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Who is Better off? Measuring Cross-border Differences in Living Standards, Opportunities and Quality of Life on the Island of Ireland

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ABSTRACT

There has been an increased focus on north-south issues on the island of Ireland in recent times owing to factors such as the outcome of the Brexit referendum, the establishment of the Shared Island Unit in the Department of the Taoiseach and the issue of possible constitutional change. This paper seeks to comprehensively explore differences in standards of living across a broad range of dimensions, including economic and social well-being and

* The authors would like to thank Professor Alan Barrett and Dr Conor Patterson for helpful comments on an earlier draft of the paper. Note: this paper uses the abbreviations NI for Northern Ireland and ROI for the Republic of Ireland.

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differences in income distribution. We exploit a range of datasets in order to compare all relevant indicators currently available for both NI and RoI. We find that household disposable income, which we consider a reliable measure of comparative income, was \$4,600 higher in RoI compared to NI in 2017, equating to a gap of approximately 12% after accounting for differences in prices across between both areas. Significant differences are also apparent in access to and/or take up of education across the life-cycle, in addition to much higher rates of educational disengagement in NI. Life expectancy in RoI overtook that in NI for both males and females in 2005 and by 2017 children born in RoI had greater life expectancy of approximately 1.5 years. More recently, life expectancy levels among those aged 65 in RoI begin to exceed those in NI. Finally, we conclude that there is a need for greater co-ordination between the statistical authorities in both regions to produce comparable metrics, across a range of areas.

1. INTRODUCTION

The issue of possible change in the constitutional status of Northern Ireland is receiving an increasing amount of attention. Changing demographics and the outcome of the Brexit referendum have, it is argued, enhanced the likelihood of a border poll transpiring at some point in the future. Further momentum is likely to come from the shifting political landscapes on both sides of the border while, in the Republic of Ireland, the establishment of a Shared Island Unit in the Department of the Taoiseach has increased the focus of the Irish government on cross-border issues. Central to many cross-border issues and to any future border poll debate is an understanding of differences in living standards. These considerations will undoubtedly be a key factor influencing voter decisions in the event of a border poll.

In this paper, we attempt to provide some clarity on this issue by comparing living standards in Northern Ireland (NI) and the Republic of Ireland (RoI) across a broad number of dimensions including income, opportunities for life progression and general well-being.

By profiling relativities in this way, we believe the research informs the debate around any future border poll and other north-south issues. The study compares available income indicators for both regions and discusses the relative strengths and weaknesses of the various measures available. The

research draws conclusions on the basis of the available evidence and makes recommendations for the possible improvement of key metrics. The paper also assesses relative inequality and the role of the tax and welfare system in mitigating poverty, compares educational opportunities (and/or take up) for individuals of all ages and examines various well-being indicators. We also examine trends in life expectancy over time across the two regions. This metric not only captures the health dimension, but as changes in life expectancy over time are also driven by economic, social and institutional factors, this measure can be interpreted as a cumulative measure of welfare and so differences between the two regions will highlight more general welfare differences. The data from the study is drawn from a wide range of sources. The indicators on living standards used come from sources such as the OECD Regional Economy Database, the Irish Central Statistics Office (CSO), the Northern Ireland Statistics and Research Agency (NISRA) and Eurostat. The remainder of the paper is structured as follows: Section 2 reviews the relevant existing literature, Section 3 presents the key findings while Section 4 concludes and discusses policy implications.

2. EXISTING LITERATURE

The literature around NI-RoI differentials, and border poll issues in general, is limited but evolving; however, researchers have already drawn contrasting conclusions on matters such as relative living standards in NI and RoI. John FitzGerald and Edgar Morgenroth,¹ in a study of the NI economy that also examined the issue of Irish reunification, adopted a (private and public per capita) consumption-based measure of welfare and argued that living standards in the RoI were approximately 20% lower than those of NI in 2012, with the difference being driven by much higher levels of government consumption in NI. FitzGerald and Morgenroth² argued that the gap in public consumption was largely a consequence of the superior quality of public ser-

¹ John FitzGerald and Edgar L.W. Morgenroth, 'The Northern Ireland economy: problems and prospects', Trinity Economic Papers, Working Paper No. 0619, July 2019. Available at: <https://www.tcd.ie/Economics/TEP/2019/tep0619.pdf> (5 January 2021).

² FitzGerald and Morgenroth, 'The Northern Ireland economy (2019)'.

vices in the UK and, in particular, the NHS's better relative performance when compared to the HSE. However, a later version of the same paper,³ updated the same metric and showed that the apparent gap in living standards in 2016 was approximately 4%. It appears that the change over time in relativities was driven by a combination of falls (increases) in estimated household and government consumption in NI (RoI). However, it is difficult to provide an obvious rationale for the downward movement of the NI household consumption per capita figures between 2012 and 2016,⁴ and the substantial narrowing of the consumption gap in a relatively short time-frame may place some question marks over the reliability of a consumption based metric as a measure of living standards.

Conversely, Seamus McGuinness and Adele Bergin consider other measures of living standards and argue that citizens in the Republic of Ireland are, on average, considerably better off based on metrics such as GDP per capita and household disposable income.⁵ McGuinness and Bergin argue that, relative to RoI, GDP per capita in NI was approximately 50% lower than the southern and eastern region (which contains 75% of the RoI population) but slightly above that of the border, midlands and western region. Significant gaps in the output per capita figures remain after adjustments are made for known distortions in the estimates of macro variables like GDP in the RoI national accounts. Nevertheless, as the authors concede, there are particular difficulties in comparing any metrics based on output per capita measures when dealing with RoI data. McGuinness and Bergin also indicate that household disposable income was \$3,184 higher per annum in RoI compared to NI in 2016. Finally, in contrast to the arguments of FitzGerald and Morgenroth,⁶ McGuinness and Bergin contend that the NHS and HSE are broadly comparable across a range of key statistics and that the performance of the NHS in NI lies well below that of the comparable services in England, Scotland and Wales. Another major contribution to the debate is Paul Gosling who maps out the strengths and weaknesses of NI and RoI

³ John FitzGerald and Edgar L.W. Morgenroth, 'The Northern Ireland economy: problems and prospects,' Paper read to the Statistical and Social Inquiry Society of Ireland, March 2020. Available at: http://www.ssis.ie/SSISI173_Fitzgerald_Morgenroth_Final.pdf (5 January 2020).

⁴ NI was subject to ongoing austerity measures by the UK government over the period, which provides a potential explanation for the decline on government consumption levels between 2012 and 2016.

⁵ Seamus McGuinness and Adele Bergin, 'The political economy of a Northern Ireland border poll', *Cambridge Journal of Economics* 4 (44) (2020), 781–812.

⁶ FitzGerald and Morgenroth, 'The Northern Ireland economy (2019)'.

societies and economies.⁷ Gosling lists four key NI strengths as the higher education sector, the NHS (in principle), a good quality of life and a low cost of living. Gosling lists 14 strengths of RoI which include a strong economy, the higher education sector, high productivity, good infrastructure and high (and growing) pay.

3. KEY FINDINGS

In this section we explore a range of available data to establish the extent to which conditions related to living standards, opportunities and general well-being differ between NI and RoI.

3.1 Living standards

Table 1 considers a range of indicators of living standards including income per capita measures, household disposable income and consumption per capita. GDP per capita is probably the most widely used measure for assessing international differences in living standards. However, in RoI GDP figures are heavily distorted by the activities of foreign multinationals whose profits belong to their company's shareholders rather than to RoI residents, although of course taxes paid on those profits earned in RoI benefit RoI residents. To alleviate the problems with Irish GDP data, the CSO have developed a new modified Gross National Income (GNI*) series that removes the FDI related distortions, making it a more appropriate measure to compare against NI GDP per capita. Comparing RoI GNI* to NI GDP on a per capita basis, shows that GNI* was \$17,600 higher in RoI relative to NI equating to a gap of 51%.⁸

A second measure of living standards is based on per capita public and private consumption and has been adopted by FitzGerald and Morgenroth.⁹ This consumption measure is a useful indicator of the level of goods and services that individuals enjoy; however, it is not without its flaws. Household consumption is not a measure of income and, indeed, a household or individual could have higher (lower) consumption if they have a lower (higher)

⁷ Paul Gosling, *A new Ireland, a new union, a new society* (second edn, Antrim, 2020).

⁸ The table also shows the data for GDP per capita for RoI. GDP per capita, in current prices and taking account of difference in prices between the regions through a PPP adjustment was \$48,400 higher in RoI relative to NI, equating to a gap of 232%.

⁹ FitzGerald and Morgenroth, 'The Northern Ireland economy (2019 and 2020).

savings rate. Changes in the savings rate could help explain the narrowing of the gap in consumption per capita between the two jurisdictions. While separate savings data is not available for NI, in RoI the household savings ratio (as a percentage of gross disposable income) fell from 11.5 in 2012 to 7.9 in 2016.¹⁰ Furthermore, differences in public consumption across countries, or regions, can be driven by demographic differences.¹¹ Based on 2016 data, we can estimate that household consumption per capita was €400 higher in RoI while public consumption per capita was €1100 higher in NI, giving a gap of €700 in favour of NI, which equates to a difference in public and private consumption per capita of just over 3%.

The final measure we consider is household disposable income; this measure overcomes many of the problems of the previous metrics as it reflects the total average income available for spending at the household level after taxes and social transfers are considered. Under this measure, total disposable household income is divided by the number of household members converted into equivalised adults. Based on 2017 data, total disposable income per equivalised household income was \$4,600 higher in RoI compared to NI, equating to a gap of approximately 12% after accounting for differences in prices across both areas. However, all of the measures above ignore distributional issues.

Another key aspect of living standards that is not reflected in the metrics from Table 1 relates to how unequal the economies are and the degree to which the tax and welfare system acts as a redistributive tool that mitigates poverty among the poorest members of society. A society with a high GDP, which is highly concentrated among a small proportion of wealthy individuals, is likely to be less attractive than one in which GDP is lower but more evenly spread across the population. In Table 2 we consider various measures of inequality both before, and after, taxes and transfers as this enables us to assess the progressivity of the respective tax and welfare regimes and their effectiveness in mitigating both inequality and poverty rates.

Our first indicator of inequality is the Gini coefficient which, broadly speaking, measures the proportion of income that is held by a given proportion of the population; if each member of the population holds an equal share of the nation's income the Gini coefficient will be equal to zero. The

¹⁰ Central Statistics Office, Institutional Sector Accounts (2019) Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-isaff/institutionalsectoraccountsnon-financialandfinancial2019/hnpi/> (5 January 2021).

¹¹ Such as having a higher population share of older people who tend, on average, to consume more public services.

Table 1: Standard of Living – Economic Indicators

	Units	Year	RoI	NI	Difference (RoI – NI)
GNI* Per Capita	Modified Gross National Income, thousands, current prices, current PPP ^c	2018	\$51.9	\$34.3	\$17.6
GDP Per Capita	thousands, current prices, current PPP, US\$ ^a	2018	\$85.1	\$36.7	\$48.4
GDP Per Capita	thousands, constant prices, constant PPP, US\$ ^b	2018	\$81.5	\$34.3	\$47.2
Household Disposable Income	thousands, per equivalised household, current prices, current PPP, US\$ ^d	2017	\$34.0	\$29.4	\$4.6
Household Final Consumption per capita	thousands, €, current prices, adjusted for PPS (EU-28) ^e	2016	€15.6	€15.2	€0.4
Government Final Consumption per capita	thousands, €, current prices, adjusted for PPS (EU-28) ^e	2016	€5.6	€6.7	-€1.1
Personal and Public Consumption per capita	thousands, €, current prices, adjusted for PPS (EU-28) ^e	2016	€21.2	€21.9	-€0.7

^{a, b, d} Source: OECD Regional Economy Database.

^c Sources: Modified Gross National Income from CSOs National Income and Expenditure Accounts, population data from CSOs Annual Population and Migration Estimates, PPP adjustment from OECD Regional Economy Database.

^e Sources and Notes: Consumption data for NI from NISRA (2019), consumption data for RoI from CSO, population and PPP data from Eurostat. Note: there is no separate PPP adjustment for personal or public consumption available for NI so the UK rate is used.

larger the share of a nation's income that is held by a smaller number of the population, the closer the Gini coefficient moves towards one. The Gini coefficients for the two regions are broadly comparable before taxes and transfers, however, income inequality levels are slightly lower in NI relative to RoI. After taxes and transfers, the Gini coefficients of both regions fall substantially, indicating that the tax and welfare systems in both areas are effective in redistributing income from the wealthy to the less well-off. The inequality

Table 2: Standard of Living – Distribution of Income^a

	Units	Year	RoI	NI
Inequality Indicators:				
Gini before taxes and transfers	0 - 1 scale	2013 for RoI, 2011 for NI	0.574	0.535
Gini (at disposable income, after taxes and transfers)	0 - 1 scale	2013 for RoI, 2011 for NI	0.309	0.288
S80/S20 disposable income quintile ratio	Ratio	2013 for RoI, 2011 for NI	4.792	4.433
Poverty Indicators:				
Poverty rate before taxes and transfers, Poverty line 60%	Ratio	2013 for RoI, 2011 for NI	0.438	0.401
Poverty rate after taxes and transfers, Poverty line 60%	Ratio	2013 for RoI, 2011 for NI	0.159	0.238
Poverty rate before taxes and transfers, Poverty line 50%	Ratio	2013 for RoI, 2011 for NI	0.405	0.354
Poverty rate after taxes and transfers, Poverty line 50%	Ratio	2013 for RoI, 2011 for NI	0.089	0.143

^a Source: OECD Regional Economy Database.

gap between NI and RoI narrows from 0.039 to 0.021 following the adjustment for taxes and transfers.

While the Gini coefficient is a useful measure of income concentration / dispersion within an economy, it does not provide any indication of the proportion of the population at risk of poverty. There are various measures of poverty including relative income poverty, which measures the proportion of individuals at risk of falling below a given poverty line; another approach is to measure material deprivation, which measures the proportion of individuals who lack access to one or more defined essential items. We were only able to compare NI and RoI on the basis of relative income poverty and the results are provided in Table 2. The relative income poverty measure is available for two separate poverty lines, the proportion of individuals in households with incomes below 60% and 50% of average household income respectively. Before taxes and transfers the proportion of individuals at risk of poverty on

both poverty line measures is greater in RoI. In RoI 43.8% (40.5%) of individuals were in households with an income of less than 60% (50%) of the national average compared to 40.1% (35.4%) in NI. However, the pattern of relative poverty rates reverses after taxes and transfers are considered, with the proportions in relative poverty substantially lower in RoI compared to NI under both poverty line measures. After taxes and transfers, the proportions of individuals in households with an income less than 60% of the national average was 15.9% in RoI compared to 23.8% in NI. The figures suggest that the tax and welfare system in RoI is much more progressive, and effective in mitigating household poverty risk, than that which prevails in NI.

3.2 Measures of opportunity and engagement

In this section we emphasise measures of opportunity, focusing on access to early years education, qualification attainment rates, education enrolment rates and opportunities for life-long learning (Table 3). Access to and take-up of high-quality educational provision is the single most important factor determining career success, wage growth and social progression and, therefore, can be interpreted as a key measure of opportunity in each region. Human capital development will also strongly determine regional macro-economic outcomes, such as productivity levels and growth rates. Some disparities in educational attainment between the regions have already been identified in the literature. McGuinness and Bergin¹² find that, in 2015, over 35% of young people in NI aged 24 to 30 were qualified in the two lowest levels of educational attainment (primary or lower-secondary level) compared to under 11% in the RoI. Conversely, just under 40% of NI young people were qualified in the two highest levels of attainment (post-secondary or third-level), compared to 64% in RoI.

To drill behind the observed differences in qualifications attainment, we focus on enrolment rates by age to assess the age at which some individuals tend to disengage from education, which, in turn, will heavily influence patterns of qualification. There are some stark differences between NI and RoI. Levels of educational enrolment in RoI for 3–5 year olds were at 100% compared to 86.6% in NI, which points to lower access to or lower take-up of early years education in NI.¹³ International evidence has demonstrated that

¹² McGuinness and Bergin, 'The political economy of a Northern Ireland border poll'.

¹³ Compulsory schooling age in NI is between four and sixteen while in RoI it is between 6 and 16.

access to pre-school programmes positively impacts subsequent learning in language, literacy and mathematics and the finding that a significant proportion of NI children are not accessing such services is concerning.¹⁴ There are also large differences in the rates of young people enrolled in post-compulsory programs with almost 93% of 15–19 year olds in RoI still enrolled in education compared to 74% in NI. This difference reflects the relative success of the RoI system in keeping students engaged between Junior Certificate and Leaving certificate, relative to the GSCE to A-level progression rates in NI. Rates of enrolment among 20–29 year olds in RoI are almost double that of NI, pointing towards higher levels of participation in third-level education. Rates of educational attainment among over 30s, which will reflect opportunities for life-long learning, are also substantially higher in RoI relative to NI.

Other indicators of opportunity and engagement are the rates of early school leaving and the proportions of young people who have disengaged from the labour market and are not in education, employment or training (NEET status). Early school leaving is measured as the proportion of individuals aged 18 to 24 who have finished no more than a lower secondary education and are not involved in further education or training. According to the OECD, the rate of early school leaving in NI is almost twice that of RoI; in 2018, 9.4% of young people in NI were classified as early school leavers compared to 5.0% in RoI. It has been argued that early school leaving is related to a range of negative economic and social outcomes including unemployment, poverty, social exclusion and poor health. While the factors that may determine early school leaving can be complex and encompass individual, social and school factors, existing research on RoI indicates that early school leaving differs significantly by gender and parental social class.¹⁵ To assess the role and/or importance that gender and parental social class may play in determining early school leaving in either or both regions, we estimate probit models of early school leaving using LFS micro-data from Eurostat. The basic model can be written in the form of equation 1 where ES denotes early school leaving, G represents gender, C parental education and ε is an error term,

$$ES_i = \alpha + \beta_1 G_i + \beta_2 C_i + \varepsilon \quad (1)$$

¹⁴ Christina Weiland and Hirokazu Yoshikawa, 'Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills', *Child Development* 6 (84) (Nov. – Dec. 2013), 2112–30.

¹⁵ Delma Byrne and Emer Smyth. *No way back? The dynamics of early school leaving* (Dublin, 2010).

Table 3: Standard of Living – Measures of Opportunity

	Units	Year	RoI	NI
Education Enrolment Rates by Age Range:				
3-5 year-olds	%	2018	100	86.6
6-14 year-olds	%	2018	100	98.1
15-19 year-olds	%	2018	92.6	73.6
20-29 year-olds	%	2018	29	15.2
30-39 year-olds	%	2018	7.3	3.3
40-64 year-olds	%	2018	5.6	1.3
Rate of Early Leavers from Education and Training (in % of the total population aged 18 to 24)	%	2018	5.0	9.4
Share of 18-24 year-olds population not in education and unemployed or inactive (NEET)	%	2018	12.6	13.9

^a Source: OECD Regional Economy Database.

Table 4: Marginal Effects from Probit models of Early School Leaving

	NI		RoI	
	Marginal Effect	P > z	Marginal Effect	P > z
Gender: (Ref: Female = 0)				
Male	0.086	0.00	0.026	0.00
Social Class: (Ref: Father's education - low)				
Father's education - medium	-0.071	0.00	-0.048	0.00
Father's education - high	-0.110	0.00	-0.062	0.00
N	1,282		29,618	
Prob > chi2	0.0000		0.0000	

^a Notes: Because of data constraints the definition of early school leaving here is not identical to that used by the OECD, specifically the indicator the models use refers to those aged 20 to 24 whose highest level of educational attainment is lower secondary schooling and who are currently not participating in education and training. Estimates are based on pooled models over the period 2006 to 2016 using Eurostat LFS microdata.

The marginal effects from the models for both RoI and NI are shown in Table 4. The results indicate that while gender plays a role in both regions in influencing early school leaving the effect is substantially stronger in NI than in RoI. The effect of parental social class (proxied by father's education level) is very strong in both regions and again the effects are larger in NI than in RoI. This finding suggests that the education system in NI is relatively less effective as a vehicle for social inclusion among students from working class backgrounds and males.

In terms of NEET status both regions are broadly comparable, with 13.9% of young people in NI classified as NEET compared to 12.6% in RoI. It is important to note that international research has indicated that the composition of NEETs vary substantially from country to country; in RoI for instance, young people with disabilities or lone parents tend to be disproportionately over-represented among NEETs.

Overall, opportunities for individual progression afforded to individuals (and/or the take-up of these opportunities) through state education provision appear to be more restricted in NI compared to RoI.

3.3 Measures of well-being

Further measures of well-being available from the OECD regional database include indicators related to health services provision, crime rates, housing costs, broadband access, civic engagement, the environment, life satisfaction, quality of jobs and quality of government. A number of these metrics are now somewhat dated, however, they are still informative.

In terms of healthcare access, McGuinness and Bergin¹⁶ examined a series of metrics, from the OECD Healthcare at a Glance database, and concluded that service levels across the two regions were converging as a result of higher spending and the extension of universal access in RoI¹⁷ and the impacts of austerity and the poor relative performance of the NHS in NI.¹⁸ McGuinness and Bergin reported that both health systems appear to be outlying poor performers among OECD countries in terms of having acute care bed occupancy rates exceeding 90%. Table 5 shows updated health care metrics available from the OECD regional database including the provision of both physicians and hospital beds per 1,000 of population. Table 5 also includes, for context,

¹⁶ McGuinness and Bergin, 'The political economy of a Northern Ireland border poll'.

¹⁷ Under the Sláintecare initiative.

¹⁸ Compared to performance levels of the NHS in England, Scotland and Wales.

Table 5: Standard of Living – Measures of Well-Being^a

	Units	Year	RoI	NI	Austria
Health Access:					
Active Physicians Rate	physicians per 1,000 population	2017 for RoI, 2016 for NI, 2018 for Austria	3.3	2.1	5.2
Hospital Bed Rate	hospital beds per 1,000 population	2018	3.0	3.1	7.3
Safety:					
Intentional homicide rate	homicides per 100,000 population	2018 for RoI & Austria, 2017 for NI	0.9	1.3	0.7
Motor Vehicle Theft Rate	vehicle theft per 10,000 population	2018 for RoI & Austria, 2017 for NI,	97.6	70.1	25.2
Housing:					
Share of Housing Cost	in % of household disposable income	2015 for RoI, 2016 for NI	20.4	19.7	n.a.
Number of rooms per person	Ratio	2014 for RoI and NI, 2013 for Austria	2.1	1.9	1.7
Internet Access:					
Share of households with internet broadband access	% of total households	2019	90.0	94.0	89
Civic Engagement:					
Voter turnout in general election	%	2014	69.7	58.1	74.9
Environment:					
Air pollution, level of PM2.5	Micrograms per cubic metre	2014	5	6.1	14.6
Life Satisfaction:					
Self-evaluation of life satisfaction	Index (scale from 0 to 10)	2014	7.1	7	7.3
Perceived social network support	%	2014	96.8	95.1	92.4
Jobs:					
Employment Rate	Ratio of persons employed aged 20 to 64 relative to the population aged 20 to 64	2019	75.1	75.5	76.8
Unemployment Rate	Rate applies to those aged 15 to 74	2019	5.0	2.7	4.5
Quality of Government:					
Perception of corruption	%	2014	53.6	53.2	51.7

^a Source: OECD Regional Economy Database; jobs indicators on employment and unemployment rates are from Eurostat.

the comparable data for Austria as a representative EU country. The most recent data indicate that there were 3.3 active physicians per 1,000 population in RoI, compared to 2.1 in NI; conversely, the number of hospital beds were marginally higher in NI at 3.1 per 1,000 population compared to 3.0 in RoI. Both areas lag substantially behind Austria in terms of both health metrics.

In terms of broad indicators about jobs and the labour market, employment rates are broadly comparable in RoI and NI, although marginally higher in NI. The unemployment rate in 2019 was higher in RoI at 5% compared to just 2.7% in NI. This is not entirely surprising as the sectoral composition of employment in NI and higher dependence on public sector employment results in more stable employment and unemployment rates.

With respect to safety, Table 4 shows the homicide rate was lower in RoI relative to NI, however, the incidence of vehicle theft was considerably higher. Somewhat surprisingly, housing costs measured as a share of disposable income were broadly comparable across both regions and only marginally higher in RoI based on the most recent data. In 2019, 94% of households in NI had access to broadband (a broad measure of access to services) compared to 90% in RoI, while air pollution rates were somewhat lower in RoI based on the most recent data.

Measures of life satisfaction are an important indicator of living standards as they tend to reflect overall societal satisfaction across a wide range of indicators effecting everyday life. Unfortunately, the only data point for such an indicator relates to 2014, a time when both RoI and NI were emerging from the 2008 world recession which was particularly severe in RoI. Respondents were asked to rate their life satisfaction on a scale from 1 to 10, the values for both RoI and NI were above the OECD average level of 6.5. In 2014 the average level of life satisfaction in RoI was 7.1, marginally above the value of 7.0 reported for NI. Life satisfaction in both areas was slightly below that recorded for Austria. Perceived social network support, which measures the percentage of people who have family and friends that they can count on, is similar across both areas at approximately 90%. In terms of civic engagement, voter turn-out appears to be substantially higher in RoI based on the most recent data, while perceptions of government corruption are marginally lower in NI.

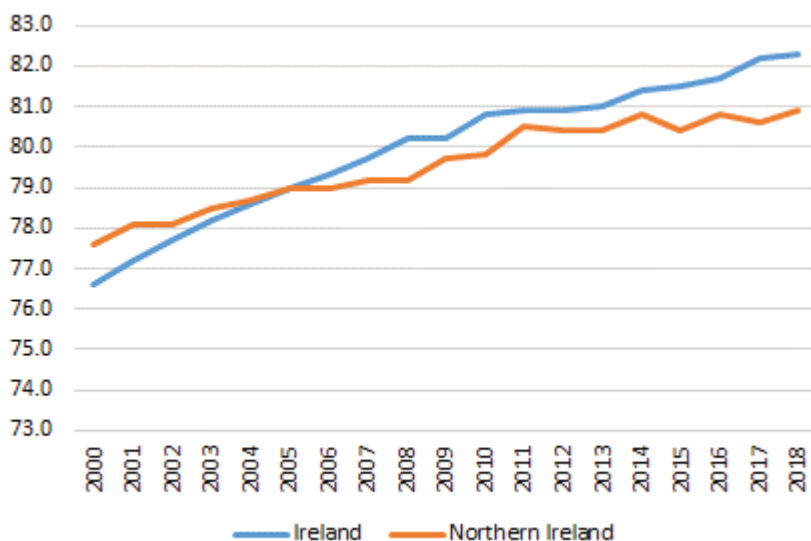
3.4 Life expectancy over time

Differences in income, education and employment opportunities and engagement as well as well-being and access to healthcare services will altogether

generally determine life expectancy in a region. As such, life expectancy can be interpreted as a cumulative measure of differences in general welfare and living standards across regions and countries.

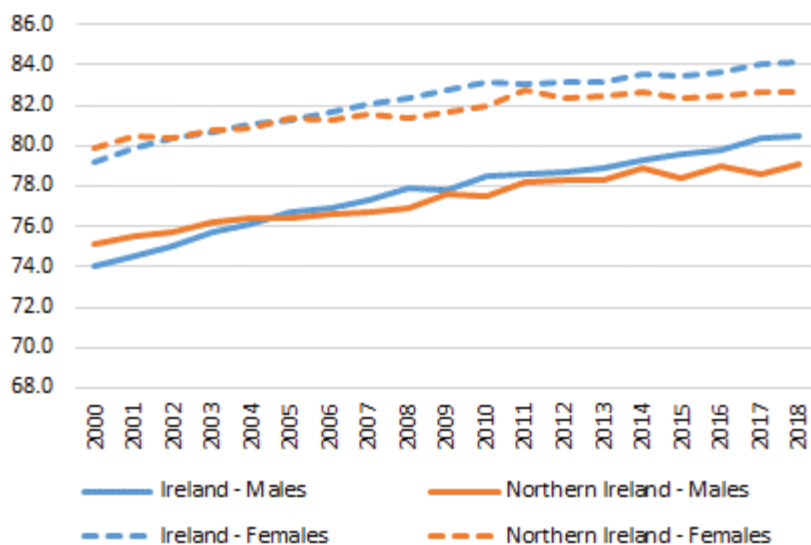
Figure 1 shows overall life expectancy over time and Figure 2 shows it separately for males and females. The graphs reveal that life expectancy in NI exceeded that in RoI up to 2005, although the RoI rate was converging on the NI rate. In the following years, continued stronger improvements in life expectancy in RoI meant that it surpassed the NI rate, and the gap between the two regions has been increasing in more recent years. In 2018, life expectancy in RoI exceeded that of NI by 1.4 years and while female life expectancy was above that of male life expectancy, as is common in many Western countries, the gap between RoI and NI in 2018 was marginally larger for females at 1.5 years compared to 1.4 years for males. Finally Figure 3 shows life expectancy for those aged 65 in RoI and NI. Life expectancy was higher in NI relative to RoI up to 2005, after which the rates converged until a gap emerged in more recent years with NI rates falling below those in RoI. In 2018, life expectancy for those aged 65 was 0.5 years higher in RoI, with the gap larger for females at 0.7 years compared to 0.3 years for males.

Figure 1: Life Expectancy, Overall (males and females), Less than 1 year olds^a



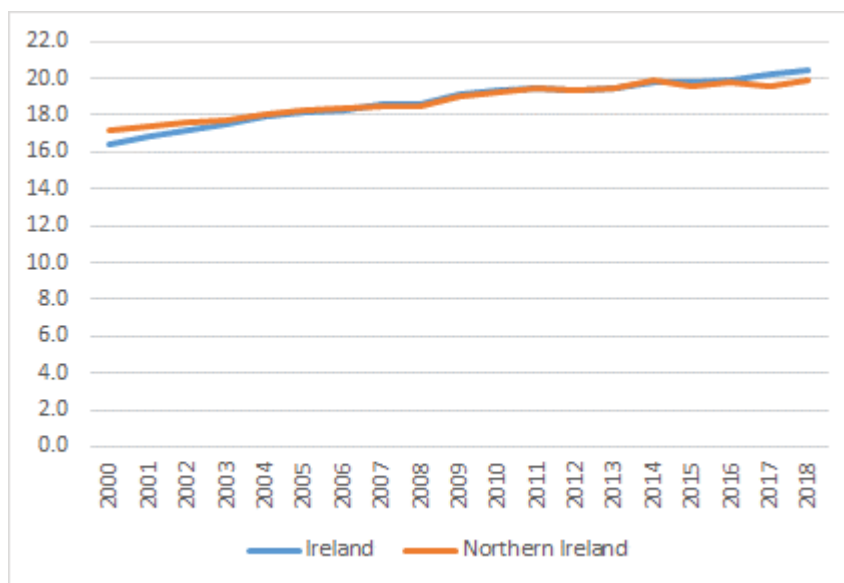
^a Source: Eurostat, Life expectancy by age, sex and NUTS 2 region.

Figure 2: Life Expectancy, by Gender, Less than 1 year olds^a



^a Source: Eurostat, Life expectancy by age, sex and NUTS 2 region.

Figure 3: Life Expectancy, Age 65^a



^a Source: Eurostat, Life expectancy by age, sex and NUTS 2 region.

4. SUMMARY AND CONCLUSIONS

This paper explores differences in standards of living in NI and RoI across a wide range of dimensions, including economic and social well-being and differences in income distribution so that any differences can be better understood. This is important in the context of an increased focus on north-south issues on the island of Ireland in recent times arising from the outcome of the Brexit referendum, the establishment of the Shared Island Unit in the Department of the Taoiseach and the ongoing discussion around potential constitutional change on the Island of Ireland. The research finds that substantial gaps exist in a number of areas including living standards, poverty risk and opportunities for advancement through education and life-long learning. These imbalances generally favour the Republic of Ireland. In particular, we find that equivalised (PPP adjusted) household disposable income, a reliable measure of income that is not subject to the drawbacks of other conventional metrics used to assess living standards, was \$4,600 higher in RoI compared to NI in 2017. While general levels of income dispersion are similar across both regions, the proportion of individuals in households at risk of poverty is high in RoI before taxes and transfers, however, RoI rates of poverty risk fall substantially below those of NI after taxes and transfers have been taken into account. In particular, based on a poverty line of below 60% of average household income, 15.9% of individuals in RoI are at risk of relative poverty compared to 23.8% in NI. Taking the more extreme poverty line of 50% of average household income, the proportion of individuals at risk of poverty in NI was 14.3% compared to 8.9% in RoI based on the most recently available data. The analysis suggests that the tax and welfare system in RoI tends to be much more progressive, and effective in mitigating household poverty risk, than that which prevails in NI.

There are also substantial differences with respect to opportunities (and / or take-up) related to human capital development. The data suggests that, in addition to much higher rates of educational disengagement between the ages of 15 to 19 which contributes to lower rates of third level attainment, pre-school education and life-long learning access (and / or take-up) also appear to be significantly lower in NI relative to RoI. Furthermore, the rate of early school leaving in NI was almost twice that of RoI in 2018.

With respect to other measures of well-being, gaps were less significant, but some differences were apparent. Relative to NI, RoI had superior levels / rates of physicians per 1,000 population, homicide, voter turnout and air

pollution. Relative to RoI, NI had superior rates / levels of motor vehicle theft, broadband access, employment and unemployment. Based on the most recent data from 2014, levels of life-satisfaction were similar in both regions. Similarly, there are only marginal differences in metrics measuring hospital bed rates and housing costs.

Life expectancy can be interpreted as a cumulative measure of differences in general welfare across regions and countries. Life expectancy levels were generally higher in NI relative to RoI in the period up to 2005. The fact that substantial gaps appear to have emerged in key metrics such as educational enrolment and attainment and income levels are likely to be important contributors to the finding that a gap in estimated life expectancy in favour of RoI has emerged, and has been widening, since 2005. In 2018, children born in NI had a life expectancy 1.4 years lower than those born in RoI. The gap in life expectancy, at 1.5 years, is higher for newborn females. Life expectancy trends with respect to individuals aged 65, which typically favoured NI, were also found to have reversed since 2012 and by 2018 life expectancy among 65 year olds was 0.5 years higher among persons living in RoI.

Finally, while we have sought to provide a comparable picture of relative welfare levels in both areas, we did not have all of the relevant metrics available to us and many of those that did have are somewhat outdated. Given the increased likelihood of a future border poll and the focus on north-south issues there is a need for greater co-ordination between the statistical authorities in both regions to produce meaningful, comparable and timely statistics. This is crucial for building an evidence base for issues such as a border poll but also to inform policymakers, the business community and public debate on north-south issues. Key priority areas for future cooperation include the development of metrics related to health waiting lists, health costs, hospital mortality, the incidence of housing distress, rates of child poverty, social welfare supports, access to other public services and amenities.

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'Thoughts on Quality of Life, North and South',
<https://doi.org/10.3318/ISIA.2021.32b.13>
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