



Taighde, Idirphlé, Comhairle
Research, Dialogue, Advice

Is Ireland Thriving?

Answers from International Assessments

SECRETARIAT PAPER

No.32 September 2023



An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
National Economic & Social Council

An Oifig Náisiúnta um Fhorbairt Eacnamaíoch agus Shóisialta
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Abbreviations

BER	Building Energy Rating	PCA	Principal Components Analysis
BII	Biodiversity Intactness Index	PISA	Programme for International Student Assessment
CF	Carbon Footprint	PPP	Purchasing Power Parity
DEAL	Doughnut Economics Action Lab	SDGs	Sustainable Development Goals
EEA	European Economic Area	SJI	Social Justice Ireland
EF	Ecological Footprint	SPI	Social Progress Index
EHIS	European Health Interview Survey	TPI	Transitions Performance Index
FDI	Foreign Direct Investment	UN	United Nations
GDP	Gross Domestic Product		
GHG	Greenhouse Gas		
GNI	Gross National Income		
HDI	Human Development Index		
HF	Human Footprint		
IMD	Institute for Management Development		
KBA	Key Biodiversity Area		
NCPC	National Competitiveness and Productivity Council		
NESC	National Economic and Social Council		

Executive Summary

The theme of NESC's 50th anniversary NESC@50 programme of research and events is *A Thriving Ireland: Inclusive, Protective, and Forward Looking*. This paper was prepared to help elucidate this theme.

This paper examines the extent to which Ireland can be described as a thriving country with reference to nine regularly cited assessments (covering well-being; human development; sustainable development; transitions performance; social progress; biodiversity; competitiveness; inclusive wealth; and the doughnut model incorporating planetary boundaries).

In considering the extent to which Ireland is a thriving country, it is useful to distinguish between current and future performance; i.e. the extent to which Ireland could be said to be doing well today, and the prospects of sustaining this into the future.

Ireland has high ratings across each of the international aggregate measures of economic or social performance covered in this paper. For example, Ireland is ranked eighth out of 191 countries on the *UN Human Development Index (HDI)* and 13th out of 169 countries on the *Social Progress Index (SPI)*. The UN HDI covers living standards, life expectancy and educational attainment. The SPI is an index of primarily social indicators (one of its twelve dimensions is on the environment) that focuses as far as possible on outcome measures. It does not include gross domestic product (GDP) or other economic indicators.

The main alternative to composite indices is to monitor a selection of indicators. This is the approach adopted in the OECD well-being framework as well as Ireland's well-being framework. Both the OECD and national well-being frameworks show many important indicators of a relatively high level of well-being in Ireland. These include an above average employment rate, high life satisfaction, low relative income poverty, high educational achievement, and a high level of trust in government.

Of course, there are other indicators that point to pressures on current well-being in Ireland. The most obvious of these is housing. Other concerns regarding current well-being include the high cost of living in Ireland, ongoing high unemployment among people with a disability; and an incidence of low pay that exceeds the average for both the OECD and the EU (27). In regard to trust in government, the gap between younger and older people in Ireland is the largest in the OECD.

The question of the capacity to retain the current level of success is a complex one – this is the issue of sustainability. The doughnut concept, developed by Kate Raworth to bring measures of social progress together with the idea of environmental boundaries, possibly offers the clearest way of viewing the sustainability challenge. The inner circle of the doughnut represents a social foundation, and the idea is that no one should fall below certain minimum standards. The outer circle of the doughnut represents an ecological ceiling defined by planetary boundaries. Staying within this ceiling would 'ensure that humanity does not collectively overshoot the planetary boundaries that protect Earth's life-supporting systems' (Doughnut Economics Action Lab, no date). The space between these two circles represents a socially secure and safe space for humanity where human needs of everyone are met without compromising the earth's planetary boundaries.

Research has shown that no country has managed to combine achievement of the basic social standards while living within sustainable global limits as measured by biophysical boundaries. Like other rich countries, Ireland is living beyond its fair share of planetary boundaries. If the world as a whole is to live within planetary boundaries it will be necessary for rich countries to greatly reduce their environmental impact in line with these boundaries. If economic growth in advanced countries such as Ireland is to be consistent with planetary boundaries, it is necessary to decouple economic growth from environmental impact. Experience shows that this is possible but there is a question as to whether this can be achieved at the scale and speed required to live within planetary boundaries.

In addition, Ireland also faces capacity challenges in the provision of infrastructure and services – housing, healthcare, childcare services, transport and energy infrastructure and climate adaptation – that, if not addressed, would undermine Ireland’s ability to thrive. At the same time, it needs to be borne in mind that infrastructure investment is closely related to greenhouse gas emissions (GHG) and other environment pressures.

There is judgement involved in the selection of indicators for any framework and the results are invariably influenced by the chosen indicators. The indicators in Ireland’s well-being framework should be kept under ongoing review and it would be desirable to consult the social partners and other interested parties on this matter. There is a strong case that countries should respect planetary boundaries which points to the desirability of including indicators on these boundaries where there is available data. At the same time, it is important to keep the number of indicators at a manageable level, and it is therefore not possible to include all indicators that are of relevance to well-being.

The approaches examined have limitations, yet their consideration is a necessary starting point in any discussion of a country’s social, economic, and environmental position. This paper reinforces the position that they can only be a starting point.

Overall, while it is difficult - if not impossible - to accurately summarise the complex findings of nine different techniques for assessing progress, the analysis that follows suggests that Ireland today is thriving, inclusive, and protective in many aspects, with some obvious capacity and distributional challenges; but also that more must be done on environmental sustainability and for the Ireland of tomorrow, to be more forward looking. This is especially true in terms of our climate, biodiversity and infrastructure. Environmental issues pose a threat both to future prosperity and to current well-being. Examples of the latter include water quality and flooding. Like other high-income countries, Ireland faces the huge challenge of ensuring satisfactory quality-of-life and prosperity within planetary boundaries.

The focus of this report is the Republic of Ireland, but it is recognised that extensive work has also been undertaken on well-being in Northern Ireland. A Roundtable on the Measuring Well-being in Northern Ireland was established with the support of a UK foundation, Carnegie UK. This influenced the adoption of a well-being approach in the draft programme for government of the previous Northern Ireland Executive. There is also a focus on well-being at local government level in Northern Ireland. NESCI’s Shared Island report found that there has been north-south co-operation on well-being and that there was scope for this to be further developed. In the absence of a Northern Ireland Executive, the scope for such co-operation is probably greatest at local level.

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Introduction:
A Thriving Ireland - Inclusive, Protective,
and Forward Looking

Introduction: A Thriving Ireland - Inclusive, Protective, and Forward Looking

In 2020, the National Economic and Social Council (NESC) set-out its ambitious vision for Ireland to be ‘a resilient, sustainable, thriving net zero economy, environment, and society, using innovation and collective preparedness to shape the future we want to achieve’ (NESC, 2020: viii).

This focus on a shared vision, a strong sense of the collective good, and capacity to improve, has oriented NESC work over 50 years. The NESC@50 programme of research and events, while also marking the Council’s role and impact over the last 50 years, concentrates on the medium- to long-term challenge of realising that vision and the ambition to create and shape a better future for Ireland.

At the heart of the Council’s vision is the ambition for an inclusive Ireland, which thrives, protects, and looks forward. As a result, the overall theme for NESC@50 is ***A Thriving Ireland: Inclusive, Protective, and Forward Looking***.

In earlier research, NESC implicitly considered challenges to a thriving, inclusive, protective, and forward-looking Ireland and it reached this conclusion:

- The Council highlights the presence and impact of a capacity challenge across the Irish economy, which adds to vulnerability and lowers resilience. This includes infrastructure, service, and labour constraints in key areas such as housing, healthcare, childcare, energy, and transport.
-
- Then, building on its long-held belief in the synergy between the economy, society, and environment, the Council argues that there is what might be termed a cohesion challenge between the economy and the wider society. An analysis of unemployment, poverty, weak labour-market attachment, low pay and productivity, and precarity of work suggests that cohorts remain that are weakly connected to the enterprise economy because of these issues (NESC, 2023a: vi).

This paper addresses the question as to what extent Ireland is a thriving, inclusive, protective, and forward-looking country, across three sections:

- Part A of the paper provides an overview of different approaches to measuring performance that are relevant to this question;
-
- Part B examines Ireland’s performance in terms of these different approaches; and
-
- Part C summarises the evidence and concludes the paper.

NESC at present is undertaking related work on the subject of natural capital. This examines developments on natural capital and explores the potential for this approach to inform public policy in Ireland.

PART 1

Understanding What 'Thriving' Means

Moving Beyond Economic Metrics

Having an understanding of the extent to which Ireland is thriving, inclusive, protective, and forward looking can inform policymaking and advice. A starting point in gaining that understanding is acknowledging that standard, regularly used and reported measures of economic performance, such as gross domestic product (GDP) or income, on their own are insufficient metrics. A project led by Suresh Naidu, Dani Rodrik, and Gabriel Zucman has developed policy ideas for the achievement of what they refer to as **inclusive prosperity**:

While prosperity is the traditional concern of economists, the 'inclusive' modifier demands both that we consider the whole distribution of outcomes, not simply the average, and that we consider prosperity broadly, including non-pecuniary sources of well-being, from health, to climate change, to political rights (Naidu, Rodrik & Zucman, 2019: 1).

Furthermore, it is recognised that Ireland's economic data can be distorted by the nature of activity here.

Therefore, any assessment of 'thriving' must look beyond economic performance and data, and this stance is aligned with the Council's long-held position of fusing the economic, the social, and the environmental. Thriving is not simply economic success; inclusive and protective are not simply adequate social programmes and a social safety net; forward looking is not simply having environmental targets and plans. Approaches to assessment (and indeed to policymaking) must reflect this.

A wide-ranging review of approaches to the measurement of success was undertaken by the Commission on the Measurement of Economic Performance and Social Progress (known as **the Stiglitz-Sen-Fitoussi Commission**) chaired by Professor Stiglitz. Their report was published in 2009.

The Commission's work highlighted the limitations of assessing national progress, prosperity, or success via commonly used economic indicators. For example, GDP - the Commission noted - is mainly a measure of market production and they advocated placing more emphasis on other measures while not dismissing GDP and production measures.

Since GDP primarily measures market activity, a shift in activity from domestic production (for example, caring or food preparation) to the market sector results in an increase in GDP even if the real level of economic activity is unchanged. This also affects international comparisons in that countries in which a greater share of activity takes place in the market will have higher recorded living standards. Stiglitz *et al.* noted that the exclusion of household production from national accounts was due more to data uncertainty than conceptual difficulties but that there had been progress. It recommended that more systematic work be undertaken on this issue starting with the development of information on people's use of time that is comparable both over the years and across countries.

The Commission's high-level recommendation was to adopt a two-fold approach to the measurement of success, or well-being. The Commission outlined the desirability of distinguishing current well-being from future well-being (called sustainability in this context). They proposed measuring current well-being using both economic measures such as income and a wide range of quality-of-life indicators.

Future well-being is concerned with the ability to at least sustain the current level of well-being into the future. The Stiglitz-Sen-Fitoussi Commission proposed a twofold approach to the measurement of sustainability. First, they proposed a monetary index of sustainability along the lines of what is known as the 'extended wealth' approach. This involves aggregating the stocks of different types of capital. In principle this can be done for all types of capital: physical capital, human capital and natural capital. The idea is that the value of wealth broadly defined in this way needs to be at least maintained if an economy is to be sustainable. The Commission proposed that this approach should be limited to the economic dimensions of sustainability. It should only cover those aspects 'for which reasonable valuation techniques exist, such as physical capital, human capital and natural resources that are traded in markets' (Stiglitz *et al.*, 2009: 78). Second, the environmental dimensions of sustainability should be covered by a well-chosen set of physical indicators: the Commission did not consider that it had the qualifications to specify what physical indicators should be included.

At around the same time as the Stiglitz-Sen-Fitoussi Commission, NESC published a report on well-being in two volumes (NESC, 2009a; NESC, 2009b). NESC adopted the following definition of well-being:

a person's well-being relates to their physical, social and mental state. It requires that basic needs are met, that people have a sense of purpose, that they feel able to achieve important goals, to participate in society and to live the lives they value and have reason to value (NESC, 2009a: xiii).

Like the Commission, NESC proposed a multidimensional approach to the measurement of well-being. The domains used by NESC to examine well-being were as follows:

- Economic resources;

- Work and participation;

- Relationships and care;

- Community and environment;

- Health; and

- Democracy and values (NESC, 2009a: xiv).

An earlier NESC report had proposed a series of national progress indicators for Ireland. The indicators chosen covered economic, social and environmental dimensions of development and there was an explicit focus on sustainable development (NESC, 2002).

Broader Approaches to Assessment

The OECD adopted a framework on well-being in 2011. The framework distinguishes current well-being on the one hand, and future well-being or sustainability on the other. The *How's Life? 2020* report used an extended dashboard of over 80 indicators covering 11 dimensions of current well-being, and four aspects of future well-being.¹ Four types of capital are used to monitor future well-being: natural, economic, human, and social.

The OECD also produces a related Better Life Index with associated country reports. This is based on the same 11 dimensions of the well-being framework as used in the *How's Life?* reports but with a smaller number of indicators and without distinguishing current and future well-being. The Better Life Index report for Ireland is used in this report as it provides a recent summary of how Ireland is doing in terms of the OECD well-being approach.

The Government here has now developed a well-being framework for Ireland. This is based on the OECD well-being framework and was informed by a consultation report produced by NESC (2021). The 11 dimensions of Ireland's framework cover the same broad areas as the 11 dimensions of the OECD's current well-being framework. Both cover areas such as income and wealth, work and job quality, housing, health and the environment etc.

In some cases, there are variations in the naming of the dimensions and there are differences in the indicators used. While the current framework for Ireland does not provide separate treatment of current and future well-being (as the OECD does), those indicators that are of particular relevance for future well-being across its 11 dimensions are now marked as such.

¹ The 11 dimensions of current well-being are: income and wealth; work and job quality; housing; health; work-life balance; knowledge and skills; environmental quality; subjective well-being; safety; environmental quality; social connections; and civic engagement. These indicators are measured in terms of average as well as inequalities between groups and inequalities between top and bottom performers.

The well-being approach is not the only alternative method for overcoming the limitations of commonly used economic indicators. The UN Human Development Index (HDI) is a summary measure capturing some key elements of **human development** and was first published in 1990.

The HDI is comprised of three dimensions: (i) life expectancy at birth; (ii) education as measured by average years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age; and (iii) standard of living as measured by gross national income (GNI)² per capita. The logarithm of income is used to capture the diminishing importance of income as GNI increases. The HDI is a measure of current well-being.

The Social Progress Index (SPI) is another aggregate measure of performance. It is distinctive from other indices in that it focuses solely on **social and environmental measures** and seeks to use outcome rather than input indicators as much as possible. Inputs are obviously important, but one advantage of focussing on outcomes is that it does not require consensus on how inputs translate into outcomes. The SPI does not include economic indicators such as GDP or household incomes (Stern *et al.*, 2022). It is mainly but not exclusively concerned with current well-being.

In 2015, the members of the UN agreed on the objectives for **sustainable development** at the centre of the Agenda 2030 for Sustainable Development. This is a wide-ranging global agenda to end poverty and hunger, improve health and education, increase economic growth, and at the same time address climate change, and preserve oceans and forests. The UN Sustainable Development Goals (SDGs) cover both current well-being (e.g. ending poverty in all its forms) and sustainability (e.g. sustainable consumption and production).

Building in part on the UN SDGs, the European Commission has developed the Transitions Performance Index (TPI) as a way of **monitoring progress on a broad range of policy priorities**:

implement a European Green Deal, foster a Europe fit for the digital age, develop economies that work for people, promote the European way of life, strengthen Europe's role in the world, and give a new push for European democracy (European Commission, 2022: 33).

The UN Environment Programme publishes a report on **inclusive wealth**. Inclusive wealth is defined as the sum of manufactured capital (machines, buildings, roads, physical infrastructure etc.), human capital, and natural capital. These are all measured in monetary terms. The authors argue that inclusive wealth is a measure of sustainability in that if inclusive wealth is either stable or increasing then the well-being of future generations is not being undermined. This is the same as the extended wealth approach referred to above.

A **competitive economy** - in relation to trade and investment - can generate the resources to help address wider social and environmental objectives. The National Competitiveness and Productivity Council (NCPC) monitors Ireland's competitiveness performance through its annual Competitiveness Scorecards. It has developed a pyramid framework of the different dimensions of competitiveness to inform assessment.

Environmental and sustainability considerations, such as **biodiversity**, can also be given primacy within assessment models. Biodiversity is multidimensional and its measurement is complex with major gaps in knowledge. The Biodiversity Intactness Index (BII) was developed by the Natural History Museum in London as a summary measure of the state of biodiversity. It seeks to summarise the change in ecological conditions as a result of human influence. The BII is defined as 'an estimated percentage of the original number of species that remain and their abundance in any given area, despite human impacts' (Natural History Museum, no date). The BII is derived from data from ecological studies around the world covering 54,000 species (birds, mammals, plants, fungi and insects) and a series of models.

² GNI is GDP (total value added in the economy) less income sent to or received from abroad.

The **doughnut concept** is a way of presenting economic, social, and environmental performance created by Kate Raworth. The inner circle of the doughnut represents a social foundation and the idea is that no one should fall below certain minimum standards. The social foundation has twelve dimensions derived from the UN SDGs.

The outer circle of the doughnut represents an ecological ceiling based on **planetary boundaries**. The space between these two circles represents a socially secure and safe space for humanity where the human needs of everyone are met without compromising the earth's planetary boundaries.

Conclusion

The Council has long held that economic, social, and environmental considerations must be comprehended as one if Ireland truly is to thrive. Over time, the ways in which countries are assessed have come to reflect this stance.

The limitations of economic data were explained by the Stiglitz-Sen-Fitoussi Commission, and well-being frameworks were developed by the OECD and then here in Ireland. The UN and EU have also developed assessment models and benchmarks that have provided a more holistic picture of whether a country can be said to be thriving or otherwise. That is not to say that economic considerations are not relevant to understanding how Ireland or any country is doing, and important competitiveness benchmarks continue to be produced.

More recently, how countries are assessed and benchmarked has been broadened to comprehend a greater number of social sustainability, and environmental considerations from biodiversity to planetary boundaries. All of these approaches have something to offer when it comes to understanding what 'thriving' means, while no one approach paints a complete picture. Therefore, this paper examines how Ireland performs on a range of different approaches to national assessment.

PART 2

Ireland's Performance on Selected Measures

1. Introduction

In presenting Ireland's performance according to different approaches this part of the paper seeks to distinguish current and future well-being. These are conceptually different: it is possible to enjoy a high quality of life today but in such a manner that it is not sustainable for the future. The Stiglitz-Sen-Fitoussi Commission offered this analogy of seeking to combine current and future well-being in a single index:

When driving a car, a meter that weighed up in one single value the current speed of the vehicle and the remaining level of gasoline would not be of any help to the driver. Both pieces of information are critical and need to be displayed in distinct, clearly visible areas of the dashboard (Stiglitz et al., 2009: 17).

This part of the report begins by examining how Ireland performs according to some aggregate performance measures: the social progress index (SPI) and the UN human development index (HDI). These mainly concern current well-being.

Section 3 continues to examine current well-being but in this section the focus is on indicators of different aspects of performance rather than aggregate measures. This section presents evidence on performance from both the OECD and Ireland's well-being frameworks.

Section 4 goes on to examine the sustainability of Ireland's well-being, drawing on both the OECD and national well-being frameworks, and other important evidence on biodiversity and planetary boundaries.

The remainder of this part of the report presents findings from other approaches that are not easily categorised into current and future well-being. These are UN Sustainable Development Goals (SDGs) (section 5), the Transitions Performance Index (section 6) and the National Competitiveness and Productivity Council (NCPC)'s assessment of competitiveness (section 7).

Two broad ways of measuring progress are the use of aggregate indices or a collection of individual indicators. There are advantages and disadvantages to each. There are different methods of aggregation and a comprehensive treatment of these is provided by Stiglitz *et al.* (2009); we draw here on this work. The first method of aggregation is to sum up the average condition across different dimensions (such as life expectancy, income etc.) and this is the approach used for the HDI. This method has the advantage of simplicity and limited data requirements.

However, there are also limitations. First, as it based on averages it does not capture inequalities within a country. This can be addressed by including measures of inequality or poverty but according to Stiglitz *et al.* there is still 'a methodological problem of neglecting individual conditions' (2009: 209).

A second issue concerns the choice of weights for the different components. Stiglitz *et al.* cite the example of the HDI to show that the choice of weights involves value judgment. The HDI is an average of life expectancy, educational attainment, and the log of gross national income. This approach has the following implication:

Adding the logarithm of GDP to the level of life expectancy implicitly values an additional year of life in each country by its GDP per capita (Ravallion, 1997), thus treating an additional year of life expectancy in the US as worth 20 times a year of life expectancy in India and nearly 50 times a year of life expectancy in Tanzania (Stiglitz et al., 2009: 209).

A third issue is understanding changes in what drives an index. Stiglitz *et al.* point to the experience of the HDI in this regard as an example:

Levels of the HDI give a fresh look at the world, since the country ranking it generates are quite different from those based on GDP per capita. However, as time passes and the HDI is updated year to year, its movements have tended to be dominated by changes in the GDP component, at least for those developed countries (such as France and the United States) whose performance in the health and education domains is close to the top (Stiglitz et al., 2009: 209).

Another model of aggregation ‘aggregates over various quality of life dimensions at the level of each person, and then computes a mean (or a similar summary measure) over all people in the sample for each country’ (Stiglitz *et al.*, 2009: 210). This is however little used in practise. It is demanding in the information required and has the issue of weighting discussed above. Other methods of aggregation also explored by Stiglitz *et al.* are aggregation by people’s hedonic experience and aggregation by the equivalence approach.

The advantage of using a range of indicators is that it makes it possible to examine progress across important dimensions of current and future well-being and facilitates the monitoring of the distributional aspects of many indicators. The disadvantage of this approach is that it often shows a complex picture that can be difficult to summarise. Both the OECD and Ireland’s well-being frameworks use a range of indicators to monitor progress.

2. Current Well-Being: Aggregate Measures of Performance

2.1 Social Progress Index

The Social Progress Index (SPI) is distinctive from other indices in that it focuses solely on social and environmental measures and seeks to use outcome rather than input indicators as much as possible. Inputs are obviously important but one advantage of focussing on outcomes is that it does not require consensus on how inputs translate into outcomes. It does not include economic indicators such as GDP or household income (Stern *et al.*, 2022).

The SPI measures progress across three broad dimensions: (i) basic human needs, for example, nutrition and basic health care; (ii) foundations of well-being, for example, life expectancy and access to basic education; and (iii) opportunity, for example, personal rights and access to advanced education. For each dimension there are four components of progress and for each component in turn there are four to six indicators. A total of 60 indicators are used and 169 countries are covered by this index.

The component scores are calculated by aggregating the indicators for that component using a statistical technique called principal components analysis (PCA). This has the effect of assigning weights to each indicator so that the variance between the indicators is maximised. The score for each dimension is a simple average of the four constituent components while the overall SPI is a simple average.

Ireland performs well on this index. In 2020, **Ireland was ranked 13th on this index among 169 countries** with an absolute value of 91.8 and 7th highest among EU countries. The EU countries with a higher ranking were Denmark, Finland, Sweden, the Netherlands, Germany, and Austria.

Ireland’s performance has improved substantially over time in both absolute and relative terms. In 1990 Ireland was ranked 19th on this index with an absolute score of 77.9. The highest-ranking country on this index is Norway with a score of 90.74 in 2020.

While economic indicators are not included there is a relationship between GDP per head and performance on the SPI. Key findings on this relationship are as follows:

- There is a positive and strong relationship between the SPI and GDP per capita.
- The relationship between economic development and social progress is not linear. At lower income levels, small differences in GDP per capita are associated with large improvements in social progress. As countries reach high levels of income, however, the rate of change slows.
- GDP per capita does not completely explain social progress. Countries achieve divergent levels of social progress at similar levels of GDP per capita (Green *et al.*, 2022: 9).

The US illustrates how SPI rankings can differ somewhat from those of GDP. The US has a ranking of 25 on the SPI and is categorised in the second tier of countries despite having the 10th highest GDP per capita among countries of the world.

It is useful to have an index focussed on social outcomes. A beneficial aspect for Ireland is that the exclusion of GDP means one does not have to be concerned about this variable distorting the index. Environmental factors are in the index but do not get a high weighting, as they are one among 12 domains.

Finally, it should be noted that the environmental indicators are focussed on the current environment rather than the risks for the future so that, for example, greenhouse gas emissions are not included. As such the SPI is focussed on current well-being and is not a sustainability index.

2.2 Human Development

The UN Human Development Index (HDI) is a relatively simple measure included in the standard textbooks on development economics and has become the most serious alternative to GDP (Klasen, 2018).

HDI is a summary measure capturing some key elements of human development and was first published in 1990. It is comprised of three dimensions: (i) life expectancy at birth; (ii) education as measured by average years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age; and (iii) standard of living as measured by gross national income (GNI) per capita. The logarithm of income is used to capture the diminishing importance of income as GNI increases.

Over the years a number of additional indices have been added to the original HDI:

- The most recent addition (since 2020) is the Planetary-adjusted HDI. This index adjusts the HDI to account for carbon dioxide emissions per person and material footprint per person.

- The Inequality-adjusted HDI adjusts each of the three components of the HDI for inequality.

- The Gender Development Index involves calculation of separate HDIs for men and women and the ratio of the male and female HDIs constitutes the Gender Development Index.

- The Gender Inequality Index is based on three dimensions: reproductive health (maternal mortality ratio and adolescent birth rate), empowerment (percentage of parliamentary seats held by women and the percentage of population with at least some secondary education by gender) and the labour market (participation in the labour force by gender).

- For developing countries, a multidimensional poverty index is also produced. This seeks to capture the multiple deprivations that people in developing countries face in their health, education, and standard of living.

Ireland ranks highly on the HDI with the eighth highest ranking among the 191 countries covered by the index in the most recent 2020/2021 report. The highest-ranking country for this index was Switzerland, while South Sudan had the lowest ranking.

Ireland also had a high ranking on the supplementary indices with Ireland ranking eighth on each of these: the Inequality-adjusted index, the Planetary-adjusted Index, the Gender Development Index and Gender Inequality Index.

Ireland's position in the HDI and adjusted indices is affected by its high level of GNI per head. **When adjustment is made to calculate the index using GNI*³** rather than GNI, the adjusted HDI for Ireland is estimated to be 0.930 rather than the

³ GNI is defined as GDP less income sent to or received from abroad. GNI* is a recently developed measure designed to adjust for globalisation factors that affect Ireland's GDP and GNI. GNI* is defined as GNI less the following three items: (i) depreciation of intellectual property assets; (ii) depreciation of leased aircraft; and (iii) income (excluding dividends paid) of redomiciled public limited companies (PLCs). Redomiciled PLCs are multinationals that have

published value of 0.945 for 2021. This would **reduce Ireland's ranking to 19th**, the same as Luxembourg and approximately the same as the UK. Ireland is ranked 7th among EU countries.

Ireland performs weaker than most high-income countries on mean years of education, a legacy effect of the later introduction of free secondary education in Ireland.

3. Current Well-Being: Individual Indicators of Performance

3.1 Introduction

The OECD well-being framework distinguishes current well-being on the one hand, and future well-being or sustainability on the other. This reflects one of the central recommendations of the Stiglitz-Sen-Fitoussi Commission. The information in the OECD framework is presented in two ways:

- The OECD's *How's Life? 2020* report uses an extended dashboard of over 80 indicators covering 11 dimensions of current well-being, and four aspects of future well-being.
- The OECD's related Better Life Index provides country reports based on the same 11 dimensions of the well-being framework as used in the *How's Life?* Reports but with a smaller number of indicators and without distinguishing current and future well-being.

The Government has developed a well-being framework for Ireland based on the OECD well-being framework. There are 35 indicators in Ireland's framework. For each indicator a measure of performance is calculated. This is calculated as the average of (i) the percentage change over time; and (ii) a measure of international comparison. The performance for each dimension is the average of its components. In addition, an equality score is calculated for each dimension.

- Of the eleven dimensions in Ireland's framework, ten of these are reported to have a positive performance in the 2023 report.
- The only dimension for which performance was deemed to be negative was 'environment, climate and biodiversity'. Notwithstanding the title of this dimension, Ireland's framework at present does not include any indicators of biodiversity.

However, a caveat to Ireland's performance using the national well-being framework is that it is sensitive to the choice of indicators across the different domains. Bennett (2022) examined Ireland's performance across the same 11 dimensions used in the official well-being dashboard, but with a different set of indicators informed by a survey. She reached a very different conclusion on Ireland's well-being performance.⁴ The ratings were the same as the official dashboard for just four of the eleven dimensions, while:

- Three indicators changed from positive to negative;
- Three indicators changed from positive to neutral; and
- One indicator changed from neutral to positive.

shifted their global headquarters to Ireland. The profits of these companies, less dividends paid abroad, are part of GNI. This remaining profit is deducted in the computation of GNI* (CSO, no date).

⁴ The comparison was made with Ireland's first well-being progress report; i.e. *Understanding Life in Ireland: The Well-being Framework 2022*. The survey used to select the indicators was circulated through a number of Social Justice Ireland communication channels and there were 234 responses. Participants were asked to rank a set of six indicators for each dimension based on order of importance. The indicators offered were those used in the official dashboard plus other indicators available from the CSO and other reputable organisations.

NESC published a report on well-being in 2021 as a contribution to the development of the national well-being framework (NESC, 2021). NESC established a stakeholder and expert group to support this work and conducted a survey of this group as well as a wider survey which received 430 responses. This work identified culture, language, and heritage (specifically, Irish) as a significant omission from the OECD's 11 dimensions. There was strong support among survey respondents on the importance of participation and access to culture, arts, and creativity. Regarding the health dimension, survey respondents were of the view that this should include the strength of the health system, equal access to services, and waiting times.

The stakeholder and expert group recommended that data on children and young people's well-being should be included in the final indicator set. Comprehensive data on children and young people have been reported on in annual updates of the *Better Outcomes, Brighter Futures* policy (Department of Children, Equality, Disability, Integration and Youth, 2022)⁵. Members of the stakeholder and expert group also emphasised the importance of the following three aspects for the well-being framework:

- Self-efficacy and agency: this refers to people's ability to realise their rights and entitlements.

- Loneliness: this was viewed by the group as a particularly powerful indicator, especially for rural areas.

- Green space and access to nature: the report cited research (Alcock *et al.*, 2014; Faculty of Public Health, 2010) that these indicators are highly co-related to well-being (NESC, 2021).

Other issues raised by significant numbers of survey respondents included:

- Gaps in the OECD approach to measuring social interactions and connections;

- The ability to take part in sport and leisure activities, time spent engaged in culture, art, and creativity;

- Access across diverse thematic areas, including measuring access to services and amenities, nature, and education;

- Community, including services in communities, community engagement and the sustainability of communities;

- Governance-related indicators and demand for more measures on trust, accountability and transparency, and government and politics; and

- Environmental issues, in particular the protection of natural habitats and wildlife, using evidence-based assessments to examine their current status, and meeting international commitments (NESC, 2021: 18).

An indicator for loneliness is included in Ireland's framework – something that is not in the OECD framework. There is also an indicator regarding self-reported happiness of school-aged children. Satisfaction with democracy is also included which is relevant to the point on trust above. There are four environmental indicators in Ireland's framework, but they do not cover protection of natural habitats and wildlife. While 'cultural expression' is included in the title of one dimension, there is nothing in Ireland's well-being framework on the Irish language or access to culture, the arts or sport. Access to green space and nature are not included either.

While the assessment of well-being based on indicators will inevitably be influenced by the selection of relevant indicators, both the OECD and Ireland's framework show many significant indicators that have a strong performance regarding current well-being and some aspects of sustainability. At the same time there are also areas of average and weak performance. The remainder of this section sets out key findings regarding strengths and weaknesses in terms of indicators of current well-being while performance on sustainability is discussed in the next section.

⁵ The *Better Outcomes, Brighter Futures: National Policy Framework for Children and Young People, 2014-2020* was in place for the period 2014 to 2020 (Government of Ireland, 2014).

3.2 Ireland's Current Well-Being: Positive Performance

OECD Framework

There is evidence to suggest that Ireland is thriving, inclusive, protective, and forward looking, as measured in terms of our current well-being, using the OECD's framework. The well-being data cited in this section from the OECD is taken primarily from the OECD Better Life Index (OECD, no date b). While this is less comprehensive than the OECD *How's Life* (OECD, 2020) report it is an up-to-date and accessible source of well-being data⁶.

Income distribution⁷ is measured in the OECD framework as the ratio of the disposable income (not including benefits in kind) of the top 20 per cent to the lowest 20 per cent. This ratio was 4.3 for Ireland in 2018, substantially below the OECD average of 5.5 and the 9th lowest in the OECD along with Poland and Austria⁸. This was higher than Denmark (3.8) and lower than the UK (6.5)⁹.

The rate of **relative income poverty**¹⁰ in Ireland in 2018 was 7.4 per cent and this was the 4th lowest among 35 OECD countries in 2018. This was below the rate of Sweden (8.7 per cent) and Norway (8.4 per cent) while the lowest rates were in Denmark (6.4 per cent), Finland (6.5 per cent) and the Czech Republic (6.1 per cent).

In terms of **wealth**, the OECD estimates the average household wealth in Ireland at US\$370,341, well above the OECD average of US\$323,960 and Ireland ranks 11th in the OECD. The top 10 per cent of the wealthiest households in Ireland own 50.4 per cent of the wealth – similar to the OECD average of 51.7 per cent.¹¹

The **share of people aged 15 to 64 in Ireland in paid employment** in Ireland is 68 per cent, above the OECD employment average of 66 per cent, and Ireland ranked 24th among 41 countries on this measure.

The phenomenon of **very long hours worked by employees** is much lower in Ireland than the OECD average (5 per cent of employees in Ireland working more than 50 hours per week compared to the OECD average of 10 per cent)¹².

The **share of the population that has completed upper secondary education** in Ireland is substantially above the OECD average (85 per cent of adults aged 25–64 in Ireland compared to the OECD average of 79 per cent) and Ireland ranked 17th out of 41 countries included in the Better Life Index. Completion rates in Ireland are higher for women (88 per cent) than men (83 per cent).

The OECD's Programme for International Student Assessment (PISA) is an indicator of **education quality**. The average student score on this assessment in reading literacy, maths and science in Ireland was 555, above the OECD average of 488 and Ireland was ranked seventh highest among 41 countries. Girls in Ireland outperformed boys by six points (OECD average: five points). Higher income groups achieve higher scores but the gap between the top and bottom income groups in Ireland on this student score was the sixth lowest in the OECD.

⁶ There is additional, up-to-date information available on well-being in the OECD *How's Life?* Well-being database, available from <https://stats.oecd.org/Index.aspx?DataSetCode=HSL> [accessed 28.08.2023].

⁷ Income distribution and relative income poverty are not included in the OECD Better Life Index but are part of the more comprehensive OECD *How's Life?* report.

⁸ 2019 or latest available data.

⁹ Income distribution data from the OECD *How's Life?* Well-being database. The OECD average is based on 2019 or latest available data and taken from OECD (2022).

¹⁰ Relative income poverty is defined here as the share of people with household disposable income below 50 per cent of median income. The data is taken from the OECD *How's Life?* Well-being database.

¹¹ The distribution of wealth figure is not included in the OECD Better Life Index and is taken from OECD (2022).

¹² In the Ireland's national well-being framework, however, it is reported that in 2022 the share of people in employment working long hours in their main job (over 49 hours) was 9.1 per cent and this was above the EU average of 7.3 per cent (Government of Ireland, 2023). The difference arises from the fact that the OECD data is referring to employees while the data in the national framework is referring to all employment including self-employment. The prevalence of long hours is particularly high in agriculture (40.6 per cent) where self-employment is high. According to the Eurostat database, the share of employees in Ireland working long hours in their main job in 2022 was 5.8 per cent which was above the EU average of 3.8 per cent.

Life expectancy at birth in Ireland is around 83 years, above the OECD average of 81 years and is the 13th highest among 41 countries in the Better Life Index. Women have higher life expectancy than men. In Ireland, life expectancy for women is 85 years, compared with 81 for men and the ratio of female to male life expectancy is the ninth lowest among the countries included.

Perceived health (percentage of population saying their health is very good or good) in Ireland is relatively high at 83.9 per cent and the fifth highest among 41 countries. While this is subjective, according to the OECD, ‘answers have been found to be a good predictor of people’s future health care use’ (OECD, no date a). There is generally a gender gap in perceived health, but this is not the case for Ireland giving Ireland the best ranking in this regard. Perceived health is higher among higher income groups. In Ireland the ratio in this regard between the top and bottom 20 per cent of the income distribution is 1.3, the 13th lowest among the countries covered.

Deaths of despair refer to deaths from suicide, acute alcohol abuse or drug overdose. There were 9.8 such deaths per 100,000 population in Ireland in 2016 and this was the 10th lowest among 34 OECD countries and below the OECD average of 14.8.

Air quality in Ireland is relatively good. The level of atmospheric PM2.5 – tiny air pollutant particles small enough to enter and cause damage to the lungs known as fine particulate matter – is well below the OECD average (7.8 micrograms per cubic meter in Ireland, OECD average of 14 micrograms per cubic meter). Despite generally good air quality in Ireland, it is estimated by the EPA that there are **1,300 premature deaths** in Ireland annually due to fine particulate matter (EPA, 2022a).

In Ireland, 95 per cent of the population had **access to public parks, forests or other recreational green spaces** within 10 minutes’ walking distance from their home in 2012 – this was above the OECD average of 93 per cent. Ireland ranked 15 out of 26 OECD countries on this indicator. In Austria, Finland, Luxembourg, and Sweden, more than 98 per cent of the urban population had access to this type of space.

An indicator of strong **social connections** in Ireland is that 96 per cent of people say that they know someone they could rely on in time of need, and Ireland has the third highest ranking in the OECD on this measure.

Ireland’s **homicide rate** at 0.5 per 100,000 population is below the OECD average of 2.6 and the ninth lowest among 41 countries. The share of **the population who say they feel safe walking alone at night** in Ireland is 76 per cent, somewhat more than the OECD average of 74 per cent.

Finally, **life satisfaction** in Ireland, as measured by self-reported general satisfaction with life on a scale from 0 to 10, has a score of 7 which is higher than the OECD average of 6.7. Ireland ranked 15th out of 41 countries on this measure. Higher income people tend to enjoy higher life satisfaction. The ratio of life satisfaction between high- and low-income groups in Ireland at 1.04 is among the lowest in the countries included in the Better Life Index (sixth out of 39 countries)¹³.

The **negative affect balance** refers to the percentage of the population having a balance of more negative than positive feelings the previous day. This share was 7.85 per cent for Ireland in 2021 and was the third lowest in the OECD¹⁴.

Performance on **housing** in both the OECD and national frameworks is discussed below.

¹³ OECD (2022) shows the gap in life satisfaction between the top and bottom 20 per cent of the population in Ireland at 1.9 which was the 11th most equal in the OECD.

¹⁴ The negative affect balance is not included in the Better Life Index. The information here is taken from the *How’s Life?* Well-being database.

Table 1: Ireland’s Performance under the OECD’s Well-Being Framework

OECD’s Well-Being Framework	
Positive Performance	Areas for Improvement
<p>Current Well-Being</p> <ul style="list-style-type: none"> • Income distribution • Relative income poverty • Wealth • Share of people aged 15 to 64 in Ireland in paid employment • Very long hours worked by employees • Share of the population that has completed upper secondary education • Education quality • Life expectancy at birth • Perceived health • Deaths of despair • Air quality • Social connections • Homicide rate • The population who say they feel safe walking alone at night • Life satisfaction • Housing overcrowding rate • Housing cost overburden rate • Housing lacking basic facilities • Housing with internet access <p>Sustainability of Well-Being</p> <ul style="list-style-type: none"> • Natural or semi-natural vegetated land • Extinction risk for birds, mammals, amphibians, cycads, and corals • The level of produced fixed assets • Household debt • Educational attainment of the population • Labour underutilisation • Premature mortality • Smoking prevalence • Trust in their government • Trust in other people 	<p>Current Well-Being</p> <ul style="list-style-type: none"> • Household income • Distribution of Gross earnings • Satisfaction with water quality <p>Sustainability of Well-Being</p> <ul style="list-style-type: none"> • Greenhouse gas emissions • Carbon footprint • Share of renewable energy in total energy supply • Recovery of municipal waste • Excess nitrogen use • Intact forest landscapes • Protected land and marine areas • Material footprint • Level of government net worth • Obesity • Parliamentary seats held by women • Stakeholder engagement with government
Corruption	

Source: Assembled from OECD (no date b), OECD (2020), OECD (2022), OECD Country Profile Ireland spreadsheet (supplied by OECD Secretariat) and OECD *How’s Life?* Well-Being Database. <https://stats.oecd.org/Index.aspx?DataSetCode=HSL> [accessed 28.08.2023].

National Well-Being Framework

There is further evidence to suggest that Ireland is thriving, inclusive, protective, and forward looking, as measured by Ireland's own well-being framework. For example, the **proportion of adults who rated their overall life satisfaction as high** (9 or 10 out of 10) in Ireland in 2018 was the highest in the EU at 45 per cent. The number of **healthy life years** is 66.2 years, above the EU of 64 years.

The national well-being framework shows Ireland as having positive performance on income and wealth due to the relatively high and rising level of household income and wealth. The **median equivalised household net income** in Ireland was the 4th highest in the EU in 2022 at €28,130 and **median household wealth** was 5th highest in the euro area in 2020 at €179,090. However, a more comprehensive measure of household income used in the OECD framework shows relatively lower income in Ireland (see section below).

The **proportion of households making ends meet with great difficulty** in Ireland in 2022 was 6.0 per cent which was somewhat below the EU average of 6.8 per cent¹⁵. The share of households in this position fell from 6.0 per cent in 2020 to 5.6 per cent in 2021 and then increased to 5.9 per cent in 2022 according to CSO data. Data is also gathered in the Survey of Income and Living Conditions on two other categories: 'households making ends meet with difficulty' and 'households making ends meet with some difficulty'. Ireland had a higher proportion of households in these categories than the EU average and the share of households with some degree of difficulty in making ends meet (i.e. the three categories combined) in Ireland in 2022 was above the EU average (52.7 per cent versus 45.5 per cent).

Within the knowledge, skills and innovation dimension, Ireland has a strong performance in regard the **reading and maths skills for 15-year-olds**. The reading ability of Ireland's 15-year-olds in 2018 was the 4th highest in the OECD while the maths performance was also above average.

Ireland's **lifelong learning** rate in 2022 was 11.8 per cent, approximately the same as the EU average. The top performers were Sweden at 36.2 per cent, Denmark at 27.9 per cent and Netherlands at 26.4 per cent. The performance score was marginally positive for this indicator.

Ireland had a positive performance on safety and security. Ireland's **murder rate** per 100,000 population (0.68) in 2020 was below the EU average (1.21) (latest international data). However, the murder rate per 100,000 people increased by over 10 per cent to 0.86 in 2022 compared to 2017. The **number of people killed or injured on roads** declined by almost 30 per cent between 2015 and 2021. The number of deaths on roads per million population in 2021 was 27.36, the 7th lowest in the EU.

Ireland has a positive performance in terms of **work and job quality** indicators. The employment rate and net earnings are both increasing and above the EU average. Ireland had the fourth highest annual **net average earnings for a single worker without children** in the EU in 2021 at €39,617 and well above the EU average (€26,135). Ireland's **employment rate** in final quarter of 2022 was 73.2 per cent, while the EU average which stood at 70.2 per cent (Eurostat database). Mean weekly earnings in 2021 were €667.76 while median earnings were €644.55¹⁶.

Satisfaction with time use is relatively high in Ireland. On a scale of 1 to 10, Ireland's average score was 7.5 in 2018, joint second highest in the EU alongside Denmark and the share of the population who rated their satisfaction either 9 or 10, increased from 29 per cent in 2013 to 34.7 per cent in 2018.

The **proportion of the population who had someone they could ask for help** was 96.2 per cent for Ireland in 2015, above the EU average of 94.1 per cent. In 2019, 99 per cent of the population in Ireland had someone they could count on if they had a serious problem. In 2018, 16.6 per cent of the population in Ireland reported **feeling lonely** at least some of the time.

¹⁵ The comparative data on this measure is taken from the Eurostat database while the trend data is from the CSO database. The current data reported here (as of 30th August, 2008) differ slightly from what is reported in Government of Ireland (2023).

¹⁶ Median weekly earnings are not part of Ireland's Well-being dashboard but is included here for comparability.

Finally, the **share of people who are satisfied with the way that democracy works** in Ireland was 82 per cent in spring 2023, and this was the highest in the EU and much higher than the EU average of 58 per cent. This is up from 73 per cent in Spring 2017.

Box 1: Well-Being in Northern Ireland

Extensive work has also been undertaken on well-being in Northern Ireland. A Roundtable on the Measuring Well-being in Northern Ireland was established with the support of a UK foundation, Carnegie UK. It carried out its work in 2014 and 2015. Members of the roundtable comprised civil servants and individuals from business, the third sector, youth, academia, and local government in Northern Ireland, plus a NESC analyst from Ireland. It recommended that improving well-being should be a stated aim of the Northern Ireland Executive and called for a well-being framework that would guide the work of public services and set out an approach on how this could be done.

Subsequently the draft Programme for Government of the Northern Ireland Executive adopted an outcomes-based approach based on well-being and this was influenced by the report of the Roundtable (Coutts *et al.*, 2021). In the absence of an Executive, the Northern Ireland Civil Service published an Outcomes Delivery Plan (Executive Office, 2018). This had 12 outcomes covering different dimensions of well-being and 68 indicators. An updated version was published in 2019 (Executive Office, 2019) and two progress reports were also published. However, the most recent Outcomes Delivery Plan 2021/22 is not based on well-being.

Northern Ireland also produces a well-being report that sets out the position on subjective measures. The well-being report was first produced for 2020/21 while an updated version was produced for 2021/22. The report covers the following aspects of well-being: loneliness; self-efficacy; personal wellbeing; and locus of control: the degree to which a person feels in control of their life (PfG Analytics and NISRA, 2022). The information in the report is also presented in the form of a dashboard (NISRA, 2022).

The report provides detailed information on all of these for the population as a whole and also for different groups of the population including gender, age, education, tenure, local government district, religion etc. The report is based on a survey for Northern Ireland and does not contain comparative information on other areas.

Comparative information on self-assessment of life satisfaction is available from the OECD Regional Well-being database (OECD, no date c). On a 10-point scale, this measure of life satisfaction was 7.2 for Northern Ireland. This was somewhat higher than for Ireland and the average for the UK both of which were 7.0. Along with Scotland, the North East and North West regions, Northern Ireland had the highest self-assessed life satisfaction in the UK.

There have also been developments on well-being at local government level in Northern Ireland. Local governments in Northern Ireland have responsibility for community planning. They produce Community Plans that are concerned with the enhancement of well-being. However, research found that local governments had little support to do so. This led the Carnegie (UK) Trust in 2017 to provide support local authorities to improve well-being. Following an open call, the Community Planning Partnerships of three local authorities were selected for financial and other support (NESC, 2022).

Community Planning Partnerships in Northern Ireland comprise the council, statutory bodies, agencies and the wider community, including the community and voluntary sector. They have responsibility for developing 'a shared plan for promoting the well-being of an area, improving community cohesion and the quality of life for all citizens' (Department for Communities, no date).

NESC's report on the Shared Island (NESC, 2022) found that there has been some north-south co-operation on well-being. For example, the development of both the Irish and Northern Irish frameworks involved the use indicator dashboards and the respective statistical agencies – the CSO and Northern Ireland Statistics and Research Agency (NISRA) – have been involved in this work and have had ongoing liaison. In the voluntary sector, the Wellbeing Economy Alliance Ireland (WEAll Hub Ireland) began in late 2020 involves a number of Irish charities and interested individuals working together to promote the concept of a well-being economy within Irish society, north and south.

NESC identified potential for further north-south co-operation on well-being including the following: the development of well-being frameworks offers an opportunity for both jurisdictions to consult on a north-south basis, as well as east-west; there is scope for co-operation by both statistical offices and other data collectors and analysts in the development and application of indicators and other measures; in the longer term, there may be the opportunity for wellbeing frameworks, north and south, to become more aligned on common and shared concerns. However, at present Northern Ireland does not have a formal, multidimensional well-being framework in place.

NESC also pointed to the advantages of greater co-operation on well-being at local level especially in border areas. This could be advanced by co-operation between Community Planning Partnerships in Northern Ireland and the Public Participation Networks (PPNs) in Ireland (NESC, 2022). PPNs in Ireland are networks that connect local authorities to community and voluntary, social inclusion and environmental sectors. Each PPN produces a well-being statement.

Housing

Housing is an important influence on well-being and is a dimension in both the OECD and national well-being frameworks. Surprisingly, in neither case do the indicators used highlight housing as a particular problem with Ireland having a strong performance on most indicators used in these frameworks.

The OECD Well-being database includes five housing variables:

- The overcrowding rate;

- Housing affordability: share of household gross adjusted disposable income remaining after deducting housing rents and maintenance;

- Housing cost overburden rate: share of households in the bottom 40 per cent of the income distribution spending over 40 per cent of their disposable income on housing costs;

- Share of poor households (households below 50 per cent median income) without an indoor flushing toilet; and

- Households with internet access at home.

Ireland's rate of overcrowding in 2020 was 3.4 per cent, the 4th lowest among 33 countries in the OECD Well-being database. In regard to affordability, the share of household income remaining after housing costs in Ireland in 2020 was 80.6 per cent which was similar to the unweighted average of 33 countries (80.0 per cent) and the 13th lowest among these countries (4th lowest in the EU). The housing cost overburden rate, a measure of affordability focussed on poor households, was 10.85 per cent, the 7th lowest among 33 countries. The share of poor households in Ireland lacking an indoor toilet was 0.18 per cent the 7th lowest in the OECD. The share of households with internet access in Ireland was 91.8 per cent in 2020, the tenth highest among 28 countries.

The indicators on housing in the national well-being framework also show a positive performance in terms of housing:

- The growth in housing completions (up 110 per cent over the past five years);
- The share of domestic dwellings with a good Building Energy Rating (BER of A or B). This is up from 22 per cent in 2017 to 45 per cent in 2022; and
- The proportion of households spending over 40 per cent of disposable income on housing (net of housing allowances) fell from 4.6 per cent in 2016 to 2.5 per cent in 2021 and Ireland had the second lowest ranking on this measure across the EU.
- The average distance to everyday services. It is not possible to generate a performance score for this indicator due to an absence of trend and internationally comparable data.

A recent ESRI report also found evidence of housing being relatively affordable in Ireland. The ESRI study found that on average households in Ireland spend around one fifth of their income on housing and Ireland was the sixth most affordable country for housing among 15 European countries and the most affordable for the rental sector (Disch & Slaymaker, 2023)¹⁷.

The question arises as to how the positive performance on housing in the well-being frameworks and the ERSI evidence on affordability are consistent with the widely shared view that Ireland is experiencing a housing crisis.

The international comparisons indicate that housing is generally satisfactory for established households in Ireland. The most acute problems are for the most part encountered by those seeking to secure housing. While existing low-income households enjoy low housing costs, it is very difficult to secure social housing or supported accommodation in the private rental sector. Rental accommodation generally is very scarce and it has become difficult for young households to buy housing. Affordability pressures in the rental are evident among households not getting State support. In the third quintile and fourth quintiles the share of tenants paying more than 30 per cent of their income on rent in Ireland is higher than the European average (16 per cent vs. 9 per cent for the third quintile; 14 per cent vs. 3 per cent for the fourth quintile) (Disch & Slaymaker, 2023).

The *Understanding Life in Ireland 2023* report notes that there is no fully standardised internationally comparable data available on housing completions, but cites data published by Deloitte which shows that Ireland's housing completions in 2021 at 4.08 per 100,000 population were the 6th highest in the EU. However, the NCPC has reported, based on Eurostat data, that Ireland's housing investment in 2021, expressed as a percentage of GNI*, was the lowest in the EU in 2021.

Housing problems are more severe for some groups of the population. For example, ESRI research found evidence of affordability pressures for 19 per cent of single parent households compared to 5 per cent of the general population¹⁸ while single parents were also more exposed to other housing problems including damp and lack of central heating (32 per cent compared to 22 per cent of the total population). Over-crowding was significantly higher among some minorities. While an estimated 6 per cent of the total population were living in over-crowded accommodation in 2016, this was the case for over 35 per cent of Asian/Asian Irish, 39 per cent of Travellers and over 40 per cent of Black/Black Irish (Russell *et al.*, 2021).

¹⁷ The rents used in this study includes social housing rents and the rents net of State support paid by those receiving such support (for example the Housing Assistance Payment) in the private rental sector.

¹⁸ This refers to the share of individuals in households that spend more than 30 per cent of income on housing and who are in the bottom 40 per cent of the income distribution.

3.3 Ireland's Current Well-Being: Room for Improvement

The **OECD's framework** shows areas where Ireland has room for improvement in terms of current well-being. For example, **household income** in Ireland as measured in the OECD framework is, perhaps surprisingly, somewhat below the OECD average. The average household net-adjusted disposable income per capita is US\$ 29,488 a year while the OECD average is US\$30,490 a year. This measure of household income adjusts for differences in prices across countries. In addition, it takes into account free or subsidised services provided by governments or non-profit institutions to households (such as health and education).

Further, **gross earnings** are also more unequal in Ireland. The ratio of the earnings of the top 10 per cent to the bottom 10 per cent in Ireland was 3.9 compared to an OECD average of 3.4 and this ratio was ninth highest in Ireland (2019 or latest available data as reported by OECD, 2022).

Notwithstanding generally good **air quality** as noted above, EPA research identifies localised areas where air quality is of concern. Poor air quality due to fine particulate matter is estimated to result in **1,300 premature deaths** in Ireland annually (EPA, 2022a).

Finally, **satisfaction with water quality** in Ireland is below average (80 per cent compared to the OECD average of 84 per cent).¹⁹

There is also evidence using the **national framework** which indicates that Ireland has more to do to be considered thriving, inclusive, protective, and forward looking in terms of current well-being. Ireland's performance was deemed negative in the national well-being assessment for the following current indicators:

- **Proportion of school-aged children who report being happy with their life:** there was a slight reduction in this indicator (less than 2 per cent) between 2014 and 2018.

- **Long working hours in main job:** the share of the population working long hours in Ireland at 9.1 per cent was above the EU average of 7.3 per cent in 2022²⁰; however, there was fall in the proportion of people working long hours in their main job (more than 49 hours) in the five years to the first quarter of 2023 from 10.6 per cent to 8.3 per cent.

- **Persons who experienced discrimination in the last two years:** this increased from 12 per cent in the third quarter of 2014 to 18 per cent in the first quarter of 2019.

In addition, the share of households in Ireland who reported problems with pollution, grime or other environmental problems increased from 4.7 per cent in 2015 to 8.2 per cent in 2020. This was, however, well below the EU average of 13.7 per cent.

The well-being report also examines the equality aspect of the performance across several indicators and dimensions. The analysis identified several groups that are exposed to inequality for a high share of indicators:

Women, single-parent households, people living alone, immigrants/non-Irish, unemployed people, households with lower incomes, households in rented accommodation, and people with long-term illness or disability (Government of Ireland, 2023: 6).

¹⁹ According to the EPA, the quality of water in public water supplies is high and it is safe to drink. However, the EPA also says that the supply is not as resilient as it could be so that investment is needed to ensure the supply of drinking water from public supplies remains safe (EPA, 2022b). The quality of water in private schemes is of greater concern. According to the EPA, one in 20 private water supplies were contaminated with E. coli in 2020. It is also of concern that over a quarter of small private supplies were not monitored by local authorities (EPA, 2022c).

²⁰ The OECD Better Life Index reports that the share of *employees* in Ireland working long hours (year not specified) was 5 per cent and this was below the OECD average of 10 per cent as noted above. Eurostat data for 2022 shows that the share of employees in Ireland working long hours in their main job was 5.8 per cent and this was above the EU average of 3.8 per cent.

Examples of the findings on inequality include the following:

- Households in the lowest 20 per cent of the income distribution are much more likely to have great difficulty making ends meet: 11.6 per cent of such households have this problem compared to 1.0 per cent of households in the top 20 per cent.
- Lower income people are also more likely to experience depression: 18 per cent of those in the bottom 20 per cent of the income distribution reported depression compared to 11 per cent in the top 40 per cent of the income distribution.
- The rates of reported depression for women (16 per cent) are higher than men (11 per cent).
- Those in lower income households are more likely to spend a lot of time on care: the share of people in the lowest 20 per cent of households who provided more than 20 hours of care is 36 per cent compared to 23 per cent for those in the top 20 per cent.²¹ A higher share of women (37 per cent) spend more than 20 hours per week on care than men (23 per cent).
- Perceived social inclusion among those unable to work due to permanent sickness or disability and those unemployed rating their social inclusion is 6.3 and 6.4 out of 10 respectively. This is lower than among those at work (7.8) or retired (7.6) (Government of Ireland: 2023).

A recent NESC report examined the potential of well-being frameworks to contribute to addressing inequality (NESC, 2023b). The report found that Ireland's existing well-being framework is potentially helping to address inequality in two ways: first by bringing new information into policy development and second through the development of new processes, for example, the incorporation of well-being analysis into the budget process and the discussion of this analysis in the National Economic Dialogue. The report identified potential ways for Ireland's well-being framework to be developed to play a more significant role in addressing inequality drawing on the experience of other countries. First, there is potential to set national goals and milestones including in regard to inequality as part of the national well-being framework; this is the practise in some countries. Second, the well-being framework could be used to help integrate the work of government department agencies. The report cited legislation in Wales that requires public bodies to set objectives that show how they will achieve the seven Welsh well-being goals. Third, there is scope for enhanced dialogue within the well-being framework to address inequalities. Fourth, the report suggests that a combination of hard and soft tools within a well-being framework may be most effective in enhancing well-being and tackling inequality. Soft tools include building shared consensus and agreeing a workable framework while examples of harder tools are legislation with binding commitments and strong monitoring and review processes. Fifth, the report identified scope for the well-being framework to have a more explicit focus on environmental justice. Environmental justice is concerned with the fair sharing of both environmental costs and benefits. Finally, the report identified the need to address data and knowledge gaps if the well-being framework is to realise its potential.

²¹ Care here refers to the percentage of persons aged 15 years and over who provide care (excluding professional activities) to another person at least once a week by virtue of that other person's suffering from some age problem, chronic health condition, or infirmity.

Table 2: Ireland's Performance under the National Well-Being Framework

Ireland's Well-Being Framework	
Positive Performance	Areas for Improvement
<p>Current Well-Being</p> <ul style="list-style-type: none"> • Proportion of adults who rated their overall life satisfaction as high • Healthy life years • Median equivalised household net income • Median household wealth • Proportion of households unable to make ends meet • Reading and maths skills for 15-year-olds • Lifelong learning • Growth of household wealth • Healthy life years • Number of people killed or injured on roads • Net average earnings for a single worker without children • Employment rate • Satisfaction with time use • Proportion of the population who had someone they could ask for help • Share of people who are satisfied with the way that democracy works • Growth in housing completions • Share of domestic dwellings with a good Building Energy Rating • Housing cost overburden rate 	<ul style="list-style-type: none"> • Greenhouse gas emissions • Waste generated • River water quality • Research and development personnel • Household income in purchasing power parity terms • Long working hours in main job • Persons who experienced discrimination in the last two years

Source: Government of Ireland (2023).

The alternative national well-being framework put forward by Bennett (2022) reveals some further areas of concern including the following:

- The CSO Trust Survey (CSO, 2022) showed that just 32 per cent of the population expressed satisfaction with the health care system. There was higher satisfaction with education (70 per cent) and administrative services (64 per cent). This data is only available for one year.
- In June 2023 there were 598,226 people on the out-patient waiting list. This is a reduction from the 625,679 people noted by Bennett as of September 2022. The CSO Irish Health Survey shows that 14 per cent of the population age 15 and over reported an unmet need for health care due to waiting times. This share is much higher for people who are very disadvantaged (18 per cent) compared to those who are very affluent (10 per cent) (CSO, 2020). While a substantial share of the population has an unmet need due to being on a waiting list, this indicator is not particularly high in Ireland compared to other countries. European Health Interview Survey (EHIS) data show that 18.3 per cent of the population²² in Ireland had an unmet need for healthcare

²² The Irish Health Survey (IHS) is the Irish version of the European Health Interview Survey (EHIS). It is not clear why the data on the share of the population with an unmet need for health care due to waiting lists differs in these two sources.

due to waiting times in 2019²³. This was below the EU average of 19.4 per cent and Ireland ranked 16th highest in the EU. Countries with higher share of the population with an unmet need due to waiting times included Denmark (24.5 per cent), Sweden (24.4 per cent) and France (23.8 per cent).

- Ireland has an unfavourable ranking on some indicators of gender-based violence. In 2021 the incidence of rape of women in Ireland was 37.22 per 100,000 population and this was the seventh highest among European countries and had doubled over the previous ten years. The incidence of other sexual assaults on women in Ireland was 56.22 and again Ireland ranked seventh in the EU in the same year²⁴.
- Bennett cites data from the International Journal of Health Policy and Management that shows relatively high time spent on caring in Ireland (excluding professional carers). The average weekly hours per carer in Ireland were the fourth highest in the EU-28 in 2016 while the annual value of this work per carer in Ireland was the highest in the EU at just over €15,000. (Peña-Longobardo & Oliva-Moreno, 2022).
- The share of the population in Ireland with low digital skills in 2019 was 36 per cent compared to an EU average of 28 per cent²⁵.

4. Indicators of Performance: Sustainability of Well-Being

4.1 Introduction

The assessment of the sustainability of national well-being is complex. The concept of ‘inclusive wealth’ is a potential way of addressing this complexity in a single measure. Ireland’s performance on this measure is presented below but its limitations are also noted. The OECD well-being framework assesses sustainability in terms of indicators of four types of capital: natural, economic, human, and social. Ireland’s performance across these different types of capital is presented below. Ireland has a mixed record, but these indicators do not provide a clear-cut answer on the extent to which a country’s position is sustainable. This is followed by presentation of Ireland’s performance regarding the sustainability indicators in the national well-being framework. Biodiversity is a critical dimension of sustainability. Evidence on the status of biodiversity is presented in below.

Planetary boundaries represent estimates of ‘safe space’ for humanity regarding key global processes. They include climate change, biosphere integrity and ocean acidification. Planetary boundaries are one part of the doughnut concept of development. This is also explained below, and Ireland’s performance in light of this approach is assessed.

4.2 Inclusive Wealth

Measuring Inclusive Wealth

The UN Environment Programme publishes a report on ‘inclusive wealth’. Inclusive wealth is defined as the sum of manufactured capital (machines, buildings, roads, physical infrastructure etc.), human capital and natural capital. These are all measured in monetary terms. The authors argue that inclusive wealth is a measure of sustainability in that if inclusive wealth is either stable or increasing, it means that the economy’s productive base is being maintained for the next generation.

Over the period 1990 to 2014 total inclusive wealth for 140 countries increased by 44 per cent or an annual rate of 1.8 per cent. This was around half the annual growth of GDP over the same period (3.4 per cent). The growth in inclusive wealth is due an increase in manufactured and human capital. Over this period, produced capital grew by an average

²³ The EHIS data is available from the Eurostat database.

²⁴ This is administrative data available from the Gender Statistics Database of the European Institute of Gender Equality.

²⁵ Available from the Eurostat database.

rate of 3.8 per cent annually while human capital (linked to health and education) grew by 2.1 per cent annually. Natural capital fell globally by 0.7 per cent annually with only 31 countries experiencing an increase in natural capital.

Almost all countries in the study (135 out of 140) experienced an increase in inclusive wealth over this period while on a per capita basis inclusive wealth increased in 89 of the 140 countries (64 per cent).

The study also reported on a measure of adjusted inclusive wealth. The adjustments made were for the following: technological progress (this can be considered as an additional form of wealth); carbon damage; and projected changes in oil prices (these are projected to increase wealth for some countries and reduce it for others). After these adjustments were made, the vast majority of countries continued to show increases in inclusive wealth: 124 countries had an increase in total adjusted wealth and 96 had an increase in per capita terms (UN Environment Programme, 2018).

The Stiglitz-Sen-Fitoussi Commission (2009) pointed to the attractions and limits of an extended or inclusive wealth approach. One of its concerns was the difficulty in adequately valuing some of the key components. As noted above, it favoured a more modest measure of wealth that would be limited to those items for which reliable market values are available.

How Ireland Performs

Ireland was among the countries with **strong growth in inclusive wealth**, estimated at 17.1 per cent annual growth over the period 1992 to 2014 and the fifth highest growth rate of 140 countries. However, Ireland was among the countries for whom natural capital declined.

A feature of this approach is that it assumes that different categories of capital are substitutes for each other. Increases in physical or human capital are allowed to compensate for losses of natural capital. Where critical natural is lost it is questionable that it can be offset by more machines, buildings, or education.

4.3 Sustainability of Well-Being in the OECD Framework²⁶

When it comes to the sustainability of well-being into the future, again while there is some evidence that suggests Ireland is thriving, inclusive, protective, and forward looking across the four different types of capital used to monitor sustainability in the OECD framework, the data also illustrates some key challenges in environmental sustainability.

Natural Capital

Positive Performance

In terms of natural capital, Ireland's performance under OECD framework is above average on a limited number of indicators.

In Ireland in 2019, 88 per cent of the country was covered by **natural or semi-natural vegetated land**, and this was the second highest share in the OECD. Coverage of this type of land has been stable in Ireland over the period 2004 to 2019, with gains and losses of 0.2 per cent both of which are low relative to other OECD countries (gains of 0.6 per cent and losses of 0.7 per cent) over the same period²⁷.

The Red List Index is an indicator of the combined **extinction risk for birds, mammals, amphibians, cycads, and corals**. It ranges from 1.0 (least concern, all species not expected to become extinct in the near future) to 0 (all species having gone extinct). For Ireland this indicator was 0.92 in 2022 and this was above the unweighted OECD average of 0.88.

²⁶ Data on Ireland's sustainability performance on the OECD framework is mainly taken from the *How's Life?* Well-being database.

²⁷ Change in land use cover is taken from the OECD Environment database.

Areas for Improvement

Using the OECD's framework to assess the sustainability of our well-being also highlights challenges to Ireland's status as thriving, inclusive, protective, and forward looking. On climate change, the OECD framework presents emissions both in terms of domestic production (the standard approach) and emissions embodied in final domestic demand. Ireland's **greenhouse gas emissions on a production basis** (excluding land use, land use change and forestry) in 2020 were 11.6 tonnes per capita, the seventh highest in the OECD. Carbon dioxide emissions embodied in final demand (**the carbon footprint**) in Ireland were 10.7 tonnes per capita in 2018, the 11th highest in the OECD and the same as Finland.

On **recovery of municipal waste**²⁸, Ireland had been above the OECD average but in 2019 Ireland was below the unweighted OECD average (38.0 compared to 42.0).

Excess nitrogen use is a significant source of pollution. Ireland has gone from being below the OECD average in terms of the soil nitrogen balance in 2015 (42 compared to 65kg/ha) to above the unweighted OECD average in 2018 (70 compared to 58kg/ha)²⁹.

Ireland's **share of renewable energy in total energy supply** in 2021 (11.5 per cent) was approximately the same as the OECD average (11.6 per cent). In some small OECD countries renewables provide around 40 per cent or more of total energy (Iceland, Norway, Latvia and New Zealand) (OECD, no date e).

'**Intact forest landscapes**' are a type of land with particularly high value in terms of ecosystems. There are only 11 countries in which these landscapes remain, and Ireland is not among them (OECD, 2020).

'**Protected land and marine areas**' are a way of conserving biodiversity. Across the OECD, 16 per cent of the land areas and 25 per cent of marine areas were protected in 2019, both up from 13.5 per cent in 2010. The share of protected marine areas doubled in 10 OECD countries over the period 2010 to 2019 (OECD, 2020). Ireland has relatively low rankings for both of these indicators. Just 2.4 per cent of marine areas were protected in 2021 and just 14.2 per cent of land area was protected in the same year, the fifth lowest in the OECD in each case.

Finally, Ireland's **material footprint** in 2019 was 49.3 tonnes per capita, the second highest in the OECD and is well above the OECD unweighted average of 26.2 tonnes per capita. Ireland's material footprint increased by over 90 per cent from 2010 to 2019.

Economic Capital

Positive Performance

Ireland has a high ranking in regard to **the level of produced fixed assets** (all types of physical capital) in Ireland relative to the size of the population. In 2020 Ireland was the highest for this measure among 25 OECD countries. This includes foreign direct investment (FDI) as well as domestic investment.

In addition, **household debt** in Ireland has fallen sharply in Ireland from 228.7 per cent of disposable income in 2010 to 111.4 per cent in 2021, and Ireland now has a mid-level ranking on this indicator within the OECD (15th out of 29).³⁰

Areas for Improvement

The OECD's well-being framework also suggests that there is room for improvement. In the majority of OECD countries, government net worth is negative; i.e. government liabilities exceed government assets. The **level of government net worth** (i.e. government assets less liabilities) in Ireland in 2021 was -US\$ 40.8 per capita in purchasing power parity

²⁸ Waste recycled or composted as a percentage of all waste treated.

²⁹ The OECD averages are unweighted averages of countries for which data is available. There are several OECD countries for which data is not available. The 2015 data is from OECD (2020). The 2018 data for Ireland is from OECD (no date d) and OECD average is calculated from the OECD Well-being database.

³⁰ Minimising household debt is not always appropriate. An improved availability of housing to purchase in Ireland would lead to an increase in household debt. The highest level of household debt within the OECD is in Denmark (254.6 per cent). It is reported in the OECD framework that net worth for Ireland across all sectors of the economy is the most negative in the OECD. The meaning of this is not clear given an above average level of household wealth and may arise from accounting practices.

(PPP) terms. This was the 13th most negative out of 38 OECD countries. Countries with more negative net worth include France (US\$ -86.6 per capita, PPP), UK (US\$ -106.0 per capita, PPP) and the US (US\$ -96.8 per capita, PPP).

Human Capital

Positive Performance

Ireland's status as thriving, inclusive, protective, and forward looking is bolstered when measured in terms of human capital under the OECD framework. For example, of the five indicators of human capital in the framework, Ireland outperforms the OECD average on four out of these. This is particularly the case for the **educational attainment of the population**. In Ireland, 94.7 per cent of the population aged 25 to 34 had at least upper secondary education in 2021 and this was the fourth highest among OECD countries for which data are available.

Ireland also now performs strongly on **labour underutilisation**: this includes unemployed, discouraged, or underemployed workers. In the final quarter of 2022, Ireland's rate of labour underutilisation was 8.3 per cent. This was the 9th lowest in the OECD and similar to Denmark. Until recently this indicator was much higher for Ireland at 15.1 per cent in 2021³¹.

Further, **premature mortality** (potential years lost per 100,000 population) in Ireland in 2015 was 3,656 well below the OECD average of 4,625 (OECD, 2020; varying years used in computation of the OECD average).

Finally, **smoking prevalence** (share of population aged 15 and over who say they smoke daily) in Ireland was 17.0 per cent in 2018, below the OECD average of 18.8 per cent (OECD, 2020; varying years are used for the OECD average).

Area for Improvement

However, **obesity** was the one human capital indicator for which Ireland's performance was weaker than average. On average, one in five of the population in the OECD is considered to be obese (20.8 per cent - varying years used), while in Ireland the share in 2017 was 23.0 per cent (OECD, 2020).

Social Capital

Positive Performance

Social capital in the OECD's approach is about 'the social norms, shared values and institutional arrangements that foster co-operation among population groups' (OECD: 2022: chapter 16). Using this yardstick, Ireland could be deemed to be doing well.

For example, fewer than half the population on average **trusts their government** in OECD countries (OECD, 2020). This share is substantially higher in Ireland at 62.3 per cent in 2021, and Ireland is ranked 8th in the OECD³². There has been a large increase in trust in government in Ireland since 2010, when just 33.3 per cent of the population expressed trust in government. Another measure of trust is monitored in the OECD Trust survey. This also showed an above average level of trust in national government in Ireland with 51 per cent indicating a response of 6 to 10 on an 11-point scale compared to an OECD average of 41 per cent. However, there is a large gap in trust in government between young and older people in Ireland. According to the OECD Trust survey, 59 per cent of people aged 50 or more expressed trust in government in 2021 compared to just 28 per cent of those aged 18 to 34 and this gap was the largest in the OECD (González, 2022).

Trust in other people in Ireland is also above the OECD average. Trust in other people, on a scale from 0 (not at all) to 10 (completely) was 6.83 in 2021, and Ireland was the second highest of the 26 OECD countries for which data are available.

³¹ This indicator is available from the OECD databank, National Accounts, https://stats.oecd.org/Index.aspx?DataSetCode=HH_DASH&_ga=2.148725950.804359542.1690804834-1688500501.1686584878 [accessed 02.08.2023].

³² This figure is from the OECD *How's Life Well-being?* Database. The original source of the data comes from a Gallup survey in which respondents are asked whether they have confidence in national government.

Corruption as perceived by experts and business people is reported on in the OECD framework on a scale of 0 (highly corrupt) to 100 (total absence of corruption). Corruption in Ireland in 2021 was 74.0, and Ireland was ranked as 15 out of 38 countries.

Areas for Improvement

Nevertheless, the OECD well-being framework also suggests certain weaknesses in Ireland's performance. For example, the proportion of **parliamentary seats held by women** in Ireland was 22.5 per cent in 2021, which placed Ireland as 32nd out of 38 OECD countries.

Finally, **stakeholder engagement with government** when developing laws or regulations is measured in the OECD framework on a scale from 0 (no engagement) to 4 (maximum engagement). Stakeholder engagement in Ireland in 2021 was put at just 1.1, the lowest in the OECD.

4.4 Sustainability in the National Well-Being Framework

Sustainability of well-being is not separately assessed in Ireland's well-being framework in the way in which it is in the OECD framework but 14 indicators across the different dimensions are marked as being of importance for sustainability. Some of these also relate to current well-being and have been included above, for example, healthy life years and the reading and maths skills of 15-year-olds. Examples of positively performing sustainability indicators are the **growth of household wealth**, **healthy life years**, and the **share of dwellings with good BER rating** (A or B).

The majority of the sustainability indicators showed positive performance but there were the following exceptions³³: **greenhouse gas emissions**, **waste generated**, **river water quality**, and **research and development personnel**.³⁴

- Ireland's greenhouse emissions on a production basis in 2021 were 14.1 tonnes per capita, the second highest in the EU and almost double the EU average of 7.4 tonnes;
- Waste generated per capita was also above the EU average in 2020 (644 tonnes per capita compared to 521 tonnes per capita) and increased by almost 10 per cent from 2018 to 2020; and
- There was a decline in the share of river waters assessed as being 'high' or 'good' from 57 per cent in the period 2010-2015 to 50 per cent in the period 2016-2021. Ireland was just below the EU average on this indicator assessed for a different period (2018-2021).
- Research and development personnel (marginally negative): while the number of these personnel in Ireland increased from 31,396 in 2018 to 34,721 in 2021, the share of such personnel in employment in Ireland at 1.52 per cent was slightly below the EU average of 1.61 per cent;

4.5 Biodiversity

Assessing Biodiversity

Biodiversity is multidimensional and its measurement is complex with major gaps in knowledge. The Biodiversity Intactness Index (BII) was developed by the Natural History Museum in London as a summary measure of the state of biodiversity. It seeks to summarise the change in ecological conditions as a result of human influence. The BII is defined as 'an estimated percentage of the original number of species that remain and their abundance in any given area, despite human impacts' (Natural History Museum, no date). The BII is derived from data from ecological studies around the world covering 54,000 species (birds, mammals, plants, fungi and insects) and a series of models.

³³ The environment indicator on the share of people reporting problems with pollution etc. also showed a negative performance but is not classified as a sustainability indicator.

³⁴ In the case of research and development personnel, performance was marginally negative.

The BII has achieved significant recognition with endorsement by the Group on Earth Observations of the Biodiversity Observation Network and adoption by the Intergovernmental Platform on Biodiversity and Ecosystem Services.

Nonetheless, it has been subject to some critique as an indicator. Martin *et al.* (no date) find that some results are surprising. They point out that the BII exceeds 90 per cent in much of Southeast Asia, Indonesia, Central America and eastern Madagascar, indicating a high degree of biodiversity intactness despite a high proportion of threatened species in these regions linked to widespread habitat loss. They also find that there is a lack of correlation between the BII and two other measures: biomass intactness (a synthesis of estimates of current biomass of vegetation relative to that in the same location without human disturbance) and the human footprint (HF) (a composite measure of anthropogenic pressure on natural ecosystems)³⁵.

How Ireland Performs

Ireland has been ranked as having the **13th lowest score on the BII** out of 240 countries and territories, while Northern Ireland was ranked as the 12th lowest (Moore, 2021). A 20-year study of plant life in Ireland and Britain found a significant loss of biodiversity in Ireland, and the summary report commented on the BII as follows:

Biomonotony, it seems, is taking over from Biodiversity. Perhaps we should not be surprised by the disappointing fact that Ireland was found to languish 13th from the bottom for biodiversity intactness in a list of 240 countries worldwide, with Northern Ireland one place lower (Botanical Society of Britain and Ireland, 2023: 27).

There is other evidence of the poor state of biodiversity in Ireland. The Council's recent report on understanding Ireland's economy in a time of turbulence (NESC, 2023a) reported the findings of the Office of Public Works on the assessments of the EU Habitats and Birds Directives:

These assessments indicate that most Irish habitats listed on the Habitats Directive are in 'Unfavourable' status, with almost half demonstrating ongoing decline. While more than half of the species listed on the Habitats Directive are in 'Favourable' status and stable, a significant number are assessed to be in 'Bad' status and will require concerted efforts to protect and restore them (OPW, 2022: 12).

Some key facts concerning biodiversity in Ireland highlighted in an address to the Citizens' Assembly on Biodiversity by Prof. Tasman Crowe, UCD were the following:

- 20 per cent of **breeding birds** in Ireland are in long decline;

- **Birds that overwinter in Ireland** are down by 50 per cent since 1990s; and

- **Endemic species** that are only found in Ireland are of particular concern (Citizens' Assembly, 2023: 66).

The Ecological Footprint (EF) is a measure of the pressure placed by people on nature. It takes account of the land used for food and fibre, the demand for forest products and fish, the use of urban land and the carbon footprint. A country's EF is based on its consumption, so demand embodied in imports is taken into account while exports are excluded. It is not a measure of biodiversity but is related to the pressure on biodiversity (Lazarus *et al.*, 2015). The supply side of the EF is referred to as biocapacity: this is the earth's capacity to supply biological resources and absorb waste on an ongoing basis. Both the EF and biocapacity are measured in hectares. Biocapacity does not include non-renewable resources such as oil and gas.

Globally the EF is estimated at 2.5 hectares per person in 2020 compared to an estimated biocapacity of 1.6 hectares so that collectively humanity is living beyond its biological resources (WWF, 2022). These measures are also calculated for countries.

³⁵ The current standard terminology has changed to ecological footprint.

Ireland's ecological footprint for 2023 is estimated at 5.01 hectares per person. This is the 37th highest among 184 countries and the 10th highest within the EU. Ireland's biocapacity for the same year is estimated at 3.34 hectares per person.

It was argued by the Stiglitz-Sen-Fitoussi Commission that the calculation of ecological deficits and surpluses for individual countries is problematic as there is an anti-trade bias:

The fact that densely populated (low biocapacity) countries like the Netherlands have ecological deficits, whilst sparsely populated (high biocapacity) countries like Finland enjoy surpluses can be seen as part of a normal situation where trade is mutually beneficial, rather than an indicator of non-sustainability. Indeed, recent research has tended to move away from comparing a country's EF with its own biocapacity, and to propose instead to divide all countries' EFs by global biocapacity. By doing this, one is acknowledging that EFs are not measures of a country's own sustainability but of its contribution to global non-sustainability. Overall, this means that the Ecological Footprint could at best be an indicator of instantaneous non-sustainability at the worldwide level (Stiglitz et al., 2009: 71).

However, the Stiglitz-Sen-Fitoussi Commission did not regard the EF deficit at global level as an ideal indicator either. It pointed out that the worldwide deficit shown is mostly due to the CO₂ emissions, reflected in the EF in terms of forestry required for carbon storage. Hence it argued that:

less-encompassing but more-rigorously-defined footprints, such as the "Carbon Footprint" (CF), would seem better-suited, insofar as they are more clearly physical measures of stocks that do not rely on specific assumptions about productivity or an equivalence factor (Stiglitz et al., 2009: 71).

The Commission identified the Carbon Footprint as a powerful instrument for monitoring behaviour as it can be calculated at any level such as countries, individuals or companies. The carbon footprint and the material footprint are included in the OECD's sustainability indicators (see section above).

4.6 Planetary Boundaries

Doughnut Economics

The doughnut concept is a way of presenting economic, social, and environmental performance created by Kate Raworth. The inner circle of the doughnut represents a social foundation, and the idea is that no one should fall below certain minimum standards. The social foundation has twelve dimensions derived from the UN SDGs, (see section 5 below). The social foundations are as follows: food security, health, education, income and work, peace and justice, political voice, social equity, gender equality, housing, networks, energy, and water.

The outer circle of the doughnut represents an ecological ceiling. Staying within this ceiling would 'ensure that humanity does not collectively overshoot the planetary boundaries that protect Earth's life-supporting systems' (Doughnut Economics Action Lab, no date). The space between these two circles represents a socially secure and safe space for humanity where human needs of everyone are met without compromising the earth's planetary boundaries.

There are nine planetary boundaries: climate change; change in biosphere integrity (biodiversity loss and species extinction); ozone depletion; ocean acidification; biogeochemical flows (phosphorus and nitrogen cycles); land-system change (e.g. deforestation); freshwater use; atmospheric aerosol loading; introduction of novel entities (e.g. organic pollutants, radioactive materials, nanomaterials, and micro-plastics).

It was estimated by Steffen *et al.* (2015) that globally four of these boundaries had been crossed: climate change, loss of biosphere integrity, land-system change and altered biogeochemical cycles (phosphorus and nitrogen). Three boundaries were identified as not having been crossed: ocean acidification, freshwater use, and ozone depletion. Of these, ozone depletion is the only one brought under effective control according to Hickel (2018); this is due to the Montreal Protocol. Steffen *et al.* were unable to quantify the other two boundaries: atmospheric aerosol loading and introduction of novel entities. Subsequent research, however, estimated that the boundary for the introduction of

novel entities has been crossed (Persson *et al.*, 2022). More recently all of the nine boundaries were quantified and it was found that six of them have been transgressed: climate change, biosphere integrity, land system change, biogeochemical flows, freshwater change and novel entities (Richardson *et al.*, 2023).

A number of cities and regions are adopting policies based on this framework. Amsterdam's ambition is to bring all 872,000 residents inside the doughnut. Guided by Raworth's organisation, the Doughnut Economics Action Lab (DEAL), the city is introducing infrastructure projects, employment schemes and new policies for government contracts to that end. Other cities or regions that have recently adopted the doughnut model include Copenhagen; the Brussels region; the small city of Dunedin, New Zealand; Nanaimo, British Columbia; and the US city of Portland, Oregon (Nugent, 2021).

NESC has stated its belief that the doughnut concept, the degrowth approach, and others that will emerge over time require 'further exploration and policy debate to examine what they can contribute to Ireland's future development, prosperity, and progress towards net zero' (NESC, 2023a: 36).

Assessment

The performance of countries in terms of the doughnut criteria was examined by O'Neill *et al.* (2018). They quantified the performance of almost 150 countries in terms of 11 social thresholds and 7 biophysical indicators. The 11 indicators mainly cover the same areas as proposed by Raworth for the doughnut with some variations; e.g. life satisfaction is included in O'Neill's analysis but not by Raworth.

The social indicators are set at a modest level, seeking to capture a minimum acceptable standard of living. They include, for example, a life satisfaction rating of 6.5 out of 10, living 65 years in good health and the elimination of poverty below the \$US 1.90 a day line.

The biophysical indicators measured in the paper by O'Neill *et al.* cover four of the nine planetary boundaries: climate change, land-system change, freshwater use, and biogeochemical flows³⁶. The global planetary boundaries were allocated to countries based on population. In addition, they included two footprint indicators: ecological footprint and material footprint that are not part of the planetary boundaries framework. They are included by O'Neill *et al.* for comparison as they are widely reported indicators of environmental pressure. Biogeochemical flows have two indicators (nitrogen and phosphorus), so this gave a total of seven indicators.

The striking result from this analysis is that **not a single country managed to combine achievement of the basic social standards while living within sustainable global limits as measured in this study**. The country that came closest was Vietnam: it achieved six of the eleven social thresholds, while only transgressing one of the seven biophysical boundaries (CO₂ emissions). They found several countries whose resource use was within the seven biophysical boundaries but they were not meeting the minimum social thresholds. Rich countries perform well in terms of achieving the social thresholds set in this study but at a cost of transgressing biophysical boundaries.

A subsequent study examined to what extent progress was being made towards the doughnut safe space. The authors gathered data for the period 1992 to 2015 on six biophysical boundaries and eleven social indicators. They concluded as follows:

*Overall, we find no evidence that any country is currently moving towards the doughnut-shaped safe and just space. Current trends are likely to deepen the climate and ecological crisis while failing to eliminate social shortfalls. Despite decades of sustainable development rhetoric, countries with high levels of social achievement have levels of resource use far beyond anything that could be sustainably extended to all people, and their extent of ecological overshoot has generally been increasing (Fanning *et al.*, 2022: 31).*

³⁶ These include three of the four planetary boundaries estimated by Steffan *et al.* to have been crossed: climate change, land-system change and biogeochemical flows. The one not included is biosphere integrity. O'Neill *et al.* note that it is particularly difficult to downscale this to the level of countries. They also say that it is represented to some degree by one of the indicators they do include, human appropriation of net primary production (HANPP). This is the indicator they use for land-system change.

How Ireland Performs

Ireland is among the richer countries with a **high level of achievement** in terms of social indicators. This however has been achieved **at the cost of crossing biophysical boundaries**. It is estimated by Fanning *et al.*³⁷ that Ireland met the thresholds for nine out of eleven social indicators. The two indicators for which it was estimated that Ireland was not meeting the thresholds were sanitation and unemployment in 2015. Given the large fall in unemployment since then Ireland would now be meeting this social threshold. However, Ireland did not meet any of the six biophysical boundaries included in this study.

An Alternative Approach to Social Thresholds and Planetary Boundaries

The approach by O'Neill *et al.* involves a binary approach to both biophysical boundaries and social thresholds in that these are either achieved or not. Hickel (2018) has pointed out that an implication of this is that a country that marginally exceeded (e.g. by 1 per cent) the seven biophysical boundaries is simply shown as exceeding all of the boundaries. Hickel applies a different technique to the data used by O'Neill *et al.* to take account of the distance from the boundaries and thresholds.

The O'Neill *et al.* data are standardised. The biophysical boundaries are set at 1.0 for each indicator and a country's score of each indicator is expressed as the ratio of its score to the threshold. For example, the boundary for greenhouse gas emissions is 1.6 tonnes per person. UK emissions are 12.1 tonnes per person, so the UK score is standardised to 7.48. The scores for the social thresholds are standardised to between zero and one with one being the level where the social threshold is satisfied.

Hickel averages the standardised scores for the biophysical boundaries and social thresholds. These averages represent the average distances from the biophysical boundaries and the social thresholds. In addition, Hickel also makes a further calculation whereby undershooting on some biophysical limits is not allowed to compensate for overshooting on others. In addition, he sets the maximum value for the social threshold at one, so that overachievement on one indicator does not offset underachievement on another.

With Hickel's method, it remains the case that no country simultaneously achieves both the minimum social thresholds while remaining within the biophysical limits. However, Hickel's approach shows a number of middle-income countries that come close to achieving both even where no compensation is allowed for. Of the countries that are meeting the biophysical limits, Moldova is the best social performer with a social shortfall of 10 per cent (i.e. a score of 0.9). Costa Rica is identified as the most efficient of the countries with a relatively high social performance. Costa Rica is close to achieving the minimum social standards (4 per cent below) while having a relatively modest overshoot of biophysical boundaries (by 33 per cent). Other countries that perform well on both social thresholds and biophysical limits are Vietnam, Sri Lanka, El Salvador and Cuba but in the case of Cuba Hickel does not consider the data to be robust.

Achieving Social Thresholds within Planetary Boundaries

It is argued by Hickel that it is possible for all countries to meet the key social thresholds with known policy measures while remaining within planetary boundaries. This will involve increased pressure on planetary boundaries and resource use by poorer countries (those currently below the social thresholds). He estimates the potential impact on five of the seven biophysical boundaries examined in the O'Neill study, omitting land and water on the grounds that O'Neill's data show that the social thresholds can be achieved with relatively low use of these resources.

He highlights that there would be significant implications for rich countries if the social thresholds are to be universally achieved within planetary boundaries. If poorer countries could reach the social thresholds while using their pro-rata share of biophysical boundaries, then he estimates that richer countries (above the social thresholds) would have to reduce their biophysical footprints on average by 40 to 50 per cent on average from current levels, if the world as a whole is to stay within the boundaries covered in his analysis. This estimate is subject to uncertainty: not all planetary boundaries are included while two of the indicators that are used (material footprint and ecological footprint) are not part of the planetary boundaries framework. He considers that it is likely to be possible to do this while still achieving progress on social indicators, but his interpretation of the evidence is that 'this is highly unlikely to be possible without de-growth strategies' (Hickel, 2018: 14).

³⁷ The data for individual countries is presented in a spreadsheet accompanying the paper, see Fanning *et al.* (no date).

Decoupling Economic Growth from Environmental Impacts

Continuing economic growth in rich countries while living within planetary boundaries would require a decoupling of economic growth from environmental impacts. Relative decoupling of, for example, greenhouse gas (GHG) emissions, means that emissions grow at a slower rate than GDP while absolute decoupling means that emissions fall as GDP grows. If GDP growth is to be consistent with living within planetary boundaries, it is absolute decoupling that is required. There is an extensive literature on the experience and prospects for decoupling of GDP growth from environmental impacts and resource use.

Some countries have managed to combine the cutting of greenhouse gas emissions with continuing GDP growth. A study by Liobikienė & Dagiliūtė (2016) of EU countries for the period 1993 to 2010 found that seven countries had managed to achieve absolute decoupling of GHG emissions in terms of national production. This study also found three EU countries (Denmark, Estonia, and Germany) had managed to achieve absolute decoupling of emissions in terms of consumption over this period. For the more recent period of 2008-2014, Palm *et al.* (2019) found that Sweden had managed to achieve absolute decoupling of emissions on a consumption basis. Sweden also managed to achieve decoupling in terms of several other environmental indicators over this period: sulphur dioxide, nitrogen oxides, and particulate matter smaller than 2.5 µm (PM2.5), land use, and blue water consumption. The one indicator for which decoupling was not achieved was material consumption, an indicator that is not part of the planetary boundaries framework.

Le Quéré *et al.* (2019) identified 18 industrial countries in which carbon emissions had fallen significantly over the period 2005-2015 on both a production and consumption basis. The fall in emissions could be at least partly explained by slower GDP growth.

A comprehensive review of the empirical literature on decoupling of GDP, resource use and GHG emissions was undertaken by Haberl *et al.* (2020). This review involved synthesising the evidence from 835 peer reviewed articles. They found that continuation of past trends would not yield absolute reductions in resource use or GHG emissions. They found limited cases of decoupling including the article cited above by Le Quéré. They concluded on the experience of decoupling to date as follows:

This observed absolute decoupling, however, falls short from the massive decoupling required to achieve agreed climate targets (Jackson and Victor 2016). Of course, rare occurrence of absolute decoupling in the past does not represent proof that it cannot become more common in the future—and perhaps intensifying the policies implemented in 18 peak-and-decline countries could yield sufficient decoupling of GDP and GHG emissions to achieve climate targets. Even if rapid deployment of renewable energy could be achieved, however, the world’s addiction to material resources would likely not wane, as harnessing renewables also requires substantial investments into large-scale buildings (e.g. hydropower plants), machinery (e.g. wind turbines, photovoltaic power plants) and infrastructures (e.g. expansion and reinforcement of electric transmission grids; Beylot et al 2019, Watari et al 2019) (Haberl et al., 2020: 34).

Another comprehensive literature by Vadén *et al.* (2020) reached a similar conclusion of limited absolute decoupling:

We found that 170 articles presented cases of relative decoupling and 97 articles cased of absolute decoupling. Out of the 97 cases of absolute decoupling, 74 articles concern impact decoupling and 23 concern absolute resource decoupling. Out of these 23 we concentrated on eleven articles that present evidence of economy-wide and at least national level absolute resource decoupling. We found that none of those articles claimed robust evidence of international and continuous absolute resource decoupling, not to speak of sufficiently fast global absolute resource decoupling.

Together the categorisation and the survey of research literature suggest that the (abstract) notion of decoupling needs qualification and precision when used in policy discussions. The notion is (empirically) so weakly founded that we agree with Antal and Van Den Bergh’s (2014, 7) conclusion: “decoupling as a main or single strategy to combine economic and environmental aims should be judged as taking a very large risk with our common future.” This also means that more attention should be given to conceptualisations of economy that do not rely on economic growth as the key route towards ecological sustainability and human wellbeing (Vadén et al., 2020: 243).

A literature review was prepared for the Nordic Council of Ministers on the issue of the compatibility of economic growth and sustainability. This review focussed on the decoupling issue. The articles reviewed found 'limited evidence for absolute decoupling having been achieved to date and certainly not at the rates needed to respect planetary boundaries by mid-century' (Watson and Svendsen, 2021: 62). The authors concluded that it should not be assumed that it is possible to decouple growth from environmental impacts, and proposed adopting a neutral stance of economic growth:

Any mainstream assumption of green growth should be questioned since a categorical pro-growth strategy risks obstructing implementation of good climate policies (Albert, 2020). Instead, being neutral about growth can facilitate the acceptance of serious climate policy (Van den Bergh, 2017) (Watson & Svendsen, 2021: 65).

If economic growth is to continue, they suggest that it be a modest rate of 1 per cent or less:

De-growth risks depressing investments, increases in unemployment and social unrest (Shao, 2020; Jackson, 2017). Modest economic growth rates of 1 per cent or less, on the other hand, may allow absolute decoupling while reducing risk of widespread unemployment (Hickel, 2019; Janicke, 2012). Evidence for this has been found in Sweden between 1997 and 2007, and Germany between 2000 and 2010 (Janicke, 2012). Modest growth rates also appear to be more realistic for post-industrial countries such as the Nordics (Stoknes and Rockstrom, 2018) (Watson & Svendsen, 2021: 65).

The review for the Nordic Council also highlights the challenge posed by growing stocks of infrastructure and buildings. Krausmann *et al.* (2020) point out that material use and emissions are directly linked to infrastructures, buildings, and machines. This arises from both the growth in the stocks of infrastructure, buildings, and machines, and their subsequent use to provide services. They explore different scenarios for the expansion of these stocks globally. They estimate that if global stocks per capita were to converge with the 2015 level of industrialised countries, this would lead to substantially overshooting of the carbon budget for the 1.5 degrees global warming target, even assuming full decarbonisation by 2050. They estimate that global convergence with the stocks per capita of industrialised countries in 1970 rather than their current level would reduce the material and energy input by 55 per cent and 48 per cent respectively on average per year for the period 2018 to 2050.

Alfredsson and Malmaeus (2019) take Sweden as an example to illustrate the implications of investment in stocks (infrastructure, buildings, and machinery). They estimate that continuing current investment levels in Sweden would use up all of Sweden's carbon budget based on the Paris agreement within 50 years thus leaving no budget available for emissions from consumption.

5. The United Nations (UN) Sustainable Development Goals (SDGs)

In 2015, the members of the UN agreed on the Sustainable Development Goals (SDGs) at the centre of the *Agenda 2030 for Sustainable Development*. This is a wide-ranging global agenda to end poverty and hunger, improve health and education, increase economic growth, and at the same time address climate change, and preserve oceans and forests. The UN SDGs cover both current well-being (e.g. ending poverty in all its forms) and sustainability (e.g. sustainable consumption and production).

5.1 Global Progress

There are multiple targets and indicators associated with each SDG giving rise to, in total, 169 targets and 232 indicators. The UN reports on progress annually. The adoption of the SDGs was followed by some favourable trends with reductions in extreme poverty and rates of child mortality, progress on gender equality, improved access to electricity, and an increase in the share of renewable energy. However, in the most recent progress report the UN expresses concern that this progress was fragile and mostly too slow. It goes on to state as follows:

It's time to sound the alarm. At the mid-way point on our way to 2030, the SDGs are in deep trouble. A preliminary assessment of the roughly 140 targets with data show only about 12 per cent are on track; close to half, though showing progress, are moderately or severely off track and some 30 per cent have either seen no movement or regressed below the 2015 baseline.

The lack of SDG progress is universal, but it is abundantly clear that developing countries and the world's poorest and most vulnerable people are bearing the brunt of our collective failure. This is a direct result of global injustices that go back hundreds of years but are still playing out today. Compounding climate, COVID and economic injustices are leaving many developing countries with fewer options and even less resources to make the SDGs a reality (UN, 2023: 2-3).

5.2 Ireland's Performance on the SDGs

Assessment by Sachs *et al.*

Performance on meeting the SDGs is monitored in an annual Sustainable Development Report (Sachs *et al.*, 2023). For each country for which data is available they compute an aggregate score of performance on the multiple indicators on a scale of 0 to 100.

In their 2023 report they ranked Ireland as 17th out of 166 countries. This was a lower ranking compared to the previous year when Ireland ranked 9th out of the 163 countries although there was also a modest change in Ireland's score between the two years (2022: 80.7; 2023: 80.1). They found that Ireland had fully achieved two of its SDGs: **zero poverty** and **good health and well-being**.

Where the SDGs are not yet achieved, they are assessed in terms of three levels of challenges: (i) challenges remain; (ii) significant challenges remain; and (iii) major challenges remain. Ireland was deemed to face major challenges on four SDGs: **zero hunger**; **climate action**; **responsible consumption and production**; and **partnership for the goals**- and significant challenges for two of them: **affordable and clean energy**; and **life below water**.

'Challenges' remain for the other eight goals: **quality education**; **gender equality**; **decent work and economic growth**; **industry, innovation and infrastructure**; **reduced inequalities**; **sustainable cities and communities**; **life on land**; and **peace, justice and strong institutions**.

Ireland was considered to be making modest progress on 12 of the 17 goals. However, it was assessed as stagnating on **climate action** and **zero hunger** and found to be regressing on **sustainable consumption and production**.

Assessment by Eurostat

Progress by the EU and its member states in achieving the SDGs is also reported on annually by Eurostat.³⁸ The most recent report (Eurostat, 2023) finds that Ireland is making progress on most of the SDGs but slipping back on four goals: **clean water and sanitation; life on land; life below water** and **sustainable cities and communities**. Although Ireland's position remains above the EU average on these goals.

Ireland is reported as making progress on **climate change**, but Ireland's status on this goal is well below the EU average (-39 per cent).

Assessment by Social Justice Ireland

Ireland's performance on the SDGs in the EU context is also monitored in reports by Social Justice Ireland (SJI).³⁹ Overall, the most recent SJI assessment puts Ireland eighth out of the 14 EU countries in terms of overall sustainable progress.

Separate rankings are given for economic, social, and environmental indices (Clark *et al.*, 2023):

- Under this assessment Ireland is ranked as ninth out of 14 EU Member States on the economic index. Factors affecting this ranking include low pay (see Box 3) and the need for further policy action with regard to transport and logistics;

- The SJI analysis places Ireland sixth of 14 EU countries on social factors, reflecting:

- High scores on goals relating to education; good health and wellbeing;

- Lower scores on zero hunger (due to weakness in regard to sustainable agriculture), some poverty measures, gender equality and partnership for the goals; and

- Ireland is ranked ninth on the environmental index. This reflects relatively weak performance on responsible production and consumption; affordable and clean energy; and climate action.

³⁸ In terms of the direction of progress, there is a difference in its findings compared to the analysis of Sachs *et al.* (2023).

³⁹ SJI's analysis focuses on the 14 richer EU member states using a method similar to Sachs *et al.* (2016). Their method is as follows. A percentile rank is first assigned to each indicator with the top ranked country being assigned a value of 100. These percentile ranks are then compiled to give each country a score for each of the 17 SDGs. The scores for individual indices are then aggregated into a number of indices: economic, social, and environment and an overall Sustainable Progress Index.

Box 2: The United Nations SDGs

1. Ending poverty in all its forms everywhere

2. Ending hunger, achieving food security, improving nutrition and promoting sustainable agriculture

3. Ensuring healthy lives and promoting well-being for all at all ages

4. Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all

5. Achieving gender equality and empowering all women and girls

6. Ensuring availability and sustainable management of water and sanitation for all

7. Ensuring access to affordable, reliable, sustainable and modern energy for all

8. Promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

9. Building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation

10. Reducing inequality within and among countries

11. Making cities and human settlements inclusive, safe, resilient and sustainable

12. Ensuring sustainable consumption and production patterns

13. Taking urgent action to combat climate change and its impacts

14. Conserving and sustainably using the oceans, seas and marine resources for sustainable development

15. Protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, combatting desertification, and halting and reversing land degradation and halting biodiversity loss

16. Promoting peaceful and inclusive societies for sustainable development, providing access to justice for all and building effective, accountable and inclusive institutions at all levels

17. Strengthening the means of implementation and revitalizing the Global Partnership for Sustainable Development

Box 3: The Good Jobs Agenda

The UN SDGs include the promotion of full and productive employment and decent work for all (goal number 8). The need to increase the prevalence of decent work (often called the Good Jobs agenda) is an important indicator of the thriving nature of an economy. It is argued by Rodrik and Sabel (2019) that failure to address the increased proportion of ‘poor jobs’ within the labour market has the potential to undermine democratic institutions and political stability (as cited by NESC, 2023a).

In a recent report on Ireland’s economy, NESC identified a ‘cohesion challenge in the Irish labour market caused by low pay, productivity, and precarity of work in certain sectors’ (NESC, 2023a: 37). The report pointed to several indicators of this challenge. These include: an ongoing substantial share of the population living in jobless households (10 per cent in 2019, the same level as 2004); ongoing high unemployment among people with a disability; the share of workers with low pay (i.e. earning less than two-thirds of median earnings) exceeds the average for both the OECD and the EU (27).

In its report on the economy the Council identified acting and investing to ensure that work becomes more attractive as a key priority. It noted that this means a greater focus on the quality as well as the quantity of jobs and expressed the view that this would strengthen Ireland’s economic resilience.

The Council highlighted the problems with ‘bad jobs’:

Bad jobs are associated with high levels of labour turnover, slower innovation, lower productivity, and extra costs. In addition to the costs for firms, bad jobs also have significant negative impacts on workers in terms of their health, wellbeing, quality of life, and access to credit. Bad jobs harm workers’ physical and mental well-being, cause productivity losses via increased absenteeism and presenteeism at work, and reduce profit margins of both public and private companies (NESC, 2023a: 38).

The Council recommended that further research be carried out to explore how work can be made more attractive and rewarding. NESC is currently engaged in research on this subject as part of its NESC@50 research programme and its theme of *A Thriving Ireland*.

6. Transitions Performance Index

The European Commission has developed the Transitions Performance Index (TPI) as a way of monitoring progress towards achieving its policy priorities. The Commission's priorities are as follows:

Implement a European Green Deal, foster a Europe fit for the digital age, develop economies that work for people, promote the European way of life, strengthen Europe's role in the world, and give a new push for European democracy (European Commission, 2022: 33).

The TPI builds in part on the UN SDGs. It has a smaller number of indicators (28) and covers 72 countries including all of the EU member states. The indicators are grouped to form four sub-indices of transition: economic, social, environmental and governance. A score is calculated for each indicator which are aggregated to form the sub-indices and the overall TPI. Scores are from 0 to 100. A score of 75-100 is classified as 'transition leader' and 65-75 is 'strong transition'. Performance is reported over a decade with the most recent report covering the decade to 2020.

The TPI covers the following dimensions:

- Economic: education, wealth, labour productivity and research and development intensity, industrial base;
- Social: health life, work and inclusion, free or non-remunerated time, equality;
- Environmental: greenhouse gas emissions reduction, biodiversity, material use, energy productivity; and
- Governance: fundamental rights, security, transparency, sound public finances.

Ireland's score places it as the third highest ranking globally behind Switzerland and Denmark for the TPI index as a whole. In regard to the economic transition index, Ireland is the highest-ranking country. Ireland's high score on economic transition reflects the very high level of GDP per head as well as a high share of manufacturing in GDP, and a high percentage of internet users. Ireland is also classified as a 'transition leader' on social transition, but with a lower ranking of 19th. Ireland's scores on individual indicators of social transition are all either in the categories of 'transition leader' or 'strong transition'.

Countries generally have lower scores on environmental transition compared to the other dimensions and Ireland follows this pattern. Ireland is classified as having 'strong performance' on the environment and a ranking of the 6th highest. Within the environmental indicators Ireland has high scores on biodiversity and energy productivity.

The high score on biodiversity may be surprising in light of some other indicators of biodiversity. The high score on biodiversity derives from having a high share of 'key biodiversity areas (KBAs)' both terrestrial and freshwater, being protected. KBAs are defined as 'sites that contribute significantly to the global persistence of biodiversity in terrestrial, freshwater and marine environments'. They are identified on objective criteria in regard to presence of threatened species or ecosystems, geographically restricted species, ecological integrity, etc. Their identification is independent of their legal or protection status.

Ireland's high ranking reflects the fact that a high share of these KBAs enjoy protected status either under EU legislation (as Natura 2000 sites) or national legislation. The other biodiversity indicator included is pesticide use on which Ireland has a score of 57.4 ('good transition') but a low ranking of 54th.

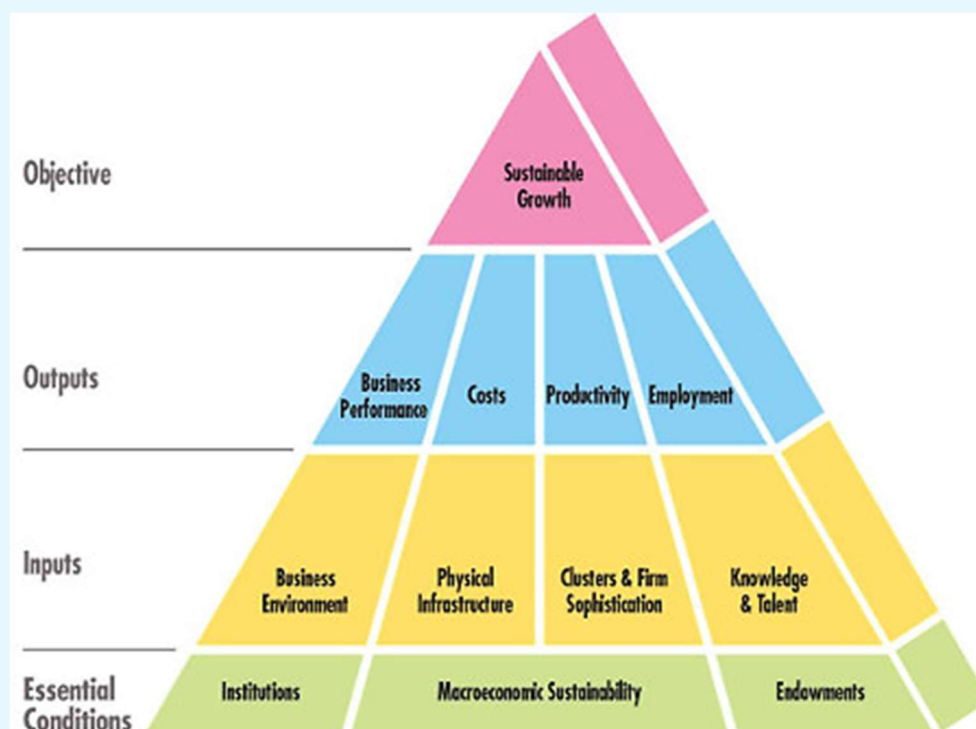
Finally, Ireland is also deemed to be a transition leader on governance transition with a score of 79.0 and a ranking of 13th. This is based on a high score on fundamental rights, a low homicide rate and a fairly low debt to GDP ratio.

7. Competitiveness

7.1 Assessing Competitiveness

The National Competitiveness and Productivity Council (NCPC) monitors Ireland’s competitiveness performance through its annual Competitiveness Scorecards. It has developed a pyramid of the different dimensions of competitiveness to inform assessment.

Figure 1: NCPC’s Competitiveness Pyramid



- At the base of the pyramid are the essential conditions for competitiveness; these foundations are based on institutions, macroeconomic sustainability, and endowments;
- In the next layer above this are four sets of policy inputs that impact future competitiveness, namely, the business environment (taxation, regulation, and finance), physical infrastructure, clusters and firm sophistication, and knowledge and talent;
- Above this are the outputs where current competitiveness is evident, namely, business performance (such as trade and investment), costs, productivity, and employment;
- Finally, at the top of the pyramid is sustainable growth in living standards – the fruits of competitiveness success (NCPC, 2023a: 13-14).

Over time the NCPC has widened the measures included in the pyramid. In its most recent report it included indicators from the OECD’s Better Living Index and the UN’s Human Development Index (see earlier Sections).

7.2 How Ireland Performs on Competitiveness

The Competitiveness Scorecard includes the aggregate index of competitiveness published by Institute for Management Development (IMD). The IMD assesses and ranks 63 economies (64 from 2023) around the world based on a wide range of competitiveness indicators.

Since 2011 **Ireland has consistently ranked in the top 20 economies** based on the overall IMD index. Ireland reached the 6th position in 2017, while the ranking slipped to 13th in 2021. The past couple of years saw a major improvement in Ireland's ranking, to 11th place in 2022 and then to 2nd highest in 2023. Denmark is ranked as the most competitive economy.

Positive Performance

The overall IMD index is comprised of four pillars: economic performance, business efficiency, government efficiency and infrastructure. The contribution of each of these elements to Ireland's improved competitiveness is outlined by NCPC (2023b).

The sharp improvement in Ireland's ranking in 2023 was particularly influenced by an increase in Ireland's **economic performance** with an increase from 7th to 1st place. This in turn was largely the result of Ireland's high GDP growth. Ireland's ranking on **government efficiency** also showed a large increase in 2023, up 8 places to 3rd highest. The improvement in Ireland's public finances (ranking up from 13th to 7th) boosted Ireland's position in this pillar. Other areas within this pillar on which Ireland performs well are tackling tax evasion (1st), attracting investment through investment incentives (1st), and the strength of its institutions (2nd for freedom of the press, 3rd for competition legislation, 4th for low bribery and corruption).

Ireland also experienced an increase in its ranking on **business efficiency** in 2023, with a rise from 11th to 3rd place. An improvement in the productivity and efficiency ranking from 13th place in 2022 to 3rd place in 2023 contributed to this. Ireland's ranking on **infrastructure** also improved in 2023 from 23rd in 2022 to 19th in 2023 (NCPC, 2023b).

The NCPC finds that 'aggregate competitiveness indicators suggest that Ireland remains broadly competitive' (NCPC, 2023a: 12).

The 2023 NCPC Competitiveness Scorecard shows some significant competitiveness strengths for Ireland. Ireland has the second highest (after Japan) **share of the working age population with third level education** in the OECD and within the EU the highest **number of STEM graduates per 1,000 population aged 20-29**. The NCPC report also cites Ireland's strong performance on international **quality of life** indicators and relatively low **risk of poverty after social transfers** as foundations for competitiveness success.

Ireland's **productivity** in terms of GNI* per hour worked in 2022 at \$70 was substantially above the EU (\$54) and OECD (\$55) averages (using GDP per hour worked). Ireland's **export growth** is another indicator of positive competitive performance.

Employment growth has been very strong in Ireland, and **labour force participation** for the population aged 15 to 64 (76.5 per cent) was above the EU average (74.7 per cent) but below a number of EU countries including Netherlands, Sweden, Denmark and Germany in the final quarter of 2022. For the population aged 15 to 74, Ireland's labour force participation is substantially above the EU average (70 per cent compared to 65/5). Female labour force participation has shown strong growth in recent years.

Areas for Improvement

The NCPC analysis also points to areas of concern. **Infrastructure** constraints are identified as a threat to Ireland's competitiveness performance. Ireland's lowest ranking in the IMD report is on infrastructure (19th in the 2023 report). However, Ireland has an above average level of public investment relative to the EU average (4.4 per cent of GNI* compared to 3.3 per cent of GDP).

The NCPC points out that in 2021 the level of **housing investment** in Ireland as a percentage of GNI* was the lowest in the EU. Ireland's investment in inland transport in 2020 (0.43 per cent of GNI*) was also below the EU average (0.87 per cent of GDP). The need for more action to meet **energy and environmental targets** is also identified.

The level of **investment in R&D** in Ireland (1.95 per cent of GNI*) was well below the EU average in 2021. Total R&D expenditure per head of adult population (€899.2) was above the EU average (€734.5) in the same year but remains far below EU R&D leaders such as Sweden (€1,737.4) and Denmark (€1,621).

Finance for business is also a concern. The level of venture capital investment in Ireland is relatively low while the average interest rate charged by banks to non-financial companies was relatively high compared to other euro area countries and not much lower than in Greece.

While consumer price inflation in Ireland has been below the euro area average in every year since 2013, the **level of consumer prices** in Ireland in 2022 was the highest in the EU and 44 per cent above the EU average. **Labour costs**, broadly defined, were 12.8 per cent above the EU average in the same year.

The NCPC highlights the dual nature of Ireland's economic performance which is most evident in the productivity and export statistics. The Competitiveness Scorecard, however, does not benchmark the competitiveness of Irish-owned or traditional businesses relative to comparative peers.

PART 3

Summary and Conclusion

In seeking to explore Ireland as a thriving, inclusive, protective, and forward-looking country, this paper examines how Ireland performs under a variety of approaches to assessment, and eight high-level messages have emerged:

1. There is no one ideal measure of a country's performance.
2. While Ireland ranks highly on many metrics, and in several ways is a successful and prosperous nation, there are obvious, significant areas for improvement.
3. It is important to distinguish between current and future performance.
4. The question of whether a country is thriving must consider distributional issues.
5. There are huge challenges to be faced for Ireland and the international community in living within planetary boundaries.
6. Decoupling of economic growth and environmental impact is possible, but there is a lack of evidence to show that decoupling can be achieved at the scale and speed required to live within planetary boundaries.
7. There is judgement involved in the selection of indicators for any framework and the results are invariably influenced by indicators chosen. The indicators in Ireland's well-being framework should be kept under ongoing review.
8. Overall, Ireland today is thriving in many aspects, with some obvious capacity and distributional challenges; but more must be done on environmental sustainability and for the Ireland of tomorrow.

These points are explored below.

It is important to note that **there is no one ideal measure of a country's performance**; there are many approaches, and each has its merits and flaws. Even the recently adopted national well-being framework is imperfect (e.g. producing counter intuitive findings on housing; and missing indicators of key factors, e.g. biodiversity). Nevertheless, each measure is in some way instructive, and in all cases provide a basis for some international benchmarking of Ireland's situation.

In addition, that **while Ireland ranks highly on many metrics, and in several ways is a successful and prosperous nation, there are obvious, significant areas for improvement**. This situation is well-recognised and aligns, for example, with the assessment by Henry (2021) in *In Fact: An Optimist's Guide to Ireland at 100*. That analysis documents the progress that Ireland has made over the previous 100 years. The author documents evidence of how people in Ireland are living longer and healthier lives, eating better, are better educated, and happier. Cultural and sporting developments are also examined. A review of the book captured highlights of the positive developments in these terms:

Our population has almost doubled since the low point of 1961 and emigration has been reduced to a trickle; we're living a whole twenty-five years longer than we did in 1922; we're around 12 cm taller; we're much better-fed: our consumption of fruit and veg has doubled and of fish trebled in the last thirty years; we're smoking much less and drinking a little less and our suicide and road accident rates have been significantly reduced. Our economy has gone from being a basket case to an inspiration for the rest of the world, a success exemplified by our extraordinary record in attracting the world's most successful and progressive businesses to our shores (Fanning, 2022).

However, the book also acknowledges gaps in progress with a chapter on 'Room to Improve'. Problems identified include the high cost of living in Ireland relative to other European countries, the rise in homelessness, and a poor record on climate change.

Table 3: Summary of Review of Approaches to Measuring Performance and Progress

Approach	Advantage of Approach	Disadvantage of Approach	How Ireland Performs
OECD's Well-Being Framework	Goes some way to operationalising the Stiglitz-Sen-Fitoussi Commission approach; Provides comprehensive coverage of well-being indicators.	Does not provide a rigorous measure of whether development is sustainable.	Relatively strong performance by Ireland on many dimensions.
Ireland's Well-Being Framework	Comprehensive coverage of well-being indicators.	Comment in OECD box above also apply; Counter-intuitive findings on housing; There are no indicators of biodiversity.	Positive performance across 10 of the 11 dimensions, with the environment being the only dimension showing a negative performance.
UN Human Development Index	Relatively straight-forward measure of performance and progress that is an alternative to GDP.	Value judgement involved in the weighting of different components. Also, among rich countries, movement in this index tends to be dominated by changes in Gross National Income.	Ireland ranks 8th out of 191 countries. If adjusted for GNI*, Ireland has estimated rank of 19th
UN Sustainable Development Indicators	Monitors progress on internationally agreed goals.	The very high number of indicators (232) does not facilitate a focus on priorities.	Ireland ranks 17th out of 166 countries based on aggregation of indicators.
EU Transitions Performance Index	Assesses performance on the European Commission's policy priorities.	Assessment is distorted by the use of GDP.	Ireland ranks 2nd in the EU, and 3rd out of all 72 countries benchmarked.
Social Progress Index	Focuses as far as possible on outcome measures (primarily social, but environmental to a limited degree).	Subject to common concerns with aggregate measures of progress.	Ireland ranks 13th out of 169 countries and 7th within the EU.
Competitiveness Assessment by the National Competitiveness and Productivity Council	Comprehensive treatment of competitiveness related issues, broadly defined.	Dualism in economy is highlighted, but performance of Irish-owned and traditional business relative to relevant peers is not examined.	Ireland ranks 2nd out of 64 countries on Institute for Management Development (IMD) competitiveness index in 2023 but NCPC highlight pressures including housing, infrastructure, finance, and a relatively high price level.
Inclusive Wealth Index	An attempt to measure wealth comprehensively, including natural capital.	The question arises as to whether the natural capital dimension adequately captures critical elements of this type of capital; assumes substitutability of natural and other forms of capital.	Ireland had 5th highest growth rate of inclusive wealth over the period 1992-2014.
Biodiversity Intactness Index	A summary measure covering a wide range of biodiversity.	Counterintuitive results for some places (e.g. high degree of biodiversity intactness in areas with a high proportion of threatened species linked to widespread habitat loss).	Ireland ranked 13th lowest out of 240 countries and territories.
Doughnut Economics	Conveys starkly the global challenge of ensuring every person achieves at least a minimum level of well-being while remaining within biophysical boundaries and that no country is achieving both dimensions of this challenge.	Approach has not yet achieved widespread buy-in by national governments.	Ireland met 9 out of 11 social thresholds but none of six biophysical boundaries examined in a study by Fanning <i>et al.</i> (2022)

In considering the question of to what extent Ireland is a thriving country, **it is important to distinguish between current and future performance**; i.e. the extent to which Ireland could be said to be doing well today, and the prospects of sustaining this into the future.

There is considerable evidence from a range of different approaches and measures that point to Ireland as successful and prosperous in many ways – particularly economic and social performance, with more challenges in the area of environmental performance, illustrated in Table 3 above.

Ireland has relatively high ratings across all of the international, aggregated measures of economic or social performance. Ireland is ranked eighth out of 191 countries on the **UN Human Development Index (HDI)**⁴⁰ and also ranks eighth on a series of supplementary indices created to complement the HDI: the Inequality-adjusted index, the Planetary-adjusted Index, the Gender Development Index and Gender Inequality Index. Ireland ranks 17th out of 166 countries on an aggregation of the UN SDIs and 13th out of 163 countries on the Social Progress Index. The UN SDIs address both current and future well-being. Ireland ranks third highest on the EU's Transitions Performance Index.

The **Social Progress Index (SPI)** is probably the best measure in terms of current well-being. This is an index of primarily social indicators (one of its twelve dimension is on the environment) that focuses as far as possible on outcome measures. While inputs are obviously important and what governments can make decisions on, social outcomes are more directly related to well-being. The SPI is unusual in not including economic indicators although it is strongly correlated to GDP per head. Ireland ranks 13th out of 169 countries on this index. The exclusion of GDP in this index means that Ireland's high ranking is not influenced by the peculiarities of Ireland's national accounts.

The main alternative to composite indices is to monitor a selection of indicators. This is the approach adopted in the OECD **well-being framework** as well as Ireland's framework. Both approaches use the same broad 11 dimensions of well-being such as for example, income and wealth, housing, health etc., but there are differences in the indicators chosen within these dimensions. Both frameworks include extensive information on the inequality aspects of performance although Ireland's framework does not include direct information on the distribution of income and wealth; i.e. the shares of income and wealth of different deciles. This information is part of the OECD framework.

The OECD and national well-being frameworks show many important indicators of a relatively high level of well-being in Ireland. These include relatively high life satisfaction, low relative income poverty, high educational achievement, high earnings, and an above average employment rates.

Of course, there are other indicators that point to pressures on current well-being in Ireland. The most obvious of these is housing, although perhaps surprisingly this does not come across clearly in the indicators used in either the OECD or Ireland well-being frameworks. Housing affordability pressure in Ireland seems similar or lower than the OECD average, while Ireland has a very positive rating on the overcrowding measure used in the OECD framework. However, it is clear that housing is a huge problem and a source of dissatisfaction in Ireland. The indicators used in both frameworks do not reflect the scarcity of housing in Ireland.

Ireland's strong economic performance has translated into large increases in household income. However, further research would be worthwhile into the reasons as to why high money incomes in Ireland generate a more modest level of net adjusted household income, an indicator used in the OECD framework. This measure of income incorporates taxes, transfers, and free or subsidised services provided by governments or non-profit institutions to households.

The alternative well-being dashboard proposed by Bennett (2022) reveals other indicators of concern including the following: less than one third of the population (32 per cent) expressed satisfaction with health services in Ireland; a relatively high level of gender-based violence; relatively high hours on non-professional caring; and low digital skills.

In addition, **the question of whether a country is thriving must consider distributional issues**. Ireland's well-being report identified several groups who experience inequality across a high proportion of indicators:

⁴⁰ Because of the inclusion of GNI per head, Ireland's very high GNI boosts its position on this index. For this reason, an estimate has been made of what the value of this index would be for Ireland using GNI*. Ireland continues to have a relatively high ranking of 19th when this adjustment is made.

These are women, single-parent households, people living alone, immigrants/non-Irish, unemployed people, households with lower incomes, households in rented accommodation, and people with long-term illness or disability (Government of Ireland, 2023: 5).

The distribution of gross earnings and income in Ireland is relatively unequal but after taxes and transfers the distribution of income in Ireland is considerably more equal. The Gini coefficient for Ireland in 2021 was the tenth lowest in the EU and similar to Denmark⁴¹.

While Ireland's labour market is very strong at present, NESC's earlier work pointed to issues of concern affecting a proportion of the population. These include: an ongoing substantial share of the population living in jobless households; ongoing high unemployment among people with a disability; and an incidence of low pay that exceeds the average for both the OECD and the EU (27) (NESC, 2023a). The share of people with disabilities in employment in Ireland is relatively low. In addition, the gap in poverty rates between those with disabilities and those without disabilities in Ireland is one of the highest in the EU (Kelly & Maître, 2021)

Children feature in both the OECD and national well-being frameworks but neither framework captures well the acute problems of the most vulnerable children.

A recent NESC report examined the potential of well-being frameworks to contribute to addressing inequality (NESC, 2023b). The report found that Ireland's existing well-being framework is potentially helping to address inequality while there is scope for the framework to be further developed to play an enhanced role in tackling inequality. Ways in which this could be done include the setting of national goals and milestones as part of the national well-being framework and the use of the framework to support the integration of the work of government departments and agencies. The report also identified scope for a more explicit focus on environmental justice (the fair sharing of the costs of environmental problems and of environmental benefits such as access to green space) in the well-being framework.

The well-being measures presented do not include all of the current pressures bearing on some households. Other indicators of relevance to this include households in arrears on utility bills and requests for assistance⁴². Recent interest rate increases are also adding to financial pressures on some households.

NESC's earlier report on well-being identified a number of areas that are still worth considering in future versions of the well-being framework. These include culture and heritage including the Irish language and access to culture, arts and creativity; access to sport and leisure facilities; waiting times for health services and equality of access (NESC, 2021).

The question of the capacity to retain the current level of success is a complex one – this is the issue of sustainability and is best considered distinctly from the question of current well-being. One approach to assessing sustainability is 'inclusive wealth'. Ireland was among the countries with strong growth in inclusive wealth, estimated at 17.1 per cent annual growth over the period 1992 to 2014 and the fifth highest growth rate of 140 countries.

A feature of this approach is that it assumes that different categories of capital are substitutes for each other. Where critical natural capital is lost, it is questionable that it can be offset by more machines, buildings, or education. The Commission on the Measurement of Economic and Social Progress argued that is not possible to adequately capture some of the critical requirements for sustainability in this type of index.

The OECD **well-being** framework addressed this question by examining indicators across four different types of capital: economic, social, human, and natural. Ireland performs well on some of these indicators, but the OECD's indicators do not provide a rigorous measure of whether development is sustainable. Ireland has a strong performance in terms of

⁴¹ Data taken from the Eurostat database.

⁴² According to statistics from the Commission on the Regulation of Utilities at the end of March 2023 there were 160,399 domestic gas customers and 199,790 domestic electricity customers in arrears although the number of electricity customers in arrears was below pre-Ukraine war levels. The Society of St. Vincent De Paul received more than 230,000 requests for assistance in 2022, an increase of around 20 per cent from the earlier year while energy-related requests were up by 40 per cent. The first quarter of 2023 saw an increase in requests for help to the Society of 19 per cent with energy-related requests up by 50 per cent (Kielty, 2023).

social capital. However, on one indicator of social capital, stakeholder engagement with government, Ireland has the lowest ranking in the OECD.

The preservation and enhancement of biodiversity is a critical dimension of sustainability. A range of indicators point to the **poor state of biodiversity** in Ireland.

The ‘**doughnut**’ perspective on development does incorporate an absolute standard of sustainability. A striking finding from research in this approach is that there are no countries at present within the secure space of the doughnut; i.e. not a single country managed to combine achievement of the basic social standards while living within sustainable global limits as measured by this research. Ireland met the thresholds for nine out of eleven social indicators but was not within any of the six biophysical boundaries included in a study by Fanning *et al.* (2022). Taken together these findings suggest that **in important respects Ireland is thriving today but that there are huge challenges to be faced for Ireland and the international community in living within planetary boundaries.**

Like other rich countries, Ireland is living beyond its fair share of planetary boundaries. If the world as a whole is to live within planetary boundaries it will be necessary for rich countries to greatly reduce their environmental impact in line with these boundaries. The question arises as to whether this large reduction in environmental impact can be combined with continuing economic growth. This can be achieved if there is sufficient decoupling of economic growth from environmental impact. The experience of a number of countries shows **decoupling is possible but there is a lack of evidence to show that decoupling can be achieved at the scale and speed required to live within planetary boundaries.**

In addition, Ireland also faces capacity challenges in the provision of infrastructure and services – housing, healthcare, childcare services, and transport and energy infrastructure – that, if not addressed, would undermine Ireland’s ability to thrive. Another critical area where increased investment is needed to protect well-being is climate adaptation – this is the investment required (for example, flood protection) to protect against the multiple effects of ongoing climate change.

At the same time, it needs to be borne in mind that physical investment is closely related to GHG and other environment pressures. Research has shown that if there is global convergence with the level of capital stocks per capita of infrastructure, buildings, and machinery that exist in rich countries today that this would imply an overshooting of the carbon budget globally even assuming full decarbonisation by 2050 (Krausmann *et al.*, 2020). This raises a question about the sustainability of the convergence of Ireland’s housing stock per capita to the levels of other advanced countries.

There is judgement involved in the selection of indicators for any framework and the results are invariably influenced by indicators chosen. The indicators in Ireland’s well-being framework should be kept under ongoing review and it would be desirable to consult the social partners and other interested parties on this matter. It is important to keep the number of indicators at a manageable level, so it is not possible to include all indicators that are of relevance to well-being. There is a strong case that countries should respect planetary boundaries which points to the desirability of including indicators on these boundaries where there is available data.

The approaches examined have limitations, yet their consideration is a necessary starting point in any discussion of a country’s social, economic, and environmental position. This paper reinforces the position that they can only be a starting point.

Overall, while it is difficult - if not impossible - to accurately summarise the complex findings of nine different techniques, this analysis suggests that Ireland today is thriving, inclusive, and protective in many aspects, with some obvious capacity and distributional challenges; but also that more must be done on environmental sustainability and for the Ireland of tomorrow, to be more forward looking. This is especially true in terms of our climate, biodiversity, and infrastructure. Environmental issues pose a threat both to future prosperity and to current well-being. Like other high-income countries, Ireland faces the huge challenge of ensuring satisfactory quality of life and prosperity within planetary boundaries.

Appendix: Planetary Boundaries

The planetary boundaries of the doughnut are taken from research by Rockstrom et al. (2009), while there has been subsequent research on these boundaries. They represent estimates of 'safe space' for humanity in regard to key global processes. They are not equivalent to global thresholds or tipping points. For some of the processes global thresholds do exist but even in these cases this is not taken as the definition of the planetary boundary:

A planetary boundary as originally defined is not equivalent to a global threshold or tipping point ... even when a global- or continental/ocean basin-level threshold in an Earth-system process is likely to exist, the proposed planetary boundary is not placed at the position of the biophysical threshold but rather upstream of it—i.e., well before reaching the threshold. This buffer between the boundary (the end of the safe operating space, the green zone) and the threshold not only accounts for uncertainty in the precise position of the threshold with respect to the control variable but also allows society time to react to early warning signs that it may be approaching a threshold and consequent abrupt or risky change (Steffen et al., 2015: 737-738).

There is considerable uncertainty in the measurement of planetary boundaries:

Much of the uncertainty in quantifying planetary boundaries is due to our lack of scientific knowledge about the nature of the biophysical thresholds themselves, the intrinsic uncertainty of how complex systems behave, the ways in which other biophysical processes such as feedback mechanisms interact with the primary control variable, and uncertainty regarding the allowed time of overshoot of a critical control variable in the Earth System before a threshold is crossed. This generates a zone of uncertainty around each threshold. The nature and size of that zone is critical in determining where to place the planetary boundary (Rockstrom et al., 2009: 32).

There are nine planetary boundaries:

1. Climate change

2. Change in biosphere integrity (biodiversity loss and species extinction)

3. Stratospheric ozone depletion

4. Ocean acidification

5. Biogeochemical flows (phosphorus and nitrogen cycles)

6. Land-system change (for example deforestation)

7. Freshwater use

8. Atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms)

9. Introduction of novel entities (e.g. organic pollutants, radioactive materials, nanomaterials, and micro-plastics).

Of the nine boundaries, the authors identify two of them as core boundaries. These are climate change and biosphere integrity. 'Significantly altering either of these "core boundaries" would "drive the Earth System into a new state"' (Stockholm Resilience Centre, no date).

The original research by Rockstrom *et al.* estimated that three planetary boundaries had been crossed: climate change, the rate of biodiversity loss, and the rate of interference with the nitrogen cycle. Later research has estimated that further boundaries have been crossed. According to an updated analysis by Steffan *et al.*, (2015), four of the boundaries have now been crossed. These are: climate change, loss of biosphere integrity, land-system change, altered biogeochemical cycles (phosphorus and nitrogen). The research also developed regional boundaries for some of the processes: biosphere integrity, biogeochemical flows, land-system change, and freshwater use. In addition, one regional boundary (South Asian Monsoon) was established for atmospheric aerosol loading.

Further research has estimated that more boundaries have been crossed. A paper in January 2022 found that a planetary boundary related to environmental pollutants and other novel entities including plastics had been exceeded (Persson *et al.* 2022). More recently all of the nine boundaries were quantified and it was found that six of them have been transgressed: climate change, biosphere integrity, land system change, biogeochemical flows, freshwater change and novel entities (Richardson *et al.*, 2023).

The concept of planetary boundaries is relatively new but has received attention at EU level and in a number of countries. The two core planetary boundaries identified above are climate change and biodiversity integrity (loss of biodiversity) and the EU has major policies on both of these. In addition, the European Commission has recognised the idea of planetary boundaries in a number of policy documents. In the paper, *Towards a sustainable Europe by 2030*, it is stated that:

When implementing the 2030 Agenda, the European Commission and all other stakeholders need to respect key principles, to fulfil existing commitments under international agreements, to commit to a transformation of our social and economic model, to prioritise and fast-track actions for the poorest and most marginalised in society ('leave no one behind'), to recognise planetary boundaries, to respect human rights and the rule of law, and ensure policy coherence for sustainable development (European Commission, 2019: 126).

The concept is also recognised in the European bioeconomy strategy:

*A sustainable bioeconomy has a pivotal role in reducing pressures on major ecosystems such as oceans, forests and soils to a level **respecting all planetary boundaries**, and support their pivotal role for balanced nutrient cycles and as carbon sinks (European Commission, 2018: 26).*

A report prepared by the European Environment Agency and the Swiss Federal Office of the Environment examined the impact of the European Economic Area (EEA) on selected planetary boundaries. This report considered multiple ways on how to calculate the appropriate European share of the space of global boundaries. The five principles considered were: equality, needs, right to development, sovereignty and capability. Multiple calculations are undertaken for each principle and the median value of these multiple possibilities was then adopted as the appropriate share for the EEA. The report found that the European footprints exceed the European limits for three out of the four boundaries examined in the study. These were the nitrogen cycle, the phosphorus cycle and land system changes. It was found that the EEA did not transgress the fresh water planetary boundary (European Environment Agency, 2020).

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