Measuring Social Value:

Developing a national framework and applying it to the Republic of Ireland (1994-2007)

Eilís Lawlor

Submitted for the Degree of Doctor of Philosophy

Department of Sociology

School of Law, Politics and Sociology

May 2017

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Signature: ....

Table of Contents

Table of figures

Table of tables

List of acronyms

CS	Competition State
DS	Developmental State
ECB	European Central Bank
EFA	Exploratory factor Analysis
EFR	Environmental Fiscal Reform
EU	European Union
EU-SILC	European Survey on Income and Living Conditions
FDI	Foreign Direct Investment
FDS	Flexible Developmental State
GDP	Gross Domestic Product
GGD	General Government Debt
GNI	Gross National Income
GNP	Gross National Product
GS	Genuine Savings
HDI	Human Development Index
HYL	health Life Years
ICU	interpersonal Comparisons of Utility
ILO	International Labour Organisation
IMF	International Monetary Fund
ISEW	index of Sustainable Economic Welfare
NNI	Net National Income
NNP	Net national Product
OECD	Organisation of Economic Cooperation and Development
PCA	Principle Component Analysis
SWB	Subjective Well-being

Acknowledgements

Abstract

This thesis develops a methodology to capture 'social value' in a national-level index. Social value describes the individual and collective benefits derived from social, economic and environmental goods and services. Gross Domestic Product (GDP) is often treated as a proxy measure for social value (at least implicitly), and large parts of policy are geared towards increasing it despite significant conceptual and methodological flaws. Alternatives to GDP, including subjective well-being are reviewed but none are found to provide an adequate framework for setting collective goals and driving policy decisions to achieve those goals.

A conceptual framework – constrained utilitarianism – is developed. This is a hybrid of the most appealing features of modern theories of value: objective list theory, hedonic theory and desire theory. The framework combines people's subjective preferences with 'expert' opinion on phenomena such as climate change, which people may not prioritise. The framework is then applied to the Republic of Ireland. Subjective views of the things people value are canvassed through an online survey of people resident in Ireland. Ten outcome areas emerged from the research and appropriate national indicators were identified. Due to the data limitations that individual researchers inevitably face, the approach is not fully operationalised as an index, but illustrated through a comparison with GDP in a dashboard format. The full methodology, however, is designed to be used by national policymakers who would have, or could obtain, the data required to operationalise the approach.

I highlight three key innovations. First, the conceptual framework provides a structure for collectively agreeing goals, whilst constraining those choices subject to (for example) scientific evidence. Second, I challenge the requirement for such indices to be internationally comparable and make the case for more culturally-specific measures of social value. Finally, I argue that a test of such an index is its relevance for policy i.e. that it identifies changes that can improve the lives of citizens in a way that is transparent and increases the accountability of policy-makers. I show through two worked examples – mental health and the environment – how such an approach would lead to different directions for policy. Several areas of future research are identified, including issues with collation, ownership and use of data in the public sphere.

Chapter 1 Background and context

1.0   Introduction

In today's age of hyper specialisation in academic subjects, it is difficult to imagine that in ancient times, the distinctions between what we often see as widely divergent, even competing subjects, were not perceived. As well as being the forefather of philosophy, Aristotle wrote extensively across the natural sciences and on logic, politics and mathematics. A central question motivating ancient philosophers was what constituted a 'good life' (Shields, 2016). It would be well over a millennium before the disciplines most closely associated with answering that question today - economics, sociology, psychology, anthropology and epidemiology would begin to emerge as distinct subjects.

With the decline of ancient Greece and the role of the philosopher, and the rise of monotheistic religion came a decline in interest in this central question.[1] It was not until the Enlightenment when utilitarians became interested in what makes us happy and how this could be promoted through policy that it saw something of a revival (Hausman, 2013). This philosophical movement was closely linked to the development of economics, a subject that more than any other would go on to dominate our understanding of value and how it intersects with policy. The notion of 'utility' - narrowly defined as consumption – became a proxy for human welfare and the primary objective of economic policy. This approach dominated in part because few alternatives were being developed in other disciplines. As more varied approaches to economic scholarship have emerged in the late 20th century, and as interdisciplinary approaches have become more commonplace, there has been a manifold improvement in our understanding of human happiness, which is reflected in the explosion of academic research in recent decades (Greve, 2016).

I argue that well-being is a complex, multifaceted phenomenon that is best approached from this holistic, interdisciplinary perspective. Whilst a grounding in philosophy and a priori reasoning is a necessary first step, it is not in itself sufficient to answer what I believe is at least partly an empirical question. I approach the subject from a social science perspective and throughout the thesis I will explore ways in which the social sciences can be used to identify pathways towards a better life for citizens and polices to achieve this. I will do this by developing a theoretically defensible conceptual

---

[1] Christian and Islamic philosophers did theorise about happiness (e.g. St. Augustine de Hippo in the 4th century, Al Ghazali in the 12th century and St. Thomas Aquinas in the 13th century. However, the existence of God fundamentally alters the interpretation of 'the good' and monotheism marks a sharp break with Aristotelian tradition. Early modern philosophers that also discussed happiness/virtue were Kant and Montaigne.

framework for identifying the constituent elements of the good life. This is not just an abstract exercise and the approach will be tested empirically by applying it to the Republic of Ireland. This will enable me to assess the strengths and weaknesses of the approach, as well as generate country-specific data on the things that people value and implications for policy.

This chapter begins with a brief introduction the ideas of progress and value and how these have developed over time. I will then make the case for the research that I am doing and the contribution that it makes. I will conclude the chapter by setting out the research questions and the structure for the rest of the thesis.

1.1   Progress, value and the good life

Ideas of progress have been a central part of the development of European society, or what Bury calls the "animating and controlling idea [behind it]" (Bury, 1932 p. 2). There is some debate as to whether the ancient philosophers had an idea of progress, but they certainly did not understand it in the way later progress theorists would, and believed that decline and fall were an inevitable part of society (Meek Lange, 2011). Nonetheless, in *The Republic*, Plato created the first account of a utopian society in his depiction of the ideal city of Kallipolis. The philosopher, being the most just and wise person is also identified as the ideal ruler of the city (Brown, 2011). These philosopher-kings were essentially highly trained benevolent dictators who would eliminate poverty and fairly distribute resources.

The search for utopias continued throughout the centuries – in discussions of economics, ecology, gender relations, sexuality, and political reform – pursued on both the right and the left of modern politics. These discussions stem from discontent with the present and offer visions of a better way to organise human life (Sargisson, 2012).

Utopian studies[2] reached a high point in the 18th and 19th century. The Victorian period in Britain was known as the Age of Reform due to the scale of social change and profusion of reformers that were active in the period (Haggard, 2001). These reformers saw social progress as a linear process where the tools of science could be used to solve problems that arose because of the industrial revolution (ibid.). They were inspired by Enlightenment philosophers such as Godwin and Condorcet who believed in the 'perfectability' of society. A feature of Enlightenment thinking was the belief in the use of

---

[2] The term utopia was coined by Sir Thomas More in his philosophical novel of the same title published 500 years ago (1516) where he describes an imaginary republic ruled by reason.

reason to promote better decision-making and to inform the masses of the benefits of these policies.

There are many tangible achievements that can be traced to this reforming tradition. The welfare state, for example, began with the Liberal welfare reforms in the early 20th century and gender equality owes much to those that promoted women's rights during this time (Barker, 1984). As well as being a product of political philosophy these reforms were influenced by knowledge and awareness generated by the documenting of deprivation and injustice (ibid.). The mapping of poverty in London and York by Charles Booth and Benjamin Rowntree respectively, helped change attitudes towards the causes of poverty (Glennerster et al. 2004). They provided statistical evidence for the scale of poverty but also demonstrated that most of the poor were *working* poor and that illness and old age were greater causes of poverty than idleness or moral weakness. This is an early example of the use of empirical data to counter prejudice and formulate more effective and fairer policies. In a similar way, evidence on the contribution of women to economic life during the World War 1 was one of the factors that helped to change deeply entrenched views on voting rights and women's ability to participate in the workforce.

Although there was opposition to the Enlightenment project in the 18th and 19th century (Kuznar, 2008), after World War 2, many of its central ideas - the inevitability of human progress, the idealisation of human happiness, positivism and the potential for reason to address social conditions - fell completely out of favour in the social sciences (Boyne and Rattansi, 1990). When Adorno and Horkheimer published *Dialectic of Enlightenment* they declared that "enlightenment is totalitarian" and argued that the attempt to replace revelation with reason had led directly to imperialism, two world wars and the horrors of the Holocaust (1979 p.24). The epistemological shift associated with this period was away from determinacy and certainty towards contingency and relativism (Susen, 2015). Two of the primary critiques of Enlightenment thinking were of method/evaluation and Western institutions and knowledge (Kuznar, 2008). Social progress, goal-directed history and its measurement were also anathema to later postmodern philosophers that rejected any notion of metanarratives or single frameworks (Eagleton, 1996).

Whilst, postmodernists wrote widely about culture, architecture, sociology, punishment and psychology – and were highly influential in those disciplines - they had little to say about economics. This developed quite a different epistemological tradition in the 20th century and was mainly dominated by neoclassicism and neopositivism. Although there was much to divide postmodernism from liberal economics, Marxist critics such as Jameson (1984) and Harvey (1990) drew attention to the ways in which they converge: championing of the individual, wariness of state power and collectivism and a mistrust of

regulation. Added to this, there is a shared belief that philosophical debate on the meaning of the good society is largely irrelevant. Despite this, we could argue that liberal economics has an implicit view of what constituted a good society. It is underpinned by a market-based epistemology, where rational consumers armed with perfect information maximise their utility in competitive markets. The sum of these decisions – aggregate consumption, or Gross Domestic Product (GDP)[3] – is considered a sufficient measure of both quantity and quality. Many postmodernists strongly reject this view. Nonetheless, it can be argued that the influence of postmodernism led to a side-lining of debates on what constitutes the good life in other areas of social science, allowing a narrower, more economistic view to become more influential than it might otherwise have been.

In practice, GDP growth is the closest approximation to a measure of progress that we have today. Itay describes it as a byword for progress, being both the generator of progress and the essence of what it is (Itay, 2009). Although GDP is simply the value of goods and services being produced in an economy, to the casual observer it is infinitely more important than that. GDP information runs through the institutions of our economy and society, and can even on occasion determine the national mood by shaping how we feel about our society and ourselves.

The appropriateness of this has been called into question in recent decades. Prior to the 2007 financial crisis, national governments, along with international institutions like the Organisation for Economic Cooperation and Development (OECD) and the World Bank had been investing resources into developing alternatives. For a time, it seemed as if there was real momentum behind the search for alternatives that would rival GDP. Most notably France established an independent commission led Joseph Stiglitz and Amartya Sen to recommend an approach that would better reflect the social, economic and environmental outcomes that people value (Stiglitz et al., 2009a). Similar projects were underway in Britain, Canada, Italy and Australia. Alongside this, there was a growing interest in measuring subjective well-being, as measured by life satisfaction, or feelings of happiness. However, these projects were all sidelined by the crisis. Governments, when faced with the task of boosting tax receipts and job creation, appear to have abandoned even the most limited efforts to create parallel (not to mention alternative) measures of progress. Although Canada and Britain produce annual updates of their well-being indices, there is no evidence that these data are any threat to the role of GDP i.e. there are few examples of binding policies influenced by this agenda (Allin and Hand,

---

[3] For the purposes of this argument these can be treated as the same. However GDP also includes other variables such as government spending and net exports.

2016). Indeed, there is no advanced economy where sidelining or replacing GDP is being taken seriously.

The literature in this field is replete with critiques of GDP for its failure to capture economic externalities such as climate change (see Section 1.3). Despite the strength of counterarguments however, the role of GDP in our societies has not changed, and its position following the crisis has, if anything, been strengthened. Given this, one of the aims of the research is to critically engage with the assertion that GDP is an appropriate indicator of social progress. Central to the study is a critique of the concept of value that is implied in its measurement.

The idea of progress is extremely complex and has attracted criticism from many quarters, some of which are more compelling than others. In the first instance, the determinacy and certainty that underpinned the reforming zeal of the Victorians now seems frightfully naïve. At the time, many would have assumed that by the 21st century, the squalor, destitution and ignorance that they were railing against would be things of the past. This was based on several mistaken beliefs. First, that progress was linear and that positive reforms would build upon other positive reforms. Second, there was (contrary to today) an overemphasis on structural forces as the root cause of social problems as espoused in Marxist thinking. Third, the influence of positivism led to the erroneous belief that measurement was a neutral activity and that more data could lead to rational, apolitical decisions about how to improve social conditions. Finally, progress theorists of the past may have lacked an understanding of the complexity of social change and the multiplicity of causes of social problems.

A 21st century view of both progress and measurement is much more conditional, cautious, nuanced, and realist. Some of the most irrefutable modern critiques of progress come from anthropologists and environmentalists such as Jared Diamond (see Diamond, 2005) and Ronald Wright (2005). Diamond and Wright use examples of historical civilisations to show that change is non-linear and best explained by environmental variables such as the availability of resources. Both leave open the possibility of global collapse in the next 100 years due to poor group choices and subsequent environmental impacts (Meek Lange, 2011). There is a recognition also of the messiness and complexity of social change and that both the process and content of measurement can be highly political. Whilst data can be informative it can also be misleading, and that there are limits both to what can be measured and how useful that measurement can be.

Due to the controversy surrounding the idea of 'progress', I do not believe it is possible to rehabilitate it for use in this thesis. Instead I offer the concept of 'social value'. In the UK, this term is used quite narrowly to describe the impact of social programmes (see Public Services Act, 2012). I employ it more widely. Like economic value, social value is concerned with resource allocation (not just those that are scarce) but also the impact that those resources have on individual and collective outcomes. In the case of a nation state, this is about how the collective economic and non-economic resources of the country are used to maximise the welfare/well-being of citizens. These, and other cognates of well-being are other terms that could have been used. However, these over-emphasise the importance of subjective perceptions of value. As we will see later in this thesis, the intention is to combine both the subjective and objective, and social value is a suitably neutral term in that regard. In the literature, the terms happiness, well-being, value, utility and welfare are often used interchangeably. However, although some such as well-being can be used loosely, others, such as happiness have quite specific meanings. For clarity, I will apply them only in their 'technical' usage e.g. when I use the term happiness, it will refer to pleasure, contentment or the state of being happy. The term social value, it is a catch-all label that will incorporates elements of all those terms listed above, and I use it in a bespoke way to describe the concept that this thesis is trying to operationalise and measure.

After decades of highs and lows in many attempts to measure social progress, most social scientists are sceptical about the utopian visions, or even the desirability of trying to articulate what that might look like. We have learned that one person's utopia might be another's dystopia and that it is certainly not in the gift of policymakers to tell us what that should be. Nonetheless, I reject the notion that this means we should eschew all measurement. Instead, I make the case for the value of collectively identifying what a better future might look like, how we might know it when we get there and what kinds of changes we would need to make to have any chance of reaching it.

In the next section, I make a case for the setting and measuring of such collective goals and why this should be considered a legitimate and important area of social research.

1.2   In defence of measurement

Throughout this thesis, I argue that 'the good life' is something that can, and should, be measured. However, it is possible to take contrary positions, not least regarding the appropriateness of attempting to quantify something so intangible, and given the subjective nature of the phenomenon. In Chapter 5, I reflect on the relationship between objective and subjective measurement and argue that the distinctions are not as clear

as is sometimes assumed. I also reflect on the benefits of taking a mixed methods approach and complementing the quantitative dataset developed here with qualitative data. I explain why, for practical reasons it was not possible to do both as part of this thesis but acknowledge that this would enhance it. This is therefore a quantitative thesis informed by a neopositivist epistemological position. This standpoint is not without controversy and in this section, I set out the reasons why I think measurement matters and provide a defence for why the approach taken here is appropriate to answer the question this question.

The first defence is that it provides incentives for behaviour and can therefore shape desired outcomes. The earlier example of Booth's poverty mapping led directly to awareness of the circumstances of the poor in London and measures to alleviate poverty such as the introduction of the old age pension (Haggard, 2001). There are numerous other examples throughout history. In recent times the Millennium Development Goals have led – shortcomings notwithstanding - to a focus of resources on critical development issues such as health and education (Fehling et al., 2013). By the same token, if you measure the wrong things, you run the risk of focusing resources and activities on things that are unimportant or even detrimental to social value. We could argue that the roots of the 2007/8 financial crisis lay in part in inadequate or misleading indicators being measured by central banks. In Ireland, for example, there were no official sources of information on house prices during the property collapse, nor was there a centralised source of information on mortgage arrears within the banking sector (Kennedy and McIndoe-Calder, 2011).

A second reason is that it is impossible to imagine a system of accountability in public life where measurement and aggregation of data does not play a role. If we accept that at least in some areas of life resources are limited and decisions about allocation must be made, then we need some basis for making those decisions that is transparent and that avoids dogma, favouritism or corrupt practices. As discussed above, contemporary thinking on measurement owes much to cultural influences in sociology and the other social sciences. Methodological approaches influenced by constructivism such as participatory methods where the research process is geared towards "those people whose life-world and meaningful actions are under study" (Bergold and Thomas 2012, unpaginated) are commonplace.

Yet there are substantial tensions too. One of these tensions is an ontological disagreement about the role of public or 'expert' opinion in decision-making. Despite universal education and the expansion of tertiary education in many countries in the world, the divergence between the expert and public does not appear to be waning. Most

of the research on this comes from the US where the Pew Centre regularly survey public attitudes and compare them to the attitudes of scientists or other experts. There are some huge gulfs in opinion, which they call 'agreement gaps'. For example, the agreement gap as to whether humans have evolved over time is 33 percentage points (98% of experts vs. 65% of the public). There are large agreement gaps on whether human activity causes climate change, the safety of GM crops, and whether childhood vaccinations are dangerous (Pew Research Centre, 2015). Crime is another example. As crime has fallen across the developed world in recent decades, fear of crime has risen or stayed constant and incarceration rates have increased in many countries (Tonry, 2014). The response has not been to tell people they are 'wrong' but to measure and understand why people feel afraid and to incorporate indicators of fear into crime statistics (for example in the British Crime Survey). This seems like a good approach to mediating subjective and objective views, but it is not always that simple. Work by Bishop et al (1986) demonstrates the dangers of misinformation. They interviewed respondents about three fictitious pieces of legislation in the US. Between 22 and 40% of respondents were willing to express opinions even when they knew nothing about the topic. By creating dual lines of accountability – i.e. flows of information from citizen to policy-maker and from scientist to citizen - the intention is to cut through these tensions and create a better framework for deciding policy. This process should help inform the electorate on issues that are complex such as the science of climate change, and it should act as a bulwark against dogma, propaganda and faith-based assessments of policy.

The final reason to focus interdisciplinary academic attention on the measurement of social value is that it is already happening. Whether we do so explicitly or not, we regularly review how well we are doing and compare this with other nations. In the absence of formal alternatives, economic measures such as GDP are heavily relied upon and stretched beyond their capabilities. This creates a vicious cycle where we value, resource and focus on the wrong things. In the next section I discuss the problems with GDP in more detail.

1.3   GDP as a measure of social value

GDP has been the subject of sustained criticism by economists and non-economists for decades. Van den Bergh (2014) identifies the most well-known economists that have tackled the subject including Galbraith (1958), Sen (1976), Arrow (1995) and Layard (2005).[4] The reasons why GDP acts a poor proxy for social value are many and varied.

---

[4] See also Kuznets (1946), Samuelson (1961), Mishan (1967), Nordhaus and Tobin (1972), Hueting (1980), Hirsch (1976), Scitovsky (1976), Daly (1977), Hartwick (1990), Tinbergen and

Others[5] have provided comprehensive summaries of these, which have been compiled and paraphrased in sections 1.3.1 – 1.3.5 (for a fuller critique see van den Berg, (2009)).

1.3.1 Accounting and methodological problems

There are five main problems with the way that GDP is calculated:

1. GDP breaks the principles of proper accounting by measuring only one side of the balance sheet. It measures the costs but not the (dis)benefits of economic activity.

2. GDP is biased towards services provided by the private sector. If a country privatises public services, ceteris paribus, GDP will increase, irrespective of service (dis)improvements. For example, public education is valued at input costs (salaries, buildings) but private education is valued at its market price. The US health services have the largest contribution to its GDP compared to other countries but the worst outcomes, so are overvalued in GDP. Productivity improvements in the public sector are also excluded.

3. Often the aggregate income of a country's citizens (GNI and NNI)[6] will be different than the size of domestic production, meaning that GDP misrepresents the level of economic resources that contribute to social value. Countries with large amounts of Foreign Direct Investment (FDI) such as Ireland regularly experience a large GNI/GDP gap. In 2015, Ireland created controversy by posting a growth rate of 26%, which was a direct result of this.

4. GDP is a measure of flows, so does not measure the stock of wealth in the economy, this is only a partial measure of the total wealth that citizens have at their disposal. Income and consumption calculations are therefore often not equal.

5. Although Net National Product (NNP) is offered as an improvement on GDP, there are difficulties in measuring depreciation, especially for new types of capital goods such as information technologies (Stiglitz et al., 2009)

Hueting (1992), Vellinga and Withagen (1996), Weitzman and Löfgren (1997), Dasgupta and Mäler (2000), Dasgupta (2001), Fleurbaey (2009) and Victor (2010)

[5] Drawn primarily from (Boarini et al., 2006; Costanza et al., 2009; England, 1998a; Harris, 1997; Stiglitz et al., 2009b; Talberth, 2008; van Den Berg, 2009)

[6] Gross National Income adds income transfers received by residents from abroad to GDP and subtracts transfers made by residents to people in other countries. It can also be influenced by 'terms of trade' effects. Net National Income combines GNI and Net Domestic Product (NDP). NDP is the maximum amount of output that can be spent on consumption during a year while maintaining the country's future productive capacity unaltered. NNI levels are systematically below levels of GDP per capita, however, the ranking tends to be similar with simple and rank correlation coefficients of 0.98 and 0.95, respectively (Boarini et. al. 2006). Net National Produce takes account of depreciation in the nationals stock of assets.

1.3.2 Empirical evidence of GDP and social value

GDP growth has for some periods of time correlated with social improvements, most notably life expectancy in post-war Europe when countries experienced large increases in per capita incomes (Preston, 1975) but this relationship has weakened as the 20th century has progressed (Preston, 1975). As discussed in more detail in Chapters 2 and 5, empirical studies of happiness generally do not find a relationship between growth and happiness beyond a certain level of income. This is partly explained by the 'hedonic treadmill model', which says that as we adapt to changing income our levels of satisfaction return to the baseline, and we strive for even more to achieve the same level of happiness (Diener et al. 2006).

1.3.3 Devalorisation of non-market activities

GDP does not capture non-market transactions e.g. childcare, voluntary work, subsistence agriculture. For example, estimates by ONS have shown that the value of home production is around the same size as conventional GDP (Fender et al. 2011). It also overvalues transitions from an informal to a formal economy because it assumes that informal labour has no value.

The prices on which the GDP are based are incomplete. There are a host of 'externalities' where prices do not capture the underlying valuation, most notably perhaps environmental damage. In 2007, oil and gas production contributed to 50 per cent of Saudi Arabia's GDP but the negative environmental impacts of this were not accounted for anywhere (Tabata, 2009). In addition, the valuation of some goods and services is extremely challenging (e.g. complex financial products) and in some instances, may be net negative.

Some goods and services are non-substitutable - no amount of luxury services can compensate for a lack clean air, water or food. GDP cannot distinguish between meeting basic needs and providing luxury goods. Substitutability is discussed in more detail in Chapter 4.

1.3.4 Poor incentives for social improvement

GDP cannot capture changes in the distribution of goods and services. For example, status acquisition from the purchase of positional goods is a zero-sum game (for your status to increase it requires someone else's to decrease).

GDP counts 'defensive expenditure': prisons, the military etc. Although the definition of what constitutes a defensive expenditure is controversial, there is scope for perverse incentives. For example, 3.9 per cent of the US labour force is either in prison or working

in a prison, compared to 2.4 per cent employed in farming, fishing and forestry (Wagner, 2003).

1.3.5 GDP as a measure of welfare

There is a sparser literature supporting GDP as a measure of welfare. Proponents tend to see merit in its seeming objectivity. It is considered non-normative and therefore free of government influence (Coyle, 2015; Norberg, 2010; Posner, 2009). Those who are naturally suspicious of government intervention tend to favour it on these grounds. However, whilst national accounting may have the appearance of objectivity, this is not always the case. The economist who first calculated GDP – Simon Kutznets – described how: "For those not intimately acquainted with this type of work [national accounting] it is difficult to realize the degree to which estimates of national income have been and must be affected by implicit or explicit value judgements." (quoted in England, 1998, p. 374). Others argue that for to measure improved variants such as Net National Product[7] (Weitzman, 1976), GDP is required (Oulton, 2012). Proponents often find themselves defending growth-based policies and the merits of economic growth rather than the metric itself (Coyle, 2015; Oulton, 2012).

Supporters of GDP also argue – as Kutznets did - that GDP was never intended as a measure of social value and is misused by governments (England, 1998). Whilst this is partly true, it does not detract from the argument for an alternative and may even support it further were a suitable alternative to be found. It can also be disingenuous, as supporters of retaining GDP solely for economic management, do not tend to be strong supporters of alternatives. As Daly et al. have pointed out "as long as GNP is treated by economists as the 'central framework'…political leaders and the media will continue to view the GNP as a measure of welfare." (Daly et al., 1994, p. 250).

Whilst alternatives are often the subject of severe criticism, GDP is sometimes treated as if exempt from such analysis, and GDP data are often reported uncritically in the media (Van den Bergh et al., 2014). The politics of GDP will be returned to again in Chapter 2 when I explore alternatives in more detail.

1.4   Developing an alternative measure of social value

This research is motivated by an interest in the ways in which measurement be used to improve public policy and subsequent social, economic and environmental outcomes. I will therefore explore whether a country can develop a transparent system of national

---

[7] NNP is defined in real terms as consumption plus net investment (gross investment less depreciation), all deflated by the price index for consumption. This is sometimes thought of as the yield on society's wealth and therefore equal to the maximum sustainable level of consumption

measurement with dual lines of accountability that is philosophically and empirically robust. I will also explore whether this measure would lead to better policy-making, by which I mean policies that improve collectively identified social outcomes.

The approach taken is to develop a conceptual framework to guide the development of a national indicator and test it by applying it in a real-world context. Hall at el. (2011) argue that any successful measure of social value requires such a framework, i.e. a basic structure that can be used to present a preferred and reliable approach to an idea or thought. The aim of the framework will be to delineate the dimensions used to build up the concept of social value and create a logical structure that illustrates how these dimensions relate to one another. To test how well the framework works I will apply the methodology to one country – the Republic of Ireland. I am most interested in the period from the late 1990s to the mid-2000s when Ireland experienced a large increase in the size of its GDP, which earned it the moniker of the Celtic Tiger.

There are several reasons why I chose to focus this study on Ireland. First, in recent decades it has seen unusually large fluctuations in GDP within a short space of time. At the end of the last century it had gone from being the permanent 'sick man of Europe' to the fastest growing economy in the region, reaching growth rates of 10 per cent per annum. This was followed by one of the largest peak to trough falls in GDP during the financial crisis. It therefore provides a good model through which to explore the relationship between national income and social value (Delaney, 2009). Second, alongside this (and partly because of it) Ireland has undergone huge social and cultural changes in a short space of time. This makes any study of the things that people value more interesting.

Third, although dubbed the 'Celtic Tiger', Irish economic development differed from the so-called tiger economies of Asia with which it was being compared. Whilst somewhat analogous in the early stages, policy became focused on short-term growth strategies to keep the GDP statistic high until it was eventually undone by the scale of the losses in the banking sector following the financial crisis. There is a reasonable literature on the Celtic Tiger, yet little of it is devoted to evaluating its success. Although difficult to separate from the crash that follows, it is worth asking whether the social and economic transformation in that period was net positive on its own terms. In other words, assuming there were positive and negative externalities from growth, did the positives outweigh the negatives and by what proportion?

Fourth, Ireland is something of an outlier in terms of well-being data. Historically, it has higher levels of life satisfaction than would be expected given its level of development.

More recently, this high relative position has been maintained despite comparatively low levels of public spending and, unlike other peripheral EU economics, happiness levels appear to have been unaffected by the recent recession.

Finally, Ireland is a small peripheral economy that has always operated in a narrow policy space. It has historically been influenced by larger neighbours – Britain, the EU and the US. The need to collectively identify social goals is arguably more pronounced in countries, where policy autonomy is limited, or considered an unaffordable luxury.

One critique of the way in which alternatives have been developed is that they have not brought the public with them. They are often remote, with the alternative priorities and goals being overly influenced by the assumptions of developers and academics (England, 1998b; Neumayer, 1999). Others have tried to take a more participatory approach such as the UK's Office for National Statistics and have been more successful in prompting public debate. In this thesis I will argue that a system of national accounts has the potential both to improve the accountability of policymakers and engage people with the challenges and trade-offs inherent in making policy. I will therefore explore whether a focus on GDP obscures of crowds out things that are of value to people, and what the implications of this are for policy. In the next section I set out the research questions that underpin this analysis and describe some additional research problems that the thesis will explore

1.5   Research questions

In this thesis, I will address the following primary research questions:

1. What do we know about what societies value, how is this understood philosophically and empirically, and how can it be operationalised and measured?
2. Are people's perceptions of the things that matter in life a sufficient indicator of social value, or do we need to complement this with other kinds of information e.g. expert opinion?
3. Can an index of progress for measuring social value be developed and what conceptual framework/principles would underpin it?
4. Using this approach, what can we learn about social value creation in Ireland during periods of low and high growth? What conclusions can we reach about the adequacy of GDP as a measure of social value from that example?
5. What are the policy implications, if any, of using this alternative approach?

Throughout the thesis I will also explore the following three tensions:

1. *How can we balance subjective and objective data in reaching conclusions about what people value?*

I assume no ontological hierarchy, rather I take as a starting point that subjective and objective data are both important and must be considered. However, they sometimes lead to a difference in emphasis or even contradictory conclusions and balancing these kinds of analysis is philosophically challenging.

2. *What is the balance to be struck between completeness and parsimony in developing an index of social value?*

Central to the critique of GDP is that it is a partial measure and that it doesn't capture many of the things that matter in life. At the same time, too much data could also obscure the things that are material. GDP's strength is its parsimony. This makes it comparable, relatively simple to understand and to use to inform policy. However, this is also a weakness. A more diverse or complex measure of social value would also need to be sensitive to national/cultural differences but incorporating these also reduces the comparability of the measure.

3. *How can we balance the interests of the individual with those of the collective?*

Whilst I recognise that the collective interest is more than the sum of individual preferences, this is a subtle point that may be challenging to communicate. If most individuals express a preference that is not arguably in the collective interest, how do we deal with that in a participatory and democratic framework such that I set out here?

1.6 Contribution

In this thesis I aim to move beyond research silos to draw on different research techniques and academic traditions. First, the research is intentionally interdisciplinary, drawing on literature from across sociology, economics, psychology, epidemiology, politics and environmental studies. I argue that no one discipline should have a monopoly over questions of what constitutes a good life, and that an interdisciplinary approach is most appropriate. This departs from much of the existing literature, which is often silloed in terms of subject and research design. For example, economics (and to a lesser extent psychology) have dominated the field of happiness studies, leading to the development of a discreet sub-discipline known as 'happiness economics' (e.g. Layard, 2005). The methods employed by happiness economists mirror those used in other branches of economics, most notably cross-country panel regressions that test for correlations between well-being measures and a series of independent variables. These studies have much merit but are also limited, and (for example) rarely employ qualitative research.

On the other hand, the contribution of sociology to the field of 'happiness studies' has been relatively limited (Bartram, 2012; Hyman, 2014; Cieslik, 2015). There are some notable exceptions, (e.g. Veenhoven, 2012, 1996, 1993) and Hyman (2014). Several reasons can be identified. First, the study of happiness is sometimes seen as an individualist phenomenon and therefore not a natural theme for sociologists (Cieslik, 2012). Second, cultural influences discussed above have led sociologists to critique the concept of happiness (e.g. Ahmed, 2010) and resulting 'therapy culture' (e.g. Furedi, 2004). Finally, sociologists have traditionally been concerned with "pathologies" – inequalities, injustice and so on (Hyman, 2014 p 3-4), rather than the reasons why people flourish. Following the sociologists cited here, I make the case that well-being – and the findings from its study – are of most interest and have most to offer policy at the societal, rather than individual level making it fertile ground for sociological enquiry. As I will discuss in Chapters 3 and 5, the hedonistic, atomised description of well-being is a "thin" one (Cieslik, 2015 p 432), and is not supported by the empirical research. The absence of sociologists working in the field may be one reason why economics (and quantitative methods) have dominated the field. Sociologists have responded by calling for more qualitative research (e.g. Hyman, 2010; Cieslik 2015), however, there is a clear gap for non-economists to use quantitative or mixed methods.

Although sociology is late to this topic, it has an essential contribution to make because it brings a social dimension that is often lacking. This thesis will therefore seek to make a general contribution to this literature. More specifically, it will contribute in two ways. The main contribution will be methodological. It will explore how a new approach to developing an indicator of social value could address some of the challenges set out in this section. The conceptual framework as a set of philosophically defensible guiding principles is also a unique contribution. A final contribution will be its application to Ireland, for which no detailed study of the measurement of social value has been carried out to date. The primary dataset on the things people value is bespoke to this thesis as are the conclusions that are drawn about the implications for how the economy and society may be organised.

1.6   Report structure

The thesis is structured in two parts. The first part (Chapters 2-5) develops the conceptual framework and the second part (Chapters 6-10) applies it to the example of the Republic of Ireland. This section précises each chapter. The structure is also represented in the diagram in Figure 1.1.

Chapter 2 begins by describing how GDP was developed and rose to dominance in most developed countries. It then goes on to document the reactions against this. Although criticisms came from many quarters, in this chapter I focus on four influential developments from across the social sciences, which all began in the 1970s. In economics, the *Limits of Growth* and subsequent publications spawned the discipline of ecological economics and Easterlin's work on the paradox of growth and happiness led to a very vibrant branch of research sometimes referred to as 'happiness economics'. In sociology, postmaterialism purported to document a change in values away from more materialist goals within developed societies and work on different forms of capital aimed to highlight the importance of nurturing non-economic assets within a society. I then discuss the alternatives to GDP that have been influenced by these critiques, focusing on three categories: adjusted GDP, composite indicators and dashboard approaches. Exemplars are chosen from each category and the pros and cons of each are discussed. Finally, I make a case for composite indices and conclude the chapter with a brief discussion of the political issues that have enabled GDP to remain dominant in the face of overwhelming criticism.

In Chapter 3, I theoretically interrogate the concept of value. I describe the history of ideas as it pertains to value from ancient times, through the Enlightenment to the 20th century. I then discuss modern conceptions of value using Parfitt's taxonomy of hedonic value theory, objective list theory and desire/preference satisfaction theory. I then describe how value has been used in economics and how preference satisfaction theory has influenced the use of GDP as a proxy for welfare. I conclude that whilst each theory contains some attractive elements none is sufficient on its own. I therefore advocate a hybrid theory, which draws mainly on objective list and desire theory, or subjective and objective perceptions of value. This hybrid influenced the development of the conceptual framework, which I call 'constrained utilitarianism'.

Environmental impacts are proposed as a possible candidate for a 'constraint' and this proposition is explored in Chapter 4. I begin this discussion by defining sustainability and explaining why some forms of capital, most notably critical natural capital, should be accounted for separately. I do this by introducing the concept of the substitutability of capital, demonstrating how it is not always possible to trade some forms of capital (e.g. non-renewables) off against other forms (e.g. renewable), at least not if we want to ensure non-declining welfare over time. This leads to a discussion of intergenerational equity and the extent to which we should be morally concerned with ensuring the well-being of future generations, particularly where their interests compete with the welfare of

people in developing countries today. The chapter concludes by describing the principles of environmental accounting that would form part of the conceptual framework.

In Chapter 5 I describe the methodology for the primary research and the empirical analysis for selecting indicators. The chapter begins with a discussion of the relative merits of subjective and objective data and the epistemological challenges of combining them. I make a case for the research, discuss reflexivity and describe the research design including survey design, data selection and analysis. The second part of the chapter reviews the determinants of well-being. The aim of this section is to identify from this literature a 'long list' of possible indicators that could inform the design of a survey into the things people value. In this way subjective and objective perceptions of value are combined in line with the conceptual framework.

In the second part of the thesis, I apply the framework to the example of the Republic of Ireland. In Chapter 6 I describe the history of Irish economic development, including the long period of economic underperformance from the foundation of the State in the 1920s to the end of the 1980s. I then describe the domestic and external policies that led to the 'Irish Model' better known as the Celtic Tiger. The strengths and weaknesses of the model are discussed, as are the reasons for its eventual collapse. I conclude the chapter with further discussion of the reasons why Ireland makes an interesting case study for this research.

Chapter 7 describes the conceptual framework in more detail and how it will be operationalised. This chapter begins by describing the principles that underpin the framework, some of the conceptual challenges it poses, and how I proposed to resolve these. I then provide further detail on how it was operationalised in the primary research. I cover two further methodological points relating to the survey: the measurement of values and attitudes and identifying the correct level of measurement. I then go on to describe Principal Component Analysis, the method of data reduction used distil the 68 variables into a manageable set of indicators with a coherent factor structure. I conclude the chapter by providing some further detail on ways to align the methodology for the index with my theoretical framework.

In Chapter 8 I present the findings from the primary research. In the first instance, this answers a central research questions – what do people value – and these are reduced to 10 outcome areas that I recommend for inclusion. Indicators for these outcomes are then identified. Data limitations of both time series and range of indicators are measured, restricting the scope of the analysis at this stage. The final steps of completing the index, normalisation and aggregation, could not therefore be completed in a robust way.

Instead, these are discussed with reference to the conceptual framework and the lessons that can be drawn from it about how they would be completed. The survey data also allowed me to explore whether there is evidence of changes in valuations over time and the amount of income people believe they would need to make them happy. I conclude the chapter with some additional statistical analysis of the datasets. Using Chi Squares, I test two null hypotheses 1) that there is no relationship between gender and overall valuations and 2) that there is no relationship between religion and overall valuations. Then, using Ordered Probit I test the null hypothesis that there is no relationship between material goals and self-reported subjective well-being (SWB).

Drawing on the outcomes that have been identified as being important in the previous analysis, I review the successes or failures of the Celtic Tiger in generating social value in Ireland in Chapter 9. Working with the best available data I review trends in relation to:

- Mental health and well-being
- Physical Health
- Employment
- Education
- Income poverty and inequality
- The environment

Where possible I calculate correlations with GDP over time and draw some conclusions about the wider impact of the Celtic Tiger.

In the final chapter I discuss the strengths and weaknesses of the conceptual framework and lessons learned for future research in this field. An ambition of this thesis is to inform policy and in the final chapter I set out some policy conclusions that emerge from the research. I test the usefulness of the framework for informing policy by taking two worked examples: mental health and the environment. Mental health emerged from the primary and secondary literature as being the most important determinant of social value. It is also interesting to discuss here because it is not generally thought of as an 'outcome' of the economic system and this chapter discusses the evidence for structural determinants of mental ill-health and their implications. The environment is interesting because it is the archetypal 'constraint' in my framework. I consider ways we might take its role as a constraint seriously by adopting things like environmental fiscal reform. The third area of policy for consideration relates to information strategies adopted by governments. The politics of data are discussed, and a new information strategy is recommended.

Figure 1.1: Report structure

PART 1

Chapter 2: GDP and alteratives

Chapter 3: Value theory

Chapter 4: Environmental theory

Chapter 5: Methodology and identifying indicators

Developing the framework

PART 2

Chapter 6: Ireland as a case study

Chapter 7: Applying the conceptual framwork

Chapter 8: Findings from the survey:

Chapter 8: The legacy of the Celtic Tiger

Chapter 9: Conclusions

Applying the framework

Designing the index

1.7   Conclusion

In this introductory chapter, I have discussed the history of social progress from the reforming zeal of the Victorians to the reaction against the whole concept of progress with the epistemological turn in the 20th century. This tradition was influential across the social sciences apart from economics, where the linear notion of progress persisted, and for which changes in GDP became the preferred measure.

A basic tenet of our current political and economic system is still that GDP is a good approximation of social value, and that growing the former will achieve proportional increases in the latter. I have set out the main critiques of GDP, which centre on the difficulty we have in distinguishing between growth that is socially useful and growth that is not.

This research takes up the challenge of developing an alternative approach to building an indicator of social value for use in policy and describes the approach that will be taken to do this. Whilst there is no suggestion that this will lead to a perfect measure of welfare it is an opportunity to explore the challenges and tensions that emerge and in doing so contribute to the growing literature in this field.

In the next chapter, I look in more detail at the growth of GDP, the main theories that have challenged it and the alternatives that these theories spawned. I describe the further the research problems that I am addressing and make a case for synthetic measures like the one that is being advocated here.

PART 1: DEVELOPING A CONCEPTUAL FRAMEWORK: CONTEXT, THEORY AND METHOD

Chapter 2 GDP measurement, alternatives and the need for this research

2.0 Introduction

People have always been motivated by attempts to improve the human condition (Sen, 2001). However, as discussed in Chapter 1, the identification and promotion of better societies is not a neutral act, as the metrics, method of measuring and, indeed, the decision to undertake measurement in the first place are all contested. It is peculiar perhaps in this context that a single, 'simple' indicator has come to dominate public life in most parts of the world without it ever having been collectively decided upon. Criticisms of GDP as a proxy for social value are as old as GDP itself. Because of the controversy that surrounds it, academics and policy-makers have always searched for alternatives but despite many promising possibilities, there is no serious candidate in contention.

This chapter begins with some historical context on the development of GDP, how it grew in significance and how it has been undermined by theoretical critiques as well as social and environmental data that highlight its shortcomings. I then discuss the development of alternatives, focusing on the strengths and weaknesses of monetary measures, synthetic measures and dashboard approaches. I then make a case for synthetic measures over the other approaches and conclude with a discussion of the politics of measuring social value and the implications of these discussions for this research.

2.1 The Development of GDP

GDP was first calculated in the 1930s by a team led by the American economist Simon Kuznets and gained popularity in the 1940s for its usefulness in measuring the size of the war effort.[8] Kuznets told US Congress at the time that it should not be mistaken for a measure of welfare and that:

---

[8] There are three methods for estimating GDP: production, expenditure and income approaches. Data for these estimates come from a variety of statistical surveys and administrative datasets. All three methods are used depending on when they become available. As the data tend to vary, the figures are updated as and when new datasets can be incorporated, which sometimes leads to GDP being revised up or down.

> "Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long term. Goals for more growth should specify more growth of what and for what."
>
> (Kuznets, 1962, p. 29).

By the 1960s however, GDP measurement was firmly established, and questions of quality growth as described by Kutznets fell away. Okun's Law purported to establish an empirical relationship between an increase in GDP and a decrease in the rate of unemployment and since then it has been a permanent feature of most economies (Okun, 1962). Crucially, it was adopted by the Bretton Woods Institutions for the purposes of international comparison and became the bellweather of social and economic performance. This vision of progress was also rooted in social pacts, which promised a balanced share of production between labour and capital (Thiry, et al. 2010).

In some respects, this all made sense. North America was, by the 1960s, both a powerhouse of market production and at the forefront of progressive politics. It had the largest GDP per capita in the world and was much admired internationally for its entrepreneurialism and social mobility. However, by the time the 20th century drew to a close, America's reputation as a social and economic success was much diminished. Doubts began to emerge about the proxy role that was being assigned to GDP and the direction in which it was leading society. In the next section I discuss the most salient of these criticisms, which came from different perspectives from across the social sciences.

2.2 Challenges to GDP

The 1970s saw the publication of several pieces of research that suggested that growth, as measured by GDP, might be off-track for monitoring and promoting human and environmental ends. These came from different disciplines: from political science the concept of postmaterialism, suggested a devalorisation of material wealth, from sociology the multiple capitals approach challenged the primacy of economic outcomes, and from the ecological movement The Limits of Growth theory suggested that the existing model was unsustainable. There was also criticism from within the economics profession however, and I begin this discussion with the paradox made famous by the economist who first observed it, Richard Easterlin.

2.2.1 The Easterlin Paradox

The main catalyst for the study of what today is sometimes referred to as 'happiness economics' came from Easterlin's seminal article on income and happiness (1974 updated in 1995). It described the seeming 'paradox' that although real incomes were rising in developed countries, it was not associated with a proportional rise in self-

reported happiness (Clark et al., 2008). The implication was that substantially increasing affluence was failing to translate into improvements in human well-being. One possible explanation was the 'relative income hypothesis' first developed by Duesenberry (1949). This posits that in rich countries, it might be relative rather than absolute income that matters most for people's well-being and Easterlin used it to help explain this finding. Given that we know that wealthier individuals within a society are happier, the relative income effect must dominate the absolute income effect, as this would explain why average well-being levels remain constant as all members become wealthier (Easterlin, 2005). A second phenomenon that Easterlin suggested might be at play was habituation (Easterlin, 1974). He argued that people adapt to new levels of income, and as they adapt their levels of satisfaction return to the baseline, so they strive for even more to achieve the same level of happiness. Adaptation appears to swamp the effects of changes in economic circumstances (and other objective circumstances) on happiness.

2.2.2 The Limits of Growth

Although ecological writing in economics can be traced back to Polanyi (1944), the discipline of ecological economics only began to emerge in the 1970s with the publication of seminal works such as Shumacher's *Small is Beautiful* (1974) and Daly's *Steady State Economics* (1977). The most influential publication in this genre was the Club of Rome's *Limits of Growth* which was published in 1972 (Meadows, et al. 1972). It contained computer simulations that projected future growth of several variables (e.g.: population, industrialisation, pollution, food production and resource depletion) at different rates. It assumed population and industrialisation grew exponentially, while food production grew in a linear fashion, and resources remained broadly fixed. The conclusion was a neo-Malthusian world of exhausted natural resources, endemic pollution and inadequate food supplies. The solution offered by the paper was to restrain growth, either through managed policy or as an imposition. Economists and business largely dismissed the report at the time. Critics such as Nordhaus (1992) and Solow (1974) pointed to insufficient data and problematic modelling techniques. Like Malthus, they argued, the authors had ignored technological innovation and the potential to find new resources. In addition, there was the potential of economic solutions like the adjusting role of the price mechanism.

Limits of Growth was written in the context of the oil shocks and recessions of the 1970s and its influence waned in the 1980s. Although the authors were not as concerned as they might have been with 'sink' pressures i.e. the planet's ability to absorb carbon emissions, their thesis was in fact more prescient than they may have realised. As awareness of climate change has grown, the Limits of Growth thesis has been rescued

from obscurity (albeit for the wrong reasons). Its legacy is still being debated today. It firmly established the position of what Neumayer (2004) calls 'growth pessimists'. Counter arguments were put forward by 'growth optimists' (Neumayer, ibid.). Central to the growth optimists' argument is the existence of what is known as the Environmental Kuznets Curve (EKC). This is the theory that there is an inverted u-shaped relationship between growth and environmental degradation - that as countries develop, they become more environmentally aware and pursue more sustainable policies (Beckerman, 1992; Grossman & Krueger, 1994; Lomborg, 2001). Growth optimists had argued that it was possible to 'decouple' growth and resource use i.e. break the link through increased efficiency (Goldin & Winters, 1995) and that growth could even reverse environmental degradation if the 'proceeds' of growth could be reinvested in clean technology (Nordhaus, 2006). These proponents also pointed to evidence that economic growth suppresses population growth, engenders technological improvements, and is associated with a greater number of environmental lobby groups.

Unfortunately, the empirical evidence has been kinder to the Limits of Growth thesis than the EKC: technological solutions have been slow to materialise and many of the Limits of Growth forecasts have turned out to be relatively accurate (Turner, 2008). Long-run data also suggest that the EKC relationship does not exist (Perman et al. 2003, Shafik 1994, Koop and Tole 1999, Nguyen Van and Azomahou 2007). Even if environmental consciousness rises with income, demand for material goods also rises to more than offset this concern. Although this might be the case for some pollutants, it is not the case for greenhouse gases and most ecosystem services – fisheries, soil, water – which continue to decline in developed countries (Perman et al 2003). Critics of the EKC also argue that high-income countries are cleaner because they export their polluting goods to other countries, so called 'pollution havens' (Cole, 2004) It is argued that other factors such as female education and retirement plans are more important in curbing population growth than economic growth. Perhaps the most convincing argument against the EKC however is that it does not take account of *past* emissions. For countries to reach a level of growth such that major pollutants begin to fall, they need to emit large amounts, making total emissions very high (Neumayer, 2004).

Uncertainty about the future - the trajectory of different emissions, the consequences of policy responses and the speed of technological improvements – make it difficult to answer conclusively the growth optimism/pessimism question. Looking ahead to a world where nine billion people aspire to the level of affluence of OECD nations however, the economy would need to be 40 times bigger by the end of the century to provide this

(Jackson, 2009). It is difficult to see how decoupling, if it could be achieved, could happen on this scale.

Coming to terms with the Limits of Growth thesis raises a whole host of additional questions. These are summarised well by Gowdy:

> "…how much economic growth do we need to provide money for the material things that contribute to making people happy? Can we "develop" without growing? Can one country stop growing, or would this amount to unilateral disarmament…"

> (Gowdy, 2005)

Although it is not the intention of the research to answer these, they will be referred to in the primary research regarding the case study of Ireland.

2.2.3 Post-materialism

A further challenge to GDP is the hypothesis that changing values in society mean that an entirely materialist measure cannot fully capture the things that matter to people. Inglehart uses the concept of postmaterialism to help explain the changes he observed in the values in modern societies (Inglehart, 1977; Inglehart, 1971). Starting in the 1970s, this hypothesis describes the transformation in many countries from a culture dominated by material-oriented goals to a society in which an increasing proportion of the population begins to favour non-material goals. He argued that this transformation was a part of the development process - as scarcity was reduced this impacted on the value individuals placed on material goods - and that this was accompanied by a decrease in confidence in authoritarian and hierarchical institutions. According to the theory, younger birth cohorts in developed countries attach less importance to economic and physical security than older birth cohorts who experienced poverty and/or the impacts of war in their early years. Not only has the economic well-being of the average citizen increased objectively, but also their sense of economic security.

Much of the empirical work to support this has been carried out by Ingelhart (Inglehart, 1997, 1990, 1977; Inglehart and Klingemann, 2000). However, it has been highly influential, and questions inspired by the concept are included in trans-national surveys such as the World Values Survey and Eurobarometer. Findings from these studies generally find – in line with the theory - a devalorization of material concerns and a valorization of post-materialist concerns over time (Delhey, 2010). More recent analysis using the World Values Survey from before and after the 2007/8 financial crisis suggests a change in these trends. Cameron (2013) in a study of 14 democracies finds that postmaterialism is in decline across a range of age groups. She finds evidence for the scarcity hypothesis i.e. that that materialist values will take precedence during times of

scarcity (Inglehart, 1981, p. 881). The suggestion of a return to materialist values brought on by economic scarcity should come as no surprise. Recent research by McKinsey Global Initiative found that between 65% and 70% of people in 25 advanced countries saw no increase in their earnings between 2005 and 2014, suggesting that today's younger generation are likely to end up worse off than their parents (Elliot, 2016).

2.2.4 The multiple capitals approach

A more contemporary challenge to GDP comes from the 'capitals' approach to evaluating social value. The concept of 'capital' refers to a stock or asset that provides a flow of goods and services for the benefit of human wellbeing. The conventional economic definition of capital – essentially the manufactured goods which produce, or facilitate the production of, other goods and services – ignores the vital inputs produced by the natural environment and society. This idea proposes that there is a range of sources of value (capitals) that give rise to economic and social benefits, but that current accounting and economic approaches recognise only one through the measurement of GDP. It therefore takes the economic concept of wealth creation or 'capital' and applies it across non-economic areas of life, treating those types of capital as assets.

There are variations in the number of capitals depending on the framework (the Gleeson White framework identifies six (Gleeson-White, 2015)) but they tend to include some combination of natural, social, manufactured, human, cultural, built and financial capital. Two types of capital hare particular relevant here. This first is natural capital. The natural capitals approach has been taken up by environmental economists who have developed ways to incorporate this type of capital into accounting frameworks.[9] Natural Capital is described by the World Forum on Natural Capital as:

…the world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services, which make human life possible

(Naturalcapitalforum.com, 2017).

Natural capital and environmental accounting will be returned to in Chapter 4.

The second form of capital is social capital. Social relationships, networks and norms of reciprocity have a long history in sociology, indeed social solidarity has been described as one of its 'founding concepts' (Oosterlynck and Van Bouchaute, 2013). Early sociological theorists such as Durkheim, Weber and Simmel were concerned with the

---

[9] For example, (Costanza et al., 1997, p. 254) calculated the dollar value of 17 ecosystem services to highlight that the natural capital stocks that produce them are critical the Earth's life support system. He argued that "they contribute to human welfare, both directly and indirectly, and therefore represent part of the total economic value of the planet" (Costanza et al., 1997, p. 253).

destabilizing effects of industrialization and the breakdown of traditional forms of social relationships (ibid.). The term social capital however is viewed differently by social scientists from different traditions. Even within sociology leading theorists - Bourdieu, Coleman and Putnam – conceive of it differently (Tzanakis, 2013). For example, Bourdieu, relates it to the size of the network and the volume of past accumulated social capital (Bourdieu, 1986, p. 249). Although not necessarily linked directly to profit by the individual it is reducible to profit e.g. through access to employment and so on (Bourdieu, 1986) and this is the main reason actors engage in social capital activities. Putnam sees it in a more positive light as 'features of social organizations, such as networks, norms and trust that facilitate action and cooperation for mutual benefit'. (1993a, p. 35). It is this conceptualization that has been the most influential, and can clearly be seen in the widely-used World Health Organisation definition "the quality of social relationships within societies or communities, including community networks, civic engagement, sense of belonging and norms of cooperation and trust" (WHO, 2011 p.3). Where social capital is discussed in this thesis (Chapters 8 and 9) this is also how it is being conceptualised.

2.3 Alternatives to GDP

In recognition of GDP's deficiencies as set out above, significant efforts have been underway in recent times to develop additional measures of social value. Empirical work in this area has tended to fall into two areas: the development of alternative indicators and the testing of those indicators in various settings (national, regional and local). These activities have been taking place at the international level (e.g. World Bank), supranational level (e.g. OECD) and national level (e.g. UK's Office of National Statistics). WWWforEurope is a project set up by the European Commission in the wake of the financial crisis to research welfare, wealth and work across Europe. A key question it set itself was "What kind of development strategy should Europe opt for in the face of the financial crisis and the big challenges ahead: globalisation, demographic shifts, climate change and new technologies?" (Foreurope.eu, 2016). As part of this it has initiated a review of alternative measures of progress. It concludes that whilst all available approaches are far from perfect they can all expect to serve as a better approximation of social value than GDP. It recommends that the UN pick up the task of promoting the most acceptable alternative with the aim of promoting better choices in public decision-making and policy preparation, especially with regard to pressing issues like economic crises and climate change (Van den Bergh et al., 2014).

These alternative measures are sometimes described as indicators and sometimes indices. Most of the indicators used in public policy – including GDP - are indices, or macro-indicators i.e. a "synthetic indicator constructed by aggregating other so-called

'basic indicators'. (Boulanger, 2008, p. 46). Indices can be broadly classified into two categories

- Monetary measures – that start with and correct GDP or variant
- Synthetic indices – that combine a composite of indicators into a single number (Evans, 2011), and

There are two other approaches that are of interest here:

- Dashboard approaches - that present a dashboard of indicators but stop short of aggregation.
- Single indicators, such as ecological footprint, life satisfaction).

Next, I describe each of these approaches in more detail and provide examples of each.

2.3.1 Monetary Measures

This term refers to indices that take the approach of monetising total welfare. They usually do this by retaining consistency with national accounts but then correcting them for missing costs and extending them for missing benefits i.e. they start with GDP or a variant and correct for problems with it. The first attempt to adjust GDP to take account externalities was Nordhaus and Tobin's Measure of Economic welfare (Nordhaus & Tobin, 1972).[10] To explore this further, I discuss two of the best-known most recent approaches: Genuine Savings (GS) and the Index of Sustainable Economic Welfare/Genuine Progress Indicator (ISEW/GPI).

Genuine Savings

Pearce and Atkinson (1993) developed the first Genuine Savings (GS) estimates for 18 countries in 1993. Following this, the World Bank adopted the methodology and now regularly publishes data for over 150 countries. The indicator is calculated by deducting from GDP the value of resource depletion, pollution damage, welfare losses in human health and net foreign borrowing, and by adding net official transfers. Expenditure on education is treated as a saving, rather than as consumption because it increases human capital (Everett and Wilks, 1999)

In contrast to other approaches, GS has the advantage of giving countries a single, clear, positive or negative figure. When a country has persistently high negative results that means that the country is pursuing an unsustainable path with long run effects on welfare

---

[10] Other notable examples include Zolotas' 1981 Economic aspects of Welfare (Zolōtas, 1981), Eisner's 1990 Total Incomes System of Accounts, Cobb and Dalys' Index of Sustainable Economic Welfare (Cobb & Daly, 1989) and Pearce and Atkinson's Genuine Savings (1993).

(ibid.).

Figure 2.1 below shows the results of a World Bank study since 1976. It shows that the only regions to have consistently positive GS are in Asia and the OECD, with North Africa performing particularly badly. One conclusion we can draw from these data is that the regions with the greatest natural resource extraction, are also the poorest performers in terms of GS (Neumayer, 2004) and this has been confirmed by analyses of nation states such as Ecuador

Figure 2.1: Genuine Savings since 1976
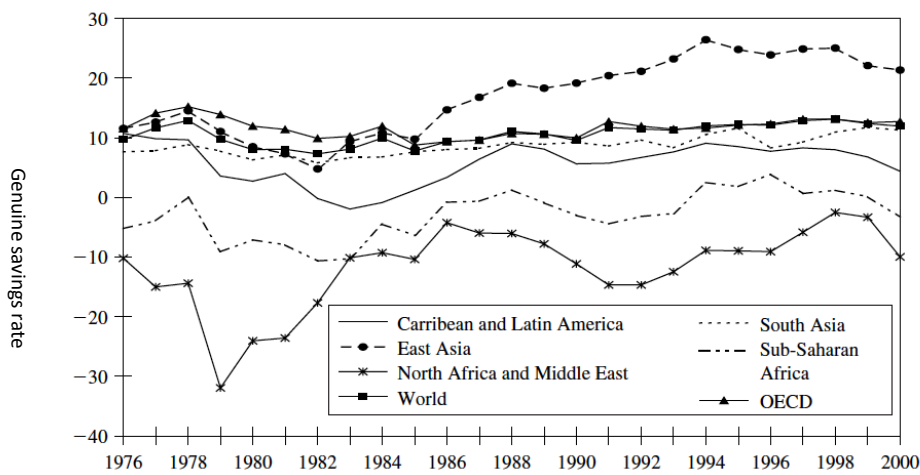
There are a several criticisms of GS. The first concerns its reliance on the price mechanism to correctly value natural resources. Given that these assets are being extracted unsustainably in many instances it is likely that the valuations are sub-optimal (Neumayer, 2003). Second, it is heavily GDP-dependent, and could therefore be implicitly justifying real GDP increases, which benefit Northern countries (Everett and Wilks, 1999). Third, it cannot deal with issues of carbon leakage or transboundary pollution and highlights the difficulty in attempting to account for global public goods such as forests at the national level. For example, the oil extraction in the Middle East, which drives the region's poor performance, is largely exported to the North, yet it is accounted for in the country of extraction (Everett and Wilks, 1999) This favours small countries that import their energy such as Ireland and highlights the need for sustainability to be seen as a global issue (Falconi, 1999). This issue will be discussed in more detail in Chapter 7. The final criticism of the calculations is that they are based on the concept of 'weak sustainability', where renewable resources can be substituted for non-renewable. Weak and strong sustainability are discussed in more detail in Chapter 2. For now, it is sufficient to say that a country could appear at the top of the league table on weak sustainability because savings are very high and more than compensate for natural capital

depreciation, yet that depreciation could remain improperly accounted for (Martinez Allier, 1995). This last criticism is by far the most important as it relates to its theoretical foundations in weak sustainability i.e. it cannot be improved by changing the assumptions upon which GS is based.

The most recent GS estimates for Ireland were carried out by Ferriera and Moro (2011). The estimates of GS over the period 1995-2005 were consistently smaller than those reported by the World Bank and were negative for two years (1995/96) and close to zero for a third (1997). In the years after that they found that GS were positive and increasing. They argue that the discrepancy between their figures and those of the WB show the need for expanding the World Bank adjustments. They also conclude, consistent with the weak sustainability theory that the Genuine Savings is not a long-term sustainability indicator, as a country seeking short-term growth at the expense of long-term viability may have positive values even though long-term sustainability is undermined. The negative Genuine Savings for Ireland were driven by the high social external costs of emissions of pollutants, which were not compensated for by net national investments in other forms of capital. In Chapter 7, I will reflect on what this means when I assess Ireland's environmental performance during the Celtic Tiger years and the extent to which it is positioned to meet its global commitments on emissions reductions.

Index of Sustainable Economic Welfare (ISEW)/Genuine Progress Indicator (GPI)[11]

The ISEW/GPI indices are based on the pioneering work of Nordhaus and Tobin from the 1970s, with the first calculations carried out by Daly and Cobbe (1989). ISEW starts with consumption expenditures, which is a subcomponent of GNP/GDP, weighted with a modified Gini Coefficient. Then welfare relevant contributions are added, and welfare negative contributions are subtracted.

The ISEW has now been applied to over 20 different countries with a further 19 sub-national studies in 6 different countries and a growing number of local studies (Posner and Costanza, 2011). Posner and Costanza (ibid.) provide a comprehensive review of each of these. They find that GDP increases over the course of decades are consistent with either a levelling off, falling, or more slowly rising ISEW. This 'threshold' beyond which the costs of GDP growth outweigh the benefits is as early as 1970 for some European countries (Max-Neef et al., 1990). The gap does not appear to be as wide at

---

[11] In the US the measure evolved into the Genuine Progress Indicator (GPI) but has retained its original name elsewhere. Whilst there are minor differences between them, in principle they attempt to achieve the same thing, and will be treated as identical for the rest of this thesis.

the subnational level, nonetheless GDP-equivalents are found to consistently overstate the welfare of regions when compared with the ISEW.

The ISEW has been criticized on many of the same grounds as Genuine Savings: the arbitrary nature of the chosen adjustments, the lack of a theoretical foundation (Neumayer, 1999, 2000). In addition, there is an element of arbitrariness to what constitutes 'defensive spending'.[12] Cobb and Cobb (1994) for example consider most schooling to be defensive. The argument being that people attend school because others are in school and the failure to attend would mean falling behind in competition for diplomas or degrees that confer higher incomes on people. However, other versions have chosen to count education as consumption (Jackson and Marks, 1999). In some iterations, some health expenditure is also considered defensive but as Neumayer points out, food and drink could equally be considered defensive against hunger and thirst (Neumayer, 1999). Like Genuine Savings, natural resources are accounted for in the country within which they are extracted, which can mean that one region's economic welfare is being artificially supported by externalizing costs to another region.

2.3.2 Synthetic indicators

A composite indicator is formed when individual indicators are compiled into a single index based on an underlying model. The composite indicator should ideally measure multidimensional concepts, which cannot be captured by a single indicator (Nardo et al., 2005). Composite indices are often trying to attach a number to an important, but unobserved, concept (Ravallion, 2011). The aim is to bring greater clarity and understanding to a large dataset by collapsing it into something easier to digest (ibid.)

There has been a phenomenal growth in the development of composite indices in recent years. In 2008 Bandura (2008) found that of the 160 composite cross-country indices in existence, 83% had been generated since 1991 and 50% in the five years prior to her study. By contrast before 1991 there were fewer than 20% of the composite indices found that are available today.

Foa and Tanner (2012) identify four reasons for the popularity of composite measures:

- Ability to summarize complex issues allowing policy-makers to have tractable and representative sense of a situation
- A single estimate provides ease of interpretation and allows social value to be assessed over time

---

[12] This refers to public spending that is not welfare-enhancing. Spending on expanding the prison population is a good example.

- Facilitates communication with citizens because it forces regular updating of data on relevant measures

Despite their growing popularity composite indicators remain controversial (Cherchye et al., 2007). Criticisms focus on the subjectivity involved in indicator choice, the dependence of country rankings on the preliminary normalization stage and the disagreement amongst experts on the approach to weighting (ibid.) As McGillivray and Noorbakhsh have written: "Irrespective of how elegantly and emphatically the justifications for components choices might be articulated, in the final analysis the selection is ad hoc." (2004, p. 3). A further problem is that questionable assumptions can be hidden in the data and important trade-offs between different dimensions are not made explicit (Ravallion, 2011).

Composite indices also give rise to several tensions, most notably between the need for universalism and specificity and between completeness and parsimony. Universalism such as that espoused by the Human Development Index attempts to capture common human capabilities such as health, education and income. The problem with universalism is that in striving for commonality it loses the specificity of contextual experience for a specific country or group of countries. This leads to the exclusion of some elements such as security (McGillivray and Noorbakhsh, 2004) and human rights (Dasgupta, 1990). It is not possible for an index to be both universal and specific, which is an inherent flaw. The alternative, as advocated here, is to develop country-specific indices that are sensitive to cultural norms and socio-economic objectives, but this loses any element of comparability between countries, which for some composite indices is their main purpose. However, striving for comparability assumes it is a worthwhile goal of such measurement, which is something that I question in this thesis and return to later.

In addition, it is not possible to have a complete and exhaustive list of indicators. Developers need to take a view on the optimum number of indicators and be prepared to lose some pieces of information in the interests of parsimony. Foa and Tanner (op. cit.) cite at one extreme the Worldwide Governance Indicators that uses 300 indicators from 33 different data sources (Kaufmann et al., 2007). At the other extreme is the Human Development Index (HDI) that uses six items in total (Verenigde Naties, 2007). Foa and Tanner argue that the decision as to whether to adopt a parsimonious or comprehensive approach depends on the latent variable that the measure is intended to capture (ibid.). In this example, measuring social value is much more complex and requires a more comprehensive set than say diabetes which might reasonably rely on just a few indicators.

A final criticism of composite indicators is that the choice of variables sometimes confuses wellbeing means with ends. Even measures like the HDI use things like health spending as a proxy for health outcomes. This is highly problematic as it ranks the US health system more highly than others like France that have much more efficient and effective systems. Sometimes, means and ends are mixed within the same index. We might agree that adult literacy is an outcome but school enrolment an output (or means to the end) but these are sometimes treated a being equivalent pieces of information. (Booysen, 2002; McGillivray and Noorbakhsh, 2004; Veenhoven, 1996). In this section I discuss the Human Development Index in more detail, as it is the composite that has received the most attention and the highest level of acceptability to date.

The Human Development Index

The HDI was created by the United Nations as an explicit challenge to the notion of comparing countries in relation to economic growth. Instead it argues that this comparison should be based on people and their capabilities. The framework that underpins it is based on the work of Amartya Sen (e.g. Sen, 1976, 1979). The theoretical framework - The Capability Approach - provided by Sen is a good starting point for any attempt at social value measurement. For Sen, 'poverty' is when people are deprived of the capability to live a life which they have reason to value.

There are three dimensions to the HDI: health (as measured by life expectancy), education (as measured by years of schooling for adults and expected schooling for children) and standard of living (measured using the logarithm of income, to reflect the diminishing importance of income with increasing GNI). To its credit, the HDI has achieved something no other alternative has, which is considerable credibility and buy-in from across the political spectrum. However, its saleability may depend entirely on it being uncontroversial. Indeed, it is heavily GDP dependent and some argue that the components are too highly correlated with GDP to make it worthy as an alternative. (Dijkstra and Hanmer, 2000; McGillivray and White, 1993; Cahill, 2005). McGillivray has even gone as far as saying that the HDI, "…is yet another redundant composite intercountry development indicator." (McGillivray, 1991, p. 1467). Van den Bergh et al. (2014) in their review argue that the HDI is the least attractive of the alternatives from a methodological standpoint and that it is certainly unsuitable for wealthy countries. Yet despite its failures (and perhaps because of some of them), the HDI is perhaps the only alternative indicator described here that has achieved a measure of success and to gain enough legitimacy to become institutionalised (Boulanger, 2008).[13]

---

[13] see Gadrey and Jany-Catrice's (2003) and Sharpe (2004).

Several studies have suggested that the HDI weighting scheme is overly subjective, or even random and that alternative (plausible) weights would greatly affect the ranking (Noorbakhsh, 1998). In addition, Stiglitz et al. (2009) point out that adding the logarithm of per capita GDP to the level of life expectancy implicitly values an additional year of life expectancy in the United States as worth 20 times an additional year of life in India. They also criticize it for not taking account of the distribution of outcomes within each country.[14]

From the perspective of this research, the HDI is more appropriate for measuring change in developing countries. For countries where public services are quite well established, and incomes are already high, these indicators are less sensitive to change, and therefore less relevant. Ireland's HDI was fifth in the world in 2010 at 89.9. This has been unchanged since 2007 demonstrating that it is not sensitive enough to reflect (or predict) the crisis that developed there. Moreover, it does not aim to play this role (see England (1998) for a critical discussion of the HDI as a measure of welfare in developed countries).

2.3.3 Dashboard approach

The dashboard approach is similar in design to a synthetic index but stops short of aggregating indicators into a single index. As such, dashboard approaches avoid some of the criticisms set out above in relation to the risk of information loss and arbitrary selection. However, there are also problems with dashboards and they arguably avoid, rather than resolve the issues raised with synthetics. According to Stiglitz et al., they suffer because of their heterogeneity and provide little information about the hierarchy of different indicators. In addition, and perhaps most importantly, they lack what has made GDP a success, the attraction of a single headline figure to convey socio-economic performance (Stiglitz et al., 2009, p. 63).

Michalos (2011) argues that dashboard approaches reinforce the already siloed approach towards generating statistics. This leads to the collection of needless data, rather than seeing a dataset as a complete whole, as it discourages researchers from raising concerns about the completeness of existing stocks of statistical time series and correlations between indicators housed in each silo. In terms of informing policy, it is difficult to move beyond "…some kind of a cost-benefit dominance of values, i.e., one counts the number of indicator values showing positive movement compared to the number showing negative movement..." (2011, p. 118).

---

[14] An inequality-adjusted version does exist but is not the headline indicator

One notable example of a dashboard approach is the OECD Better Life Index. This Initiative focuses on developing statistics to capture aspects of life that "matter to people". These are based on the OECD's own experience of measuring social change, so reflecting the priorities as identified by OECD researchers. The approach is designed to allow the reader to create their own index based on what they value, so the rankings of countries will vary depending on the importance individuals place on a particular dimension. The OECD believes that this avoids the issue of arbitrary weights (OECD, 2013). It acknowledges however that the framework covers dimensions of well-being that are universal and that they may be usefully complemented by "national similar initiatives, which can add context-specific information on what constitutes a good life" (OCED, 2016)

2.3.4 Single indicators

Conceptually, single indicators are the easiest to explain as they use a single variable to represent an outcome such as well-being or environmental impact. The issues of complexity and aggregation that dominate other approaches, including the GDP, are therefore absent (Barrington-Leigh and Escande, 2017). They are also very influential and reports that use them are widely reported in the press (ibid.). The most relevant to this research are SWB measures such as life satisfaction and happiness. As discussed, the last two decades have seen a substantial growth in interest in well-being or happiness studies.[15] Most of the recent interest has come from an interdisciplinary focus in economics, which now incorporates aspects of psychological theories – such behavioural theory - to expand and 'humanise' abstract economic theory. Many economists, seeking an improvement on consumption-based definitions of utility have seen happiness as a more holistic way of building a utility function into quantitative models. Improvements in the 'science' of well-being measurement has been thought to provide an alternative that overcame the obvious problems with the standard utility function (Bok, 2010).

However, as we will see later, although empirical findings from well-being studies have been very informative, for example by highlighting the Easterlin paradox, they can lose their explanatory power in some contexts. For example, they are often too 'global' to distill to specific policy recommendations i.e. there are too many potential explanatory variables. SWB measures are also often quite stable over time (including in Ireland). So, although there may be short-term fluctuations over the longer-term it is difficult to link

---

[15] In 2006 Kahneman and Krueger (2006) identified only 4 papers on subjective well-being from 1991-1995. Clark, Frijters and Shields (2008) put the figure at 173 papers for the 2003-2006 period. In 2012 the World Database of Happiness (2012) had 3,478 reports that include empirical investigations using accepted measures of happiness.

them to policy changes. This lack of sensitivity to policy reduces the usefulness of these measures as complete measures of social value. Finally, and in contrast to the conceptual approach I will develop, they are based on a narrow representation of what matters i.e. only subjective perceptions of how well one's life is going. The risks with an entirely subjectivist view of value is discussed in Chapters 3 and 5.

2.4 The politics of measuring social value

In this final section I ask why, if there is so much support for alternatives from academics, NGOs and even some policy makers has so little progress been made in seriously considering adopting one of these approaches? The politics matter because even if all of the weaknesses in alternatives could be eradicated, GDP will never be replaced unless there is the political will to do so.

Van den Bergh (2009) suggests that we need to look to psychology and behavioural economics for reasons as to why we persist with GDP. One explanation is that it is a case of 'bounded rationality'. This was an idea originally advanced by Herbert Simon (1972) who argued that uncertainty and incomplete information limit the extent to which we can make rational decisions. Bounded rationality implies that humans take reasoning shortcuts that may lead to suboptimal decision-making. So even though we know GDP is flawed, it offers a simple, easy-to-understand answer to the complex question of whether we are making progress.

A second explanation is historical lock-in. GDP measurement came about because of accidents of history and now an element of docility and an uncritical nature allow it to remain in place. Huge resources also go into measuring GDP and the infrastructure for doing so is well-established (van den Bergh, 2009). These 'sunk costs' make it more difficult to make a break with it. The economist John Quiggin uses the term 'zombie economics' to describe how ideas that are discredited still retain a currency even when they have been shown to be ineffective (Quiggin, 2010). Quiggin writes about this in relation to the economic policies that led to the 2006/7 financial crisis, which continued in many countries after they had been shown to be ineffective. This analysis could similarly be applied to GDP.

Politicians may (perhaps correctly) see little electoral gain in questioning GDP, especially in times of recession as it is closely associated in people's minds with employment. GDP figures, for all their faults are a known quantity whereas alternative data might force politically difficult policy changes. It has been suggested that this was behind China's decision to halt their Green GDP program (Liu, 2016). Vested interests that already benefit from the system have little to gain from changing it. The implications of this are

very important for this thesis i.e. identifying what needs to be changed in the political landscape to make alternatives acceptable may be as important as finding the right alternative, even more so. I return to some of the political barriers in the concluding chapter.

2.5 Conclusion

In this chapter I have also described the history of GDP and how it became so closely associated with ideas of societies' performance. I show how during the good times of the post-war settlement GDP became embedded as an institution in Western democracies and the USSR, and became an important measure of comparison between communist and capitalist societies. However, by the 1960s Robert Kennedy had made his famous, and highly prescient speech, on the deficiencies of GDP and called the need for broader measures (DiTella and MacCulloch 1995). In the 1970s, several pieces of data began to emerge which challenged the efficacy of GDP measurement to enable the pursuit of social goals. The Easterlin Paradox identified a trend of flat or declining subjective well-being, the Limits of Growth thesis highlighted the ecological impacts of growth, trends towards more postmaterial values suggested that material concerns were being deprioritised and finally, the multiple capitals approach demonstrated the importance of natural and social capital to a well-functioning society. This led to a search for alternative indices of social value. Monetary measures sought to 'adjust' GDP for positives and negatives, synthetic measures sought to create a composite of individual indicators that were deemed important, dashboard approaches reported on similar kinds of indicators that are disaggregated to avoid some of the problems with synthetics, and single indicators avoided many of these challenges but can have limited policy application.

All the approaches have assets and limitations, as have been outlined here. What is clear is that there is no perfect alternative. Reflecting on these strengths and weaknesses I make a case (limitations notwithstanding) for synthetic indices. The main reasons are that they allow for a holistic set of indicators to be included but also provide a single figure that can rival GDP. As we will see in Chapters 4 and 7, a synthetic indicator also allows for a stronger approach to sustainability than is required in the monetary approaches. The politics of measuring alternatives is also important here i.e. it doesn't matter how good alternatives become if there is no political will to change the system. I conclude the chapter by briefly discussing the psychological and political reasons why GDP exists.

In this chapter I have discussed the tension between universality – being general enough to be comparable - and specificity – being specific enough to be culturally relevant - in

synthetic indices. Many indices appear to sacrifice the latter for the former. Central to this is the need for comparability across countries. As with GDP, comparability is at once an index's greatest strength and greatest weakness. Approaches such as the HDI include data on many countries but in doing so exclude large areas of life that people might find important. I argue that we should not fetishize comparability in such an index because it is not always relevant to whether a country is creating social value for its citizens. Of course, we will want to learn from other countries and comparison enables that, but we can do this using individual indicators, or dashboards, rather than overworking the data to fit with a perfectly comparable index. In the universality vs specificity debate, I therefore argue that the latter is more important. This will be returned to again in Chapter 7 where I describe the conceptual framework in more detail.

A key objective of this research is to set out a framework for identifying the things that matter to people so that a set of priorities can be established that do not use growth as a starting point. Some of these priorities will require growth, some will not, and some may require different kinds of growth. In this way, it may be possible for nations to judge the extent to which growth furthers social value and under what conditions. In the next chapter, I begin to develop the conceptual framework of this thesis by exploring theories of value from ancient to modern times. I return to first principles by asking 'what is value', and start to develop a framework for building an index of social value that is based on this theoretical exploration.

Chapter 3 Theoretical framework: The theory of value

3.0 Introduction

The issue of value unifies the study of a variety of questions—economic, ethical and moral (Heathwood, 2012). Value theory is a catch-all label used to encompass all branches of moral philosophy, or at least any which are deemed to have an evaluative aspect (Schroeder, 2013). It is similar to axiology, which is primarily concerned with classifying what things are good and how good they are (Hartman, 1967). Well-being has similar philosophical origins as value theory. When Jeremy Bentham talked about the greatest happiness for the greatest number not only was he prefiguring the measurement of well-being, but he was also making an axiological claim about how and for whom value was being created.

Although sometimes referred to as a 'new science', the search for happiness has ancient roots. It has been a constant narrative throughout history from ancient fairy tale weddings to 21st century lifestyle guides, and folk traditions in every culture refer to it. Questioning the nature of goodness and happiness has a long philosophical tradition (Carson, 2000). Beginning with Socrates and Plato, and formalised by Aristotle, the idea of happiness was not a temporary emotional state as we might think of it today, but a life well lived. In this tradition, Cicero famously claimed that a happy man would be happy even on the torture rack (McMahon, 2006). With the spread across Europe of the Judeo-Christian tradition came the idea that happiness was something that could not be attained in this life. McMahon argues that prior to the 17th century people thought of happiness as a matter of divine favour or a reward for virtue and points to the fact that in all Indo-European languages (including Greek and Latin) the origin of the word happiness is a cognate with the word for luck or good fortune (McMahon, 2006).

The Enlightenment, which began with the scientific revolutions of the sixteenth and seventeenth centuries, swept away this medieval world-view and led to dramatic upheavals in science, philosophy, society and politics. Superstition and unquestioning faith were replaced with appeals to reason and scholarship. It was characterised by a belief in the idea of progress, the expectation that the human lot could be improved, and information arrived at through the scientific method was elevated to the highest form of knowledge. Suffering and pain were no longer a function of divine retribution, or misfortune to be endured for future happiness but 'bads' that could and should be eradicated through the application of science. John Locke declared at the end of the 17th century that the business of men is to be happy in this world (Locke, 1677). The Enlightenment definition of happiness, popularised by the utilitarians, was of an

emotional state that contained a greater amount of pleasure than pain. There was little advance on this position until the 20th century which, as mentioned, has seen an explosion of research on happiness and well-being including a rediscovery of ancient perspectives. For example, recent scholars have explored the contribution of altruism (Music, 2014), autonomy (Deci and Ryan, 1985), and meaning (Peterson et al., 2005) to well-being, all of which share similarities with the Greek concept of virtue.

This section reviews the main theories of value that have been advocated beginning with the ancient philosophers. This is a broad, multi-disciplinary literature that is difficult to do justice in a limited space. It is frustrated further by the fact that there is no consensus among modern-day philosophers concerning which general kind of theory of well-being or value is the right one (Heathwood, 2014).

The first section starts with a discussion of the history of value theory and its evolution into utility and then well-being. This leads on to a discussion of what we mean by 'the good' and how a priori reasoning on the nature of the good life can inform the research. This is a philosophical question that is different but related to the empirical question of what makes us happy (Feldman, 2012). This philosophical reflection should provide the conceptual foundations for the primary research that is to come.

3.1 The history of the philosophy of well-being

3.1.1 Ancient Greece

Greek philosophy was dominated by one question: 'what makes a good life?', and each of the great philosophical schools developed highly influential answers to this question. 'Eudamonia' loosely translates as the Greek word for happiness and its mention in the Socratic Dialogues is probably the earliest philosophical reference to it. A more accurate translation would be the state of living in accordance with one's 'daimon' or 'true self'. The daimon is one's personal state of excellence, which gives life meaning and direction. Eudamonia is therefore the condition of self-realisation (Waterman, 1993). Socrates considered virtue[16] to be both necessary and sufficient for eudemonia and thought it was what human beings wanted more than anything else. In the *Republic* Plato defends virtue as the most important constituent of eudemonia against the sophist charge that conventional morality prevents the strong man from achieving eudemonia (Plato, 2007). Aristotle developed this idea further and most of the *Nicomachean Ethics* is an enquiry into human well-being. Like Plato, he considered virtue to be the most important

---

[16] Virtue to the Greeks was a state of moral excellence, which emphasised the importance of character, principle and moral goodness

constituent in eudamonia, but he also acknowledged a role for external qualities such as wealth and beauty. He held that to have a good life was to fulfil one's purpose or essential nature as a human being (Aristotle, 1962). The virtue ethics that these philosophers developed emphasised the character and habits of the actor and their ability to lead an 'examined life'.

Also of great concern were the relative merits of a life of pleasure compared with a life of philosophical reasoning. In *Philebus*, Socrates' friend defends the life of pleasure by maintaining that pleasure is the good, while Socrates contends that wisdom, right opinion, and right reasoning are better than pleasure. Socrates argues that if a man cannot appreciate his life through philosophical reasoning then it is no better than that of an oyster. Eventually Socrates and his fellow discussants agree that the good life is one with a measured mix of the two (Plato & Jowett, 1937). Epicurus argued that pleasure and pain were the basic human experiences and that it was necessary to minimize pain and maximize pleasure to live well. Epicurianism was about more than pure hedononism however; it acknowledged that pain was sometimes necessary to gain happiness and that sometimes pleasure leads to more suffering than it was worth.

By contrast, the Stoics emphasised the importance of duty, self-control and mastering your emotions at the expense of external or material factors. Stoics like Seneca agreed with Socrates that "virtue is sufficient for happiness". From the teachings of Plato, they derived four cardinal virtues: wisdom, courage, justice and temperance.

Whereas Stoics and Aristotelians believed that the acquisition of knowledge was essential for a happy life, Sceptics believed that knowledge of truth was impossible. The school's founder Pyrrho was influenced by Eastern traditions such as Buddhism and believed that the suspension of judgment was a means to achieving the freedom from 'disturbance' that can lead to happiness. The Sceptics argued that Socrates had revealed to us how little we really know about truth or God and that over-dogmatic beliefs caused 'emotional disturbances'.

There has been relatively little philosophical advance on these positions in the intervening period. Today we still speak of hedonistic versus eudemonic conceptions of happiness and Epicureanism and Stoicism have entered the lexicon to describe different philosophies of life. Mastery, self-control and purpose are all standard measures of psychological well-being. Empirically we have discovered that Aristotle was right, that internal and external factors both influence our happiness, but we might also argue in the Socratic tradition that knowledge is a candidate for good that has 'intrinsic value. We

can even see the influence of the sceptical position in the popularity of the eastern philosophical tradition today.

With the spread of monotheism in Europe, virtue ethics gave way to deontological ethics where the emphasis was on appeals to a deity and the intrinsic rightness or wrongness of an action. The next major movement in value theory took place during the Enlightenment with the development of utilitarianism and consequentialism, which sought to replace ethical principles based on appeals to a higher power with appeals to reason. Crucially, the role of governments in creating a utilitarian framework and shaping the conditions under which value would be also grew in importance.

3.1.2 Classical Utilitarianism

Utilitarianism is a highly influential ethical philosophy, developed by Jeremy Bentham. The utility principle was based on the axiom that "it is the greatest happiness of the greatest number that is the measure of right and wrong" (Bentham, 1776). Like Epicurus, Bentham saw pleasure and pain as mankind's two 'sovereign masters' (ibid.). Bentham's was also an arch-consequentialist.[17] He did not believe in intrinsic value (or disvalue) and so did not think of any law as being intrinsically wrong, it was the effect that the law had, it's implication for overall utility that mattered. Such a law in another context might be a good law.

Many of the critiques of utilitarianism are actually critiques of consequentialism, and there are numerous well-worn examples that highlight the potential grotesqueness of the extreme consequentialist position: the fat man being pushed in front of a train that will kill five workers trapped on a track, the surgeon that has five patients dying of organ failure and one healthy patient that can save the five. These critiques are undermined by the safeguard (which Bentham also espoused) that some special laws (or rights) should be upheld within a broadly consequentialist framework (i.e. the right to life) (Bentham, 1781).

A leading critic of the period was Thomas Carlyle who famously described utilitarianism as the 'philosophy of swine', because it assumes equality of all pleasures whether of the lowest pleasures of animals or the highest of aesthetic appreciation (Crisp, 2013). This makes a very long life of a lower simple creature (Socrates' oyster for example) preferable to a well-lived human life and creates a moral equivalence between harming

---

[17] The two are sometimes considered part of the same philosophical position but this is inaccurate as it is possible to be both a utilitarian and a non-consequentialist (Eggleston & Miller, 2014).

animals and humans that most people would find objectionable. He also criticized it for reducing "God's-world…[to a balance]…for weighing hay and thistles on" (Carlyle, 1993).

John Stewart Mill, a student of Bentham's and a friend of Carlyle, responded to these criticisms by developing the idea of higher and lower pleasure. Bentham had argued that duration and intensity were important components of utility, and Mill added a third – quality. The claim is that some pleasures, by their very nature, are more valuable than others. To those that might argue that everyone might not enjoy reading Shakespeare, he responded that it was because they had not had the pleasure of the experience: it was better to be a dissatisfied Socrates he argued than a satisfied fool (Mill, 1863). Mill was essentially making the case for certain goods having intrinsic value irrespective of whether they were widely appreciated or not.

Although often associated with individualistic philosophical traditions, arguably it was the first theory of value that was concerned with how people live together, rather than how they live in relation to themselves or a god. Bentham and Mill were both radical social reformers that were concerned with changing corrupt laws and social practices, and they offered utility as an enlightened way of assessing the appropriateness of a law (Crisp, 2013). Bentham promoted the utility principle on the part of governments as well as individuals, and was very much concerned with societal calculations of utility. Later utilitarians such as Sidgwick however were attracted to more individualistic strains like psychological egoism and went on to influence 20th century neoclassical economists, such as Alfred Marshall (Martinoia, 2003).

Utilitarianism is a powerful idea, and although its appeal has waxed and waned it has remained influential, even amongst those that reject it, and it continues to occupy a central place in moral philosophy (Eggleston & Miller, 2014). A more modern definition might be that of Timmons where "An act is right if and only if (and because) it would (if performed) likely produce at least as high a utility (net overall balance of welfare) as would any other alternative action one might perform instead" (Timmons, 2013, p8). The relativity introduced into this statement enables utilitarianism to compare different policy options, which is why it has been so influential on policy makers that seek a basis for making such comparisons.

3.1.3 The science of happiness

The first empirical studies on subjective well-being (SWB) began in the 20th century. Angner describes its emergence as an area of scientific study as early as 1917, the year in which a paper was published promoting the discipline of 'eupathics' (2011). He describes an "uninterrupted stream of research" going back to the 1920s and disputes

its recent description as a 'new science' (e.g (Layard, 2005). For example, in 1925, Flugel published a quantitative study on feelings and emotions of participants and SWB-type measures were used in marital success studies in the 1920s and educational psychology in the 1930s (Angner, 2011).

By the 1960s studies of subjective mental health were carried out by epidemiologists sometimes using large representative samples (Angner, 2011). Empirical work on well-being grew rapidly in the 1980s and 90s. Some of the reasons for this were discussed in Chapter 2. Further relevant trends included an increase in material abundance which sparked an interest in quality of life issues (Kahneman et al., 2003) wider societal trends that placed greater value on the individual (Diener et al. in Snyder and Wright, 2001) and the rise of positive psychology[18] (Diener et al., 1999).

Those that were concerned with the shortcomings of economic measures such as GDP also began to take an interest. The social indicators movement emerged in the late 1960s (Campbell, 1976) to attempt to capture the 'goodness of life' (Andrews, 1989, p. 401). It was focused on generating statistics on life expectancy, health, housing etc. Over time, academics working on social indicators began to play a role in the development of subjective measures, which they saw as a more direct way of capturing the quality of people's lives (Angner, 2011). Concepts like happiness and life satisfaction began to be measured as domains of well-being. The sophistication of the research in this field has increased substantially and most practitioners draw on different historical traditions to incorporate an expanded notion of what we mean by well-being (cf. Dolan et al. 2010). Although initially treated with scepticism as being either too scientific or not scientific enough, these types of measures are now widely accepted as having scientific merit and have become influential in policy circles (Diener et al., 1999). The next section discusses contemporary theories of value and how they influence its conceptualization and measurement.

3.2 Modern theories of value

A central concern to modern day philosophers of value is the subjectivist/objectivist debate (Heathwood, 2014). A subjectivist thinks that only things that matter in our lives are those that we want and know we want whereas the objectivist thinks that there are things that are good for us even if we don't want them or know that we want them. A

---

[18] Positive psychology was a response to the previous emphasis in the discipline on psychological pathology. The aim was to use the scientific method to study and determine positive human development, rather than the presence or absence of mental illness (Seligman and Csikszentmihalyi, 2000).

theory of welfare is subjective if it makes your well-being at least in part depend on your set of attitudes or concerns. (Sumner, 1996).

A useful way of discussing the dichotomy is through taxonomy developed by Parfitt (Parfit, 1986):

1. **Hedonism**, according to which pleasure or enjoyment is the only thing that ultimately makes a life worth living;

2. **Objectivism** (or object list/objectivist) according to which at least some of what makes our lives better does so whether or not we desire it, or it gives us pleasure (Crisp, 2015)

3. **Desire theory**, according to which what is ultimately in a person's interest is getting what he wants

Before discussing the taxonomy in detail, I begin with a summary of ideas in relation to the concept of intrinsic value. Intrinsic value is something that has value 'in itself', or 'for its own sake' and is not derived instrumentally. For those that advocate its existence, it takes priority over extrinsic value, which is merely derivative or reflective of intrinsic value (Zimmerman, 2010).

One of the first writers to concern himself with the question of what exactly is at issue when we ascribe intrinsic value to something was G. E. Moore. Moore was a prominent critic of the notion of well-being not because he disagreed that we should search for the good but because he objected to the idea of 'good for' (Moore, 1993). His aim was to challenge 'teleological' or end-based notions of value promoted by consequentialists such as Sidgwick. He argued that when someone says that 'pleasure is good for me', they can only mean that the pleasure is good but that nothing can be added by saying that it is good 'for me'. He argued that a beautiful object had value independent of any pleasure it might generate in a viewer, and that a world that contained just one Vermeer painting but nobody to appreciate it was a better world than an empty world that contained one person living a life that they valued.

There are many different answers to the question "What things are intrinsically good?" Bentham thought it was pleasure; Nietzsche thought it was strength, Kant thought it was a good will, Aristotle thought it was eudamonia and GE Moore thought it was beauty. Those that think there is only one intrinsic good are known as monists and those that think there is more than one are known as pluralists. For example, Bentham was a monist because he singled out only pleasure as having intrinsic value whereas all other goods or attributes were valuable only insofar as they have implications for pleasure or pain. Mill we might think of as a pluralist, as his identification of higher and lower pleasures is

making an a priori case for a certain set goods (e.g. high arts) as having intrinsic value. The validly or otherwise of intrinsic value is central to any of the modern theories of value described in this section.

3.2.1 Hedonism

Hedonism is generally associated with the tradition of Epicurus/Bentham. It is not, however, necessarily the egoistic view that one should only be concerned with one's own pleasures and pain and hedonists often emphasize - in the tradition of Mill - the greater reliability and permanence of intellectual, aesthetic or moral pleasures. As discussed, Mill considered these pleasures to have a much higher value than bodily pleasures of equal intensity and duration. Psychological hedonism has more similarity with egoism where your own pleasure is the intrinsic good. Pure egoism is a rare thing and has been described by one philosopher as 'solely a creature of economic textbooks (Sumner, 1996)

What is attractive about hedonism - what Bentham was attracted to - is that it appears to provide a common metric that enables us to compare two very different experiences (Sumner, 1996). One objection to this approach, however, is that it relies entirely on one's mental state and not on the way the world is, which makes the common metric less common that we might at first think. Cross-cultural research suggests that people differ in the importance that they place on hedonic experiences (Diener et al., 2000; Oishi et al.,1999). Robert Nozick brought this objection to life with his thought experiment, the 'experience machine'. Nozick imagines someone who is plugged into a machine, which provides them with intensely pleasurable experience. Nozick, making a case for desire theory or 'preferentism' asks if it matters that the person is not satisfying their desires such as climbing a mountain or falling in love unbeknownst to themselves? On this theory, a life on the experience machine will be in many ways worse than an ordinary life, in which many desires about the external world are satisfied. Nozick argues that we want to do things, not just experience them, and want to be certain types of people (Nozick, 1977).

Baber (2008) counters that we should not accept the terms of the thought experiment and that this is only acceptable according to the desire theory of value where well-being consists of getting what you want. In a similar vein, Donner responds that philosophers should not be expected to take seriously remote, 'desert island' examples that are thrown at them. She argues that it is implausible that the 'plugged in' person is having a hallucinatory experience and that it therefore does not count (Donner, 1991).

Nonetheless, it does remind us of the importance of taking account of what philosophers call 'pro-attitudes'[19] in any conceptualisation of wellbeing (Fletcher, 2013).

In a similar vein, Carson gives us the 'contented pig' example. He compares the well-being of a lonely, unfulfilled, badly-paid academic and a pig with the perfect conditions for 'hog heaven'. The objection to hedonic value is that it is possible to imagine a world where the pig's life is superior, yet it is still implausible that anyone would chose to be a pig over a human (Carson, 2000). Mill accepted this when he wrote: "Few human creatures would be content to be charged into any of the lower order animals for the promise of the fullest allowance of that beast's pleasure" (Mill, 1863, p. 311).

3.2.2 Objective List Theories

Objective list theories are usually understood as theories that seek to identify the ingredients of well-being or the good life such as income, friendship to education. As the name suggests, objective list theory takes an objectivist view of well-being and would advance a definition of well-being with more similarity to welfare than to psychological states outlined earlier. Proponents of objective list theories tend to be axiological realists. Contrary to desire theorists, they hold that certain things are good independently of whether anyone would want them or believes they are good, even if they were rational and fully informed (Carson, 2000). The main concern for objectivism is how to decide which goods are included, as well as how to compare and rank them. Without some recourse to a set of principles or pro-attitudes this could be very challenging (Heathwood, 2010).

This leads to an obvious objection to list theories i.e. that they are attitude dependent and therefore violating of autonomy (Fletcher, 2013). As mentioned earlier, there are considerable cross-country differences in values and requirements of basic needs meaning that the same fulfilment of needs might lead to different levels of well-being. Even if you have different lists for different people, there is a risk that you exclude things that matter to well-being and that the list reflects the researcher's, rather than participant's interest (Tiberius, 2004). In its defence, Fletcher argues that this can be a charge against all theories except desire theory. This can even be true of hedonism. He gives the example of the ascetic who eschews pleasure because he thinks it is corrupting (Fletcher op. cit.). A related objection might be that the approach is elitist. However, Crisp

---

[19] Pro-attitudes are positive attitudes towards something and the opposite of con-attitudes

points out that elitism is not a philosophically sound criticism because it is possible to take an elitist approach and for it also to be true (Crisp, 2013).

This theory is often associated with the work of neo-Aristotelians such Amartya Sen and Martha Nussbaum (2011). Sen's work on capabilities and functioning has already been discussed. He rejects accounts of wellbeing that equate welfare with utility – preference, choice, satisfaction – he considers these accounts to be too influenced by social conditioning. He argues that finding something pleasant or wanting it is not the same as valuing it: "while goods and services are valuable, they are not valuable in themselves. Their value rests on what they can do for people…" (Sen, 1984, cited in Sumner, 1996, p. 60). His account has been described by Sumner as mediating between the extremes of the overly subjective and overly objective (Sumner, 1996). The basic notion is that of functioning, which he defines as anything a person manages to do or to be. He then adds capabilities – the freedom or opportunity to achieve a certain functioning. Even if we don't pursue all our opportunities for functioning we are better off if they are open to us, which is why our well-being is determined by both. However, this approach is not without criticism either. Michalos (2011) argues for example that one could not be said to be living a good life if we never choose to act on our moral goodness. It is not enough to have the right framework but how people act and respond within that framework also matters.

3.2.3 Desire theory

The desirability of a good or a service has always been a powerfully attractive way of determining what is valuable. As mentioned, desire is paradigmatic of the subjectivist approach (Heathwood, 2014) as it values what we desire whether it is good for us or not. Mill's proof that something was desirable, in fact the sole evidence he considered possible to produce was "that people actually desire it" (Mill, 1863). Perhaps the earliest in-depth discussion of the desire theory is in Sidgwick's *Methods of Ethics*. It gained prominence in the 20th century with the rise of welfare economics and decision theory, where utility is understood as people's preferences. Sidgwick's formula defined value as "the good is what ought to be desired" (Sidgwick, 1981).

Carson is a modern-day proponent of desire theory (also known as preference satisfaction). He writes:

> It is impossible to explain the practical import of value judgements unless we assume that being desirable is at least part of what we mean when we say something is good (Carson, 2000, p. 20)

A central critique of desire theory is that it is difficult to know which came first, the good or the desire. Do we want these things in our lives because it is good to have them, or is

it good to have them in our lives because we want them? In addition, we sometimes want things that turn out to be no good for us because our actual desires are ill-informed or a result of false belief.

Desire/preference philosophers deal with this by arguing that our wellbeing is connected to idealised desires; desires we would have if we knew all the relevant facts, and were making rational and reasonable decisions. In this vein, Carson argues for a qualified version of desire theory known as divine-preference theory. By this theory, we should value the desires we would have if we were rational (Carson, 2000). Carson even argues that facts about what happens after we die are relevant to how well one is faring when they are alive i.e. having a legacy is better than being completely forgotten even if we are not there to appreciate it. This is like the 'informed desire' advocated by John Rawls, a great critic of consequentialism. He asked us to imagine a brilliant Harvard mathematician, fully informed about the options available to them that develops an overriding desire to count the blades of grass on the lawns of Harvard. For Rawls, if the academic is really informed and considers counting grass to be the best option for him or her, then it should be so (Rawls, 1999).

Heathwood describes this move as 'running the risk of turning the desire theory into an objective theory of well-being in subjectivist clothing" (Heathwood, 2014 p.13). He argues that it should not be open to desire theorists to claim that part of what it is to be idealized is to desire the right things; a view also echoed by Crisp (Crisp, 2013).

Informed desire also has short-comings. As Brandt points out our preferences change (Brandt, 1998) and to be fully informed we would need to know what our future preferences were likely to be, otherwise we might endanger them. Taylor argues that, like hedonism it is overly individualistic and that it fails to take account of irreducible social goods that are better when shared than enjoyed alone, such as sharing a joke (Taylor, 1995). Desire theorists might respond that irreducible goods can also be desired (Carson, 2000).

Desire theory is very popular and has been highly influential. It has been adopted by some utilitarians such as Harsanyi and is widely endorsed by economists on the basis that people's preferences are considered the best guide to their utility or welfare. This makes it possible to observe their behaviour in markets and infer whether they are receiving improvements in their welfare or not (Sumner, 1996). However, when economists talk about value, they tend to use the term differently to how it is used in philosophy. In the next section, I discuss this further before reflecting on the implications for this research.

3.2.4 Value in economics

In classical economics, there were two types of value: exchange value - value as it is expressed in the price of something in exchange - and use-value, the potential capacity that an object has to meet human needs, its ability to satisfy desire. In the *Wealth of Nations* Adam Smith discusses how these two types of value can diverge from each other:

> The things that have the greatest value in use have frequently little or no value in exchange; on the contrary, those which have the greatest value in exchange have frequently little or no value in use.

(Smith, 1776, pp. 44–45)

He went on to describe the 'paradox of value', sometimes known as the 'water/diamond paradox'. This is the apparent contradiction that although nothing could be more useful than water it has no value, whereas a diamond scarcely has any use value, but a large number of goods could be frequently exchanged for it. This led to the idea of the 'labour theory of value'; that it was the amount of labour that went into producing something that determined its value. Karl Marx adopted the theory and made famous the concept of 'surplus value'. Marx who was an ardent critic of utilitarianism along with all ethical theories (Eggleston & Miller, 2014) thought that all exchange value is created by the worker, and this value is then appropriated by the capitalist. In the process of 'valorisation', whatever part of the value of a commodity falls to the landlord or the capitalist Marx regarded as a deduction from the fruits of labour, since labour alone created value (Marx, 1867).

By contrast, the subjective theory of value is one of the core ideas of the Austrian School. It is based on the idea that the value of a good is not based on any intrinsic quality of that good, nor by the labour embedded in the good but on the importance placed on that good by an individual willing to purchase it. It could be described as an explicit denial of the existence of intrinsic value. According to this theory, there is no proper price of a good or service other than the rate at which it trades in a free market, and as a result all voluntary trades are mutually beneficial otherwise they would not happen.

Perhaps the most influential of all the theories of value in any discipline is the theory of marginal utility, which remains a leading theory in modern economics. It states that value is determined neither by how much labour was exerted in the production of a good, nor on how useful it is on a whole, instead its value is determined by its marginal utility. Marginal utility is based on a well-known psychological principle, that the pleasure derived from the satisfaction of any given want declines with each successive unit of

satisfaction experienced and the 'final' or 'marginal' unit may yield little satisfaction, irrespective of how great the satisfaction from the first unit may have been. In exchange, both buyer and seller compare the marginal utility of the commodity to be bought and sold with the marginal utility of money. It claimed to solve the paradox of value by demonstrating that the marginal cost of water is far lower than that of diamonds, so rather than being asked to choose between the whole world of water and the whole world of diamonds, they were being asked to choose between definite amounts that relate to their subjectively ranked preferences.

Marginalism, as it is known, was based on ideas developed by the classical utilitarians. One implication of it was that marginal utility varied with people's subjective experience of the consumption of a good and how much of that good was consumed. This idea was described by Bentham as follows:

> Tis vain to talk of adding quantities which after the addition will continue to be as distinct as they were before; one man's happiness will never be another man's happiness: a gain to one man is no gain to another: you might as well pretend to add 20 apples to 20 pears.

> (Bentham 1789, quoted in Binmore, 2009, p. 2,)

The implications of this idea which came to be known as Interpersonal Companions of Utility (ICU) were quite radical in the field of economics i.e. that utility was measurable, and goods and services could at least in principle be distributed in a way that would maximise total welfare.

Whilst most economists today accept the Law of Diminishing Marginal Utility i.e. the more of a good you consume the less utility you gain from that good, the idea that utility can be compared across groups of people and over time has fallen out of favour. Two movements in the 20th century led to the rejection of ICU within mainstream economics. First, the positivist movement that swept Europe in the early part of the 20th century heavily influenced the assumptions upon which economics came to be based. Specifically, it considered subjective experience to be irrelevant because it was "neither analytic, nor subject to empirical test" (Robbins, 1935, p. 151). The leading 'new welfare economists' from the period sought to delimit "the neutral area of science from the more disputable area of moral and political philosophy." (Robbins, 1935, p. 151). Secondly, the latter part of the century saw the rise and eventual dominance of neo-classical economics, the central tenets of which relied on theories, which did not require interpersonal comparisons (General Equilibrium, Pareto Optimality, Kaldor/Hicks criteria). Empirical work by leading economists, (such as Hicks, Arrow and Samuelson), appeared to 'prove' that measures of cardinal utility – i.e. the intensity of preferences -

were impossible. The use of GDP as a proxy for social value and welfare is arguably a product of this philosophical position as it assumes that the quantity, rather than the quality of goods produced is what matters. It does not seek to answer the question that Bentham considered to be the test of any instrument of the state: "What use is it?" In this thesis, I make the case for applying Bentham's question to the subject of national measurement. The previous chapters described some of the reasons why GDP has been assigned the proxy role of national and international measure of success, none of which relate to its use in planning, directing and evaluating public policy. In the next section I reflect on these theories and how they can inform this research. I propose an alternative approach by setting out a conceptual framework that satisfies an acceptable theory of value. This will provide the foundations for the empirical work to come.

3.3 Individual and collective notions of value: towards a conceptual framework

In the Platonic Dialogue *Protagoras*, Socrates argued that the reason people act harmfully, to others or themselves, is because they only see the short-term gains while ignoring the long-term losses which might outweigh them, just like one makes errors in judging the size of objects that are far away (Plato, 2009). If people could calculate these things correctly, they would make better decisions to further their own happiness. In this Dialogue, Plato was suggesting that our individual utility is bound up with social value, or what is good for those around us, and that what is good for society is also good for us. We can contrast this with desire preference theory as expressed in neoclassical economics, where satisfying our desires (maximising our utility) is not just good for us but for wider society.

Almost all the theories of value described here have attractive elements, but each is also flawed, and plausible concerns have been raised about all of them. We might conclude from this that no theory is sufficiently complete to be applied without modifications. Furthermore, the most appealing solution - and the one that is likely to achieve the widest acceptability - lies somewhere in the middle. In this vein, I argue for an approach that draws on the most appealing aspects of Parfitt's taxonomy, a hybrid of objective list and desire theory. Hedonism can also be incorporated here as one item on the objective list. I do not argue that it has intrinsic value, but that pleasure/satisfaction is important, particularly if people perceive it to be so. This hybrid may in practice be like Carson's qualified version of desire theory - divine-preference theory – i.e. the things we would value if we were rational (Carson, 2000). What Carson does is to introduce an 'objective' element to preferences. However, I agree with Heathwood who argues that this is

essentially an objectivist theory cloaked in subjectivism. Carson's solution does not provide sufficient clarity about what is rational, for whom and under what conditions.

Instead, I argue that preferences should be 'constrained' where they run counter to what is in the wider public interest, or where they are destructive of irreducible social goods. An example might be where we restrict the use of certain fossil fuels because of scientific evidence of their impact on the environment. This arguably enables us to consider (in a limited way) the preferences of those that will inherit the planet from us and to enable us to have a positive legacy after we die. I call this approach 'constrained utilitarianism' i.e. a utilitarian framework that sits within a social and environmental rights-based framework where the maximizing of wellbeing is determined by informed desire. However, my argument that the environment is an archetypal constraint is not motivated by a claim that it has intrinsic value. For Moore and Mill, intrinsic value was innate to a good, whether we could perceive it or not, and was generally used to describe works of art of literature. The value that the environment provides does not stem (in my account of it at least) from a pantheist view of nature as an end in itself. Rather, the environment matters because it provides humans with a flow of essential environmental services without which our ability to generate well-being would be greatly diminished. This is a subtle but important distinction, which will be returned to later in the thesis.

In this research, I argue for taking people's preferences into account by eliciting their view as to what they value, but complementing this with different kinds of information e.g. cultural norms, irreducible social goods, or expert opinion. I apply this by first developing a long list of things that the research has found to enhance people's well-being – the objective list. I then transform into a subjective list by asking people to prioritise from within that list. This sets some constraints or limits on the set of choices that are available to people because factors that are deemed to be of wider social value are not included in the subjective aspect. For example, climate change (and environmental issues generally) are a relatively low priority in most polls and studies on the subject. If we followed a purely desire preference theory of valuation, we would limit policy in this area to things people care about like local pollution. However, by applying an a priori constraint I can remove climate change from the set of available choices. In this model, goods that are deemed to be of wider social value are accounted for separately. These are goods that people might desire if they were fully informed (e.g. environmental goods), or that may be at risk in a utilitarian framework (e.g. human rights/minority rights), or whose benefits are difficult to perceive (like collective infrastructure or forms or regulation). Of course, tensions will arise, such as when there are direct clashes between preferences and expert opinion. However, this already

happens in many areas of policy. Part of the contribution of this research is to provide a methodology for navigating these tensions to so that policy-making is neither abstracted from people's daily concerns, nor is it ignorant of important advances in science or ethics.

3.4 Conclusion

This chapter has reviewed the development of theories of value from the ancients to the present day. Throughout this period, we can observe a shift away from an emphasis on duty, virtue, self-realisation and even self-denial to theories focused around the individual with a greater emphasis on material gain. Alongside this, it is also possible to trace a corresponding dramatic rise in the standard of living. These theories therefore were not just abstract philosophies but most likely reflected and were shaped by the cultures and norms of their times.

We might classify the theories of value on a continuum therefore - from the psychological egoism advocated by Sidgwick to Socratic ideas of virtue - based on the extent to which they promote concern for individual or social good (Sumner, 1996). I have argued that the most appealing theory lies somewhere between these extremes. I advocate a hybrid theory of value, which combines the subjective and objective. I propose that the objective list should be drawn from empirical data about what is good for us (Chapter 5) and that pro-attitudes should be identified through primary data gathering (Chapter 8). The conceptual framework that will form the basis of this will be discussed in more detail in Part 2.

I have concluded this chapter by arguing that climate change/environmental goods and services is an area that is at risk in desire/preference theory of value and are emblematic of why a constraint is needed. However, the rationale for this requires further discussion. I turn to this in the next chapter, including what can be learned from environmental theory about the best way of incorporating the environment into such a framework.

Chapter 4 Incorporating natural capital into the conceptual framework

> There is need of matter for the growth of later generations, all of which, nevertheless, shall follow you when they have lived their lives; and in like matter generations before you have died, and others shall die hereafter. Thus, without end one springs from another, and life is granted to no one as possession but as a loan.

(Lucretius 1965, Book 3, 967–971)

4.0 Introduction

Although classical philosophy, especially Aristotelianism is sometimes invoked to support arguments for sustainability, classical philosophers did not have much to say about the environment. Lucretius was a Roman poet and philosopher and advocate of Epicurianism. The above quote, in which he describes the earth as being 'loaned' to us is one of the earliest philosophical examples of concern for future generations (O'Neill, 2006). Of course, classical, and even Enlightenment philosophers were not aware that the environment provides crucial functions to support economic performance and human well-being. During the 20th century a scientific consensus on climate change and its anthropogenic origins has emerged, and we have become increasingly aware of the scarcity of natural resources, which also threaten the sustainability of this system. Yet as discussed in the previous chapter, the environment is not a special case because it is intrinsically valuable in a philosophical sense but because it is an area where people's preferences and scientific evidence diverge.

The purpose of this chapter is to review the theoretical perspectives in this field and identify the most ethically and technically defensible way of accounting for sustainability at the national level. Not accounting for the private and social costs of the use of natural resources and the degradation of the environment, sends the wrong signals of social value creation i.e. it overestimates how well we are doing if we are exploiting resources or using sink functions in an unsustainable way. A key issue at stake in environmental accounting is the substitutability of different forms of capital. Substitutability refers to the extent to which one form of capital e.g. manufactured capital can replace, or substitute for another form of capital such as natural capital. This is sometimes characterized as a debate between economists and ecologists (Ayres et al., 1998), with the economists arguing for substitutability (or weak sustainability) and the ecologists arguing against (strong sustainability). The section will begin with a discussion of the definition of sustainability; in order to know whether we are living sustainably we need to be clear

about what we mean by it. I then go on to describe the concepts of strong and weak sustainability, and how they relate to definitions of sustainability. This leads on to a discussion of inter and intra generational inequality and the tension between these two forms of inequality. I conclude the chapter by setting out an approach to dealing with sustainability in this thesis and how it can inform the conceptual framework

4.1 Defining sustainability

As discussed in Chapter 3, a distinctive aspect of Aristotle's ethical thinking was that his reflections on the good life were concerned not only with what is good for an individual but also the wider community. However, this conception did not extend to maintaining the welfare of future generations: Aristotle never discusses sustainability as such, however, as O'Neill points out his focus on "a community engaged in common projects that stretches beyond our own lives…opens up the space for an account of inter-generational citizenship" (O'Neill, 2004 p. 167). Nonetheless, value theory has historically been mainly concerned with the present generation, not least because we cannot know the preferences or contexts of future generations. Increasingly moral philosophers are recognising that environmental threats require us to have an ethical framework that incorporates environmental concerns (see for example Sandel, 2012)

In 1987 the Brundtland Commission defined sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). This often cited and well-known definition of sustainability is the most widespread, having been adopted by the World Bank,[20] the United Nations,[21] the European Union,[22] and the OECD (Schneider, 2008). However, the Brundtland definition has satisfied neither the economist nor the ecologist side of the debate. The ecologist concerns include the fact that that 'need' could be very broadly defined to include a wide range of luxury items, and that the definition is entirely anthropocentric, ignoring the 'needs' of other species (Goffman, 2005; Lélé, 1991; Montani, 2007). Economists argue that it traps the poorest in the world into a cycle of impoverishment from which they could never escape (Beckerman, 1992, 1994; Bernstam, 1990; Pezzey, 1997).

Neumayer (1999, 2004) offers an alternative definition, which does not commit to providing equivalent welfare to future generations – after all future generations could

---

[20] See at http://www.worldbank.org/depweb/english/sd.html

[21] See at http://www.un.org/en/globalissues/environment/

[22] See at
http://europa.eu/legislation_summaries/environment/sustainable_development/index_en.htm

squander their inheritance and we cannot make current generations responsible for that – but ensures that the *conditions* under which non-declining welfare can be achieved are provided for. For example, it is not the responsibility of the current generation to guarantee that future generations send the same proportion of their young people to university but to ensure that universities still exist and are accessible to the same number of people should future generations wish to do so. The benefit of this definition is that it minimizes (although by no means eliminates) the complexity of the ethical challenge proposed by sustainability i.e. how should we prioritise the welfare of future generations relative to the current generation. It requires a 'stronger'[23] definition of sustainability, which has a greater chance of protecting those aspects of natural capital that are critical to our wellbeing but allows the exploitation of those that are renewable, or substitutable.

The stronger definition improves on Brundtland in a number of ways. It moves the focus of the debate away from the tension between today's generations and those in the future. Because a level of welfare does not have to be maintained, the definition of 'need' also becomes less important: if future generations abolish automatic washing machines, this is only a concern if they are obliged to do so (e.g. because of energy shortages) not if they do so freely. The charge of anthropocentrism still holds. However, if we assume that there is no value as we understand it outside of human perception then valuation is necessarily performed through the lens of the definition of value by humans.

This definition also requires us to distinguish between capital, which is 'critical' to maintaining welfare over time, and that which is non-critical. Critical natural capital cannot be traded off against non-critical natural capital i.e. it cannot be combined into a single index such as is done with existing indices such as the ISEW or the green HDI.

The alternative paradigm in sustainability accounting is weak sustainability, which is sometimes called the 'economic definition'. Weak sustainability is based on work associated with new welfare economists, most notably Solow (Solow, 1974) and Hartwick (Hartwick, 1977) and is sometimes referred to as "Hartwick-Solow sustainability" (Common & Perrings, 1992). In the weak sustainability framework, substitution is not only allowed but it can even be a moral imperative: if the value generated by transforming natural capital into human-made capital is greater than the value generated by leaving natural capital intact, then this transformation should be done

---

[23] Weak sustainability is a paradigm within economics that holds the position that human or produced capital is directly substitutable for natural capital. Strong sustainability maintains that all forms of capital must be maintained intact independent of one another, and that produced capital used in harvesting and processing timber is of no value in the absence of stocks of timber to harvest. Strong sustainability emerged as a critique of weak sustainability in the 1990s. It is widely used by academics and institutions such as the OECD and UN.

(Beckerman, 1994; Solow, 1993). For example, if cutting down forests to build homes for villagers can be shown to be more valuable than maintaining the forests intact then not only should it be done but it would be morally objectionable not to. It fits more comfortably with the Brundtland definition as weak sustainability does not consider the economy's capacity to produce economic wellbeing over time (Weitzman, 1997) but rather that wellbeing is produced. The type of wellbeing, or how it is produced is not specified. In principle, if human capital outcomes continued to rise these could compensate for severe energy shortages so long as the sum of human welfare was still rising.

Although the strong sustainability approach is theoretically more attractive, it would be rash to discount weak sustainability entirely. Pearce and Atkinson (1993) provide a robust defence. First, they argue that the costs of inaction in such a framework can often be extremely high. In practice, as the costs of environmental damage become intolerably high, it may achieve the same policy end as a strong sustainability approach, such as regulation. In the previous example, it is very difficult to imagine that human capital outcomes would be unaffected by energy shortages. They also argue that if prices are irrelevant, constant natural capital has no meaning either, as without a unit of account it is unclear how to 'value' the stock of natural capital that is to be kept constant (ibid.). Developments in weak sustainability and environmental valuation are also practical and have arguably been more influential than the stronger more ecological approaches (see for example The Economics of the Environment and Biodiversity (TEEB)).

Nonetheless, there are dangers in accounting for natural capital purely within a price driven framework (Gray, 1990), which have been well-documented elsewhere (Pearce and Turner, 1990). This is especially the case for sink constraints, which are much more difficult to predict, and involve incurring definite and real costs for intangible and uncertain benefits (Neumayer, 2004). Any damage to critical natural capital would, in theory, be valued at an infinite cost because of its irreplaceability. It is therefore with source constraints that environmental valuation (and weak sustainability solutions) have the greatest contribution to make. It is much more straightforward to value the marginal costs of mineral extraction than the preservation of Bengali Tigers. This is not just because we are concerned with more tangible 'use values' such as impacts on livelihoods but because we are generally interested in changes at the margin, whereas species preservation is concerned with total costs of extinction, which are much harder to quantify (ibid.).

4.2 The substitutability of capital

We can conclude from the previous discussion that certain kinds of capital can be substitutable under certain conditions. Some further categorisation is required to incorporate this into an accounting framework (Pearce & Atkinson, 1993). Gray (1990) suggests four categories:

- **Critical**: for example, the ozone layer, tropical hardwood, biodiversity
- **Non-renewable/non-substitutable**: oil, petroleum and mineral products
- **Non-renewable/substitutable:** waste disposal, energy usage
- **Renewable**: plantation timber, fisheries

This enables us to distinguish between fossil fuels, which are non-substitutable and energy usage, which is. This distinction leads us to an important question. Leaving aside the climatic impacts of the burning of fossil fuels, does it matter if we exhaust our resources of coal and oil, if we use the revenues and energy generated to invest in renewable sources of energy? Using our test of the conditions for non-declining welfare, it is difficult to argue that it does. That question does not apply to water, or a reasonably stable and predictable climate as there are currently no plausible predictions for how either might be substituted in the foreseeable future (OECD, 2008). We could conclude from this that capital that meets the critical criteria must always be preserved but this is not always the case for those in the non-substitutable category. Different forms of capital have different 'sustainability value' (Pearce & Atkinson, 1993) and this value can change over time. This might be because of technological progress but also things like changes in taste and expectations (Pearce & Atkinson, ibid.).

In deciding which elements qualify as 'critical', it is useful to first think about the functions that natural capital fulfils. Pearce and Turner (1990) have identified four main functions.

1. Inputs into production (food, timber and fuel)
2. Provides amenity services, such as the visual amenity of a landscape.
3. Assimilates the waste products of production and consumption.
4. Provides the basic life-support functions on which human life depends.

If we consider the things that are most critical to our survival and our long-term well-being, it is the last two, the 'sink' and 'life support' functions i.e. the earth's ability to accumulate pollutants, and global environmental resources such as the climate and the ozone layer. This is what denotes them as critical.

Neumayer (2004) also points to human's capacity to overcome resource constraints in the past as a reason to presume that substitution and technical progress can overcome global resource constraints in a way that is not likely for global climate constraints. This is certainly true in relation to energy constraints, the supply of which has worried

economists and scientists for decades. There are around sixty years of natural gas and oil reserves (assuming no new discoveries, around 1,500 years of coal and vast shale reserves (Petrol Strategies, 2016)). Judging the energy shortage problem on these terms it does seem feasible that we could replace these energy sources. However, it is unlikely that the climate can absorb the pollutants from the burning of these reserves, hence the emphasis in climate policy on emissions reductions.

Unfortunately, most climate predictions based on business as usual scenarios are quite pessimistic (Pachuari et al. 2014) and campaigners quite rightly ask why we are so slow to act. One mechanism for accelerating the transition to low carbon growth is through changes in the portfolio of private investors. A key variable influencing investment decisions is the discount rate that is used to calculate future returns. This is not just an abstract technical point but links directly to the complex philosophical trade-offs that I have been discussing. In the next section I introduce discount rates and discuss their relevance to the issue.

4.3 Discount rates

In economics and finance the discounted cash flow (DCF) is a method of valuing a company or asset in real terms. Future cash flows are estimated and discounted to give their present values (PVs). The rate at which those cash flows are discounted is known as the discount rate. This reflects two things:

- The time value of money – The theory of time preference states that investors would rather have cash immediately than having to wait and must therefore be compensated by paying for the delay.
- A risk premium – This reflects the extra return investors demand because they want to be compensated for the risk that the cash flow might not materialise.

The discount rate used is therefore highly material to investment decisions, and will depend on several factors, for example, the tolerance for risk amongst the investors.

In public policy, where prospective social projects are subject to benefit cost forecasting, a social discount rate (SDR) is also usually applied. An investment is generally considered to be worth pursuing if the marginal social benefit exceeds the marginal social cost. Determining this rate is more complex as estimating the benefits of social projects requires making ethically complex choices about benefits to others, including non-monetary benefits (see Paulden (2010) for a discussion of the issues relating to the UK Treasury's rate). Yet SDRs can play a major role in influencing investment decisions, indeed the decision to proceed or not may rest entirely on the choice of rate used (Frederick et al., 2002). As with discounted cash flow, SDRs reflect the fact that people

prefer benefits today than having to wait for them in the future, and it compensates the current generation of taxpayers for this 'patience'. In addition, it assumes prosperity will rise, and that future generations will be better off. Not applying a discount rate would result in an intergenerational transfer from the current generation to our wealthier counterparts in the future.[24] The question it raises, which is pertinent here, is whether rising living standards can be sufficient to compensate future generations for the loss of critical natural capital to enable them to pursue non-declining welfare.

In 2005, Gordon Brown, the then Prime Minister of the United Kingdom, commissioned the economist Nicholas Stern to carry out a review of the costs and benefits of climate change mitigation. A year later, Stern concluded that 1% of global GDP was required to keep warming below the 2 per cent level, which is considered safe by most climate scientists. Stern predicted that inaction would cost the global economy the equivalent to losing at least 5% of global gross domestic product (GDP) each year. Including a wider range of risks and impacts could increase this to 20% of GDP or more (Stern et al., 2006). Stern later increased his cost estimate to 2 per cent of GDP, as few of his policies were successfully implemented, and because of faster than expected climate change. A key variable in Stern's analysis was the SDR, which he set at 3 per cent. Whilst accepting the case for discounting, he argued that setting the pure time preference rate (PTP) anything much above zero – his was set at 0.1 per cent - was ethically inappropriate because of intergenerational fairness (ibid.). His argument was that if future generations were real stakeholders in today's markets and policy decisions, they would opt for lower discount rates and higher investment. There is some support for this view amongst economists (Brekke & Johansson-Stenman, 2008; Dietz & Stern, 2008; Heal, 2008; Sterner & Persson, 2008) but also much criticism (Dasgupta, 2007; Mendelsohn, Sterner, Persson, & Weyant, 2008; Neumayer, 2007; Nordhaus, 2007; Tol & Yohe, 2007; Weitzman, 2007).

Prior to the Stern review, the most well-known cost benefit study on climate change was by William Nordhaus (2007). In his analysis, the case for investment in mitigation was not as convincing. Unlike Stern, the discount rate used was not based on ethical principles but on the opportunity costs of investment and the real rates of return on capital. For example, Nordhaus has argued that rather than investing in climate change mitigation, that money could be spent in a more socially valuable way by providing

---

[24] This final point is increasingly controversial on its own terms, as many would argue that wages and standards of living have stalled for the first time since the 1940s. Certainly, returns to workers have been in decline relative to capital (ref) and for many real incomes have seen only marginal increases (Karabarbounis and Neiman, 2014).

opportunities for growth in developing countries today. He points to the rate of return on primary education, which is as high as 26 per cent in some countries as evidence of this (ibid.).

Critics of Stern (including Nordhaus) argue that the actions of the current generation do not demonstrate a preference for a low discount rate, otherwise we would be saving and investing in the future (Nordhaus, 2007). According to Schelling this applies to recipients of aid as well who, if offered a choice between development assistance now or investments that will benefit them in the future, would opt for the immediate (Schelling, 1995). Neumayer reminds us, that if the aim is intergenerational equity, then large-scale emissions abatement is ethically problematic if it is the case that future generations will be better off than us anyway (Neumayer, 2007). It may be imposing inefficient investments on developing countries, which they would rather use for other purposes.

Accepting the arguments about our own short-termism implies inaction on climate change; a conclusion that only a minority of economists agree with (e.g. Mendelsohn et al., 2008). As with the weak/strong sustainability argument it is unlikely that this question can be resolved with better information. Most economists agree that we need some discounting of the future but beyond that, technical arguments about the precise way of calculating them may imply a false sense of accuracy and in the process, miss the point of what they are trying to achieve. Both the Stern and Nordhaus positions are based on a priori assumptions that we cannot possibly test empirically. We cannot know the preferences of future generations. Neither is it likely that we have enough information to accurately value the loss of utility from the destruction of the biosphere, or quantify the risks of different courses of action. Under these conditions, discount rates must stem from ethical judgements about (for example) the level of risk we are prepared to tolerate.[25] Nordhaus, for example, argues for the setting of strong policy objectives to prevent the loss of biodiversity, irrespective of the discount rate.

4.4 Intergenerational vs intragenerational inequality

As discussed earlier, economists have long been aware of the unequal distribution of costs and benefits across the generations. However, it is only since our knowledge of climate change emerged that intergenerational inequality has become an ethical concern, as it had been previously assumed that future generations would be better off.

---

[25] Neumayer distinguishes between risk, uncertainty and ignorance in order of their proximity to certainty. Risk is where all possible states of the world and their probability distributions and resulting payoffs can be objectively known. With uncertainty, these cannot be objectively known but people have subjective opinions about the distribution of payoffs, whereas with ignorance little is known about the probability distribution or the resulting payoffs (Neumayer, 2004)

Future generations have no market power and cannot hold us to account for our investment decisions today any more than we can hold Victorian industrialists to account for their polluting industries of the past. In addition, we have benefited enormously for the investments and sacrifices of previous generations. This places the present generation in a position of considerable power (Neumayer, 2004). We know that people care about the future to some extent. They save, have children, and make social contributions and personal sacrifices. However, as the generations move further into the future, the bond with descendants weakens.[26] Although we cannot know the preferences of future generations we must assume that they would not want to be worse off than us. This requires making a special case for them, essentially treating them as a public good. We already collectively fund public goods for societal benefit, which we may never directly benefit. This is the only model under which we can make a case for the present generation to knowingly make such sacrifices.

If we accept that there is an ethical case for the protection of the welfare of future generations, how do we prioritise this relative to the current generation; especially in those parts of the world that are desperately in need of investment? Should funds be diverted from development projects today towards climate mitigation projects? Beckerman has commented that it is difficult to see in what way the environment is in some moral class of its own (Beckerman, 1992). John Rawls' maximin principle is often invoked in favour of intergenerational equality.[27] However, as Solow has argued maximin could lock countries into poverty traps because rising prosperity makes future generations better off, so investments that benefit the future cannot be made (Dasgupta, 2007). This is not a problem for rich countries because previous generations have already made those investments. Again, this is where Neumayer's definition is useful because it doesn't require constant or equal utility but the capacity to ensure it does not decline.

Several commentators cite Gowdy and McDaniel's (1999) research on the small Pacific island state of Nauru to highlight the tension between development and resource depletion. In 1900 Nauru had one of the world's richest sources of phosphate deposits, yet today as a result of just over ninety years of phosphate mining, about 80 per cent of the island is environmentally damaged. At the same time, the people of Nauru have had, over the past several decades, the highest per capita income in Micronesia. Income from

---

[26] Gowdy (2004) makes the case for 'hyperbolic discounting' which is non-linear. He cites evidence that people have a high discount rate for the immediate future but that this decreases over time. However, the evidence on this is mixed.

[27] The maximum is a justice criterion proposed by Rawls. According to this principle the system should be designed to maximize the position of those who will be worst off in it.

phosphate mining enabled the Nauruans to establish a trust fund estimated to be as large as $1 billion (the population is less than 10,000). Interest from this trust fund should have insured a substantial and steady income and the economic sustainability of the island. However, the Asian financial crisis, among other factors, has wiped out the value of most of the trust fund.

What rarely gets mentioned in the retelling of this story is that the strategy could have worked well for the Nauruans had they made better investments. Nauru is the world's smallest republic, and (like most tiny islands) its opportunities for economic development are very limited. Such countries have little by way of comparative advantage except to exploit natural resources. After the value of the trust fund diminished, they were forced to adopt economic development strategies like hosting an Australian detention centre and operating as a tax haven. Whilst environmental degradation accompanied the exploitation, if it had been managed more carefully to ensure that mining companies picked up more of the costs of the damage, the outcome may have also been more favourable. The fact remains, that Nauru's most viable economic development strategy may still have been to extract the phosphate and use the income to invest in future livelihoods (e.g. the Norwegian model with regards to oil). That it ended badly does not mean it was the wrong strategy. If Nauruans left the phosphate in the ground, future generations would have to sign up to an unwritten "intertemporal contract" (Pearce & Turner, 1990) created by the current generation, which is difficult way to make sustainability policy.

In practice, we are not usually faced with such stark choices. Let us take another, more nuanced example, that of Irish peat. One sixth of the landmass of Ireland is covered in bog, more than any other country in Europe except Finland. Peat has been a source of fuel for people in Ireland, probably for thousands of years, and the only source of fuel for much of that time. It was after the foundation of the Irish Free State in the 1920s that bog began to be exploited on a commercial scale in a bid for energy security and to reduce reliance on British coal. The Turf Development Board was established in 1934 and by 1969 there were just 100,000 hectares of raised-bog left in Ireland, over half of which was owned by the State. Most of this will be exhausted by the middle of this century (Aalen, 2010). The Irish Forestry Board estimate that only 18% of the original area of blanket bog and 8% of the original area of raised bog remains of conservation interest. In the space of thirty years, a large proportion of raised bogs were destroyed. This would not only have damaging environmental consequences but would also limit the opportunities for commercial exploitation of peat in the future. Whilst it created some much needed employment and revitalized some towns and villages this was very short-

lived. The only longer-term consequences are habitats destroyed, spoilt landscapes, and the end of an ancient tradition of local turf cutting. Even without doing the calculations, it is difficult to argue that the exploitation of the bog was 'worth it'. However, to a newly founded state striving for economic independence and prosperity, intangible benefits are difficult to sell compared with immediate jobs and incomes.

Both cases illustrate Schelling's (1995) point that recipients of aid if offered a choice between development assistance now and investments that will benefit them in the future would opt for the former. In reality, impoverished people (and often well-off people) will always take short-term benefits irrespective of the long-term consequences unless they are otherwise compensated. The UN's Reducing Emissions from Deforestation and forest Degradation (REDD) programme is trying to create a framework to disincentivise low-income countries from exploiting their forest stocks by providing adequate compensation. The saleability of sustainability measures such as this will also rest in part on the acceptance of the principle of strong sustainability and the interconnected nature of the ecosystem. In the final section of this chapter, I discuss my proposed approach to environmental accounting that would function as a constraint in the conceptual framework.

4.5 An environmental accounting framework

What I propose as part of this thesis that the index described in the previous section is complemented by an environmental indicator that is managed and maintained separately. Following Neumayer (2005), the approach I propose is along the lines of Genuine Savings where the stock of capital must be maintained at or above zero for a country to be progressing sustainably i.e. that future generations have the conditions under which non-declining welfare can be achieved. However, rather than following an entirely weakly sustainable framework like Genuine Savings where different forms of capital are perfectly substitutable, certain non-substitutable resources would need to meet a stronger test of sustainability i.e. never fall below zero. This would apply to things like a safe level of greenhouse gas emissions and water pollution. This test would not apply to renewable natural capital like timber or certain substitutable metals. This overcomes the problem of substitutability but is also consistent with Hartwick's rule i.e. natural capital should be exploited where it can be shown to increase welfare. Over time, data would be produced that would give a better understanding of the inter-related nature of human wellbeing and the natural environment and the extent to which changes in one affected the other. Some principles that would underpin such a framework are as follows:

1. As discussed, some aspects of capital (primarily but not exclusively natural)[28] are critical to our capacity to pursue non-declining welfare and to bequeath that to future generations. These need to be physically maintained and accounted for separately to the stock of capital. As discussed in the previous chapter, this does not mean abandoning the utilitarian framework, which has its merits, particularly for decisions at the margins for which we have good quality information on costs and benefits. However, the non-substitutability of some forms of capital point to its limitations.

2. The polluter pays (production accounting) is the most ethically defensible approach to transboundary pollution. However, it would be very difficult to implement in practice. A compromise between polluter pays and recipient pays will need to be found. Production accounting will be returned to in a practical example for Ireland in Chapter 6.

3. The geographical and temporal nature of the problem should be taken account of to ensure more support and compensation by past emitters. For example, research suggests that 90 companies have caused two-thirds of global warming emissions and that half of these have been emitted since 1986 (Heede, 2014). Historical data on per capita emissions are also available. However, where this is considered some balance needs to be struck between production and consumption. For example, lots of oil producing countries have high per capita emissions but relatively low incomes.

In practice, we see examples of both weak and strong sustainability policies being implemented. The ozone layer is an example of natural capital that is non-substitutable and a ban on CFCs was introduced in the 1990s in most countries in the world. As a result, depletion of the ozone has halted. Whenever we remove fossil fuels from the ground and convert them into heat and light we are conforming to the weak sustainability tradition, i.e. that some environmental costs are 'worth it' for certain social benefits. Efforts (for example) to pay people to leave coal in the ground are closer to a strong sustainability approach as it is more than just a financial incentive. A view often put forward is that weak sustainability is a first step or a special case of strong sustainability (Hediger, 2006)

---

[28] Social capital could be described as critical because once lost it can be almost impossible to recreate. However, unlike the ozone layer it is at least in principle replaceable, or the benefits that it produces may be replicable.

I am calling the approach that is being advocated here quasi-strong sustainability. According to this approach the socio-economic and environmental account are kept separate from each other, therefore, in line with a strong sustainability approach they cannot be traded off against each other. However, it is not always the case that every environmental good need to be preserved intact and some trading off of substitutable goods is appropriate. To some extent this is already built into existing environmental accounting where the costs of environmental goods rise with scarcity. However, we cannot always rely on the pricing to be set at the optimal level to achieve the required behaviour change, and strong sustainability approaches would imply a greater role for legislation and regulation alongside price signals.

4.6 Conclusion

Green accounting and social accounting in their various guises have been with us for some time. However, at both the micro and macro level they have failed to mount any real challenge to mainstream economic accounting. This chapter has sketched out some of the main ethical and political problems with sustainability theory, namely, the substitutability of natural capital, discount rates and intergenerational inequality. I discuss the merits and challenges of weak and strong sustainability and make the case for quasi-strong sustainability, where a special case is made for certain types of critical natural capital.

It is this approach that I advocate using in this thesis to support the conceptual framework. As well as enabling better more coherent environmental accounting, it should enable better policy decisions about where to make investments and how to manage trade-offs. The 'constraint' identified in the previous chapter, does not just imply that environmental issues are on the table whether they are perceived to be of value or not, it also means that the stock of some forms of capital must be maintained due to their irreplaceability.

In the next chapter, I return to developing other indicators of social value through further work to refine the conceptual framework with reference to the literature on the determinants of well-being. The environment will be returned to in Chapter 8 when I present the findings from the research.

Chapter 5 Methodology and indicators

5.0 Introduction

A primary objective of this research is to develop a conceptual framework and methodology for measuring social value. This approach starts from first principles by asking what value is and how can it be operationalized and measured. The contribution of the thesis is therefore part conceptual and part methodological. Chapters 3 and 4 described the theories that underpin this research and set out the conceptual framework. This chapter has two aims. First, it provides a guide to the methodology used in carrying out the primary research. Second, it begins the process of index development by identifying indicators, and discusses the methodological issues that this process raises

The chapter is therefore structured in two sections. Section A (5.1-5.4) describes the methods used for the primary research and data analysis, and gives an overview of relevant epistemological issues. Section B (5.5-5.11) reviews the literature on the determinants of well-being, identifies a 'long-list' of indicators and sets out the methodology for completing the index in line with the conceptual framework.

Section A: Epistemology and methodology

5.1 Combining the subjective and objective

In Chapter 3, I posed the question, 'what is value?' A conclusion reached was that the answer will vary depending on whom you ask and when you ask them. I argued that people's perception of value was a necessary but not sufficient part of a satisfactory theory of value. Rather, a satisfactory theory, needed to draw on other sources of information such as expert opinion, or collective assessments of 'the good'. The hybrid theory of value I proposed combines objective data on sources of value with people's subjective experiences (or pro-attitudes).

In anthropology, this distinction is referred to as emic – how people perceive things to be – and etic – from the outside or the perspective of the observer (Jardine, 2004). Kottak (2006, p. 47) describes this as follows:

> The etic (scientist-oriented) approach shifts the focus from local observations, categories, explanations, and interpretations to those of the anthropologist. The etic approach realizes that members of a culture often are too involved in what they are doing to interpret their cultures impartially.

The pioneer of the approach Kenneth Pike, saw the emic/etic dichotomy as a way around philosophical issues about the nature of objectivity, with both types of information having

value (Pike, 1967). I also propose no epistemological hierarchy. Emic and etic approaches serve different purposes and provide different perspectives; both are necessary, but neither is usually sufficient.

There are several critiques of subjective measures. These can be somewhat circular however, as most relating to subjective measures stem from the fact that they lack objectivity. They have been found to suffer from cognitive biases such as the 'halo' effect[29] (Halstead et al., 1996) and as we will see later, they are often difficult to aggregate as they are often expressed in ordinal scales. However, in a review of the success of subjective measures, Jahedi and Mendez (2014) find that whilst they do suffer from systematic biases, they also correlate highly with the variables they are designed to capture, and in some instances, may be preferable to the use of purely objective measures. Jahedi and Mendez (ibid.) distinguish between two types of subjective measures: specific and general. The former refers to "well-defined concepts that can in principle be observed" such as "the amount of times you were racially discriminated against" whereas the latter refers to broader concepts such as "the extent of racism" (Jahedi and Méndez, 2014, p. 2).

Objective measurement tends to be taken for granted and there are fewer criticisms and therefore defences of it. The main problems with objective measurement is that it is often more difficult and costly to capture e.g. doing a comprehensive health check on someone compared with asking them to rate their health. However, objective data can be flawed over and above the practical, and subjective information can sometimes have greater value. For example, people are often best placed to report on their own mental health and people's subjective views of things like crime and health are useful for policy, even where they differ from 'objective' data, such as recorded crime. Yet, despite the success and take-up of subjective measures, there are still those that have called for a return to purely objective measures in areas such as crime and corruption (Banerjee et al., 2005; Olken, 2009).

As discussed in Chapter 1, this thesis recognises that social value is more than the sum of individual outcomes, or perceptions of value. Figure 5.1 shows how subjective and objective data might be used to measure outcomes at the individual and collective level. Examples are given of measures that are paradigmatic of these kinds of outcomes. However, in practice many are hybrids. For example, relationships matter most to the

---

[29] When a participant's overall impression of a person, company, brand, or product influences their feelings and thoughts about that entity's character or properties.

individual experiencing them, but collectively certain kinds of relationships can also lead to higher social capital and trust, which has a wider social benefit.

Figure 5.1: Ways to conceptualise and measure different kinds of outcomes

Collective outcomes

Inequality

Non-rivalrous public goods

Social relationships

Environment

Trust

Objective data

Education

Subjective data

Disease prevalence

Personal
Relationships

Income

Subjective well-being

Individual outcomes
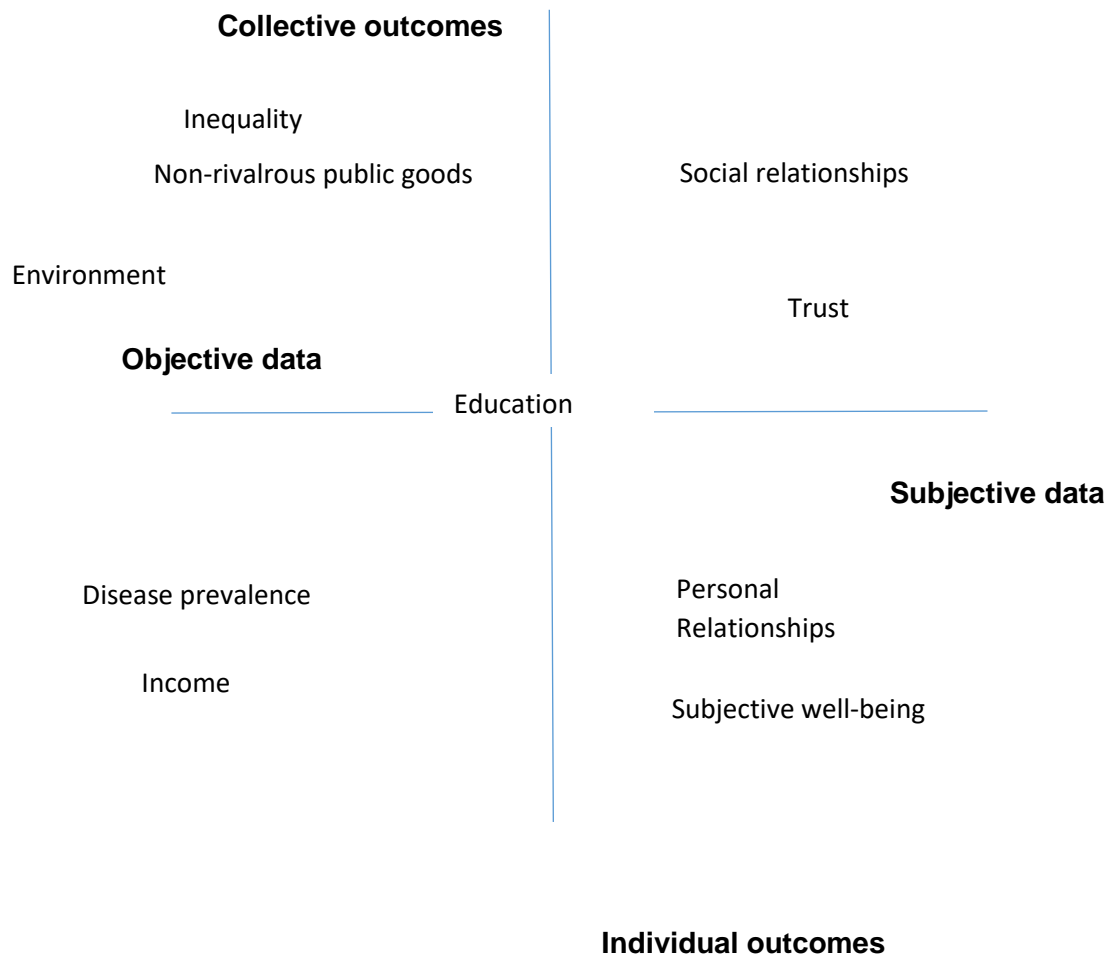
I conclude, that subjective and objective measures have their strengths and weaknesses and are more and less appropriate depending on the subject matter and context. Combining them can however can be challenging. This will be returned to in Chapter 7 when I describe the conceptual framework in more detail. In the next section I discuss reflexivity and how that it relevant to the research.

5.2 Reflexivity

As with any research project, judgement will be required on the part of the researcher as to what to include and exclude. This applies equally to quantitative research, where judgements about variable and data selection are required and must be justified. Assumptions that underpin these judgements are also influenced by my personal politics, prejudices and world view. Reflexivity in qualitative research is understood as a process that involves researchers examining their own personal roles in the research process

(Alvesson and Sköldberg, 2009; Babones, 2015). Although, historically reflexivity was not considered an epistemological necessity, increasingly it is being suggested that quantitative researchers can benefit as much from reflection on their role in the research as qualitative researchers (Ryan and Golden, 2006) and that the quality of research would benefit greatly from it (Babones, 2015). My *a priori* critique of GDP is relevant here as is my interest in promoting a more equitable distribution of resources and environmental sustainability. Although I can make a case for the importance of these outcomes through the conceptual framework i.e. empirical evidence for their contribution to the 'greater good', nonetheless, they also reflect and reproduce my own politics and values. As well as knowing all research is to some extent normative and to take account of my own biases in conducting the research, I have also aimed for maximum transparency, which should be a guiding principle in the development of any index where key steps such as aggregation and normalisation can easily obscure data. In the next section I discuss the overall design for the research.

5.3 Research design

There were four stages to the research, which were approached chronologically:

1. A review of the international literature to identify a list of variables to inform the survey design (objective/etic)
2. A survey asking Irish people to rate the importance of these variables. The most highly ranged determinants are then considered for inclusion in the index (subjective/emic)
3. Multivariate analysis to reduce the list of variables to its most salient components
4. Database and literature search to identify appropriate national indicators to measure each outcome (e.g. ways to measure mental health)
5. Analysis of national trends during periods of boom and bust to look for specific relationships (e.g. long run data on changes in those indicators)

This section describes the design of the research to identify variables for inclusion in the survey.

5.3.1 Methodology for the determining which variables to include in the survey

As discussed above, the variables were arrived at by researching the existing literature on the determinants of well-being. I was mainly concerned with variable oriented research e.g. panel regressions of large datasets. However, on occasion I included findings from other approaches such as the Day Reconstruction Method (DRM). Variable-oriented methods are most common in the economics (and to a lesser extent) psychology literature and, in line with the thrust of academic interest discussed above,

most papers included are from these disciplines. However, some sources from sociology, epidemiology and political science are also used. The substantial 'grey' literature in the area is mostly excluded. A final scoping criterion was that the focus was entirely on developed countries. Although there is a growing literature on wellbeing in developing countries (see Helliwell, Layard and Sachs, 2015), the research question of this review relates specifically to well-being in circumstances of relative economic prosperity. I was mainly concerned with subjective well-being as an outcome but occasionally included studies that had other dependent variables such as mental health.

Bibliographic databases were used to obtain literature, and these included ProQuest, Wilson Select Plus, Econlit LexisNexis and Google Scholar. In the search, multiple words and phrases related to well-being such as 'life satisfaction' and 'happiness' were combined with terms relating to determinants such as 'causes' 'predictors' or 'explanations' to yield maximum matches. Articles were also acquired by identifying relevant references from the bibliographies of literature reviews and related sources (e.g. Dolan et al., 2010). Only English-language reports were included. It was conducted between January and May 2012. A second set of searches was then carried out that combined well-being and its synonyms with each of the main determinants identified in the first search (e.g. 'well-being* + 'unemployment'). These findings were entered in an Excel spreadsheet and used to develop the survey, the design of which I now describe.

5.3.2 Survey design

When people think about the reliability of a survey they tend to think about its size and representativeness. However, methodologists also recognise the importance of survey design in reducing error and bias. Fowler and Cosenza (2009, p.376) identify five basic characteristics of surveys, which are important to a good measurement process:

- Questions need to be consistently understood
- Respondents need to have access to the information required to answer the question
- The way in which respondents are asked to answer the questions should be considered
- The question must provide an appropriate way to report on what respondents have to say
- Respondents must be willing to provide the answers called for in the question

The survey in this study was developed based on the domains of wellbeing that will be reviewed in the second part of this chapter. To improve the quality of the questions, the survey was piloted with 20 people and changes to wording were made accordingly.

Respondents were asked to place themselves on a scale of 1-10 with 1 being not at all important and 10 being extremely important, and 'other' options were always provided to ensure that important determinants were not missed out. This type of phasing is typical in well-being research and has been successful used by numerous well-being researchers (cf. Diener and Biswas-Diener, 2002; Diener and Suh, 1997). Other options would have been to use a shorter number of scale items e.g. 1-5 or a Likert Scale Likert (Jamieson et al. 2004). After some deliberation, I eschewed these approaches in favour of a 10-point scale for the following reasons:

1. The 9-point scale gives the respondent more options to vary their answers. A shorter scale would run the risk of people clustering in the middle and may not have been sensitive enough to capture very high or low well-being.
2. There is no evidence that longer scales are less reliable (Matell and Jacoby, 1972) whilst collapsing scales may discard reliable information unnecessarily
3. The strength of agreement wording in a Likert Scale is not appropriate for these questions. There is a risk with the 'neither agree, not disagree' that it would mislead respondents.

Respondents were asked both positively and negatively phrased questions i.e. about the things that would enhance and limit their happiness. They were also asked to rank the ones that they considered most important for an index of social value, to get a different perspective on how they valued the outcomes, and these are reported on later. Due to the pace and scale of social change in Ireland, respondents were also asked to consider extent to which people considered society to have changed over time.

As well as asking people about the things that contribute to their happiness, the questionnaire asked people to evaluate their own level of wellbeing. Subjective well-being is measured using four questions that draw on research by Dolan and Metcalfe (2011) into the best way to combine the main theoretical approaches to measuring wellbeing. This research was commissioned by the UK's Office of National Statistics and has informed the UK's measurement of wellbeing. It is also the approach recommended by the OECD in its *Guidelines for Measuring Subjective Well-being* (OECD, 2013)*.* The approaches are as follows:

- The 'evaluative' approach that asks individuals to step back and reflect on their life and make a cognitive assessment of how their life is going overall, or on certain aspects of their life. This is sometimes also known as the 'hedonic approach'.

- The 'eudemonic' approach, sometimes referred to as the psychological or functioning/flourishing approach, which draws on self-determination theory and tends to measure such things as people's sense of meaning and purpose in life, connections with family and friends, a sense of control and whether they feel part of something bigger than themselves.

- The 'experience' approach which seeks to measure people's positive and negative experiences (or affect) over a short timeframe to capture people's subjective well-being on a day-to-day basis. This is also known as the Day Reconstruction Method

(Dolan and Metcalfe, 2011, pp. 12–13)

Although these measures are widely adopted, they have some limitations, and a discussion of their efficacy is provided in section 5.5. Finally, environmental questions are included in the survey. As discussed in Chapter 4, although environmental issues are being dealt with separately i.e. they are still included here to elicit the strength of people's pro-attitudes.

5.3.3 Accessing participants

The survey was designed using Survey Monkey and published and promoted online through political blogs and social networks[30] over a five-month period (October to February 2012/13). As part of the strategy, Facebook ads were taken out and respondents were offered a prize draw incentive for completing the survey. Although this approach potentially introduces additional forms of bias (Nozek et al 2002), it successfully increased the sample size (about 50% of the responses were gathered in this way). 'E-research' has become a major phenomenon in the social sciences and social networks are now widely used to attract research participants (Wilson et al. 2012). Systems such as Amazon's Mechanical Turk provide access to a large pool of research participants (Buhrmester 2011). Granello and Wheaton (2004) describe the limitations and risks of online surveys. Representativeness is chief amongst them though this should be improving all the time as more people come online and technical skills improve. Nonetheless, age is still the biggest determinant of digital exclusion (Dutton and Blank, 2014) and there is a decreasing likelihood of being on online as you age. Granello and Wheaton (2004) also make the point that less is known about the psychometric properties of answering an online survey e.g. whether people scroll to the bottom of lists, or how they read information online. Others argue that if the electronic survey format is

---

[30] Published at www.wellbeinginireland.com for the period during which the survey was live

similar to paper-and-pencil surveys, traditional surveys can appropriately be transferred to the Web (Lazar & Preece, 1999).

An alternative methodological approach was considered during the research design stage. This was to carry out an exercise to map society's 'stakeholders' and to hold focus groups with representatives of these groups. This might have involved holding groups with unions, business groups, farmers, interest groups, voluntary sector groups, unemployed people, professional groups etc. However, it was decided that whilst this might be interesting, a large-scale survey approach fitted better with the conceptual framework. Whilst the use of additional qualitative methods would have brought some further explanation of the data, it would not have been as efficient a way of answering the research questions relating to the sum of society's preferences (Calrson and Glenton, 2011). It would also introduce a whole host of additional biases, including selection bias (Valdez and Kaplan, 2008). Despite attempts to be comprehensive a further risk with this design is that sectional interests would overstate the interests of those groups and reinforce existing social, economic and political hierarchies. Interpreting the data for inclusion in a quantitative index would also have been challenging.

In total, 502 people attempted the survey, only 350 responses were complete. The first question had many sub-domains and this clearly discouraged people from answering all of them. This impacts on the statistical analysis later as incomplete responses are excluded from the analysis, reducing the overall sample size and statistical power. This is discussed again when I reflect on the survey in Chapter 10.

5.3.4 Data analysis

The data were analysed using Excel and Stata. Excel was used to generate some simple descriptive statistics and report on the general findings from the study. The raw data were then imported into Stata and poststratification was carried out to adjust the sample survey (by applying sampling weights) to match national population data (see Appendix 1). This gives a greater weight to the views of sub-groups (strata) that have been over or under-sampled. It does this by adjusting the degree of influence each stratum has on the study results. When no weighting occurs, each respondent is "counted" once (i.e., each respondent receives a weight of one). When weighting is used to post-stratify results, the weight (or influence) respondents are given can be more or less than one. There are risks with using sampling weights. For example, there may be a penalty when carrying out statistical tests of an increase in variance. It is also the case the some of the changes may not be visible to the researcher. To check for this, statistical tests were

carried out with and without weighting, to see if it there were large differences in the results. Both sets of results are reported on in Chapter 8.

Once the weights were calculated the following additional statistical tests were carried out:

- Ordered Probit to test whether there was a relationship between people's subjective well-being and the type of things they valued
- Chi square to test whether demographic differences could be observed in the things people valued (e.g. men and women)

5.3.5 Data selection

Data selection is a crucial step in designing an index and it is where much criticism has been levied at composite indicators (Nardo et al., 2005). Any index is only as good as the data on which it is built. Here we will focus on finding suitable national level indicators for the outcomes that people value.

Brizius and Campbell describe an indicator as providing "evidence that a certain condition exists, or certain results have or have not been achieved" (Brizius and Campbell, 1991, p. A-15). Indicators enable decision-makers to assess progress towards the achievement of intended processes, outputs or outcomes[31]. As such, indicators are an integral part of any accountability system. Indicators can exist at various units of analysis: population, agency, and programme level (Horsch, 1997). In selecting indicators, it is good practice to involve more than one stakeholder in deciding on the indicators. Although residents of the country were consulted on prioritising the outcomes, it was outside the scope of the study to return to them again for inputs on the indicators. In a larger research project, however, we might return to the population in question (Irish people) to canvass opinion on the best way to measure the outcomes that they have identified. This would be combined with expert opinion on the best way to measure an outcome[32] (Horsch, 1997).

---

[31] We can think about the difference between these terms in the following ways. Take for instance a project that aims to reduce loneliness amongst a group of people by giving them access to technology. The process would be the deployment of the technology, the output would be people's usage of the technology and the outcome would be a reduction in loneliness that this would bring about. An appropriate outcome indicator would be a way of measuring loneliness, such as people's self-reports of changes in their perception of being lonely.

[32] For example, whilst people might tell us that their perception of their own health is the most important measure of health, we might also know about problems with self-reporting of health outcomes and want to combine this with a more objective measure. See Chapter 9 for a discussion of issues with self-reported health in Ireland.

According to the OECD, indicators should be selected on the basis of their analytical soundness, measurability, coverage, relevance to the phenomenon being measured and relationship to each other (Nardo et al., 2005). In practice, however some of these principles will conflict with each other. For example, an indicator may be an excellent measure of an outcome but lack data of sufficient quality over a sufficient period.

Sometimes, an indicator will by its nature reveal partial information in relation to an outcome. For example, if an outcome is 'good quality work', we will need more than one piece of information to tell us whether this is happening. The employment rate will tell us how many people are in work, but we will also need to know whether those jobs are of good quality. Income is a good proxy for the quality of a job, but we may also want to know about job security, working conditions and union coverage. Finally, it may make sense to combine objective indicators with subjective data such as job satisfaction or subjective views on how worthwhile the job is. Combining these data provides a much more rounded picture of whether the outcome of quality work is being achieved. However, a limitation of this list is that it is long, and depending on the resources and time available, it may not be possible to measure all these things. Reducing the list to the most important elements in this example requires some judgement and it is most important that it is done in a transparent manner with clear rationales.

Multivariate analysis

The findings from the survey resulted in several ranked determinants. The next step was to further reduce the number of outcomes to a core set of components using multivariate analysis. Once the components were decided upon, indicators of each outcome were selected in line with the guidance above.

It is recommended that multivariate techniques are used in the process of building an index (Nardo et al. 2005). According to the OECD, indicators can be chosen in an arbitrary manner, which can lead to indices, which overwhelm, confuse and mislead decision-makers and the general public (ibid.). They describe this environment as "indicator rich but information poor" (Nardo et al. ibid. p 35).

There are two types of multivariate analysis that would be appropriate here: Principal Component Analysis (PCA) and Exploratory Factor Analysis (DeCoster, 1998). Whilst the techniques share many similarities, there are some differences (ibid.). PCA it is more important for researchers seeking to reduce the number of variables, which was a priority here. EFA on the other hand is useful when the underlying construct cannot be directly measured. For example, EFA is quite common in the measurement of psychiatric problems (e.g. Spence 1997). PCA was considered the most appropriate method.

PCA reduces a larger set of variables into a smaller set of 'artificial' variables, called 'principal components', which account for most of the variance in the original variables (Joliffe, 2014). The new set of variables are uncorrelated and are ordered by the fraction of the total information each retains (the greater the variance, the higher the principal component).

In this dataset, there is a high number of variables which are all measuring the same underlying construct (e.g. the things in life that make people happy). By applying PCA it is possible to test whether the variables 'load' onto all the components or just some of them and whether there are superfluous variables that can be removed from the analysis. PCA should therefore enable greater parsimony without a great loss of information. PCA is returned to again in Chapter 6. In Section B of this chapter, I present the findings from the literature review that informed the survey questions.

Section B: Identifying indicators - the determinants of well-being

The aim of this section is to review the literature on the determinants of well-being to identify the variables to be included in the survey. The aim is to use the literature to arrive at a 'long list' of indicators that participants are then asked to rate in terms of importance to their well-being. The methodology for the review is discussed in the previous section. The findings have been split into four sections:

1. Macroeconomic determinants
2. Social policy determinants
3. Determinants in the social sphere, and
4. Demographic determinants

The research takes as a starting point that most people's happiness is socially and economically determined, and the review focuses mainly on those aspects of wellbeing that are amenable to influence through policy changes as opposed to personality and demographic factors, which are fixed (see Figure 5.2). Although these will be discussed, they are largely outside the scope of the review. The section begins with a discussion of the efficacy of well-being measures.

Figure 5.2: Scope for policy influence in determinants of well-being

MACROECONOMIC
POLICY
National income
Relative income
Employment
Inflation

SOCIAL POLICY
Personal income
Working conditions
Physical health
Mental health
Debt
Education
Housing
Physical environment

PERSONAL
Social connections
Personal relationships
Religion

DEMOGRAPHIC
Age,
Gender
Race
Personality
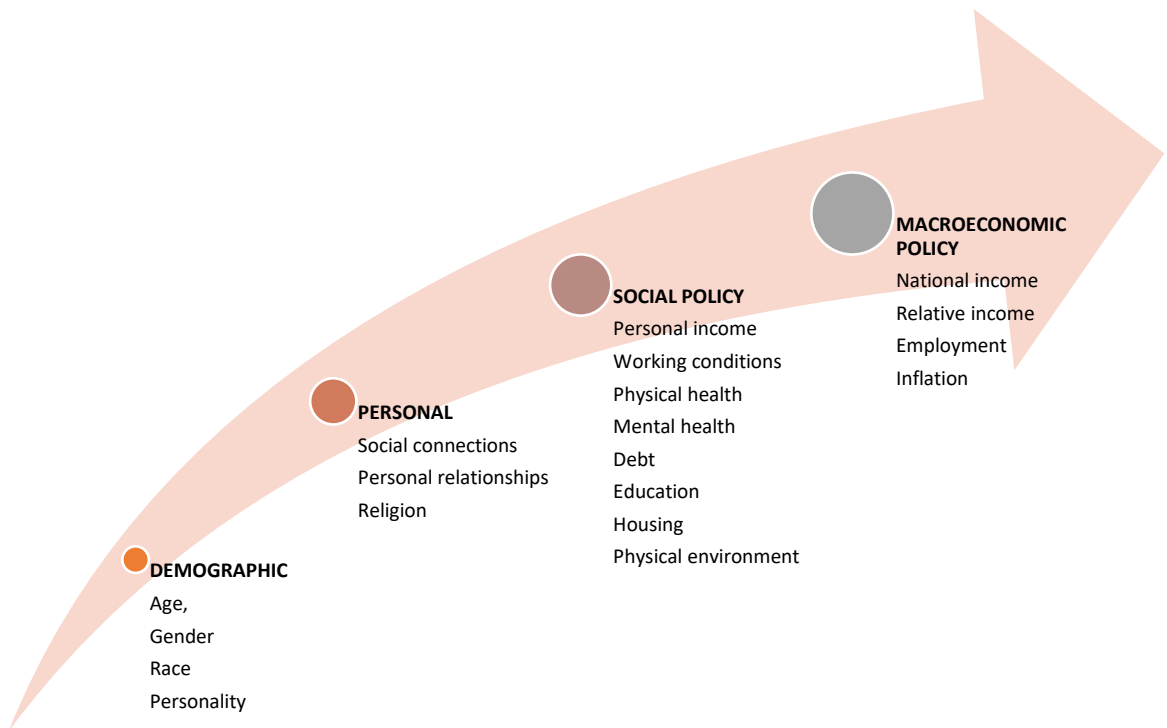
5.4 The efficacy of well-being measurement

Wellbeing is a multi-faceted concept that encompasses positive and negative effect, quality of life and life satisfaction. In general, wellbeing measures can be classified into objective and subjective measures (McGillivray and Clarke, 2006).

A key critique of well-being measurement is that it is culturally constructed. It is of course highly likely that how people interpret 'good' varies across culture (Diener and Suh, 1997; Uchida et al., 2004). Uchida et al. (2004) found evidence suggesting that motivations underlying happiness are likely to vary. For example, Americans are several times more likely to report experiencing positive emotions than Japanese (Kitayama et al., 2000) but Americans are also more likely than Asians to seek and achieve personal happiness and report situations positively. Well-being in Asia is a much more interdependent and interpersonal construct (ibid.). Some argue that cultural norms only explain a small amount in the variation in people's answers (Shao, 1993; Veenhoven, 2000) however this is not universally accepted.

Even discounting cultural constructions, there is still a question as to the validity of the responses due to the dominance of survey data (Bartram, (2012)) However, there is an extensive methodological literature investigating this (ibid.) Frey and Stutzer (2002a) report that studies point to a single unitary construct underlying the measures. For

example, studies have found that they are consistent with other measures of well-being (e.g. that happy people smile more often (Fernández-Dols and Ruiz-Belda, 1995) and are less likely to commit suicide (Koivumaa-Honkanen, 2001). Developments in neuroscience find that changes in brain electrical activity and heart rate account for substantial variance in reported negative affect (Davidson et al., 2000).

Finally, there is a question about their reliability. Frey and Stutzer (2002a) quote reliability studies, which find that reported subjective wellbeing is moderately stable and sensitive to changing life circumstances. According to Diener et. al. (1995) people appear to form life satisfaction questions in response to the question, rather than recalling a sorted life satisfaction judgment and reporting it. Elsewhere, Diener et al (1999) consider the validity, reliability and consistency to have been well-established, given that they correlate with other measurement methods such as clinical assessments and the number of positive and negative events recalled by the individual (Clark, Frijters, & Shields, 2008).

This does not mean that SWB measurement is without critics. Whilst many of these have been based on a priori scepticism, (Clark et al., 2008) this is not always so. In a review of biases in self-reported data, Bertrand and Mullainathan (2001) also argue that much of the scepticism is well-founded. Dolan et. al. caution against drawing firm conclusions about the causes of SWB due to contradictory findings, issues with the direction of causality and potentially unobserved variables (Dolan et al., 2008). As we will see in this review, it is not unusual for studies to find that contradictory factors are simultaneously contributing to well-being. In addition, the chapter will flag areas where the direction of causality is unclear. As we will see, some determinants are more well-researched than others and the grounds for claiming causality therefore stronger.

5.5 Macroeconomic determinants

Macroeconomic determinants relate to economy-wide phenomena, such as income, inflation and employment. Although some of these have direct personal impacts, such as employment, I include them here as they tend to be managed at the economy-wide level.

5.5.1 Income - national

Beginning with Easterlin's work in the 1970s described in Chapter 2, repeated studies have found a non-linear relationship between increases in GDP and well-being. Like with personal income, there is a point at which the returns to well-being from increases in GDP begin to diminish (Blanchflower and Oswald, 2011; Easterlin, 1995). It is generally accepted that increases in national income have a small but significant effect on well-

being, which is greater for poorer people (Diener and Biswas-Diener, 2002). However, this relationship does not appear to hold over the long-term for developed countries (Blanchflower & Oswald, 2004a). Controlling for other factors such as democracy (Inglehart and Klingemann, 2000), health, the quality of government and human rights reduces the effect of GDP (Frey & Stutzer, 2002a), although as Stoll et al. (2012) have pointed out, these also correlate with GDP and separating it from other features of advanced economies is challenging.

This so-called paradox has been particularly striking in the US. Some claims to debunk the Easterlin Paradox have used other data to suggest a stronger relationship in Europe and Japan between income and growth (Stevenson & Wolfers, 2008). However, even these authors have been puzzled by the US. Traditionally the engine of economic growth, since the 1970s this has been accompanied by little rise in SWB (ibid.)

The most recent work questioning the paradox is an update of the Stevenson and Wolfers 2008 paper (Sacks et al., 2012). However, it is based on a shorter time-period (approximately a decade). Easterlin (2013) has published a rebuttal arguing that short-term movements in life satisfaction can be mistaken for a longer-term relationship, particularly for outlier economies such the former Soviet Union that experienced changes in both GDP and life satisfaction due to a common third variable. He also uses the example of Ireland to show that whilst short-term decadal changes suggest a marginally statistically significant relationship, this disappears when replaced with long-run data (ibid: 7-8).

In addition, the relationship between the *rate* of growth and well-being appears mixed. Although some papers report a positive relationship (Campbell, Shaw, & Gilliom, 2000; Hagerty & Veenhoven, 2003;) others do not (Easterlin & Sawangfa, 2009; Easterlin, 1995). Divergent results also appear to relate to the time period over which the relationship is observed (Stoll et al., 2012).

5.5.2 Income - relative

As discussed in Chapter 2, the relative income hypothesis states that what matters to an individual in a rich country might be relative, rather than absolute income (Duesenberry, 1949). The hypothesis appears to be confirmed by empirical research on well-being with many studies finding that the income of a reference group is as at least as important as one's own income in influencing well-being (Ball and Chernova, 2008; Hagerty, 2000a; Helliwell and Huang, 2006b).[33] Luttmer (2005) finds that controlling for an individual's

---

[33] For more evidence of this see also (Ball & Chernova, 2008; Barrington-Leigh & Helliwell, 2008; Daly, Oswald, Wilson, & Wu, 2011; Di Tella & MacCulloch, 2008; Ferrer-i-Carbonell, 2005;

own income, higher earnings of neighbours are associated with lower levels of self-reported happiness. This is confirmed by Dynan and Ravina who also find that the effect is concentrated among those with above-average incomes. Frey and Stutzer (2005) find that life satisfaction is associated with the level of income that people consider to be 'sufficient', which is drawn from a reference group. They find no independent role for absolute income.

Easterlin also hypothesized that adaptation swamps the effects of changes in economic circumstances (and other objective circumstances) on happiness. This has been demonstrated by other research which shows that lottery winners (Brickman, Coates, & Janoff-Bulman, 1978) and severe accident victims (Silver, 1982) adapt to their new circumstances and eventually return to their previous levels of self-reported happiness. Brown et al. (2005) also find lower General Health Questionnaire scores when people perceived their current financial situation to be worse than last year and when next year's situation is predicted to be even worse (quoted in Dolan et al., 2008). Other research suggests that habituation to improved economic circumstances is quite rapid, so any gains in happiness are short-lived (Headey, Muffels, & Wooden, 2008).

The weight of evidence in favour of the relative income hypothesis has led to a general acceptance that relative positions matter at least as much as absolute (Hopkins, 2008). Although this might be interpreted as evidence that inequality is bad for our well-being, it seems curious at first that some studies have found positive relationships between inequality and happiness (Berg & Veenhoven, 2010; Bjornskov, 2008; Clark & Delta, 2003; Veenhoven, 1996). However, other studies find that inequality does negatively affect wellbeing (Alesina, et al. 2004; Fahey & Smyth, 2004; Graham & Felton, 2006)[34]. Where authors find a relationship, it seems to hold across countries (Diener et al., 1995; Helliwell & Huang, 2006) and across states in the US (Alesina et al., 2004; Wilkinson & Pickett, 2010). It has also been found in studies of child well-being (Bradshaw et al. 2007; Pickett & Wilkinson, 2007; Statham & Chase, 2010).

There is also some evidence for inequality-aversion i.e. that people don't like to live in unequal societies (Frey and Stutzer, 2002a; Oishi et al., 2011) with higher inequality aversion in Europe than the US (Alesina et al., 2004a). Inequality aversion is lower in countries like the US where there is a perception (erroneously) that social mobility is high i.e. that everyone has a shot at reaching the top of the ladder no matter how steep the

Hagerty, 2000a; Heliwell & Huang, 2005; Knight, Song, & Gunatilaka, 2009; Powdthavee, 2010; Senik, 2005; Bernard Van Van Praag & Ferrer-i-Carbonell, 2011).

[34] For more evidence of this see also (Alesina, Di Tella, & MacCulloch, 2004; Fahey & Smyth, 2004; Graham & Felton, 2006; Graham & Pettinato, 2001; Hagerty, 2000b; Oishi, Kesebir, & Diener, 2011; Schwarze & Härpfer, 2004)

climb (Senik, 2005).

5.5.3 Unemployment

A second robust and generalisable finding is that unemployment is a major driver of unhappiness (Blanchflower & Oswald, 2004a). Indeed, that it is the primary economic source (Oswald, 1997) controlling for any associated fall in income (Clark & Oswald, 1994; Frey & Stutzer, 2002b; Winkelmann & Winkelmann, 1998).

This applies to different measures of happiness/well-being including:

- Life satisfaction (Blanchflower and Oswald, 2011; Bukenya et al., 2003a; Clark and Lelkes, 2005)[35]
- Domain satisfaction (Cummins et al., 2005)
- Lower GHQ scores (Clark, 2003; Clark & Oswald, 1994; Shields & Wheatley Price, 2005; Wildman & Jones, 2002)
- Psychological health (Korpi, 1997; Theodossiou, 1998) and
- Overall happiness (Alesina et al., 2004a; Blanchflower and Oswald, 2011, 2004)[36]

Researchers have attempted to control for reverse causality (Dolan et al., 2008; Oswald & Powdthavee, 2006) (e.g. 'selection effects' that unhappy people are more likely to be unemployed) however longitudinal studies demonstrate that the direction of causality is from unemployment to well-being (Lucas et al., 2004)

Unemployment lowers happiness of the unemployed but also the happiness of everyone else (Blanchflower et al., 2013). People are happier when the rate of unemployment is low (Wolfers, 2003) and increases in national unemployment rates have been found to reduce SWB (Di Tella et al., 2003; Luechinger et al., 2008). However, like income, comparisons with reference groups may be important here as well. Shields and Wheatley Price (2005) find that the individual unemployment effect disappears in areas with employment deprivation of over 22%, whereas Clark (2003) puts it at 24%. In addition,

---

[35] For more evidence of this see also (Blanchflower & Oswald, 2011; Bukenya, Gebremedhin, & Schaeffer, 2003; Clark & Lelkes, 2005; Di Tella, MacCulloch, & Oswald, 2003, 2001; Fahey & Smyth, 2004; Ferrer-i-Carbonell & Gowdy, 2005; Frey & Stutzer, 2000; Frijters, Haisken-DeNew, & Shields, 2004; Gerdtham & Johannesson, 2001; Gerlach & Stephan, 1996; Graham & Felton, 2006; Graham & Pettinato, 2001; Graham, 2010; Haller & Hadler, 2006; Headey & Wooden, 2004; Helliwell & Putnam, 2004; Helliwell, 2003; Hudson, 2006; Luechinger, Meier, & Stutzer, 2008; Oswald & Powdthavee, 2006; Pichler, 2006; Schoon, Hansson, & Salmela-Aro, 2005; Alois Stutzer, 2004; Weinzierl, 2005; Winkelmann & Winkelmann, 1998; Winkelmann, 2004; Wolbring, Keuschnigg, & Negele, 2011)

[36] For more evidence of this see also (Alesina et al., 2004; D. G. Blanchflower & Oswald, 2004a, 2011; Di Tella et al., 2003; Graham & Pettinato, 2001; Haller & Hadler, 2006; Hayo, 2004; Luttmer, 2005; Pichler, 2006).

having an unemployed partner is detrimental for employed people but positive to unemployed people (ibid.)

5.5.4 Inflation

Low inflation generally predicts high wellbeing (Diener, 2000) even after controlling for individual personal characteristics (Alesina et al., 2004a). However, in the traditional inflation/employment trade off that has so preoccupied economists, employment appears to be much more important (Blanchflower, 2007). In an attempt to make the case against inflation targeting, Blanchflower (ibid.) analysed the impact of macroeconomic shocks on well-being and found that the wellbeing cost of a 1 percentage point increase in the unemployment rate equals the loss brought about by an extra 3.76 percentage points of inflation (Blanchflower et al., 2013). This study also found that the least educated and the old are more concerned about inflation than employment. Conversely, the young and the most educated are more concerned about employment. Wolfers (2003) found that the costs of unemployment outweigh inflation by a ratio of five to one.

5.6 Social policy determinants

Social policy determinants refer to things that have an impact across the whole society but are not macroeconomic phenomena. The ones that I deal with here are as follows: personal income, working conditions, public institutions, physical health, mental health, education, housing and the physical environment.

5.6.1 Personal income and indebtedness

By far the most studied area of research in this area is the relationship between personal income and SWB. Richer people, on average, report higher subjective wellbeing than poorer people but that returns to well-being decline with increases in income (Deaton, 2010; Dolan et al., 2008). It is estimated that for a person moving from the fourth to the fifth decile in the distribution of family income, subjective well-being rises by 0.11 yet moving from the ninth to the tenth decile only increases subjective well-being by 0.02 (Helliwell, 2001). The relationship is stronger for life satisfaction than other measures of well-being (Deaton, 2010; Lelkes, 2006).

Considerable effort has been put into calculating the threshold beyond which money loses its power to make us happy. Layard (2006) puts this at $15,000 globally and Kahneman and Deaton (2010) at $75,000 in the US. This has also been replicated in cross-country research: in Ireland researchers find a threshold level of income (a gross household income of €57,900), after which returns to wellbeing from higher income rapidly diminish (Brereton, Clinch, & Ferreira, 2008). Diener et. al. (2002) also find

evidence of reverse causality i.e. that happy people earn more. However, this is unlikely to account for all the wellbeing benefits of income.

Debt has been found to be negatively related to well-being. This holds for credit card debt (Brown et al., 2005; Cummins et al., 2005) and needing to borrow money mid-week (Borooah, 2006) but not large, secure debt such as mortgages. Debt has also been linked in many studies to mental ill-health (Jenkins et al., 2008; Skapinakis, Weich, Lewis, Singleton, & Araya, 2006).

5.6.2 Working conditions

There is less research on the types of employment, or employment conditions that enhance our wellbeing. What we do know is that satisfaction with employment is important (Bowling & Eschleman, 2010; van Praag et al., 2001) and a picture is emerging from the ongoing research as to what constitutes 'good work'.

Features of the working environment that are negative for well-being include:

- Job insecurity (Blanchflower & Oswald, 2011)
- Frequent job change (Bonhomme & Jolivet, 2009).
- Too few or too many hours (well-being rises with hours worked before it starts to fall) (Luechinger et al., 2008; Meier & Stutzer, 2008; Weinzierl, 2005).
- Long commutes (Stutzer and Frey (2008) (Diener & Seligman, 2004; Dolan et al., 2008).

5.6.3 Public institutions and welfare spending

Trust in public institutions is associated with high life satisfaction (Dolan et al., 2008; Helliwell & Putnam, 2004; Hudson, 2006). According to Helliwell and Wang having this trust yields the same well-being benefit as a doubling of income (2010).

Most have found relationships between high levels of welfare spending and SWB[37] (Di Tella et al., 2003; Kotakorpi & Laamanen, 2010; Pacek & Radcliff, 2008) and these include fixed effects studies. In particular a 'social wage' and the existence of free welfare services are associated with life satisfaction (Pacek & Radcliff, 2008). Another study finds satisfaction increasing with the level of state intervention in the market economy (Flavin et al. 2011) and that this held across levels of income and differences in political ideologies.

---

[37] There are exceptions such as (Veenhoven, 2000) and Ouweneel (2002) but these have been superseded by more recent studies.

Although there are again exceptions,[38] living in a democracy also tends to be better for life satisfaction (Helliwell & Huang, 2006), even controlling for income (Dolan et al., 2008; Inglehart & Klingemann, 2000).

5.6.4 Physical health

People who rate their health 'fair' or 'bad' tend to have lower life satisfaction (Clark & Lelkes, 2005; Flouri, 2004; Helliwell, 2003), whereas people who rate it 'good' have higher life satisfaction (Bukenya et al., 2003; Gerdtham & Johannesson, 2001; Haller & Hadler, 2006).

Positive (but weaker) relationships have also been found for objective health indicators (Diener & Seligman, 2004; Howell, Kern, & Lyubomirsky, 2007). For example, chronic conditions (Easterlin, 2004; Mehnert, et al., 1990) heart attacks or strokes (Shields & Wheatley Price, 2005) and disability (Headey & Wooden, 2004; Oswald & Powdthavee, 2006) have all been found to lower life satisfaction. Easterlin (2004) finds that although adaptation to a health condition takes place, unlike income it has lasting impacts, so the adaptation is never complete. Adverse health changes also have a lasting and negative effect on well-being (Borooah, 2006; Easterlin, 2004).

Happier people have also been found to be healthier (Blanchflower and Oswald, 2008; Damjanovic et al., 2007; Diener and Chan, 2011) and to live longer (Cohen & Pressman, 2006; Diener & Chan, 2011).[39] Nonetheless, the effect sizes of the health variables are substantial suggesting that health still impacts happiness (Dolan et al., 2008) and this is confirmed by longitudinal data.

5.6.5 Mental health

Psychologists have found that life satisfaction is lower amongst those people with clinical mental health diagnoses (Arnold et al., 2000; Bradshaw & Brekke, 1999; Suslow et al., 2003).

The epidemiological literature also suggests strong links between depression and specific health conditions (Marmot, 2003), in particular cardiovascular disease (Glassman & Shapiro, 1998; Wulsin et al.,1999). Lifestyles that promote both mental and physical health - optimal sleep patterns (Steptoe et al., 2005), physical activity (Biddle, Fox, Boutcher, & others, 2001; Dolan et al., 2008) and non-smoking (Daniel Kahneman

---

[38] This has not been the case in the former Soviet Union (Inglehart & Klingemann, 2000) but Easterlin argues that the lack of improvement inSWB is related to the removal of safety nets, which is itself a strong determinant (2013)

[39] (Cohen & Pressman, 2006; Diener & Chan, 2011; Diener & Seligman, 2004; Helliwell, 2011; Smyth et al., 1998; Steptoe, O'Donnell, Badrick, Kumari, & Marmot, 2008; Steptoe, Wardle, & Marmot, 2005)

& Deaton, 2010) - also appear to be good for our well-being. Although there are again issues with the direction of causality –- the evidence is particularly strong for physical activity, even for simple activities like gardening (Ferrer-i-Carbonell & Gowdy, 2005).

5.6.6 Education

The existence of formal education in a country is, broadly speaking, positively correlated with well-being. This is true of in-country studies in the USA (Blanchflower & Oswald, 2011), Switzerland (Frey & Stutzer, 2000), Sweden (Gerdtham & Johannesson, 2001) and Northern Ireland (Borooah, 2005), as well as in cross-national studies (Dorn, et al., 2007; Graham & Felton, 2006; Hudson, 2006). Several studies find a relationship between completion of high school and well-being (Clark & Lelkes, 2005; Hudson, 2006; Lelkes, 2006), whereas Blanchflower and Oswald find that it increases with each additional level of education (Blanchflower & Oswald, 2011).

On the other hand, some studies find no such relationship (Flouri, 2004; Haller & Hadler, 2006; Headey & Wooden, 2004). Others find a negative association in the USA (Baker et al., 2005; Thoits & Hewitt, 2001) and in Britain (Ferrer-i-Carbonell & Gowdy, 2005; Shields & Price, 2005). Certainly, once other factors such as aspirations (Stutzer, 2004) and social mobility (Graham & Pettinato, 2001) are controlled for, the relationship between education and SWB weakens.

Once explanation for the mixed results might be diminishing returns. Those that offer this suggest that it is middle education (secondary school) where the cut-off takes place (Helliwell & Putnam, 2004; Helliwell, 2003; Alois Stutzer, 2004). A second explanation is that raised aspirations acquired through higher levels of education lead to lower satisfaction when these are unfulfilled (Frey and Stutzer, 2002a; Stutzer, 2004). A third explanation is that the well-being impacts are captured indirectly through income, and controlling for income underestimates the effect education has (Bukenya et al., 2003a; Dolan et al., 2008; Gerdtham and Johannesson, 2001)

5.6.7 Housing

There is a dearth of good quality studies on housing and well-being (Thomson et al., 2002). A few studies in the economics literature have found that the quality of housing correlates with life satisfaction (Clark & Lelkes, 2005; Ferrer-i-Carbonell & Gowdy, 2007).

However, the bulk of the research in this field has taken place within social psychology. Most notably, Gary Evans (2003) has conducted numerous research studies examining the effects of the physical environment on children's well-being. Evans' body of research shows that physical environments - noise level, overcrowding, housing and neighbourhood quality significantly predict various aspects of child development. In

addition, frequent relocations, which occur more often among people living in poor-quality housing, are a risk factor for socioemotional problems in children (ibid.). Single-family detached homes are associated with the best mental health outcomes (Evans, 2003; Weich et al., 2002). In a recent update of Evans' review Nakazato and Fujihara (2015) provide further evidence that better housing leads to higher levels of well-being.

The relationship between home ownership and well-being appears to be particularly robust, with renters consistently experiencing lower levels of life satisfaction, which rises upon purchasing a home (Cummins et al., 2005; Robinson et al., 2008; Vera-Toscano & Ateca-Amestoy, 2008).

5.6.8 Physical environment

Physical deprivation in the local environment reduces SWB, even after controlling for income (Abraham, et al., 2010; Ferrer-i-Carbonell & Gowdy, 2007; Shields & Price, 2005). There is also some evidence that people prefer rural landscapes (Korpela, Klemettilä, & Hietanen, 2002; Staats & Hartig, 2004) and that SWB is higher in rural areas (Brereton et al., 2011; Clinch, et al. 2006; Gerdtham & Johannesson, 2001; Hayo, 2004; Rehdanz & Maddison, 2005). High density living also appears to be bad for SWB (Lelkes, 2006).

High levels of pollution in an area is bad for the SWB of its inhabitants (Di Tella & MacCulloch, 2008; Frey et al. 2009), as are perceptions of an area having environmental problems (Ferrer-i-Carbonell & Gowdy, 2007). This includes both air pollution (Welsch, 2006) and noise pollution (Van Praag & Baarsma, 2005).

5.7 Determinants in the personal sphere

This section covers determinants that relate to personal factors about how we live our lives and relate to one another. These are: social connections, relationships and marriage and religion.

5.7.1 Social connections

In general, a greater number of social connections, more meaningful social connections and more time spent socialising are all associated with higher life satisfaction (Dolan et al., 2008; Lelkes, 2006; Pichler, 2006) and appear to be strong predictors of well-being (Stiglitz et al., 2009).

People who participate in their community and undertake voluntary work report higher levels of life satisfaction (Keyes, 1998). However, there is evidence of reverse causality (DeNeve and Cooper, 1998; Haller and Hadler, 2006; Thoits and Hewitt, 2001) and some evidence that this effect is mediated by reducing loneliness (Bramston, 2002).

Social capital and trust in others are both positive for well-being (Helliwell and Putnam, 2004; Hooghe and Vanhoutte, 2010). Countries with above average levels of well-being report high social capital and stronger friendship networks (Bjornskov, 2008; Bjørnskov, 2003; Vemuri & Costanza, 2006), and Bartolini and Bilancini (2010) argue that declining social capital helps explain long-term trends in well-being in the US.

Membership of organisations increases wellbeing (Helliwell, 2003; Pichler, 2006) but again there are issues with reverse causality. More time spent in informal care for others lowers happiness and increases depressive symptoms (Hirst, 2003, 2005; Marks, Lambert, & Choi, 2002; Van den Berg & Ferrer-i-Carbonell, 2007).

5.7.2 Personal relationships and marriage

Some studies suggest that relationships with partners and family are the most important explanatory factor in understanding well-being (Bacon et al. 2010). Repeated studies have find that marriage is associated with happiness (Blanchflower & Oswald, 2000; Clark & Oswald, 1994; Coombs, 1991) and this holds for many countries across the world[40] (Diener et al., 2000). This is also the case where it is compared with other domestic arrangements (Blanchflower & Oswald, 2000; Clark & Oswald, 1994; Coombs, 1991). Reverse causality is also an issue: happier singles are more likely to marry (Stutzer and Frey, 2006).

MacKerron (2011) points out there is a strong risk of omitted variable bias in these studies, namely the benefits of being in a partnership. Other studies suggest that it is the ingredients of a good marriage (companionship, stability etc.) that are important (Blanchflower and Oswald, 2000; Dolan et al., 2008; Hooghe and Vanhoutte, 2010)

In terms of children's well-being, family conflict is the largest predictor of low well-being (Gutman, et al., 2010; Rees, et al., 2010). Some studies find that parental divorce lowers well-being (MacKerron, 2011), however, this has not been found in all studies (Bradshaw et al., 2007). Evidence on the effect on parents of having children is rather mixed, depending on the measure, country, number and age of children, and parental situation (MacKerron, 2011).

5.7.3 Religion

Findings that relate to religion are quite conclusive: religious belief and practice is positive for wellbeing (Borooah, 2006; Francis and Lester, 1997; Helliwell, 2003)

---

[40] An exception here appears to be Ireland. Clinch et. al. (2006) find no difference between married and single respondents. The authors cite an explanation offered by Stack and Eshleman (1998) that due to the low divorce rate more couples may be 'trapped' in unhappy marriages.

(Helliwell, 2003). This applies for life satisfaction (Clark & Lelkes, 2005; Hayo, 2004) and positive emotion (Kahneman et al., 2004b) and is consistent across denominations (Cohen, 2002). Regular attendance at religious activity is generally positive (Clark & Lelkes, 2005; Ferriss, 2002; Hayo, 2004; Helliwell, 2003; Myers, 2001). Some scholars have found that the effect is primarily social (Stark and Maier, 2008) but others have found belief also to be important (Borooah, 2006; Francis & Lester, 1997).

5.8 Demographic determinants

This final section looks at the extent to which demographic variables such as age, gender, race and personality impact on our well-being.

5.8.1 Age, gender and race

Most studies suggest a U-shaped relationship between age and well-being with higher levels of well-being at the younger and older age points and the lowest life satisfaction occurring in middle age, between about 32 and 50 years, depending on the study (Blanchflower & Oswald, 2007; Easterlin, 2006; Helliwell, 2003). Wellbeing is at a minimum for those in their late 30s early 40s (Clark, Oswald, & Warr, 1996). However, this varies from country to country (a minimum of 35.2 in Switzerland and 61.9 in France).

The evidence on gender differences in inconclusive. Some studies find that women report higher happiness (Alesina et al., 2004a) but have the worst scores on measures such as the General Health Questionnaire (GHQ) (Clark & Oswald, 1994). It is not clear whether this greater range is attributable to greater variance, or greater willingness to report different emotional states (Stoll et al., 2012). This demonstrates again the importance of using different types of measures.

In the US, race is an important determinant of well-being: white and Hispanic people have higher SWB than African Americans (Dolan et al., 2008; Thoits & Hewitt, 2001). There are few studies that consider this issue at the European level, so it is not clear if these findings can be generalized beyond the US.

5.8.2 Personality and culture

The estimates for the influence of personality factors vary from 40-50% (Lykken and Tellegen, 1996) (Røysamb et al., 2002) to 19 per cent (Helliwell and Huang, 2006a). Research has shown that personality traits such as optimism, self-esteem agreeableness, and extraversion are predictors of life satisfaction (DeNeve & Cooper, 1998; Diener, 1996; Oishi et al., 1999). The reverse has been found for those with neurotic personalities (DeNeve & Cooper, 1998; Schimmack, Radhakrishnan, Oishi, & Ahadi, 2002). Stutzer (2004) finds that having high aspirations and expectations have a

negative effect on SWB. As discussed earlier, it is clear from the research on cross-country comparisons of wellbeing that cultural factors can pay a role in explaining differences in SWB e.g. Latin America and Russia (Diener et al., 2000; Kacapyr, 2008).

5.9 Developing the survey using the indicators

The last few decades have seen researchers from across a range of disciplines - psychology, economics, epidemiology, sociology, medicine, statistics, political science and management - take an interest in happiness studies. Although they often approach this question from different methodological and epistemological standpoints, common findings have begun to emerge about the nature of happiness, its causes and consequences (Oswald and Blanchflower 2011). The findings presented in this chapter are not exhaustive. However, I have attempted to produce a reasonably comprehensive overview that includes the main predictors of happiness and life satisfaction. Although there are many gaps, some general conclusions have been reached from this review:

1. The determinants of well-being are broadly stable across developed societies.
2. Many of the findings are predictable: some of the most basic human needs – reasonable income, employment and health – are among the most important factors. Yet there are some surprises: the mixed findings for having children, or education for example.
3. There is much scope for economic, social and environmental policy to influence people's well-being and happiness studies have a substantial contribution to make to public policy
4. Finally, many of the studies report on correlations from cross-sectional studies. Whilst these are the first step to identifying causality (Oswald and Blanchflower, 2011) they do not carry the same weight as fixed effects studies. This means, for example, that the evidence for some areas that benefit from fixed effects studies such as employment is stronger than in others such as housing. The reason that there is a higher standard of evidence may be because the relationships with the former are stronger and correlations are easily observed but it may also relate to the amount of research interest there has been in that topic (e.g. the proliferation of economists working in the field).

In this final sub-section, I will extract the most important domains, i.e. those that the literature emphasises the most and for which the weight of evidence is greatest. These will in turn be used to develop the survey for the primary research.

The review identified the following possible 'domains' for inclusion in the survey:

- National income

- Personal income
- Relative income
- Democracy
- Quality of public institutions
- Employment
- Quality of employment
- Welfare spending
- Physical health
- Mental health
- Religion
- Education
- Housing
- Physical environment (rural, coastal, low density, amenities)
- Relationships
- Social capital and trust
- Marriage/partnerships
- Politics and values

Each of these domains was then operationalized into a variable, which was phrased as a question on a 9-point scale (see Appendix 6). As discussed earlier, some judgement was required on the part of the researcher to decide what was included and omitted. For example, for mental health, I included questions that corresponded with both positive and negative effect (Watson, Clark and Tellegen, 1988) and referred directly to mental ill-health. This was an attempt to represent a complex phenomenon widely. On the other hand, this may have been achieved more successfully in some places than others. Specific factors informing my judgement here are as follows:

- The extent to which a domain or indicator is likely to matter in the context of all the information included i.e. whether its inclusion or exclusion is likely to be material to the overall index

- Practical considerations/ expediency. This may relate to things like the ease with which a piece of information can be included or the ease with which it can be operationalized or measured. However, the survey was too long in the end, which is discussed again in Chapter 10

- Policy amenability. An explicit aim of this research is build an index which could be used to inform policy. Very intangible or hard to define domains are less amenable to policy. In addition, factors that are not influenced by policy such as demographic factors have been excluded.

5.10 Conclusion

Warner Wilson is often credited with the first major review of research on happiness (Diener et al. 1999) and in a widely-quoted example of his work concluded that the happy person is:

> …young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married, with high self-esteem, job morale, modest aspirations, of either sex and a wide range of intelligence.

(Wilson, 1967 p.294)

In many ways, our understanding of what makes people happy has not improved substantially on this description. Since then, academic scholarship has been testing and seeking to refute or confirm empirically what Wilson casually observed. Perhaps the most important finding from this is that people everywhere want broadly the same things to be happy: a decent standard of living; a job; a good family and social life; a good neighbourhood in which to live; good health; and to compare favourably with other people around them, and that this hasn't changed much over time. In other words, people's happiness or unhappiness appear predictable and easy-to-explain. A second observation from the literature is that the direction of causality is often challenging to establish. Happy people such as the one described by Warner Wilson are also more likely to have good health, be promoted, find good marriages. However, it is clear in each of the areas where this is an issue that the causality runs in both directions: there may be positive reinforcement between the two variables, but the environmental factors are still impacting on happiness.

Although the state of knowledge on well-being is well advanced, there are also many examples of public policy moving against the grain of what makes people happy rather than with it, and the enthusiasm for well-being measurement is not obviously translating into policy responses that take account of this. For example, a social safety net and welfare spending are consistently shown to boost national well-being but since the 2008 crisis, policy in most countries in the world has followed an austerity path, directly countering the evidence. Some further discussion of this will be provided in Chapter 10 with respect to the Irish example.

This chapter also concludes Part 1 of the thesis. It has set the scene for Part 2 by describing the methodology and by reviewing the literature on the determinants of well-being. In doing this, it has identified empirically, the most important domains of life that could be considered for inclusion in an index of social value. The next stage of the research is to apply the conceptual framework to the Irish example. I begin in Chapter 6 by providing some background on the history of Irish economic development with an

emphasis on changes in GDP and SWB. Chapter 7 describes the conceptual framework used to propose a new measure of SWB in more detail and how it will be operationalised. Chapters 8 and 9 present the findings from the primary research and Chapter 10 concludes.

PART 2: APPLYING THE CONCEPTUAL FRAMEWORK

In part 2 of this study, I will test the conceptual framework by applying it to Ireland. In Chapter 6 I begin with a discussion of the Irish economy including some further explanation of why it is an interesting context within which to test the conceptual framework. In Chapter 7, I describe the final conceptual framework in more detail and in Chapter 8 I present the findings from the survey, develop the indicator set and describe the statistical analysis of those data. In Chapter 9, I analyse the secondary data for the indicator set for Ireland during the Celtic Tiger period and the extent to which these correlated with movements in GDP. Chapter 10 concludes both Parts 1 and 2 of the thesis by looking at the success or otherwise of the conceptual framework, reflecting on lessons learned and future areas of research.

Chapter 6 The economic and social context of Ireland

6.0 Introduction

"You say "lower" when you ought to say a less costly standard of living. I think it quite possible that a less costly standard of living is desirable and that it would prove, in fact, to be a higher standard of living. I am not satisfied that the standard of living and the mode of living in Western Europe is a right or proper one."

Eamon de Valera[41]

Eamon de Valera's place in Irish history is a controversial one. Although his economic policies are now considered naive and to have damaged Irish prosperity for decades, in some respects, he was attempting to chart a new type of economic policy for a newly founded country. This was bound up with his involvement with the nationalist movement, which was historically strongly interventionist in its economics (Barrett, 2004). In the quote above, de Valera, perhaps unintentionally, talks about the externalities from rapid economic growth. As a staunch social conservative, he was certainly more concerned with the impact on Catholic morality than for example on the quality of life, nonetheless, the principle he was espousing is the same. Whilst he may well have been making a virtue of necessity given the performance of the Irish economy, in his own way he was prefiguring debates about the quality of growth long before this critique was fashionable. This would contrast greatly with the views of the Taoiseach who presided over the bubble of the early 21st century. It would be just over half a century later that Bertie Ahern would celebrate the ostentatious wealth of the electorate and declare that it was second homes

---

[41] Taoiseach (Prime Minister) 1937-48, 1951-54 and 1957-59. Comment was in response to a journalist on the failure of self-sufficiency to boost standards of living, quoted in Garvin (2004)

that were people's biggest concerns 'on the doorstep'. Both men had completely different political philosophies and different attitudes towards GDP: whereas de Valera did not value it, Ahern saw his electoral success as inextricably tied to it.

The dramatic change in policy and the journey from poverty to prosperity and then austerity is the subject of this chapter. It begins with a short history of Irish economic development since the foundation of the Free State in the 1922. It then looks at the determinants of growth from the 1990s. This section is split into two phases: 1987-1999 when there was 'proper' economic development and sustainable sources of growth, and 2000 – 2007 when a bubble developed, particularly in the housing market. I then go on to discuss the limitations of the Celtic Tiger model and reasons for the economic collapse. I conclude with some discussion as to why Ireland provides a good example for the testing of this approach and for how the conceptual framework will be applied to this national context.

6.1 Nationalism, protection and self-sufficiency 1921- 1987

The first Government elected to the Irish parliament in 1922, adopted a fiscally conservative economic policy. Like many former British colonies, it aimed to develop indigenous industry through import substitution and a dynamic agricultural sector specializing in livestock and dairy farming (O'Grada, 1997). A change in government in 1932 led to the election of de Valera's Fianna Fáil who would go on to dominate Irish politics until the 2008 financial crisis and economic collapse. De Valera continued with the protectionist policies of his predecessors. The effects of these policies were exacerbated by an economic war with Britain, which was far more economically damaging to Ireland (O'Grada, 1997). The Second World War followed, during which Ireland was cut off from all international markets. After the war, protectionism remained a key feature of Irish economic policy and Ireland did not benefit from the post-war economic boom that raised living standards elsewhere in Europe. De Valera's lack of interest in people's material wealth began to be reflected in the economic statistics and in the 1950s a large income gap emerged between Ireland and its neighbours (including Northern Ireland). It lost about 16% of the population to emigration in that decade and was the only country in Western Europe to see its population decline (Barry, 2003).

A change of policy from the 1960s in favour of more free trade and membership of the European Economic Community (EEC) did not have much relative impact and incomes remained about 58-60% of those in Britain. The failure of indigenous industry led to an exclusive focus by the 1970s on the EEC and foreign direct investment and to the abandoning of state planning and interventionism (Girvin, 2010).

Figure 6.1: Annual percentage change in GDP 1971- 2011
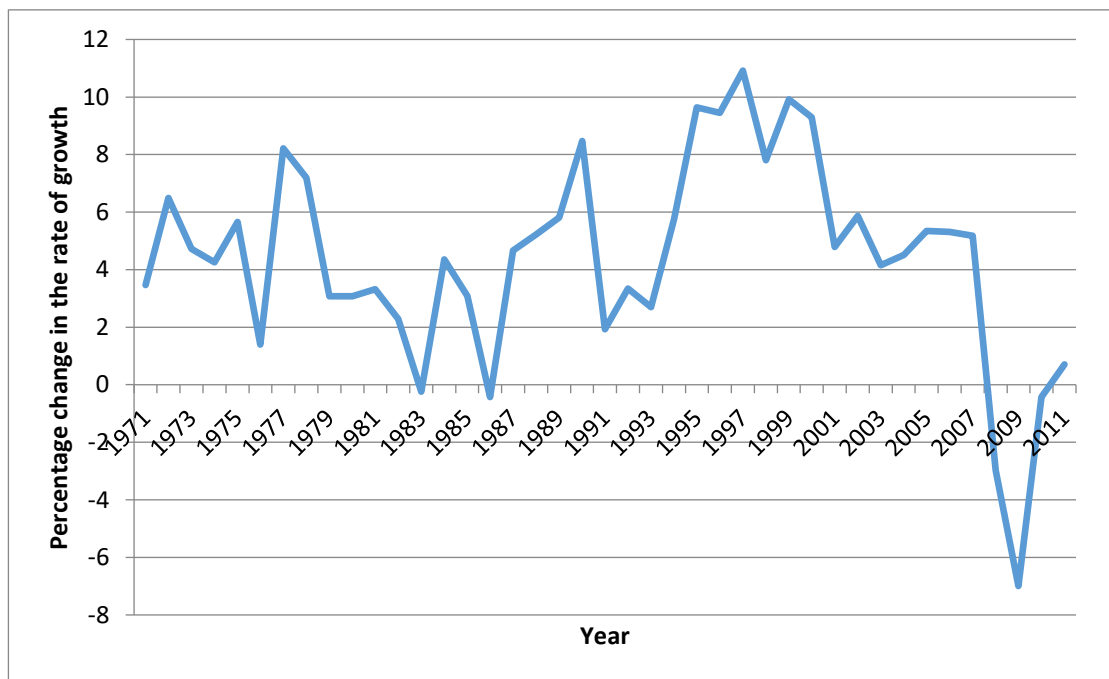
These policies did lead to some economic growth. As we can see from Figure 6.1, growth was consistently positive from the 1970s until the recessions of the 1980s. Yet these positive rates were not being translated into prosperity or job creation (Tansey, 1998; Lafferty, 2001). O'Hearn argues that this is because the economy was already dependent on transnational corporations during the 1970s and 1980s, which artificially boosted GDP (O'Hearn, 2000). Others have argued that the poor performance during this period was to do with the influence of interest groups on social policy e.g. the Catholic Church on policies such as women's participation in the workforce (Hardiman, 2000) which kept incomes and productivity low. It is difficult to assess this empirically, but we can see that the relationship between GDP and social outcomes is not straightforward.

In 1987 unemployment levels peaked at 17 per cent, emigration began to soar again and the current account deficit and national debt (118 per cent of GDP) were both high (Memery, 2001). The incoming minority Fianna Fail government committed themselves to taking control of the public finances. Fine Gael, the largest opposition party, adopted a consensus policy and broadly supported the government's economic policy. This unprecedented move became known as the Tallaght Strategy and is often credited with sowing the seeds of the prosperity that was to come. The strategy involved the implementation of national wage agreements, which curtailed wage demands, a successful focus on Foreign Direct Investment (FDI) and some fiscal austerity. The strategy also benefited from benign exogenous conditions: strong growth in the UK, a

large exchange rate devaluation had boosted exports and an end to conventionally fractious politics brought about by the political consensus (Bradley & Whelan, 1997).

Either way, dramatic changes in economic indicators were to follow (D'Agostino, McQuinn, & O'Reilly, 2008). In terms of GDP per person, Ireland went from being the 22nd richest per capita country to the fifth (IMF, 2016) and Foreign Direct Investment (FDI) I increased by over 23.5 per cent (OECD, 2009). This was coupled with a large increase in domestic demand, which resulted in a shift in the balance of payments from surplus to deficit. Irish Gross National Product (GNP) per head – a more meaningful measure for Ireland[42] – overtook Italian GNP per head in 2001 and UK GNP per head in 2004, the latter being symbolically and psychologically important (O'Gráda, 2008). The number of married women in the labour force increased to 46 per cent, and by the end of the decade labour shortages became a major constraint on growth. By the end of the 1990s the population had grown to 3.8 million, the highest it had been since the Potato Famine in 1845, primarily due to net migration. In addition, Irish house prices averaged an annual increase of over 13 per cent between 1995 and 2007, the largest across an 18-country sample of OECD countries for the period (McCarthy et al., 2013).

Underlying these strong economic data was a set of policies that have been the subject of much debate. The next section discusses the features of this model and its successes and failures.

6.2 The Irish Model (1992 – 1999)

The 'developmental state' model of East Asia (originally South Korea, Taiwan, Singapore and Hong Kong) has for many years been held up as a counterweight against the forces of economic globalization, as they provided examples of how nations could promote their own economic development, even from a subordinate position (O'Riain, 2000). Against the odds, these states moved from peripheral to a semi-peripheral or even core status within the world economy (O'Hearn, 2000). Until the 1990s, they also experienced spectacular rates of growth, while Latin America and Africa languished. Indeed, it was to describe these rates of growth that the 'tiger economy' metaphor was first coined. Most analysts give credit to state intervention in controlling markets for the success of these models (So & Chiu, 1996; Wade, 1990). States intervened heavily to promote local industry and boost exports and selectively supported key industries with tariffs and import controls (O'Hearn, 2000).

By the 1990s, the model came under some pressure, and any weaknesses were

---

[42] Gross National Product was defined in chapter 2. As it measures incomes exclusive of FDI it is more meaningful for Ireland as, which has for decades had higher than average FDI

exacerbated by the Asian financial crisis of 1997/8. Some economists pointed to a new model – the flexible developmental state - that was thought to have emerged in the late 1990s in countries such as Ireland and Chile (O'Riain, 2000). These countries were considered to be more mobile and flexible and therefore better placed to deal with the challenges of globalisation than the original tigers. O'Hearn argues that there is evidence of this policy in East Asia itself, particularly amongst new Tigers – Malaysia and Thailand – that privatized state companies, prioritised exports, liberalized rules on foreign ownership and cut corporation tax (O'Hearn, 2000). O'Higgins (2002) describes the 'flexible' element as working through state agencies to shape the organisational cultures and capabilities of both multinational and indigenous companies without dictating their activities. For O'Riain the crucial difference with the traditional developmental state is rather than relying heavily on state intervention to industrialise, states can achieve their goals "not by taking on the tasks of development but rather by shaping the capabilities of society and the market to do so" (O'Riain, 2000, p.23). The size of the role of the state in shaping policy in Ireland is a subject of debate with some experts arguing that it was substantial (Nolan, O'Connell, & Whelan, 2000). However, unlike the original Tigers, under EU rules, Ireland was prevented from intervening in its markets e.g. manipulating exchange rates and selectively supporting sectors, industries or entrepreneurs.

The Flexible Developmental State (DS) concept is a controversial one. Kirby for example prefers to describe the Irish model as a 'Competition State' (CS) (Kirby, 2005). The CS is defined as prioritizing economic competitiveness over social cohesion and welfare (Kirby & Murphy, 2011). In the CS model, rather than the state retreating or its role being marginalized, its core activities are being redefined in response to globalization. For example, in place of deregulation, the CS promotes 'market-friendly re-regulation', as exemplified by the policy agenda of the New Labour Government in the UK (Cerny and Evans, 2004). As with DS theorists, CS theorists recognise the importance of the state but whereas the former emphasise the centrality of the state in achieving developmental outcomes, the latter promotes the restricting the state's actions to the promotion of enterprise and profitability (Kirby & Murphy, 2011). Kirby is not alone in applying the CS model to Ireland. Dukelow for example described the Irish state as having taken a "selective interventionist role in the manner of a competition state to re-orient social security policy to enhance economic competitiveness by tackling unemployment, yet leaving levels of income inequality and poverty relatively high" (Dukelow, 2005 p7). (For more discussion on this see Boyle, 2002; Murphy, 2002). Other commentators have rejected the binary DS/CS distinction. Smith, for example argues that whilst the Irish model cannot be neatly categorised as 'developmental', it has had some developmental

tendencies that are not consistent with the CS model (Smith, 2004). Kitchen and Bartley describe it as a blend of American liberalisation (minimal state, privatisation of public services, public/private partnerships, light touch regulation and clientelism) and European social welfarism (developmental state, social partnership, welfare safety net, high indirect tax, EU directives and obligations) (Kitchin & Bartley, 2007).

A final question is whether what took place in Ireland really constituted a model of development or a continuation of existing policy. A convincing reason for the rapid period of growth was that latent productivity was being released and that 'catch-up' was inevitable. Ireland's membership of the EU, proximity to Europe, proficiency of its citizens in English, historical links with the US and highly educated population were all positive 'initial conditions' for growth (Honohan and Walsh, 2002). As has been mentioned, perhaps a greater puzzle is why the Irish economy struggled for so long, not why it eventually started to grow. Although most commentators tend to focus on the change of policy in 1987, and the failure of policies prior to then, some consideration needs to be given to long-run policies eventually paid off. Cooney has documented how consistent education policies of the preceding decades bore fruit during the 1990s (Cooney, 2008). In addition, there is the role of EU structural funds which went mainly to fund infrastructural investment and in promoting enterprise which took time to have an impact (O'Higgins, 2002).

Following the dot com crash, Ireland's economy recovered quickly, posting growth rates of between 4 and 6 per cent by 2002. However, by this stage things had already started to unravel. Honohan and Walsh (2002) warned of difficult times ahead with most of the potential for catch-up exhausted. In reality, and with hindsight, the 'Celtic Tiger' was over. Few sources of sustainable growth emerged during the 2000s; inflation was high and labour productivity was no longer increasing. Instead, the economy became dependent on house building and increasing levels of private consumption. During the 1990s, house prices only rose in line with increases in disposable income and the ratio of prices to income remained at a relatively low level (Whelan, 2009). By 2006–07, at the peak of the bubble in house prices, 23% of Irish GDP was made up of construction, Ireland was building four and half times as many per capita housing units as Britain and one in eight employees in the Irish economy was directly employed in construction (ibid.). With the exception of Spain and Portugal, Ireland's share of construction employment exceeded all other OECD member states by almost five percentage points (Whelan, 2009). Government subsidies fuelled a frenzy of building around the country and banks lent recklessly to developers and customers to buy land and houses at grossly inflated prices. According to O'Sullivan and Kennedy, whilst the global financial crisis exacerbated

matters, the banking crisis in Ireland was largely a home-grown phenomenon brought on by the eventual collapse of the property sector (O'Sullivan and Kennedy, 2010). Taxes on income and capital gains were eroded relative to the booming property sector, which meant that Government finances became heavily dependent on them (went from 8% of total tax revenue in 2002 to over 16% in 2006).

Spectacular as the rise was, so was the fall and Ireland became the first EU country to enter recession in 2008. The IMF concluded in 2009 that it was "perhaps the most overheated of all advanced economies" and said that the Irish crisis "matches episodes of the most severe economic distress in post-World War II history" (International Monetary Fund, 2005 p.5). The economy contracted by 7.1 per cent in that year. Ireland's debt (the repayment of which had crippled the country during the 1980s) was back. Ireland's general government debt (GGD) increased by 320% over the period (Kinsella, 2012), a third of which was incurred by bank bailouts (The Economist, 2013).

In September 2008, the government issued an unlimited bank guarantee in favour of six banks that would end up costing far more than the government estimated, a deal which the European Commission approved at the time. By the end of 2010 yields on Irish government debt reached 9 per cent. This effectively meant that the government was unable to borrow to fund the deficit and made external intervention inevitable. According Kinsella (2012), by guaranteeing existing senior bonds and some types of subordinated debt, the capacity to allocate some part of the ultimate loan losses to bondholders was compromised, raising the ultimate cost to the taxpayer of resolving the banking crisis and contaminating the public balance sheet with private assets and liabilities. On 28 November, the EU and the government agreed to an €85 billion rescue deal.

The funding provided by the 'troika' was contingent on banking sector reforms (recapitalisation of domestic banks and deleveraging of bank balance sheets), fiscal consolidation (austerity measures) and structural reforms (pay cuts and supply-side labour market measures). In response to less punishing conditions in subsequent EU bailouts, and continued high unemployment (almost 15 per cent in 2012 (Central Statistics Office, 2012). EU leaders agreed in 2011 to reduce the interest rate and to extend the maturity on the EU loans provided to Ireland under the programme.

Whether competitive or developmental, the model was beset by internal contradictions and weaknesses, the scale of which only became apparent once external circumstances became less favourable. Although the history of this period is still being written, there is some consensus about where mistakes were made, particularly in the later period. The next section discusses each of these weaknesses in turn.

6.3 Failures in the model

Throughout the late 1990s and early 2000s, other small island states and developing economies sought to emulate the Irish model. As Thorhallsson and Kirby have written:

> [viewed] from a distance, they saw the Irish state as having played an active role in winning high levels of foreign investment in cutting-edge, high-tech sectors and thereby upgrading the industrial and services economy and co-ordinating policymaking between the main stakeholders through social partnership, resulting in a spectacular increase in living standards and employment. This appeared to contradict the dominant neo-liberal model being promoted by agencies like the World Bank and the IMF and to offer a new form of state-led successful development, one able to manoeuvre deftly amid the pressures and threats of globalization.

(Thorhallsson and Kirby 2011, p.5/6)

However, not only was this view a misunderstanding of the nature of the project but it underplayed the importance of the booming international economy in supporting growth. For example, in comparing the Irish and Danish models, Sørensen drew attention to the fact that 'the Danish model has been developed and strengthened by having to cope with several major challenges, including two world wars and the economic crisis of the 1930s' whereas 'the successful Irish model has not faced a real critical challenge so far; it's been all smooth sailing in sunshine and tailwinds' (Sørensen, 2007, p. 8). By 2004, O Riain, who had first applied the FDS concept to Ireland and a keen supporter of the model was warning that "significant elements of the Celtic Tiger were a mirage" (O Riain, 2004).

There are five features of the model that are referenced most often (O'Riain, 2000, O'Hearn, 2000, Kirby and Murphy, 2011) and appear to be the most important:

- Social partnership
- Promoting property ownership
- Foreign Direct Investment
- Economic liberalization
- Limiting government intervention

This section discusses each of these in turn, their initial successes and weaknesses and their role in failing to prevent, or even contributing to the crash.

1. Social partnership

Social partnership refers to the negotiation of triennial national wage agreements that brought to the table employer representatives, unions and since 1997 voluntary and community organisations. This 'corporatist' form of wage negotiations replaced local level bargaining that had been common throughout the 1980s. Proponents of social partnership describe it as a 'critical pillar' in the economic success (Mac Sharry, White,

& O'Malley, 2000). By forging a consensus and limiting wage rises they argue that it kept Ireland competitive and minimized industrial action (O'Higgins, 2002).

The critique of the approach is that partners were limited to policies that would not undermine the conditions that were seen to attract high levels of foreign investment (Allen, 2000) and that it is difficult to point to any concrete examples of economic or social policies that emerged from it (Connolly, 2007). Large areas of social policy that could have been tackled – such as the housing market - were left untouched (Memery, 2001). This was particularly the case where social policies were considered anti-competitive (Connolly, 2007). Finally, unlike central wage bargaining in other countries, it only survived in times of plenty.

2. Property ownership

As sources of growth started to dry up following the dot com boom, more speculation crept into the market. The government in this period adopted procyclical policies across the board (O'Sullivan & Kennedy, 2010), but these were probably most damaging in the property sector. Clientalist policies that subsidised developers and gave tax breaks for housing development helped to fuel rising costs (Kirby, 2010). The liberalised banking system enabled credit to fuel an already overheated market and Euro membership meant access to European markets and zero exchange rate risk. For homeowners, there was an absence of any property-based tax, high levels of mortgage relief and preferential stamp duty treatment for the purchase of new-build homes (Memery, 2001). All of this was exacerbated by a policy of low interest rates set by the ECB, which was designed to stimulate growth in Germany and in France. In Ireland, it led to negative real interest rates and high inflation, which were extremely counterproductive (O'Sullivan & Kennedy, 2010).

3. Foreign Direct Investment

As we have seen, the Irish economy had been dependent on attracting transnational corporations as a source of growth and employment since the 1970s, but the pace of this investment increased dramatically in the 1990s with the slashing of corporation tax. Unlike with domestically-owned firms, when profits are repatriated this reduces substantially the rate of investment and has an impact on the employment intensity of output. It has been argued that the Irish manufacturing sector contained 'invisible entrepôts" such as software duplication.[43] It was estimated that these sectors accounted for about 30 per cent of manufacturing output but only 10 per cent of employment

---

[43] This analogy attempts to explain the way in which TNCs accounted for output in Ireland even if it was not produced there to make benefit from low corporation tax.

(Conroy, Honohan, & Maître, 1998). As we will see later on, dependence on FDI reduced the government's control over industrial composition, which limited its ability to diversify the industrial base and to promote certain types of industry. These dependencies also led to structural weaknesses, not only because they were unsustainable on their own terms but because they displaced the need to seek alternative sources of growth (O'Sullivan & Kennedy, 2010).

4. Economic liberalisation

In the 1980s Ireland was a highly regulated and taxed economy and in the space of two decades become one of the most open and 'pro-business' in the world (O'Sullivan & Kennedy, 2010). Ireland was held up as a model of what liberalisation can achieve (Kitchin, et al., 2012). The introduction of more market-orientated regulatory frameworks was a key part of Ireland's economic growth, particularly in relation to the financial services sector. However, as we shall see this also changed its risk profile and vulnerability to market fluctuations (ibid.)

Deregulation was another key feature of the model and took place across a number of sectors. Some of these were highly popular and successful on many measures such as the deregulation of airlines and taxis. However, others were problematic, particularly where they were initiated as a cost cutting measure to avoid public investment (O Riain, 2004). O'Riain argues that just when public investment was most needed to support new sources of growth after the dot com crash, it was the subject of cuts and the "blind implementation of market liberalisation" (O Riain, 2004, p.26). Two forms of deregulation have had a particularly damaging legacy however, the liberalisation of banking and finance and the housing market. The post 2000s boom in housing is in large part attributable to the government's role in liberalizing the mortgage markets and the globalization of housing finance markets (Norris & Winston, 2011). By 2007, the three largest Irish banks had between 34 and 84 per cent of their loan book exposed to the commercial sector and property-related lending had reached 62.5 per cent of private sector lending (O'Sullivan & Kennedy, 2010).

5. Limited government intervention

In his critique of the Celtic Tiger, Peadar Kirby describes the tendency of the State to seek low-cost solutions as a key factor in weakening its effectiveness to achieve the goals it set itself (Kirby, 2010). In practice, this involved a series of 'give-away budgets', offering tax breaks primarily focused on high earners (Coulter & Coleman, 2003). They also reduced taxes on incomes and capital gains, which contributed further to the tax

base erosion described earlier (Whelan, 2009).[44] In addition, in spite of posting huge surpluses, Ireland had the lowest levels of government expenditure as a proportion of GDP relative to any EU economy the period 1997-2007 (O'Sullivan & Kennedy, 2010). According to O'Sullivan and Kennedy, the capacity constraint caused by the bias in the construction industries towards housing also meant that sufficient funds could not be spent on infrastructure and public services (ibid.).

Kirby argues that the low tax model undermined the state's ability to build up its own capacity to innovate and regulate, as well as its room for manoeuvre once the collapse began (ibid.). Taxation is often understood simply as a mechanism for raising revenue. However, in development economics its role in building and sustaining the power of states, and shaping their ties to society is increasingly recognised (Brautigam, Fjeldstad, & Moore, 2008). The fiscal reliance on construction and US multinationals narrowed the space for the government to pursue policy on its own terms. Fragile income streams clearly led to a lack of policy autonomy; and this was an important difference between the Irish and developmental state model. This would be brought into sharp relief by the financial crisis, which exposed how limited the government's options were.

6.4 Why Ireland was chosen for testing the approach

Throughout this chapter, I have drawn attention to the unique features of Irish economic development over the past century. In this final section, I focus on two additional issues. First, there was the exceptional impact that GDP had on public policy towards the end of the boom. Second, I discuss the position of Ireland as a small, globalised economy.

In 2006, the gaffe-prone Taoiseach Bertie Ahern tried to explain rising inflation by stating that: "the boom times are getting even boomier".[45].Ahern's attitude, and the context that produced it capture well several articles of faith about the GDP statistic: that more is always better, a high growth rate was always to be celebrated and above all else it must not slip into negative. His party's re-election in 2007 and decimation in 2011 after the financial crisis seemed to confirm these views. Ahern's party was always an astute electoral machine, and he and his ministers were aware that their electoral fate was linked inexorably to the rise and fall of GDP. The failure of GDP to provide any indication of the looming financial crisis is symptomatic of its greatest weakness: its inability to

---

[44] By 2007, the combined PAYE and PRSI average tax rate for a single earning married couple with two children, taking home the average wage, was 6.7 percent in Ireland, compared with an EU-15 average of 23.7 percent and an OECD average of 21.1 percent.

[45] Quoted in *The Irish Times* newspaper article: Economic growth shows little sign of letting up, 14 July 2006.

measure the quality as well as the quantity of economic growth. It could not easily tell us if the economy was overheating, if it was over-reliant on a small number of sectors, if those sectors were 'productive' in the widest sense i.e. job-creating, not to mention whether on the whole whether life could be considered by most people to be getting better or at least not getting worse. Nor could it tell us about the 'externalities' of growth, climate change and resource depletion, work/life balance, commuting times, impacts on children and so on. Although the Irish example is an extreme one it is by no means unique, economic crises happen with great regularity. The contribution of GDP, as a pro-cyclical measure, or indeed the role of data generally in predicting, or preventing economic crises is under-researched. In this example, it appears to have obscured, rather than revealed what was really going on with the economy.

Being a small peripheral economy also makes Ireland interesting to study. Political independence for newly established states is often associated with attempts to reduce political and economic ties with the former colonial power. This was the case in Ireland for the first 40 years of independence as it attempted to reduce its reliance on Britain, a pattern followed by most post-colonial independent states (Commoner, 2014). Consistent with the small states literature, Ireland was used to the trade-off between policy autonomy and political influence (Goetshel, 2013). Ireland was arguably at its most influential when it was sending MPs to Westminster, where they had often held the balance of power. Ireland was so dependent on the relationship with Britain after independence, that when Britain's membership of the EEC was rejected, Ireland also withdrew its application and only joined when Britain was eventually accepted. Since then, Ireland has always been the most pro-EU of members. This is not just about having been a net recipient of structural funds, it also reflects a relaxed attitude towards sovereignty and self-determination that is common within small states (Goetshel, 2013). Replacing dependence on Britain with dependence on Europe was seen as a positive thing, strongly supported by both nationalists and free market advocates. Complete policy autonomy was never a realistic option. In addition, efforts to attract FDI were largely focussed on the US, which is now far more important as a source of FDI than the UK (Commoner, 2014). For a country with a history of colonisation and a long struggle for independence, there is an awareness that sovereignty can also come at a cost. Or to put it another way if pooling risks and exploiting the opportunities offered larger neighbours can be seen to offer economic benefits then sovereignty might be a luxury that you cannot afford. However, it was this interdependence particularly of the Euro that contributed in large part to the financial crash and its aftermath. Attention has focused again recently on Ireland's globalised role in relation to tax avoidance by foreign-owned

companies. The response by the Irish Government to appeal the 2016 EU's fine of Apple is indicative of how reliant it is on this source of economic development and how deeply globalised the country remains.

Conclusion

This chapter described the history of Irish economic development with emphasis on the Celtic Tiger period, the features of the model and key weaknesses. After decades of stagnating wages, Ireland began in the 1990s to converge with other nations before overtaking them, including Britain and Northern Ireland. Although there is controversy about how 'developmental' this phase of growth was, the first ten years saw important investments made in infrastructure and industry and improvements in many economic fundamentals: despite the flaws in the model, these decisions are mostly viewed positively. In the 2000s, with sources of growth drying up, a bubble emerged, especially in housing. This was fuelled domestically but was exacerbated by membership of the Euro and exposure to the wider sub-prime crisis. As I have argued, domestic politicians were keen to keep the GDP statistic high and (with hindsight) were prepared to do this at any cost. Few saw the financial crisis coming, so it is unlikely they realised they were fuelling a bubble. Nonetheless, such is the power of the GDP statistic that it can blind even the highly economically literate to what is really going on in an economy, as evidenced by IMF reports on the 'health' of the Irish economy immediately preceding the crisis. However, as a system for providing an early-warning system it was clearly left wanting.

Ireland is an interesting example to study for anyone interested in the interplay between GDP growth, economic policy and social value. Not only has it had a turbulent economic history, but it has experimented with different forms of economic development, some of which have been successful and some of which have spectacularly unsuccessful. As discussed here, these periods of growth, decline, boom and bust should provide unique insights into the impact that growth has on wider measures of social value.

This chapter has set the scene for part 2 of this thesis where I apply the conceptual framework. In the next chapter, I begin this by discussing framework in more detail and how it was operationalised.

Chapter 7 Describing and operationalising the conceptual framework

7.0 Introduction

In the previous chapters I have argued that creating social value should be the primary goal of policy. Whilst no system of national accounting is plausible that ignores entirely people's preferences, at the same time, where we know that preferences are damaging to ourselves or others we should intervene to discourage their fulfilment. This still leaves room for people to express preferences but within a limited set of choices, or with certain options being off-limits. This is broadly in line with the way society currently operates in terms of the social contract, but it places a wider set of concerns at the centre of social and economic policy than are currently considered. In Chapters 3 and 4 I developed the concept of constrained utilitarianism. This was informed by the theoretical and empirical literature. In this chapter I return to the framework again to describe how it informed the research and how it was operationalised in the primary research.

This chapter begins by describing the principles that underpin the framework, some of the conceptual challenges it poses, and how I propose to resolve these. I then provide further detail on how it is being operationalised in the primary research. There are two parts to the primary research: the survey to identify what people value and the selection of indicators for inclusion in the index. This chapter prepares for the presentation of these findings in Chapter 8. I cover two further methodological points relating to the survey: the measurement of values and attitudes and identifying the correct level of measurement. In then go on to describe the choice of multivariate analysis used: Principal Component Analysis (PCA). I conclude the chapter by providing some further detail on ways to align the methodology for the index with my theoretical framework.

7.1 Describing the conceptual framework

A framework for measuring social value has been described by Hall et al. as a multi-dimensional concept that encompasses both material and immaterial aspects of well-being (2011). The framework that I have developed is represented diagrammatically in Figure 7.1.

Figure 7.1: Constrained utilitarianism conceptual framework
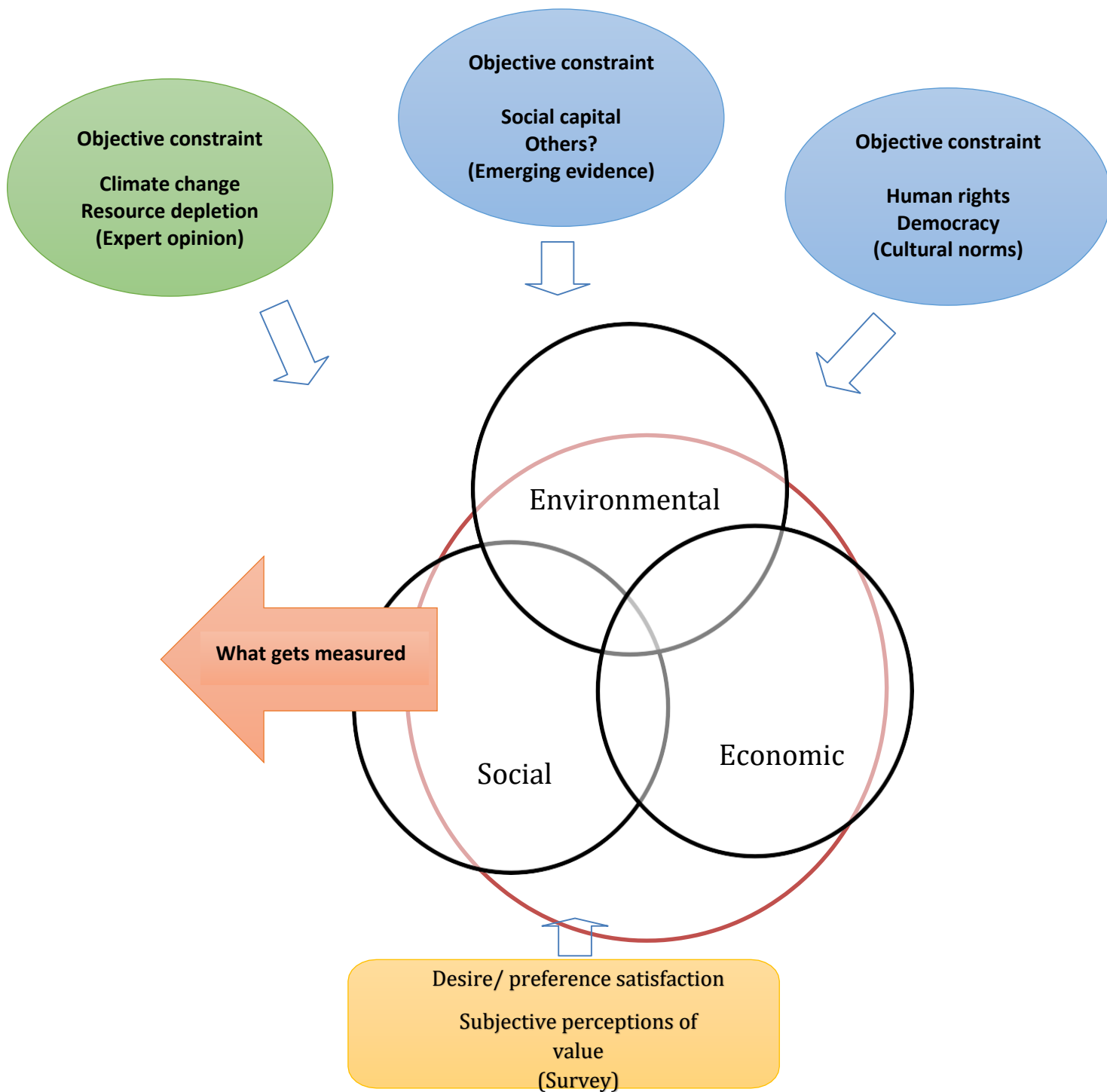
Source: author's own

What the figure shows is that the framework should in the first instance be holistic, by taking account of social, economic and environmental impacts. Deciding which outcomes to include in each domain should be informed by public perceptions of value, where those perceptions are (as much as possible) based on informed opinion. There

will of course be areas of controversy. Take for example something like immigration. It is an area where economists (the expert in this example) often disagree with the public. Economists (in the main) tend to be in favour of immigration because it ensures a supply of young, skilled labour and does not displace incumbent workers. There is a technical reason for this, which is known as the lump of labour fallacy i.e. that the amount of labour in the economy is not fixed and new entrants to the labour market increase aggregate demand and stimulate additional economic activity. Labour shortages on the other hand are a drag on growth. For example, a meta-analysis by Longhi et al. (2008) of the impact of migration on wages and employment of native born workers from 45 countries found very little impact. For incumbents, however, it may feel as if wages are lower and jobs are scarcer and that this is causally connected to an increase in immigration. It is also the case that there may be geographic and income skews in the distribution of these impacts that may not be picked up in national studies. This means that we do not know if the lump of labour theory is fallacious at the local level. Therefore, who is right in this situation?

On the one hand, if people *feel* like they are losing out, should that not matter? On the other, unease about migration may stem from xenophobic attitudes that run counter to equality legislation and which should be resisted by governments i.e. equality legislation could become a constraint. There is currently not system for holding politicians to account regarding the promulgation of misleading data, or misinformed opinions. Neither does there appear to be a demand to empirically interrogate claims that certain groups are disproportionately affected by immigration with a view to compensating those groups. Making visible the costs and benefits of this policy could inform policies on industrial policy, social welfare and public service provision. The process of deciding on collective goals could create opportunities for people to debate priorities in a structured manner. As Figure 7.1 shows, these choices would be constrained to protect some policies that are in the national, or international interest, such as emissions reductions. Next, I discuss the principles that I believe should underpin the framework.

7.2.1 Principles of the conceptual framework

I propose that the framework should have the following six characteristics:

1. Be built on sound conceptual and theoretical ground;
2. Contain broad domains that are valuable, incommensurable (measuring different things) and irreducible (not measuring more than one thing);
3. Be transparent regarding assumptions
4. Focus on outcomes (or ends) rather than outputs (or means);

5. Combine subjective and objective data (incorporate stakeholder perceptions of value, which are combined with different sources of evidence)

6. Be specific and relevant to the country to which it is being applied i.e. not aim for universality.

Hall et al. (2011) also propose that a framework should be non-hierarchical. This would imply that equal weights are applied to the different components of the index. This is a complex issue and in Chapter 8 I discuss weighting in more detail and why I have not included non-hierarchy as a principle. Their work also calls for more stakeholder involvement and the incorporation of the things that they value. They make the point however, as I have done, that taking the individual as a point of departure does not imply neglecting communities or collective outcomes (ibid.). The conceptual and theoretical foundations for the framework have been discussed at length in Chapter 3 and require no further discussion. In addition, the suitability of indicators, is returned to in detail in Chapter 8 as part of the indicator selection process. In the rest of this section I discuss the remaining principles beginning with transparency.

7.2.1.1 Transparency

Indicators carry axiological and normative conceptions, which are embedded in the way they are built (Thiry et al., 2010). It is not that subjectivity can be avoided but unless it is made explicit, assumptions underpinning the selection of indicators and weights can appear ad hoc. Even worse than this is where an index assumes objectivity but is replete with judgements, which reflect the preferences of researchers and institutions that have developed. This is often the case where concern for conceptual foundations is subsumed under technical consideration, which dominate the literature (ibid.). GDP is a good case in point.

In this research, I propose to achieve transparency in three ways:

a) Having a clear theoretical/conceptual framework

Any indicator of social value should be well grounded in a theory of what constitutes the 'good life' (Stiglitz et al. 2009). However, many of the indices described earlier are not based on a sound theoretical footing to help guide the selection of indicators, see (Neumayer, 1999) on the ISEW and (Thiry et al., 2010) on Genuine Savings. Having an explicit theoretical framework will guide decisions about the approach taken, the selection of indicators and the choice of weights. This approach seeks to avoid a 'democratic deficiency' (ibid): 3) by decrypting the "values and vison of the world that numbers implicitly carry (Thiry et al. ibid.).

b) Endorsement by stakeholders

A second way to deal with subjectivity is to establish a participatory framework upon which to deliberate about assumptions. There are few examples of where this currently happens (Stiglitz et al. 2009). Of course, it is possible that the views expressed by individuals would clash with the normative framework that has been established but as discussed above the intention is that this will provide a transparent way of resolving those tensions.

c) Providing a clear methodological discussion

Finally, it is important to provide a clear methodological guide to how the analysis is conducted and the assumptions that are taken at each point in the analysis. Each decision should be reported clearly, and the different scenarios or options discussed. This is also a principle of any good quality research. However, it is especially important where the intention is to create greater accountability around a shared set of goals as is the case here.

7.2.1.2 Focus on ends rather than means

The language of outcomes is something that has become very commonplace in the measurement of public services (Propper and Wilson, 2003). Nonetheless, the term is often used loosely to describe things that are really outputs, indicators or process measures. An outcome is a measure of change. For example, if the aim is to achieve some positive change in education, measuring the amount of spending on education (as with the Human Development Index) will not tell us that. It is true that countries that spend on more public services usually have better outcomes, but this is not always the case; the US health service being the obvious example (OECD, 2011). The amount spent on a service is an input to that service, it is not even an output. Relevant output might be the number of people that go through the system, or the ratio of pupils to teachers. Outcomes in an educational context could be numerous but might include grades, skills level, progression to employment or training, equality of attainment by class, gender etc. The exact set of outcomes would depend on the type of educational intervention and the goals and priorities of the citizenry. The framework set out here aspires to be an outcomes framework, although, as we will see data limitations often prevented this from being achieved.

7.2.1.3 Combine subjective and objective data

As discussed in Chapter 5, social value requires the measurement of both objective and subjective data. In the former, well-being is crudely understood as the command over resources, by which a person can control and consciously direct their own happiness and living conditions. The latter is based on the premise that well-being is perceived by individuals and is best judged by them. It is possible for these things to be broadly right at the same time. Whilst, combining them presents ontological challenges, which were discussed in Chapter 5, it could be argued (as I do) that any worthy alternative to GDP should include both objective and subjective data i.e. combine people's perceptions of how their life is going and how they feel with more objective data that complements the subjective view.

There are limitations to an overly subjective approach to measuring well-being and it is most useful where it compliments objective data relating to health, education and so on. As Sen as written:

"…consider a very deprived person who is poor, exploited, overworked and ill, but who has been made satisfied with his lot by social conditioning (through, say, religion, political propaganda, or cultural pressure). Can we possibly believe that he is doing well just because he is happy and satisfied?"

(Sen, 1991, pp. 8–9).

This can apply to those who strive for more, mistakenly thinking it will make them happy as much as those that believe themselves to be happy with nothing. Like King Midas, such individuals might be suffering from a false self-knowledge of what will increase their satisfaction. Perhaps it was for this reason that Aristotle thought that people were no judge of their own happiness (Kenny, 1992). There are numerous examples of how this happens in practice. Deaton finds that HIV prevalence appears to have little or no effect on the proportion of the population reporting dissatisfaction with their health (Deaton et al., 2009). Policymakers should not be tempted to ignore HIV prevalence just because it does not show up in wellbeing statistics. Although this 'happy slave' phenomenon is well documented, researchers still regularly ponder the seeming paradox of poor communities in low-income countries that report high levels of wellbeing. Although ultimately a subjective concept, these examples remind us again about the importance of not relying solely on subjective data.

7.2.1.4 Prioritise the specific over the universal

In Chapter 2, I introduced the tension between comparability and specificity in index design particularly regarding the Human Development Index. I made the case there that aiming for comparability reduced the usefulness of indices as a guide to policy by

rendering them too unspecific. In his Nobel acceptance lecture, Amartya Sen whose work inspired the HDI reflected on the difficulty of making aggregate judgements about what society wants:

> How can we find any rational basis for making such aggregative judgements as "the society prefers this to that," or "the society should choose this over that," or "this is socially right"? Is reasonable social choice at all possible, especially since, as Horace noted a long time ago, there may be "as many preferences as there are people"?

(Sen, 1999, p. 178)

However, contrary to Horace's remark, people's views can usually be categorised into broad groupings with intermediate or cross-cutting positions, and the evidence from political science would suggest that there is in fact a small number of social cleavages (Lipset and Rokkan, 1967). Sen goes on to say that, if we have enough information and do not aim for too much precision, we can consider the diversity of the preferences, and concerns of different members of society to produce a reasoned and democratic social choice (Sen, 1999).

At the same time, it is reasonable to assume that the things that people value may exist within a specific historical and cultural milieu. For example, Girvan (2010) describes how the political cleavages produced in the post-independence period in Ireland deviate from traditional left right divide found in other European countries (although this may be changing, as traditional cleavages have shifted in Ireland and elsewhere in the 21st century). Across Europe we can see growing divisions between countries in terms of the direction of public opinion on issues like immigration and membership of the EU (Eurobarometer, 2017). As discussed in Chapter 2, more than ever, 'measuring what matters' might therefore result in each country having distinctive indicators that reflect these cultural preferences.

Within the framework presented here, I therefore make the case for enriching a set of universal dimensions with country-specific detail. Country context could be provided through the inclusion of different indicators or through weighting decisions that reflect national priorities. There is support for this approach in the literature. Alkire, for example, has pointed out that "in order for human development to become an operational objective in the sense of a feasible goal for which planning, monitoring and evaluation frameworks can be designed, heroic specification is required" (2005, p. 77). In addition, it would be possible to abstract a group of common indicators for international comparison to retain some comparability were this deemed necessary.

In the next section I move on to describe some of the issues in operationalising the survey.

7.2 Operationalising the survey

The main aim of the survey was to reveal the things that mattered to people: essentially their attitudes and values. There is a substantial literature associated with the measurement of these concepts and I begin this section by summarising the most salient points. As discussed in Chapter 5. The answer options provided in the survey used ordinal scales. I also provide a defence for this approach and discuss some of the issues relating to ordinal measurement that are relevant for interpreting the findings in Chapter 8.

7.2.1 Measurement of attitudes and values

Attitudes and values are closely related but different in subtle ways. An attitude could be described as the evaluation of an object. Bergman (1998) argues that attitude objects are not understood in the same way by everyone. People can differ in their evaluation of an object but also in their how they construct the object cognitively i.e. have different reactions towards it but also perceive of it differently. The cognitive construction and the evaluation of the object are therefore both components of an attitude (ibid). In a meta-analysis of the value concept, Schwartz and Bilsky (1990) concluded that values are a) relatively stable beliefs b) refer to major life goals and modes of conduct that promote these goals; and c) transcend specific actions and guide behaviour.

A simple interpretation is that values are socially constructed and give rise to object-specific attitudes (Rokeach and others, 1973). However, this constructivist approach may undermine the role of human agency (Bergman, 1998) and the possibility that attitudes can be formed independent of values and themselves influence values (Kristiansen and Zanna, 1991). Values have been described as more ephemeral attitudes that can be incorporated into research on attitudes (Schuman, 1995). Nonetheless, Bergman warns against using the terms interchangeably because it can lead to misleading interpretations of empirical findings (1998). For example, values and attitudes can diverge and values themselves be contradictory, which undermines an entirely structural source for attitudes (ibid.). It is interesting to note, that in intra-national, national, or transnational value studies dealing with topics from law and order to the protestant work ethic, atomised values tend not to exist. Groups of values almost always occur together, while others almost never do (Bergman, 1998). This suggests that in spite of anomalies or inconsistencies, it is possible to talk about 'value systems' as a whole (Schwartz, 1992, 1997). For example, environmentalists have long had an opposition to nuclear power because environmental values are often grouped with anti-nuclear ones (Kasperson et al., 1980). Anti-nuclear/environmental values developed at

the same time in the 1960s and 1970s when concerns about nuclear weapons were widespread. However, nuclear power and nuclear weapons are very different things. From an environmental perspective, nuclear power plants produce almost no carbon emissions, acid rain or smog. Although many environmentalists have shifted position, these values continue to be more closely associated than might be expected.

In terms of this research, it is expected that both values and attitudes will be expressed, however it will not always be clear which is being expressed or is informing the response in any given situation. This is not necessarily a problem. An empirical link has been found between the two (Maio and Olson, 2000) and it is expected that the response will be broadly reflective of both.

A bigger challenge to the study is Daniel Kahneman's work which has shown that people's choices and behaviour are irrational and subject to a whole variety of cognitive biases (Kahneman, 2011). Contrary to the once rational, utility maximizing agent of economics, repeated experiments have found human decision-making to be sub-optimal. In his 2011 book *Thinking, Fast and Slow*, which summarises findings from his life's work on decision-making, Kahneman describes two systems of thought: System 1 is fast, instinctive and emotional; System 2 is slower, more deliberative, and more logical. System 1 decisions result from heuristics and are the subject of all sorts of irrational biases and interference effects, including loss aversion, anchoring, overconfidence, the halo effect and confirmation bias. System 2 decisions are more thoughtful and logical, requiring us to concentrate on the decision at hand rather than give an instant, intuitive response.

One cognitive bias that may affect responses is social desirability bias where the group norm or value influences how the respondent answers the question (Seligman and Katz, 1996). One example might be where someone holds a value that is considered non-materialistic but who takes a more acquisitive attitude towards material possessions in their day-to-day life. In contrast to the reality of how people live, certain value systems may be activated by the phrasing of the question, which would lead someone to express the ideal of themselves, rather than their day-to-day attitude or related behaviour (ibid.). One way of describing this might be that their System 1 thinking may be dominant in their day-to-day life, but they make decisions closer to what they would like to see themselves when they can master System 2 thinking. However, it is important to note that the survey is interested in the value people place on things, not in how they act on a day to day basis. There is a well-documented 'value-action gap' (e.g. (Blake, 1999). In other words, people often do not act in accordance with what they know or care about. The value-action gap suggests that behaviour is not always preceded by deliberation,

most notably in the case of habits (Vliet et al., 2005). The existence of the value-action gap does not mislead us as to how important things are to people; indeed, it is all but irrelevant in this context. The purpose is to produce data that would inform the development of a measure of social value, therefore it should represent an idealized version of how we would like to world to be, not how it is. It should appeal to our best interests, the decisions we would make if we employed System 2 thinking all the time. It should encourage us to plan and think long-term to apply our logic and concentration to decisions that we make. An important distinction here is that the questions are not asking people to report on how they behave or how much money, education or friendships they have, simply to report on how important they are.

We may want such measures to adopt a paternalistic role and play to our better instincts. It is not often that people are given an opportunity to express their values in a reflective way. With the exception of voting, it is difficult to think of examples of where our System 2 thinking is given voice. Smaller everyday decisions – what we eat, how we drive, what we buy, whether we exercise – these are more likely to be dominated by System 1. We may want to be more altruistic, more economical, healthier, more community-spirited and environmentally friendly but our System 1 decisions may mean we make decisions that diverge from these values. A survey of this kind may provide an opportunity for System 2 thinking to override System 1. A measure of social value should provide a framework to encourage more System 2 thinking. The mirror it holds up to society should be an aspirational one. This is a key argument in this research and will be returned to in Chapter 10 as part of the conclusion.

Bergman (1998) provides guidance on measuring attitudes and values. For attitudes, he recommends understanding the subject matter and its context well to interpret respondent's answers. He argues for allowing granularity in response options, rather than simple binary responses. For values, he recommends looking for attitude and behavioural patterns. These can be decided a priori or sought in the data. He recommends aggregation and analysis of patterns in the data such as comparison between groups of value statements. Both approaches have been followed. First, all responses have been structured on a rating scale. People are asked to rate how aspects of their life contribute towards their happiness and to rank a similar set of indicators according to their appropriateness to a national measure of social value. The rating approach has allowed for a more complete list and for the inclusion of negatively framed questions. It also allows people to ascribe equal importance to all attributes if they so wish. In addition, the questionnaire consists of almost entirely closed questions which enable aggregation, statistical analysis and comparisons between clusters of value

statements. There is some controversy as to whether rating or rankings are more appropriate for value researchers. However, Maio et al. (1996) present evidence that rating scales provide a higher level of validity.

A final relevant point relates to the changing nature of values and attitudes over time. For example, Johnson (2002) found that adolescent's values become more realistic as they age and that their aspirations become more limited through experience with the adult world. It has been suggested that more research is needed on the longitudinal nature of values and what the determinants of those changes are (Roberts et al., 1999). This is particularly relevant in Ireland, which has undergone massive social and cultural change in the past 30 years. The survey has taken account of this by asking people about how they consider their values and the values of others to have changed over time. The responses to this will be discussed later in the chapter. Next, I discuss the levels of measurement employed in the survey.

7.2.2 Interval data and levels of measurement

There is a debate in the literature as to whether interval data should be interpreted as categorical or continuous.[46] Some researchers interpret interval data as ordinal and therefore suitable for parametric tests. If interval data are interpreted as categorical, parametric tests are not appropriate (e.g. it is not meaningful to talk about an average hair colour, or an average levels of education) (Jamieson et al., 2004). On the other hand, researchers often consider Likert scales, where respondents are given fewer options to choose from than a 10-point scale, as continuous data (e.g. Lubke and Muthén, 2004).

In some ways, the data gathered as part of this research could be considered continuous; there are many points on the scale - a minimum of five is sometimes recommended[47] and there is an intrinsic ordering of the levels of the categories. However, there is a concern over whether the differences between the category levels are mathematically meaningful. We cannot be sure that someone who values a variable at 4 values it by half the amount of someone who values it at 8. Whilst we can say that mental health is more important to the sample than church attendance, we cannot say that it is almost three times as important because it is not clear that respondents would interpret the scale in this way.

The data are therefore defined as ordinal and the appropriate test of difference – Chi Square – has been chosen to see whether there are differences in responses between

---

[46] http://www.ats.ucla.edu/stat/mult_pkg/whatstat/nominal_ordinal_interval.htm

[47] http://www.theanalysisfactor.com/can-likert-scale-data-ever-be-continuous/

groups. However, due to this being a subjective decision, I have also compared means using independent t-tests (appropriate for continuous data) and reported on any notable differences. The results of the t-tests are included in Appendix 2.

7.3 Operationalising the social value index

The second part of the primary research is the design of the index of social value. This takes the findings from the survey and uses them to inform the choice of indicators to include. The results of this will be discussed in Chapter 8. Here, I describe the statistical technique that were used and the assumptions that underpinned it.

7.3.1 Principal Component Analysis

Principal component analysis (PCA) is a type of multivariate analysis that shares many similarities with Exploratory Factor Analysis (EFA) (Joliffe and Morgan, 1992). Whereas EFA is concerned with finding a latent concept that is being measured by the data, PCA is concerned with reducing the number of variables in a dataset to its principal components. The purpose of this stage of the research is to do both – identify a latent structure for well-being – and reduce the number of variables. However, as the variables are already based on things that have been shown to have an empirical relationship with well-being, the latter objective was considered most important and PCA was chosen as the preferred methodology. Although PCA and EFA should not be mistaken as the same statistical method, in practice the results are often very similar.

PCA reduces a larger set of variables into a smaller set of 'artificial' variables, called 'principal components', which account for most of the variance in the original set of variables. The new set of variables are uncorrelated and are ordered by the fraction of the total information each retains (the greater the variance, the higher the principal component). It is recommended that multivariate techniques like PCA are used in the process of building an index (Nardo et al., 2005). PCA should enable greater parsimony without a great loss of information.

In this dataset, there is a large number of variables which are all measuring the same underlying construct (e.g. the things in life that contribute to well-being). By applying PCA it is possible to test whether the variables 'load' onto all the variables or just some of them and whether there are superfluous variables that can be removed from the analysis.

7.3.4 PCA Assumptions

Like any type of statistical analysis, PCA has assumptions that underpin it and several tests were run to assess the 'factorability' of the data. First, PCA is based on the Pearson correlation coefficient, so it assumes linearity in the data. However, PCA is also often

applied to ordinal data, as it is with this dataset. In practice, therefore this assumption is somewhat relaxed. Second, PCA requires a large enough sample. Tabachnick and Fidell (2001, p. 588), cite Comrey and Lee's (1992) advice regarding sample size: 50 cases is very poor, 100 is poor, 200 is fair, 300 is good, 500 is very good, and 1000 or more is excellent. As a rule of thumb, a minimum of 10 observations per variable is necessary to avoid computational difficulties. Once missing data are excluded the sample in this research totals 314 observations, which is in the 'good' range. The Kaiser-Meyer-Olkin (KMO) test can be used to test for sampling adequacy. The KMO for this analysis was .84, which is above the recommended minimum of 0.6 (Kaiser, 1974).

Third, the data should be suitable for data reduction i.e. there needs to be adequate correlation between the variables. A simple strategy is to visualize the correlation matrix. If the values outside the main diagonal are often high (in absolute value), some variables are correlated; if most of the values are close to zero, the PCA is not really useful. Due to the large number of variables, it is difficult to assess this conclusively using this method. However, a correlation matrix did reveal reasonably high correlations between some of the variables (as high as 0.59) and clustering around themes such as the quality of public institutions and mental health. The Bartlett's test of sphericity tests this assumption statistically. The results were significant (Chi-square=7692; p=0.000). As these conditions were met, all 38 variables were included in the model.

7.4 Conclusion

In this chapter, I have introduced the conceptual framework and the principles that underpin it in more detail. Specifically, I have argued for a) high levels of transparency achieved through clear theoretical framework, endorsement by stakeholders and a clear methodological exposition, b) a focus on ends rather than means, c) combining subjective and objective data and d) prioritising the specific over the universal. The final principle runs counter to the aims of other synthetic indices such as the Human Development Index. I have argued here that this enables my index to be a more successful guide to policy, a discussion I will return to in Chapter 10.

The second part of this chapter provides some further detail on how I operationalised the two parts of the primary research. First, I described some of the issues relating to the measurement of attitudes and values. I showed how this literature informed my decisions around the design of my survey. I also reflected on the role that an index should play by appealing to our better instincts and by holding up a mirror of how we would like to be, rather than how we are. I employed Kahneman's System 1 and System 2 Thinking to explain this further. I argued that such a way of deciding what matters in life should

encourage people to engage System 2 thinking, which in itself overcomes Kahenman's critique of decision-making more generally. I also provide some empirical evidence for this by way of the 'value action gap', which suggests that behaviour is not always preceded by deliberation and were it to be actions may conform more to expressed values.

I then go on to describe how I operationalised the index development. I discuss the choice of the Principal Component Analysis technique to reduce my list of variables. I conclude with a discussion of the assumptions that underpin it and demonstrate how they were consistent with the objectives of my research. In the next chapter I present the findings of the two parts of the primary research.

Chapter 8 Findings from the survey and index development

8.0 Introduction

In this chapter I present the results from the primary research and analysis. There are three main research questions that it seeks to answer:

1. What do people in the Republic of Ireland value?
2. What are the indicators of the outcomes that people value?
3. Can these indicators be incorporated into an index of national social value?

In addition, this chapter seeks to answer the following sub-research questions.

1. What level of income do people think they need to earn to be happy?
2. Is there evidence that there has been a shift in the things people value over time?
3. How do subjective views on climate change fit with the conceptual framework and the theory of quasi-strong sustainability that underpins it?
4. Do demographic factors such as gender, age and religion influence the way in which people value things?
5. Is there any evidence of a relationship between holding more materialistic values and self-reported well-being?

I begin by reporting on how people rated different aspects of their lives in terms of how they contributed to their well-being. This includes their responses to questions on the level of income that they need to be happy, whether they believe their values have changed over time, and whether they prioritise environmental concerns. I also test whether there are statistical relationships between value orientation and a) demographic variables and b) self-reported well-being.

In the second part of the chapter I focus on the findings from the index development. I first describe the findings from the PCA analysis and the outcomes that were selected for inclusion. I then identify indicators for those outcome areas. Due to a lack of time series data on those indicators, I stop short of aggregating the index. Instead, I set out the ways in which this could be done to be consistent with the conceptual framework with an emphasis on weighting i.e. determining the value of different dimensions relative to each other.

8.2 Findings from the survey

8.2.1 What people value

The first set of questions in the survey (1-9 and 11) are designed to ascertain which aspects of life people consider most important for their well-being. In total, respondents

were asked rate 68 indicators of well-being on a scale of 1-10 depending on the extent to which they enhance or limit their happiness (see Appendix 6 for a copy of the survey). These are grouped into themes, or areas of life such as health, time, relationships etc. In total, there were 510 responses to this set of questions. The response rate varied from 72% (n=362) to 84% (n=422). The means have been calculated and Tables 8.1 and 8.2 show an ordering of the results in Stata. For the positively phrased questions a high score means it is considered important for enhancing well-being. For the negatively phrased question a higher result means that it limits well-being.

Table 8.1: Ordering of the means from the positive phrased questions

Mean estimation		Number of obs = 362		
	Mean	Std. Err.	[95% Conf. Interval]	
Mental health	9.323204	0.071773	9.182059	9.46435
Friendships	8.972376	0.087552	8.8002	9.144552
Feeling life is worthwhile	8.936464	0.089275	8.7609	9.112028
Physical health	8.930939	0.077814	8.777914	9.083964
Self-concept	8.814917	0.082275	8.65312	8.976715
Control over life	8.732044	0.094499	8.546206	8.917883
Having enough time	8.687845	0.08632	8.518092	8.857598
Spending time with family	8.627072	0.112115	8.40659	8.847553
Living in a democracy	8.624309	0.108305	8.411321	8.837298
Social equality	8.621547	0.098703	8.427441	8.815653
Being a 'good' person	8.593923	0.089778	8.417369	8.770476
Area you live	8.58011	0.091837	8.399508	8.760713
Direction in life	8.546961	0.096053	8.358067	8.735856
Enough to live comfortably	8.502762	0.103152	8.299908	8.705617
Quality public services	8.417127	0.094459	8.231368	8.602886
Having a nice house	8.325967	0.104809	8.119854	8.53208
Educated society	8.323204	0.097926	8.130627	8.515782
Social mobility	8.171271	0.111456	7.952087	8.390455
Unpolluted environment	8.146409	0.111999	7.926157	8.366661

Work satisfaction	8.140884	0.121772	7.901412	8.380356
High levels of trust	8.127072	0.109053	7.912612	8.341532
Good working conditions	7.914365	0.127618	7.663396	8.165333
Connection to local area	7.861878	0.117528	7.630753	8.093004
Physical activity	7.665746	0.101434	7.466271	7.865221
Having a partner	7.593923	0.149104	7.300702	7.887143
Having a job	7.571823	0.143276	7.290063	7.853583
Having children	7.41989	0.163424	7.098507	7.741272
Income equality	7.383978	0.139624	7.109399	7.658556
Third level education	7.339779	0.163026	7.019179	7.660379
Institutional trust	7.212707	0.147901	6.921852	7.503562
Life expectancy	7.085635	0.127498	6.834903	7.336368
Rising life expectancy	7.066298	0.13553	6.799771	7.332825
Completing education	6.947514	0.174384	6.604578	7.29045
Many social connections	6.850829	0.135291	6.584772	7.116885
Good welfare state	6.674033	0.141039	6.396671	6.951395
Access to culture	6.651934	0.149484	6.357965	6.945902
National pride	6.323204	0.161185	6.006225	6.640183
Being married	6.044199	0.191398	5.667804	6.420594
Can afford same as others	5.964088	0.163479	5.642597	6.285579
Being healthier than others	5.726519	0.156285	5.419175	6.033864
Community/voluntary work	5.58011	0.152525	5.280161	5.88006
Organisational membership	5.226519	0.167202	4.897706	5.555332
More time than others	5.121547	0.154184	4.818336	5.424758
Rural location	4.881215	0.181478	4.52433	5.238101
Doing better than others	4.414365	0.168034	4.083917	4.744812
Having belief in deity	4.345304	0.199781	3.952423	4.738185
Being wealthy	4.337017	0.149759	4.042508	4.631525
Nicer house than others	3.814917	0.15849	3.503238	4.126596
Earn more than others	3.560773	0.156658	3.252697	3.86885

| Religious services | 2.342541 | 0.167113 | 2.013904 | 2.671179 |

Table 8.2: Ordering of the means from the negatively phrased questions

Mean estimation		Number of obs = 422		
	Mean	Std. Err.	[95% Conf. Interval]	
Family are sick	8.251185	0.134404	7.986998	8.515372
Struggle financially	7.93128	0.129273	7.677178	8.185381
Dislike job	7.793839	0.138766	7.521078	8.0666
Indebtedness	7.601896	0.138239	7.330171	7.87362
Being lonely	7.592417	0.141235	7.314803	7.870031
Unemployed	7.490521	0.150563	7.194572	7.78647
Overcrowding	6.917062	0.154923	6.612542	7.221581
Commuting	6.395735	0.141812	6.116986	6.674483
Poor health	6.187204	0.15136	5.889688	6.484719
Poor transport	6.184834	0.142222	5.905281	6.464388
Disamenities	5.978673	0.159024	5.666094	6.291252
Others better job	5.462085	0.150478	5.166304	5.757866
Others more time	5.21327	0.146188	4.925921	5.50062
Others better life	4.93128	0.159593	4.617582	5.244977
Being a carer	4.49763	0.150039	4.202711	4.79255
Others earn more	4.452607	0.150134	4.157501	4.747713
Others better house	4.367299	0.148958	4.074504	4.660093
Live in city	4.018957	0.154482	3.715305	4.322609

As we can see from these tables, the areas that people tend to value most highly are mental health, relationships, health, their self-concept (how they feel about themselves and their lives) and the quality of society the live in. The things that they value least could be described as broadly materialistic values such as being wealthy, and competitive values such as being healthier than others. There are a few exceptions to this. Apart from valuing 'feeling comfortable' people tend to emphasise their living arrangements as being important to their happiness, particularly having a nice house and area to live in. These findings suggest a strongly postmaterialist sample. In Chapter 7, I discussed the

risks with biases in how people respond to such questions, the so-called 'value action gap'. I return to this again in 8.2.3 when I discuss other evidence for postmaterialism in the survey results.

There are other anomalies here as well. Some activities, which are often recommended for inclusion in an index of well-being such as engagement in voluntary or community work (Colman, 2003) received low scores. Other activities that we would expect people to value, given the literature on their contribution to our happiness such as religion (see Chapter 5) also received low scores. This may be related to a bias towards non-believers in the sample, however whilst the relative position of religion and religious services increased when sampling weights were applied, both remained quite close to the bottom of the ordering. This will be explored further in the statistical analysis later in the chapter.

People's rating of negative determinants of well-being seems to be consistent with this (Table 8.2). Respondents tend to think that factors that relate to health, financial stress, indebtedness and relationships are detrimental for their well-being, with relative or competitive factors receiving a low score.

As discussed in Chapter 5, this seems to be broadly supportive of what has been found in the secondary literature to be good for our well-being. If this were to be replicated on a larger scale, it would suggest that people demonstrate logical and informed decision-making consistent with the System 2 approach. This may have related to the way in which the questions were phrased i.e. setting out that the purpose was to engage people in a discussion about what matters in life to build an index of social value We could potentially conclude that people appear to 'know' what is good for them, following reflection, irrespective of whether they are prioritising those things in their day-to-day life.

In Chapter 5 I discussed the importance of relative measures of welfare to people's well-being. Although it is still an under-researched field, there is some evidence that people tend to care less about being poor, unemployed, or lonely when others are poor, unemployed or lonely. However, there was no support for this in my survey, where people gave low scores to all questions that asked them to judge their lives relative to others e.g. earning more than other people. Further research e.g. using experimental, or qualitative designs might contribute here as they are less at risk of being influenced by cognitive biases.

8.2.2 Identifying an income threshold?

As mentioned in Chapter 4, there have been several attempts to capture the level of income beyond which returns to well-being diminish. These have varied from $15,000 globally to $75,000 in the US (Kahneman and Deaton, 2010; Layard, 2003). In Ireland,

a threshold level of income has also been calculated (a gross household income of €57,900), after which returns to wellbeing from higher income rapidly diminish (Brereton et al., 2008).

In this survey, respondents were asked to suggest the level of gross household income they feel they would need to be happy. The options were presented in income bands and therefore the data are therefore categorical. It is not possible therefore to calculate measures of central tendency. However, there was a wide range of responses (see Figure 8.1). The income band most commonly selected was €80k-€90k.This is substantially higher than the mean household income of €56,500 (Collins, 2013). In fact, this level of income puts them on average in the top 20% of earners in Ireland (Healy, 2016).

Figure 8.1: Bar chart of gross household income beyond which people think their happiness would not be increased
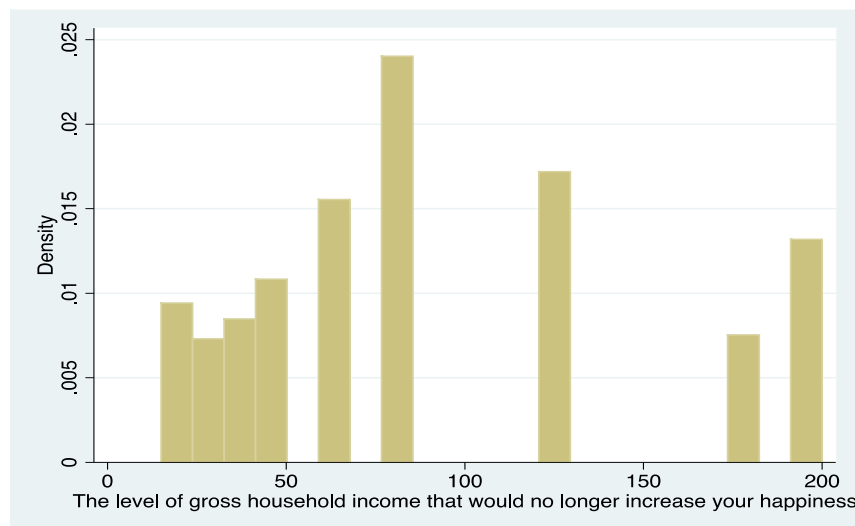
It is important to note that, whilst respondents were not asked to report on their income bracket, due to the levels of higher educated and professional workers, the average income of the sample is likely to be high. It was not possible to weight the sample for occupation in the poststratification due to a lack of data, and the results are therefore likely to be skewed towards higher income groups. I tested the extent to which there was a relationship between occupation and the level of income that respondents reported requiring and this was statistically significant in a Chi Square analysis (Chi2 = 27.3, Pr=.03). I did this by recoding occupation into three categories of unskilled, skilled and professional. The results of the crosstabulation are presented in Table 8.3. This suggests that more highly paid workers think they require a higher income to be happy. This would

support the assumption that the high number of professional respondents is likely to have skewed the findings on income.

Table 8.3: Crosstabulation of income and occupation

Income band	15	25	35	45	65	85	125	175	200	Total
Occupation										

Professional	8	8	9	19	32	53	30	11	20	190
Non-manual	10	6	10	8	9	19	18	9	12	101
Manual	5	6	7	5	4	6	5	5	4	47

Total	23	20	26	32	45	78	53	25	36	338

It is important therefore not to overstate the importance of this figure within the overall research. In addition, there are limitations to asking people directly about the level of income they require to be happy. As described in Chapter 5, a major feature of the research on income and happiness is that as people's incomes rise habituation or a 'wearing off' effect takes place where expectations rise and the utility from the additional increases in income is lost as happiness levels return to the baseline. Studies that use regression analysis to compare people's actual self-reported levels of happiness and their income, such as the research by Brereton et al. (2008) quoted earlier, may be a more reliable way of identifying where marginal utility from increased earnings starts to diminish.

8.2.3 Evidence for temporal changes in the things people value

Consistent with the recommendations for the measurement of values, the survey also asked people about how they perceive both their own values and the values of those around them to have changed over time. This is particularly important in Ireland, which has undergone huge social and cultural shifts in past 20/30 years. This has accompanied changes in economic fortunes but is not necessarily symptomatic of that. It is worth summarising these changes here by way of context for the findings:

- **Mass emigration to net immigration.** In the late 1970s 1 per cent of the population emigrated. By 2006 10 per cent of the population was foreign born and this had increased to 17 per cent in the 2011 Census. There was also a wave

of returning migration by Irish people who left in the 1980s during the 1990s and 2000s, resulting in net inward migration (see Figure 8.2).

Figure 8.2: Net migration 1987-2013
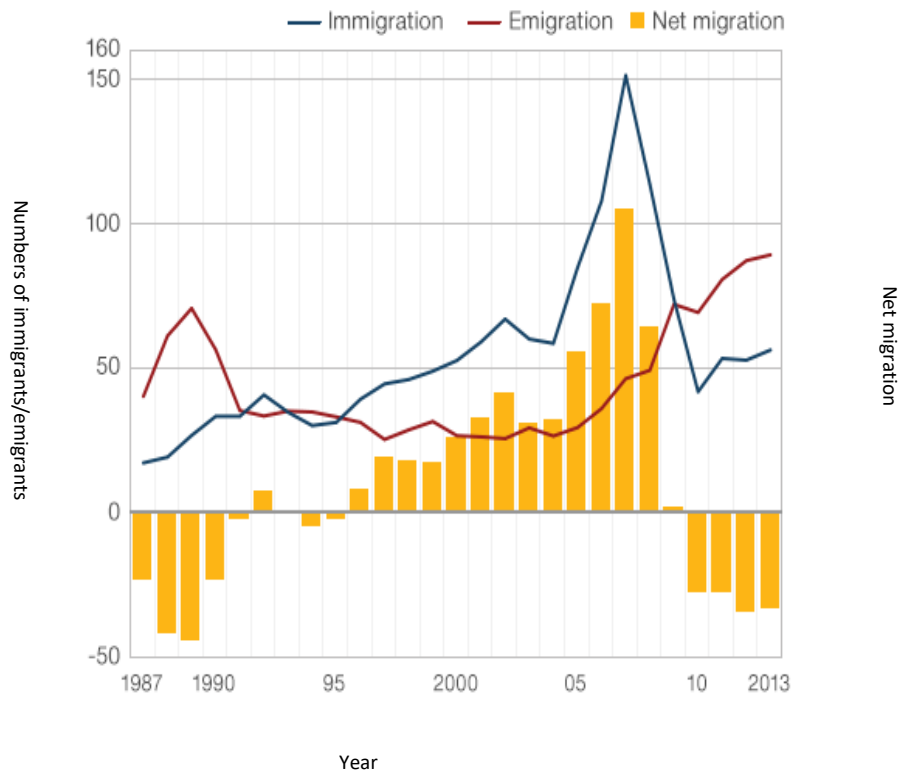
Source: Central Statistics Office (2011)

- **Cripplingly high unemployment to full employment.** There were 1.2 million people in employment in 1994 and this had increased to 2.1 million by 2007, whereas the unemployment rate fell from 16 per cent in 1994 to 4 per cent by 2000 where it remained until 2007. The long-term unemployment rate fell from almost 11 per cent in the 1980s to just over 1 per cent over the same period.

- **Incomes**. Real household incomes adjusted for size and composition increased by 116% during this period. The National Minimum Wage, which was introduced in 2011, effectively underpinned the earnings distribution with the lower part of the distribution keeping pace with the median (Voitchovsky et al., 2012).

- **Cessation of the Northern Ireland conflict.** After thirty years of sustained conflict, a change in the constitutional claim over the territory by the South helped pave the way for the Good Friday Agreement, which was signed in 1998. This led to a cessation in conflict and a largely effective peace process, which also had social and economic implications south of the border.

- **EU integration and the introduction of the Euro.** Ireland consistently reports higher than average levels of satisfaction with the EU. Support for treaty changes has been in decline in constitutional votes and there is some evidence of a shift in attitudes, nonetheless, EU membership has been a defining feature of Irish social and economic life in the past four decades. It has also been symbolic of a more outward looking country and a move away from its historical relationship with Britain.

- **Fall in religious observance.** Although belief in a deity and membership of organized religion (predominantly Catholic) are still very high, there has been a dramatic fall in church attendance. Between the 2006 and 2011 Census the numbers stating, 'no religion' almost doubled, albeit from a low base (186,000 to 269,000). This was most marked in the 25-29 age group.

- **Introduction of divorce.** Divorce was legalized in a referendum in 1995 and the divorce rate rose steadily to 9.2 per cent by 2011. Although low by European standards, this should be seen in the context of there being no legal provision for divorce at the beginning of this period

- **Female participation in the workforce.** Employment for women rose from 40 per cent of the workforce to 60 per cent. Again, this is low by European averages, but is still a 50 per cent increase in a short period of time. The fertility rate fell from 3.23 to 2.1 by 2008 (1.38 2011 census)

- **Expansion of higher education.** The period saw an increase from 20 per cent in 1980 to 44 per cent in 1998 to 55 per cent in 2004. This included increases from across all social class groups but was most marked for professional groups, which went from about 50 per cent to near saturation.

- **Change in voting patterns.** A further dramatic change in the social structure was the decline in support for the Fianna Fail party, which had a hegemonic influence over Irish political life since the foundation of state (see Chapter 6). In 2011, its share of the vote was 17.4 per cent, which was half of its share in the previous election. The gap was mainly filled by Sinn Féin and other left-wing parties which saw their seats increase from 5 to 20 in the same election. It recovered its position somewhat in 2016 (rising to 24%) but this was still far from being able to form a government.

- **Changing traditional values.** Although abortion remains illegal, it has been liberalized through a series of constitutional changes and a new referendum seems likely. There have also been very dramatic changes in attitudes towards

homosexuality, most notably the passing of a referendum in 2015 to legalise gay marriage.

Although much of these changes might be seen as 'catching up' with other modern economies, the scale and pace of change was quite dramatic within a short space of time. Kitchen and Bartley (2007) describe Ireland as "unrecognisable" to migrants who left in the 1980s. We would expect, considering this to see this translate into changes in the things people value. The most recently available data on values in Ireland comes from the European Values Survey, a pan-European project that focuses on values relating to work, religion and lifestyle. Results from this have been analysed by Breen and Reynolds (2011) and show an interesting set of trends.

Whilst there has not been a marked fall in the number of people reporting a decline in belief in God, (97% in 1981 to 91% in 2008), there have been falls in the number of people reporting declines in belief in some of the major tenets of faith: heaven and hell, sin etc. The biggest fall however was in church attendance, which dropped from 82% to 44% in 2008. A survey by the Association of Catholic Priests (2012) found it to be 35% in 2011, whilst another survey from the same year found it to be 18% in Dublin and as low as 2% in some areas (Smyth, 2011). Breen and Reynolds summarise these findings as a pronounced church-oriented decline but a persistence of religious sentiment – most people still identify as Catholic[48]. Concepts such as belief without belonging (Davie, 1990), or cultural Catholicism (Inglis, 2007) are relevant here. As Breen and Reynolds (ibid.) point out that these levels of attendance are very high by European standards and the secularisation does not appear to have been accompanied by a major drop in the permanence in religious belief. Robust confidence in the church was at 50% in 1981 and fell to 20% in 2008. This has been accompanied by falls in trust in all institutions (excepting education). The church saw the biggest fall, but it started from a much higher base than say the press or parliament. Other commentators have argued the unusually high levels of religiosity north and south of the border is a legacy of the church's role in opposition to occupation by Britain (Maguire, 2002). Similarly, for Inglis, 'cultural Catholicism' is less about following rules and observance and more about shared heritage and bonding to a community (2007).

Analysis of the European Values survey also finds that on average Irish people see family as most important to them, followed by friends, leisure time, work, religion and lastly politics. This ranking has not changed dramatically over the period of social and

---

[48] The 2016 census found that Catholicism had dropped to 78%, whilst this has been falling with each census, it has not been falling dramatically.

economic change except for religion and work dropping at the expense of leisure. These rankings are very like rankings for other European countries, even for religion.

The survey for this research included questions on the extent to which people considered their own values to have changed and those of the rest of society. This question was asked in relation to the following:

- Religion,
- Immediate and extended families,
- Being in relationships,
- Marriage,
- Education,
- Employment and working conditions,
- Trust in institutions and other people
- Social and economic equality

In general, the evidence seems to paint a picture of a society where values and attitudes are perceived to be in flux. A second interesting finding is that there are large divergences in people's perceptions of how their personal / individual values have changed compared with society's values. Figures 8.3 and 8.4 show the results for just two responses: material things and family. As we can see, less than half of respondents believe that they value material things more (38%) but 72% believe that society values material things more. By contrast, twice the number of people think that family is more important to them than it is to wider society (Figure 8.4).

Figure 8.3: Comparison of respondent's perception of change in attitudes towards material things
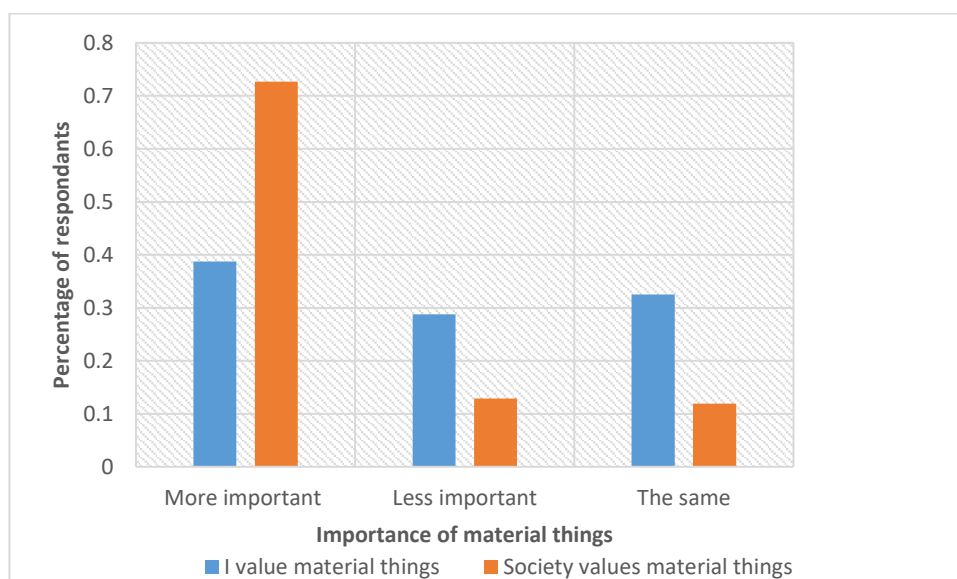
Figure 8.4: Comparison of respondent's perception of change in attitudes towards family
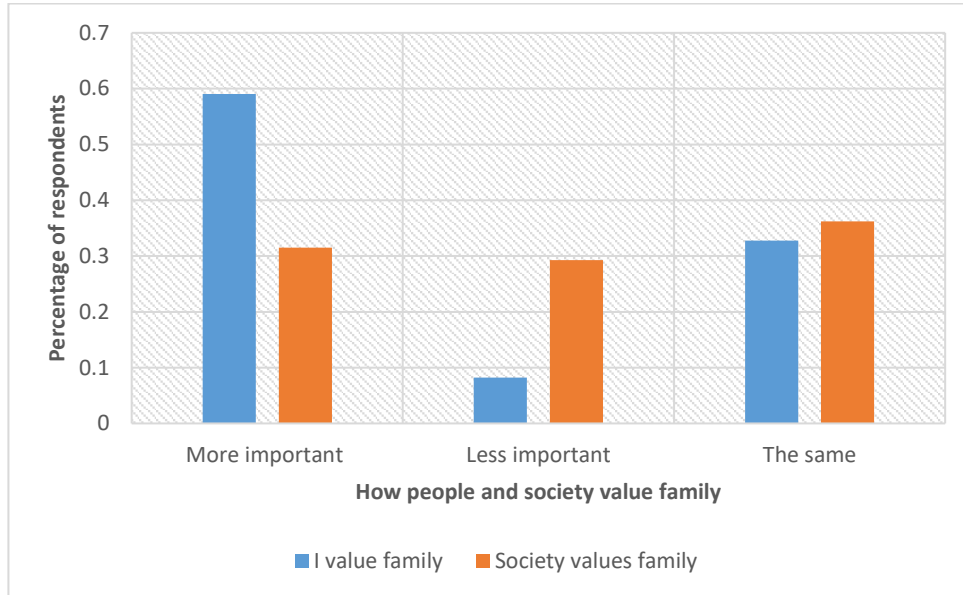
One area we see consistency between perceptions of society and self is religious values. Unsurprisingly, these are perceived to be less important for the individual and society in recent decades (Figure 8.5).

Figure 8.5: Comparison of respondent's perception of change in attitudes towards religion
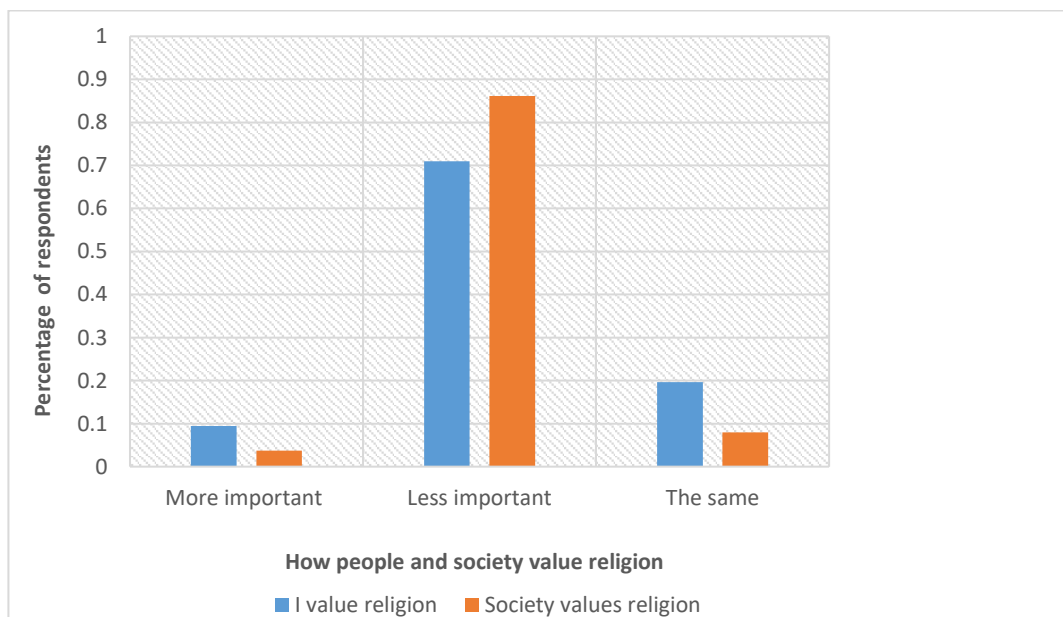
The remaining responses paint an overall picture of non-material factors becoming more important relative to material ones. As well as family, respondents place more value on

personal relationships (41%), education (60%) and working conditions (64%). Extended families (77%) are either more important, or the same level of importance, as is being able to trust institutions (85%) and other people (89%). Other areas were more equally split for example equality of pay where half of respondents thought it was more important and half less important to them. There are exceptions. The survey was carried out at the height of the financial crisis and unsurprisingly, having a job is more important to most respondents (64%).

If we take people as being more effective reporters on their own values than those of society, the data provide some support for Ingelhart's postmaterialist hypothesis (see Chapter 2). We see increases in the importance of family, extended family, education, the quality of work and leisure. However, employment and material things are still very important. This is thought to be more the case for wider society, so although people may feel themselves moving away from materialistic values, they do not think that society is moving with them. This might suggest that people have bought into the image of an atomised society brought on by advanced capitalism (Loyal, 2003) but in reality fewer changes to value systems – at least as reported by individuals themselves - have taken place than might be expected given the social upheaval. The decline in some postmaterialist values such as religion, marriage and so on is probably because of the parallel secularisation described above, rather than being causally related to the development process.

It is difficult to draw firm conclusions about the changes in values in Irish society either from this survey or other data. This is in part because of some contradictory findings and part because the changes are arguably still underway. Although there is a considerable amount of focus on the change in religion, there are fewer analyses of the social and economic changes in their totality and a full picture is yet to emerge. Whilst society does appear to be more fragmented with less clearly defined norms, people still appear to hold strong, consistent views in some areas such as the importance of family and a rejection of the church as a focus in their lives, as has been found in other research (Cassidy, 2002; Fahey et al., 2005). As with the other findings, the biases in the sample, especially around income and education are an important caveat here.

8.2.6 Attitudes towards the environment

Environmental issues are increasingly of importance to any person or organisation interested in the maintenance and promotion of human happiness. The European Union (EU) is committed to limiting the rise in global annual mean surface temperature to 2 °C above pre-industrial levels which means emissions must peak by 2020, and reduce by

at least 50% below their 1990 levels by 2050 (Pachauri et al., 2014). The primary EU policy instrument related to energy and climate change is the Climate and Energy package. This sets a series of targets to be met by 2020, known as the "20-20-20" targets. These are a reduction of GHGs to 20% below 1990 levels, 20% of energy to come from renewables and 20% reduction in primary energy through energy efficiency.

Public opinion on climate change poses a challenge for participative or inclusive approaches to policy-making, including the setting of goals and priorities. There is not a lot of comparative data on attitudes towards climate change but a Gallup poll from 2007-8 found that there was 94% awareness of climate change in Ireland, that 66% believed it was a result of human activity and 60% that it was a personal threat (Pelham, 2009). This was the 4th highest in Europe for belief in anthropogenic climate change.

Nonetheless, contrary to what we might expect from a sample of people with postmaterialist values, the responses to this survey were not suggestive of strong support for robust environmental policy. Living in an unpolluted environment ranked 21 out of 50 positively phrased questions in the survey. People also ranked living close to disamenities (e.g. landfill, airports etc.) in the bottom half of the negatively phased questions. These are the kinds of environmental concerns that people tend to feel most strongly about (i.e. local environmental impacts as opposed to climate change) yet they were not very highly valued in comparison to wider social and personal concerns. In addition, respondents were asked to rank the extent to which governments should be concerned with 'present and future conditions of the environment' i.e. the extent to which it should be a policy priority irrespective of personal impact. This did not receive very strong support either. It was ranked 11 out of 20 and received about half the overall score of either employment or health. This low level of environmental concern is particularly notable given the bias in the sample towards more highly educated people who tend to be most supportive of environmental policies (Cleary and Rhead, 2013).

These results are difficult to interpret but there are a few possible explanations. First, these results may simply reflect the fact, as has been found elsewhere, that the environment is not a big concern for people relative to other things (Lorenzoni and Pidgeon, 2006; Lorenzoni et al., 2007). The survey was conducted at the height of the recession in 2012/13 when environmental concerns were low on policy agendas worldwide. Poortinga and Pidgeon (2003) have found that in the context of other, more immediate or tangible concerns (e.g., health, finances), climate change takes a low priority. Either way, the data show that respondents do not see environmental issues as integral to their well-being as other social determinants.

8.2.4 Values and demographic factors

Several factors have been identified, which influence people's attitudes or value-formation. These include temperament (Roccas et al., 2002), race, gender, family influence, religion and nationality (Hitlin and Piliavin, 2004). Some of these – nationality and race - are not relevant here to due to the homogenous nature of the sample. Others – temperament or family influence were not elicited by the survey. This section looks therefore at the extent to which the remaining demographic variables - religion and gender - are related to different types of clusters of attitudes or value-orientations. These are discussed in the next two sections.

8.2.4.1 Gender and values

An assumption underpinning feminist economics is that the methods, models and measurement applied in mainstream economics are biased towards masculine preferences (Ferber and Nelson, 2003). This is epitomised by GDP/GNP measurement, and many of the wider feminist critiques of economics - normativity, the exclusion of non-market activity, the impossibility of interpersonal comparisons of utility, the fixed and exogenous nature of preferences – are also relevant here. This was the subject of Marlyn Waring's groundbreaking book *If Women Counted* (Waring, 1988), in which she argued that women's work and the environment were systematically excluded from what counts as the productive environment.

A central critique of national measures of social value discussed in Chapter 2 is that unpaid work – domestic labour, child-raising, family life – are absent. Indeed, engaging in unpaid labour is often treated as an opportunity cost because of foregone productivity. These also happen to be things that have been traditionally associated with women's roles. Waring was critiquing the way in which the things that women traditionally valued (or were valued for) were not counted and therefore did not count / have weight in policy. There is a potential tension here for feminists who have long argued for a value to be placed on traditional female roles, whilst also promoting greater sharing of domestic and care work and better opportunities for women in the workplace. Feminist economics resolves this by valuing the contribution made in the private sphere to public life. For example, by treating children and future generations as a public goods, this has the potential to raise the status of this type of work and recast parenting as a valued public service. For this to happen in a meaningful way, it would require counting the unpaid contribution to ensure that both parents had the flexibility and support to care for their children, carry out domestic chores and participate in the workforce. This approach has been more influential in countries such as Norway, which makes greater investments in

supporting families and childcare. It is interesting that these investments generally correlate with high female participation in the workforce, more women in senior roles, fewer sexist attitudes and high labour productivity (Rønsen and Sundström, 1996).

It does appear that women also value non-financial benefits in work more than men do, whether they relate to valuing more altruistic types of labour (Eccles, 1994; Konrad et al., 2000; Marini et al., 1996; Johnson, 2001; Cinamon and Rich, 2002), or opportunities to combine work and family life. There is a tendency for example for women to forgo income and career opportunities and accept lower paid jobs, more part-time work and careers that are compatible with family life (Nieva and Gutek, 1981; Waldfogel, 1997, 1998; Alksnis et al., 2008).

Other research on differences in male and female values has focused on political orientation and support for socially compassionate policies. This so-called 'gender gap',[49] has received most attention in the US, which has seen women voters shift away from support for conservative, family-values parties in the post-war era towards long-term and consistent support for left-leaning parties (Inglehart and Norris, 2000; Edlund and Pande, 2002), and similar trends have been observed in other developed economies (Abendschön and Steinmetz, 2008). Across Europe, women are less likely to vote for populist radical right-wing parties (Immerzeel et al. 2015). There is also evidence of a gender policy gap in the US where women favour policies that are more associated with the left such as being anti-war and sensitive to humanitarian projects (Eichenberg, 2002), gun control (Goss, 2010), an end to capital punishment (Boots and Cochran, 2011), and support for the provision of social protection (Eagly et al., 2004). Female politicians have been found to support more post-materialist values (Vanderleeuw et al., 2011), and to be associated with higher levels of spending in areas such as health (Mavisakalyan, 2012). Gender gaps have also been reported in environmental attitudes (Bord and O'Connor, 1997; Fox and Firebaugh, 1992; Stern et al., 1993; Zelezny et al., 2000), materialist attitudes, compassion and meaning in life (Beutel and Marini, 1995), intrinsic values (Schwartz and Rubel, 2005), attitudes towards nuclear power (Solomon et al., 1989), attitudes towards bribery (Swamy et. al. 2000), attitudes to religion, (Miller and Hoffmann, 1995; Miller and Stark, 2002; Freese, 2004) altruism, (Simmons and Emanuele, 2007) and willingness to engage in unethical behaviour (Betz et al., 1989).[50]

---

[49] A gender gap is the difference between the attitudes, interests, or preferences of men and women in a given context.

[50] These studies are not always conclusive and some studies have not found these relationships (Rokeach et al, 1973; Struch et al., 2002; Prince-Gibson and Schwartz, 1998).

A hypothesis that runs through much of this research is that many gender gaps can be explained by differences in risk tolerance. Most studies of risk tolerance find a lower tolerance for risk amongst women than men (Byrnes et al., 1999; Croson and Gneezy, 2009; Eckel and Grossman, 2002; Finucane et al., 2000). It has been argued that short-sightedness, or tolerance of risky behaviour can explain many of these relative differences, with relationships being found between risk tolerance and environmentalism (Bord and O'Connor, 1997) religiosity (Miller and Hoffmann, 1995; Miller and Stark, 2002), criminality (Stark, 2002) and opposition to technological change such as nuclear power or biotechnology (Davidson and Freudenburg, 1996). Risk tolerance would also explain support for more collectivist policies, with women more attracted to a scenario where risks are pooled, rather than borne by individuals. It could be argued that collectivism is also a form of risk aversion; demonstrating a preference for greater social insurance and less of a willingness to 'go it alone'.

I tested the hypotheses advanced by this literature, that a) there are differences in the attitudes and values expressed by male and female respondents, b) that women will place a greater importance on non-material outcomes - relationships, family life etc. whilst men will place a greater emphasis on material outcomes, personal gain and success relative to others etc. and c) that there are differences in levels of well-being between men and women. As discussed above, these data are being interpreted as ordinal, therefore a Pearson Chi Square test was used to analyse the differences[51].

First, I tested the null hypothesis that there was no difference in male and female responses. What emerged was that women tend to rate almost all outcomes as more important to their wellbeing than men. The ones that are statistically significant are set out in Tables 8.4.

Table 8.4: Chi Square results positively phrased questions

Variable	P-value
Spending more time with family	Pr = .001
Importance of completing second level	Pr = .001
Importance of staying in education 18+	Pr = .057
Importance of friendship	Pr = .001
Having enough money to live comfortably	Pr = .046

---

[51] In this analysis, the assumptions of the Chi Square were adhered to. No less than 20% of the cells had a count less than 5 and no cell a count less than 1.

Importance of having a connection to a place or community	Pr = .001
Having a sense of national pride	Pr = .001
Equality of income	Pr =.017
Being a good person	Pr = .002
Being happy with yourself	Pr = .012
Having control over aspects of your life	Pr = .055
Having a sense of direction	Pr = .04
Living in a house you like	Pr = .01
Living in an area you like	Pr = .01

When the same test is carried out on the negatively phrased questions the following are found to be statistically significantly different (Table 8.5)

Table 8.5: Chi Square results negatively phrased questions

Variable	P Value
Family being sick	Pr = .02
Being in debt	Pr = .000
Struggling with finances	Pr = .002
Living in overcrowded conditions	Pr = .023

However, the analysis found no difference in actual self-reported well-being across any of the sub-domains for men and women. This is consistent with the wider literature, including for Ireland (Walsh, 2012).

For completeness, I also ran the analysis using parametric tests (independent t-tests) with broadly similar findings (see Appendix 2). The main difference in the results was that the difference between male and female responses was larger. Women valued more variables more highly than men and the p values were higher. Another potentially interesting finding was that there was one determinant that men valued more than women that was also statistically significant and that was marriage (one tailed, p=.04).

The reason why there is a tendency for women to consider these areas of life more important than men is unclear. A possible explanation is that the survey fails to capture

aspects of life that men value sufficiently well. Yet, the survey included was comprehensive and drew extensively on a large literature. This makes this an unlikely explanation. Another possibility is that the tendency for women to value these variables more highly than men relates to some difference in how women and men interpret the questions e.g. a willingness to select higher scores, or more certainty in relation to the things that matter to them. Neither can we rule out limitations with the sample as an explanation.

In terms of materialism, there was no support for the hypothesis that women are less materialistic. Table 8.6 shows a two-way table for gender and wealth, where the 9-point scale for wealth has been recoded into three levels of importance (1-3), not important, (4-6) somewhat important and (7-10) very important.

Table 8.6: Cross-tabulation of being wealthy by gender

Gender	Not important	Somewhat important	Very important	Total
Male	31%	38%	32%	144
Female	30%	37%	32%	253
Total	121	148	128	39

As we can see, the responses provided by men and women are very similar and were not statistically significant (Pearson chi2 =   0.0096   Pr = 0.995). There were similar results for the other materialist and relativist outcomes: men did not value them more highly than women. However, from the results of both sets of tests a picture does emerge of women caring more about family and friendships, being wary of getting into financial difficulty, valuing education, having a high self-concept and having roots in an area. This would chime with the gender differences in risk aversion discussed earlier (e.g. debt, having an education) and collectivism (friendship, family, community, equality). Although the findings show some support for the existing theory and evidence in the field this could only be concluded if repeated with a larger more representative sample.

8.2.4.2 Religion and values

The literature on values and religion generally finds a difference in values between the religious and non-religious (Clements and Spencer, 2014). A meta-analysis of the relationship between religiosity and values concludes that religious people tend to favour values that promote conservation of social and individual order and, conversely, to dislike

values that promote openness to change, autonomy, hedonism and to a lesser extent values that promote self-enhancement (Saroglou et al., 2004). One study found that amongst religious groups, church attendance, rather than denomination, is most important for determining value differences (Alwin, 1984).

I tested the hypothesis that there was a relationship between holding religious beliefs and type of value orientation in my sample. A Chi Squared analysis of the difference between those that have a belief in God (almost entirely Catholic in this sample) and the rest of the sample finds that they are more likely to consider traditional Christian values as important – church attendance (Pr = .00), having children (Pr = .003), social connections (Pr = .009), marriage (Pr = .000), belonging to an organisation (Pr = .00), spending time with family (Pr = .01). There were others that were also statistically significant that did not obviously fit with this trend such as physical health (Pr = .004), work satisfaction (Pr = .05), having more time than others (Pr = .02), being wealthy (Pr = 0.012), national pride (Pr = 0.000), having a nicer house than others (Pr = .041), living in a rural area (Pr = .025) and social equality (Pr = .04). The findings do provide some but not overwhelming support for the hypothesis that there is a relationship between religion and values. Again, due to the under-sampling of people with religious belief this analysis would need to be repeated with a larger sample.

8.2.5 Values and happiness

It has been posited for centuries that the prioritisation of non-material outcomes leads to a happier life. As discussed in Chapter 3, Aristotle saw the life of philosophical enquiry and the pursuit of knowledge for its own sake as the epitome of the good life. This has been supported by a number of academic studies (Christopher, Saliba, & Deadmarsh, 2009; Kashdan & Breen, 2007; Miesen, 2009). In particular, being highly materialistic leads to more negative feelings and less satisfaction with life domains (Christopher et al., 2009). Music (2014) collates data from scientific experiments over the past 40 years, with which he argues that more materialistic people tend to be less happy and remain so throughout their lives. One conceptualization of materialism is based on Self-determination Theory (SDT) (Kasser and Ryan, 2001, 1993; Ryan and Deci, 2000). This is an approach that contrasts 'intrinsic' life goals (such as self-acceptance or community feelings) with 'extrinsic' goals (e.g., financial success). According to SDT, intrinsic goals satisfy our needs for competence and autonomy, which bring fulfilment and pleasure. Extrinsic goals are guided by external influences, such as financial rewards, which frustrate and crowd out intrinsic goals (Kasser & Ryan, 1993).

Despite the evidence that holding overly materialist goals does not make us happy, they

are still ubiquitous in popular culture, and neither are they discouraged by public policy. One explanation for this is that the consumption of luxury goods does increase life satisfaction at least in the short run and particularly for those who report materialistic values (Hudders & Pandelaere, 2012); and that we become 'hooked' on the short-term gratification that this provides. In his book on consumerism in the US, Twitchell (2000) argues that it is materialism that provides our lives with meaning in the modern age. In addition, it acts as a social glue, replacing traditional forms of organisation, and that it is a signifier of who we are, where once this was conveyed by community, family or church (ibid.).

In Chapter 5, I concluded that whilst money is important for people's wellbeing, this is true only up to a point beyond which the relationship begins to break down, and the roles played by other determinants increases. Although material living conditions may be one of the greatest contributors to overall happiness this is not the case at higher levels of income. This section of the research looks at what the survey data tells about whether there is a relationship between the types of things people value and their SWB.

To answer this, I have looked at the respondents' evaluations of their own well-being and the extent to which this relates to their value choices. Such an analysis should provide an insight into whether there are differences in happiness levels between people with different sets of values. In Chapter 5, I set out the three indicators of well-being that I am using, which draw on research by the Office of National Statistics (Dolan et al., 2011). This approach covers questions on happiness, life satisfaction, feeling that life is worthwhile and anxiety.

Table 8.7 shows some summary statistics for responses to these questions. Although the data are being considered categorical for the purposes of statistical analysis, averages have been calculated to enable comparison with European data such as the European Quality of Life Survey, which also reports average responses to questions from ordinal data.

Table 8.7: Mean responses to SWB questions

Variable		Obs	Mean	Std. Dev.	Min	Max
Happiness		400	6.7775	2.467431	0	10
Anxiety		401	4.259352	2.971964	0	10
Worthwhile life		400	7.3125	2.216331	0	10
Satisfaction		401	6.820449	2.194922	0	10

Respondents scored the eudemonic question more highly (7.3) than the evaluative question (6.8), which is below the average for Ireland (7.4). This means the average of these two questions (7.04) fall short of the average for Ireland. We can see therefore that the SWB responses of the sample are lower than average for the Irish population on the EQL survey.

Qualifications and occupation are very strong proxies for income levels and due to the higher than average number of respondents with postgraduate qualifications and in professional jobs, it was expected that, if anything, higher levels of income would mediate higher SWB. However, these are unweighted means, therefore a possible explanation for this is that the sample is skewed in some other way, e.g. has a greater number of people in their 30s and 40s who tend to report lower than average well-being and fewer religious people who tend to have higher well-being.

8.2.5.1 Well-being and materialism

To explore the relationship between well-being and materialism, I carried out several statistical tests using the Ordered Probit model. Ordered Probit is a popular technique for analysing ordinal data. If the dependent variables were observed for all possible observations, the unknown coefficients could be estimated using Ordinary Least Squares. However, each of the dependent variables is discrete and takes one of the values 1, 2, ..., 10, and whilst ordered, I have concluded that these orderings are arbitrary and cannot be entered into a regression (see Chapter 7 for a discussion on levels of measurement). The Ordered Probit was used to test the relationship between all four measures of well-being and the value people placed on different types of determinants (broadly categorised as materialist and non-materialist). Other studies analysing the determinants of well-being have successfully used this model to estimate the well-being equation, see for example (Clark & Oswald, 1994; Frey & Stutzer, 2000; Helliwell, 2003; McBride, 2001).

The first step was to categorise the variables into materialist and non-materialist values. Only those that fitted clearly into one of those categories were included. Table 8.8 shows those that were included and how they were categorised.

Table 8.8: Categorisation of materialist and non-materialist values

Non-materialist	Materialist
Feeling like you are a good person	Being wealthy
Having self-esteem	Earning more than others
Feeling like you have control over your life	Being able to afford the same things as others
Having a sense of direction	
Feeling like your life is worthwhile	Having a nicer house than other people
Spending time with family	
Being in good mental health	
Participating in community or voluntary work	

To make the analysis more manageable the independent variables (values in Table 8.8) and the dependent variables (measures of SWB), were recoded into three categories indicating low, medium and high strength of agreement and low, medium and high SWB, respectively. This allowed for a simpler analysis (fewer categories to interpret) but it also improved the model by ensuring that there were sufficient observations in each of the recoded categories. Category 0 is the lowest and refers to answers in the bottom third, Category 1 is the middle range and Category 2 refers to the highest range. The base or reference case for each variable was always Category 0.

The following control variables were included:

- Ethnicity
- Employment status
- Job type
- Country of birth
- Age

Control variables were also recoded to remove categories with very few or no observations (e.g. different minority ethnic groups). Base cases for control variables were generally the category with the most observations. The results were calculated with and without weights. This section presents the findings for each of the models as well as for the demographic variables (Stata codebook and Do File and for the analysis in Appendices 3 and 4 respectively).

8.2.5.2 Feeling like life is worthwhile

Of all the measures, there is a stronger relationship between this measure and what people value in general. The non-materialist values – friendship, self-esteem, having control etc. – are all positively related (Table 8.9). The exception is participating in community and voluntary work, where there is a negative relationship. However, as explained earlier, contrary to theory and policy in this area, it does not feature strongly as an important outcome more generally in this research. It may be an example of an outcome that people do not value because they do not understand its importance to their lives, or it may be that they have no experience of it (participants were not asked whether they participated or not).

Table 8.9: Dependent Variable: How worthwhile do you consider your life to be?

Independent variable	P value with weights	Without weights	Base (reference) category
Ethnicity (2,3)	.05,.04	Insignificant	White Irish
Employment (2,3)	Neg. .004, .004,	Neg. .004, .005	Employed
Employment (4)	Neg. .046	Insignificant	Employed
Job type (2)	Neg .02	Insignificant	Professional
Age 3	.014	Insignificant	18-24
Age (4, 6)	.035, .003	.035, .003	18-24
Education (2)	.045	Insignificant	Third level
Comvolwork (1)	Neg. .03	Insignificant	Lowest
Friendship (1,2)	.04, .01	Insignificant	Lowest
Self-esteem (2)	.009	.003	Lowest
Control	.005	Insignificant	Lowest
Good person (1)	.002	.06	Lowest
Worthwhile (1.2)	.005, .069	013, .052	Lowest
Belief (1,2)	Insignificant	02, .065	Lowest

8.2.5.3 Life satisfaction

Similar relationships can be found for life satisfaction and values but with a slightly stronger relationship between some materialist values than we saw in the previous results (Table 8.10). For example, there is a relationship between valuing being wealthy at the medium level and being satisfied with your life (however not valuing it highly).

Table 8.10: Dependent Variable; How satisfied are you with your life?

Independent variable	P value with weights	Without weights	Base (reference) category
Ethnicity (white other)	.03	.036	White Irish
Employment (2,3)	Neg. .02, .007,	Neg. .007, .004	Employed
Employment (4)	Neg. .049	Insignificant	
Country (2,3)	.03, Neg .03	Insignificant	Born in republic
Age (2,5,9)	Neg. .001, .025. Pos .009	Insignificant	18-25
Mental health (1)	.006	Insignificant	Lowest
Nicer house (2,3)	.003 .003	.006 .005	Lowest
Friendship (2)	.04	Insignificant	Lowest
Afford same as others	Neg .058	Insignificant	Lowest
Others earn more	Insignificant	Neg .032	
Worthwhile (1,2)	.000 .000	.01 .061	Lowest
Relative time (2)	Insignificant	,044	Lowest
Wealthy (2)	.008	Insignificant	Lowest
Being healthier than others (1)	Neg. .01	Neg .01	Lowest

8.2.5.4 Happiness

There are fewer statistically significant relationships between the questions following the experience method than the other methods (Table 8.11). Feeling like your life was worthwhile is significant at both cut points and feeling like you are a good person is significant at the highest level. Mental health was also significant at both levels.

However, there is a negative relationship between valuing having direction in life and happiness. The relationship between a nicer house is repeated in the middle category (p=.003). There is also a negative relationship between placing the highest value on being healthier than others and being less happy yesterday.

Table 8.11: Dependent variable: How happy were you yesterday

Independent variable	P value with weights	P value without weights	Base (reference) category
Ethnicity (white other)	Insignificant	.042	White Irish
Ethnicity (non-white)	.023	Insignificant	White Irish
Employment (2)	.Neg. 044,	Insignificant	Employed
Employment (3)	.Neg. 003	Neg. .011	Employed
Religion (2)	.021	Insignificant	Active
Age (2, 6)	.002, .001,	Insignificant	18-24
Age (4,5)	.000 .001, 000	007 .02, .000	18-24
Men H (1,2)	.009, .06	Insignificant	Lowest
Nice house (2)	.003	.015	Lowest
Direction (2)	Neg .005	Neg. .021	Lowest
Good person (1)	.004	Insignificant	Lowest
Worthwhile (1,2)	.00 .00	.02 .001	Lowest
Belief (1)	.05	Insignificant	Lowest
Relative health (1)	Neg. .06	Neg .01	Lowest

8.2.5.5 Anxiety

Again, there are few significant relationships here, especially for the weighted sample (Table 8.12). Having any other ethnicity except being Irish is positively related to anxiety. A negative relationship is found between anxiety and religion. This suggests that people who are active church-goers report less anxiety than those who are affiliated but not active and those who do not believe in God. However, this is insignificant for non-affiliated people who believe in God. We also see higher levels of anxiety for people who value living in a nicer house and being wealthy, although the former is marginal.

Table 8.12: Dependent Variable; How anxious were you yesterday?

Independent variable	P value with weights	Without weights	Base (reference) category
Ethnicity (2)	.01	Insignificant	White Irish
Religion (3)	Neg .051	Neg..000	Active
Religion (2)	Insignificant	Neg .012,	Active
Age (6)	.05	Insignificant	18-25
House 1	Insignificant	.012	Lowest
House (2)	.01	,000	Lowest
Wealthy (1)	.053	Insignificant	Lowest
Belief (3)	Neg .001,	Neg. .002	Lowest
Belief (2)	Insignificant	Neg .03	Lowest
Direction (2)	Insignificant	Neg. .03	Lowest
Worthwhile (2)	Insignificant	.03	Lowest

8.2.5.6 Demographic variables

The findings for the demographic variables broadly reflect what we find in the literature on socio-economic determinants i.e. employment is positive for well-being, as is religion, and well-being is highest in old age.

Although many of the age groups have higher well-being than the base category of 18-24, when expressed as a quadratic age is highly significant across all groups (p=.000) suggesting that these results mask a u-shaped relationship, which is found elsewhere (see Chapter 5 for a discussion of this). There is a negative correlation across all three models for people being unable to work due to a disability compared to the reference

group (employed people). This is supported by the secondary literature where limiting health conditions and disabilities have consistently lower life satisfaction (see Chapter 5). This is often an argument used in favour of policies to encourage this group back to work, such as the controversial Work Capability Assessment in the UK i.e. that it is better for people to work. However, contrary to this view it may also suggests that unemployment is very unlikely to be a positive choice for people whose happiness and life satisfaction is being impacted on by their disability, employment status or both.

For the life satisfaction model, the results suggest that people who are not born in Ireland but resident there have higher life satisfaction than people born in Ireland (p=.03). Those of white non-Irish ethnicity also have higher life satisfaction than the reference groups of ethnically Irish (p=.01). In addition, the eudemonic measure is negatively correlated with all the unemployed categories - unemployed, disabled, not able to work and not working other reasons - suggesting that people in employment (full-time, or part-time) find life more worthwhile. Again, anomalous findings may relate to skews in the sample (e.g. small proportion of active religious) and small samples within the categories (e.g. small number of observations for over-65s).

8.3 Findings from the index development

In final part of this chapter I investigate how the things that people value can be transformed into measurable social goals that would provide an alternative measure of social value to GDP. Although I stop short of aggregating them into an index due to data constraints, the methodology for doing so is explained as are the assumptions that would underpin it.

As discussed in Chapter 7, there were 68 determinants specified in the questionnaire in total, and I have used Principal Component Analysis to reduce the number of variables. In this section, I describe the findings from that analysis. I then list the outcome domains to be included and identify indicators for each outcome. The remaining steps involved in completing the index have already been discussed in Chapter 5 and need no further explanation. The exception is weighting. This is an important but controversial issue in index design (Nardo et al., 2005) and equal weighting has been eschewed as a principle. I discuss this further and explain this decision before I conclude by reflecting on the overall findings.

8.3.1 Principal Component Analysis Findings

In PCA there is a trade-off between having enough components to account for the variance and having too many components. There are various ways of establishing where the cut-off should be. It is possible to set a percentage of variance that should be explained by the model. Another way is to inspect the eigenvalues to get a greater understanding of the structure of the model. Eigenvalues measure the amount of the variation explained by each principal component (PC) and will be largest for the first component and smaller for subsequent ones. An eigenvalue greater than 1 indicates that PCs account for more variance than accounted by one of the original variables in standardized data. This is commonly used as a cut-off point for which PCs are retained. In this analysis, a cut-off of 1 results in 10 PCs, which between them account for 71% of the variance. The next three components only explain a further 2 per cent of the variance each. The relative magnitudes of the eigenvalues indicate the amount of variance they account for. A useful tool for visualizing the eigenvalues relative to one another, so that you can decide the number of components to retain, is the scree plot proposed by Cattell (1966) (Figure 8.6). Table 8.13 shows the proportion of variance accounted for by each. When the line plateaus no more Principal Components are needed.

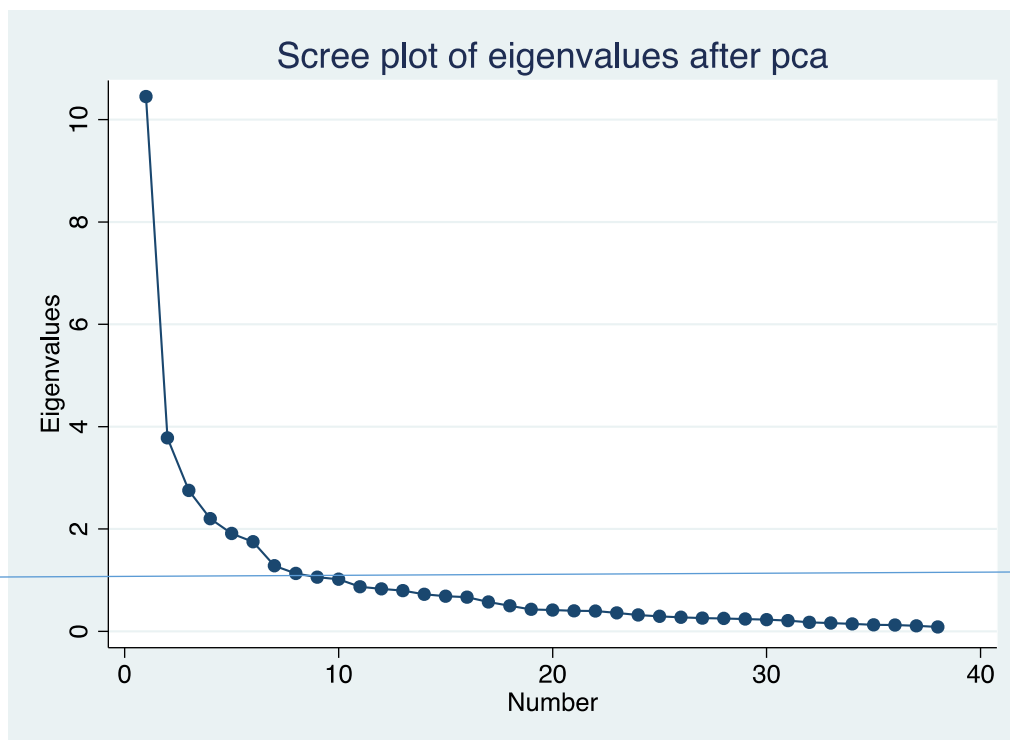**Figure 8.6: Scree plot of eigenvalues**

Table 13: Proportion of variance accounted for in PCs with eigenvalues >1

Component	Eigenvalue	Différence	Proportion	Cumulative
Comp1 |	10.4502	6.67033	0.2750	0.2750
Comp2 |	3.77988	1.02569	0.0995	0.3745
Comp3 |	2.75419	.552054	0.0725	0.4470
Comp4 |	2.20214	.290181	0.0580	0.5049
Comp5 |	1.91196	.161316	0.0503	0.5552
Comp6 |	1.75064	.468874	0.0461	0.6013
Comp7 |	1.28177	.150741	0.0337	0.6350
Comp8 |	1.13102	.0733515	0.0298	0.6648
Comp9 |	1.05767	.0389071	0.0278	0.6926
Comp10 |	1.01877	.147254	0.0268	0.7194

In the unrotated results, few of the factor loadings met the minimum requirements of having a primary factor loading of 0.4. Both varimax and oblimin rotations were carried out to see if it improved the principal component structure. Of these varimax provided the best-defined structure.

Table 8.14 sets out each of these components, the variables that were most noteworthy within them and their values. Interpreting factor loadings is in part a subjective process with more than one possible interpretation. The most plausible outcome domain has been ascribed to each component.

Table 8.14: Summary of components

Component num	Principal Component	Variables	Loadings
1	Mental Health	Sense of control over life	0.41
		Self-esteem	0.44
		Good person	0.42
		Worthwhile	0.38*
2	Equality and Public Services	Equality of income	0.45
		Social equality	0.39*
		Quality of public services	0.32*

		Generous welfare state	0.37*
3	Income	Having enough to live comfortably	0.47
4	Poverty and debt	Not in debt	0.58
		Not struggling	0.47
5	Health	Mental health	0.51
		Physical health	0.50
		Physical activity	0.48
6	Time	Culture	0.57
		Community and voluntary work	0.57
7	Work	Work satisfaction	0.47
		Working conditions	0.52
		Having a job	0.63
8	Education	Further education	0.55
		Educated society	0.22
		Finish education	0.39
9	Trust	Trust institutions	0.64
		Trust society	0.56
		Connection to place	0.27*
10	Relationships	Spending time with family	0.33
		Friendship	0.24

These loadings do not meet the minimum requirement of 0.4. However, most of them come close and are related to the theme of the component.

Cross-loadings (non-related variables that have loadings higher than 0.3) were present in Components 3 (public services and finish education) and Components 4, 8 and 10; loneliness, democracy and national pride respectively. However, there was only one variable in each factor, relative to a cluster of themed variables that met the minimum requirement, many of which had strong factor loadings. The exception is Component 10, where the factor loadings for relationships are below 0.4. However, relationships featured very highly as an important determinant of well-being in the original dataset and

it was decided to retain this component in the analysis at this stage. The ten components were therefore retained.

Overall, these analyses indicated that ten distinct components were underlying participants' responses to the aspects of life that made them happy. The original 38 components were reduced to ten through a series of steps. A plausible factor structure was retained, that both reflected the participant's rankings and is consistent with the theoretical framework and literature review. The next section sets out the process for identifying indicators and data sources for each component.

8.3.2 Identifying indicators

So far, I have identified 10 outcome areas to be incorporated into the index. The next step is to identify an 'ideal' list of indicators that would conform to the OECD's description of a quality indicator (see Chapter 5 for a longer discussion on indicators). These are presented in Table 8.15 and are categorised by outcome domain with some suggestions for how they might be measured.

Table 8.15: Final list of indicators

Outcome domain	Indicator	Way of measuring	Comments
Mental health	Satisfaction with life	Individuals medium/high rating	
	Perception of how worthwhile life is	Individuals medium/high rating	
	Happiness yesterday	Individuals medium/high rating	Day Reconstruction Method combined with global well-being questions
	Anxiety yesterday	Individuals medium/low rating	
	Mental ill-health	Index of questions relating to depression, stress, anxiety, worry etc.	
Relations hips	Satisfaction with family life	Individuals rating satisfied or very satisfied	
	Satisfaction with social life	Individuals rating satisfied or very satisfied	
	Incidence of loneliness	Individuals that report that they often feel lonely	
	Level of social support	Individuals that report that they have someone to rely on	
Health	Healthy life expectancy	Number of health life years that someone can expect to live	Healthy life expectancy (HLE) is defined as the number of years an individual can expect to spend in very good or good general health. It can either be calculated as years and months

			from birth or years and months remaining from a fixed point, aged 65 for example.
	Incidence of chronic illness	Conditions such as diabetes, asthma, heart conditions etc.	
	Satisfaction with health	Individuals rating good or very good	
Time	Satisfaction with leisure	Individuals rating satisfied or very satisfied	
	Participation in physical activity	Individuals engaged in a minimum level of physical exercise	In the last 7 days, on how many days did you do vigorous physical activities like lifting heavy things, digging, aerobics or fast cycling?
Work	Unemployment rate	Proportion not in work that would like to be	
	Quality of employment	Average of a number of sub-indicators - flexibility, time in lieu, work/family life, job security	
	Satisfaction with employment	Individuals rating satisfied or very satisfied	
Income	Financial circumstances C:\Users\el231\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\WQBBVOQ8\Indicators and measures_Apr14.xlsx - '7.2 Struggling with finance'!A1	Households that are struggling with finances	
	Indebtedness	Households that cannot meet recurrent expenses	
	Poverty	Households that live below 60% of median income	
	Income	Household income up to a certain threshold	Threshold should be defined by research into the point at which income no longer makes people happy
Education	Educational attainment	Individuals that leave school with Leaving Certificate	The evidence on minimum attainment of education is mixed. However, it emerged as something important in the survey, both the individual and societal level of education.
	Satisfaction with educational attainment	Individuals that are satisfied with the level of education they received	

	Skills level	Individuals of adults with no formal skills plus basic skills such as literacy, numeracy and digital skills	
	Young people not in education or training	Proportion of 16-24-year olds not in education or training	
Trust	Trust in institutions	Level of trust in key institutions such as police, politicians, media, church, legal system etc.	
	Trust in individuals	Proportion of people that feel that most people can be trusted.	
Equality and public services	Quality of public services	Individual with public services	
	Social mobility	Extent to which parental income predicts income	
	Social equality	Incidence of discrimination	
	Economic equality	P10/P90	Rises in incomes of the top 10% and 1% have driven most of the income inequality in recent years, which makes this an appropriate measure

Once indicators have been identified, a secondary time series data source would then be acquired for each. The process of constructing them into an index is then relatively straightforward. The data are normalised to convert them into the same numerical format and then the index can be calculated. It is then subjected to post hoc tests such as sensitivity analysis. As discussed, due to substantial data gaps, the index development could not progress beyond this point. I therefore do not discuss the remaining steps that would be required e.g. dealing with missing data, aggregation, normalisation and sensitivity analysis (Nardo et al. 2005). There is one area which does require some further discussion, which is weighting. Weights are applied post hoc, so will not be applied in practice. However, due to their importance (and controversy in index design, in the next section I discuss how weighting the different options for weighting in this analysis.

8.3.3 Weighting

Importance weighting is a technique where one or more indicators is emphasized more than others in the group. A number (weight) is assigned to each indicator that reflects its relative importance based on the approach that is taken. Importance weighting should not be confused with sample weighting described earlier.

This type of weighting is one of the most important (and controversial) steps in developing a composite indicator. This may in part be because there is no agreed objective way of deciding on a weighting approach and it relies in large part on the judgement of the researcher. The OECD list several approaches in determining weights (Nardo et al. 2005):

- Using statistical methods such as multivariate analysis
- Considerations of which indicators are more or less influential
- Consideration of policy priorities
- Theoretical position
- Participatory methods that incorporate various stakeholders – experts, citizens and politicians

It is also common in studies of life satisfaction, for example, to ask individuals to assess how domains of their life contribute to life satisfaction to determine weights (Hsieh, 2003, 2004, 2012, 2013; Wu, 2008; Wu and Yao, 2006, 2007), as has been carried out here. I will discuss each of the proposed approaches and how they might be relevant here.

1. Statistical methods

There is a range of statistical procedures for deciding on weights. Firstly, multivariate analysis assigns factor loadings based upon the extent to which an indicator shares a common factor with another variable in the dataset. Multivariate analysis has already been carried out to reduce the number of variables in the dataset. In addition, factor loadings could be used to assign weights to different variables. For example, if we have a minimum loading of 0.4 and a maximum loading of 1, it would be possible to create a scale of weightings for values that fall between them.

According to Foa and Tanner (2012) few composite indices use factor loadings as weights, in part because it is difficult to explain the process to non-statisticians, in part because the weights change as the data changes over time (e.g. as the importance of an indicator wanes) but mainly because the results using equal weights and PCA weights tend not to differ substantially. Regression analysis can also be used to derive weights. This is possible where there is a highly valid and reliable measure of the latent variable. In this instance, the extent to which the outcomes correlate with subjective wellbeing would be an example how to use regression analysis. It would function as the dependent variable in a regression framework with the index or its subcomponents as the independent variable. The resulting coefficients would be used as weights (ibid.).

It is important to remember that there is no wholly objective way of determining weights. This is because, regardless of the methods used, weights are still value judgements (Nardo et al. 2005). Using statistical methods does not necessarily provide greater objectivity to how the weights are determined. There is an argument that non-statistical

methods are preferable for a normative exercise such as this as the judgements that underpin them are more transparent. This even applies to equal weights where the decision to weight equally may also be normative.

2. Considerations of which weights are more of less influential

The primary source of information on how domains should be weighted is the results of the survey, where people's relative ranking of the variables gives a reasonable guide to the size of the importance weights. As the index is in principle based on people's (constrained) preferences, it makes sense to also use this to create a weighting. It would be possible for example to sum the scores of the components of the index and apply weighting based on the differentials between them.

3. Consideration of policy priorities

In practice, policy priorities often play an important function in weighting. For example, the HDI is an unweighted index. The authors defend it on the grounds that the three variables considered – health, education and income – are all valued equally, and they provide some academic support for this (Decanq and Lugo, 2009; Noorbakhsh, 1998). However, it is also the case that politically equally weightings are perceived to be less controversial and acceptable to the wide range of countries for which the HDI is carried out. The findings from this research would suggest that there are grounds for non-equal weights based on the things that people value i.e. that there is a wide range of responses across the domains. There may also be examples of where the inclusion of policy priorities would be important. Within a different conceptual framework (e.g. one with critical natural capital included in the index) it might be necessary to create a weight for it to reflect its importance to human well-being.

4. Theoretical positions

Composite indicators require theoretical frameworks to guide the many judgements that need to be made and to improve accountability by requiring developers to be explicit about them. Most do start from a theoretical position. The HDI is based on Sen's Capabilities and Functionings theory, the Legatum Prosperity Index is based on libertarian principles and the Index of Economic Freedom on free market principles. A valid criticism however is that they are not always explicit about them.

The theory of interpersonal comparisons of utility set described in Chapter 3 is an example of how a theory could be used to develop weightings. An ICU formula could in principle be calculated based on the differential values experienced by different groups. For example, we could weight income more highly for certain groups or weight outcomes

that were inequality-reducing more highly. Such an approach would be very complex and would require very robust data.

Although the HDI is unweighted, it does introduce adjustments that function in a similar way to weights by increasing the influence of certain variables. For example, there is an inequality-adjusted HDI. In addition, income is capped at $40,000, which is effectively acknowledging that well-being derived from income above that amount is of less importance. This would also be recommended here, based perhaps the threshold above which people think that income is no longer well-being enhancing. An alternative to capping income, or using an ICU formula would be to use normalised logged values, rather than original values. The options to take logs often reflects the idea of diminishing marginal importance of an indicator, which is again an implicit weight.

5. Participatory methods that incorporate various stakeholders – experts, citizens and politicians

This is certainly an approach that could be considered here. A risk with stakeholder engagement of this sort however is that it might privilege the views of those that already have the strongest stakes in society. If we start to include interest groups, it is possible that those interests, which are reflective of existing policies and goals, would simply be reproduced. Although not conducted qualitatively, the survey has had an explicit aim of creating a participatory basis for identifying social goals. There would be scope for complementing this with some qualitative research to shed some light on some of the contradictory or unusual findings. This approach would also be useful at the indicator design phase to understand how best to measure an outcome (for example like social relationships) in an Irish context.

To conclude, there is no 'right' way of deciding on weights, and like many steps in index development, it needs to be based on the objectives of the indicator and the judgement of the researcher. As the OECD point out the absence of an 'objective' way to determine weights does not necessarily lead to rejection of the validity of composite indicators, so long as the entire process is transparent.

8.4 Conclusion

This chapter presented the findings from both parts of the primary research. I began by discussing the findings from the survey and the things that people value. The results of the primary research suggest a strong emphasis on non-material and non-economic factors in people's lives, which differs very much from the direction of policy in Ireland over the past number of decades. This is not to suggest that people do not value income, employment and rises in living standards. A consistent finding in self-reports of the things

they valued in the quantitative analysis and from the large literature in the field is that employment and job security are of great importance to people's welfare. However, the most highly valued outcome was mental health followed by friendships, physical health and how they feel about themselves. This is also consistent with the literature, with these outcomes – along with employment – appearing most frequently in studies. There were some findings that departed from the literature. Religion was given a very low priority as was community and voluntary work. The former may relate to undersampling of religious people, but the latter is difficult to explain, especially given that Ireland has one of the highest volunteering rates in Europe (see Chapter 9).

When asked what level of income people would need to have before its impact started to diminish, the most commonly selected band was €80-€90,000. This is far higher than average incomes, or previous research on this, including research for Ireland. A crucial difference is that the other amounts have been arrived at by analysing changes in income and well-being over time to identify the point at which people stop reporting increases with income rises. This is obviously much more robust than just asking people how much money they believe they need. It is possible that the responses reflect biases in the sample (more high earners) but it is also possible that people believed that they need a higher income than they do.

I then went on to explore whether there was a perception that values had changed in Ireland in recent decades. There was a large gap between what people saw as how societies' values had changed and how their own values had changed. Generally, people thought society had become more materialistic and less family-oriented, whilst their own values had moved in the opposite direction. Secondary research on measures of social capital in Ireland do not support the view that people care less about each other or that families are less important. For the individual reports– which we can perhaps trust more – there is evidence of postmaterialism taking place over this period as incomes have grown.

I tested whether there were gender and religious differences in how people reported on what mattered to them. Contrary to the literature, there was no evidence that men were more materialistic than women. I also tested the hypothesis that more materialistic views were associated with lower levels of well-being. There were some weak relationships for some of the variables, but value systems did not appear to be a strong determinant of well-being overall. The demographic variables that were included - most notably age, employment status and gender – appeared to correlate with well-being scores in the way we would expect (u-shaped relationship for age), suggesting (despite limitations) robustness in the statistical model.

Finally, I discuss the findings from the Principal Component Analysis. 10 outcome areas had sufficient factor loadings to merit inclusion in the index. Indicators for these outcomes were then identified. Due to data limitations, it has not been possible to complete the final steps in the construction of the index. However, I provide some discussion on the issues related to weighting. I conclude that there is no 'right' or 'objective' way of weighting but offer some suggestions for how this might be done in line with the conceptual framework. In the next chapter I look at the extent to which improvements in these outcome areas could be identified in Ireland during the Celtic Tiger period from the available data.

Chapter 9 Testing the index: a focus on the Celtic Tiger

9.0 Introduction

In 2007, the Economic and Social Research Council (ESRC) published a collection of papers called *Best of Times?* which aimed to provide an assessment of the social impact of the Celtic Tiger years (Fahey et al., 2007). *Best of Times?* has been described by some commentators as uncritical (Ó Gráda, 2008). It aimed to amass a wealth of data highlighting the success of the project and supporting the idea that the Irish people "never had it so good" (p.2). It was also published at a time when the government sought to undermine voices that were critical of the status quo (O'Callaghan et al. 2014). The most famous example of this was An Taoiseach Bertie Ahern's suggestion that the naysayers should just commit suicide if they have so little belief in the economy (ibid.). Much of *Best of Times?* reads hubristically now[52]. Although 'soft landings' were predicted, the authors in those papers appeared unaware of the imminent economic collapse. An assumption underpinning the analysis therefore was that the economic landscape had been permanently changed, and that there was no going back to the high unemployment and emigration of the 1980s.

One potential critique of the way in which these policy evaluations such as that undertaken in *Best of Times?* is that that choice of social outcomes, or indicators is somewhat arbitrary. In this research, I have sought to address this by describing a process through which a list of measures could be identified for Ireland (see Chapter 8). In this chapter I will review the evidence - such that it exists - for each outcome area during the Celtic Tiger period. A second (and rather obvious) issue with the *Best of Times?* analysis is that it was premature. However, at the time of writing, a decade later, it may still be too early to carry out such as assessment. A further caveat is that the picture is distorted by the exogenous shock caused by the global financial crisis. It is impossible to separate out the success of the policies of the previous two decades from the deep recession that was to follow them.

Despite these limitations, it is still worth asking whether the social and economic transformation was net positive for social value. This also provides an opportunity to test out the framework that has been developed as part of this thesis. In this chapter, I systematically analyse the data for each outcome area recommended for inclusion in the index. Where microdata is available, I also test whether changes in these indicators

---

[52] Such hubris is a common feature of economic bubbles. This has been demonstrated convincingly by Reinhart and Rogoff's in their analysis over eight centuries of 65 economies across five continents (Reinhart and Rogoff, 2009).

correlate with changes in GDP. I begin with mental health and well-being and progress through employment, education, physical health, social capital, income and poverty. No data were available on public service quality, use of time, or relationships and these have been excluded from this chapter as a result. As well as data gaps on specific outcomes, there were issues with data quality across the board and I begin the chapter with a discussion of the caveats relating to this.

9.1 Data quality

Historically, the quality of data in Ireland is poor, and this limits the ability to carry out retrospective analyses such as this. Of the full indicator set listed in the previous chapter, very few have been measured consistently over the time period of interest. Ideally, this research would require a dataset to span the 16 years from 1994-2010 to cover the different stages of boom and bust. Even this time period is short, as it does not allow comparisons with the recession of the 1980s, or a long enough time lag to say anything meaningful about the impact of the most recent recession.

Most of the datasets discussed below are drawn from European and international institutions such as the OECD, the World Bank and the ILO. Microdata was also acquired from the EU-SILC (Survey on Income and Living Conditions). As mentioned, this enabled some correlations to be carried out with GDP and these are reported where appropriate. However, EU-SILC only began in 2003 and is only therefore relevant to the 2003-2007 period. Some datasets such as Eurobarometer or EQLS have a longer time series and these have been referred to for some of the outcomes. The Irish government is very dependent on sources of data from these institutions and few of the indictors are being measured systematically by the State itself. This has implications for the approach to national measurement being discussed here and will be discussed in Chapter 10. I begin the analysis by looking at the available data on the most valued outcomes: mental health and well-being.

9.2 Mental health and well-being

As we have seen, mental health emerged as the outcome that mattered most to people in the survey. It would follow therefore that data on mental health would be the strongest predictor of social value for Ireland. Before assessing this, let us remind ourselves about what was happening to GDP during this time period. Figure 9.1 shows the annual percentage change in per capita GDP between 1994 and 2013 for Ireland and the EU.

Figure 9.1: Annual change in per capita GDP 1994-2014 in Ireland and the EU
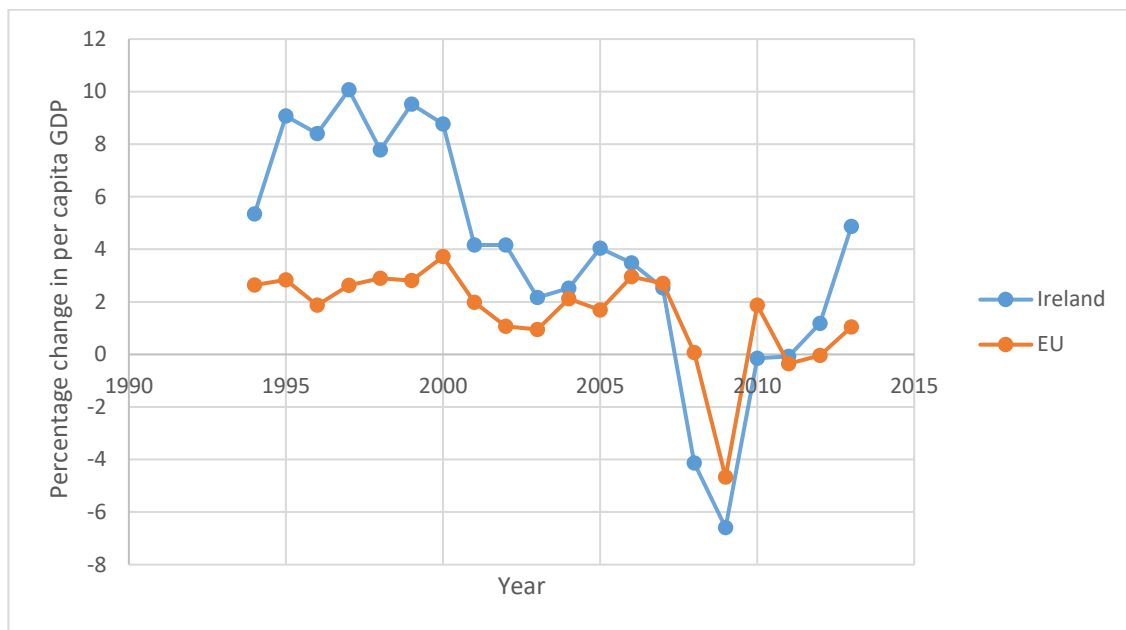


Source: World Bank (2012)

As we can see growth rates were reaching 10% before the dot-com crash in 2000. After 2001 GDP continued to be volatile with a sharp drop after the 2007 financial crisis. What was particularly unusual about Ireland in the context of recessions within developed countries was the scale of the crash; the trough of 2009 was exactly 10 years after the 1999 peak meaning there was a peak to trough fall of 16 percentage points. By comparison, growth in the EU was much stable hovering throughout the 1990s and early 2000s at around 3 per cent.

Data on the prevalence rates for mental health problems in Ireland is largely absent. In a review of the costs of mental health O'Shea and Kennelly write that a lack of data is a major constraint for undertaking research work in this area (2008). The results from the first National Psychological Wellbeing and Distress Survey was published by the Health Research Board in 2007 using the short version of the General Health Questionnaire (GHQ-12) (Doherty et al., 2007). It found that 12% of adults aged 18 and over were at risk of psychological distress using this measure. The latest GHQ12 data for the UK where the survey is carried out annually as part of the Health Survey for England found a 15% prevalence rate.

Fahey et. al. (2007) present data showing that psychological stress levels fell during the Celtic Tiger years. They use research by Madden (2009) to support this, whose decomposition analysis shows that features associated with the Celtic Tiger – better employment prospects, rising education levels, and higher incomes – accounted for

much of the decline. Data from the General Health Questionnaire was included in the EU's Living in Ireland survey, which I analysed to see whether this finding could be replicated. Figure 9.2 shows the results of this analysis. We can see that there was indeed a fall in psychological ill-health (lower scores are better).

Figure 9.2: Psychological health in Ireland
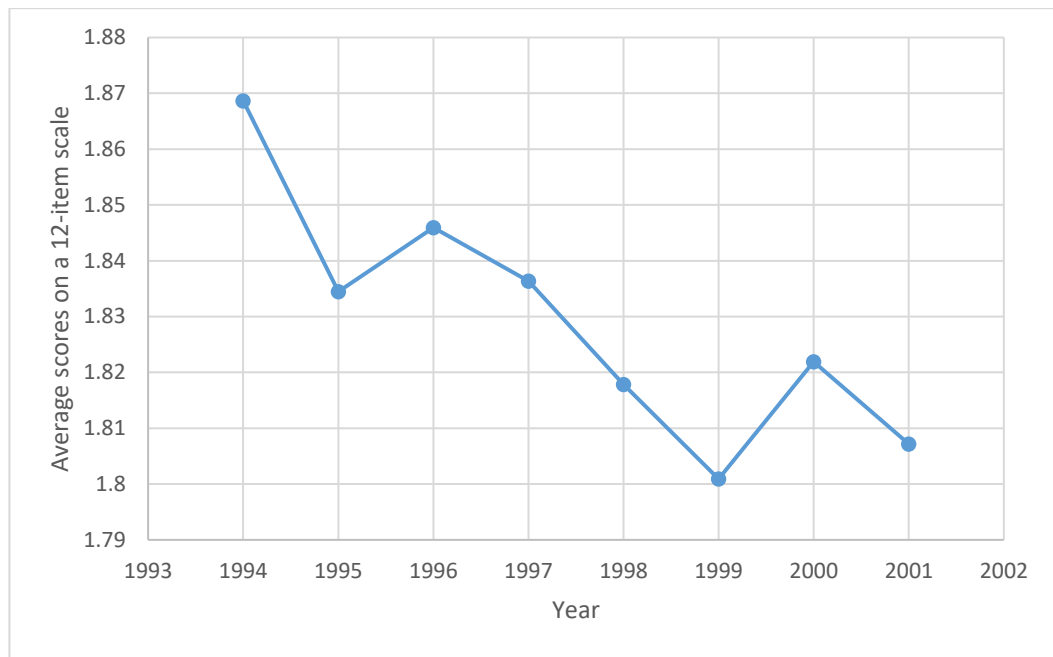
Source: Eurostat (2012)

Over the period 1994-2001 there was a fall of .06 on the scale. However, when examined using correlational analysis, there was no relationship between the rate of growth and a change in psychological health (corr = -0.04, p= 0.91). We might also argue here as Delaney (2009) has done that the decline is small when compared to the huge increases in standards of living that occurred. He also points to the rise in suicide rates during the period as a counter to this. Figure 9.3 shows the suicide rates in Ireland from 1980-2002

Figure 9.3: Suicide rate in Ireland 1980 - 2002
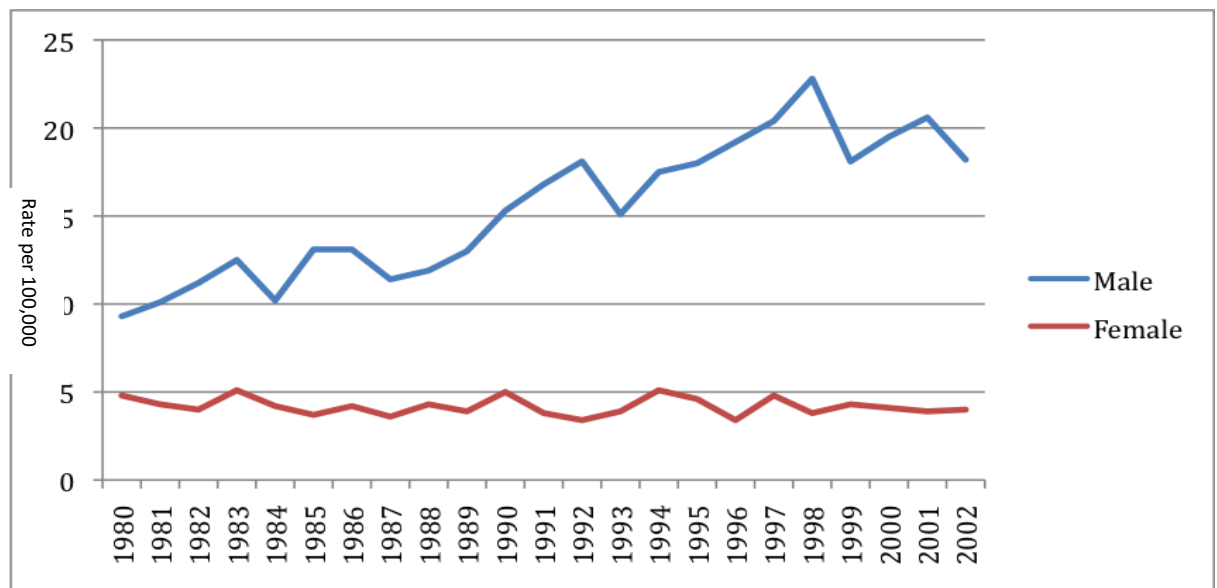
Source: Delaney (2009)

As we can see, whilst the rate for females stays flat, the rate for males starts to rise quite dramatically in the 1990s. These data would suggest that the boom was associated with rises in suicides amongst men, as most of these deaths were of men under 30. A more recent update on these data suggest that the rate started to rise again with the onset of the recession, and that the recession was linked to 500 additional deaths between 2008 and 2015 (O'Brien, 2012).

However, other research by Walsh (2011), which looked at the impact of the recession on indicators of mental health found no evidence that admission rates to psychiatric hospitals are affected by changes in economic conditions and that the recession had appeared to have little impact on wider well-being indicators. Barrett and O'Sullivan (2013) reached a similar conclusion that Ireland was consistent with evidence that found that health and wellbeing are not negatively affected during recessions.

Wider literature on the linkage between GDP increases and suicide is not conclusive, see (see Brainerd, 2001). Neumayer (2003) tested a range of economic and social explanatory variables based on economic as well as Durkheimian sociological theory. He finds a non-linear relationship between income and suicide; rates drop with rises in income up to a point at which they start to rise again. The turning point is estimated to be $30,000. He also found no relationship between economic growth and suicide rates. Suicide rates fell with rises in the fertility, and marriage rate and rose with female participation in the workforce, unemployment and consumption of alcohol. A conclusion that might be reached is that in 1980s Ireland, although unemployment was high, and incomes were low, other factors that are protective of suicide – low female participation,

high fertility and marriage were all in place. Dramatic social change in the 1990s that accompanied (and was perhaps spurred by economic growth) saw those change. By the 2000s these factors were most likely having less of an impact, which is why a more normal relationship between recession and suicide could be observed. There is also a large literature on national cultures of suicide, which suggest that this is not a completely reliable proxy for mental health.

To support this analysis, we can also look at what was happening to subjective well-being during this period. People in Ireland tend to consistently report higher than average well-being. Table 9.1 gives a list of data on different measures of subjective well-being from a range of different sources.

**Table 9.1: Well-being data for Ireland**

Year	Source	Result	Measure	Reference
2007	European Quality of Life Survey	72% report is that life is how they want it to be	Life satisfaction	EQLS, 2007
2010	Gallup World Poll	10th out of 40 countries	Life satisfaction	OECD 2011
2010	Survey on Income and Living Conditions	79% report to have been happy all or most of the time	Happiness	CSO 2011
2011	Eurobarometer	7th out of EU27	Life satisfaction	Eurobarometer 2011
1999-2002	OECD (2005)	96.3 were quite or very happy	Happiness	OECD (2005)
2013		11th-13th in the world	Happy Life Years (inequality adjusted happiness)	World Happiness Database
2012-14	World Happiness Report	18th out of 158 countries, dropped to 19th in 2016 update	Composite of measures	Helliwell, Layard and Sachs (2014)
2013	OECD	Above OECD European	Various measures including life	OECD (2016)

		average (gap higher for rural areas)	satisfaction and meaning of life	

As described in Chapter 2, longitudinal measures of well-being have been robust to changes in economic circumstances in most developed countries, including Ireland. Whilst there was a fall in life satisfaction during the recession of the 1980s, it rose again quite sharply recovering ground lost by 1991. There were only small fluctuations during the 1990s and 2000s, and by 2010, life satisfaction was at the same level that it had been in 1975. As with other economies, this suggests limited improvements in life satisfaction despite dramatic improvements in living standards (the economy in 2011 was three times larger than in 1975).

These data are difficult to explain. It is certainly would seem supportive of the Easterlin paradox and the process of habituation described in Chapter 2. With the example of Ireland however, the variation in incomes, growth and employment throughout the period were much more volatile than other countries and the rises in living standards more dramatic. Although we can see some response in the data to the recession of the 1980s, this breaks down completely in the 1990s.

Microdata from the Living in Ireland Survey provides a more detailed look at satisfaction with domains of life – work, housing, leisure and finance - during the Celtic Tiger period (see Figure 9.4). Again, correlational analysis was used to test whether there was any relationship between changes in these variables and changes in GDP. No relationship was found (corr=-0.66, p= .07), providing some further evidence that these variables are not associated with changes in GDP.

Figure 9.4: Satisfaction with aspects of life
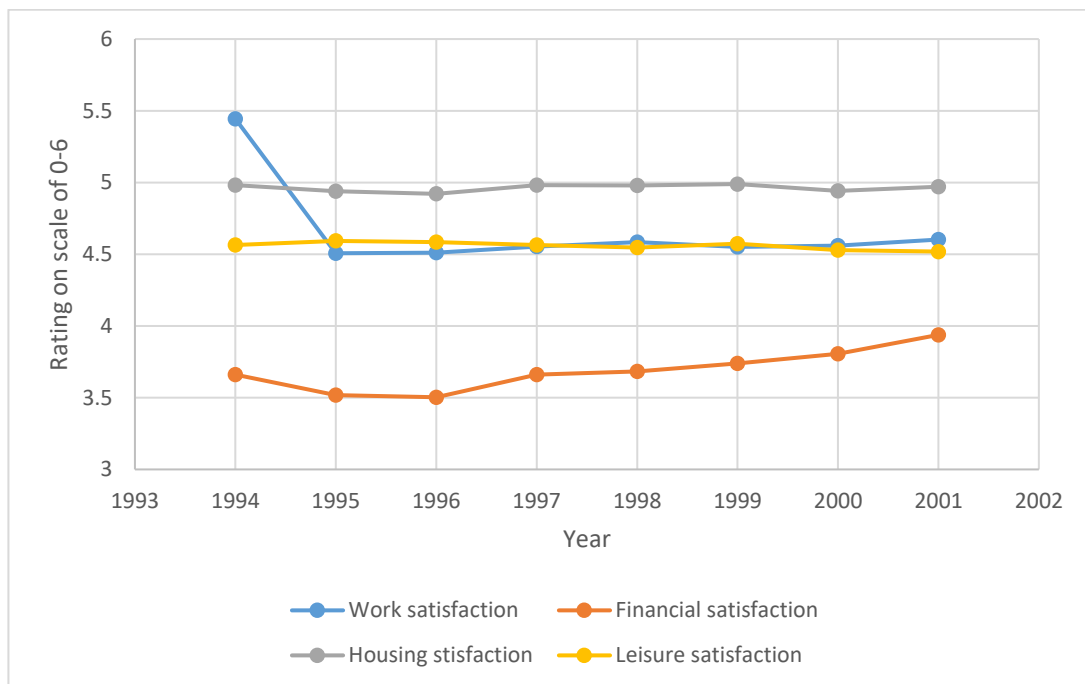
Source: Eurostat (2012)

The World Happiness Report takes an interesting angle on this (Helliwell et al. 2015). In the 2015 report, they employ six explanatory variables in their analysis: GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perception of corruption and they calculate the amount that each variable contributes towards happiness in a given country. The country ranking second from bottom is Burundi and GDP is so low that it does not explain any of the happiness score of that country. For Burundi, the authors argue, any increases in GDP would bring enormous well-being benefits. For Ireland, the contribution is about 18%, slightly less than the contribution of social support. The next most important is health followed by freedom, generosity and corruption in that order. As mentioned above, Ireland ranked second in the world for social support,[53] which explained its high position in the international ranking, particularly at a time when economic conditions were fragile. This was contrasted with other crisis-affected economies like Greece, Italy and Spain, which had much lower rankings for social support and saw large decreases in their overall happiness score.

A tentative conclusion reached by the authors was that happiness in Ireland is underpinned by informal social support systems, or what we might call social capital (see Chapter 2). Although social supports also exist in other countries, the relationship may

---

[53] This dropped to 5th in the 2016 update

be stronger in Ireland and may help explain why well-being data have remained resilient to economic shocks. We can also see some evidence of this from the survey data. First, most of the indicators relating to society and relationships scored very highly. See Table 9.2 for examples of 'social capital' measures from positively phased questions by score and rank: quality of friendships came second after mental health.

Table 9.2: Ranking of social capital measures

Indicator	Score	Rank
Quality of friendships	8.95	2
Spending time with family	8.65	8
Living in a democracy	8.5	11
Quality of public services	8.23	16
Being able to trust people	8.02	19
Feeling a connection to community	7.76	23

In addition, as discussed in the previous chapter, people report that relationships, family and other social capital measures appear to have in general become more important to them over their lifetimes (see Table 9.3). Only 8% of people think family is less important, 10% think societal trust is less important.

Table 9.3: Changes in values for social capital measures

	I value family	Society values family
More important	59%	31%
Less important	8%	29%
The same	32%	36%
	I value societal trust	Society values societal trust
More important	44%	41%
Less important	10%	25%
The same	44%	31%
	I value membership	Society values membership
More important	21%	22%
Less important	41%	30%
The same	33%	46%

9.3 Employment

As we have seen, high unemployment had been a constant feature of the Irish economy since the foundation of the State. A key factor of the Irish 'miracle' was the dramatic fall in unemployment since the early 1990s. It had gone from a high in in the mid-1980s of 17.3% to a low of 3.6% 20 years later. Unemployment rates as low as this are unusual in a European economy, and it was at times the lowest in the EU-15. Figure 9.5 compares unemployment during the period with unemployment in the Euro area.

Figure 9.5: Unemployment total (% of labour force)
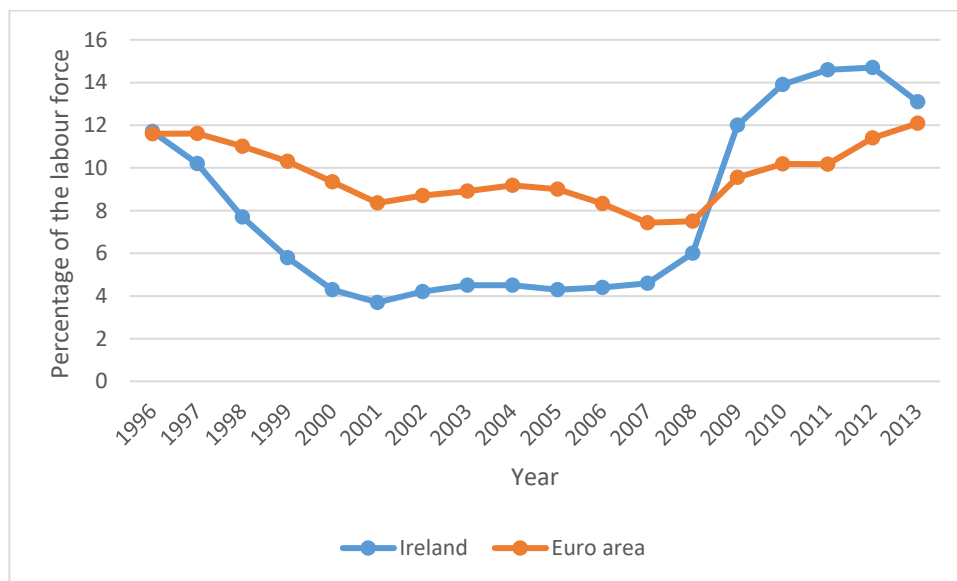
Source: Eurostat (2012)

Although the 1990s were associated with dramatic falls in unemployment, it is almost certainly the case that the very low levels of unemployment from 2000 onwards were illusory and potentially indicative of a boom. A large share of the fall in unemployment came from construction, which by 2007 made up 13% of all employment (it was 5.3% by 2013) (Forfas, 2015). However, this headline figure failed to capture the employment intensity of growth, which according to the ILO is a numerical measure of how employment varies with output (Kapsos, 2005). Table 9.4 shows historical data on the employment intensity of growth. As we can see, this is much higher in Ireland during the 1990s than the 2000s, and much higher than the EU average. This suggests the quality of growth was higher in the 1990s, the ability to attract and develop high value added, high tech firms.

Table 9.4: Employment intensity of growth, comparing Ireland with EU

	Total employment elasticity			Youth employment elasticity		
	1991-1995	1995-1999	1999-2003	1991-1995	1995-1999	1999-2003
Ireland	0.59	0.62	0.4	0.15	0.98	0.22
EU	-0.09	0.36	0.42	-3.38	-0.3	-0.35

Source: Kapsos (2005)

The unemployment rate peaked in 2012 and has started to fall since then. This has been accompanied by some recovery in output over the past two years. There are a number of explanations for this, including the recovery in its largest trading partner the UK and (until recently) a favourable Sterling/Euro exchange rate. Another is that emigration has again provided a safety valve for those out of work. Nonetheless, unemployment is once again low by historic standards. GDP growth does tend to be good at predicting employment growth, and is this is often a central defence for retaining the measure (see Chapter 2). There is no doubt that employment is an important component of social value: it mattered to the respondents of the survey and we know that being in work is a major determinant of SWB (see Chapter 5). However, it gives us a limited view of employment. Respondents also valued the quality of work and employment conditions highly; measures which GDP is incapable of capturing.

9.4 Education

One of the most striking changes in educational achievement in Ireland from 1991 to 2006 was the increase in third level qualifications. In 1991, 13 per cent of the population had third level qualifications. By 2013, 51% of 25-34 year olds had been in tertiary education compared with 40% for the EU-28 (OECD, 2016). There was also a decrease in the number of people who left school without a Leaving Certificate qualification from 18.9% in 1997 to 11.5% in 2007.

At first glance, these indicators appear to be moving in the right direction. However, there is also the issue of whether retention rates and progression to third level are good educational indicators. If not, how else should we judge if an education system is doing well? Although it was not the purpose of the survey to answer this, the responses provide us with some clues. Completing compulsory education and going to third level were both in the bottom half of the average rankings. This suggests that people did not value the contribution their own education had made to their happiness. This is consistent with secondary evidence that education is not a big determinant of well-being. Intriguingly, people valued 'living in an educated society' quite highly, and more highly than the other

two. This suggests that people see education as a public good, one that society is better off having but do not link their own education directly to their own personal happiness.

Looking more closely at the data, we do not see strong evidence that the outcome of a more educated society was achieved despite improvements educational outputs. The combined PISA scores for Ireland (2000-2012) are shown in (Figure 9.6). Standards were well above the OECD average in 2000 but started a steady decline to converge with the OECD in 2009. The latest data show some relative and absolute improvement but with some distance still to travel to reach the levels being achieved at the beginning of the century. Even taking account of lags in the data, it would appear, on these data, that performance on this measure declined during the latter stages of the Celtic Tiger.[54]

Figure 9.6: Combined Reading, Maths and Science PISA scores Ireland compared with OECD

*Source: OECD (2012) and author's calculations*

9.4 Physical health

Health is an area that is closely associated with societal progress in people's minds. Public sector budgets in many countries are increasingly being absorbed by health and it often features as a key area of contention in elections. It is difficult to imagine therefore any measure of social value not incorporating at least one physical health indicator. Physical health also scored highly in my survey after mental health and friendships.

---

[54] A caveat to this is that there is much criticism of the PISA methodology and other measures of educational outcomes, particularly educational inequality is required to really assess progress against this outcome.

However, it is another area where measuring outcomes at a societal level is challenging. Health indicators are often dominated by inputs (amount of spending) or outputs (usage of health services), rather than outcomes. GDP often correlates with health spending; health tends to consume a large part of most public sector budgets and is generally high on government agendas. Ireland is no exception (see Figure 9.7 for changes in health spending since 1990).

Figure 9.7: Change in health spending in Ireland 1990-2012
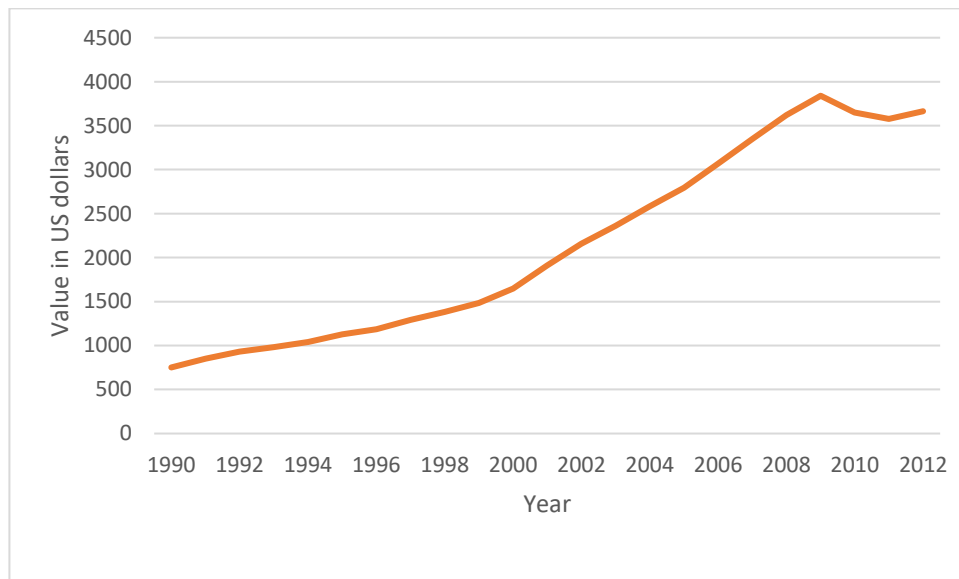

Source: OECD (2012)

Unfortunately, there is no clear correlation between spending on health and outcomes; the US healthcare system is one of the most expensive in the world but has some of the worst outcomes, whereas the UK, which has one of the cheapest systems is one of the best (King's Fund, 2014).

Healthy Life Expectancy is the EU's preferred measure of health outcomes. Data are only available since 2004 (Figure 9.8) The graph suggests that there may be some relationship with spending i.e. Healthy Life Expectancy was increasing until about 2012 at which point it started to fall, just after the increases in spending were reversed.

Figure 9.8: Healthy Life Years 2004-2013
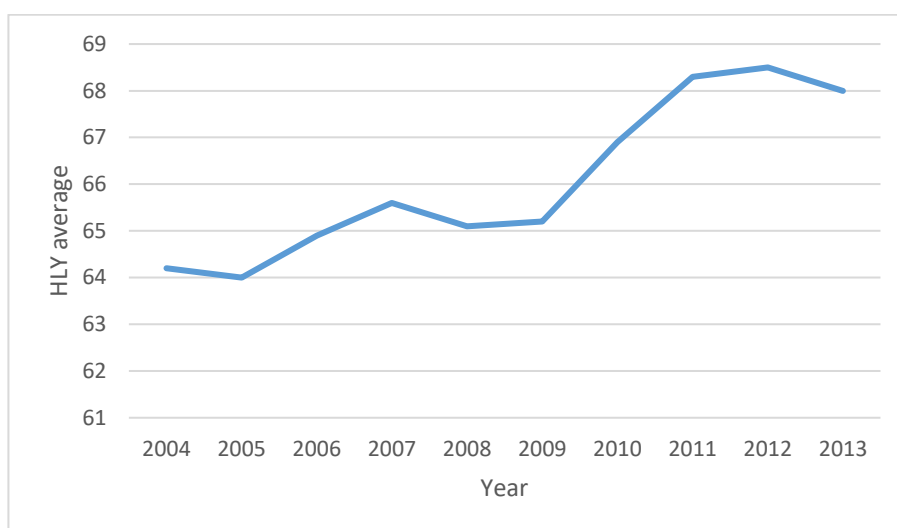
Source: Eurostat (2012)

However, even if this could be demonstrated, there was almost a doubling of the health budget between 2004 and 2009 for relatively small increases in Healthy Life Expectancy, suggesting that these are not causally related to spending[55]. Growing the economy is sometimes defended as a means of raising money to fund services such as health. However, these data would suggest that as with GDP itself, the 'returns' from ever increasing health spending maybe diminishing. Another way of measuring health is to ask people about their own perception of their health. Figure 9.9 shows what happened to self-reported health, where 1 is very good and 5 is very poor.

Figure 9.9: Self-report on health status (1=very good)
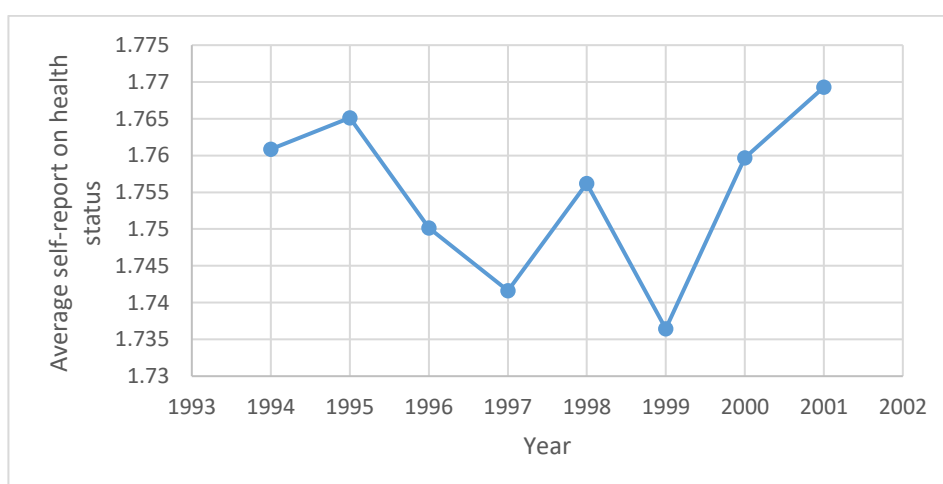

Source: Eurostat (2012)

---

[55] In addition, it is difficult to assess whether these gains are a function of other factors such as improvements in the detection and treatment of fatal diseases such as heart disease.

What is clear from these data is that the trend bears no relationship to GDP, public spending or an objective measure such as HLY. Over the whole period there was virtually no increase in the number of people rating their health as good or very good. A 2004-2013 update of this survey followed a similar pattern to the graph with almost half the respondents rating their health as 'very good'. Previous examinations of self-rated health in Ireland found strong social gradients in self-rated health, particularly that it was related to age, marital status, tenure, educational status etc. (Kelleher et al., 2003; Delaney et al., 2007). A conclusion from this research is that a focus on distributional issues may be more positive for health than aggregate growth.

It is also interesting to note that Ireland's self-rated health is consistently amongst the highest in Europe, including for countries such as Iceland, Denmark and Switzerland which have better health systems and health outcomes (Delaney et al., 2007) In fact, throughout the period of analysis Ireland saw an increase in chronic illness, mental ill-health and obesity (Barry et al. 2009) and people generally perceive the health service to be of poor quality. It is not clear why subjective reports differ from objective data. Delany et al. (2007) also looked at the relationship between social capital measures and self-rated health and found significant (but modest) relationships for associational membership, meeting socially with friends and social trust. The coefficient was largest for social trust. This provides further evidence that there may be other routes to improving health and people's perceptions of the quality of their lives, rather than growing GDP to fund public sector budgets in this area.

9.6 Trust

Trust in public institutions has been in decline in Ireland but has been greatly exacerbated by the financial crisis and perceptions of unfairness brought on by that (Barry et al. 2009). Figure 9.10 shows the evolution in trust in political parties in Ireland since 2000.

Figure 9.10: Evolution of trust in political parties
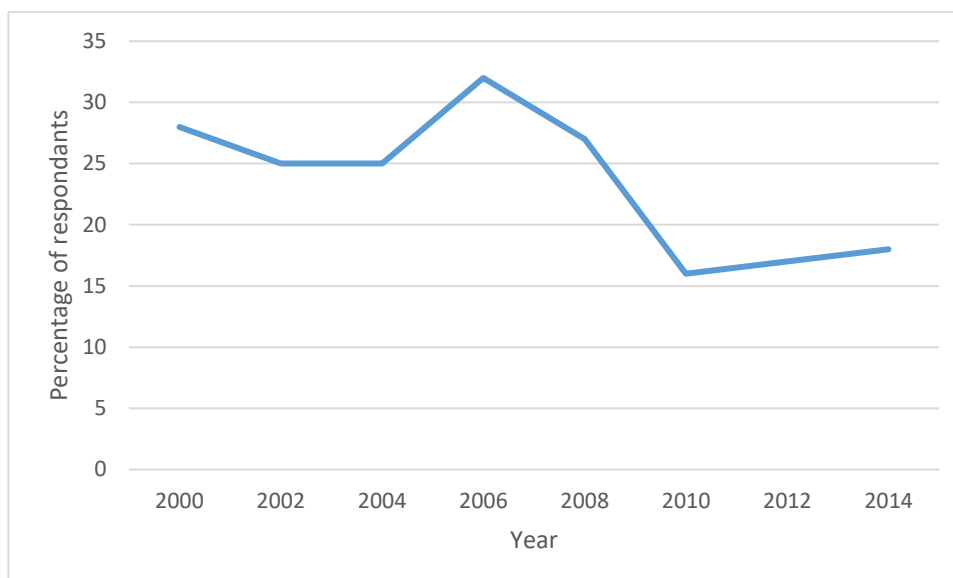
Source: Eurobarometer (2016)

Data from the 1990s are not available. However, if we look at the evolution of voter turnout we can see that it has also been declining. (from 73 per cent in 1987 to 63 per cent in 2002). By 2011 it had started to increase again.

The most recent Eurobarometer survey (2016) found that 79 per cent of Irish respondents agreed that corruption is a major problem in Ireland, above the EU 27 mean of 75 per cent. By contrast, less than a quarter of respondents in Denmark and Finland agreed that corruption was a problem in their countries.

Despite claims about a crisis of trust in Ireland (Peillon, 1998), levels of personal trust appear to be relatively high and above the European OECD average (6.4 out of 10 compared to an average of 5.8) (OECD, 2016). This is confirmed by data from the European Social Survey and the Afrobarometer, where Ireland is placed between Scandinavian countries and the rest of Europe on different measures of trust (Inglehart and Weizel, 2010).

9.7 Social relationships

An analysis of data from a survey of adults in Ireland (Healy et al., 2005) confirms the widely-established finding that the extent and quality of inter-personal ties and social support are important explanatory variables of subjective well-being. Johnson et. al. (2011) find that a sense of community, and rural environment are associated with strong social networks which were identified as key determinants of good mental and physical health. As mentioned above, social relationships and other measures of informal social

capital – friendships and so on – were rated very highly in the survey, and people considered their importance to have increased in their lifetimes.

Figure 9.11 shows recent data on the quality of social relationships as measured by the percentage of people who have relatives or friends they can count on. As we can see, Ireland comes second in the OECD at 96%.

Figure 9.11: Percentage of people who have relative or friends they can count on
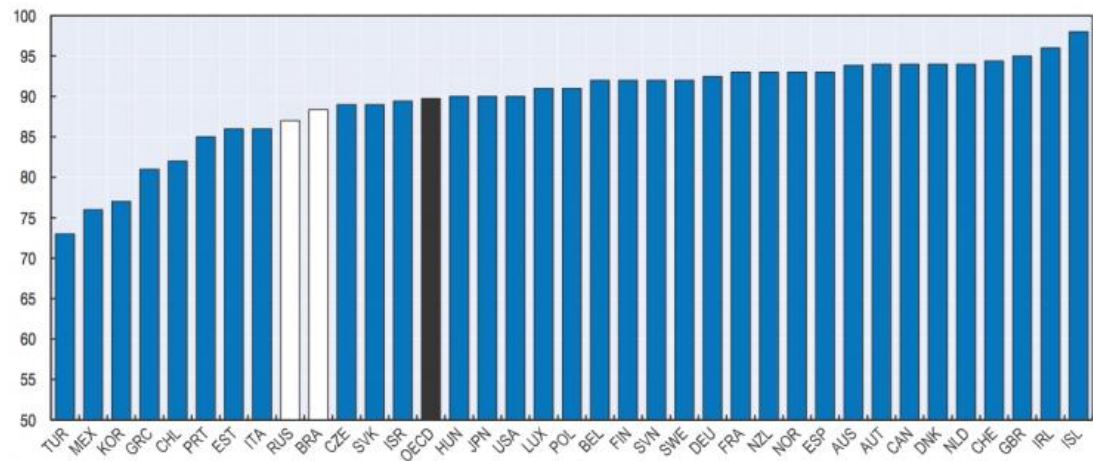
Source: OECD (2012)

Figure 9.12 shows time series data for Ireland on social contact outside of the household and GDP growth. This indicator refers to those that meet friends or family at least once per month outside of the household. This figure is 99% in 1994 and has fallen to 95% in 2001. Although still high, it appears to have declined during the period of analysis. This was tested statistically using correlational analysis. The percentage change in social contact outside of the household was compared with the percentage change in GDP. Although there was a moderate inverse relationship between the two variables (corr= -0.39) the finding was not statistically significant (p=0.3), suggesting that the decline in this measure is not related to changes in GDP.

Figure 9.12: Social contact outside of the household at least once per month
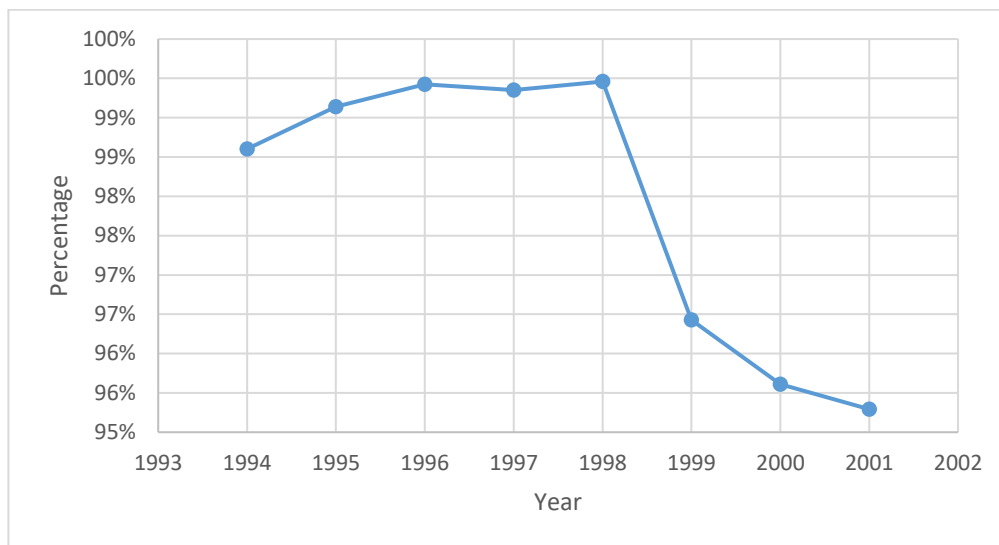
Source: Eurostat (2012)

The SLÁN survey asked respondents throughout Ireland about the ease of getting practical help from neighbours, if needed (Barry et al., 2009). Nearly three-quarters of respondents (74 per cent) reported that they found it 'easy' or 'very easy' to get practical help from neighbours when they needed it. People living in rural areas were more likely to report help from neighbours (84 per cent) than people living in urban areas (68 per cent). Other research in Ireland has found that social capital may be protective for mental health. Analysis of the SLAN survey found that people living in rural areas were less likely to report poor mental health and were more likely to report high levels of trust, which independently reduced the risk of reporting poor mental health (Fitzsimon et al., 2007). The authors conclude that indicators of social capital may reflect well-preserved community networks and support (ibid.).

We can conclude from the available evidence from my survey and elsewhere that a) social relationships and other measures of informal social capital are important to people and b) may explain higher than expected well-being and self-rated health. However, the research threw up an unexpected finding in relation to formal social capital. This refers to membership of voluntary associations and groups. Ireland has a higher than average volunteering rate in the EU (Eurobarometer, 2011). yet, this did not receive strong support in the survey. This is difficult to explain given the fact that it has been found to correlate with well-being in other research (see Chapter 5). It is entirely possible that this anomaly relates to limitations in the sample. However, were it to be repeated with a larger representative sample, it would need further exploration.

9.8 Incomes, inequality and poverty

Perhaps the most notable feature of the Celtic Tiger was that it led to large increases in average incomes (from about $20,000 in 1994 to over $50,0000 in 2007) (World Bank, 2012). Net national income (i.e. disposable income) which is a more realistic measure of income grew less quickly but still doubled (from $15k,000 in 1996 to $32,000 in 2006).

Rises in inequality are often a feature of economic booms, with the notable exception of the Asian Developmental State model (Hertzman, 2001). However, assessing the impact on inequality is more complicated, as the data on income are more difficult to interpret. However, according to the authoritative Luxembourg Income Study (LIS) overall inequality remained stable in Ireland during the period (Smeeding & Nolan, 2004). Other data suggest that inequality was characterised by rises in the top 10% of earners and falls in the income of the poorest. The rise in incomes at the top of the distribution was more marked even than the rise that happened in Britain during the same period (Voitchovsky et al., 2012). The share of the top 1 per cent was more than twice the level prevailing through the 1970s and 1980s (Whelan et al. 2007).

Throughout the Celtic Tiger period benefits – unemployment, child support etc. - remained high in absolute terms (Kitchin et al., 2012) but were not maintained relative to increases in income (Kirby & Murphy, 2011). By 2000, lower income Irish were worse off than the low-income persons in all other OECD nations, except Britain (Voitchovsky et al. 2012). That year saw an increase in the incomes of the lower decile relative to the median due to the introduction of the minimum wage, which had the effect of anchoring the bottom of the distribution (ibid.). Whelan, et al. (2007) argue that whilst relative poverty increased, this was a function of rapid rises in standards of living across the distribution, but that absolute material deprivation decreased. Similar to other countries during the period, Ireland also saw a decline in the wage share to labour from around 59 per cent in 1992 to 55.4 per cent in 1996 (O Riain, 2000). Breathnach also describes the emergence of a social polarization between those in skilled employment and those who have unskilled jobs or no jobs at all (Breathnach, 1998).

In spite of increasingly strong social transfers throughout the Celtic Tiger period poverty remained high by European standards. Figure 9.13 shows the percentage at risk of poverty compared to the EU-15. After an initial fall in poverty during the recession, it starts to rise again and increases the gap with the EU-!5. When examined statistically over this period, there is a weak negative correlation, although it is not statistically significant (corr=-0.22, p=.566). This is further evidence that although rises in GDP impacted on average incomes, there was little impact on the distribution of income –

either relative poverty or inequality.

Figure 9.13: Percentage of people at risk of poverty or social exclusion
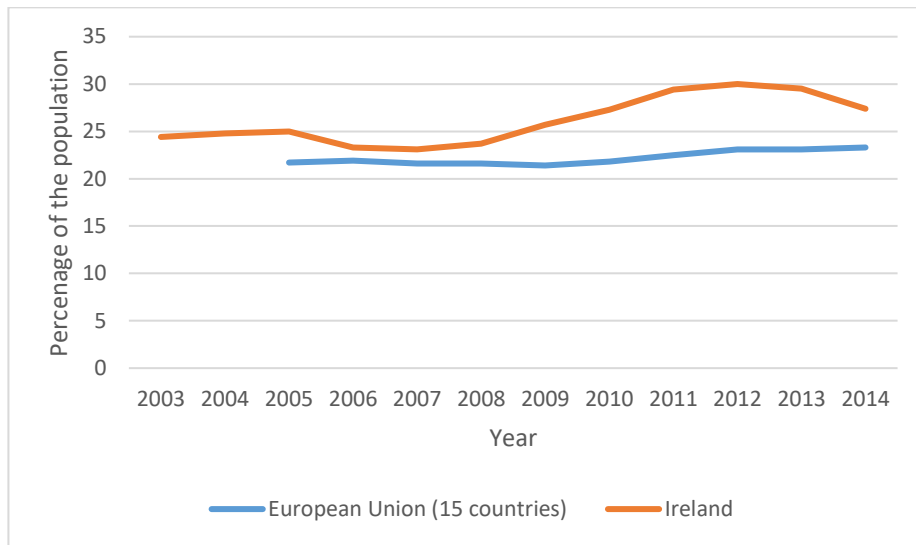
Source: Eurostat (2012)

9.9 The environment

The 20th century was the warmest of the last millennium in the Northern Hemisphere (Sweeney et al., 2003) and six of the ten warmest years in Ireland have occurred since 1990. The implications of a warming climate vary for different parts of the world. However, it seems likely, in general, that there will be an increase in rainfall and extreme weather events (Charlton et al., 2006). These environmental changes will have implications for the social and economic indicators that I have been discussing in this chapter. For example, a recent study on the economic impact of climate found that if climate change is not addressed, 77% of countries in the world would see a drop in per capita incomes relative to current levels, with global incomes falling 23% by 2100 (Seaman, 2015). Once we start to factor in the non-economic costs to human and natural life, the situation is even more critical.

In 2008 the Environmental Protection Agency commissioned a new set of accounts for the period 1990-2005 that incorporated some new data on emissions and pollutants. The researchers encountered major challenges in terms of data limitations (Lyons et al., 2008). The accounts concluded that several emissions have grown very fast over the period. Ireland's Greenhouse Gas Emissions peaked in 2001 and have decreased by 17.4% to 2012 on 1990 levels. However, under best-case scenarios, assuming the full implementation of government policy it is expected that there will be overall rises in some sectors such as agriculture and transport by 2020 (EPA, 2017). Whilst Ireland met its 2012 Kyoto target to reduce emissions by 13% on its 1990 target, it is believed that this

was primarily caused by a fall in demand because of the recession (Environet, 2017) during which Ireland experienced the biggest drop in energy consumption in the EU outside Lithuania (Eurostat, 2013). The next milestone is the 2020 targets set by the EU. Since the country started to grow again it looks unlikely that it will achieve them (EEA, 2014). Further analysis of the carbon intensity of growth from the period finds that although there was a drop in the amount of CO_2 for each unit of output (Breakthrough Institute, 2012), this was due to a process of deindustrialisation, rather than as a result of a decarbonisation of the economy. Some countries such as Sweden and France have managed to achieve rapid decarbonisation by pursuing a state-led strategy to decarbonise their energy supply and deploy scalable zero-carbon technologies.

Further evidence of why this is not a proactive strategy comes from the fact that much of Ireland's remaining sources of emissions are highly energy intensive. Agriculture is a major contributing factor (about three times that of the EU-27). This also provides an interesting example of how economic development and environmental policy can clash. Ireland is the 4th biggest beef producer in the EU and the beef industry is worth €1.8 billion. Although emissions had been falling from agriculture, in line with its share of GDP, the latest policy departure to promote the beef industry (Food Wise, 2025), will almost certainly lead to an increase. Maintaining (and indeed expanding) this agricultural base poses a significant barrier to achieving the reductions that are required.

The lack of action on the environment, and the inability to use the proceeds of growth to meet emissions targets (itself a weak form of sustainability) suggests a bad environmental record, particularly as it left the country open to large costs. These will be felt directly in terms of fines and the cost of climate credits from the EU but also indirectly from failure to invest in mitigation measures e.g. flood defences. During the growth years, concerns were often voiced about environmental impacts: "While incomes have risen, urban dwellers face increased road congestion, longer commuting distances, housing shortages, increased noise etc." (Clinch et al., 2006, p. 166). These issues were often raised in the media: this from a popular economics book at the time: "every morning and every evening, traffic snakes around the arteries of this country, bumper to bumper, snarling, fuming crashing and maiming," (McWilliams, 2007 p45.). The 'spiritual' impacts were also of concern:

growth that is squalid and blighted, a liberal culture that is shallow and vulgar, a new emancipated subjectivity that is aimless and listless, a promiscuous and indiscriminate "openness" to the new, ... a derision of past beliefs and ideals, softened by a note of nostalgia and wistful romance for their passing ...'

(Keohane and Kuhling, 2006, p. 40).

The dystopian vision of endless commuting, pollution, never-ending sprawl and moral and spiritual decline never materialised, and we know with hindsight that these observations were consistent with the late stages of a bubble. Nonetheless, it is certainly the case that few notable environmental policies were pursued during the Celtic Tiger period, and perhaps the most damaging legacy was not the inaction during that time but the fact that the subsequent recession seriously arrested environmental policy. Opposition politicians failed to link the unsustainability of policy in relation to banking, housing and employment with environmental sustainability by identifying short-termism as a common failure across these areas of policy.

9.10 Conclusion

Ireland experienced rapid and unprecedented GDP growth between 1994 and 2007, which culminated in a collapse in key sectors and led to a deep and protracted recession. In chapter 6, I argued that the aggregate nature of the GDP statistic failed to differentiate between the quality of different forms of growth in Ireland and masked dependence on sectors sensitive to bubbles such as housing. It also failed to provide any early warning system that such a collapse was imminent, Instead, it contributed to procyclical decision-making by suggesting that existing policy was working and should be maintained.

In this chapter, I have widened the analysis out to include additional economic and social outcomes that were identified as important in my survey. From the data that have been presented here, there is limited evidence that GDP has directed policy to improve societal outcomes, or that growth has translated into positive improvements in the things that people value. Growth may well play some positive role, but except for employment, no other statistically significant relationships were observed. However, the analysis was severely hampered by data quality and it is difficult to reach any firm conclusions. Nonetheless, given the methodological nature of this thesis and its contribution, this does not undermine the contribution that the research makes. Indeed, the systematic approach that has been taken to identifying the things people value and exposing data gaps in areas of major importance to human happiness is itself a contribution. I will return to this again in 10.3 when I discuss the role of data in politics.

In the next chapter I will reflect on the success of the measure, especially as a guide to policy and explore the policy implications from this analysis

Chapter 10 Conclusion

10.0 Introduction

This thesis aimed to develop a measure of social value that is sensitive enough to reflect the impacts of economic and social change but robust enough to be used to develop policies, and to function as an evaluative measure of the success of those policies. Existing approaches to capturing social value are either conceptually and methodologically flawed (GDP), or too stable to be policy relevant (SWB). Throughout this this thesis I have highlighted the shortcomings of these approaches and made a case for the development of a new approach that reflects the things that matters to people, and provides a process through which goals can be collectively set and policy-makers can be held to account. A contribution of the thesis is the development a conceptual framework for designing the measure and its application to the example of Ireland. In this final chapter, I reflect on the success of the measure by assessing its relevance to policy that is the extent to which it identifies a different set of policy proposals to the ones currently being pursued.

I begin with a summary of the findings summarising each chapter in turn. I then go on to discuss the measure with reference to two worked examples: mental health – a highly valued outcome - and the environment – which is the archetypal constraint within the framework. As such they 'represent' the things that people subjectively care about and objectively ought to care about in line with the theoretical arguments set out in Chapter 3. Policy implications within these two areas are discussed. A final policy conclusion to emerge relates to the management, use and ownership of data by the Irish government and governments more generally. Data has been described as the 'oil' of the Information Age (Chazan, 2016), yet the public sector is in many areas withdrawing from the collection and ownership of data. I recommend a new information strategy for Ireland and make an argument for data as a public good, and the need for collective ownership of certain types of data. I conclude by reflecting on the contribution of the thesis, the lessons learned and identify some future research questions that it raises.

10.1 Chapter summary

I opened in Chapter 1 with a discussion of the idea of progress, how it has developed since ancient times and the problems that have become associated with it. I describe the optimism placed in data and measurement to improve societies that emerged during the Enlightenment how it reached a high point in the late 19th/early 20th century before going into decline. Despite many positive contributions that can be linked to the reforming zeal

of earlier progressives, I explain why I am eschewing the term progress and offer an alternative term 'social value' to describe the end goal of a collective system of measurement. Due to the controversy surrounding the whole idea of measurement, I make a case for why I think it is important. I argue that we need a basis for collectively deciding goals and being able to hold policy-makers to account and that some form of aggregate measurement is necessary to achieve this. To date, national measurement has been dominated by economic measures – exemplified by GDP - and disciplines such as sociology have taken a back seat. I conclude the chapter by setting out the research questions and overall design.

Chapter 2 begins by describing how GDP was developed and rose to dominance in most developed countries. It then goes on to document the reactions against this. Although criticisms came from many quarters, in this chapter I focus on four influential developments from across the social sciences, which all began in the 1970s: The Limits of Growth, the Easterlin Paradox, postmaterialism and the multiple capitals approach. I then go on to discuss the alternatives to GDP that have been influenced by these critiques, focusing on three categories: adjusted GDP, composite indicators and dashboard approaches. Following a discussion of the attributes of each, I make a case for composite indices. The chapter concludes with a brief discussion of the political issues that have enabled GDP to remain dominant in the face of overwhelming criticism.

A central critique of alternatives is that they are often not based on clear theoretical foundations, especially those that take GDP as a starting point and add or subtract from it. In Chapter 3 I begin to develop the conceptual framework that will inform the primary data collection for the research. It starts with a discussion of the history of value theory beginning with Socrates. I describe how ancient philosophers - Aristotle, Seneca, Epicurius and Pyrrho - all prefigured the modern theories of value: objectivism, hedonism, desire theory as well as neo-Aristotelianism. I describe how desire theory as measured by revealed preference has influenced economics and the use of GDP as a proxy for welfare. This discussion led to a hybrid theory, which draws mainly on objective list and desire theory, and combines subjective and objective perceptions of value. This forms the basis of the conceptual framework -'constrained utilitarianism' - which takes account of subjective perceptions of value but applies a constraint to those preferences.

A paradigmatic constraint which I return to throughout the thesis is the environment. Evidence tells us that the environment is vital to the maintenance of our well-being even though it tends not to be highly valued. Chapter 4 discusses the environment in more detail and why it should qualify as a constraint. Arguably, it is an interesting case because it is a flashpoint for the tension between subjective and objective data. I advocate

Neumayer's (2004) definition of sustainability - bequeathing the *conditions* of non-declining welfare - as it does not hold us directly responsible for maintaining welfare after we die so long as the conditions for welfare generation are present. This definition allows for the exploitation of environmental capital as long as it is not critical natural capital i.e. natural capital that cannot be substituted and which excessive consumption of which is irreversible. Due to the non-substitutability of some forms of capital, I recommend keeping a separate environmental account that must maintain the stocks of critical natural capital above zero. This functions as a constraint within which people can choose different priorities so long as they do not deplete the stock of natural capital in an unsustainable way.

In Chapter 5 I described the methodology for the primary research and the empirical analysis for selecting indicators. The chapter returns to the issue of subjective and objective data and the epistemological challenges of combining them. I make a case for case study research, discuss reflexivity and describe the research design including survey design, data selection and analysis. A key argument that I develop is to question the requirement that data in national indices are comparable. I make the case that comparability reduces the specificity of indicators and their relevance to the national context and therefore policy. The second part of the chapter reviews the determinants of well-being. The aim of this section is to identify from this literature a 'long list' of indicators that would inform the design of the survey. In this way, subjective and objective perceptions of value are combined in line with the conceptual framework.

In the second part of the thesis, I apply the framework to the example of the Republic of Ireland. In Chapter 6 I describe the history of Irish economic development. I briefly discuss the long period of economic underperformance from the foundation of the State in the 1920s to the end of the 1980s. I then describe the domestic and external policies that led to the 'Irish Model' better known as the Celtic Tiger. The strengths and weaknesses of the model are discussed, as are the reasons for its eventual collapse. I conclude the chapter with further discussion of the reasons why Ireland makes an interesting case study for this research.

In Chapter 7 I describe and operationalise the conceptual framework. I begin by presenting it in diagrammatic form and discussing the principles that underpin it. These include, transparency, focusing on ends, rather than means, combining subjective and objective data and cultural specificity. The measurement of attitudes and values are then discussed. I introduce the Kahneman's idea of fast and slow thinking and argue that a consultation such as this should allow people to conduct slower, more deliberative thinking, which may depart from their everyday behaviour. This index should therefore

reflect the way we would like society to be, rather than the way it is. I then go on to describe the type of multivariate analysis that was applied to the dataset.

Chapter 8 presents the findings from the survey. I begin by reporting on the things that people value, this includes evidence of changes in valuations over time, the amount of income people believe they would need to make them happy and their own subjective well-being. The results of the primary research suggest a strong emphasis on non-material and non-economic factors in people's lives, which differs very much from the direction of policy in Ireland over the past number of decades. The income threshold that was most commonly selected was far higher than average incomes - or previous research on this question - including research for Ireland. I discuss issues with the way these data were captured and suggest explanations for the discrepancy. I conclude the chapter with some additional statistical analysis of the dataset. Using Chi Squares, I test two null hypotheses 1) that there is no relationship between gender and overall valuations and 2) that there is no relationship between religion and overall valuations. In both cases I reject the null. Although, there is no evidence that men are more materialistic than women, women tend to value all of the outcomes more highly than men. It is difficult to interpret why this is the case. There is a significant relationship between religious affiliation and certain groups of values, although the interpretation of these is not always straightforward. Then, using Ordered Probit I test the null hypothesis that there is no relationship between material goals and self-reported subjective well-being. The findings are mixed. There are some weak relationships that would support the hypothesis but as with other areas it is undermined by the size of the sample and data quality. Demographic variables such as age and employment status were found to correlate with life satisfaction in a way that is consistent with the literature, however, there is no strong evidence of a relationship between materialism and lower SWB. The findings from the PCA are then presented along with the final list of indicators for inclusion in the index. Drawing mainly on international data sources such as Eurobarometer and the OECD I suggest indicators for the outcome areas. However, due to a lack of time series data it is not possible to complete the final steps for index construction. The outcomes are instead presented in dashboard form for the remainder of the analysis.

In Chapter 9, I discussed the secondary data and literature that exists on the successes of failures of the Celtic Tiger in generating social value in Ireland. This assessment is based on the 10 outcome areas that have been identified in the primary research. Although data gaps prevented these from being constructed into an index, it is possible using the data that are available to look at relationships to GDP during some or all of the Celtic Tiger period. Partial data are available for the following:

- Mental health
- Income inequality
- Poverty and debt
- Physical Health
- Employment
- Education
- Social capital/trust

No data were available on:

- Public service quality
- Use of time
- Relationships

Changes in SWB and the environment are also discussed in light of their importance to this research. This section is severely hampered by lack of adequate data, both in terms of time series and range of indicators measured. Working with the best available data, I review trends and calculate correlations with GDP where possible. The analysis found little change in most social indicators and, excepting employment few have correlated with changes in GDP during that period. Instead most indicators throughout periods appear resilient to rises and falls in economic fortunes.

This chapter concludes the thesis by reflecting on the usefulness of measure, specifically its application to policy. I also reflect on the primary research and lessons that were learned. I discuss the contribution of the thesis and describe the need for a new data strategy for Ireland and set out new areas of research in this field.

10.2 Reflecting on the 'use' of the framework

The influence of utilitarianism not just on moral and political philosophy but also on social policy has been profound. The guiding question that Bentham asked, "What use is it?," has been described as the 'cornerstone' of policy making in the 21st century (Driver, 2014). Bentham thought that this question was the test of any instrument of the state. It is therefore appropriate to conclude this thesis with a discussion of the practical application of the measure and its usefulness as a guide to policy.

Ten outcome areas emerged as being the most important to people in this research. In the previous chapter I gave an overview of each of these. A discussion of the policy response in each outcome area is outside the scope of this thesis. Instead, I will focus on two 'worked examples': mental health and the environment. Mental health was selected because it received the highest scores in the survey. The environment was chosen because it was an example of a constraint, and as discussed in Chapter 8, it is an area that does not receive a lot of public support. As discussed in Chapters 4 and 9, it is also an area where we know that there is sometimes a direct trade-off between

environmental goals and growth. The question to be addressed in this section is how we would organise a society where a) good mental health was a central goal and b) we aimed to bequeath the conditions of non-declining welfare to future generations.

10.2.1 Mental health – a worked example

One of the strongest findings to emerge from the primary research was the value that people place on good mental health all things considered. The survey distinguished between mental health as a specific construct separate from measures of positive well-being (self-esteem, control over one's life, feeling like life is worthwhile etc.). It is perhaps unsurprising that mental health and the positive measures of well-being were ranked highly. Of course, positive psychological states are important to feelings of happiness. On the other hand, the extent to which people recognised this was notable; as well as being the only outcome to score above 9/10, across the whole ranking there was the largest distance between it and the next determinant (0.34).

Although it is widely hypothesised (e.g. Hochschild, 1989; 1997; Schor, 1998), there have been few attempts to establish causal relationships between economic and social systems and mental health outcomes. Whilst the socio-economic determinants of mental health are well understood these are rarely discussed from a structural or macro perspective i.e. what type of society is likely to produce the conditions under which mental illness thrives and what type is not. Prevention is usually understood at the individual level i.e. what behavioural changes can people take to reduce risks and stressors, although many of the most well-documented stressors such as poverty are not things that people necessarily have control over. One strong piece of evidence for environmental determinants comes from the international prevalence data where we see major differences between developed countries (WHO) - with the US having three times the prevalence rate of countries like Italy and Spain – this gap is still sizeable when cultural differences are considered (Bromet et al., 2011). In addition, the countries with the lowest prevalence rates in the World Mental Health survey also report the lowest levels of impairment associated with those disorders, suggesting that the variation is not just a function of differences in diagnostic thresholds (Andrade et al. 2003). Furthermore, there is evidence that immigrants in the US quickly increase their risk of mental health problems, especially if they do not live in native ethnic communities (Weiss, 2005). These data suggest that the way societies are organised, at least in part, impacts on our mental health.

The focus on prevention has taken on greater importance in recent years, partly because of the failure of rehabilitative measures to reduce the demand for treatment. On many

measures, mental illness appears to be on the rise in developed countries: in all European countries for which data are available, the consumption of antidepressants has increased over the past decade (by over 80% on average across EU member states) (OECD 2012). Governments are increasingly concerned about the costs of depression, not just the costs of treatment but its impact on wider health, social and economic outcomes (Cyhlarova et al. 2010). A recent study by the World Health Organisation (2011) has reviewed the evidence on the relationship between recessions and mental ill-health. This is the first international report of its kind to take an almost entirely structural approach to the issues. Factors that were found to be detrimental to mental health are: poverty, poor education, debt, negative early childhood experiences, unemployment, job stress and insecurity and alcohol/drug use. Protective factors include social capital, welfare provision, positive early childhood experiences and healthy lifestyles (World Health Organisation, 2011). In a statement that points explicitly to the limitations of a treatment-based approach, the report states that: "the health sector cannot achieve good mental health alone. The determinants of mental health are often outside the remit of the health system, and all government sectors have to be involved in promoting mental health" (WHO, p.4). The report is also the first of its kind to link economic crises to mental health outcomes[56] and argues that certain types of economic systems are better placed to weather them than others.

These are interesting questions to discuss with respect to Ireland. Although it is not possible to cover each risk and protective factor for mental health, I will focus on two: welfare spending and alcohol policy. In 2014 Ireland introduced its eighth austerity budget since the financial crisis. Over €30bn in austerity measures have been introduced equating to over 15% of GDP. Most of this has been in spending cuts (roughly two thirds) and only one third through revenue increases (Nevin Institute, 2013). Supporters of austerity point to improvements in other economic data: Ireland moved out of recession in 2013, there has been a recovery in the property market and unemployment has peaked and begun to fall. The pain, such or so the argument goes, was worth it. As I have been arguing throughout this thesis, the problem with this is that short-term changes in GDP only give a partial picture. Not only does this not take account of what impact the removal of social supports have on people or the environment, it may also mislead us to the health of economic fundamentals i.e. to what extent is the recovery based on solid and sustainable sources of employment and growth? It is not clear how resilient the economy will be to further exogenous shocks. Neither is it a guide to the

---

[56] This report was followed in 2014 by an international report on the social determinants of mental disorders (World Health Organisation, 2014).

quality of that growth in terms of how equitably it is distributed, how employment intensive it is or how environmentally sustainable it is. Social safety nets are thought to be protective of mental health by providing a buffer against the impact of other risk factors such as indebtedness.

Alcohol consumption is negatively associated with population mental health in most parts of the EU, especially suicide amongst men (World Health Organisation, 2011). Though this is often framed as a matter of individual behaviour, the WHO report describes alcohol policy that controls the price and availability of alcohol as the most effective and cost-effective way of reducing death from alcohol use. Alcohol consumption increased by 41% during the 1990s in line with liberalisation of the licencing laws in Ireland. As discussed in the previous chapter, Walsh and Walsh (2011) attribute this policy change at least in part to the very rapid increase in suicide mortality among young Irish males during the 1990s. Although the 2015 Alcohol Bill proposed strong measures to limit the availability and increase the price in alcohol it has been criticised for not going far enough, for example by allowing drinks companies to continue to advertise at sporting occasions. This is a further example of where GDP (or government revenues) are dependent on an area that may, at least in part, be destructive of social value.

Responding to these data, and the findings from the WHO study quoted earlier, would imply more robust and preventative policy. Tackling the root causes of mental ill-health and protecting societies from them would have far reaching implications. Family support measures relating to childcare, maternity/paternity care and flexible working arrangements, this would include informal parent support systems to build social capital and provide peer support networks aimed at families such as parenting and psychological support. More effective ways to deal with personal debt would also be required, including access to finance strategies with ministerial oversight, tougher controls on predatory lending and gambling and more proactive debt relief programmes. In light of the evidence linking alcohol to mental ill-health, more robust, evidence-based policies are required to limit availability and reduce demand through pricing. Employment is a strong predictor of well-being in and of itself and also protects against poverty, which is another major determinant of mental ill-health. Although active labour market policies have been pursued for years, these are very supply-side; over-focused on skills rather than job creation. A job guarantee is a simple idea that would guarantee everyone a job by the state. Employment could be created that was aligned to social value creation e.g. jobs in community organisations or the public sector. Recipients would be allowed to phase out their benefits over time as well as earn skills and experience to enable them to move on from the scheme. A final area that would require a new policy direction is

social capital. Like employment, it was shown to very socially valuable in and of itself, but it is also an important determinant of mental health. More could be done to 'design in' social capital to the planning of towns and village by increasing the availability of good quality homes and creating social opportunities and walkable neighbourhoods. In Ireland, the policy of promoting rurality appears to be positive for social capital and communities need to be supported to remain there through more flexible working arrangements and better local infrastructure.   Alongside this government should commission research to build the evidence base on policies that enhance and limit social capital.

10.2.2 The environment – a worked example

In Chapter 9, I discussed Ireland's progress on environmental outcomes and the need for urgent action to reduce emissions if Ireland is to have any chance of meeting EU targets. Decarbonising the energy supply is one way to reduce emissions without harming growth, so-called clean growth. However, this is a major task and one where Ireland has been making slow progress. Although the impacts of these policy failures are experienced internationally, Ireland is facing punitive EU fines in 2020 for failing to make its contribution towards EU-wide emissions reductions.

Ireland has abundant renewable energy resources including wind, water, tidal, and biomass with some of the highest average wind speeds and the largest wave energy resource in Europe along its west coast. North and south of the border both governments have set targets of 40% for renewable electricity generation by 2020. As wind is the most mature of the renewable technologies it is expected to be the biggest contributor to fulfilling these targets (McGarrigle et al 2013). This means that 37% of the target is expected to be met by wind with other forms of renewables expected to make up the rest (ibid.). By contrast wave energy is in its infancy and is not yet commercially viable. However, it is estimated that a very large global resource for wave energy exists if the challenge of integrating it into electrical grids could be met (Deane et. al. 2012). The Sustainable Energy Authority of Ireland estimates that Ireland has a wave energy resource of as much as 525Twh, compared to the roughly 30Twh needed in Ireland per year (SEAI, 2016). The Irish Government has set a goal to make Ireland a world leader for research and development of ocean energy technologies and an ambition to achieve at least 500 MW installed generating capacity from ocean energy by 2020 (Deane et al, 2012). The problem with these source of energy is that we do not currently have the technology to store the energy produced. In general, the more fluctuating energy sources, such as sun and wind power, are connected to the grid, the more difficult it is to ensure grid stability. Supply and demand must be balanced always. If they are not,

the resulting fluctuations in voltage and frequency can disrupt or even destroy electronic equipment. What these resources need is a means of storing energy at large scale and low cost that can be adapted anywhere.

Nonetheless, even if policies to produce and store renewable energy were available, this is only one part of the solution. If we accept that the carbon intensity of growth cannot be reduced at a fast-enough rate to achieve the required emissions reductions described in previous chapters, it may be necessary to think about how best to reduce emissions without directly manipulating growth rates to that end. Measures to curb certain types of consumption and to regulate polluting industries are also required. The range of policy instruments to assess environmental impacts is very limited and tends to focus on regulation and (in the case of agriculture) on subsidies. Relying too heavily on regulation and confiscation risks alienating an already sceptical public. There is a limited use of pricing to promote certain kinds of behaviours and economic activity and to signal scarcity. The recommendation here is to make much greater use of this by reforming the tax system to promote social value creation as described in this thesis.

A more comprehensive form of environmental taxation is known as Environmental Fiscal Reform (EFR). Environmental Fiscal Reform involves shifting revenue-raising instruments from labour and capital to resource use and pollution. Policy instruments include taxes; charges; or auctioned permits in an emissions trading scheme. The reform could be designed to be revenue neutral or revenue raising (EEB, 2016). In 2010, the European Environment Agency prepared a paper on EFR in Ireland (Andersen et al 2010). The paper argues that EFR could be positive for other areas of social need: productivity, employment, innovation, health and equality. It is possible to envisage how EFR could be designed to promote objectives like rural development for example. A risk with EFR is that the burden of taxation falls on the poor and careful design of policy is a necessary requirement. It should also be remembered that poorer sections of the community already suffer most from poor environmental quality and access to green space, EFR should improve this as well as reduce more regressive taxes such as VAT and labour tax with a greater focus on young and unskilled workers (see Blobel et al, 2009).

The EEA report estimated that such reforms could generate up to €5 billion in extra revenues by 2021, which could be used to promote things like investment in mental health. Drawing on a wealth of research into barriers to initiating EFR the authors argue that the main barriers are political i.e. a low level of acceptability of such taxes. It is well-established that for taxes to work they need to have a high degree of acceptability (Cherry, 2014). This was underlined by the recent protracted controversy in Ireland on

the introduction of water charges, which have now been abandoned (O'Halloran, 2016). This was partly due to the perception that water charges were 'imposed' as part of a series of stringent austerity cuts agreed with the troika. The details of the water debate are outside of the scope of this thesis, suffice to say that the mishandling of the approach reduces the likelihood that 'polluter pays' taxes will have further traction in the short-term.

Throughout this thesis, I have argued for a balance between the views of the public on what matters in a society with what policy makers may objectively think is in the public interest. One of the purposes of this thesis was to develop a framework that would provide guidance as to the 'settlement' between public and expert opinion. The environment is a key flashpoint where these views diverge. Even in the face of opposition to environmentalism, governments could do more to use instruments such as fiscal policy to promote pro-environmental behaviour by compensating people for losses elsewhere in the taxation system. The intention is that this would 'join up' thinking on environmental, social and economic policy, and make visible the trade-offs between them including where the gains and losses fall for different communities. Drawing on these two worked examples, I conclude in the next section on how successful the approach has been at achieving this objective.

10.2.4 Reflecting on the success of the framework

A key question for the research relates to how successful the final indicator set is at measuring things that people value. The first point to make is that it is an uncontroversial list. We can see all the elements there that we would expect to see, and it shares similarities with other kinds of indices such as the OECD Better Life Index. It is also similar to the things that have emerged from qualitative studies of the things that matter to people (e.g. Hyman, 2014). This is reassuring, as it does not require me to provide external validation for aspects of the selection. Of course, it has not been possible to apply the approach in a real-life situation, which is a true test of how successful it is. What I have done is reflect on how it would translate into policy e.g. if we were to design an economic system that minimised mental health problems and maximised environmental protection. It is in this way that it also differs from other approaches. For example, the OECD dashboard approach is simply a list of OECD-selected indicators that are used for comparing country performance. Not only have I argued against this comparability objective but by asking people to score items in relation to how valuable they are, we can see a clear prioritisation of what matters in the data These findings suggest that a world that pursued goals over and above GDP would indeed pursue different policies, and that these may result in different societal outcomes. In addition, the OECD approach ignores any trade-offs between different areas of policy, and

assumes therefore that different forms of capital are substitutable. As outlined in Chapter 4, this could result in an overestimation of the social value created by a country.

In addition to this, the process of how decisions/policies are arrived at also matters. The most notable feature of the political landscape in the 21st century in Europe and America in recent years has been the rise in populist parties, and dissatisfaction with the political 'system'. We could go so far to say that there is a something of a crisis in traditional, representative democracy where people don't feel represented but instead feel alienated from a political class that does not look and speak like them, nor share their concerns. It is into this vacuum that populist candidates of all political stripes have stepped. Nonetheless, whoever is in power still faces the challenge of balancing competing interests: present and future generations, local, domestic and international, short and long run. As well as responding to people's concerns they will also need to find new ways to bring the electorate with them. A more participatory system where clear collective goals are enunciated and where evidence is used carefully to promote policymaking may have a role to play. There is also some evidence that participatory political regimes deliver high quality growth in terms of jobs and job quality. Rodrik argues that this approach leads to superior institutions that respond better to local need (Rodrik, 2000). He argues that it is possible to create a virtuous circle where participatory system creates higher quality growth which strengthens institutions further.

A final reflection on the framework, is the observation that very little change took place across any of the indicators that I analysed in Chapter 9. This may have been a limitation with the data or time period over which it was being assessed. However, we cannot rule out that very little changed socially during the Celtic Tiger period. Contrary to the idea that it was a period of huge upheaval, perhaps there was much more continuity than we have been led to believe. On the other hand, considering other long run data on well-being, little or no movement in social indicators is perhaps not as much of a surprise as it should be. The findings from the happiness literature clearly show that welfare can reach a maximum, or that growth of welfare will tend to zero (van den Bergh, 2010). It is entirely possibly that Ireland was already achieving diminishing returns to well-being from income before the Celtic Tiger even got underway. Van den Bergh (ibid.) argues that if this is the case, this would make additional efforts to discover welfare improvements futile. I would counter this by saying that we do not yet know. Many of the things that matter to people have not been measured robustly over a long enough time period. It is also the case that whilst macro indicators may be tending towards zero improvement, there are still severe inequalities of wealth, income and well-being that can be improved upon even if these impacts are not being picked up in aggregate data, indeed it makes

a focus on distributional issues even more pressing. However, without more data it will be difficult to make the case to abandon aggregate measures entirely. Finally, it is possible that although the example of the Celtic Tiger might show that rapid growth does not necessarily have a major social impact, this does not mean that policy-making is a futile exercise. As I have shown in the worked examples, there appears to be much scope to impact on some areas such as mental health and the environment. However, it might well be that the kinds of policymaking that is taking place in many contexts – including Ireland – is ineffectual. Much of it revolves around minor changes to taxation, or small increases in public spending, which may not be radical enough to have an impact that can be seen in the aggregate data. In the next section, I discuss the lack of diversity in policy-making and how it relates to data management.

10.3 The politics of data and accounting in national policymaking

The need for better data in Ireland has in part been recognised by the government. In 2015, the National Statistics Board published a new strategy to 2020. The vision for the strategy was to create: "A world-class system of official statistics using the best available data to provide high-quality, independent and accessible information for Ireland" (NSB, 2015 p3.). This data agenda has been spurred on by two things 1) requirements from the EU to comply with the wider EU strategy and 2) the emphasis on accountability and transparency in public service following the financial crisis and mistrust caused by a series of expenses scandals involving senior politicians.[57]

The stated objectives of the data strategy are:

1. The need to collect internationally comparable economic data to inform credit ratings and to furnish the OECD with statistics for its economic growth outlooks and debt ratios

2. The need to meet comply with Eurostat and the requirements of the European Statistical Systems, which frames EU policy. As such, the programme is 'largely prescribed' by regulation to meet the need of institutions such as the European Commissions, the European Central Bank and the European Council (NCB, 2015, p7). The EU has also given Eurostat the power to adjust nationally produced statistics if it considers that the figures look implausible or has doubts about the methodology used to produce them. It has been estimated that 90% of

---

[57] In response to this, a department of Public Expenditure and Reform was established to deliver on a commitment to more accountable government. The department has piloted an interactive statistics site, published datasets from across the public sector and developed guidance for evaluation and value for money assessments.

the work of the Central Statistics Office is taken up with meeting EU data demands.

As we can see, the emphasis is on harmonisation at the EU level, and to enable international comparability. For certain kinds of policy areas where policy is being set at the supranational level, or where economic data are required by international lenders this may make sense but not to the exclusion of other kinds of important indicators. The majority of outcome areas that have emerged as important in this research are controlled by domestic governments and we could go far as to say that for the purposes of national policy, comparability is irrelevant. This means that there is a disconnection between the level at which data is being gathered and at which policy is being formulated. Furthermore, there are clear sovereignty issues where governments do not 'own' the data, nor do they necessarily have a say in what is being measured. Although there is nothing stopping governments from 'complementing' EU datasets, the resources of national governments are being exhausted gathering data that is being decided centrally. Whilst there may well be a good fit between what matters to people in Ireland and what the EU decides to collect, this is not guaranteed and the mechanism for governments to control this is being eroded. This is a process which runs counter to the conceptual framework for measuring social value set out here.

For global public goods - e.g. finance and climate change - the need for international and European datasets are certainly important. But the principle of subsidiarity should apply. As I have discussed, Ireland appears to be rich in some forms of social capital, and this may be protective against economic shocks and so on. It is then eminently sensible for this to be defined and measured in a way that is specific to how it is being experienced, irrespective of how it plays out in other countries. This also has implications for policy autonomy. One of the rationales for an EU-level statistical strategy is to further the convergence between countries, which implies convergence in policy as much as socio-economic circumstances. Policy diffusion theory – which explains why policy choices are affected by the prior choices of other countries – has been observing a process of convergence in policy formation for some time (Shipan and Volden 2008). For example, Dobbins et al. (2007) have used it to explain the worldwide spread of economic and political liberalism in the 20th century. Although there are some positive aspects to policy diffusion, such as learning, there are also negative aspects such as some forms of competition and coercion (e.g. Shipan and Volden 2008; Gilardi 2012). EU convergence and associated data management is consistent with the coercive aspects of this theory, which should lead to less innovation at the national level. The underlying logic of coercion involves power asymmetries that strong actors exploit to impose their preferences for

policy change on the weak. Dobbins et al. have described it as the most 'illiberal' of ways in which policy diffuses (ibid. P14). Coercion theorists suggest that policies diffuse from the 'centre' both actively through ''conditionality'' and passively through ''unilateralism'' by more powerful actors (Dobbins et al., 2007). Those organisations that are requiring data – the EU, the OECD and the IMF – are also constraining the policy environment and we could argue that data is being used to further that coercive process. We can think for example of borrowing costs or debt ratios required by the OECD, or public sector pay, and minimum wage levels required by the IMF/ECB as part of the bailout programme. As described in Chapter 6, the constraints of Eurozone membership led directly to Ireland needing to seek a bailout programme. The method of collective goal setting described in this research seeks to work against the trend for policy diffusion and the interdependence of policymaking that may not be in the interests of small economies. To counter policy diffusion or the adoption of sub-optimal policies the way in which policies have diffused requires further research. Ireland would again make an interesting country to study as it is often held up as an example of the benefits that liberalisation can bring to small countries.

There are wider issues about who accesses, owns and stores data that are also of relevance here. The scale and speed at which data is being produced, stored and analysed in the private sector is at a level that would have been unimaginable just a few years ago (Spratt and Baker, 2015). Ninety per cent of data in existence were created in the past two years and this is doubling every two years (ibid.). The potential of Big Data to change the landscape of official statistics is of huge importance. The National Statistics Board highlight the potential for reducing dependence on traditional survey methodologies, thereby reducing the cost and increasingly the timeliness of data availability (e.g. the use of mobile phone data to monitor tourism) Kitchen and Lauriault (2014), caution against conflating volume with insight, utility and value and argue that established methodologies that have been developed over years should not be discarded (see also Harford, 2014 for a discussion of the methodological limitations of Big Data). One source of potential value in traditional methods is that they capture lots of different kinds of information, spanning both subjective and objective. Big Data techniques tend to monitor behaviour and infer preferences from that behaviour. This is similar to the inferences that economists have drawn from preferences revealed in markets about what people value. With Big Data these inferences can be extended beyond markets to 'reveal' what people value in the non-market and personal sphere. However, this suffers from some of the same limitations as preferences revealed in a market context. In Chapter 7, I discussed Daniel Kahneman's work on decision-making

and problems associated with it. This is especially the case for what he calls System 1 thinking, which is fast, instinctive and emotional. I also present evidence of a value/action gap; a gap between how we behave and the values that the hold. I argue that the social value index should be appealing to System 2 thinking, which is slower, more deliberate and logical. A major risk with revealed preference, and Big Data techniques is that they fall into the System 1 definition. Neither allow space for aspiration, or appealing to our better instinct; they assume how we behave is rational and reflects our values. Traditional methods of social science may be expensive, less timely and sometimes less accurate but they may still hold more promise for answering the question of what kind of society we want, and monitoring our progress towards it.

That is not to say that governments should retreat from the collection and analysis of Big Data. The private sector certainly sees a value in this kind of data and continues to find ways to improve their marketing and production by obtaining even larger, more accurate and timely data (Spratt and Baker, 2015). Greater investment by the private sector in data collection and analysis will lead to superior datasets being privately owned and the further privatisation of information. There are of course risks with public ownership of data too and data as a public good is not the same as using data for surveillance, or as a revenue stream. Most data in the public sector should be open and owned collectively but not all of it (Tennison, 2014). The 'mosaic effect' (Mazmanian, 2014) describes the way in which governments can synthesise data, which would allow them to piece together information about an individual and 'see' them in real time. This has implications for privacy and, in the wrong hands, political freedom. The Estonian model counters this risk by only allowing the individual access to all of the information that is being held on them. [58] This has been held up as best practice (Spratt and Baker, 2015). This is an increasingly important issue that is highly relevant to the debates set out here. Needless to say, it is one that requires a substantial amount of further research.

10.4 Caveats and lessons learned

This thesis has sought to ask a very simple yet ambitious question. What would a world designed around the things we value in life look like and what would we need to do differently to get there? This is a deliberately utilitarian exercise. I have sought to find out what people value and to use that information to construct a way of mapping and measuring progress towards that. The most obvious limitation is therefore a philosophical one and rests with the key problem with utilitarianism, or an evidence-

---

[58] Estonian citizens can see the information that the state holds on them but state agencies can only see data relevant to them and no agency can see all of the information, so the mosaic can never be completed except by the 'owner' of that data.

based approach to making policy. In practice, the evidence that underpins such a model can be weak or inconclusive. Second, such an approach assumes that certainty is possible where there is often huge uncertainty even in areas with a strong scientific tradition such as climate change. Third, this appearance of certainty assumes that intractable issues can be answered scientifically when this is often not the case. Even where it could play a greater role this often comes second to what is politically expedient. These limitations are not insurmountable. A risk with the current approach is that it lacks accountability for how decisions are made. For all its limitations, it is difficult to see how anything other than some form of a utilitarian approach with appropriate constraints, check and balances can be avoided. There may be scope to complement it with a more deliberative approach to deciding on outcomes and indicators. Talpin (2004) argues that this should lead to better governance and social capital but should also produce 'better citizens' (Talpin, 2004 p.1). However, Chapell (2008) in a critique of deliberative approaches argues that such approaches are replete with weaknesses such as instrumental rationality, cognitive limitations, self-interested behaviour and a lack of motivation to participate in highly resource intensive activities. The role of deliberative approaches in any future development would therefore require further research.

The second major caveat relates to data quality. This applies both to limitations with the survey and secondary data. This has been discussed at length above and does not need further discussion suffice to say that generalisations for the whole economy cannot be made based solely on the data presented here.

The final caveat is that I did not complete the process of developing an actual index. Although correlations between indicators of interest and GDP were carried out, these are only simple comparisons and their robustness has not been tested. The lack of data prevented this final step from being completed. On the other hand, based on the data that were available, and with the exception of employment, few promising relationships between GDP and other social, economic and environmental indicators could be seen, suggesting that an index would have yielded similar results.

An important reflection, which I have mentioned throughout the thesis is that there is no perfect alternative to GDP. Van den Bergh (2015) recommends taking an approach that starts with the findings of happiness research as I have done here. However, he admits that this is unlikely to deliver the holy grail of a perfect indicator. What I have attempted to do is to provide something that is a better approximation of social value than we already have: one that contains more useful information than GDP and less misleading information (Van den Berg, 2015).

The biggest learning point relates to the survey design. Most notably, the survey was too long, and this appears to have discouraged people from completing it: although 502 people attempted the survey, only about 350 completed it. This meant 150 responses were not included in the analysis, reducing the reliability of my results. Although this is a common mistake with surveys, it was one that I did not pay sufficient attention to. Were the research to be repeated, the survey would benefit from being harmonised more closely with the research questions to ensure that unnecessary questions were not being asked.

The second lesson relates to the usefulness of focusing the research on Ireland. Although I was initially sceptical about the value of focusing on a single country, the process has proved very useful, both in terms of learning about one country in detail but also about the wider lessons that can be learned about the methodological approach. Having more than one country would have enabled comparison; however, it would have reduced the depth of the analysis and the richness of the findings.

There are three areas that I have identified where further research is required. The first relates to politics. To better understand the politics of this, research with policymakers who were responsible for making policies during these decades of extraordinary change would contribute to knowledge in this area. Just how in control were domestic policy makers? What kinds of pressures (implicit and explicit) were they under? Why, given the limitations of certain kinds of policies, are they still being pursued? How can space be opened up (if at all) for alternative policymaking and what might be implications of that be? These are all interesting questions for future research that lead on from this thesis and which could provide a better understanding of the issues raised here. A second area of future research relates to social capital, which has emerged as something that is highly valued in and of itself as well as being an enabler of better societal outcomes. However, little is known about how social capital is 'created'. Although much is written about it, there are fewer practical policy responses. The final area of future potential research relates to data and the trends that have been identified above. Alongside the growing arsenal of private data available to companies, we can observe a withdrawal from data collection by national governments and a convergence on indicators of importance at the EU level. This requires some critical attention by the academic community, and the social value of data is a fruitful area of potential research.

10.5 Conclusion

Following the 2008 financial crisis economists issued warnings to countries of the risk of becoming like Japan, of having a so-called 'lost decade'[59]. The lost decade is a term, which simply means low growth. In the aggregate, Japan's economy grew at half the pace of America's between 2001 and 2010 (The Economist, 2011). And yet, Japan performs much better on many economic measures than the US: incomes have been rising, the unemployment rate is low, it has low levels of inequality and productivity is high. Furthermore, it also performs better on many quality of life measures. OECD data show that it is above average on educational achievement, crime levels, security, and social connections and it has the longest life expectancy in the world. There is no suggestion life is perfect, it has below average life satisfaction for example, but after 20 years of low or no growth, it is still one of the most desirable places to live in the world. For many countries in the world, particularly in Sub-Saharan Africa, low growth does matter; it can have major impacts on livelihoods, unemployment and numbers of people living in poverty. The Japan example shows us that for developed economies the rate of growth may not mean much in and of itself. Throughout this thesis, I have argued that not all growth is of equal value. 'Quality' growth is a term that is sometimes used to describe growth that is broad based and efficient in fostering socially desirable outcomes. We can contrast the growth that underpinned Japan's growth in the 1970s and 1980s with that which took place in Ireland in the early 2000s to see how the outcomes from growth can differ. Although Ireland's economy is again growing faster than Japan's, it tells us very little about the quality of lives lived in those countries.

It may well be an accident of history that GDP has become so privileged over all other pieces of social, economic and environmental data but it has become so closely associated with notions of success, progress and standing in the world, that this appears very difficult to undo. I have argued that a new system of national accounts could both improve the accountability of policymakers and engage people with the challenges and trade-offs inherent in making policy. It gives the impression that this information matters more than it does by obscuring, or crowding out things that do matter.

In this chapter, I have concluded the thesis by reflecting on how well the index has performed at providing practical policy solutions. I did this by focusing on two worked examples: mental health and the environment. I have concluded that putting these outcomes at the heart of policy-making would indeed lead to a different direction for

---

[59] See for example Paul Krugman in the following article: https://www.theguardian.com/business/2009/jun/14/economics-globalrecession

policy in Ireland. I have also discussed the implications of this research for data collection and the ways in which national and international trends are evolving in this fast-developing and increasingly important area. Finally, I have reflected on the strengths and weaknesses of the research and suggested three potential areas for further research: the politics of measurement, social capital and the politics of data.

A conclusion from the Commission for the Measurement of Economic Performance and Social Progress was that despite the plethora of efforts to develop alternatives there is still a need for indicators that are salient for rich industrialised countries (Stiglitz et al., 2009). There are technical challenges to be overcome but they pale in significance relative to the challenge of getting all sections of society to coalesce around an alternative. This will require an acceptance of the fact that the way we value things, as defined by the measures and goals we pursue, are flawed. Even achieving this first step seems like a sizeable political economy challenge. The contribution of this thesis has been to set out conceptually how we might do this by developing a framework for how public opinion could be incorporated into policymaking in a way that increases social value.

Bibliography

Aalen, F. H. A. 2010. *Atlas of the Irish Rural Landscape.* Edited by F. H. A. Aalen, Kevin Whelan, and Matthew Stout. 2nd Revised edition. Cork University Press.

Abendschön, S. and Steinmetz, S., 2014. The gender gap in voting revisited: women's party preferences in a European context. *Social Politics: International Studies in Gender, State & Society*, p.jxu009.

Abraham, A., K. Sommerhalder, and T. Abel. 2010. "Landscape and Well-Being: A Scoping Study on the Health-Promoting Impact of Outdoor Environments." *International Journal of Public Health* 55 (1): 59–69.

Ahmed, S., 2010. *The promise of happiness.* Duke University Press.

Alesina, A., R. Di Tella, and R. MacCulloch. 2004a. "Inequality and Happiness: Are Europeans and Americans Different?" *Journal of Public Economics* 88 (9–10): 2009–42.

Alkire, Sabina. 2005. *Valuing Freedoms: Sen's Capability Approach and Poverty Reduction.* Oxford University Press.

Alksnis, Christine, Serge Desmarais, and James Curtis. 2008. "Workforce Segregation and the Gender Wage Gap: Is 'Women's' Work Valued as Highly as 'Men's'? 1." *Journal of Applied Social Psychology* 38 (6): 1416–1441.

Allen, Kieran. 2000. *The Celtic Tiger: The Myth of Social Partnership in Ireland.* Manchester University Press.

Alvesson, Mats, and Kaj Sköldberg. 2009. *Reflexive Methodology: New Vistas for Qualitative Research.* Sage. https://books.google.co.uk/books?hl=en&lr=&id=32G4M7-20xgC&oi=fnd&pg=PP2&dq=Alvesson+and+Sk%C3%B6ldberg,+2009&ots=G2QiofVv SE&sig=3VfCbC0ChsmJFjjZNUYtUe2uxgk.

Alwin, Duane F. 1984. "Trends in Parental Socialization Values: Detroit, 1958-1983." *American Journal of Sociology*, 359–382.

Andrade, Laura, Jorge J. Caraveo-anduaga, Patricia Berglund, Rob V. Bijl, Ron De Graaf, Wilma Vollebergh, Eva Dragomirecka, et al. 2003. "The Epidemiology of Major Depressive Episodes: Results from the International Consortium of Psychiatric Epidemiology (ICPE) Surveys." *International Journal of Methods in Psychiatric Research* 12 (1): 3–21.

Andreoni, James, and Lise Vesterlund. 2001. "Which Is the Fair Sex? Gender Differences in Altruism." *Quarterly Journal of Economics*, 293–312.

Andrews, Frank M. 1989. "The Evolution of a Movement." *Journal of Public Policy* 9 (4): 401–405.

Angner, Erik. 2011. "The Evolution of Eupathics: The Historical Roots of Subjective Measures of Wellbeing." *International Journal of Wellbeing* 1 (1). doi:10.5502/ijw.v1i1.14.

Aristotle. 1962. *Nicomachean Ethics.* Bobbs-Merrill Indianapolis.

Arnold, L. M., K. A. Witzeman, M. L. Swank, S. L. McElroy, and P. E. Keck Jr. 2000. "Health-Related Quality of Life Using the SF-36 in Patients with Bipolar Disorder Compared with Patients with Chronic Back Pain and the General Population." *Journal of Affective Disorders* 57 (1–3): 235–239.

Ayres, R. U., J. C. J. M. Van Den Bergh, J. M. Gowdy, and Tinbergen Institute. 1998. *Viewpoint: Weak versus Strong Sustainability.* Tinbergen Institute. http://people.deu.edu.tr/sedef.akgungor/ayres.pdf.

Baber, Harriet. 2008. "The Experience Machine Deconstructed." *Philosophy in the Contemporary World* 15 (1): 133–138.

Babones, Salvatore. 2015. "Modeling Error in Quantitative Macro-Comparative Research." *Journal of World-Systems Research* 15 (1): 86–114.

Bacon, N., M. Brophy, N. Mguni, G. Mulgan, and A. Shandro. 2010. "The State of Happiness: Can Public Policy Shape People's Wellbeing and Resilience." *London: Young Foundation.*

Baker, L. A., L. P. Cahalin, K. Gerst, and J. A. Burr. 2005. "Productive Activities and Subjective Well-Being among Older Adults: The Influence of Number of Activities and Time Commitment." *Social Indicators Research* 73 (3): 431–458.

Ball, Richard, and Kateryna Chernova. 2008. "Absolute Income, Relative Income, and Happiness." *Social Indicators Research* 88 (3): 497–529.

Bandura, Romina. 2008. "A Survey of Composite Indices Measuring Country Performance: 2008 Update." *New York: United Nations Development Programme, Office of Development Studies (UNDP/ODS Working Paper).* http://usc.ac.ir/IPPWebV1C035/TemplateFileFolder/10-8-2013/OriginalFolder/0a6e29c4-1fa6-4496-a362-000f0851d4fc_indices_2008_bandura.pdf.

Banerjee, Abhijit, Shawn Cole, Esther Duflo, and Leigh Linden. 2005. "Remedying Education: Evidence from Two Randomized Experiments in India." National Bureau of Economic Research. http://www.nber.org/papers/w11904.

Barker, Paul. 1984. *Founders of the Welfare State: A Series from New Society.* Heinemann Educational Books.

Barrett, Alan, and Vincent O'Sullivan. 2013. "A Short Note on the Wealth, Health and Wellbeing of Ireland's Older People before and during the Economic Crisis." In *SHARE Working Paper (15-2013).* Economic and Social Research Institute. http://www.share-project.org/uploads/tx_sharepublications/WP_Series_15_2013_Barrett_OSullivan.pdf

Barrett, Sean. 2004. "Privatisation in Ireland." CESifo Working Paper Series No. 1170, Trinity College Dublin.

Barrington-Leigh, C. P., and J. F. Helliwell. 2008. "Empathy and Emulation: Life Satisfaction and the Urban Geography of Comparison Groups."

Barry, Frank. 2003. "Irish Economic Development over Three Decades of EU Membership." *Published in the Czech Journal Finance a Uver, Special Issue on National Experiences within the EU.*

Barry, Frank. 2009. "Some Political Economy Lessons from Ireland's Boom and Bust." *Journal of Irish and Scottish Studies* 2 (2): 25–39.

Barry, Margaret, Eric van Lente, Michal Molcho, Karen Morgan, Hannah McGee, Ronan Conroy, Dorothy Watson, Emer Shelley, and Ivan Perry. 2009. "SLAN 2007: Survey of Lifestyle, Attitudes and Nutrition in Ireland Mental Health and Social Well-Being Report." *Psychology Reports*, 11.

Bartolini, S., and E. Bilancini. 2010. "If Not Only GDP, What Else? Using Relational Goods to Predict the Trends of Subjective Well-Being." *International Review of Economics* 57 (2): 199–213.

Bartram, D., 2012. Elements of a sociological contribution to happiness studies. *Sociology Compass, 6*(8), pp.644-656.

Beckerman, Wilfred. 1992. "Economic Growth and the Environment: Whose Growth? Whose Environment?" *World Development* 20 (4): 481–96. doi:10.1016/0305-750X(92)90038-W.

Beckerman, Wilfred. 1994. "'Sustainable Development': Is It a Useful Concept?" *Environmental Values* 3 (3): 191–209.

Bentham, J., Burns, J.H. and Hart, H.L.A., 1776. *A fragment on government* (p. 108). Cambridge: Cambridge University Press.

Bentham, J., 1972. *An Introduction to the Principles of Morals and Legislation (Chapters I–V)* (pp. 17-51). Blackwell Publishing Ltd.

Berg, B. van den, and A. Ferrer-i-Carbonell. 2007. "Monetary Valuation of Informal Care: The Well-Being Valuation Method." *Health Economics* 16 (11): 1227–44.

Berg, J. C. J. M. van Den. 2009. "The GDP Paradox." *Journal of Economic Psychology* 30 (2): 117–135.

Berg, M. C., and R. Veenhoven. 2010. "Income Inequality and Happiness in 119 Nations."

Bergman, Manfred Max. 1998. "A Theoretical Note on the Differences between Attitudes, Opinions, and Values." *Swiss Political Science Review* 4 (2): 81–93.

Bergold, J. and Thomas, S., 2012. Participatory research methods: A methodological approach in motion. *Historical Social Research/Historische Sozialforschung*, pp.191-222.

Bernstam, M. S. 1990. "The Wealth of Nations and the Environment." *Population and Development Review* 16: 333–373.

Bertrand, M. and Mullainathan, S., 2001. Do people mean what they say? Implications for subjective survey data.

Betz, Michael, Lenahan O'Connell, and Jon M. Shepard. 1989. "Gender Differences in Proclivity for Unethical Behavior." *Journal of Business Ethics* 8 (5): 321–324.

Beutel, Ann M., and Margaret Mooney Marini. 1995. "Gender and Values." *American Sociological Review*, 436–448.

Bickman, Leonard, and Debra J. Rog. 2008. *The SAGE Handbook of Applied Social Research Methods*. SAGE Publications.

Biddle, S. J. H., K. R. Fox, S. H. Boutcher, and others. 2001. "Emotion, Mood and Physical Activity." *Physical Activity and Psychological Well-Being*, 63–87.

Binmore, K. G. 2009. "Interpersonal Comparison of Utility." http://eprints.ucl.ac.uk/15679/.

Bishop, George F., Alfred J. Tuchfarber, and Robert W. Oldendick. 1986. "Opinions on Fictitious Issues: The Pressure to Answer Survey Questions." *Public Opinion Quarterly* 50 (2): 240–250.

Bjørnskov, C. 2003. "The Happy Few: Cross–Country Evidence on Social Capital and Life Satisfaction." *Kyklos* 56 (1): 3–16.

Bjornskov, Christian. 2008. "On Decentralization and Life Satisfaction." *Economics Letters* 99 (1): 147.

Blake, James. 1999. "Overcoming the 'value-Action Gap'in Environmental Policy: Tensions between National Policy and Local Experience." *Local Environment* 4 (3): 257–278.

Blanchflower, D.G., 2007. *Is unemployment more costly than inflation?* (No. w13505). National Bureau of Economic Research. Blanchflower, D. G., and A. J. Oswald. 2004. "Money, Sex and Happiness." *The Scandinavian Journal of Economics* 106 (3): 393–415.

Blanchflower, D. G., and A. J. Oswald. 2008. "Hypertension and Happiness across Nations." *Journal of Health Economics* 27 (2): 218–233.

Blanchflower, D. G., and A. J. Oswald. 2011. "International Happiness."

Blanchflower, David G, and Andrew J Oswald. 2000. "Well-Being over Time in Britain and the USA." *Journal of Public Economics* 88 (7–8): 1359–86.

Blanchflower, David G., and Andrew Oswald. 2007. "Is Well-Being U-Shaped over the Life Cycle?"

Blanchflower, David G., David NF Bell, Alberto Montagnoli, and Mirko Moro. 2013. "The Effects of Macroeconomic Shocks on Well-Being." *Manuscript, University of Stirling*. http://www.dartmouth.edu/~blnchflr/papers/inflation_unemployment_trade-off%20_14.docx.

Boarini, Romina, \AAsa Johansson, and Marco Mira d'Ercole. 2006. "Alternative Measures of Well-Being."

Boitier, Baptiste. 2012. "CO2 Emissions Production-Based Accounting vs. Consumption: Insights from the WIOD Databases." In *WIOD Conference Paper, April*. http://www.wiod.org/conferences/groningen/paper_Boitier.pdf.

Bok, D., 2010. *The politics of happiness: What government can learn from the new research on well-being*. Princeton University Press.

Bonhomme, S., and G. Jolivet. 2009. "The Pervasive Absence of Compensating Differentials." *Journal of Applied Econometrics* 24 (5): 763–795.

Boots, Denise Paquette, and John K. Cochran. 2011. "The Gender Gap in Support for Capital Punishment: A Test of Attribution Theory." *Women & Criminal Justice* 21 (3): 171–197.

Booysen, Frederik. 2002. "An Overview and Evaluation of Composite Indices of Development." *Social Indicators Research* 59 (2): 115–151.

Bord, Richard J., and Robert E. O'Connor. 1997. "The Gender Gap in Environmental Attitudes: The Case of Perceived Vulnerability to Risk." *Social Science Quarterly*, 830–840.

Borooah, V. K. 2005. "How to Assess Happiness? A Tale of Three Measures." *Applied Economics Letters* 12 (3): 191–194.

Borooah, V. K. 2006. "How Much Happiness Is There in the World? A Cross-Country Study." *Applied Economics Letters* 13 (8): 483–88.

Boulanger, Paul-Marie. 2008. "Sustainable Development Indicators: A Scientific Challenge, a Democratic Issue." *S.A.P.I.EN.S. Surveys and Perspectives Integrating Environment and Society*, no. 1.1 (November). http://sapiens.revues.org/166.

Bowling, N. A., and K. J. Eschleman. 2010. "A Meta-Analytic Examination of the Relationship between Job Satisfaction and Subjective Well-Being." *Journal of Occupational and Organizational Psychology* 83 (4): 915–34. doi:10.1348/096317909X478557.

Boyle, Mark. 2002. "Cleaning up after the Celtic Tiger: Scalar 'fixes' in the Political Ecology of Tiger Economies." *Transactions of the Institute of British Geographers* 27 (2): 172–194.

Boyne, Roy, and Ali Rattansi. 1990. "Postmodernism and Society." http://philpapers.org/rec/BOYPAS.

Bradley, John, and Karl Whelan. 1997. "The Irish Expansionary Fiscal Contraction: A Tale from One Small European Economy." *Economic Modelling* 14 (2): 175–201.

Bradshaw, J., P. Hoelscher, and D. Richardson. 2007. "An Index of Child Well-Being in the European Union." *Social Indicators Research* 80 (1): 133–177.

Bradshaw, W., and J. S. Brekke. 1999. "SUBJECTIVE EXPERIENCE IN SCHIZOPHRENIA: Factors Influencing Self-Esteem, Satisfaction With Life, and Subjective Distress." *American Journal of Orthopsychiatry* 69 (2): 254–260.

Brainerd, Elizabeth. 2001. "Economic Reform and Mortality in the Former Soviet Union: A Study of the Suicide Epidemic in the 1990s." *European Economic Review* 45 (4): 1007–1019.

Bramston, P. 2002. "Unravelling Subjective Quality of Life: An Investigation of Individual and Community Determinants." *Social Indicators Research* 59 (3): 261.

Brandt, Richard B. 1998. "A Theory of the Good and the Right."

Brautigam, Deborah, Odd-Helge Fjeldstad, and Mick Moore. 2008. *Taxation and State-Building in Developing Countries: Capacity and Consent.* Cambridge University Press.

Breathnach, Proinnsias. 1998. "Exploring the'Celtic Tiger'Phenomenon Causes and Consequences of Ireland'S Economic Miracle." *European Urban and Regional Studies* 5 (4): 305–316.

Breen, Michael J., and Caillin Reynolds. 2011. "The Rise of Secularism and the Decline of Religiosity in Ireland: The Pattern of Religious Change in Europe." https://dspace.mic.ul.ie/handle/10395/1800.

Brekke, Kjell Arne, and Olof Johansson-Stenman. 2008. "The Behavioural Economics of Climate Change." *Oxford Review of Economic Policy* 24 (2): 280–97. doi:10.1093/oxrep/grn012.

Brereton, F., C. Bullock, J. P. Clinch, and M. Scott. 2011. "Rural Change and Individual Well-Being." *European Urban and Regional Studies* 18 (2): 203–227.

Brereton, Finbarr, J. Peter Clinch, and Susana Ferreira. 2008. "Employment and Life-Satisfaction: Insights from Ireland." *The Economic and Social Review* 39: 207–34.

Brickman, P, D Coates, and R Janoff-Bulman. 1978. "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology* 36 (8): 917–27.

Brizius, Jack A., and Michael D. Campbell. 1991. *Getting Results: A Guide for Government Accountabiblity.* Council of Governors Policy Adivisors.

Bromet, Evelyn, Laura H. Andrade, Irving Hwang, Nancy A. Sampson, Jordi Alonso, Giovanni de Girolamo, Ron de Graaf, et al. 2011. "Cross-National Epidemiology of DSM-IV Major Depressive Episode." *BMC Medicine* 9 (1): 90. doi:10.1186/1741-7015-9-90.

Brown, S., K. Taylor, and S. Wheatley Price. 2005. "Debt and Distress: Evaluating the Psychological Cost of Credit." *Journal of Economic Psychology* 26 (5): 642–63.

Brundtland, G. H. 1987. "Our Common Future." *Oxford Paperbacks*, no. A/42/427.

Bryman, Alan. 1984. "The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology?" *British Journal of Sociology*, 75–92.

Bukenya, James O, Tesfa G Gebremedhin, and Peter V Schaeffer. 2003a. "Analysis of Rural Quality of Life and Health: A Spatial Approach." *Economic Development Quarterly* 17 (3): 280–93. doi:10.1177/0891242403255325.

Bury, J.B., 1923. HISTORY AND PROGRESS. *History*.

Byrnes, James P., David C. Miller, and William D. Schafer. 1999. "Gender Differences in Risk Taking: A Meta-Analysis." *Psychological Bulletin* 125 (3): 367.

Cahill, Miles B. 2005. "Is the Human Development Index Redundant?" *Eastern Economic Journal* 31 (1): 1–5.

Cameron, Sarah M. 2013. "Postmaterialism in Times of Crisis." In *Prepared for the Panel S09 P290 "Resisting the Markets. Economic Actors and Issues in Global Uprisings from the Middle-East to North-America", European Consortium for Political Research General Conference, Bordeaux*, 4–7. https://ecpr.eu/Filestore/PaperProposal/82449099-9a96-4739-a2ab-7d665b6c4b10.pdf.

Campbell, Angus. 1976. "Subjective Measures of Well-Being." *American Psychologist* 31 (2): 117.

Campbell, S.B., D.S. Shaw, and M. Gilliom. 2000. "Early Externalizing Behavior Problems: Toddlers and Preschoolers at Risk for Later Maladjustment." *Development and Psychopathology* 12 (3): 467–488.

Carlyle, Thomas. 1993. *On Heroes, Hero-Worship, and the Heroic in History*. University of California Press.

Carroll, N. 2007a. "Unemployment and Psychological Well-Being*." *Economic Record* 83 (262): 287–302.

Carson, Thomas L. 2000. *Value and the Good Life*. University of Notre Dame Press.

Cassidy, Eoin G. 2002. "Measuring Ireland: Discerning Values and Beliefs." *Dublin: Veritas*.

Catholic Priests Association, (2012). [online] Available at: https://www.associationofcatholicpriests.ie/wp-content/uploads/2012/04/Contemporary-Catholic-Perspectives.pdf [Accessed 10 Jan. 2017].

Cattell, Raymond B. 1966. "The Scree Test for the Number of Factors." *Multivariate Behavioral Research* 1 (2): 245–276.

Central Statistics Office, (2011). Census 2011 Ireland and Northern Ireland - CSO - Central Statistics Office. [online] Available at: http://www.cso.ie/en/census/census2011irelandandnorthernireland/ [Accessed 10 Jan. 2017].

Central Statistics Office. (2012). Seasonally Adjusted Standardised Unemployment Rates (SUR) - CSO - Central Statistics Office. [online] Available at:

http://www.cso.ie/en/statistics/labourmarket/principalstatistics/seasonallyadjustedstand ardisedunemploymentratessur/ [Accessed 30 Mar. 2012].

Cerny, Philip G., and Mark Evans. 2004. "Globalisation and Public Policy under New Labour." Policy Studies 25 (1): 51–65.

Chappell. 2008. " Deliberation Disputed: A Critique Of Deliberative Democracy. - LSE Theses Online". 2017. Etheses.Lse.Ac.Uk. Accessed March 30 2017. http://etheses.lse.ac.uk/2340/.

Charlton, Rosemary, Rowan Fealy, Sonja Moore, John Sweeney, and Conor Murphy. 2006. "Assessing the Impact of Climate Change on Water Supply and Flood Hazard in Ireland Using Statistical Downscaling and Hydrological Modelling Techniques." *Climatic Change* 74 (4): 475–91. doi:10.1007/s10584-006-0472-x.

Cherchye, Laurens, CA Knox Lovell, Wim Moesen, and Tom Van Puyenbroeck. 2007. "One Market, One Number? A Composite Indicator Assessment of EU Internal Market Dynamics." *European Economic Review* 51 (3): 749–779.

Christopher, Andrew N., Liliane Saliba, and Erik J. Deadmarsh. 2009. "Materialism and Well-Being: The Mediating Effect of Locus of Control." *Personality and Individual Differences* 46 (7): 682–686.

Cieslik, M., 2015. Not smiling but frowning': Sociology and the 'problem of happiness. *Sociology*, *49*(3), pp.422-437.

Cinamon, Rachel Gali, and Yisrael Rich. 2002. "Gender Differences in the Importance of Work and Family Roles: Implications for Work–family Conflict." *Sex Roles* 47 (11–12): 531–541.

Clark, A. E. 2003. "Unemployment as Social Norm: Psychological Evidence from Panel Data." *Journal of Labor Economics* 21 (2): 289–322.

Clark, A. E., P. Frijters, and M. A. Shields. 2008. "Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles." *Journal of Economic Literature* 46 (1): 95–144.

Clark, A., and Delta. 2003. *Inequality-Aversion and Income Mobility: A Direct Test*. Delta.

Clark, A., and O. Lelkes. 2005. "Deliver Us from Evil: Religion as Insurance."

Clark, Andrew E, and Andrew J Oswald. 1994. "Unhappiness and Unemployment." *Economic Journal* 104 (424): 648–59.

Clark, Andrew, Andrew Oswald, and Peter Warr. 1996. "Is Job Satisfaction U-shaped in Age?" *Journal of Occupational and Organizational Psychology* 69 (1): 57–81. doi:10.1111/j.2044-8325.1996.tb00600.x.

Cleary, and R Rhead. 2013. "Education and Attitudes towards the Environment." Paper cpmmissioned for the EFA Global M onitoring R e port 2013/4, Teaching and learning: Achieving quality for al. UNESCO.

Clements, Ben, and Nick Spencer. 2014. *Voting and Values in Britain: Does Religion Count*. London: Theos. https://www.theosthinktank.co.uk/files/files/Reports/Voting%20and%20Values%20in%2 0Britain%20executve%20summary%20FINAL%20revised%201.pdf.

Climate Policy Initiative (2016). Global Climate Finance Flows. [online] Available at: http://www.climatefinancelandscape.org/ [Accessed 30 Nov. 2016].

Clinch, J. P., S. Ferreira, F. Brereton, M. Moro, and C. Bullock. 2006. "Understanding and Measuring Quality of Life in Ireland: Sustainability, Happiness and Well-Being."

Clinch, J. P., S. Ferreira, F. Brereton, M. Moro, and C. Bullock. 2006. "Understanding and Measuring Quality of Life in Ireland: Sustainability, Happiness and Well-Being."

Clinch, J. Peter, Louise Dunne, and Simon Dresner. 2006. "Environmental and Wider Implications of Political Impediments to Environmental Tax Reform." *Energy Policy* 34 (8): 960–970.

Cobb, Clifford W., and H. Daly. 1989. "The Index for Sustainable Economic Welfare." *Daly, HE, Cobb, JB (Eds)*.

Cobb, Clifford W., and John B. Cobb. 1994. "The Green National Product: A Proposed Index of Sustainable Economic Welfare." http://agris.fao.org/agris-search/search.do?recordID=US9519422.

Cohen, A. B. 2002. "The Importance of Spirituality in Well-Being for Jews and Christians." *Journal of Happiness Studies* 3 (3): 287–310.

Cole, M. A. 2004. "Trade, the Pollution Haven Hypothesis and the Environmental Kuznets Curve: Examining the Linkages." *Ecological Economics* 48 (1): 71–81.

Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology*, S95–S120.

Collins, M. (2013). Column: What is a 'high earner' in Ireland today?. [online] TheJournal.ie. Available at: http://www.thejournal.ie/readme/high-earner-ireland-755580-Jan2013/ [Accessed 11 Jan. 2017].

Colman, Andrew M. 2003. "Cooperation, Psychological Game Theory, and Limitations of Rationality in Social Interaction." *Behavioral and Brain Sciences* 26 (2): 139–153.

Common, M., and C. Perrings. 1992. "Towards an Ecological Economics of Sustainability." *Ecological Economics* 6 (1): 7–34.

Commoner, Barry. 2014. *The Closing Circle: Nature, Man, and Technology*. Knopf.

Comrey, A. L., and H. B. Lee. 1992. "Afirst Course Infactor Analysis." *Hillsdale, NJ: Erlbaum*.

Connolly, E. 2007. "The Institutionalisation of Anti-Poverty and Social Exclusion Policy in Irish Social Partnership."

Conroy, Charles, Patrick Honohan, and Bertrand Maître. 1998. "Invisible Entrepot Activity in Irish Manufacturing." *Irish Banking Review*, 22–38.

Coombs, Robert H. 1991. "Marital Status and Personal Well-Being: A Literature Review." *Family Relations: An Interdisciplinary Journal of Applied Family Studies* 40 (1): 97–102. doi:10.2307/585665.

Cooney, Thomas M. 2008. "Celtic Tiger Found in Education Jungle." *Education + Training* 50 (1): 64–66. doi:10.1108/00400910810855531.

OECD. 2016. "Who Are the Bachelor's and Master's Graduates?" http://www.voced.edu.au/content/ngv:72812.

Corcoran, Mary P., Jane Gray, and Michel Peillon. 2010. *Suburban Affiliations: Social Relations in the Greater Dublin Area*. Syracuse University Press. https://books.google.co.uk/books?hl=en&lr=&id=gOIe_VOUHL8C&oi=fnd&pg=PP1&dq =corcoran+grey+and+peillon+2007+well-being+celtic+tiger&ots=FAt1haUKJM&sig=naxfsIH2sU1S_eXH5Safpi2BqpI.

Costanza, Robert, Maureen Hart, John Talberth, and Stephen Posner. 2009. "Beyond GDP: The Need for New Measures of Progress."

Costanza, Robert, Ralph d'Arge, Rudolf De Groot, S. Faber, Monica Grasso, Bruce Hannon, Karin Limburg, et al. 1997. "The Value of the World's Ecosystem Services and Natural Capital." http://mro.massey.ac.nz/handle/10179/5983.

Coulter, Colin, and Steve Coleman. 2003. *The End of Irish History?: Critical Reflections on the Celtic Tiger*. Manchester Univ Pr.

Coyle, Diane. 2015. *GDP: A Brief but Affectionate History*. Princeton University Press.

Crisp, Roger. 2013. "Well-Being." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Summer 2013. http://plato.stanford.edu/archives/sum2013/entries/well-being/.

Croson, Rachel, and Uri Gneezy. 2009. "Gender Differences in Preferences." *Journal of Economic Literature* 47 (2): 448–474.

Cummins, R. A., R. Eckersley, S. K. Lo, E. Okerstrom, J. Woerner, and M. Davern. 2005. "Australian Unity Wellbeing Index Survey 10." *Australian Centre on Quality of Life, Deakin University, Melbourne, Http://acqol. Deakin. Edu. Au*.

Cyhlarova, Eva, Andrew McCulloch, Peter McGuffin, and Til Wykes. 2010. "Economic Burden of Mental Illness Cannot Be Tackled without Research Investment." *London: Mental Health Foundation*.

D'Agostino, Antonello, Kieran McQuinn, and Gerard O'Reilly. 2008. "Identifying and Forecasting House Price Dynamics in Ireland." *Available at SSRN 1243386*.

Daly, Herman E., John B. Cobb, and Clifford W. Cobb. 1994. *For the Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future*. 73. Beacon Press. https://books.google.co.uk/books?hl=en&lr=&id=TZAIU1yqyRkC&oi=fnd&pg=PR7&dq= Cobb+and+Cobb+(1994&ots=oBwaEFKiQ1&sig=EFKuJM_9dVdnDMZPjZZafKr4oVM.

Daly, Herman. 1977. "Steady State Economy." *San Francisco*. https://books.google.co.uk/books?hl=en&lr=&id=OmWvBAAAQBAJ&oi=fnd&pg=PA55 &dq=daly+1977&ots=vmkE07Z7uO&sig=EQlLH0YeIQzXkjkIIHx2_agUXIE.

Daly, M. C., A. J. Oswald, D. Wilson, and S. Wu. 2011. "Dark Contrasts: The Paradox of High Rates of Suicide in Happy Places." *Journal of Economic Behavior & Organization*.

Damjanovic, A. K., Y. Yang, R. Glaser, J. K. Kiecolt-Glaser, H. Nguyen, B. Laskowski, Y. Zou, D. Q. Beversdorf, and N. Weng. 2007. "Accelerated Telomere Erosion Is Associated with a Declining Immune Function of Caregivers of Alzheimer's Disease Patients." *The Journal of Immunology* 179 (6): 4249–4254.

Dasgupta, P. 2007. "The Stern Review's Economics of Climate Change." *NATIONAL INSTITUTE ECONOMIC REVIEW-LONDON-* 199: 4.

Dasgupta, Partha, and Karl-Göran Mäler. 2000. "Net National Product, Wealth, and Social Well-Being." *Environment and Development Economics* 5 (1): 69–93.

Dasgupta, Partha. 1990. "Well-Being in Poor Countries." *Economic and Political Weekly*, 1713–1720.

Dasgupta, Partha. 2001. *Human Well-Being and the Natural Environment*. Oxford University Press. https://books.google.co.uk/books?hl=en&lr=&id=OuMTDAAAQBAJ&oi=fnd&pg=PR13&dq=dasgupta+2001&ots=mmRNT_nquk&sig=L1AJ-HO44-1u5Ol9ng0dfewKhpo.

Davidson, Debra J., and Wiluam R. Freudenburg. 1996. "Gender and Environmental Risk Concerns a Review and Analysis of Available Research." *Environment and Behavior* 28 (3): 302–339.

Davidson, R.J., 2004. Well-being and affective style: neural substrates and biobehavioural correlates. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*(1449), p.1395.

Davie, Grace. 1990. "Believing without Belonging: Is This the Future of Religion in Britain? In Implicit Religion/Le Religieux Implicite." *Social Compass* 37 (4): 455–469.

Deaton, A. 2010. *Income, Aging, Health and Well-Being around the World: Evidence from the Gallup World Poll*. University of Chicago Press.

Deaton, A., J. Fortson, and R. Tortora. 2009. "Life (Evaluation), HIV/AIDS, and Death in Africa." National Bureau of Economic Research. http://www.nber.org/papers/w14637.

Decanq, K., and M. A. Lugo. 2009. "Setting Weights in Multidimensional Indices of Well-Being and Deprivation." *Document de Travail de l'OPHI*, no. 18.

Deci, Edward L., and Richard M. Ryan. 1985. "The General Causality Orientations Scale: Self-Determination in Personality." *Journal of Research in Personality* 19 (2): 109–134.

Delaney, Liam, Patrick Wall, and Fearghal O'hAodha. 2007. "Social Capital and Self-Rated Health in the Republic of Ireland: Evidence from the European Social Survey." *Irish Medical Journal* 100 (8): 52–56.

Delaney, Liam. 2009. "The Distribution of Wellbeing in Ireland." *Irish Journal of Psychological Medicine* 26 (3): 119.

Delhey, Jan. 2010. "From Materialist to Post-Materialist Happiness? National Affluence and Determinants of Life Satisfaction in Cross-National Perspective." *Social Indicators Research* 97 (1): 65.

DeNeve, K. M., and H. Cooper. 1998. "The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being." *Psychological Bulletin* 124 (2): 197.

Diamond, J., 2005. *Collapse: How societies choose to fail or succeed*. Penguin.

Diener, E., Suh, E.M., Smith, H. and Shao, L., 1995. National differences in reported subjective well-being: Why do they occur?. *Social indicators research*, *34*(1), pp.7-32.

Diener, E. 1996. "Traits Can Be Powerful, but Are Not Enough: Lessons from Subjective Well-Being." *Journal of Research in Personality* 30 (3): 389–99.

Diener, E. 2000. "Subjective Well-Being: The Science of Happiness and a Proposal for a National Index." *American Psychologist* 55 (1): 34.

Diener, E., and M. E. P. Seligman. 2004. "Beyond Money." *Psychological Science in the Public Interest* 5 (1): 1–31.

Diener, E., and M. E. Suh. 1998. "Subjective Well-Being and Age: An International Analysis." *Annual Review of Gerontology* 17 (Focus on emotion and adult development): 304–24.

Diener, E., and M. Y. Chan. 2011. "Happy People Live Longer: Subjective Well-Being Contributes to Health and Longevity." *Applied Psychology: Health and Well-Being* 3 (1): 1–43.

Diener, E., C. L. Gohm, E. Suh, and S. Oishi. 2000. "Similarity of the Relations between Marital Status and Subjective Well-Being Across Cultures." *Journal of Cross-Cultural Psychology* 31 (4): 419–36.

Diener, E., E. M. Suh, R. E. Lucas, and H. L. Smith. 1999. "Subjective Well-Being: Three Decades of Progress." *Psychological Bulletin* 125 (2): 276.

Diener, E., E. Sandvik, L. Seidlitz, and M. Diener. 1995. "The Relationship between Income and Subjective Well-Being: Relative or Absolute?" *Social Indicators Research* 28 (3).

Diener, E., R. E. Lucas, S. Oishi, and E. M. Suh. 2002. "Looking Up and Looking Down: Weighting Good and Bad Information in Life Satisfaction Judgments." *Personality and Social Psychology Bulletin* 28 (4): 437–45.

Diener, Ed, and Robert Biswas-Diener. 2002. "Will Money Increase Subjective Well-Being?" *Social Indicators Research* 57 (2): 119–69. doi:10.1023/A:1014411319119.

Diener, E., Lucas, R.E. and Scollon, C.N., 2006. Beyond the hedonic treadmill: revising the adaptation theory of well-being. *American psychologist*, *61*(4), p.305.

Dietz, S., and N. Stern. 2008. "Why Economic Analysis Supports Strong Action on Climate Change: A Response to the Stern Review's Critics." *Review of Environmental Economics and Policy* 2 (1): 94–113.

Dijkstra, A. Geske, and Lucia C. Hanmer. 2000. "Measuring Socio-Economic Gender Inequality: Toward an Alternative to the UNDP Gender-Related Development Index." *Feminist Economics* 6 (2): 41–75.

Di Tella, R. and MacCulloch, R., 2008. Gross national happiness as an answer to the Easterlin Paradox?. *Journal of Development Economics*, *86*(1), pp.22-42.

Dobbin, Frank, Beth Simmons, and Geoffrey Garrett. 2007. "The global diffusion of public policies: Social construction, coercion, competition, or learning?" *Annual. Review of. Sociology.* 33: 449-472.

Doherty, Donna Tedstone, R. Moran, Yulia Kartalova-O'Doherty, and D. Walsh. 2007. *HRB National Psychological Wellbeing and Distress Survey: Baseline Results*. Health Research Board. http://www.mentalhealthpromotion.net/resources/npwds-3.pdf.

Dolan, P., T. Peasgood, and M. White. 2008. "Do We Really Know What Makes Us Happy A Review of the Economic Literature on the Factors Associated with Subjective Well-Being." *Journal of Economic Psychology* 29 (1): 94–122.

Dolan, Paul, and Robert Metcalfe. 2011. "Measuring Subjective Wellbeing for Public Policy: Recommendations on Measures." http://eprints.lse.ac.uk/47518/.

Donner, Wendy. 1991. *The Liberal Self: John Stuart Mill's Moral and Political Philosophy*. Cornell University Press.

Dorn, D., J. A. V. Fischer, G. Kirchgässner, and A. Sousa-Poza. 2007. "Is It Culture or Democracy? The Impact of Democracy and Culture on Happiness." *Social Indicators Research* 82 (3): 505–26.

Driver, Julia, "The History of Utilitarianism", *The Stanford Encyclopedia of Philosophy* (Winter 2014 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2014/entries/utilitarianism-history/>.

Duesenberry, James Stemble. 1949. *Income, Saving, and the Theory of Consumer Behavior*. Harvard University Press.

Dukelow, Fiona. 2005. "A Path towards a more 'employment Friendly' liberal Regime? Globalisation and the Irish Social Security System." *International Co-Operation in Social Security: How to Cope with Globalisation, Antwerp: Intersentia*, 125–54.

Dupont, D. 2004. "Do Children Matter? An Examination of Gender Differences in Environmental Valuation." *Ecological Economics* 49 (3): 273–86.

Dutton, William H., and Grant Blank. 2014. "Cultures on the Internet." *Dutton, William H., and Blank, G.(2015),'Cultures on the Internet', InterMedia, Winter* 15: 55–57.

Eagleton, Terry. 1996. *Literary Theory: An Introduction*. U of Minnesota Press.

Eagly, Alice H., Amanda B. Diekman, Mary C. Johannesen-Schmidt, and Anne M. Koenig. 2004. "Gender Gaps in Sociopolitical Attitudes: A Social Psychological Analysis." *Journal of Personality and Social Psychology* 87 (6): 796.

Easterlin, R. 1974. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence." *P. A. David* 8.

Easterlin, R. A. 1995. "Will Raising the Incomes of All Increase the Happiness of All?" *Journal of Economic Behavior & Organization* 27 (1): 35–47.

Easterlin, R. A., and O. Sawangfa. 2009. "Happiness and Economic Growth: Does the Cross Section Predict Time Trends? Evidence from Developing Countries."

Easterlin, R.A. 2005. "Feeding the Illusion of Growth and Happiness: A Reply to Hagerty and Veenhoven." *Social Indicators Research* 74 (3): 429–443.

Easterlin, Richard A. 2004. "Explaining Happiness." *Proceedings of the National Academy of Sciences of the United States of America* 100 (19): 1176–83.

Easterlin, Richard A. 2006. "Life Cycle Happiness and Its Sources: Intersections of Psychology, Economics, and Demography." *Journal of Economic Psychology* 27 (4): 463–82. doi:10.1016/j.joep.2006.05.002.

Easterlin, Richard A. 2013. "Happiness, Growth, and Public Policy†." *Economic Inquiry* 51 (1): 1–15.

Eccles, Jacquelynne S. 1994. "Understanding Women's Educational and Occupational Choices." *Psychology of Women Quarterly* 18 (4): 585–609.

Eckel, Catherine C., and Philip J. Grossman. 2002. "Sex Differences and Statistical Stereotyping in Attitudes toward Financial Risk." *Evolution and Human Behavior* 23 (4): 281–295.

Edlund, Lena, and Rohini Pande. 2002. "Why Have Women Become Left-Wing? The Political Gender Gap and the Decline in Marriage." *Quarterly Journal of Economics*, 917–961.

EEB. 2016. EFR (Environmental Fiscal Reform). [online] Available at: http://www.eeb.org/index.cfm/activities/sustainability/efr-environmental-fiscal-reform/ [Accessed 9 Nov. 2016].

Eggleston, Ben, and Dale Miller. 2014. *The Cambridge Companion to Utilitarianism*. Cambridge University Press.

Eichenberg, Richard C. 2002. "The Gender Gap and National Security in the United States: Dynamics and Correlates of Public Opinion on Defense Spending and the Use of Military Force." In *Annual Convention of the International Studies Association, New Orleans, Louisiana*. Citeseer. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.723.9041&rep=rep1&type=pdf.

Elliott, L. 2016. Up to 70% of people in developed countries 'have seen incomes stagnate'. [online] the Guardian. Available at: https://www.theguardian.com/business/2016/jul/14/up-to-70-per-cent-people-developed-countries-seen-income-stagnate [Accessed 7 Feb. 2017].

England, Richard W. 1998. "Measurement of Social Well-Being: Alternatives to Gross Domestic Product." *Ecological Economics* 25 (1): 89–103.

Environet, 2017. Ireland's Climate Change Targets | Environet Solutions. [online] Available at: http://www.environet.ie/news/irelands-climate-change-targets [Accessed 13 Jan. 2017].

EPA 2017. [online] Available at: https://www.epa.ie/irelandsenvironment/ [Accessed 13 Jan. 2017].

Eurobarometer 2017. Public Opinion Analysis - Standard Eurobarometer 83 - European Commission. [online] Available at: http://ec.europa.eu/public_opinion/archives/eb/eb83/eb83_en.htm [Accessed 7 Jan. 2017].

Eurostat (2013). Greenhouse gas emission statistics - Statistics Explained. [online] Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Greenhouse_gas_emission_statistics [Accessed 13 Jan. 2017].

Evans, G. W. 2003. "The Built Environment and Mental Health." *Journal of Urban Health* 80 (4): 536–555.

Evans, Joanne. 2011. "Findings from the National Well-Being Debate." *London: Office for National Statistics*.

Everett, Glyn, and Alex Wilks. 1999. "The World Bank ' S Genuine Savings Indicator : A Useful Measure of Sustainability ?" *Bretton Woods Project*, no. October: 1–10.

Fahey, T., and E. Smyth. 2004. "Do Subjective Indicators Measure Welfare?" *European Societies* 6 (1): 5–27.

Fahey, Tony, Bernadette C. Hayes, and Richard Sinnott. 2005. *Conflict and Consensus: A Study of Values and Attitudes in the Republic of Ireland and Northern Ireland*. Institute of public administration. https://books.google.co.uk/books?hl=en&lr=&id=AVoxwn9fdOYC&oi=fnd&pg=PR9&dq=Fahey,+Hayes+and+Sinnott+2005&ots=GUWR4GpgMb&sig=UPhDczTdtrMJdHYPtEZp-SI1pmM.

Fahey, Tony, Helen Russell, and Christopher T. Whelan. 2007. *Best of Times?: The Social Impact of the CelticTiger*. Institute of Public Administration.

Falconi, Cesar. 1999. "Measuring Agricultural Biotechnology Research Capacity in Four Developing Countries." *http://www.agbioforum.missouri.edu/v2n34/v2n34a06-Falconi.htm*. https://mospace.umsystem.edu/xmlui/handle/10355/1184.

Fehling, Maya, Brett D. Nelson, and Sridhar Venkatapuram. 2013. "Limitations of the Millennium Development Goals: A Literature Review." *Global Public Health* 8 (10): 1109–22. doi:10.1080/17441692.2013.845676.

Feldman, Fred. 2012. *What Is This Thing Called Happiness?* Oxford; New York: OUP Oxford.

Fender, V., Joseph, H. and Richard, J. (2011). Measuring Economic Wellbeing [online] Available at: http://file:///C:/Users/eilis/Downloads/speconomic_tcm77-230285.pdf [Accessed 30 Jan. 2017].

Ferber, Marianne A., and Julie A. Nelson. 2003. *Feminist Economics Today: Beyond Economic Man*. University of Chicago Press. https://books.google.co.uk/books?hl=en&lr=&id=ziv8m0ihvYAC&oi=fnd&pg=PT14&dq=Ferber+and+Nelson+2003&ots=ElKVJ3cXWI&sig=rpjcdrM_QICyYB4ZKZgYarbTL9Q.

Fernández-Dols, J.M. and Ruiz-Belda, M.A., 1995. Are smiles a sign of happiness? Gold medal winners at the Olympic Games. *Journal of personality and social psychology*, *69*(6), p.1113.

Ferreira, Susana, and Mirko Moro. 2011. "Constructing Genuine Savings Indicators for Ireland, 1995–2005." *Journal of Environmental Management* 92 (3): 542–553.

Ferrer-i-Carbonell, A., and J. M. Gowdy. 2005. "Environmental Awareness and Happiness."

Ferrer-i-Carbonell, Ada, and John M Gowdy. 2007. "Environmental Degradation and Happiness." *Ecological Economics* 60 (3): 509–16.

Ferrer-i-Carbonell, Ada. 2005. "Income and Well-Being: An Empirical Analysis of the Comparison Income Effect." *Journal of Public Economics* 89 (5–6): 997–1019.

Ferriss, A. L. 2002. "Religion and the Quality of Life." *Journal of Happiness Studies* 3 (3): 199–215.

Finucane, Melissa L., Paul Slovic, Chris K. Mertz, James Flynn, and Theresa A. Satterfield. 2000. "Gender, Race, and Perceived Risk: The'white Male'effect." *Health, Risk & Society* 2 (2): 159–172.

Firestone, Joseph M. 2003. "The New Knowledge Management: A Paradigm and Its Problems." *KT Web. Connecting Knowledge Technology Communities*, 1–8.

Fitzsimon, N., F. Shiely, D. Corradino, S. Friel, and C. C. Kelleher. 2007. "Predictors of Self-Reported Poor Mental Health at Area Level in Ireland: A Multilevel Analysis of Deprivation and Social Capital Indicators." *Irish Medical Journal* 100 (8): suppl–49.

Flavin, P., A. C. Pacek, and B. Radcliff. 2011. "State Intervention and Subjective Well-Being in Advanced Industrial Democracies." *Politics & Policy* 39 (2): 251–269.

Fletcher, Guy. 2013. "A Fresh Start for the Objective-List Theory of Well-Being." *Utilitas* 25 (2): 206–20. doi:10.1017/S0953820812000453.

Fleurbaey, Marc. 2009. "Beyond GDP: The Quest for a Measure of Social Welfare." *Journal of Economic Literature* 47 (4): 1029–1075.

Flouri, E. 2004. "Subjective Well-Being in Midlife: The Role of Involvement of and Closeness to Parents in Childhood." *Journal of Happiness Studies* 5 (4): 335–58.

Flyvbjerg, Bent. 2006. "Five Misunderstandings about Case-Study Research." *Qualitative Inquiry* 12 (2): 219–245.

Foa, Roberto, and Jeffery Tanner. 2012. "Methodology of the Indices of Social Development." http://repub.eur.nl/pub/50510/.

Focus Ireland. (2016). About Homelessness - Focus Ireland. [online] Available at: https://www.focusireland.ie/resource-hub/about-homelessness/ [Accessed 9 Nov. 2016].

Fogarty, Michael Patrick, Liam Ryan, and Joseph J. Lee. 1984. *Irish Values & Attitudes*. Dominican.

Forfas, 2015 Ireland's Construction Sector Outlook and Strategic Plan to 2015 [accessed online 7th January 2017] https://djei.ie/en/Publications/Publication-files/Forfás/Ireland-s-Construction-Sector-Outlook-and-Strategic-Plan-to-2015.pdf

Fowler Jr, Floyd J., and Carol Cosenza. 2009. "Design and Evaluation of Survey Questions." *The SAGE Handbook of Applied Social Research Methods*, 375–412.

Fox, Mary F., and Glenn Firebaugh. 1992. "Confidence in Science: The Gender Gap." *Social Science Quarterly*. http://psycnet.apa.org/psycinfo/1993-25549-001.

Francis, L. J., and D. Lester. 1997. "Religion, Personality and Happiness." *Journal of Contemporary Religion* 12 (1): 81–86.

Fre, B. S. 2005. "Happiness Research: State and Prospects." *Review of Social Economy* 63 (2): 207–228.

Frederick, Shane, George Loewenstein, and Ted O'donoghue. 2002. "Time Discounting and Time Preference: A Critical Review." *Journal of Economic Literature* 40 (2): 351–401. doi:10.1257/002205102320161311.

Freese, Jeremy. 2004. "Risk Preferences and Gender Differences in Religiousness: Evidence from the World Values Survey." *Review of Religious Research*, 88–91.

Frey Bruno S. 2002b. "What Can Economists Learn from Happiness Research?" *Journal of Economic Literature* 40 (2): 402–35.

Frey, B. S., and A. Stutzer. 2000. "Happiness, Economy and Institution." *The Economic Journal* 110 (466): 918–38.

Frey, B., S. Luechinger, and A. Stutzer. 2009. "The Life Satisfaction Approach to Environmental Valuation."

Frey, Bruno S., and A. Stutzer. 2002a. "The Economics of Happiness." *World Economics* 3 (1): 25–41.

Frijters, P., J. P. Haisken-DeNew, and M. A. Shields. 2004. "Money Does Matter! Evidence from Increasing Real Income and Life Satisfaction in East Germany Following Reunification." *The American Economic Review* 94 (3): 730–740.

Fund, Commonwealth. 2014. "Mirror, Mirror on the Wall, 2014 Update: How the US Health Care System Compares Internationally." *Commonwealth Fund Pub*, no. 1755.

Füredi, F., 2004. *Therapy culture: Cultivating vulnerability in an uncertain age*. Psychology Press.

Garvin, T., 2004. *Preventing the Future: Why was Ireland so poor for so long?* Gill & Macmillan Ltd.

Gerdtham, Ulf-G, and Magnus Johannesson. 2001. "The Relationship between Happiness, Health, and Socio-Economic Factors: Results Based on Swedish Microdata." *Journal of Socio-Economics* 30 (6): 553–57. doi:10.1016/S1053-5357(01)00118-4.

Gerlach, K., and G. Stephan. 1996. "A Paper on Unhappiness and Unemployment in Germany." *Economics Letters* 52 (3): 325–30.

Gilardi, Fabrizio. 2012. "Policy interdependence: transfer, diffusion, convergence." *Comparative Policy Studies: Conceptual and Methodological Challenges, New York: Palgrave MacMillan*

Girvin, B. 2010. "Before the Celtic Tiger: Change without Modernisation in Ireland 1959-1989." *The Economic and Social Review* 41 (3): 349–365.

Glassman, A. H., and P. A. Shapiro. 1998. "Depression and the Course of Coronary Artery Disease." *American Journal of Psychiatry* 155 (1): 4–11.

Gleeson-White, J., 2015. *Six Capitals, Or Can Accountants Save the Planet? Rethinking Capitalism for the Twenty-first Century*. WW Norton & Company.

Glennerster, H., Hills, J., Piachaud, D. and Webb, J., 2004. *One hundred years of poverty and policy*. Joseph Rowntree Foundation.

Goetschel, L. ed., 2013. *Small states inside and outside the European Union: interests and policies*. Springer Science & Business Media.

Goffman, E. 2005. "Defining Sustainability, Defining the Future." *CSA Discovery Guides*.

Goldin, Ian, and A. Winters. 1995. "Economic Policies for Sustainable Development." *The Economics of Sustainable Development, Cambridge University Press, Cambridge*, 1–15.

Goldthorpe, John H. 1997. "Current Issues in Comparative Macrosociology: A Debate on Methodological Issues." *Comparative Social Research* 16: 1–26.

Goss, Kristin A. 2010. *Disarmed: The Missing Movement for Gun Control in America*. Princeton University Press. https://books.google.co.uk/books?hl=en&lr=&id=FFgQC1hZnpoC&oi=fnd&pg=PP2&dq=goss+2010+gun+control+women&ots=eQtYu0YVS8&sig=n6Y6C1PE9h_Y2H9ujuMGzrOfb9I.

Gowdy, J. 2005. "Toward a New Welfare Economics for Sustainability." *Ecological Economics* 53 (2): 211–222.

Gowdy, J. M., and C. N. McDaniel. 1999. "The Physical Destruction of Nauru: An Example of Weak Sustainability." *Land Economics* 75 (2): 333–338.

Gowdy. 2004. "The Revolution in Welfare Economics and Its Implications for Environmental Valuation and Policy." *Land Economics* 80 (2): 239–257.

Gráda, Cormac Ó. 2008. "School of Economics University College Dublin." http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.729.4443&rep=rep1&type=pdf.

Graham, C. 2010. *Happiness around the World: The Paradox of Happy Peasants and Miserable Millionaires*. Oxford Univ Pr.

Graham, C., and A. Felton. 2006. "Inequality and Happiness: Insights from Latin America." *Journal of Economic Inequality* 4 (1): 107–122.

Graham, C., and S. Pettinato. 2001. "Happiness, Markets, and Democracy: Latin America in Comparative Perspective." *Journal of Happiness Studies* 2 (3): 237–68.

Gray, R. H. 1990. *The Greening of Accountancy: The Profession after Pearce*. Vol. 17. Certified Accountants Publications.

Greve, B., 2016. How to Measure Social Progress?. *Social Policy & Administration*.

Grossman, G. M., and A. B. Krueger. 1994. "Economic Growth and the Environment."

Gutman, L. M., J. Brown, R. Akerman, and P. Obolenskaya. 2010. "Change in Wellbeing from Childhood to Adolescence: Risk and Resilience." *Change*.

Hagerty M.R. 2000. "Social Comparisons of Income in One's Community: Evidence from National Surveys of Income and Happiness." *Journal of Personality and Social Psychology* 78 (4): 764–71.

Hagerty, M. R., and R. Veenhoven. 2003. "Wealth and Happiness Revisited–growing National Income Does Go with Greater Happiness." *Social Indicators Research* 64 (1): 1–27.

Haggard, Robert F. 2001. *The Persistence of Victorian Liberalism: The Politics of Social Reform in Britain, 1870-1900*. Greenwood Publishing Group.

Hall, Jon, E Giovanni, Morrone, and Ranuzzi. 2011. "A Framework to Measure the Progress of Societies - Google Search."

Haller, M., and M. Hadler. 2006. "How Social Relations and Structures Can Produce Happiness and Unhappiness: An International Comparative Analysis." *Social Indicators Research* 75 (2): 169–216.

Halpern, David. 1999. "Social Capital: The New Golden Goose." *London: Institute for Public Policy Research*.

Halstead, Diane, Edward A. Morash, and John Ozment. 1996. "Comparing Objective Service Failures and Subjective Complaints." *Journal of Business Research* 36 (2): 107–15. doi:10.1016/0148-2963(95)00170-0.

Hardiman, N. 2000. "The Political Economy of Growth: Economic Governance and Political Innovation in Ireland." *London, Society for the Advancement of Socio-Economics (SASE)*.

Harford, T. 2014 "Big Data: are we making a big mistake" *Financial Times*, [online] https://www.ft.com/content/21a6e7d8-b479-11e3-a09a-00144feabdc0 [Accessed 13 Jan. 2017].

Harris, Jonathon M. 1997. "Critiques of National Income Accounting and GNP." *Human Well-Being and Economic Goals. Island Press, Washington, DC*.

Hartman, Robert. 1967. *The Structure of Value*. Southern Illinois University Press.

Hartwick, J. M. 1977. "Intergenerational Equity and the Investing of Rents from Exhaustible Resources." *The American Economic Review* 67 (5): 972–974.

Hartwick, John M. 1990. "Natural Resources, National Accounting and Economic Depreciation." *Journal of Public Economics* 43 (3): 291–304.

Harvey, D., 1990. The condition of postmodernity: An enquiry into the conditions of cultural change.

Hausman, Daniel M., "Philosophy of Economics", *The Stanford Encyclopedia of Philosophy* (Winter 2013 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2013/entries/economics/>.

Hayes, Bernadette C. 2001. "Gender, Scientific Knowledge, and Attitudes toward the Environment: A Cross-National Analysis." *Political Research Quarterly* 54 (3): 657–671.

Hayo, B. 2004. "Happiness in Eastern Europe."

Headey, B., and M. Wooden. 2004. "The Effects of Wealth and Income on Subjective Well-Being and Ill-Being*." *Economic Record* 80: S24–S33.

Headey, B., R. Muffels, and M. Wooden. 2008. "Money Does Not Buy Happiness: Or Does It? A Reassessment Based on the Combined Effects of Wealth, Income and Consumption." *Social Indicators Research* 87 (1): 65–82.

Heal, G. 2008. "Climate Economics: A Meta-Review and Some Suggestions."

Healy, T. (2016). Some dirty secrets abour income and earnings. [Blog] Available at: http://www.nerinstitute.net/blog/2016/12/02/some-dirty-secrets-about-income-and-earnings/ [Accessed 11 Jan. 2017].

Healy, T., B. Reynolds, and S. Healy. 2005a. "Social Capital and Well-Being in Ireland." *Securing Fairness and Wellbeing in a Land of Plenty, Dublin: CORI Justice Commission*, 50–65.

Heathwood, Chris. 2010. "Welfare." In , edited by John Skorupski. Routledge.

Heathwood. 2012. "Monism and Pluralism about Value."

Heathwood. 2014. "Subjective Theories of Well-Being." In , edited by Ben Eggleston and Dale Miller, 199–219. Cambridge University Press.

Hediger, Werner. 2006. "Weak and Strong Sustainability, Environmental Conservation and Economic Growth." *Natural Resource Modeling* 19 (3): 359–394.

Heede, Richard. 2014. "Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010." *Climatic Change* 122 (1–2): 229–241.

Heliwell, J. F., and H. Huang. 2005. "How's the Job? Well-Being and Social Capital in the Workplace."

Helliwell J. F.. 2006b. "How's Your Government? International Evidence Linking Good Government and Well-Being." NBER Working Paper 11988. The National Bureau of Economic Research. http://www.nber.org/papers/w11988.

Helliwell, J. F. 2003. "How's Life? Combining Individual and National Variables to Explain Subjective Well-Being." *Economic Modelling* 20 (2): 331–360.

Helliwell, J. F., and H. Huang. 2006a. "How's Your Government? International Evidence Linking Good Government and Well-Being."

Helliwell, J. F., and R. D. Putnam. 2004. "The Social Context of Well-Being." *Philosophical Transactions of the Royal Society B* 359: 1435–46.

Helliwell, J.F. and Wang, S., 2010. *Trust and well-being* (No. w15911). National Bureau of Economic Research.

Helliwell, J., 2001. Social capital, the economy and well-being. *The review of economic performance and social progress*.

Hertzman, Arjumand Siddiqi and Clyde. 2001. "Economic Growth, Income Equality, and Population Health among the Asian Tigers." *International Journal of Health Services* 31 (2): 323–33. doi:10.2190/YFXB-E27P-HQDQ-04AM.

Hirsch, Fred. 1976. "Social Limits to." *Growth*, 101.

Hirst, M. 2003. "Caring-Related Inequalities in Psychological Distress in Britain during the 1990s." *Journal of Public Health Medicine* 25 (4): 336–43.

Hirst, M. 2005. "Carer Distress: A Prospective, Population-Based Study." *Social Science & Medicine* 61 (3): 697–708.

Hiscock, Keith, Alan Southward, Ian Tittley, and Stephen Hawkins. 2004. "Effects of Changing Temperature on Benthic Marine Life in Britain and Ireland." *Aquatic Conservation: Marine and Freshwater Ecosystems* 14 (4): 333–362.

Hitlin, Steven, and Jane Allyn Piliavin. 2004. "Values: Reviving a Dormant Concept." *Annual Review of Sociology*, 359–393.

Honohan, Patrick, and Brendan Walsh. 2002. "Catching up with the Leaders: The Irish Hare." *Brookings Papers on Economic Activity* 2002 (1): 1–77.

Hooghe, M., and B. Vanhoutte. 2010. "Subjective Well-Being and Social Capital in Belgian Communities. The Impact of Community Characteristics on Subjective Well-Being Indicators in Belgium." *Social Indicators Research* 100 (1): 17–36.

Hopkins, E. 2008. "Inequality, Happiness and Relative Concerns: What Actually Is Their Relationship?" *Journal of Economic Inequality* 6 (4): 351–372.

Horkheimer, M., Adorno, T.W. and Noeri, G., 2002. *Dialectic of enlightenment.* Stanford University Press.

Horsch, Karen. 1997. "Indicators: Definition and Use in a Results-Based Accountability System." *Harvard Family Research Project. Available at: Http://www. Hfrp. Org/publicationsresources/browse-Our-Publications/indicators-Definition-and-Use-in-a-Results-Basedaccountability-System (29/03/09).*

Howell, R. T., M. L. Kern, and S. Lyubomirsky. 2007. "Health Benefits: Meta-Analytically Determining the Impact of Well-Being on Objective Health Outcomes." *Health Psychology Review* 1 (1): 83–136.

Hsieh, Chang-ming. 2003. "Counting Importance: The Case of Life Satisfaction and Relative Domain Importance." *Social Indicators Research* 61 (2): 227–240.

Hsieh, Chang-ming. 2004. "To Weight or Not to Weight: The Role of Domain Importance in Quality of Life Measurement." *Social Indicators Research* 68 (2): 163–174.

Hsieh, Chang-Ming. 2012. "Importance Is Not Unimportant: The Role of Importance Weighting in QoL Measures." *Social Indicators Research* 109 (2): 267–278.

Hsieh, Chang-ming. 2013. "Issues in Evaluating Importance Weighting in Quality of Life Measures." *Social Indicators Research* 110 (2): 681–693.

http://oecdinsights.org/2016/06/27/did-the-oecd-composite-leading-indicators-see-it-coming/ for chapter 9

Hudders, Liselot, and Mario Pandelaere. 2012. "The Silver Lining of Materialism: The Impact of Luxury Consumption on Subjective Well-Being." *Journal of Happiness Studies* 13 (3): 411–437.

Hudson, J. 2006. "Institutional Trust and Subjective Well-Being across the EU." *Kyklos* 59 (1): 43–62.

Hueting, Roefie. 1980. "New Scarcity and Economic Growth; More Welfare through Less Production?" http://agris.fao.org/agris-search/search.do?recordID=XF2015029320.

Hyman, L., 2014. *Happiness: Understandings, narratives and discourses.* Springer.

IMF (2016), Statistical Database, available at http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx, (accessed 30th December 2016).

Immerzeel T, Coffé H, Van der Lippe T. Explaining the gender gap in radical right voting: A cross-national investigation in 12 Western European countries. Comparative European Politics. 2015 Feb 1;13(2):263-86.

Inglehart, 1981. "Post-Materialism in an Environment of Insecurity." *American Political Science Review* 75 (4): 880–900.

Inglehart, 1990. *Culture Shift in Advanced Industrial Society.* Princeton University Press. https://books.google.co.uk/books?hl=en&lr=&id=ztYnOnSgs1EC&oi=fnd&pg=PR9&dq=inglehart+1990&ots=vHS5ctvWWW&sig=IuyfXEnnAQQAxWmQxiF9AhLDwg4.

Inglehart, 1997. *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies.* Vol. 19. Cambridge Univ Press. http://journals.cambridge.org/production/action/cjoGetFulltext?fulltextid=6296904.

Inglehart, R., and H. D. Klingemann. 2000. "Genes, Culture, Democracy, and Happiness." *Culture and Subjective Well-Being*, 165–183.

Inglehart, R., and H. D. Klingemann. 2000. "Genes, Culture, Democracy, and Happiness." *Culture and Subjective Well-Being*, 165–183.

Inglehart, Ronald F. 1977. "The Silent Revolution: Changing Values and Political Styles among Western Publics."

Inglehart, Ronald, and Christian Welzel. 2010. "Changing Mass Priorities: The Link between Modernization and Democracy." *Perspectives on Politics* 8 (2): 551–567.

Inglehart, Ronald, and Pippa Norris. 2000. "The Developmental Theory of the Gender Gap: Women's and Men's Voting Behavior in Global Perspective." *International Political Science Review* 21 (4): 441–463.

Inglehart, Ronald. 1971. "The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies." *American Political Science Review* 65 (4): 991–1017.

Inglis, Tom. 2007. "Catholic Identity in Contemporary Ireland: Belief and Belonging to Tradition 1." *Journal of Contemporary Religion* 22 (2): 205–220.

International energy agency, (2015). Co2 Emissions from Fuel Combustion: Highlights, IEA Statistics

International Monetary Fund. 2005. "IMF Country Report Ireland."

Jackson, T. 2009. "Prosperity without Growth? The Transition to a Sustainable Economy." *Sustainable Development*.

Jackson, Tim, and Nic Marks. 1999. "Consumption, Sustainable Welfare and Human Needs—with Reference to UK Expenditure Patterns between 1954 and 1994." *Ecological Economics* 28 (3): 421–41. doi:10.1016/S0921-8009(98)00108-6.

Jahedi, Salar, and Fabio Méndez. 2014. "On the Advantages and Disadvantages of Subjective Measures." *Journal of Economic Behavior & Organization* 98: 97–114.

Jameson, F., 1984. The politics of theory: ideological positions in the postmodernism debate. *New German Critique*, (33), pp.53-65.

Jamieson, Susan, and others. 2004. "Likert Scales: How to (Ab) Use Them." *Medical Education* 38 (12): 1217–1218.

Jardine, N., 2004. Etics and emics (not to mention anemics and emetics) in the history of the sciences. *History of science*, *42*(3), pp.261-278.

Jenkins, J. (2012). Historic Paths to Decarbonization. [online] Thebreakthrough.org. Available at: http://thebreakthrough.org/archive/which_nations_have_reduced_car [Accessed 13 Jan. 2017].

Jenkins, R., D. Bhugra, P. Bebbington, T. Brugha, M. Farrell, J. Coid, T. Fryers, S. Weich, N. Singleton, and H. Meltzer. 2008. "Debt, Income and Mental Disorder in the General Population." *Psychological Medicine* 38 (10): 1485–1493.

Johnson, IR. 2011. "Patient Perspectives on Health, Health Needs, and Health Care Services in a Rural Irish Community: A Qualitative Study." *RURAL AND REMOTE HEALTH* 11 (3).

Johnson, Monica Kirkpatrick. 2001. "Change in Job Values during the Transition to Adulthood." *Work and Occupations* 28 (3): 315–345.

Johnson, Monica Kirkpatrick. 2002. "Social Origins, Adolescent Experiences, and Work Value Trajectories during the Transition to Adulthood." *Social Forces* 80 (4): 1307–1340.

Johnson, R. Burke, Anthony J. Onwuegbuzie, and Lisa A. Turner. 2007. "Toward a Definition of Mixed Methods Research." *Journal of Mixed Methods Research* 1 (2): 112–133.

Joliffe, I. and Morgan, B. (1992). Principal component analysis and exploratory factor analysis. Statistical Methods in Medical Research, 1(1), pp.69-95.

Kacapyr, E. 2008. "Cross-Country Determinants of Satisfaction with Life." *International Journal of Social Economics* 35 (6): 400–416.

Kahneman, D., and A.B. Krueger. 2006. "Developments in the Measurement of Subjective Well-Being." *The Journal of Economic Perspectives* 20 (1): 3–24.

Kahneman, Daniel, Alan B. Krueger, David Schkade, Norbert Schwarz, and Arthur Stone. 2004. "Toward National Well-Being Accounts." *American Economic Review* 94 (2): 429–34.

Kahneman, Daniel, and Angus Deaton. 2010. "High Income Improves Evaluation of Life but Not Emotional Well-Being." *Proceedings of the National Academy of Sciences* 107 (38): 16489–93. doi:10.1073/pnas.1011492107.

Kahneman, Daniel, Ed Diener, and Norbert Schwarz. 2003. *Well-Being: Foundations of Hedonic Psychology*. New York: Russell Sage Foundation.

Kahneman, Daniel. 2011. *Thinking, Fast and Slow*. Macmillan.

Kaiser, Henry F. 1974. "An Index of Factorial Simplicity." *Psychometrika* 39 (1): 31–36.

Kapsos, S. (2005) The employment intensity of growth: Trends and macroeconomic determinants, International Labour Organisation.

Karabarbounis, Loukas, and Brent Neiman. 2014. "The global decline of the labor share." *The Quarterly Journal of Economics* 129, no. 1: 61-103.

Kashdan, Todd B., and William E. Breen. 2007. "Materialism and Diminished Well-Being: Experiential Avoidance as a Mediating Mechanism." *Journal of Social and Clinical Psychology* 26 (5): 521–539.

Kasperson, Roger E., Gerald Berk, David Pijawka, Alan B. Sharaf, and James Wood. 1980. "Public Opposition to Nuclear Energy: Retrospect and Prospect." *Science, Technology, & Human Values* 5 (31): 11–23.

Kasser, Tim, and Richard M. Ryan. 1993. "A Dark Side of the American Dream: Correlates of Financial Success as a Central Life Aspiration." *Journal of Personality and Social Psychology* 65 (2): 410.

Kasser, Tim, and Richard M. Ryan. 2001 "Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals." *Life goals and well-being: Towards a positive psychology of human striving* 116-131

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2007. "Governance Matters VI: Governance Indicators for 1996-2006." *World Bank Policy Research Working Paper*, no. 4280. http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=999979.

Kelleher, C. C., Sharon Friel, S. Nic Gabhainn, and Joseph B. Tay. 2003. "Socio-Demographic Predictors of Self-Rated Health in the Republic of Ireland: Findings from the National Survey on Lifestyle, Attitudes and Nutrition, SLAN." *Social Science & Medicine* 57 (3): 477–486.

Kenna, Padraic. 2011. *Housing Law, Rights and Policy*. Dublin: Clarus Press Ltd.

Kennedy, G erard, and Tara McIndoe-Calder. 2011."The Irish mortgage market: Stylised facts, negative equity and arrears." In *Central Bank of Ireland Conference Paper, October*.

Kenny, A. 1992. *Aristotle on the Perfect Life*. Clarendon press Oxford. http://www.getcited.org/pub/102976952.

Keyes, C. L. M. 1998. "Social Well-Being." *Social Psychology Quarterly*, 121–140.

Keynes, J.M., 1937. The general theory of employment. *The quarterly journal of economics*, pp.209-223.Kharecha, Pushker A., and James E. Hansen. 2013. "Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power." *Environmental Science & Technology* 47 (9): 4889–95. doi:10.1021/es3051197.

King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton university press. https://books.google.co.uk/books?hl=en&lr=&id=A7VFF-JR3b8C&oi=fnd&pg=PP1&dq=King,+Keohane+and+Verba,+1994+small+n+problem&ots=f1lpOeFV_Q&sig=Q58GXUSVc3OZFR1UyHjbnUwPEN8.

Kinsella, Stephen. 2012. "Is Ireland Really the Role Model for Austerity?" *Cambridge Journal of Economics* 36 (1): 223–235.

Kirby, Peadar, and Mary Murphy. 2011. "Globalisation and Models of State: Debates and Evidence from Ireland." *New Political Economy* 16 (1): 19–39. doi:10.1080/13563461003789795.

Kirby, Peadar. 2005. "The Irish State and the Celtic Tiger: A 'flexible Developmental State'or a Competition State?" *Global Encounters: International Political Economy, Development and Globalisation*, 74–94.

Kirby. Peadar, 2010. "Lessons from the Irish Collapse: Taking an International Political Economy Approach." *Irish Studies in International Affairs* 21 (1): 43–55.

Kitayama, S., Markus, H.R. and Kurokawa, M., 2000. Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition & Emotion*, *14*(1), pp.93-124.

Kitchin, R., and Brendan Bartley. 2007. "Ireland in the Twenty First Century." *2007) Understanding Contemporary Ireland. Pluto Press, London*, 1–26.

Kitchin, Rob, Cian O'Callaghan, Mark Boyle, Justin Gleeson, and Karen Keaveney. 2012. "Placing Neoliberalism: The Rise and Fall of Ireland's Celtic Tiger." *Environment and Planning A* 44 (6): 1302–1326.

Kitchin, Rob, and Tracey P. Lauriault. 2014. "Towards critical data studies: Charting and unpacking data assemblages and their work."

Kittel, Bernhard. 2006. "A Crazy Methodology? On the Limits of Macro-Quantitative Social Science Research." *International Sociology* 21 (5): 647–677.

Knight, J., L. Song, and R. Gunatilaka. 2009. "Subjective Well-Being and Its Determinants in Rural China." *China Economic Review* 20 (4): 635–649.

Koivumaa-Honkanen, H., Honkanen, R., Viinamaeki, H., Heikkilae, K., Kaprio, J. and Koskenvuo, M., 2001. Life satisfaction and suicide: a 20-year follow-up study. *American Journal of Psychiatry*, *158*(3), pp.433-439.

Konrad, Alison M., J. Edgar Ritchie Jr, Pamela Lieb, and Elizabeth Corrigall. 2000. "Sex Differences and Similarities in Job Attribute Preferences: A Meta-Analysis." *Psychological Bulletin* 126 (4): 593.

Korpela, K. M., T. Klemettilä, and J. K. Hietanen. 2002. "Evidence for Rapid Affective Evaluation of Environmental Scenes." *Environment and Behavior* 34 (5): 634–650.

Korpi, T. 1997. "Is Utility Related to Employment Status? Employment, Unemployment, Labor Market Policies and Subjective Well-Being among Swedish Youth." Labour Economics 4 (2): 125–147.

Kotakorpi, K., and J. P. LAAMANEN. 2010. "Welfare State and Life Satisfaction: Evidence from Public Health Care." Economica 77 (307): 565–583.

Kottak, Conrad (2006), *Mirror for Humanity*, New York: McGraw Hill

Kristiansen, Connie M., and Mark P. Zanna. 1991. "Value Relevance and the Value-Attitude Relation: Value Expressiveness versus Halo Effects." *Basic and Applied Social Psychology* 12 (4): 471–483.

Kuznar, Lawrence A. 2008. *Reclaiming a Scientific Anthropology*. Rowman Altamira.

Kuznets, Simon, Lillian Epstein, and Elizabeth Jenks. 1946. "National Income and Its Composition, 1919-1938, Volume II." http://econpapers.repec.org/RePEc:nbr:nberbk:kuzn41-3.

Kuznets, Simon. 1962. "How to Judge Quality." *The New Republic* 20: 1962–10.

Lafferty, Rich. 2001. "Lámh Dearg, Lámh Dofheicthe: Economic Growth and Persistent Unemployment in Ireland."

Layard, R. (2003). HAPPINESS: HAS SOCIAL SCIENCE A CLUE?.

Layard, Richard. 2005. "Happiness: Lessons Form a New Science." *London: Allen Lane*.

Layard, Richard. 2006. "Happiness and Public Policy: A Challenge to the Profession*." *The Economic Journal* 116 (510): C24–33. doi:10.1111/j.1468-0297.2006.01073.x.

Lélé, Sharachchandra M. 1991. "Sustainable Development: A Critical Review." *World Development* 19 (6): 607–21. doi:10.1016/0305-750X(91)90197-P.

Lelkes, O. 2006. "Knowing What Is Good for You: Empirical Analysis of Personal Preferences and The 'objective Good.'" *The Journal of Socio-Economics* 35 (2): 285–307.

Lincoln, Yvonna S., and Egon G. Guba. 2000. "The Only Generalization Is: There Is No Generalization." *Case Study Method*, 27–44.

Lipset, Seymour M., and Stein Rokkan. 1967. "Cleavage Structures, Party Systems, and Voter Alignments: An Introduction." http://www.citeulike.org/group/1922/article/928870.

Liu, M. (2016). How China Buried the Green GDP. [online] Newsweek. Available at: http://europe.newsweek.com/how-china-buried-green-gdp-91049?rm=eu [Accessed 30 Nov. 2016].

Locke, John. 1677. "Knowledge, Its Extent and Measure."

Lomborg, B. 2001. "The Skeptical Environmentalist: Measuring the Real State of the World." *Cambridge (UK)*, 165–172.

Longhi, Simonetta, Peter Nijkamp, and Jacques Poot. 2008. "Meta-Analysis of Empirical Evidence on the Labour Market Impacts of Immigration." *Available at SSRN 1136223*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1136223.

Lorenzoni, Irene, and Nick F. Pidgeon. 2006. "Public Views on Climate Change: European and USA Perspectives." *Climatic Change* 77 (1–2): 73–95. doi:10.1007/s10584-006-9072-z.

Lorenzoni, Irene, Sophie Nicholson-Cole, and Lorraine Whitmarsh. 2007. "Barriers Perceived to Engaging with Climate Change among the UK Public and Their Policy Implications." *Global Environmental Change* 17 (3): 445–459.

Louis, V. V., and S. Zhao. 2002. "Effects of Family Structure, Family SES, and Adulthood Experiences on Life Satisfaction." *Journal of Family Issues* 23 (8): 986–1005.

Loyal, Steve. 2003. "Welcome to the Celtic Tiger: Racism, Immigration and the State." *The End of Irish History*, 74–94.

Lubke, Gitta H., and Bengt O. Muthén. 2004. "Applying Multigroup Confirmatory Factor Models for Continuous Outcomes to Likert Scale Data Complicates Meaningful Group Comparisons." *Structural Equation Modeling* 11 (4): 514–534.

Lucas, R. E., A. E. Clark, Y. Georgellis, and E. Diener. 2004. "Unemployment Alters the Set Point for Life Satisfaction." *Psychological Science* 15 (1): 8–13.

Luechinger, S., S. Meier, and A. Stutzer. 2008. "Why Does Unemployment Hurt the Employed?: Evidence from the Life Satisfaction Gap between the Public and Private Sectors."

Luttmer, Erzo F. P. 2005. "Neighbors as Negatives: Relative Earnings and Well-Being." *The Quarterly Journal of Economics* 120 (3): 963–1002.

Lykken, David, and Auke Tellegen. 1996. "Happiness Is a Stochastic Phenomenon." *Psychological Science* 7 (3): 186–189.

Lyons, Séan, Karen Mayor, Richard SJ Tol, and others. 2008. "Environmental Accounts for the Republic of Ireland: 1990-2005." *Journal of the Statistical and Social Inquiry Society of Ireland* 37: 190–216.

MacKerron, G. 2011. "Happiness Economics from 35 000 Feet." *Journal of Economic Surveys*.

Madden, David. 2009. "Mental Stress in Ireland, 1994–2000: A Stochastic Dominance Approach." *Health Economics* 18 (10): 1202–1217.

Maguire, Martin. 2002. "'Our People'the Church of Ireland and the Culture of Community in Dublin since Disestablishment." http://eprints.dkit.ie/75/.

McGillivray, M. and Clarke, M., 2006. Human well-being: Concepts and measures. *Understanding human well-being*, pp.3-16.

Maio, Gregory R., and James M. Olson. 2000. "What Is a 'value-Expressive' Attitude." *Why We Evaluate: Functions of Attitudes*, 249–269.

Maio, Gregory R., Neal J. Roese, Clive Seligman, and Albert Katz. 1996. "Rankings, Ratings, and the Measurement of Values: Evidence for the Superior Validity of Ratings." *Basic and Applied Social Psychology* 18 (2): 171–181.

Marini, Margaret Mooney, Pi-Ling Fan, Erica Finley, and Ann M. Beutel. 1996. "Gender and Job Values." *Sociology of Education*, 49–65.

Marks, Nadine F, James David Lambert, and Heejeong Choi. 2002. "Transitions to Caregiving, Gender, and Psychological Well-Being: A Prospective U.S. National Study." *Journal of Marriage and Family* 64 (3): 657–67. doi:10.1111/j.1741-3737.2002.00657.x.

Marmot, M. 2003. "Self Esteem and Health." *BMJ* 327 (7415): 574–75. doi:10.1136/bmj.327.7415.574.

Martinez Allier. 1995. "Distributional Issues in Ecological Economics." *Review of Social Economy* 53 (4): 511–528.

Martinoia, Rozenn. 2003. "That Which Is Desired, Which Pleases, and Which Satisfies: Utility according to Alfred Marshall." *Journal of the History of Economic Thought* 25 (3): 349–364.

Marx, Karl. 1867. "Das Kapital, Vol. 1." *Marx/Engels: Werke* 23.
Mazmanian, A. 2014 "The Mosaic Effect and Big Data."

Matell, Michael S., and Jacob Jacoby. 1972. "Is There an Optimal Number of Alternatives for Likert-Scale Items? Effects of Testing Time and Scale Properties." *Journal of Applied Psychology* 56 (6): 506–9. doi:10.1037/h0033601.

Mavisakalyan, A. (2014). Women in cabinet and public health spending: evidence across countries. Economics of Governance, 15(3), pp.281-304.

Max-Neef, Manfred, Antonio Elizalde, Martin Hopenhayn, Joey Edwardh, and Manfred Max-Neef. 1990. *Human Scale Development: An Option for the Future*. Dag Hammarskjold Foundation.

McBride, M. 2001. "Relative-Income Effects on Subjective Well-Being in the Cross-Section." *Journal of Economic Behavior & Organization* 45 (3): 251–278.

McCarthy, Yvonne, Kieran McQuinn, and others. 2013. "Credit Conditions in a Boom and Bust Property Market." *Central Bank of Ireland Research Technical Paper* 8. https://www.financialregulator.ie/publications/Documents/08RT13.pdf.

McCarthy, Yvonne, Kieran McQuinn, and others. 2013. "Credit Conditions in a Boom

McGillivray, Mark, and Farhad Noorbakhsh. 2004. "Composite Indices of Human Well Being Past." *Present, and Future, $ IDER, Research Paper*, no. 2004/63.

McGillivray, Mark, and Howard White. 1993. "Measuring Development? The UNDP's Human Development Index." *Journal of International Development* 5 (2): 183–192.

McGillivray, Mark. 1991. "The Human Development Index: Yet Another Redundant Composite Development Indicator?" *World Development* 19 (10): 1461–1468.

McMahon, Darrin M. 2006. *Happiness: A History*. Grove Press. https://books.google.co.uk/books?hl=en&lr=&id=WDbOfcnXp-AC&oi=fnd&pg=PR11&dq=mcmahon+2006+happiness&ots=UmZg0KrLyX&sig=pnvRBViejyfeGRXMu_SWKEwDqa8.

McWilliams, D., 2007. *The pope's children: Ireland's new elite*. Pan Macmillan.

Meadows, Donella H., Dennis L. Meadows, Jorgen Randers, and William W. Behrens. 1972. "The Limits to Growth." *New York* 102.

Meek Lange, Margaret, "Progress", *The Stanford Encyclopedia of Philosophy* (Spring 2011 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/spr2011/entries/progress/>.

Meier, S., and A. Stutzer. 2008. "Is Volunteering Rewarding in Itself?" *Economica* 75 (297): 39–59.

Memery, Clodagh. 2001. "THE HOUSING SYSTEM AND THE CELTIC TIGER: THE STATE RESPONSE TO A HOUSING CRISIS OF AFFORDABILITY AND ACCESS." *European Journal of Housing Policy* 1 (1): 79–104. doi:10.1080/14616710110036445.

Memery, Clodagh. 2001. "THE HOUSING SYSTEM AND THE CELTIC TIGER: THE

Mendelsohn, Robert, Thomas Sterner, U. Martin Persson, and John P. Weyant. 2008. "Comments on Simon Dietz and Nicholas Stern's Why Economic Analysis Supports Strong Action on Climate Change: A Response to the Stern Review's Critics." *Review of Environmental Economics and Policy* 2 (2): 309–13. doi:10.1093/reep/ren012.

Michalos, Alex C. 2011. "What Did Stiglitz, Sen and Fitoussi Get Right and What Did They Get Wrong?" *Social Indicators Research* 102 (1): 117–129.

Miesen, HWJM. 2009. "'Love Is All You Need': Social Relatedness Needs, Materialism, and Subjective Well-Being." *Happiness and Relational Goods: Well-Being and Interpersonal Relations in the Economic Sphere*.

Mill, J. S. 1863. *Utilitarianism*. Wiley Online Library.

Miller, Alan S., and John P. Hoffmann. 1995. "Risk and Religion: An Explanation of Gender Differences in Religiosity." *Journal for the Scientific Study of Religion*, 63–75.

Miller, Alan S., and Rodney Stark. 2002. "Gender and Religiousness: Can Socialization Explanations Be Saved? 1." *American Journal of Sociology* 107 (6): 1399–1423.

Mishan, Edward Joshua, and Ezra J. Mishan. 1967. *The Costs of Economic Growth*. Staples Press London. http://www.thesocialcontract.com/pdf/seventeen-one/tsc_17_1_mishan.pdf.

Montani, G. 2007. "The Ecocentric Approach to Sustainable Development. Ecology, Economics and Politics." *FEDERALIST-PAVIA-* 49 (1): 25.

Moore, George Edward. 1993. *Principia Ethica*. Cambridge University Press.

Morgenroth, Edgar LW, and others. 2002. *Commuting in Ireland: An Analysis of Inter-County Commuting Flows*. Economic and Social Research Institute Dublin. https://www.esri.ie/pubs/WP0144%20Commuting%20in%20Ireland.pdf.

Murphy, Mary. 2002. "Social Partnership–is It 'the Only Game in Town'?" *Community Development Journal* 37 (1): 80–90.

Music, Graham. 2014. *The Good Life: Wellbeing and the New Science of Altruism, Selfishness and Immorality*. Routledge. https://books.google.co.uk/books?hl=en&lr=&id=GxdgAwAAQBAJ&oi=fnd&pg=PP1

Myers, D. G. 2001. *The American Paradox: Spiritual Hunger in an Age of Plenty*. Yale Univ Pr.

Nardo, Michela, Michaela Saisana, Andrea Saltelli, Stefano Tarantola, Anders *Hoffman*, and Enrico Giovannini. 2005. "Handbook on Constructing Composite Indicators." http://www.oecd-ilibrary.org/economics/handbook-on-constructing-composite-indicators_533411815016.

Naturalcapitalforum.com. (2017). What is natural capital?. [online] Available at: http://naturalcapitalforum.com/about/ [Accessed 8 Feb. 2017].

Neumayer, E. 1999. "The ISEW–not an Index of Sustainable Economic Welfare." *Social Indicators Research* 48 (1): 77–101.

Neumayer, Eric. 2000. "On the Methodology of ISEW, GPI and Related Measures: Some Constructive Suggestions and Some Doubt on the 'threshold'hypothesis." *Ecological Economics* 34 (3): 347–361.

Neumayer, Eric. 2005. "4. Indicators of Sustainability." *The International Yearbook of Environmental and Resource Economics 2004/2005*, 139.

Neumayer. E. 2004. *Weak versus Strong Sustainability: Exploring the Limits of Two Opposing Paradigms*. Edward Elgar Publishing.

Neumayer. E. 2007. "A Missed Opportunity: The Stern Review on Climate Change Fails to Tackle the Issue of Non-Substitutable Loss of Natural Capital." *Global Environmental Change* 17 (3–4): 297–301.

Nieva, Veronica F., and Barbara A. Gutek. 1981. *Women and Work: A Psychological Perspective*. Praeger Publishers.

Nolan, Brian, Philip J. O'Connell, and Christopher T. Whelan. 2000. *Bust to Boom?: The Irish Experience of Growth and Inequality*. Institute of Public Administration.

Noorbakhsh, Farhad. 1998. "A Modified Human Development Index." *World Development* 26 (3): 517–528.

Norberg, Johan. 2010. "GDP and Its Enemies: The Questionable Search for a Happiness Index." *European View* 9 (2): 281–282.

Nordhaus, W. D. 2007. "A Review of the' Stern Review on the Economics of Climate Change.'" *Journal of Economic Literature*, 686–702.

Nordhaus, William D. 2006. "After Kyoto: Alternative Mechanisms to Control Global Warming." *The American Economic Review* 96 (2): 31–34.

Nordhaus, William D., and James Tobin. 1972. "Is Growth Obsolete?" In *Economic Research: Retrospect and Prospect, Volume 5, Economic Growth*, 1–80. Nber. http://www.nber.org/chapters/c7620.pdf.

Nordhaus, William D., Robert N. Stavins, and Martin L. Weitzman. 1992. "Lethal Model 2: The Limits to Growth Revisited." *Brookings Papers on Economic Activity* 1992 (2): 1–59.

Norris, Michelle, and Nessa Winston. 2011. "Transforming Irish Home Ownership through Credit Deregulation, Boom and Crunch." *International Journal of Housing Policy* 11 (1): 1–21. doi:10.1080/14616718.2011.548584.

Nozick, Robert. 1977. *Anarchy, State and Utopia*. New York: Basic Books.

O'Brien, C. (2017). *Almost 500 additional suicides linked to recession*. [online] The Irish Times. Available at: http://www.irishtimes.com/news/social-affairs/almost-500-additional-suicides-linked-to-recession-1.2140862 [Accessed 22 May 2017].

O'Callaghan, C, Mark Boyle, and Rob Kitchin. 2004. "Post-politics, crisis, and Ireland's 'ghost estates'." *Political Geography* 42: 121-133.

O Riain, S. 2000. "The Flexible Developmental State: Globalization, Information Technology and the 'Celtic Tiger.'" *Politics and Society* 28 (2): 157–193.

O Riain, Sean. 2004. "Falling over the Competitive Edge." In , 19–29. Dublin: Institute of Public Administration.

O'Gráda, Cormac. 1997. *Rocky Road: The Irish Economy Since the 1920s*. Manchester University Press.

Ó Gráda, Cormac. 2008. "Éirvana." Working Paper Series, UCD Centre for Economics Research http://irserver.ucd.ie/handle/10197/480.

O'Hearn, Denis. 2000. "Globalization,'New Tigers,'and the End of the Developmental State." *Politics and Society* 28 (1): 67.

O'Higgins, Eleanor R. E. 2002. "Government and the Creation of the Celtic Tiger: Can Management Maintain the Momentum?" *The Academy of Management Executive (1993-2005)* 16 (3): 104–20. doi:10.2307/4165872.

O'Neill, J., 2006. Citizenship, well-being and sustainability: Epicurus or Aristotle?. *Analyse & Kritik*, *28*(2), pp.158-172.

O'Shea, Eamon, and Brendan Kennelly. 2008. "THE ECONOMICS OF." http://www.mhcirl.ie/documents/publications/The_Economics_of_Mental_Health_Care_in_Ireland%202008.pdf.

O'Sullivan, K. P. V., and Tom Kennedy. 2010. "What Caused the Irish Banking Crisis?" *Journal of Financial Regulation and Compliance* 18 (3): 224–42. doi:10.1108/13581981011060808.

O'Toole, Fintan. 2009. *Ship of Fools: How Stupidity and Corruption Sank the Celtic Tiger*. Faber & Faber.

Oakley, Ann. 2000. "Experiments in Knowing: Gender and Method in the Social Sciences." http://philpapers.org/rec/OAKEIK.

OECD, 2008. "Measuring Social Dimensions of Sustainable Production." In , 39–47. OECD Publishing.

OECD, 2008. *Growing Unequal?: Income Distribution and Poverty in OECD Countries*. OECD.

OECD, 2009. "OECD Statistical Profile of Ireland", OECD, Paris, available at: http://stats.oecd.org/wbos/viewhtml.aspx?queryname=468&querytype=view&lang=en (accessed 5 August 2015).

OECD, 2009. "OECD Statistical Profile of Ireland", OECD, Paris, available at: http://stats.oecd.org/wbos/viewhtml.aspx?queryname=468&querytype=view&lang=en (accessed 5 August 2015).

OECD, 2011. "Health outcomes and expenditures", in *Government at a Glance 2011*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/gov_glance-2011-63-en

OECD, 2012. "Health at a Glance: Europe 2012." Text. http://www.oecd-ilibrary.org/sites/9789264183896-en/03/11/index.html?itemId=/content/chapter/9789264183896-38-en&_csp_=45f4df11dc99cd2019aa9aa30865f74f.

OECD, 2013. *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*. OECD Publishing.

OECD, 2016. OECD Better Life Index. [online] Available at: http://www.oecdbetterlifeindex.org/about/better-life-initiative/ [Accessed 25 Nov. 2016].

Oishi, S., E. F. Diener, R. E. Lucas, and E. M. Suh. 1999. "Cross-Cultural Variations in Predictors of Life Satisfaction: Perspectives from Needs and Values." *Personality and Social Psychology Bulletin* 25 (8): 980–990.

Oishi, S., S. Kesebir, and E. Diener. 2011. "Income Inequality and Happiness." *Psychological Science* 22 (9): 1095–1100.

Okun, A.M., 1962. 'Potential GNP: its measurement and significance', American Statistical Association, Proceedings of the Business and Economics Section.

Olken, Benjamin A. 2009. "Corruption Perceptions vs. Corruption Reality." *Journal of Public Economics* 93 (7): 950–964.

O'Mahony, E. (2011). Census 2011: Religion and belief. [online] Ireland after NAMA. Available at: https://irelandafternama.wordpress.com/2012/03/29/census-2011-religion-and-belief/ [Accessed 10 Jan. 2017].

Oosterlynck, S. and Bouchaute, B.V., 2013. Social solidarities: the search for solidarity in sociology. *OASeS Research Centre*.

Oswald, A. J. 1997. "Happiness and Economics Performance." *The Economic Journal* 107 (445): 1815–31.

Oswald, Andrew J., and Nattavudh Powdthavee. 2006. "Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges."

Oulton, Nicholas. 2012. "Hooray for GDP!"

Ouweneel, P. 2002. "Social Security and Well-Being of the Unemployed in 42 Nations." *Journal of Happiness Studies* 3 (2): 167–192.

Pacek, A. C., and B. Radcliff. 2008. "Welfare Policy and Subjective Well-Being across Nations: An Individual-Level Assessment." *Social Indicators Research* 89 (1): 179–191.

Parfit, Derek. 1986. *Reasons and Persons*. New Ed edi. Oxford Oxfordshire: Oxford Paperbacks.

Paulden, M. 2010. "Some Problems with the UK Treasury's Discount Rate."

Pearce, D. W., and G. D. Atkinson. 1993. "Capital Theory and the Measurement of Sustainable Development: An Indicator of." *Ecological Economics* 8 (2): 103–108.

Pearce, D. W., and R. K. Turner. 1990. *Economics of Natural Resources and the Environment*. Johns Hopkins Univ Pr.

Peillon, Michel. 1998. "Community of Distrust." *Encounters with Modern Ireland*, 117–124.

Pelham, Brett (22 Apr 2009). "Awareness, Opinions About Global Warming Vary Worldwide". Gallup. Retrieved 22 Dec 2009.

Perry, I. (2009)

Peters, B. Guy. 1998. "The Case Study." In *Comparative Politics*, 137–155. Springer. http://link.springer.com/chapter/10.1007/978-1-349-26926-6_6.

Peterson, C., N. Park, and M. E. P. Seligman. 2005. "Orientations to Happiness and Life Satisfaction: The Full Life versus the Empty Life." *Journal of Happiness Studies* 6 (1): 25–41.

Petrol Strategies (2016). Are we running out of oil and gas. [online] Available at: http://www.petrostrategies.org/Learning_Center/are_we_running_out_of_oil_and_gas.htm [Accessed 30 Nov. 2016].

Pew Research Centre. 2015. "Major Agreement Gaps Between Scientists and the Public on Key Issues." http://www.pewinternet.org/interactives/public-scientists-opinion-gap/.

Pezzey, J. C. V. 1997. "Sustainability Constraints Versus' optimality' versus Intertemporal Concern, and Axioms versus Data." *Land Economics*, 448–466.

Pichler, F. 2006. "Subjective Quality of Life of Young Europeans. Feeling Happy but Who Knows Why?" *Social Indicators Research* 75 (3): 419–44.

Pickett, K. E., and R. G. Wilkinson. 2007. "Child Wellbeing and Income Inequality in Rich Societies: Ecological Cross Sectional Study." *Bmj* 335 (7629): 1080.

Pike, K.L., 1967. Etic and emic standpoints for the description of behavior. 2nd rev. ed., (pp. 37-72). The Hague, Netherlands: Mouton & Co pp.http://dx.doi.org/10.1037/14786-002

Plato, and Benjamin Jowett. 1937. *The Dialogues of Plato*. New York: Random House.

Plato. 2007. *The Republic*. ePenguin.

Plato. 2009. *Protagoras*. Oxford ; New York: OUP Oxford.

Polanyi, Karl. 1944. *The Great Transformation: The Political and Economic Origins of Our Time*. Beacon Press.

Poortinga, Wouter, and Nick F. Pidgeon. 2003. "Exploring the Dimensionality of Trust in Risk Regulation." *Risk Analysis* 23 (5): 961–972.

Posner, R. 2009. "Should We Jettison GDP As an Economic Measure? Posner."

Posner, Stephen M., and Robert Costanza. 2011. "A Summary of ISEW and GPI Studies at Multiple Scales and New Estimates for Baltimore City, Baltimore County, and the State of Maryland." *Ecological Economics* 70 (11): 1972–1980.

Powdthavee, N. 2010. *The Happiness Equation*. Duxford: Icon Books.

Praag, B. M. S. van, P. Frijters, and A. Ferrer-i-Carbonell. 2001. "The Anatomy of Subjective Well-Being." *DIW Berlin, German Institute for Economic Research*.

Praag, B. Van, and B. E. Baarsma. 2005. "Using Happiness Surveys to Value Intangibles: The Case of Airport Noise*." *The Economic Journal* 115 (500): 224–246.

Praag, Bernard M. S. Van Van, and Ada Ferrer-i-Carbonell. 2011. *Happiness Economics*. Now Publishers Inc.

Preston, S.H., 1975. The changing relation between mortality and level of economic development. *Population studies*, *29*(2), pp.231-248.

Prince-Gibson, Eetta, and Shalom H. Schwartz. 1998. "Value Priorities and Gender." *Social Psychology Quarterly*, 49–67.

Propper, Carol, and Deborah Wilson. 2003. "The Use and Usefulness of Performance Measures in the Public Sector." *Oxford Review of Economic Policy* 19 (2): 250–267.

Putnam, Robert D. 2000. "Bowling Alone: America's Declining Social Capital." In *Culture and Politics*, 223–234. Springer. http://link.springer.com/chapter/10.1007/978-1-349-62397-6_12.

Ragin, Charles C. 1991. "Introduction: The Problem of Balancing Discourse on Cases and Variables in Comparative Social Science." *International Journal of Comparative Sociology* 32 (1): 1–8.

Ragin, Charles C. 1992. "Introduction: Cases of "What is a case?"." What is a Case: 1-17.

Ragin, Charles. 1987. "The Comparative Method: Moving beyond Qualitative and Quantitative Methods." *Berkeley: University of California*.

Ravallion, Martin. 2011. "Mashup Indices of Development." *The World Bank Research Observer*, lkr009.

Rawls, John. 1999. *A Theory of Justice Rev.* Revised ed. Cambridge, Mass: Harvard University Press.

Rees, G., J. Bradshaw, H. Goswami, and A. Keung. 2010. "Understanding Children's Well-Being." *Links between Family Economic Factors and Children's Subjective Well-Being: Initial Findings from Wave* 2.

Rehdanz, K., and D. Maddison. 2005. "Climate and Happiness." *Ecological Economics* 52 (1): 111–125.

Robbins, L. 1935. *An Essay on the Nature and Significance of Economic Science*. 2nd ed. London: Macmillan.

Roberts, Andy. 2002. "A Principled Complementarity of Method: In Defence of Methodological Eclecticism and the Qualitative-Quantitative Debate." *The Qualitative Report* 7 (3): 1–18.

Roberts, Robert EL, Vern L. Bengtson, and T. J. Biblarz. 1999. "The Social Psychology of Values: Effects of Individual Development, Social Change, and Family Transmission over the Life Span." *The Self and Social Processes in Aging*, 453–482.

Robinson, E., R. M. Adams, A. F. R. Clearinghouse, and Australian Institute of Family Studies. 2008. *Housing Stress and the Mental Health and Wellbeing of Families.* Australian Institute of Family Studies.

Roccas, Sonia, Lilach Sagiv, Shalom H. Schwartz, and Ariel Knafo. 2002. "The Big Five Personality Factors and Personal Values." *Personality and Social Psychology Bulletin* 28 (6): 789–801.

Rohe, W. M., and V. Basolo. 1997. "Long-Term Effects of Homeownership on the Self-Perceptions and Social Interaction of Low-Income Persons." *Environment and Behavior* 29 (6): 793–819.

Rokeach, Milton, and others. 1973. *The Nature of Human Values*. Vol. 438. Free press New York. https://www.uzh.ch/cmsssl/suz/albert/lehre/wertewandel2011/B01_Rokeach1973.pdf.

Rønsen, Marit, and Marianne Sundström. 1996. "Maternal Employment in Scandinavia: A Comparison of the after-Birth Employment Activity of Norwegian and Swedish Women." *Journal of Population Economics* 9 (3): 267–285.

Rothstein, Bo, and Daniel Eek. 2009. "Political Corruption and Social Trust An Experimental Approach." *Rationality and Society* 21 (1): 81–112. doi:10.1177/1043463108099349.

Røysamb, Espen, Jennifer R. Harris, Per Magnus, Joar Vittersø, and Kristian Tambs. 2002. "Subjective Well-Being. Sex-Specific Effects of Genetic and Environmental Factors." *Personality and Individual Differences* 32 (2): 211–223.

Ruhm, Christopher J. 2000. "Are Recessions Good for Your Health?" *The Quarterly Journal of Economics* 115 (2): 617–50. doi:10.1162/003355300554872.

Russell, Helen, Philip J. O'Connell, and Frances McGinnity. 2009. "The Impact of Flexible Working Arrangements on Work–life Conflict and Work Pressure in Ireland." *Gender, Work & Organization* 16 (1): 73–97.

Ryan, Louise, and Anne Golden. 2006. "'Tick the Box Please': A Reflexive Approach to Doing Quantitative Social Research." *Sociology* 40 (6): 1191–1200.

Ryan, Richard M., and Edward L. Deci. 2000. "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being." *American Psychologist* 55 (1): 68.

Sacks, D. W., B. Stevenson, and J. Wolfers. 2010. "Subjective Well-Being, Income, Economic Development and Growth."

Sacks, Daniel W., Betsey Stevenson, and Justin Wolfers. 2012. "The New Stylized Facts about Income and Subjective Well-Being." *Emotion* 12 (6): 1181.

Samuelson, Paul A. 1961. "The Evaluation of 'Social Income': Capital Formation and Wealth." In *The Theory of Capital*, 32–57. Springer. http://link.springer.com/chapter/10.1007/978-1-349-08452-4_3.

Sandel, Michael J. 2012. *What Money Can't Buy: The Moral Limits of Markets*. Macmillan.

Sargisson, Lucy. 2012. *Fool's Gold?: Utopianism in the Twenty-First Century*. Palgrave Macmillan. https://books.google.co.uk/books?hl=en&lr=&id=H9s_JX1GX3YC&oi=fnd&pg=PP2&dq=sargisson+2012&ots=jJ4VY3nTF_&sig=fU0o4ZOUXJ1z2BameVZefKa01_4.

Saroglou, Vassilis, Vanessa Delpierre, and Rebecca Dernelle. 2004. "Values and Religiosity: A Meta-Analysis of Studies Using Schwartz's Model." *Personality and Individual Differences* 37 (4): 721–734.

Schelling, T. C. 1995. "Intergenerational Discounting." *Energy Policy* 23 (4): 395–401.

Schimmack, U., P. Radhakrishnan, S. Oishi, and S. Ahadi. 2002. "Culture, Personality, and Subjective Well-Being: Integrating Process Models of Life Satisfaction." *Journal of Personality and Social Psychology* 82 (4): 582–93.

Schoon, I., L. Hansson, and K. Salmela-Aro. 2005. "Combining Work and Family Life: Life Satisfaction among Married and Divorced Men and Women in Estonia, Finland, and the UK." *European Psychologist* 10 (4): 309.

Schroeder, Mark. 2013. "'Value Theory', URL = <http://plato.stanford.edu/archives/sum2012/entries/value-Theory/>." *The Stanford Encyclopedia of Philosophy*, no. Summer 2012.

Schuman, Howard. 1995. "Attitudes, Beliefs, and Behavior." *Sociological Perspectives on Social Psychology* 72.

Schwartz, Eduardo S. 1997. "The Stochastic Behavior of Commodity Prices: Implications for Valuation and Hedging." *The Journal of Finance* 52 (3): 923–973.

Schwartz, Shalom H. 1992. "Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries." *Advances in Experimental Social Psychology* 25: 1–65.

Schwartz, Shalom H., and Tammy Rubel. 2005. "Sex Differences in Value Priorities: Cross-Cultural and Multimethod Studies." *Journal of Personality and Social Psychology* 89 (6): 1010.

Schwartz, Shalom H., and Wolfgang Bilsky. 1990. "Toward a Theory of the Universal Content and Structure of Values: Extensions and Cross-Cultural Replications." *Journal of Personality and Social Psychology* 58 (5): 878.

Schwarze, J., and M. Härpfer. 2004. "Are People Inequality Averse, and Do They Prefer Redistribution by the State? A Revised Version."

Scitovsky, Tibor. 1976. "The Joyless Economy: An Inquiry into Human Satisfaction and Consumer Dissatisfaction." http://psycnet.apa.org/psycinfo/1977-04600-000.

Seai.ie. (2016). SEAI - Ocean Energy Explained. [online] Available at: http://www.seai.ie/Renewables/Ocean_Energy/Ocean_Energy_Information_Research/Irelands_Wave_and_Tidal_Energy_Resources/ [Accessed 9 Nov. 2016].

Seaman, L. (2015). Researchers reveal higher than expected costs of climate change. [online] Available at: http://emiguel.econ.berkeley.edu/assets/miguel_media/638/R_D_Magazine_Researchers____calculations_reveal_higher-than-expected_global_economic_cost_of_climate_change.pdf [Accessed 13 Jan. 2017].

Seligman, Clive, and Albert N. Katz. 1996. "The Dynamics of Value Systems." In *The Psychology of Values: The Ontario Symposium*, 8:53–75. Lawrence Erlbaum Associates, Inc. Hillsdale, NJ. https://books.google.co.uk/books?hl=en&lr=&id=DACsdMk7qqoC&oi=fnd&pg=PA53&dq=Seligman+and+katz+1996&ots=u2uywsKsu7&sig=6sUbq2bTpVRLS5mx1KoTqbMNPTo.

Seligman, Martin EP, and Mihaly Csikszentmihalyi. 2000. "Special Issue on Happiness, Excellence, and Optimal Human Functioning." *American Psychologist* 55 (1): 5–183.

Sen, A. 1991. *Poverty and Famines. An Essay on Entitlement and Deprivation. Oxford: Clarendon Press.* Oxford: Clarendon Press.

Sen, A. K. 1979. "Interpersonal Comparisons of Welfare." *Economics and Human Welfare: Essays in Honor of Tibor Scitovsky. Academic Press, New York.*

Sen, Amartya. 1976. "Real National Income." *The Review of Economic Studies* 43 (1): 19–39.

Sen, Amartya. 1999. "The Possibility of Social Choice." *The American Economic Review* 89 (3): 349–378.

Sen. Amartya 2001. *Development as Freedom.* Oxford Paperbacks. https://books.google.co.uk/books?hl=en&lr=&id=Qm8HtpFHYecC&oi=fnd&pg=PR9&dq =devleopment+as+freedom&ots=81emH6a3D1&sig=5_OQ-5qpgiAfka1ypW86TcShSik.

Senik, C. 2005. "Income Distribution and Well-Being: What Can We Learn from Subjective Data?" *Journal of Economic Surveys* 19 (1): 43–63.

Sharry, Ray Mac, Padraic A. White, and Joseph J. O'Malley. 2000. *The Making of the Celtic Tiger: The inside Story of Ireland's Boom Economy*. Mercier Press.

Shields, Christopher, "Aristotle", *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2016/entries/aristotle/>.

Shields, M. A., and S. W. Price. 2005. "Exploring the Economic and Social Determinants of Psychological Well-Being and Perceived Social Support in England." *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 168 (3): 513–537.

Shields, Todd, and Ka Zeng. 2012. "The Reverse Environmental Gender Gap in China: Evidence from 'the China Survey.'" *Social Science Quarterly* 93 (1): 1–20.

Shipan, Charles R., and Craig Volden. 2008. "The mechanisms of policy diffusion." *American journal of political science* 52, no. 4: 840-857.

Sidgwick, Henry. 1981. *The Methods of Ethics.* Hackett Publishing.

Silver, R. L. 1982. "Coping with an Undesirable Life Event: A Study of Early Reactions to Physical Disability." Evanston, Illinois.

Simmons, Walter O., and Rosemarie Emanuele. 2007. "Male-Female Giving Differentials: Are Women More Altruistic?" *Journal of Economic Studies* 34 (6): 534–550.

Simon, Herbert A. 1972. "Theories of Bounded Rationality." *Decision and Organization* 1 (1): 161–176.

Skapinakis, P., S. Weich, G. Lewis, N. Singleton, and R. Araya. 2006. "Socio-Economic Position and Common Mental Disorders." *The British Journal of Psychiatry* 189 (2): 109–117.

SLÁN 2007: Survey of Lifestyle, Attitudes and Nutrition in Ireland. Mental Health and Social Well-being Report, Department of Health and Children. Dublin: The Stationery Office

Smeeding, Timothy, and Brian Nolan. 2004. "Ireland's Income Distribution in Comparative Perspective." *Available at SSRN 646024.*

Smith, Adam. 1776. "An Inquiry into the Nature and Causes of the Wealth of Nations: Volume One."

Smith, Nicola Jo-Anne. 2004. "Deconstructing'globalisation'in Ireland." *Policy & Politics*

Smyth, J. (2011). Fewer than one in five attend Sunday Mass in Dublin. [online] The Irish Times. Available at:

http://www.irishtimes.com/premium/loginpage?destination=http://www.irishtimes.com/news/fewer-than-one-in-five-attend-sunday-mass-in-dublin-1.585731 [Accessed 10 Jan. 2017].

Snyder, C R, and Erik Wright. 2001. *Handbook of Positive Psychology.* Oxford University Press.

So, Alvin Y., and Stephen WK Chiu. 1996. "Modern East Asia in World-Systems Analysis*." *Sociological Inquiry* 66 (4): 471–485.

Solomon, Lawrence S., Donald Tomaskovic-Devey, and Barbara J. Risman. 1989. "The Gender Gap and Nuclear Power: Attitudes in a Politicized Environment." *Sex Roles* 21 (5–6): 401–414.

Solow, R. 1993. "Assigning Economic Value to Natural Resources." In *Proceedings of the Workshop on Valuing Natural Capital for Sustainable Development, Woods Hole, MA*, 1994:19–30.

Solow, R. M. 1974. "Intergenerational Equity and Exhaustible Resources." *The Review of Economic Studies* 41: 29–45.

Solow, Robert M. 1974. "The Economics of Resources or the Resources of Economics." In *Classic Papers in Natural Resource Economics*, 257–276. Springer. http://link.springer.com/chapter/10.1057/9780230523210_13.

Sørensen, Morten. 2007. "How Smart Is Smart Money? A Two-Sided Matching Model of Venture Capital." *The Journal of Finance* 62 (6): 2725–2762.

Spratt, Stephen, and Justin Baker. 2015 *Big Data and International Development: Impacts, Scenarios and Policy Options.* No. IDS Evidence Report; 163. IDS.

Staats, H., and T. Hartig. 2004. "Alone or with a Friend: A Social Context for Psychological Restoration and Environmental Preferences." *Journal of Environmental Psychology* 24 (2): 199–211.

Stack, Steven, and J. Ross Eshleman. 1998. "Marital Status and Happiness: A 17-Nation Study." *Journal of Marriage and the Family*, 527–536.

Stark, R., and J. Maier. 2008. "Faith and Happiness." *Review of Religious Research* 50 (1): 120–25.

Stark, Rodney. 2002. "Physiology and Faith: Addressing the 'universal' Gender Difference in Religious Commitment." *Journal for the Scientific Study of Religion* 41 (3): 495–507.

Statham, J., and E. Chase. 2010. "Childhood Wellbeing: A Brief Overview." *Loughborough: Childhood Wellbeing Research Centre*.

Steptoe, A., J. Wardle, and M. Marmot. 2005. "Positive Affect and Health-Related Neuroendocrine, Cardiovascular, and Inflammatory Processes." *Proceedings of the National Academy of Sciences of the United States of America* 102 (18): 6508.

Stern, Nicholas H., Siobhan Peters, Vicki Bakhshi, Alex Bowen, Catherine Cameron, Sebastian Catovsky, Di Crane, et al. 2006. *Stern Review: The Economics of Climate Change.* Vol. 30. Cambridge University Press Cambridge.

Stern, Paul C., Thomas Dietz, and Linda Kalof. 1993. "Value Orientations, Gender, and Environmental Concern." *Environment and Behavior* 25 (5): 322–348.

Sterner, Thomas, and U. Martin Persson. 2008. "An Even Sterner Review: Introducing Relative Prices into the Discounting Debate." *Review of Environmental Economics and Policy* 2 (1): 61–76. doi:10.1093/reep/rem024.

Stevenson, Betsey, and Justin Wolfers. 2008. "Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox." *National Bureau of Economic Research Working Paper Series* No. 14282.

Stiglitz, J. E., A. Sen, and J. P. Fitoussi. 2009. "Report by the Commission on the Measurement of Economic Performance and Social Progress."

Stoll, L., J. Michaelson, and C. Seaford. 2012. "Well-Being Evidence for Policy: A Review." London.

Struch, Naomi, Shalom H. Schwartz, and Willem A. Van Der Kloot. 2002. "Meanings of Basic Values for Women and Men: A Cross-Cultural Analysis." *Personality and Social Psychology Bulletin* 28 (1): 16–28.

Stutzer, A., and B. S. Frey. 2008. "Stress That Doesn't Pay: The Commuting Paradox." *Scandinavian Journal of Economics* 110 (2): 339–66.

Stutzer, A., and B.S. Frey. 2006. "Does Marriage Make People Happy, or Do Happy People Get Married?" *Journal of Socio-Economics* 35 (2): 326–347.

Stutzer, Alois. 2004. "The Role of Income Aspirations in Individual Happiness." *Journal of Economic Behavior & Organization* 54 (1): 89–109. doi:10.1016/j.jebo.2003.04.003.

Sumner, Leonard W. 1996. *Welfare, Happiness, and Ethics.* Oxford University Press.

Susen, Simon. 2015. *The'Postmodern Turn'in the Social Sciences*. Springer. https://books.google.co.uk/books?hl=en&lr=&id=hL6hCgAAQBAJ&oi=fnd&pg=PP9&dq=susen+2015+postmodern&ots=mSR5W5J8tc&sig=hmccgBHy-oVqnq6fvZceVZxhpD8.

Suslow, T., C. Roestel, and P. Ohrmannand Volker. 2003. "The Experience of Basic Emotions in Schizophrenia with and without Affective Negative Symptoms." *Comprehensive Psychiatry* 44 (4): 303–310.

Swamy, A., Lee, Y., Azfar, O. and Knack, S. (n.d.). Gender and Corruption. SSRN Electronic Journal.

Sweeney, John, Tony Brereton, Clare Byrne, Rosemary Charlton, Chris Emblow, Rowan Fealy, Nicholas Holden, et al. 2003. "Climate Change: Scenarios & Impacts for Ireland (2000-LS-5.2.1-M1) ISBN:1-84095-115-X." http://eprints.maynoothuniversity.ie/2684/.

Tabachnick, Barbara G., Linda S. Fidell, and Steven J. Osterlind. 2001. "Using Multivariate Statistics." https://www.ulb.tu-darmstadt.de/tocs/135813948.pdf.

Tabata, Shinichiro. 2009. "The Influence of High Oil Prices on the Russian Economy: A Comparison with Saudi Arabia." *Eurasian Geography and Economics* 50 (1): 75–92. doi:10.2747/1539-7216.50.1.75.

Talberth, John. 2008. "A New Bottom Line for Progress." *State of the World*, 18–31.

Tansey, Paul. 1998. *Ireland at Work: Economic Growth and the Labour Market, 1987-1997.* Oak Tree Press Dublin.

Taylor, Charles. 1995. "Irreducibly Social Goods." *Philosophical Arguments*, 127–145.

Taylor, M. P., D. J. Pevalin, J. Todd, University of Essex Institute for Social, and Economic Research. 2007. "The Psychological Costs of Unsustainable Housing Commitments." *Psychological Medicine* 37 (7): 1027–1036.

Tella, R. Di, and R. MacCulloch. 2008. "Gross National Happiness as an Answer to the Easterlin Paradox?" *Journal of Development Economics* 86 (1): 22–42.

Tella, R. Di, R. J. MacCulloch, and A. J. Oswald. 2003. "The Macroeconomics of Happiness." *Review of Economics and Statistics* 85 (4): 809–27.

Tella, R. Di, R. MacCulloch, and A. J. Oswald. 2001. "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness." *American Economic Review* 91 (1): 335–41.

The Economist. (2016). Dawn in the west. [online] Available at: http://www.economist.com/news/leaders/21569034-why-irish-deserve-helping-hand-leave-their-bail-out-programme-dawn-west [Accessed 30 Dec. 2016].

Theodossiou, I. 1998. "The Effects of Low-Pay and Unemployment on Psychological Well-Being: A Logistic Regression Approach." *Journal of Health Economics* 17 (1): 85–104.

Thiry, Géraldine, Isabelle Cassiers, and others. 2010. "Alternative Indicators to GDP: Values behind Numbers Adjusted Net Savings in Question." UCL. http://dial.uclouvain.be/handle/boreal:36183.

Thoits, P. A., and L. N. Hewitt. 2001. "Volunteer Work and Well-Being." *Journal of Health and Social Behavior* 42 (2): 115–31.

Thomson, H., M. Petticrew, and D. Morrison. 2002. "Housing Improvement and Health Gain: A Summary and Systematic Review." *Glasgow: Medical Research Council.*

Thorhallsson and Kirby 2011, p.5/6) https://ams.hi.is/wp-content/uploads/old/Iceland-Ireland-Report%20final%20version_Kirby_Baldur_0.pdf

Tiberius, Valerie. 2004. "Cultural Differences and Philosophical Accounts of Well-Being." *Journal of Happiness Studies* 5 (3): 293–314. doi:10.1007/s10902-004-8791-y.

Timmons, Mark. 2013. *Disputed Moral Issues: A Reader*. Third Edit. New York: OUP USA.

Tinbergen, Jan, and Roefie Hueting. 1992. "GNP and Market Prices: Wrong Signals for Sustainable Economic Success That Mask Environmental Destruction." http://www.popline.org/node/324067.

Tol, R. S. J., and G. W. Yohe. 2007. "A Stern Reply to the Reply to the Review of the Stern Review." *WORLD ECONOMICS-HENLEY ON THAMES*- 8 (2): 153.

Tonry, M., 2014. Why crime rates are falling throughout the Western world. *Crime and Justice*, *43*(1), pp.1-63.

Turner, Graham M. 2008. "A Comparison of The Limits to Growth with 30 Years of Reality." *Global Environmental Change* 18 (3): 397–411.

Twitchell, James B. 2000. *Lead Us into Temptation: The Triumph of American Materialism*. New Ed edi. New York: Columbia University Press.

Uchida, Y., Norasakkunkit, V. and Kitayama, S., 2004. Cultural constructions of happiness: theory and emprical evidence. *Journal of happiness studies*, *5*(3), pp.223-239.

Van den Bergh, Jeroen, Miklós Antal, and others. 2014. "Evaluating Alternatives to GDP as Measures of Social Welfare/progress." *Work. Pap* 56. http://www.foreurope.eu/fileadmin/documents/pdf/Workingpapers/WWWforEurope_WPS_no056_MS211.pdf.

Vanderleeuw, James M., Maria E. Sandovici, and Christopher A. Jarmon. 2011. "Women City Leaders and Postmaterialist Values: Gender Differences in Economic Development Priorities." *Journal of Women, Politics & Policy* 32 (3): 211–236.

Veenhoven, R. 2000. "The Four Qualities of Life." *Journal of Happiness Studies* 1 (1): 1–39.

Veenhoven, R., 2000. Freedom and happiness: A comparative study in forty-four nations in the early 1990s. *Culture and subjective well-being*, pp.257-288

Veenhoven, R. 2012. "Average Happiness in 149 Nations 2000-2009." World Database on Happiness. The Netherlands: Erasmus University Rotterdam. http://www1.eur.nl/fsw/happiness/hap_nat/nat_fp.php?mode=6&ranks=1.

Veenhoven, R. 1993. "Happiness in Nations." *Subjective Appreciation of Life in* 56: 1946–1992.

Veenhoven, R. 1996. "Happy Life-Expectancy." *Social Indicators Research* 39 (1): 1–58.

Veenstra, Gerry. 2002. "Social Capital and Health (plus Wealth, Income Inequality and Regional Health Governance)." *Social Science & Medicine* 54 (6): 849–868.

Vellinga, Nico, and Cees Withagen. 1996. "On the Concept of Green National Income." *Oxford Economic Papers* 48 (4): 499–514.

Vemuri, A. W., and R. Costanza. 2006. "The Role of Human, Social, Built, and Natural Capital in Explaining Life Satisfaction at the Country Level: Toward a National Well-Being Index (NWI)." *Ecological Economics* 58 (1): 119–133.

Vera-Toscano, E., and V. Ateca-Amestoy. 2008. "The Relevance of Social Interactions on Housing Satisfaction." *Social Indicators Research* 86 (2): 257–274.

Verenigde Naties, UNDP. 2007. Human Development Report 2007: Fighting Climate Change: Human Solidarity in a Divided World. Palgrave.

Victor, Peter. 2010. "Questioning Economic Growth." Nature 468 (7322): 370–371.

Vliet, B. V., Heather Chappels, and Elizabeth Shove. 2005. Infrastructures of Consumption. Earthscan.

VOA (2013). WHO: Immunizations Save 2-3 Million Lives Each Year [online] Available at: http://www.voanews.com/a/immunizations-save-2-3-million-lives-each-year-says-who/1643924.html [Accessed 30 Jan. 2017].

Voitchovsky, S., B. Maitre, and B. Nolan. 2012. "Wage Inequality in Ireland's 'Celtic Tiger' Boom." The Economic and Social Review 43 (1): 99–133.

Wade, Robert. 1990. Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization. Princeton University Press.

Wagner, P. ed., 2003. *The prison index: Taking the pulse of the crime control industry*. Prison Policy Initiative.

Waldfogel, Jane. 1998. "Understanding the" family gap" in pay for women with children." *The Journal of Economic Perspectives* 12, no. 1: 137-156.

Walsh, Brendan, Dermot Walsh, and others. 2011. "Suicide in Ireland: The Influence of Alcohol and Unemployment." *The Economic and Social Review* 42 (1): 27–47.

Walsh, Edel. 2012. "An Examination of the Factors Affecting Subjective Well-Being in Ireland," UCC,

Waring, Marilyn, 1988. *If Women Counted: A New Feminist Economics*. Harper & Row San Francisco. http://www.roiw.org/1992/237.pdf.

Waterman, Alan S. 1993. "Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment." *Journal of Personality and Social Psychology* 64 (4): 678.

Weich, S., M. Blanchard, M. Prince, E. Burton, B. O. B. Erens, and K. Sproston. 2002. "Mental Health and the Built Environment: Cross-Sectional Survey of Individual and Contextual Risk Factors for Depression." *The British Journal of Psychiatry* 180 (5): 428–433.

Weinzierl, M. 2005. "Estimating a Relative Utility Function." *Harvard University*.

Weitzman, Martin L. 1976. "On the Welfare Significance of National Product in a Dynamic Economy." *The Quarterly Journal of Economics*, 156–162.

Weitzman, Martin L. 1997. "Sustainability and Technical Progress." *The Scandinavian Journal of Economics* 99 (1): 1–13.

Weitzman, Martin L. 2007. "A Review of the Stern Review on the Economics of Climate Change." *Journal of Economic Literature* 45 (3): 703–24. doi:10.1257/jel.45.3.703.

Weitzman, Martin L., and Karl-Gustaf Löfgren. 1997. "On the Welfare Significance of Green Accounting as Taught by Parable." *Journal of Environmental Economics and Management* 32 (2): 139–153.

Welsch, H. 2006. "Environment and Happiness: Valuation of Air Pollution Using Life Satisfaction Data." *Ecological Economics* 58 (4): 801–813.

Whelan, K. 2009. "Policy Lessons from Ireland's Latest Depression." *The Economic and Social Review* 41: 225–54.

Wiggins, R. D., P. F. D. Higgs, M. Hyde, and D. B. Blane. 2004. "Quality of Life in the Third Age: Key Predictors of the CASP-19 Measure." *Ageing and Society* 24 (5): 693–708.

Wildman, J., and A. Jones. 2002. "Is It Absolute Income or Relative Deprivation That Leads to Poor Psychological Well Being? A Test Based on Individual Level Longitudinal Data. YSHE, University of York."

Wilkinson Richard, G. 1996. *Unhealthy Societies: The Afflictions of Inequality*. London: Routledge.

Wilkinson, Richard, and Kate Pickett. 2010. *The Spirit Level: Why Equality Is Better for Everyone*. Penguin.

Winkelmann, L., and R. Winkelmann. 2010. "Does Inequality Harm the Middle Class?" *Kyklos* 63 (2): 301–316.

Winkelmann, Liliana, and Rainer Winkelmann. 1998. "Why Are the Unemployed So Unhappy? Evidence from Panel Data." *Economica* 65 (257): 1–15.

Winkelmann, R. 2004. "Health Care Reform and the Number of Doctor Visits—an Econometric Analysis." *Journal of Applied Econometrics* 19 (4): 455–472.

Wolbring, T., M. Keuschnigg, and E. Negele. 2011. "Needs, Comparisons, and Adaptation: The Importance of Relative Income for Life Satisfaction." *European Sociological Review*.

Wolfers, Justin. 2003. "Is Business Cycle Volatility Costly? Evidence from Surveys of Subjective Wellbeing." *National Bureau of Economic Research Working Paper Series* No. 9619.

Woolcock, Michael. 2001. "The Place of Social Capital in Understanding Social and Economic Outcomes." *Canadian Journal of Policy Research* 2 (1): 11–17.

World Bank. 2012. "World Development Indicators." http://databank.worldbank.org/ddp/home.do?Step=3&id=4.

World Database of Happiness (2012). World Database of Happiness. [online] Available at: http://www.worlddatabaseofhappiness.eur.nl/ [Accessed 30 Jan. 2017].

World Health Organisation. 2011

World Health Organization 2014. Social determinants of mental health. Geneva, World Health Organization.

WRI. 2016. Marine Jurisdictions: Coastline length. [online] Available at: https://web.archive.org/web/20120419075053/http://earthtrends.wri.org/text/coastal-marine/variable-61.html [Accessed 9 Nov. 2016].

Wright, R., 2006. *A short history of progress*. Canongate Books.

Wu, Chia-Huei, and Grace Yao 2007. "Examining the Relationship between Global and Domain Measures of Quality of Life by Three Factor Structure Models." *Social Indicators Research* 84 (2): 189–202.

Wu, Chia-huei. 2008. "Examining the Appropriateness of Importance Weighting on Satisfaction Score from Range-of-Affect Hypothesis: Hierarchical Linear Modeling for within-Subject Data." *Social Indicators Research* 86 (1): 101–111.

Wulsin, L. R., G. E. Vaillant, and V. E. Wells. 1999. "A Systematic Review of the Mortality of Depression." *Psychosomatic Medicine* 61 (1): 6–17.

WWWforEurope (2016). Home: WWWforEurope. [online] Available at: http://www.foreurope.eu/ [Accessed 25 Nov. 2016].

Zelezny, Lynnette C., Poh-Pheng Chua, and Christina Aldrich. 2000. "New Ways of Thinking about Environmentalism: Elaborating on Gender Differences in Environmentalism." *Journal of Social Issues* 56 (3): 443–457.

Zimmerman, Michael J. 2010. "Intrinsic vs. Extrinsic Value." In , edited by Edward N. Zalta, Winter 201.

Zolōtas, Xenophōn Euthymiou. 1981. *Economic Growth and Declining Social Welfare*. New York: New York University Press.

Appendices

Appendix 1: Cross-sectional sample weights

As described in Chapter 5, the survey was distributed online, through social media and online advertising. As such it used a non-probability sampling method. The first task, therefore, was to investigate how representative the sample was to see if sample weighting is required. The purpose of sample weighting is to compensate for biases in the distribution of characteristics in the completed survey sample compared to the population of interest. In effect, it statistically increases or reduces the 'numbers' of cases so that that the proportion of cases matches that of the proportion in the population (De Vaus 2013). In a cross-sectional survey, such as this, the only way to check the distributional characteristics of the sample is to compare sample characteristics to population characteristics and adjust the sample accordingly. Table 1 shows a comparison between the sample and population data for key characteristics.

Table 1*: Comparison of national demographics and unweighted dataset*

Variable	Attributes	% n	% N
Employment	Employed	66	51
	Not employed, looking for work	12	8
		21	39
	Not employed other		
Type of employment	Professional	56	33
	Employer/manager	12	27
	Intermediate non- manual	12	36
	Skilled manual	6	15
	Semi-skilled	6	13
	Unskilled manual	4	5
Ethnic origin	White Irish	84	86
	White other	13	10
	Other	2	4
Gender	Male	35	49
	Female	64	50
Age	18-24	13	15
	25-44	44	34
	45-65	36	42
	65+	5	22
Place of birth	ROI	74	83
	NI	5	1
	Other	19	17

Religion	Affiliated I	35	45
	Non-believer Ii	28	5
	Practicing Iii	20	34
	Non-affiliated Iv	15	16
Education	Primary	2	12
	Junior	6	13
	LC	10	28
	Some TL	22	4
	Graduate	20	20
	Post-graduate	38	12

I National data drawn from 2011 Census (CSO, 2011)

Ii National data drawn from Halikopoulou (2007)

iiI National data drawn from O'Mahony, (2011)

vI Author's own calculation – based on?

Note: Some of the variable attributes are grouped under a smaller number of attributes where there were no observations e.g. 'white other'.

As we can see, for many of the characteristics, some strata are over- or under-sampled. This means that the sample data will give greater weight to those that were over-sampled. These biases can be corrected mathematically with a post-stratification survey weight. To calculate a post-stratification weight, an auxiliary dataset is required, which can be compared to the survey data.

There were two problems with carrying out post-stratification weighting in a comprehensive way. The first was the size of the sample and second was the availability of population data. To calculate weights, it is necessary to for each cell to have at least one value. Some strata (e.g. male, 18-24, practicing religion and with junior cycle education) did not meet this minimum requirement. However, even if values were available for this stratum, no national benchmark was available to compare against. So, whilst data do exist on the number of young males who practice their religion, we do not know what level of education they have. It may have been possible to estimate these based on the number of young males with junior cycle education had the sample been large enough to provide values for all these strata.

Three variables were chosen where both the sample and population were of sufficient quality to allow for the calculation of weights, namely age, gender and religion. Unsurprisingly, given that the survey was conducted online, the responses from over 65s was limited. This meant that some cells in this age range did not meet the minimum requirements. As a result, a booster sample of over-65s was collected. A further 25 responses were received from people who fell into this age range. These participants were accessed by contacting respondents to the original survey who had provided contact details and asking them to promote the survey amongst older people that they knew. These results were then incorporated into the original dataset.

Weights were generated in Stata (see Table 1), and applied to the dataset. In general, the differences between the weighted and unweighted samples were not that substantial. Figure 1 shows an ordered ranking of the outcomes that people valued, which compares the means before and after the weights were applied. As we can see, there are very little differences in the scores, with mental health, physical health and relationships remaining important. Throughout the rest of the report the weighted sample has been used for the statistical analysis unless otherwise specified.

Figure 1: Comparing means with and without weights
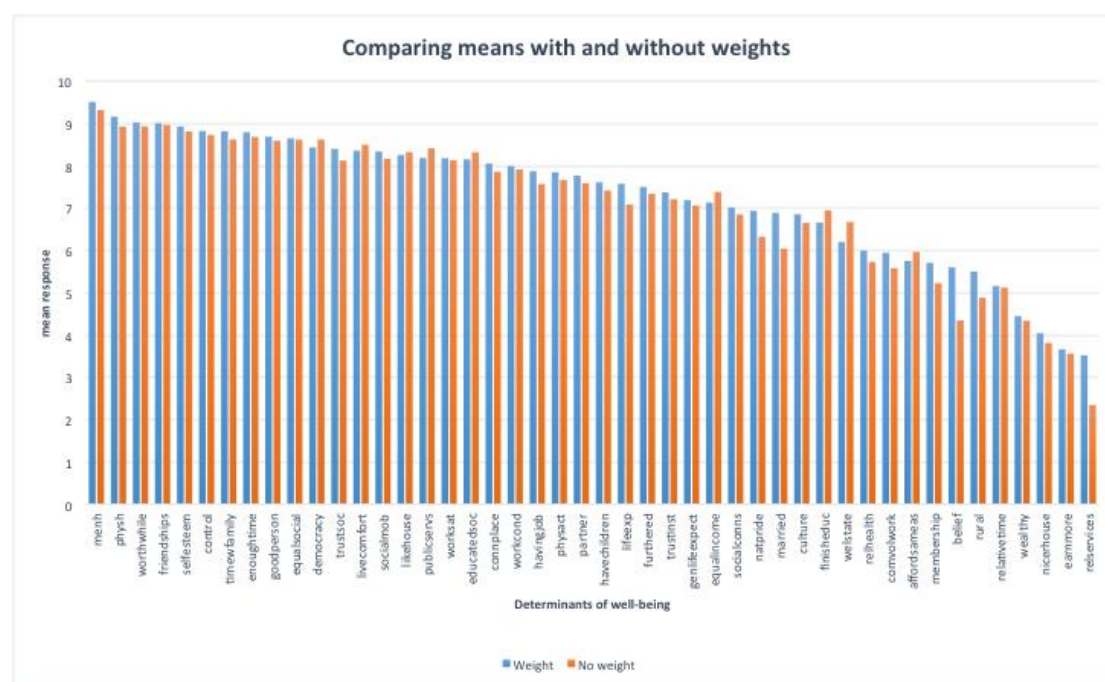
Table 2: Weighting calculations

Group	N	Proportion	n	Sample proportion	weight
Age 18-24: Male: Affiliated	111593	0.0345	4	0.01	3.5
Age 25-34: Male Affiliated	165766	0.0513	5	0.01	4.1
Age 35-44: Male Affiliated	142493	0.0441	11	0.03	1.6
Age 45-54-: Male Affiliated	118665	0.0367	6	0.01	2.5
Age 55-64: Male Affiliated	92888	0.0288	10	0.02	1.2
Age 65+: Male Affiliated	93607	0.029	2	0	5.9
Age 18-24: Female: Affiliated	108804	0.0337	12	0.03	1.1
Age 25-34: Female Affiliated	160776	0.0498	26	0.06	0.8
Age 35-44: Female Affiliated	139300	0.0431	30	0.07	0.6

Age 45-54-: Female Affiliated	117195	0.0363	19	0.05	0.8
Age 55-64: Female Affiliated	91101	0.0282	19	0.05	0.6
Age 65+: Female Affiliated	117896	0.0365	1	0	14.7
Age 18-24: Male: Practicing	83941	0.026	2	0	5.2
Age 25-34: Male Practicing	124691	0.0386	4	0.01	3.9
Age 35-44: Male Practicing	107185	0.0332	5	0.01	2.7
Age 45-54-: Male Practicing	89261	0.0276	5	0.01	2.2
Age 55-64: Male Practicing	69871	0.0216	9	0.02	1.0
Age 65+: Male Practicing	70412	0.0218	3	0.01	2.9
Age 18-24: Female: Practicing	81844	0.0253	6	0.01	1.7
Age 25-34: Female Practicing	120938	0.0374	1	0	15.1
Age 35-44: Female Practicing	104783	0.0324	13	0.03	1.0
Age 45-54-: Female Practicing	88155	0.0273	13	0.03	0.8
Age 55-64: Female Practicing	68527	0.0212	17	0.04	0.5
Age 65+: Female Practicing	88683	0.0275	3	0.01	3.7
Age 18-24: Male: Athiest	11851	0.0037	8	0.02	0.2
Age 25-34: Male Athiest	17603	0.0054	6	0.01	0.4
Age 35-44: Male Athiest	15132	0.0047	15	0.04	0.1
Age 45-54-: Male Athiest	12602	0.0039	12	0.03	0.1
Age 55-64: Male Athiest	9864	0.0031	10	0.02	0.1
Age 65+: Male Athiest	9941	0.0031	2	0	0.6
Age 18-24: Female Athiest	11554	0.0036	15	0.04	0.1
Age 25-34: Female Athiest	17074	0.0053	13	0.03	0.2
Age 35-44: Female Athiest	14793	0.0046	18	0.04	0.1
Age 45-54-: Female Athiest	12445	0.0039	9	0.02	0.2
Age 55-64: Female Athiest	9674	0.003	4	0.01	0.3
Age 65+: Female Athiest	12520	0.0039	4	0.01	0.4
Age 18-24: Male Non-affiliated	39502	0.0122	1	0	0.4
Age 25-34 Male Non-affiliated	58678	0.0182	5	0.01	0.3
Age 35-44 Male Non-affiliated	50440	0.0156	10	0.02	0.2
Age 45-54 Male Non-affiliated	42005	0.013	5	0.01	0.1
Age 55-64 Male Non-affiliated	32881	0.0102	2	0	0.0
Age 65+ Male Non-affiliated	33135	0.0103	4	0.01	-0.1
Age 18-24: Female Non-affiliated	38515	0.0119	6	0.01	-0.2

Age 25-34 : Female Non-affiliated	56912	0.0176	4	0.01	-0.3
Age 35-44 : Female Non-affiliated	49310	0.0153	11	0.03	-0.4
Age 45-54 : Female Non-affiliated	41485	0.0128	7	0.02	-0.5
Age 55-64 : Female Non-affiliated	32248	0.01	4	0.01	-0.6
Age 65+ : Female Non-affiliated	41733	0.0129	3	0.01	-0.7

Appendix 2: Results of independent t-tests with equal variances

Outcome	Type of test	P Value
Relative health	One-tailed	.032
Work satisfaction	Two-tailed	.03
Work conditions	Two-tailed	.03
Time with family	Two-tailed	.002
Relative time	Two-tailed	.008
Belief	Two-tailed	.04
Finish education	Two-tailed	.000
Further education	Two-tailed	.0007
Comvolwork	One-tailed	.042
Friendships	Two-tailed	.0046
Live comfortably	One-tailed	004
Afford same as others	One-tailed	.049
Trust other people	Two-tailed	.049
Trust institutions	Two-tailed	.02
Connection to place	Two-tailed	.0006
National pride	Two-tailed	.0025
Equality of income	Two-tailed	.0179
Social mobility	One-tailed	.04
Welfare state	One-tailed	.05
Public services	One-tailed	.05
Education soc	One-tailed	.036
Good person	Two-tailed	.000
Self-esteem	Two-tailed	.009
Control	Two-tailed	.0012
Direction	Two-tailed	.0023
Worthwhile	Two-tailed	.0015
Doing better than others	One-tailed	.04
Like house	Two-tailed	.0021

Appendix 3: Codebook

Age:
1:18-24
2 25-34
3 35-44
4 45-54
5 55-64
6: 65+
Job type
1: Professional
2: Non-manual
3: Manual
Religion
1: Active
2: Affiliated
3: Atheist
4: Non-affiliated
Ethnicity
1: White Irish

2: White Other
3: Non-white
Education:
1: Primary
2: Secondary
3: Third level
Employment status
1: Full-time
2: Unemployed
3: Disabled, not able to work
4: Not working
5: Part time
Country
1: Born in the republic
2: Northern Ireland
3: Resident in Ireland

Appendix 4: Stata Do File

```
use "/Users/EilisLawlor/Dropbox/PhD/Dataset/Stata files/wellbeinginireland.dta"
Dummies
gen i.physh
xi i.physh
label define gender 1 "female" 0 "male'
la val gender gender
codebook gender

Lists and loops chi square
local longlist physh-rural
set more off
foreach categorical of var `longlist'{
tab `categorical' gender, chi2
}

ttest `categorical',by(gender)

foreach var of var `longlist'{
levelsof `var', l(toloop)
foreach value of local toloop{
gen `var'`value'=cond(`var'==`value',1,0,.)
}
}
local longlist2 limithealthy-overcrowded
clear
local longlist limithealthy-overcrowded
de `longlist'
foreach var of var `longlist'{
levelsof `var', l(toloop)
foreach value of local toloop{
gen `var'`value'=cond(`var'==`value',1,0,.)
}
}
foreach categorical of var `longlist'{
foreach other of var gender{
tab `categorical' `other',chi2
}
}
ttest wealthy, by(gender)
local longlist limithealthy-overcrowded
foreach categorical of var `longlist'{
foreach other of var gender{
tab `categorical' `other',chi2
}
}
local longlist nwphyshealth-nwcaring
foreach categorical of var `longlist'{
foreach other of var gender{
tab `categorical' `other',chi2
}
}
```

```
local longlist howsatisfied-howhappy
foreach categorical of var `longlist'{
foreach other of var gender{
tab `categorical' `other',chi2
}
}

Rank correlations
spearman physh nwphyshealth, stats(rho p)
ktau physh nwphyshealth, stats(taua taub p)
pwcorr physh nwphyshealth, sig
spearman nwincome wealthy, stats(rho p)
spearman nwincome livecomfort, stats(rho p)

Recoding ranks
local longlist nwphyshealth-nwcaring
de `longlist'
recode `longlist' (1 = 5)
recode `longlist' (2 = 4)
recode `longlist' (4 = 2)
recode `longlist' (5 = 1)
oprobit howhappy earningslevel
local longlist nwphyshealth-nwcaring
de `longlist'
recode `longlist' (1 = 5)

use wellbeinginireland, clear
set more 1
foreach var of var goodperson selfesteem howanxious howworthwhile howsatisfied control
direction worthwhile affordsameas ///
howhappy wealthy belief earnmore furthered othersearnmore finisheduc nicerhouse
timewfamily menh comvolwork doingbetter ///
friendships relhealth relativetime livecomfort{
cap drop `var'c
egen `var'c=cut(`var'), group(3)
}
gen double age2=age^2
recode ethnicity (1=0) (2=1) (3/9=3)
recode jobtype (5 6 7=3) (2 3 4=2)
recode employstatus (1 =1) (4=2) (6=3) (5 7 8=4) (2 3=5)
la def employ 1 "Full time" 2 "Unemployed" 3 "Disabled Not able to work" 4 "Not Working" 5
"Part time"
la val employstatus employ
egen educ1group=cut(educ1), group(3)

oprobit howhappyc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howworthwhilec gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group
```

```
forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howsatisfiedc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howanxiousc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}


oprobit menhc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib1.howsatisfiedc ib1.howanxiousc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howhappyc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ageg age2 ib3.religion ib0.menhc ib2.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc

oprobit howworthwhilec ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ageg age2 ib3.religion2 ib0.menhc ib2.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc

oprobit howsatisfiedc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ageg age2 ib3.religion ib0.menhc ib2.educ1group ib0.comvolworkc
ib0.doingbetterc ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc

oprobit howanxiousc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age ib3.religion ib0.menhc ib0.comvolworkc ib0.doingbetterc ib0.nicerhousec
ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc
```

```
use wellbeinginireland, clear
set more 1
foreach var of var notanxious goodperson selfesteem howanxious howworthwhile
howsatisfied control direction worthwhile affordsameas howhappy wealthy belief earnmore
furthered finisheduc timewfamily menh friendships livecomfort{
cap drop `var'c
egen `var'c=cut(`var'), group(3)
}
gen double age2=age^2
recode ethnicity (1=0) (2=1) (3/9=3)
recode jobtype (5 6 7=3) (2 3 4=2)
recode employstatus (1 =1) (4=2) (6=3) (5 7 8=4) (2 3=5)
la def employ 1 "Full time" 2 "Unemployed" 3 "Disabled Not able to work" 4 "Not Working" 5
"Part time"
la val employstatus employ
egen educ1group=cut(educ1), group(3)

oprobit howhappyc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howworthwhilec gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howsatisfiedc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howanxiousc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib0.menhc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}


oprobit menhc gender ib0.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country age age2 ib1.religion ib1.howsatisfiedc ib1.howanxiousc ib2.educ1group

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}
```

```
fac physh-rural, mine(1)
rotate, varimax
fac menh friendships physh worthwhile selfesteem control goodperson timewfamily likearea
enoughtime livecomfort wealthy earnmore, mine(1)
rotate, varimax
fac menh friendships physh worthwhile selfesteem control goodperson timewfamily likearea
enoughtime livecomfort wealthy earnmore, mine(1) pcf
rotate, varimax

fac menh friendships physh worthwhile selfesteem control goodperson timewfamily likearea
enoughtime livecomfort
fac ///
menh control selfesteem goodperson worthwhile ///
physh physact lifeexp familysick ///
friendships timewfamily trustsoc lonely ///
enoughtime culture ///
havingjob dislikejob worksat workcond ///
livecomfort debt stugglefinances ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse connplace, mine(1)

recode dislikejob(10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6), gen(likejob)
recode lonely (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6), gen(notlonely)
recode  debt (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6), gen(notdebt)
recode  stuggle (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6),
gen(notstruggle)
recode  familysick (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6),
gen(famhealthy)
recode  howanxious (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6),
gen(notanxious)

corr menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily trustsoc notlonely ///
enoughtime culture ///
havingjob likejob worksat workcond ///
livecomfort notdebt notstruggle ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse connplace

fac ///
menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily trustsoc notlonely ///
enoughtime culture ///
havingjob likejob worksat workcond ///
livecomfort notdebt notstruggle ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse connplace, mine(1) pcf

predict f1 f2 f3 f4 f5 f6 f7
```

```
reg howhappy f1-f7
reg howworthwhile f1-f7
reg howsatisfied  f1-f7


pca menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily trustsoc notlonely ///
enoughtime culture ///
havingjob likejob worksat workcond ///
livecomfort notdebt notstruggle ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse connplace, mine(1)
*read this on post stratification:
*http://www.atlas.illinois.edu/support/stats/resources/spss/create-post-stratification-weights-
for-survery-analysis.pdf
*http://www.stata.com/manuals13/svypoststratification.pdf

replace age = 6 if age==65

count if age==1
table age religion gender, contents(freq)
table age religion, by (gender) contents (freq)


la def age 1 "18-24" 2 "25-34" 3 "35-44" 4 "45-54" 5 "55-64" 6 "65+"
la val age age

la def country 1 "born republic" 2 "NI" 3 "resident"
la val country country

la def ethnicity 0 "White Irish" 1 "White Other" 2 "Non-white"
la val ethnicity ethnicity

recode jobtype (5 6 7=3) (2 3 4=2)
la def jobtype 1 "Professional" 2 "Non-manual" 3 "Manual"
la val jobtype jobtype

recode educ1 (2 3=2) (4 5 6=3)
la def educ1 1 "Primary" 2 "Secondary" 3 "Third-level"
la val educ1 educ1

table age gender religion

recode  unemployed (10=0) (9=1) (8=2) (7=3) (6=4) (0=10) (1=9) (2=8) (3=7) (4=6),
gen(employed)

fac ///
menh control selfesteem goodperson worthwhile ///
likearea direction unpolluted havechildren partner genlifeexpect///
physh physact lifeexp famhealthy ///
friendships timewfamily trustsoc notlonely ///
enoughtime employed ///
havingjob likejob worksat workcond ///
```

```
livecomfort notdebt notstruggle ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse connplace, mine(1) pcf

fac ///
menh control worthwhile selfesteem ///
physh physact lifeexp famhealthy ///
friendships timewfamily trustsoc notlonely ///
enoughtime ///
havingjob likejob employed worksat workcond ///
livecomfort notdebt notstruggle ///
furthered finisheduc educatedsoc ///
trustinst equalsocial equalincome democracy publicservs ///
likehouse like area connplace, mine(1) pcf

local longlist physh-rural

mean `longlist [aweight=weight]
outreg2 using outtab1, see
mean `longlist
outreg2 using outtab1, see

local longlist limithealthy-overcrowded
mean `longlist [aweight=weight]
outreg2 using outtab1, see
mean `longlist
outreg2 using outtab2, see

set more off
mprobit howhappyc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2  age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [iweight=weight]

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howworthwhilec ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2 age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [aweight=weight]

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit howsatisfiedc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2 age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
```

```
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [aweight=weight]

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

oprobit notanxiousc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2 age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [aweight=weight]

forv i=0/2{
margins, dydx(*) predict(outcome(`i'))
}

encode religion,gen(religion2)
drop in 503/516
xi i.religion2
la define religion2 1 "." 2 "Active" 3 "Affiliated" 4 "Atheist" 5 "Non-affiliated", replace

recode ethnicity (9=3) (6=3) (8=3) (4=3)
recode religion2 (2=1) (3=1) (4=2) (4=2)

egen `notanxious'c=cut(`notanxiousc'), group(3)
}

foreach var of varlist  `longlist' {
ttest `var', by(gender)
}
[aweight=weight]
(weights not possible)

sdtest physh, by(gender) - test of equal variances

set more off
pca menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted [aweight=weight], mine(1)

varimax

set more off
fac menh control selfesteem goodperson worthwhile ///
```

```
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
livecomfort notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted [aweight=weight], mine(1) pcf

estat kmo

screeplot

SSC install factortest
factortest

predict menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
livecomfort notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted, bartlett

tabout gender using gender.xls
tabout gender [aweight=weight] using gender.xls, append
tabout religion using gender.xls, append
tabout religion [aweight=weight] using gender.xls, append
tabout age2 using gender.xls, append
tabout age2 [aweight=weight] using gender.xls, append

set more off
corr menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
livecomfort notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted [aweight=weight]

set more off
factortest menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
livecomfort notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted
```

```
set more off
bacon menh control selfesteem goodperson worthwhile ///
physh physact lifeexp famhealthy ///
friendships timewfamily notlonely ///
enoughtime comvolwork culture ///
havingjob worksat likejob workcond ///
livecomfort notdebt notstruggle ///
furthered educatedsoc finisheduc ///
trustinst equalsocial equalincome socialmob democracy publicservs trustsoc welstate ///
likehouse connplace likearea natpride unpolluted, gen (tag) percentile (0.05)

set more off
oprobit howhappyc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2  age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [iweight=weight]

estimate store oprobit

mprobit howhappyc ib0.gender ib1.ethnicity ib1.employstatus ib1.jobtype ///
ib1.country ib1.religion2  age2 ib0.menhc ib3.educ1 ib0.comvolworkc ib0.doingbetterc
ib0.nicerhousec ib0.friendshipsc ib0.othersearnmorec ///
ib0.goodpersonc ib0.selfesteemc ib0.controlc ib0.directionc ib0.worthwhilec
ib0.affordsameasc ib0.wealthyc ib0.beliefc ib0.earnmorec ib0.timewfamilyc ///
ib0.relhealthc ib0.relativetimec ib0.livecomfortc [iweight=weight]

lrtest oprobit .


foreach var of var notanxious{
cap drop `var'c
egen `var'c=cut(`var'), group(3)
}

set more off
pca physh-rural likejob-famhealthy employed [aweight=weight], mine(1)
```

Appendix 5 - Survey