 2016 to 22.9 per cent in 2022, equivalent to a rise of 55 per cent. The area types that started with the lowest levels of disability experienced the largest increases.

To get a grasp of whether disability may have materially increased over the same period we also examine the self-reported health question from the Census. While health and disability are not proxies for one another, we would expect them to be strongly positively correlated. The prevalence of poor health albeit at much smaller magnitudes than disability increased between 2016 and 2022 in all areas. While the prevalence is low and the percentage changes are low, the same cannot be said for the proportional change. In cities, very bad self-reported health prevalence increased from 0.3 per cent to 0.4 per cent (both rounded), a change that equates to a rise of 18 per cent. Rural areas with high urban influence saw an increase of 27 per cent over the period examined, while Satellite urban towns experienced a much lower increase of 8 per cent. When we combine bad and very bad health, all levels of urbanisation see increases between 2016 and 2022. However the increases are not as big when compared to what we have seen for very bad health only. Bad/very bad health increased by between 7 per cent and 17 per cent across the area types. Rural areas with high urban influence saw the largest increases between 2016 and 2022 regardless of what self-report health measure was used. As was seen for disability, these areas which had the largest increases had the lower baseline rates in 2016.

Disability and both measures of self-reported health all increased between 2016 and 2022. The proportions are highest in the 'independent urban towns' regardless of which measure was used. Interestingly, cities and rural/remote areas have the next highest levels of disability and ill-health. Whelan et al. (2024) strongly support the importance of a more specific spatial urban/rural classification rather than the commonly used urban/rural dichotomy. These non-linear findings around the prevalence of poor health at the six-way urban-rural classification further confirm this finding.

That the prevalence of disability differs to a high degree, which is likely to be in part driven by the pandemic but also partly by the change in the possible responses, is a finding in and of itself. There is a substantial international literature concerning the measurement of disability and the importance of the nuances with specific questions and the possible answers. There is a consensus within this literature that increasing the specificity of questions is key to ensuring reliable responses (Baker et al., 2004). It may be that the option of being disabled 'a little' or 'a lot' increases the likelihood of individuals to report as disabled rather than a

disability dichotomy of either disabled or not. The former with more detailed responses is also more in line with the various disability measurement methods which exist in surveys across the globe (e.g. Washington Group measures of disability, Global Activity Limitation Instrument and others). Furthermore, when measuring disability there are always concerns around justification bias; that is when individuals are more inclined to report as disabled to justify other behaviour such as not participating in the labour market (Oguzoglu, 2012). However, in saying that, the increases in disability are large and alongside the increases in poor self-reported health it would suggest that the disability rate changes are in part due to the change in the possible responses in the Census, but also partly due to actual changes in disability prevalence within the Irish population between 2016 and 2022.

TABLE 4.7 PREVALENCE OF BARRIERS TO SOCIAL INCLUSION BY LEVEL OF URBANISATION: HEALTH BARRIERS, 2016 AND 2022

	2016	2022	Change	
			PP	% difference
Persons with a disability				
Cities	14.1	22.2	8.1	57%
Satellite urban towns	12.4	20.9	8.5	69%
Independent urban towns	15.8	24.3	8.5	54%
Rural areas with high urban influence	11.7	19.7	8.0	68%
Rural areas with moderate urban influence	12.8	20.9	8.1	63%
Rural/remote	14.8	22.9	8.1	55%
Very bad health				
Cities	0.3	0.4	0.1	18%
Satellite urban towns	0.3	0.3	0.0	8%
Independent urban towns	0.4	0.5	0.1	22%
Rural areas with high urban influence	0.2	0.3	0.1	27%
Rural areas with moderate urban influence	0.2	0.3	0.1	25%
Rural/remote	0.3	0.4	0.1	23%
Bad/Very bad health				
Cities	1.8	2.1	0.3	17%
Satellite urban towns	1.4	1.6	0.2	14%
Independent urban towns	2.2	2.5	0.3	14%
Rural areas with high urban influence	1.2	1.4	0.2	17%
Rural areas with moderate urban influence	1.4	1.5	0.1	7%
Rural/remote	1.8	2.0	0.2	11%

Source: Authors' analysis based on 2016 and 2022 Census.

4.2 ECONOMETRIC MODELLING

We go on to formally model the determinants of the potential barriers to social inclusion at the area level. This is fully discussed in the Methodology section, but for brevity we utilise a series of OLS models whereby the main variables of interest are deprivation category and urban-rural area type. These are then supplemented with propensity score matching models to account for any observable differences between the various groups. We control for age structure and sex profile in all models and then other controls dependent on the barrier being examined. For example, we control for ethnicity in most models but not those where the outcome variable is the share of residents in an area who report as ethnic minorities, as this would generate biased results due to multicollinearity. We control for the share of a small area who report as being in bad or worse health in all models except those for which health is the outcome variable. This approach is similar to what is undertaken in Whelan et al. (2024).

Table 4.8 displays the results of OLS models for the economic barriers. The dependent variables are the prevalence rate of each barrier at the small area level. Not surprisingly, for all economic-related barriers, the prevalence is highest in areas which are more deprived, albeit the magnitudes differ considerably. For example, in 2016 in the most deprived SAs, the unemployment (economic inactivity) rate was approximately 24 (7) percentage points higher than was the case for the most affluent SAs. The difference in terms of unemployment rate between the most deprived and most affluent areas attenuated between 2016 and 2022, with the difference falling from 24 percentage points to 14 percentage points. The same convergence was not seen for the other economic barriers. We also see higher rates of unemployment and economic inactivity amongst certain levels of urbanisation, but the magnitudes of these coefficients are of a much smaller order than is the case for deprivation.

Interestingly, while unemployment and inactivity are highest in independent urban towns, low levels of education are lowest in this group with higher levels being found in the most rural areas. Areas with higher shares of ethnic minorities have higher levels of unemployment, lower economic inactivity and higher educational attainment. Areas with higher shares of people in poor health have higher levels of all economic barriers, although there are differences in the changes over time. The relationship between poor health and unemployment fell between 2016 and 2022 (0.69 to 0.38), while it strengthened between poor health and economic inactivity (0.30 to 0.54). This may suggest movements from unemployment to inactivity for those with health conditions. We test the significant of these changes and discuss them further in a later section.

In terms of the social barriers (Table 4.9), consistent with the descriptives the shares of the population who are ethnic minorities (not White Irish) are highest in the most affluent SAs, although there are changes between 2016 and 2022 in terms of the relationship between deprivation and ethnic minority shares. The relationship between the most deprived SAs and ethnic minority shares falls slightly between 2016 and 2022 (-4.8 to -4.4); we test this for statistical significance later. Relative to the most rural areas, all urban areas had higher shares of ethnic minority persons, while rural areas with high urban influence and rural areas with moderate urban influence had lower shares. Areas with higher proportions of young people (under 18) and older people (more than 65 years), and areas with higher shares of females, had lower proportions of ethnic minorities.

Lone parent households are more likely in more deprived areas relative to the most affluent SAs by a substantial amount. More precisely, lone parent rates were 13 percentage points higher in the most deprived SAs relative to the most affluent in 2016. This relationship was linear across the deprivation categories with the marginally below (above) average group of SAs having lone parent rates 7 (4) percentage points higher than the most affluent in 2016. There was little change between 2016 and 2022. Lone parent rates were also higher in more urban areas (as was the case in Whelan et al., 2024). Areas with higher shares of females and higher shares of young people also had higher rates of lone parent households. There is also a positive relationship between poor health and the prevalence of lone parenthood. The results for 2016 and 2022 are consistent for this barrier.

The share of carers in 2016 was highest in the marginal groups (0.35 for marginally above average and 0.31 for marginally below average) relative to the most affluent SAs. The relationship between deprivation levels and the prevalence of caring roles in 2022 differed from 2016 but again statistical testing of these changes is key. Descriptively though the most deprived SAs in 2022 had the lowest levels of carers within their areas, while the marginally above average had the highest, albeit we should note the magnitudes are small. The share of carers in an area based on level of urbanisation is highest in the most rural areas relative to all other areas. Not surprisingly, areas with more older people and with more people in poor health have higher shares of carers. Areas with higher shares of ethnic minorities have lower shares of carers.

Table 4.10 presents the results of OLS models for the health barriers examined. Poor health and disability are all more likely in more deprived areas although the magnitude of the relationship varies but so does the prevalence. Disability prevalence is 6 percentage points higher in both 2016 and 2022 in the most deprived SAs relative to the most affluent SAs. There is a linear relationship between deprivation and disability prevalence. The same can be said for self-reported health. Disability and poor health are also correlated with urbanness.

Areas with higher shares of females and older people (65+) had higher rates of disability. Not surprisingly, poor health is also positively correlated with disability prevalence. Areas with higher shares of ethnic minority groups had lower prevalence of disability. In terms of poor health, the results are somewhat similar. Areas with more older people have higher rates of poor health, but in terms of sex there is no statistically significant relationship between share of females and share of individuals in poor health (regardless of which measure is used). Again, the relationships between the variables and the outcome of poor health/disability change between 2016 and 2022, and this is examined in greater detail in the next section.

TABLE 4.8 RESULTS OF OLS MODELS, SA LEVEL, 2016 AND 2022: ECONOMIC BARRIERS

	Unemployment				Inactivity				Low Education			
	2016		2022		2016		2022		2016		2022	
Pobal HP Relative Deprivation Index												
Most Deprived	23.77	***	13.63	***	6.98	***	6.93	***	15.31	***	11.98	***
Marginally below average	11.11	***	6.54	***	4.21	***	3.89	***	7.6	***	5.71	***
Marginally above average	4.86	***	3.02	***	2.56	***	2.46	***	3.06	***	2.12	***
Most affluent	Reference		Reference		Reference		Reference		Reference		Reference	
Area Type												
Cities	0.65	***	0.01		1.09	***	0.11		-2.05	***	-1.96	***
Satellite urban towns	0.25		-0.02		0.03		-0.37	**	-2.91	***	-2.57	***
Independent urban towns	2.49	***	0.99	***	0.55	***	0.63	***	-2.99	***	-2.45	***
Rural areas with high urban influence	-0.29	*	-0.3	***	-0.01		-0.37	**	-1.42	***	-1.34	***
Rural areas with moderate urban influence	-0.58	***	-0.53	***	-0.3		-0.49	***	-0.65	***	-0.59	***
Rural areas/Remote areas	Reference		Reference		Reference		Reference		Reference		Reference	
Area-level controls												
Share of…												
Females	-0.04	***	0.03	***	0.13	***	0.24	***	-0.15	***	-0.12	***
Young people (<18)	-0.07	***	-0.06	***	0		0.09	***	-0.03	***	-0.03	***
Older people (65 plus)	-0.23	***	-0.13	***	0.68	***	0.67	***	0.15	***	0.09	***
Ethnic minorities	0.08	***	0.07	***	-0.16	***	-0.09	***	-0.06		-0.05	***
Bad, very bad health	0.69	***	0.38	***	0.3	***	0.54	***	0.76	***	0.67	***
Constant	8.18	***	3.41	***	20.66	***	11.68	***	12.58	***	10.56	***
N	18,641		18,919		18,641		18,919		18,641		18,919	
Pseudo R^2	0.71		0.65		0.63		0.66		0.7		0.68	

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

TABLE 4.9 RESULTS OF OLS MODELS, SA LEVEL, 2016 AND 2022: SOCIAL BARRIERS

	Ethnic Minorities				Lone Parents				Carers			
	2016		2022		2016		2022		2016		2022	
Pobal HP Relative Deprivation Index												
Most Deprived	-4.79	***	-4.42	***	13.28	***	12.43	***	0.11	**	-0.4	***
Marginally below average	-0.59	**	-0.41		7.15	***	6.86	***	0.31	***	0.05	
Marginally above average	0.13		-0.82	***	3.84	***	3.64	***	0.35	***	0.28	***
Most affluent	Reference		Reference		Reference		Reference		Reference		Reference	
Area Type												
Cities	5.07	***	7.23	***	3.79	***	2.97	***	-0.43	***	-0.55	***
Satellite urban towns	4.08	***	5.14	***	2.4	***	2.33	***	-0.61	***	-0.72	***
Independent urban towns	8.4	***	9.6	***	1.93	***	1.72	***	-0.48	***	-0.44	***
Rural areas with high urban influence	-7.24	***	-6.5	***	-0.11		0.02		-0.35	***	-0.37	***
Rural areas with moderate urban influence	-5.47	***	-5.23	***	-0.2		0.05		-0.28	***	-0.32	***
Rural areas/Remote areas	Reference		Reference		Reference		Reference		Reference		Reference	
Area-level controls												
Share of…												
Females	-0.31	***	-0.34	***	0.34	***	0.37	***	0.00		0.00	
Young people (<18)	-0.37	***	-0.43	***	0.2	***	0.21	***	0.00		0.01	***
Older people (65 plus)	-0.92	***	-1.02	***	-0.2	***	-0.22	***	0.03	***	0.04	***
Ethnic minorities					-0.03	***	-0.03	***	-0.03	***	-0.05	***
Bad, very bad health	0.84	***	0.71	***	0.42	***	0.57	***	0.1	***	0.07	***
Constant	50.63	***	58.08	***	-15.76	***	-16.48	***	4.4	***	6.08	***
N	18,641		18,919		18,641		18,919		18,641		18,919	
Pseudo R^2	0.43		0.49		0.52		0.50		0.18		0.26	

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

TABLE 4.10 RESULTS OF OLS MODELS, SA LEVEL, 2016 AND 2022: HEALTH BARRIERS

	People with disabilities				Very bad health				Bad or worse health			
	2016		2022		2016		2022		2016		2022	
Pobal HP Relative Deprivation Index												
Most Deprived	6.37	***	5.78	***	0.39	***	0.5	***	2.18	***	2.58	***
Marginally below average	3.55	***	3.37	***	0.2	***	0.22	***	1.11	***	1.26	***
Marginally above average	1.77	***	1.65	***	0.1	***	0.1	***	0.56	***	0.62	***
Most affluent	Reference		Reference		Reference		Reference		Reference		Reference	
Area Type												
Cities	2.31	***	1.84	***	0.16	***	0.11	***	0.65	***	0.61	***
Satellite urban towns	2.27	***	2.44	***	0.14	***	0.07	***	0.53	***	0.52	***
Independent urban towns	2.05	***	2.34	***	0.11	***	0.09	***	0.52	***	0.59	***
Rural areas with high urban influence	1.18	***	0.55	***	0.1	***	0.08	***	0.36	***	0.34	***
Rural areas with moderate urban influence	0.54	***	0.33	***	0.04	***	0.03	**	0.13	***	0.13	***
Rural areas/Remote areas	Reference		Reference		Reference		Reference		Reference		Reference	
Area-level controls												
Share of…												
Females	0.07	***	0.18	***	0		0		0		0	
Young people (<18)	-0.06	***	-0.15	***	0	***	0	***	-0.02	***	-0.03	***
Older people (65 plus)	0.21	***	0.17	***	0.01	***	0.01	***	0.04	***	0.03	***
Ethnic minorities	-0.02	***	-0.05	***	0	***	0	***	0.01	***	0.01	***
Bad, very bad health	1.46	***	1.29	***								
Constant	2.54	***	7.87	***	-0.12	**	-0.02		0.07		0.56	***
N	18,641		18,919		18,641		18,919		18,641		18,919	
Pseudo R^2	0.66		0.59		0.09		0.13		0.3		0.35	

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

Above we find changes in the determinants of economic barriers between 2016 and 2022 (Table 4.8). In Table 4.11 we formally test whether these changes are statistically significant. Area-level deprivation becomes less important in terms of the association with unemployment in 2022 than was the case prior to the pandemic. This is reflective of the tight labour market experienced in Ireland in recent years. The magnitude of the coefficient for the most deprived group relative to the most affluent fell from 23.77 to 13.63 and is statistically significant at the 1 per cent level. Cities and independent urban towns also see their coefficients fall over the pandemic period and these changes are statistically significant. This suggests an expansion of employment opportunities in these areas in recent years. That independent urban towns see their coefficients fall is particularly welcome as Whelan et al. (2024) find higher levels of economic exclusion in these areas. The coefficients for low education also fell for the most deprived areas. This is likely to reflect a longer-term trend in Ireland due to expansion of education as well as policies which are designed to reduce inequalities in educational attainment, and early school leaving, such as the DEIS programme. Devlin et al. (2023) found that there is relatively little inequality present in the Irish education system. There are very few people who only achieve the lowest levels of education; this number has been falling significantly over time and the proportion of early school leavers has followed the same trend (Smyth et al., 2022; Devlin et al., 2023). However this fall, which is likely due to a long-term shift, may mask potential short-term COVID-19 shocks. Darmody et al. (2021) found that education disruption could increase educational inequalities, while Darmody et al. (2020) found that school closures in particular were impacting children from disadvantaged backgrounds to a greater degree. The research suggested this was due to lack of resources, but also due to differences in parental education levels and time constraints on their ability to provide support. Economic inactivity did not see the same reduction in inequality. The relationship between area deprivation and economic inactivity rates did not statistically change between 2016 and 2022. Following the pandemic, cities no longer have higher rates of inactivity when compared to the most rural areas.

In terms of the social barriers (Table 4.12), there are fewer statistically significant changes regarding the relationship between area-level deprivation and prevalence of social barriers. Prior to the pandemic, marginally above average SAs did not have rates that were significantly different from the most affluent SAs, all else being equal. However in 2022, the marginally above average group had a lower share of ethnic minority individuals than the most affluent. This could represent a pandemic-specific change or be reflective of shifting migration patterns in Ireland. The relationship between the most deprived SAs and the most affluent did not exhibit statistical differences between 2016 and 2022. The difference in the lone parent rate between the most deprived SAs and the most affluent SAs has fallen over the pandemic period, but there are no significant changes between the other categories of deprivation. The models indicate that the share of carers fell over the period in both the most deprived and marginally deprived areas, with the rate of

decline higher in the most deprived SAs. It is worth noting that the national proportion of carers in 2016 and 2022 was 4.2 per cent and 5.9 per cent respectively (Table 4.1).

There are substantial differences in the prevalence of ethnic minorities by level of urbanisation between 2016 and 2022. The relationship between urban area (Cities, Satellite urban towns, and Independent urban towns) and ethnic minorities all increased between 2016 and 2022. In 2022 cities had ethnic minority populations 7.2 percentage points higher than the most rural areas; in 2016 the relevant figure was 5.1 percentage points. Rural areas with high urban influence on the other hand converged somewhat with the most rural areas (the reference category), as the coefficient went from -7.2 to -6.5. Cities also converged with rural areas in terms of the lone parent rate; there was a larger city gap in 2016 than was the case in 2022. Area type did not exhibit statistically significant changes for carers between 2016 and 2022.

In Table 4.13, we examine the relationship between area-level variables and prevalence of potential health barriers in 2016 and 2022. As noted above, the measurement of disability changed between 2016 and 2022, which means we must treat any changes with caution. In terms of area-level deprivation, the difference between the prevalence of disability in the most deprived SAs and the most affluent SAs fell between 2016 and 2022, though disability fell to a greater extent in the most deprived areas, indicating a pattern of convergence between areas. The trend for poor health is the opposite (i.e. the rates diverged between the most deprived and the most affluent SAs). This may reflect changes to the disability responses in the 2022 Census rather than changes to the relationship between disability and deprivation. From 2016 to 2022, the difference in poor health between the most affluent SAs and the most deprived SAs increased. This divergence may be due to long-term COVID-19 outcomes, as research has shown that the most deprived areas experienced greater health impacts (Devlin et al., 2024), or it may be due to other health related factors which were impacted by the pandemic. For example those in deprived areas with greater health needs pre-pandemic may have suffered disproportionately from the healthcare system pivoting from standard care to emergency pandemic protocols, which meant reduced clinics, operations, screenings etc. (Moynihan et al., 2021).

The relationship between urbanisation and disability and ill-health was multilayered. Cities and rural areas with high urban influence exhibited convergence with the most rural areas in terms of disability prevalence, while simultaneously the gap between the most rural areas and independent urban towns increased. For very bad health, the difference between rural areas and cities and satellite urban towns decreased, while for those in very bad or bad health there were no statistically significant changes between 2016 and 2022 in terms of the relationship between urbanisation and poor health prevalence.

TABLE 4.11 TESTING OF STATISTICAL DIFFERENCES BETWEEN 2016 AND 2022: ECONOMIC BARRIERS

	Unemployment						Inactivity						Low Education					
	2016		2022		Difference		2016		2022		Difference		2016		2022		Difference	
Pobal HP Relative Deprivation Index																		
Most deprived	23.77	***	13.63	***	-10.14	***	6.98	***	6.93	***	-0.05		15.31	***	11.98	***	-3.33	***
Marginally below average	11.11	***	6.54	***	-4.57	***	4.21	***	3.89	***	-0.32		7.6	***	5.71	***	-1.89	***
Marginally above average	4.86	***	3.02	***	-1.84	***	2.56	***	2.46	***	-0.10		3.06	***	2.12	***	-0.94	***
Most affluent	Reference						Reference						Reference					
Area type																		
Cities	0.65	***	0.01		-0.64	***	1.09	***	0.11		-0.98	***	-2.05	***	-1.96	***	0.09	
Satellite urban towns	0.25		-0.02		-0.27		0.03		-0.37	**	-0.40		-2.91	***	-2.57	***	0.34	*
Independent urban towns	2.49	***	0.99	***	-1.50	***	0.55	***	0.63	***	0.08		-2.99	***	-2.45	***	0.54	***
Rural areas with high urban influence	-0.29	*	-0.3	***	-0.01		-0.01		-0.37	**	-0.36	*	-1.42	***	-1.34	***	0.08	
Rural areas with moderate urban influence	-0.58	***	-0.53	***	0.05		-0.3		-0.49	***	-0.19		-0.65	***	-0.59	***	0.06	
Rural areas/Remote areas	Reference						Reference						Reference					

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

TABLE 4.12 TESTING OF STATISTICAL DIFFERENCES BETWEEN 2016 AND 2022: SOCIAL BARRIERS

	Ethnic Minorities			Lone Parents			Carers		
	2016	2022	Difference	2016	2022	Difference	2016	2022	Difference
Pobal HP Relative Deprivation Index									
Most deprived	-4.79 ***	-4.42 ***	0.37	13.28 ***	12.43 ***	-0.85 ***	0.11 **	-0.40 ***	-0.51 ***
Marginally below average	-0.59 **	-0.41	0.18	7.15 ***	6.86 ***	-0.29	0.31 ***	0.05	-0.26 ***
Marginally above average	0.13	-0.82 ***	-0.95 **	3.84 ***	3.64 ***	-0.2	0.35 ***	0.28 ***	-0.07
Most affluent	Reference			Reference			Reference		
Area Type									
Cities	5.07 ***	7.23 ***	2.16 ***	3.79 ***	2.97 ***	-0.82 ***	-0.43 ***	-0.55 ***	-0.12
Satellite urban towns	4.08 ***	5.14 ***	1.06 **	2.40 ***	2.33 ***	-0.07	-0.61 ***	-0.72 ***	-0.11
Independent urban towns	8.40 ***	9.60 ***	1.20 ***	1.93 ***	1.72 ***	-0.21	-0.48 ***	-0.44 ***	0.04
Rural areas with high urban influence	-7.24 ***	-6.50 ***	0.74 **	-0.11	0.02	0.13	-0.35 ***	-0.37 ***	-0.02
Rural areas with moderate urban influence	-5.47 ***	-5.23 ***	0.24	-0.20	0.05	0.25	-0.28 ***	-0.32 ***	-0.04
Rural areas/Remote areas	Reference			Reference			Reference		

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

TABLE 4.13 TESTING OF STATISTICAL DIFFERENCES BETWEEN 2016 AND 2022: HEALTH BARRIERS

	People with Disabilities						Very Bad Health						Bad or Worse Health					
	2016		2022		Difference		2016		2022		Difference		2016		2022		Difference	
Pobal HP Relative Deprivation Index																		
Most deprived	6.37	***	5.78	***	-0.59	***	0.39	***	0.5	***	0.11	***	2.18	***	2.58	***	0.40	***
Marginally below average	3.55	***	3.37	***	-0.18		0.2	***	0.22	***	0.02		1.11	***	1.26	***	0.15	***
Marginally above average	1.77	***	1.65	***	-0.12		0.1	***	0.1	***	0.00		0.56	***	0.62	***	0.06	*
Most affluent	Reference						Reference						Reference					
Area type																		
Cities	2.31	***	1.84	***	-0.47	***	0.16	***	0.11	***	-0.05	**	0.65	***	0.61	***	-0.04	
Satellite urban towns	2.27	***	2.44	***	0.17		0.14	***	0.07	***	-0.07	**	0.53	***	0.52	***	-0.01	
Independent urban towns	2.05	***	2.34	***	0.29	*	0.11	***	0.09	***	-0.02		0.53	***	0.59	***	0.06	
Rural areas with high urban influence	1.18	***	0.55	***	-0.63	***	0.1	***	0.08	***	-0.02		0.36	***	0.34	***	-0.02	
Rural areas with moderate urban influence	0.54	***	0.33	***	-0.21		0.04	***	0.03	**	-0.01		0.13	***	0.13	***	0.00	
Rural areas/Remote areas	Reference						Reference						Reference					

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

Given that we are interested in how the relationship between deprivation and potential barriers to social inclusion changes over time, we also test the significance of the difference between the various levels of deprivation. In the tables above we display results from OLS models whereby the most affluent group of SAs is the reference case and all other deprivation categories are compared to this. In Table 4.14, using the same econometric specification, we compare the coefficients for the most deprived SAs to the other deprivation categories. To do this we run the same specification as used above but each time varying the reference category. To put it simply, rather than comparing all other groups to the most affluent we now compare the most deprived to the marginally below average, the marginally above average and the most affluent. This paints a better picture of how area-based inequality might be changing between 2016 and 2022.

For unemployment and low education, the difference between the most deprived and all other categories fell, and the difference was statistically significant between 2016 and 2022. This suggests that inequality has decreased in terms of these barriers. For economic inactivity the difference in the coefficients is not statistically significant which is in line with what we have found previously.

The proportion of people in a small area (SA) who have significant caring responsibilities also sees a fall in all coefficients from 2016 to 2022, again reflecting a reduction in inequality between the most deprived and other areas. However for health on the other hand, the gaps between the most deprived and all other deprivation categories have increased between 2016 and 2022 regardless of which health measure we use. This suggests that the most deprived SAs are diverging from other groups and are particularly impacted by poorer health post-pandemic.

For other barriers there is less statistical significance in terms of the differences, which suggests that while there may be movement in prevalence it is seen across the board, and that deprived areas are not being disproportionately impacted. This is the case for ethnic minorities, lone parents and people with disabilities (albeit we take the latter with caution for reasons stated previously).

TABLE 4.14 RESULTS OF OLS SPECIFICATION VARYING THE REFERENCE CASE FOR DEPRIVATION, 2016 AND 2022, SA LEVEL.

	2016		2022		Difference		2016		2022		Difference		2016		2022		Difference	
	Unemployment						Inactivity						Low Education					
Pobal HP Relative Deprivation Index																		
Most deprived relative to Marginally below average	12.58	***	7.06	***	-5.52	***	2.89	***	3.19	***	0.3		7.23	***	5.82	***	-1.41	***
Most deprived relative Marginally above average	18.91	***	10.50	***	-8.41	***	4.78	***	4.67	***	-0.11		12.05	***	9.69	***	-2.36	***
Most deprived relative to Most affluent	23.77	***	13.63	***	-10.14	***	6.98	***	6.93	***	-0.05		15.31	***	11.98	***	-3.33	***
	Ethnic Minorities						Lone Parents						Carers					
Most deprived relative to Marginally below average	-4.11	***	-3.79	***	0.32		5.58	***	5.27	***	-0.31		-0.14	***	-0.36	***	-0.22	***
Most deprived relative Marginally above average	-5.48	***	-3.75	***	1.73	***	9.70	***	8.9	***	-0.80	***	-0.21	***	-0.63	***	-0.42	***
Most deprived relative to Most affluent	-4.79	***	-4.42	***	0.37		13.28	***	12.43	***	-0.85	**	0.11	**	-0.4	***	-0.51	***
	People with disabilities						Very bad health						Bad or worse health					
Most deprived relative to Marginally below average	2.74	***	2.34	***	-0.40	**	0.17	***	0.26	***	0.09	***	0.99	***	1.21	***	0.22	***
Most deprived relative Marginally above average	4.59	***	4.24	***	-0.35	*	0.30	***	0.40	***	0.10	***	1.66	***	1.98	***	0.32	***
Most deprived relative to Most affluent	6.37	***	5.78	***	-0.59		0.39	***	0.50	***	0.11	***	2.18	***	2.58	***	0.40	***

Source: Authors' analysis based on 2016 and 2022 Census.
Note: *** p<0.01, ** p<0.05, * p<0.1.

4.3 ROBUSTNESS CHECKS

Given that OLS regressions can be biased by collinearity between variables, we also use propensity score matching (PSM) techniques on the 2022 Census data to solve for this and to act as a robustness check. In our OLS models above, the reference category is the most affluent group of SAs and the three other categories are compared to this. However, in our PSM models the data are not sufficient to match areas in the most deprived group with areas in the least deprived group, given that they are markedly different by nature. To deal with this we readjust our results to allow us to compare to a different reference case. We subtract the OLS coefficient for the marginally below average group from the most deprived coefficient in each regression, and then compare this to the average treatment effect on the treated (ATT) from our PSMs for the most deprived group relative to the marginally below average deprived group. This allows for sufficient matching between the treated and untreated as per best practice. As can be seen in Table 4.15 our findings are robust regardless of which econometric technique is undertaken. That results are robust suggests that our previous OLS estimates are robust to selection bias.

The results of our OLS differencing finds that the most deprived SAs have unemployment rates 7.1 percentage points higher than the marginally below average group; the comparable ATT is 6.9. Both of these are statistically significant at the 1 per cent level. Given the similarity between the OLS estimates and the PSM estimates we take that the OLS results across the board are not substantially impacted by biases.

TABLE 4.15 RESULTS OF PROPENSITY SCORE MATCHING MODELS, SA LEVEL, 2022, ALL BARRIERS

	Unemployment	Inactivity	Low Education	Ethnic Minorities	Lone Parents	Carers	People with disabilities	Very bad health	Bad or worse health
OLS Difference	7.09 ***	3.04 ***	6.27 ***	-4.01 ***	5.57 ***	-0.45 ***	2.41 ***	0.28 ***	1.32 ***
ATT	6.87 ***	3.19 ***	5.77 ***	-3.70 ***	5.27 ***	-0.46 ***	2.34 ***	0.27 ***	1.29 ***

Source: Authors' analysis based on 2016 and 2022 Census.

Notes: OLS Difference is the difference in coefficients between the most deprived SAs and the marginally below average SAs. The ATT is the average treatment on the treated of the most deprived relative to the marginally below average SAs. Full results of the PSM models are displayed in the Appendix. *** p<0.01, ** p<0.05, * p<0.1.

In our analysis we use a modelling framework to measure differences in the correlation between area-level deprivation and area-level barriers to social inclusion over time. We are not attempting to measure causality within our approach and, indeed, we recognise that our area-level measures of deprivation are derived from an area-level deprivation index that includes some of our dependent variables as components. We are simply attempting to assess if, for example, area-level unemployment is more or less correlated with general area-level deprivation over the period 2016 to 2022.

Although we do not set out to measure causal relationships, we do not believe that our model coefficients are likely to be substantially biased by endogeneity. In particular, if the influence of a given component of the deprivation index – for example lone parenthood or unemployment – is constant over time, then any endogenous influences arising from the inclusion of this variable can effectively be treated as an area-level fixed effect within a modelling framework. If we re-estimate our models using a difference-in-differences approach, which explicitly eradicates any influences of area-level fixed effects, and compare the results with those generated by our previous models, we can get a sense to which our original estimates have been affected by such factors. The results of this are presented in Table 4.16. The difference-in-differences interaction term is comparable with the change in the OLS coefficient between 2016 and 2022 and show that our OLS estimates and those generated under the difference-in-differences model are in line with one another, suggesting that our original estimates are robust to the influences of time invariant unobserved factors and are not being particularly affected by endogeneity.

TABLE 4.16 DIFFERENCE-IN-DIFFERENCES INTERACTION AND OLS COEFFICIENT CHANGE COMPARATORS

	2016		2022		Change		DiD Interaction	
Unemployment	15.7	***	8.7	***	-7.00	***	-7.97	***
Inactive	3.7	***	3.75	***	0.05	***	0.23	
Low education	9.9	***	7.88	***	-2.02	***	-2.59	***
Ethnic Minorities	-4.5	***	-3.89	***	0.61		0.19	
Lone Parents	7.09	***	7.87	***	0.78	***	-0.64	***
Carers	-0.54	***	-0.18	***	0.36	***	-0.32	***
Disability	3.73	***	3.2	***	-0.53	***	-0.53	***
Very bad health	0.25	***	0.36	***	0.11	***	0.10	***
Bad/Very bad health	1.43	***	1.75	***	0.32	***	0.30	***

Source: Authors' analysis based on 2016 and 2022 Census.

CHAPTER 5
Conclusions and implications for policy

Barriers to social inclusion in Ireland have evolved between 2016 and 2022, with some improving while others have worsened. Our findings indicate an overall decline in unemployment, lone parenthood, and low educational attainment at the area level, suggesting a degree of convergence between more and less disadvantaged areas. However, this progress is counterbalanced by increases in poor health and disability which highlights emerging risks. Economic inactivity has remained unchanged. The prevalence of ethnic minorities has also increased and while minority status can be a potential barrier to social inclusion it is worth noting that there is considerable heterogeneity amongst ethnic minorities in Ireland. Recent research has found the employment rate and education levels to be higher amongst foreign-born individuals in Ireland than the Irish born population (McGinnity et al., 2025). However, there remain issues in terms of language provision and housing access for migrants and concerns around the increasing salience of migration to Ireland (McGinnity et al., 2025). These trends must be understood in the broader context of significant macroeconomic shifts, including the COVID-19 pandemic and wider policy developments, which have influenced both individual and community-level outcomes.

The decline in unemployment reflects the tight labour market that emerged prior to and following the pandemic. However, while lower unemployment rates are positive, they do not necessarily translate into better living standards, particularly given rising costs of living and potential job quality concerns. Similarly, while educational attainment has improved overall this is part of a long-term trend in Ireland. The longer-term effects of pandemic-related disruptions however remain uncertain, especially for disadvantaged youth and those with special educational needs.

A particularly concerning finding is the worsening health outcomes at the area level, particularly in already disadvantaged communities. Previous research suggests that vulnerable and minority groups (e.g. particular ethnic groups) experienced disproportionate health impacts during the pandemic (Devlin et al., 2024), which may have long-term consequences. This raises important policy considerations for healthcare planning and resource allocation, as persistent health inequalities could undermine social inclusion efforts. Future research in this area could potentially explore how health-related barriers interact with other social and economic factors over time.

We note that the share of lone parent households is relatively constant over time but there are stark differences dependent on area. The share of lone parent households is substantially larger in more deprived areas and also in more urban areas, although the deprivation impact is the most significant. Again, this points to a need for place-based consideration of policy to reduce potential barriers to inclusion; in this instance childcare, early years education and employability support for lone parents, most likely to be women.

The stability of economic inactivity rates warrants further investigation. Headline figures may mask underlying dynamics, particularly among those unable to participate in the labour market due to illness or disability. Changes in how disability was recorded in the 2022 Census further complicate analysis in this area, suggesting that more detailed subgroup assessments are needed to fully understand the evolving nature of labour market exclusion.

While recent policies and macroeconomic conditions may have supported improvements in some social inclusion barriers, their resilience in the face of future challenges is uncertain. Ireland's status as an open economy means that global economic fluctuations, trade shocks, and domestic policy changes will play a crucial role in determining whether these gains are sustained. Continued monitoring of social inclusion barriers, especially in disadvantaged areas and for vulnerable individuals, will be essential to ensure that progress is not reversed and that policy interventions remain effective. While there is evidence of some convergence across areas, the findings again highlight significant area-based differences in terms of barriers to social inclusion in Ireland. The findings therefore support the continued use of place-based approaches for policy aimed at tackling social inclusion. This is in line with findings by Whelan et al. (2024).

Future research may explore intersections and compounding effects of multiple barriers, thereby revealing how layered disadvantages uniquely shape individual outcomes. Evaluating qualitative aspects such as job quality and long-term educational impacts, alongside incorporating lived experiences, can offer a more nuanced understanding of social inclusion beyond the broad patterns identified in this study. Detailed comparative analyses with international trends and focused studies of specific sub-populations will help capture additional complexities that quantitative data alone cannot reveal. Given the ongoing economic and political volatility, maintaining social inclusion as a policy priority remains essential for fostering resilience and equity in Irish society.

REFERENCES

Alamir, A., McGinnity, F. and Russell, H. (2024). *The equality impact of the Covid-19 pandemic on the Irish labour market*, Jointly published Reports 6, Dublin: ESRI and Irish Human Rights and Equality Commission (IHREC), https://doi.org/10.26504/jr6.

Bailey, C., Guo, P., MacArtney, J., Finucane, A., Swan, S., Meade, R. and Wagstaff, E. (2022). 'The experiences of informal carers during the COVID-19 pandemic: a qualitative systematic review', *International Journal of Environmental Research and Public Health*, *19*(20), p.13455.

Baker, M., Stabile, M. and Deri, C. (2004). 'What Do Self-Reported, Objective, Measures of Health Measure?', *The Journal of Human Resources*, 39(4), p. 1067-1093.

Brown, R.L. and Ciciurkaite, G. (2023). 'Precarious employment during the COVID-19 pandemic, disability-related discrimination, and mental health', *Work and Occupations*, *50*(2), pp.167-187.

Byrne, M. and Sassi, J. (2023). 'Making and unmaking home in the COVID-19 pandemic: a qualitative research study of the experience of private rental tenants in Ireland', *International Journal of Housing Policy*, *23*(3), pp.523-542.

Centre for Cities (2015). 'Immigration is an urban issue'. Available online from: https://www.centreforcities.org/blog/immigration-is-an-urban-issue/#:~:text=Migrants%20matter%20to%20cities.,jobs%20in%20KIBS%20in%20cities.

Children's Rights Alliance (2022). 'Annual Report'. Available online from: https://childrensrights.ie/wp-content/uploads/2023/10/Childrens-Rights-Alliance-Annual-Report-2022.pdf.

Children's Rights Alliance (2024). 'Child Poverty Monitor 2024'. Available online from: https://childrensrights.ie/wp-content/uploads/2024/05/Child-Poverty-Monitor-2024-4-1.pdf.

Ciciurkaite, G., Marquez-Velarde, G. and Brown, R.L. (2022). 'Stressors associated with the COVID-19 pandemic, disability, and mental health: Considerations from the Intermountain West', *Stress and Health*, *38*(2), pp.304-317.

Convention on the Rights of the Child (1989). *United Nations Treaty Series*, 1577, pp. 3-178. Available at: https://www.ohchr.org/en/instrumentsmechanisms/instruments/convention-rights-child.

CSO (2019). 'Urban and Rural Life in Ireland 2019'. Available online from: https://www.cso.ie/en/releasesandpublications/ep/p-urli/urbanandrurallifeinireland2019/introduction/.

Darmody, M., Smyth, E. and Russell, H. (2020). *The Implications of the COVID-19 Pandemic for Policy in relation to Children & Young People: A Research Review*, ESRI Survey and Statistical Report Series Number 94. Available online from: https://www.esri.ie/system/files/publications/SUSTAT94_3.pdf.

Darmody, M., Smyth, E. and Russell, H. (2021). 'Impacts of the COVID-19 Control Measures on Widening Educational Inequalities', *Young*, 29(4), 366-380.

Department of Children, Equality, Disability, Integration and Youth (DCEDIY) (2024). 'Ireland's European Child Guarantee National Action Plan'. Available online from: gov.ie - Ireland's European Child Guarantee National Action Plan.

Department of Finance (2024). 'Population Ageing and The Public Finances in Ireland – Changing Demographics'. Available online from: https://assets.gov.ie/297016/3485f1c0-5e2c-4851-b534-100bbdb8b920.pdf.

Department of Social Protection (2020). 'Roadmap for Social Inclusion 2020-2025: Ambitions, Goals Commitments'. [online] Available at: https://www.gov.ie/en/publication/ca8bf-roadmap-for-social-inclusion-2020-2025/.

Devlin, A. Whelan, A. and McGuinness, S. (2024). *COVID-19 infection rates and social disadvantage in Ireland: An area-level analysis.* ESRI Research Series 187. ESRI and Pobal. Available at: https://www.esri.ie/system/files/publications/RS187.pdf.

Devlin, A., McGuinness, S., Bergin, A. and Smyth, E. (2023). 'Education Across the Island of Ireland: Examining Educational Outcomes, Earnings and Intergenerational Mobility', *Irish Studies in International Affairs 34*(2), 30-47.

Disability Federation of Ireland (2024). 'Submission to Department of Social Protection on Budget 2024'. Available online from: https://www.disability-federation.ie/budget24/'

EU (2021). 'EU strategy on the rights of the child and the European child guarantee'. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:4540916.

Fahey, E., Russell, H., McGinnity, F. and Grotti, R. (2019). *Diverse Neighbourhoods: An Analysis of the Residential Distribution of Immigrants in Ireland*, Dublin: ESRI and the Department of Justice and Equality, https://doi.org/10.26504/bkmnext376.

Haase and Pratschke (2017). 'The 2016 Pobal HP Deprivation Index for Small Areas'. Available online from: http://trutzhaase.eu/wp/wp-content/uploads/The-2016-Pobal-HP-Deprivation-Index-Introduction-07.pdf.

Hearne, R. and Murphy, M.P. (2017). *Investing in the right to a home: Housing, HAPs and hubs*. Maynooth University, Dublin.

Laurence, J., McGinnity, F. and Murphy, K. (2024). *Attitudes towards immigration and refugees in Ireland: Understanding recent trends and drivers*, Jointly-published Reports 5, Dublin: ESRI and Department of Children, Equality, Disability, Integration and Youth, https://doi.org/10.26504/jr5.

Liberati, E., Richards, N., Parker, J., Willars, J., Scott, D., Boydell, N., Pinfold, V., Martin, G., Dixon-Woods, M. and Jones, P. (2021). 'Remote care for mental health: qualitative study with service users, carers and staff during the COVID-19 pandemic', *BMJ open*, *11*(4), p.e049210.

Lightfoot, E., Yun, H., Moone, R., Otis, J., Suleiman, K., Turck, K. and Kutzler, C. (2021). 'Changes to family caregiving of older adults and adults with disabilities during COVID-19', *Gerontology and Geriatric Medicine*, *7*, p.23337214211002404.

Luca, D., Terrero-Davila, J., Stein, J. and Lee, N. (2024). 'Progressive Cities: Urban-rural polarisation of social values and economic development around the world', *Urban Studies,* 60(12), p. 2329-2350.

Mackey, K., Ayers, C.K., Kondo, K.K., Saha, S., Advani, S.M., Young, S., Spencer, H., Rusek, M., Anderson, J., Veazie, S. and Smith, M. (2021). 'Racial and ethnic disparities in COVID-19–related infections, hospitalizations, and deaths: a systematic review', *Annals of internal medicine*, *174*(3), pp.362-373.

Maroto, M.L., Pettinicchio, D. and Lukk, M. (2021). 'Working Differently or Not at All: COVID-19's Effects on Employment among People with Disabilities and Chronic Health Conditions', *Sociological Perspectives*, 64(5), p. 876-897.

McGinnity, F., Carron-Kee, E., Alamir, A. et al. (2025). *Monitoring Report on Integration 2024*. Jointly-published Reports 11, Dublin: ESRI and Department of Children, Equality, Disability, Integration and Youth, https://doi.org/10.26504/jr11.

McGuinness, S., Whelan, A., Bergin, A. and Delaney, J. (2018). *Profiling barriers to social inclusion in Ireland: the relative roles of individual characteristics and location*, ESRI Research Series 71, Dublin: ESRI, https://doi.org/10.26504/RS71.

McHugh, E. and Walsh, B. (2024). 'Mental Health, Caring, and COVID-19: Examining the Gendered Effects of Working from Home on Carers' Mental Health', *The Economic and Social Review*, *55*(3, Autumn), pp. 457-489.

Moynihan, R., Sanders, S., Michaleff, Z.A. et al. (2021). 'Impact of COVID-19 pandemic on utilisation of healthcare services: a systematic review', *BMJ Open* 2021;11:e045343. doi: 10.1136/bmjopen-2020-045343.

Nugent, C. (2017). 'The Affordability of Childcare in Ireland: Measuring Regional Disparities', *NERI Research inBrief.* Available online from: https://www.nerinstitute.net/sites/default/files/research/the_affordability_of_childcare_in_ireland.pdf.

Oguzoglu, U. (2012). 'Is there a better measure of self-assessed disability?', *Applied Economics Letters*, 19(14), p. 1335-133.

Pobal (2024a). 'Disability and Deprivation: Investigating the Relationship between Health Inequalities and Geographic Disadvantage using the Pobal HP Deprivation Index'. Available online from: https://www.pobal.ie/app/uploads/2024/09/Disability-and-Deprivation_Investigating-the-Relationship-between-Health-Inequalities-and-Geographic-Disadvantage-using-the-Pobal-HP-Deprivation-Index.pdf.

Pobal (2024b). 'Social Inclusion and Community Activation Programme Requirements 2024-2028'. Available online from: SICAP PRs v1.2_highlighted.

Radey, M., Lowe, S., Langenderfer-Magruder, L. and Posada, K. (2022). '"Showing Everybody's True Colors": Informal networks of low-income single mothers and their young children during the COVID-19 pandemic', *Children and Youth Services Review*, *137*, p.106479.

Reitsma, M.B., Claypool, A.L., Vargo, J., Shete, P.B., McCorvie, R., Wheeler, W.H., Rocha, D.A., Myers, J.F., Murray, E.L., Bregman, B. and Dominguez, D.M. (2021). 'Racial/Ethnic Disparities In COVID-19 Exposure Risk, Testing, And Cases At The Subcounty Level In California: Study examines racial/ethnic disparities in COVID-19 risk, testing, and cases', *Health Affairs*, *40*(6), pp.870-878.

Roantree, B. and Doorley, K. (2023). *Poverty, income inequality and living standards in Ireland: Third annual report*, Jointly published Reports 4, Dublin: ESRI and Community Foundation Ireland, https://doi.org/10.26504/jr4.

Roantree, B., Maître, B. and Russell, H. (2024). *Poverty, Income Inequality and Living Standards in Ireland: Fourth Annual Report*. Jointly published Reports 7, Dublin: ESRI and Community Foundation Ireland, https://doi.org/10.26504/jr7.

Rosenbaum, P.R. and Rubin, D.B. (1983). 'The central role of the propensity score in observational studies for causal effects', *Biometrika,* 70(1), p.41-55.

Russell, H. and Maître, B. (2024). *Lone parent transitions, employment transitions and poverty outcomes.* ESRI Research Series 193, Dublin: ESRI, https://doi.org/10.26504/rs193.

Salin, M., Hakovirta, M., Kaittila, A. and Raivio, J. (2023). 'Single earners and carers during lockdown: everyday challenges faced by Finnish single mothers during the COVID-19 pandemic', *International Journal of Sociology and Social Policy*, *43*(13/14), pp.146-160.

Silverio, S.A. (2025). 'A Hidden Crisis: Women's mental health after the pandemic', *The Psychologist*. Available at: https://www.bps.org.uk/psychologist/hidden-crisis-womens-mental-health-after-pandemic.

Sironi, A., Bauloz, C. and Emmanuel, M. (Eds.) (2019). 'Glossary on Migration. International Migration Law, No. 34'. International Organization for Migration (IOM), Geneva. *IOM (2019) IOM Glossary on Migration*. Available online from: https://publications.iom.int/books/international-migration-law-ndeg34-glossary-migration.

Smyth, E., Devlin, A., Bergin, A. and McGuinness, S. (2022). *A North-South comparison of education and training systems: lessons for policy*, ESRI Research Series Number 138. Available online from: https://www.esri.ie/publications/a-north-south-comparison-of-education-and-training-systems-lessons-for-policy.

Sousa, H., Frontini, R., Ribeiro, O., Paúl, C., Costa, E., Amado, L., Miranda, V., Ribeiro, F. and Figueiredo, D. (2022). 'Caring for patients with end-stage renal disease during COVID-19 lockdown: What (additional) challenges to family caregivers?', *Scandinavian Journal of Caring Sciences*, *36*(1), pp.215-224.

Sprong, S. and Maître, B. (2023). 'Thematic Report on Poverty and Social Inclusion Indicators'. Available online from: https://www.esri.ie/system/files/publications/BKMNEXT434_0.pdf.

Stapleton, A., Polakowski, M. and Quinn, E. (2022). *The Integration of Non-EU Migrant Women in Ireland.* ESRI Research Series 148. Available online from: https://www.esri.ie/system/files/publications/RS148_5.pdf.

SVP (2024). 'Minimum Essential Standard of Living (MESL) Report 2024'. Available online from: https://publicpolicy.ie/external-reports/minimum-essential-standard-of-living-mesl-report-2024/.

Trotter, L. (2023). 'It has been an uphill battle from the get go': The experiences of single parents studying at university in the UK during the COVID-19 pandemic', *Journal of Further and Higher Education*, *47*(8), pp.1042-1053.

Vallières, F., Murphy, J., McBride, O., Shevlin, M., Gilmore, B., Travers, Á., Nolan, A., Butter, S., Karatzias, T., Bentall, R. and Hyland, P. (2022). 'The role of psychosocial factors in explaining sex differences in major depression and generalized anxiety during the COVID-19 pandemic', *BMC Public Health*, 22 (1563). pp. 1-10. ISSN 1471-2458.

Wakai, H., Nawa, N., Yamaoka, Y. and Fujiwara, T. (2023). 'Stressors and coping strategies among single mothers during the COVID-19 pandemic', *Plos one*, *18*(3), p.e02823.

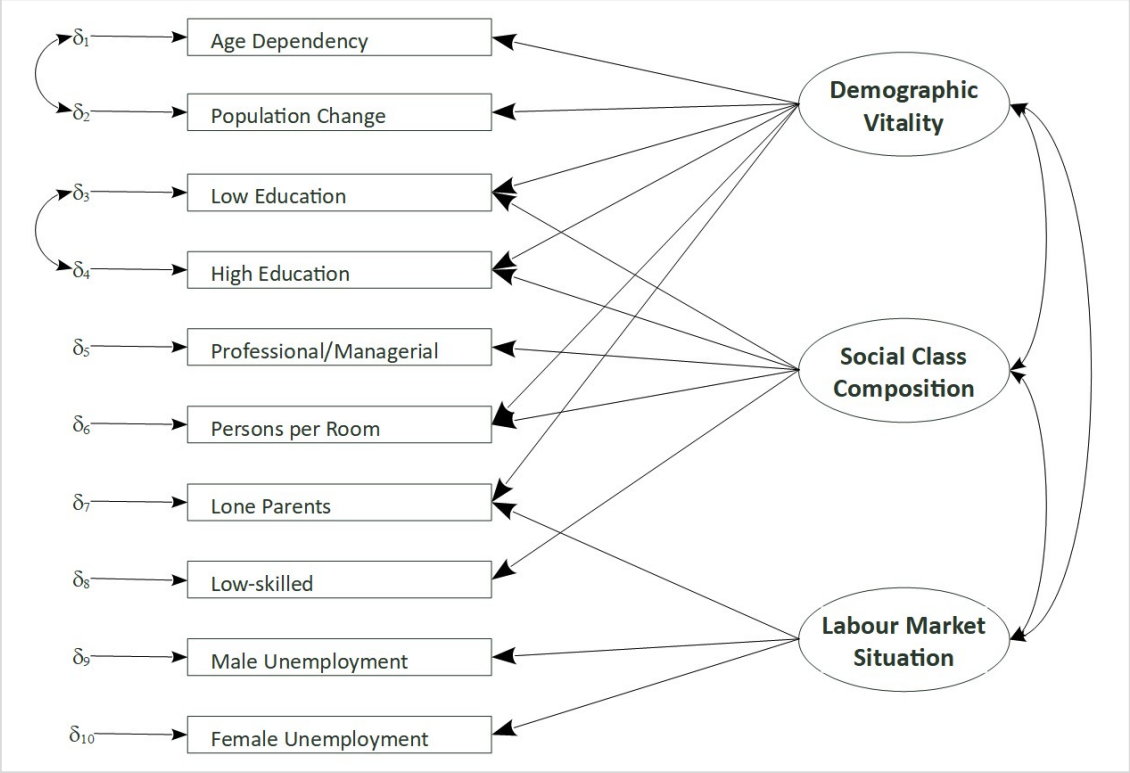
Whelan, A., Devlin, A. and McGuinness, S. (2023). *Pandemic Unemployment and Social Disadvantage in Ireland*, ESRI Research Series 163. Available online from: https://www.esri.ie/publications/pandemic-unemployment-and-social-disadvantage-in-ireland.

Whelan, A., Devlin, A. and McGuinness, S. (2024). 'Barriers to social inclusion and levels of urbanisation: Does it matter where you live?', *Cambridge Journal of Regions, Economy and Society*, *17*(1), pp.59-74.

Wilkinson, T.J., Lightfoot, C.J., Smith, A.C., Yates, T., Khunti, K. and Zaccardi, F. (2022). 'Association of ethnicity and socioeconomic status with COVID-19 hospitalization and mortality in those with and without chronic kidney disease', *Kidney International Reports*, 7(2), pp.334-338.

APPENDIX

FIGURE A.1 COMPOSITION OF THE POBAL HP RELATIVE DEPRIVATION INDEX



Source: Haase and Pratschke (2017); published with permission.

Economic & Social Research Institute

Whitaker Square
Sir John Rogerson's Quay
Dublin 2

Telephone: +353 1 863 2000
Email: admin@esri.ie
Web: www.esri.ie

An Institiúid um Thaighde Eacnamaíochta agus Sóisialta

Cearnóg Whitaker
Cé Sir John Rogerson
Baile Átha Cliath 2

Teileafón: +353 1 863 2000
Ríomhphost: admin@esri.ie
Suíomh Gréasáin: www.esri.ie