THE BARRINGTON LECTURE 2009

WELL-BEING UNDER CONDITIONS OF ABUNDANCE: IRELAND FROM 1990-2007

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Abstract: This paper examines the health and well-being of the Irish population in the late 20th century, the period popularly referred to as the Celtic Tiger. This period saw unprecedented increases in economic activity in Ireland. Using statistical data from administrative and survey sources, I examine whether this period of growth improved well-being and welfare in Ireland. The paper draws from theories of the development of societies such as those of Fogel and Easterlin, as well as theories from behavioural economics and econometric techniques to examine this question. In particular, I examine the extent to which Ireland fits into a pattern of declining correlation between GDP and well-being at later stages of development, a phenomenon known as the Easterlin Paradox. I also examine the extent to which individual well-being is predicted by income as compared to other aspects of welfare such as health and employment status.

1. OVERVIEW

Saorstát Éireann came into being in 1921, with a population of approximately 3 million, the vast majority of whom are now deceased. Since then, over five million people have been born in the state, and approximately 3.7 million Irish-born individuals now reside here, the remainder having died or emigrated.[2] Due to a declining fertility rate in the last quarter of the 20th century accompanied by an increasing life expectancy, the current population is aging and while the aging pyramid in 2009 still has a wide base compared to other industrialised countries, the 2050 aging pyramid reveals a picture of a society in which aging issues will predominate. This sets at least part of the context of the paper, an attempt to understand, well-being and health in the context of a relatively wealthy aging society.

In particular, this paper examines the health and well-being of the Irish population in the 1990s. This period, popularly referred to as the Celtic Tiger, saw unprecedented increases in economic activity in

[2] There were 4,239,000 individuals living in Ireland at the time of the 2006 Census. 470,000 of these were aged 65 and over, 260,000 of whom were female. Approximately, 420,000 non-Irish individuals were resident in the state also. The well-being of migrants into Ireland is outside the scope of this paper and not analysed as a separate topic.

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The rest of this paper is structured as follows. Section 2 examines the modern literature on well-being, outlining measurement constructs and key debates. Section 3 examines the context of Irish economic growth and health improvements in the 20th century. Section 4 examines in detail the well-being of the Irish population in the late 20th century, assessing how Ireland fits with relation to the Easterlin paradox. Section 5 concludes with the relevance of these results for the current economic downturn, relevance of the study of well-being for ongoing policy and a discussion of the limitations of the study.

2. WELL-BEING AND ECONOMICS

The interaction between well-being and the economy is a question for no one discipline. The increasing interplay between economics and psychology is another contextual factor motivating this paper. Such an interaction is increasingly prevalent, with modern economics journals becoming increasingly dominated by accounts of human behaviour grounded in behavioural economics, which attempts to incorporate psychological evidence into economic theories. The awarding of the 2002 Nobel Prize in Economics to Princeton psychologist Daniel Kahneman is illustrative of the increasingly strong influence that psychology is having on economics. Areas such as the psychology of time discounting, identity, emotions and neuroscience are being increasingly explored to understand how people behave and how people are affected by economic fluctuations. The beginning of the 20th century saw a strong effort to unite the two fields in the study of human well-being. Several thinkers sought to ground economic theories in evidence about how people derived well-being. In particular, the work of psychophysicists such as Fechner was explored to examine how people derive pleasure and pain from objects, the experimental equivalent of the Benthamite idea of utilitarianism. It was clear though that this union was not to last, and that economics and psychology were to tread very different paths in understanding well-being and welfare.

However, more recently well-being has become once again a major topic of interest in economics (e.g. Layard 2005, Blanchflower & Oswald 2004). In general, well-being can be conceptualised in a number of different ways. The standard concept is to think of utility deriving from consumption. In textbook microeconomics, individuals are assumed to have well-defined preferences and operate in well-functioning markets in conditions of strong information. Provided we make a set of assumptions about how people make decisions (known as the axioms of choice), then the behaviour of people in markets can be said to reveal their preferences and provide a measure of their welfare. A strong advantage of this approach is that it does not require us to make interpersonal comparisons of utility nor does it require us to directly measure well-being. However, the assumptions of these models are being increasingly rejected by empirical evidence, leading to an increasing drive to measure well-being directly.

Direct measurements of well-being take many forms. The most simple and widely used is the single-item global assessment of happiness, which essentially asks people to rate their subjective happiness on a ten-point scale. This measure is simple and clear and has been included in many of the world's largest survey exercises and has been studied substantially. A more cognitive approach is to elicit subjective evaluation of one's position, generally conducted by asking life satisfaction on a scale of 1-10. While both measures may seem similar and are indeed highly correlated, they are measuring different facets of well-being, with happiness assessing an affective component and life-satisfaction a cognitive component.

Clearly, it is too restrictive to suggest that well-being is a uni-dimensional construct, and there are many attempts to conceptualise the multi-dimensional nature of well-being. One of the most commonly used in the economics literature is the idea that one derives satisfaction in different life-domains such as finance, health, marriage and so on. As outlined by Van-Praag *et al.* (2003), overall welfare can be

viewed as a sum of satisfaction in each of the life domains along with information about the relative weighting of each domain in the overall life satisfaction.

Furthermore, well-being is not a static concept and a recent trend in the literature has been to examine well-being as a flow of experience that reacts to diurnal patterns and current environmental circumstances. This has been associated with an increasing literature on the measurement of day-to-day patterns of well-being. Recent papers by Kahneman and colleagues have examined the potential of the day reconstruction method (DRM) as a method for eliciting momentary experience through the use of time-use diaries combined with recall of emotion (e.g. Kahneman *et al.* 2004; Kahneman *et al.* 2006; Kahneman and Krueger 2006).

 A traditional view in the literature is that well-being is anchored very strongly to a "set-point", a fixed psychological baseline, and largely unresponsive to external conditions. The strongest statement of this view comes from the highly-cited Brickman *et al.* 1978 paper examining the well-being adjustment of people who had recently won the Lotto and people who had recently been rendered quadraplegic in accidents. Among both groups, well-being changed dramatically in the expected direction but had settled back down to prior levels within six months. The extent of stability of well-being in the context of such dramatic positive and negative changes is a strong challenge to the concept of economic gain as a route to well-being. Several authors have provided further evidence for a set-point from panel data (e.g. Headey & Wearing 1989; Bonnano *et al.* 2002). However, more recently this model has been challenged, with several papers examining the causal effect of negative life events such as unemployment and marital dissolution on dislodging people's level of well-being (e.g. Lucas *et al.* 2003; Lucas *et al.* 2004).

Following from this, the last ten years has witnessed an explosion in interest in the topic of the economic determinants of well-being. Part of this interest derives from suspicion that the use of GDP statistics provide a poor measure of the actual quality of life in society. Substantial work has been conducted arguing that a number of factors limit the use of GDP statistics as measures including: failure of GDP to account for important non-market good; relatedly, the substitution of market for non-market provision of goods; failure of individual rationality as a full model of consumption and investment; and, failure of GDP changes to account for changes in expectations and norms.

The most developed statement of the view that increased economic growth does not imply well-being is that of the demograpmer Richard Easterlin. Easterlin (1974) first documented what became known as the Easterlin paradox, a decoupling of well-being from economic growth particularly at higher levels of income. This paradox has been hotly contested in the literature and its ramifications are, of course, substantial in terms of setting economic growth as a target. A recent paper by Stephenson and Wolfers (2008) calls the Easterlin Paradox into question. Using the global Gallup world health and well-being survey, they find strong evidence that economic welfare and well-being are strongly related, even at very high levels of income. The strength of their results lead to one commentator on the paper (Alan Krueger) suggesting that the Easterlin paradox be renamed the Easterlin conjecture.

However, a more recent paper challenges these results, arguing that they confuse the implications of the original argument (Easterlin and Angelescu 2009). They restate the Easterlin paradox as:

"Simply stated, the happiness-income paradox is this: at a point in time happiness varies directly with income, but over time happiness does not increase when a country's income increases". *(page 2).*

Furthermore, they argue strongly that the Stevenson and Wolfers paper commits a logical fallacy:

"As will be seen, the dissenting view appears to be largely the result of failing to distinguish between the short- and long-term temporal relationship between happiness and income. Over the short-term, when fluctuations in macroeconomic conditions dominate the relationship, happiness and income are positively related. Over the long-term, happiness and income are unrelated" (page 2)

As well as examining mean national levels of well-being and their relation to macroeconomic aggregates, the literature on well-being is also heavily focused on examining the individual determinants of well-being and how they can be influenced by policy. A recent review by Dolan, Peasgood and White provides a detailed review of the literature on the determinants of well-being (Dolan *et al.* 2008). Their review highlights poor health, marital separation, unemployment and lack of

social contact as factors that are substantially negatively associated with well-being. Their review also highlights the substantial evidence against income being a strong driver of well-being beyond a certain level.

The effect of core variables such as health and social contact on well-being has been discussed by a number of authors. One of the most recent attempts to conceptualise the effect of these core variables on well-being comes from Hsee and colleagues (e.g. Hsee *et al.* 2008). Hsee argues that the determinants of well-being can be broken down into those that have "inherently evaluable" aspects and those that are not inherently evaluable.

"Inherently evaluable attributes are those for which we have an innate, typically visceral and biological scales to judge desirability. Examples include the amount of sleep, severity of pain or allergies, stress from work, ambient temperature, degree of social isolation (loneliness), etc., In contrast, inherently inevaluable attributes are those for which we do not have an innate evaluation scale to assess desirability – to evaluate these attributes, we must instead rely on external reference information or socially learned norms. Examples include the size of a diamond, the amount of income…" (Hsee et al. 2008, p 228).

A further aspect of the relationship between economic possessions and well-being that is highlighted throughout the literature is that people value losses more than gains a phenomenon known as loss aversion. The pioneering work of Kahneman and Tversky (1979) on prospect theory derived simple value functions to take loss aversion into account that have been used to explain a wide range of economic behaviours. Related to loss aversion is the endowment effect, the tendency for people to value something more consequent on possessing it. Loss aversion and the endowment effect imply that well-being should change more slowly as incomes rise than when they fall. It may also imply that the attainment of wealth, in some sense, carries a potential negative outcome in that it creates an endowment that can be painful to lose.

3. CONTEXT: IRELAND IN THE 20TH CENTURY

To begin to examine the questions of the determinants of well-being in modern Ireland, we need to trace the development of health and social conditions in Ireland in throughout the 20th century. Robert Fogel (e.g. Fogel 1994, 2004, 2005) describes the development of societies through three major stages. In the first stage, death is pervasive, linked to an endemic shortage and uncertainty of food. As society develops through agriculture and settlement, the prevention of death from infectious disease becomes the primary concern. Second stage societies are characterised by high levels of infant mortality and death from infectious diseases and low rates of progress in health technologies. Third stage societies are characterised by increasing control over acute causes of death and increasing life expectancies and medical advancements.

Figure 1 shows that Ireland's second stage is not a distant memory. Some of the major gains in the battle against infant mortality occurred at the turn of the 20th century though progress was not smooth and continuous.[3] Very little progress was made in the 1920s and 1930s, with the first half of the 1940s even representing a set-back. Infant mortality rates in urban areas remained as high as 10 per cent.

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[3] Brona Ni Chobhtaigh recently submitted her dissertation to the UCD History Department on this topic co-supervised by myself and Professor Mary Daly. Her dissertation outlines in depth the policy context of the reduction in infant mortality in the 1940s.
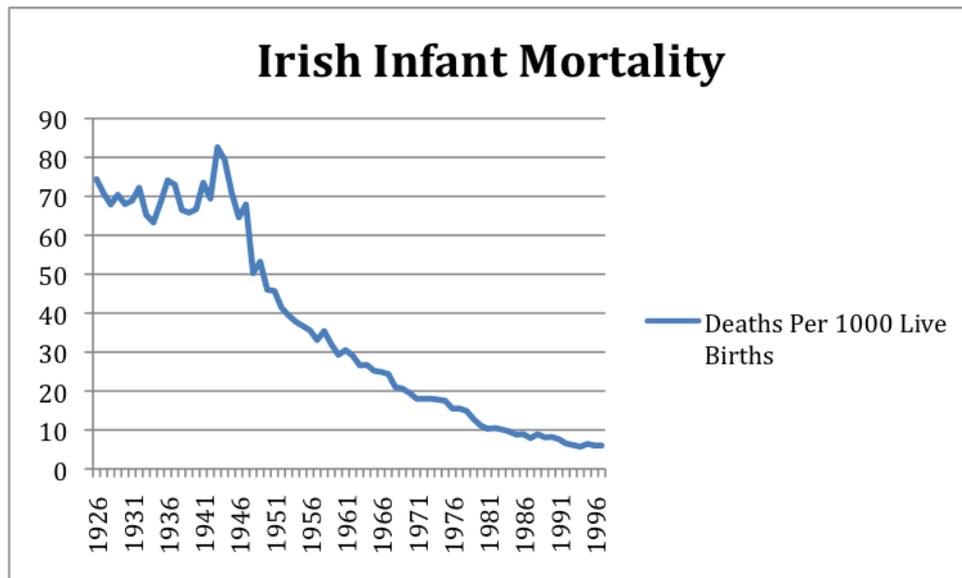
Figure 1: Infant Mortality in Ireland

Figure 2 displays life expectancy rates from birth and at age-65 plus throughout the late 20th century. As can be seen, the extension of life beyond working age for the bulk of the population is also a relatively recent phenomenon in Ireland, with life expectancy rates among the older group increasing substantially throughout the last quarter of the 20th century. The precise determinants of these life expectancy increases among the older population are outside the scope of this article, but have been discussed by Whelan (2008) and Walsh (2008).
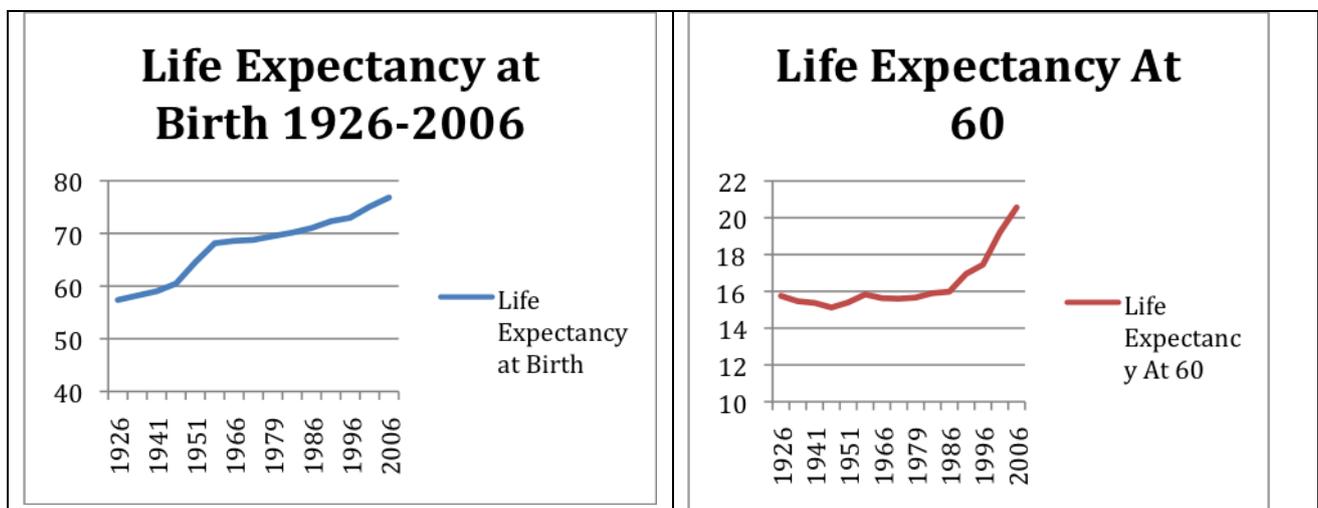
Figure 2: Life Expectancy in Ireland

By the late 1980s, few were of the view that the Irish economy would take off in the manner seen throughout the 1990s. A famous *Economist* article from 1988 described the "poorest of the rich" and painted a bleak picture of the prospects for the future. Books, from among others, Joe Lee (1989) and Cathal Guiomard (1995) pointed to the failure of the Irish state to achieve its potential over the course of its development and, while offering suggestions for improvement, seemed sanguine about the prospects. With such wide-ranging negative opinion about the prospects of economic growth, it is fair to suggest that the dramatic increases in incomes experienced over the period are unlikely to be have been factored into to people's expectations. With respect to the Easterlin discussion, Ireland provides a good model of a country where individuals became wealthy in a relatively short space of time.

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4. THE CELTIC TIGER: HEAVEN IN IRELAND

The substantial increase in economic welfare experienced in Ireland from 1990 to 2007 is justifiably written about with awe across the entire world. Ireland experienced growth rates hardly seen anywhere in the globe, leading a Morgan Stanley economist to coin the phrase "Celtic Tiger". However, by 1990 Ireland was already quite wealthy by world standard and, as we have discussed above, much of the major tasks of a "second-stage" society in the Fogel sense had been achieved. If Easterlin is correct, the huge increase in economic welfare need not have led to such a dramatic increase in human welfare. It would be unlikely to lead to a decrease, but expecting growth to lead to happiness is an illusory expectation, according to Easterlin.

A number of recent papers and books have attempted to sum up the effect of this period of economic growth on well-being. A recent ESRI volume entitled "The Best of Times" largely paints a positive picture of increasing wages, job security and better conditions for women. Cormac Ó Grada uses the phrase "Eirvana" to describe the view that Ireland attained unheard of wealth during this period. Madden (2008) examines the distribution of GHQ-12 scores over this period, finding strong effects of unemployment and health on well-being, as well as a small degree of closing of the gender gap in well-being over the period. Newman, Delaney and Nolan (2008) find an increase in financial satisfaction over the time period that is strongly related to health and unemployment, even controlling for income and a wide range of observable and unobservable characteristics.

With the exception of the life satisfaction data displayed in "The Best of Times" volume and recent papers by Madden (2008) and Newman, Delaney and Nolan (2008), little work has been done statistically analysing well-being over this period. We begin by examining some of the recent comparative data made available through the collection of the European Social Survey in Ireland. Figure 3 displays the ranking of Ireland in the European well-being distribution, drawn from the 2002 European Social Survey. As can be seen, Ireland ranks extremely highly. This ranking applies whether one uses life satisfaction, happiness or more detailed measures such as the WHO-5. Furthermore, this ranking applies across all three waves of the European Social Survey and indeed other data-sets. Ireland is a happy country, surpassed only by the Danes across all measures.
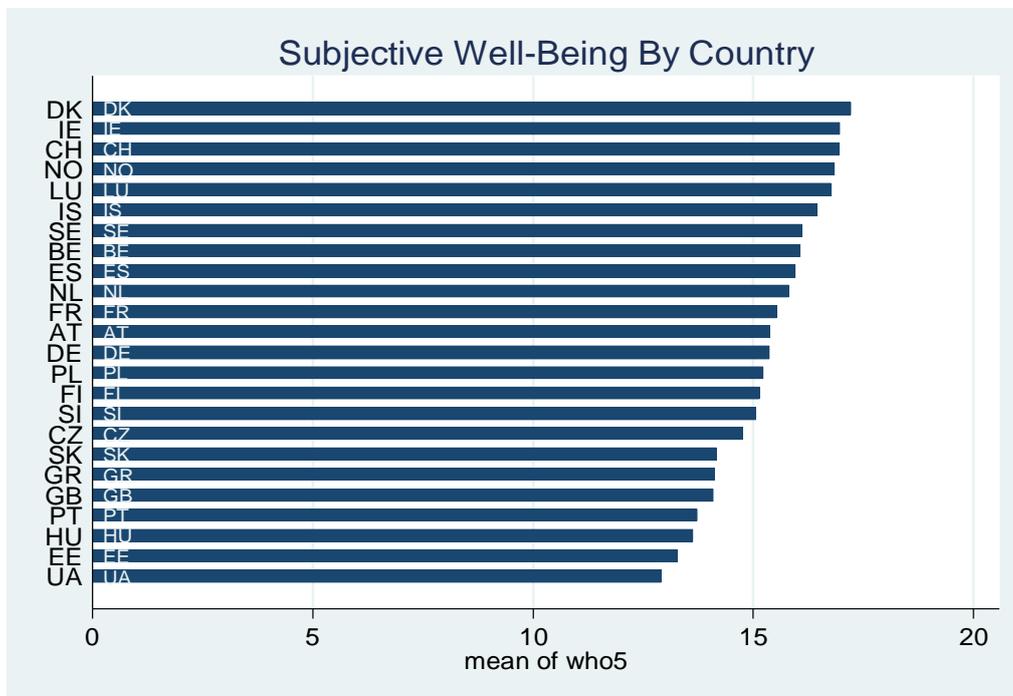
Figure 3: Mean Levels of Well-Being Across Countries (European Social Survey)

However, as pointed out by Easterlin, this is not necessarily the question at stake. Rather, the question is the extent to which the economic growth of this period affected well-being. One of the most complete ways to answer this question is with reference to the Living in Ireland dataset, collected by the ESRI throughout 1994 to 2001. This data-set reveals strong increases in financial and job satisfaction throughout this period, consistent with substantially increased job opportunities. Figure 4 and Figure 5 display these patterns.
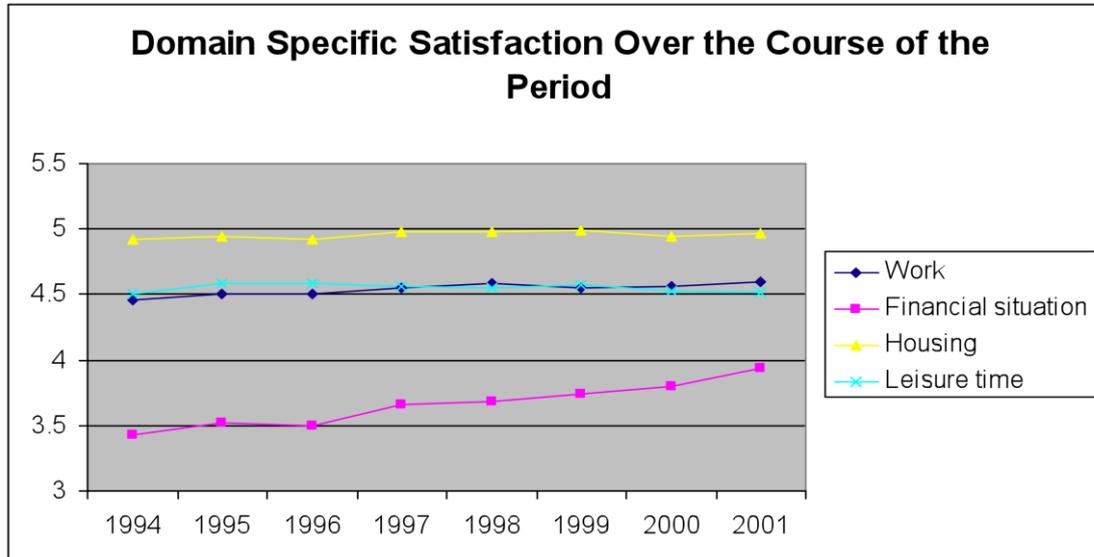
Figure 4: Domain Specific Satisfaction (Living in Ireland Survey)

Figure 5: Job Satisfaction
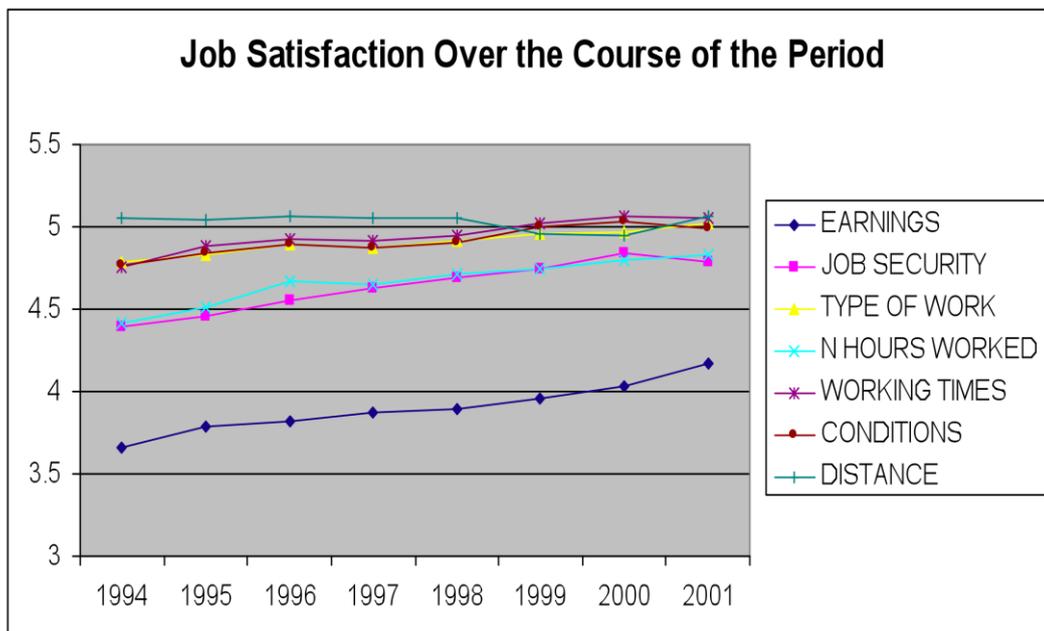
In the present analysis, we focus on a measure of psychological distress known as the GHQ-12. This measure is widely considered to be one of the most effective methods of eliciting psychological welfare in a population sample. The items included in the measure are displayed below. Figure 6 displays the distribution of mean scores on these measures throughout 1994-2001. Despite record rates of economic

growth throughout this period, the extent of declines in psychological distress are relatively small in comparison.
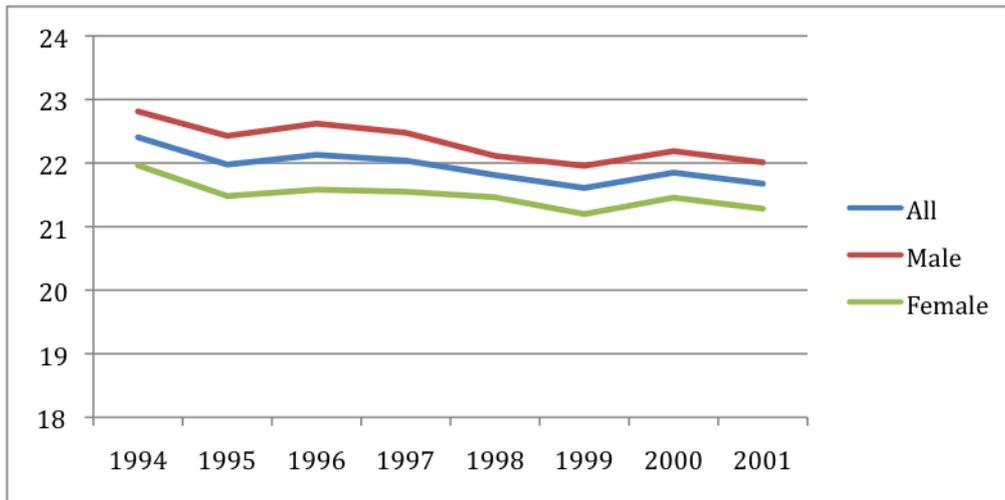
Figure 6: Mean Scores on Psychological Distress Index 1994-2001

Examining, suicide rates further challenges the view that the economic growth experienced during this period improved well-being. The early work of Hamermesh and Soss (1974) put forward a model whereby suicide is determined by the utility derived from the entire life course. In such a model, an increase in permanent income and wealth should decrease suicide risk, yet the literature on the linkage between GDP increases and suicide is far from conclusive (see e.g. Brainerd 2001). Figure 7 displays male and female suicide rates between 1990 and 2005. As can be clearly seen, there is a dramatic increase in the male suicide rate. As can be seen in Figure 8, this is largely due to a substantial increase in the young male suicide rate. These rates of suicide in the context of a booming economy, with plummeting unemployment are inconsistent with the view that economic growth positively impacts on well-being.
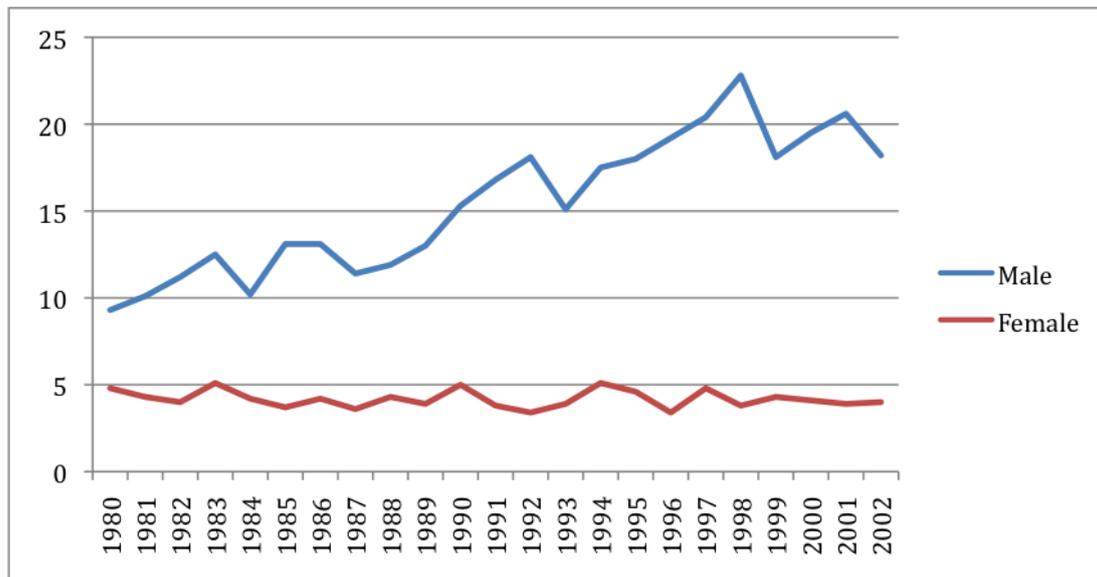
Figure 7: Suicide Rates per 100,000 by Gender
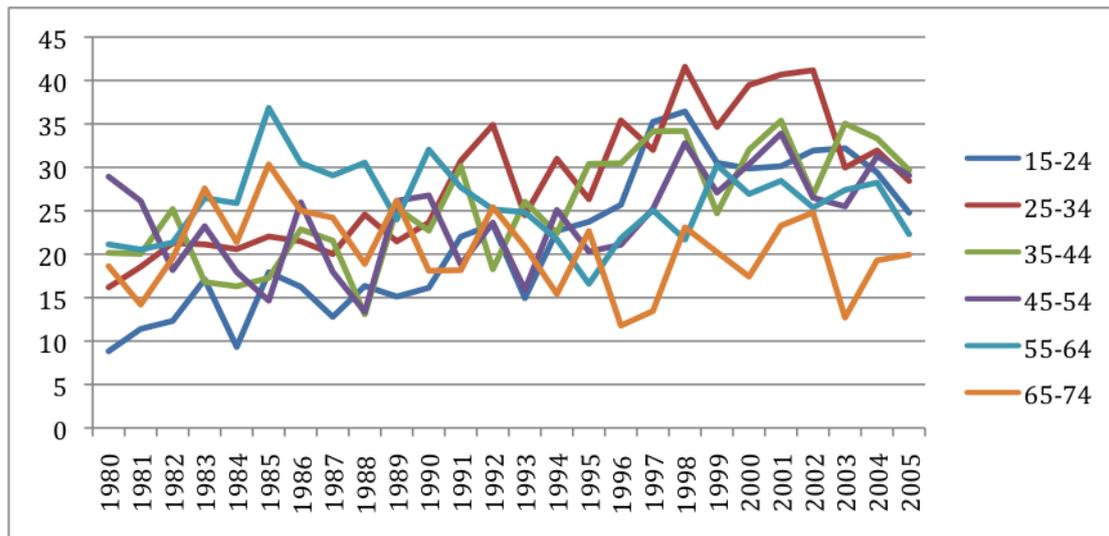
Figure 8: Male Suicide Rates by Age-Group

As well as examining economic aggregates, we are also interested in the potential determinants of well-being. Table 1 displays regression results from the Living in Ireland Survey, examining the effect on well-being of a number of key variables; age, gender, unemployment, income and health. As can be seen, the results discussed above hold true for Ireland also during this period, with unemployment and health having substantial effects on well-being that are independent of income. Table 2 replicates these findings using the European Social Survey for 2002 and 2004, once again demonstrating substantial independent effects on well-being even controlling for household income. Including fixed effects into the panel regression does not substantially alter the conclusions of the paper, as can be seen in Table 1. The effect of income itself is not large in any specification. The particular specification displayed in Table 1 examines the difference between those in the bottom 15 per cent compared to those between the 16 and 84 percentile and those in the top 15 per cent. As can be seen, there is a significant effect, but one that is small in comparison to the effects of health, separation and unemployment.

As discussed, the aging of the Irish society is a key theme of modern policy. Examining the factors that predict well-being among older age groups is an important component in conceptualising the demographic transition. The Survey of Health Aging and Retirement in Europe was collected in Ireland in 2007. A full description of this data is provided in the Appendix. The survey contains detailed measures of health, well-being, social support and economic activity. Table 3 displays multivariate models of the predictors of well-being among the over 50 population. The importance of chronic illness is born out by the substantial coefficient relative to income.

Table 1: Panel Regression Model of Predictors of Psychological Distress

	Random Effect			Fixed Effects		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	All	Male	Female	All	Male	Female
Year	-0.055***	-0.029**	-0.078***	-0.410***	-0.397*	-0.431**
	(0.010)	(0.013)	(0.014)	(0.149)	(0.207)	(0.211)
Absence of Chronic Illness	-2.245***	-2.114***	-2.338***	-1.734***	-1.693***	-1.767***
	(0.062)	(0.086)	(0.087)	(0.077)	(0.108)	(0.107)
Female	0.459***	-	-	-	-	-
	(0.071)	-	-	-	-	-
Age in Years	0.013***	0.021***	0.006	0.355**	0.370*	0.350*
	(0.003)	(0.004)	(0.004)	(0.148)	(0.205)	(0.209)
Unemployed	1.928***	2.237***	1.529***	1.904***	2.219***	1.624***
	(0.115)	(0.133)	(0.210)	(0.142)	(0.172)	(0.241)
Unemployed with Illness	2.967***	3.611***	1.307	2.397***	2.931***	1.358
	(0.368)	(0.386)	(0.840)	(0.427)	(0.459)	(0.922)
Disability	2.515***	2.760***	2.295***	1.722***	2.025***	1.584***
	(0.191)	(0.229)	(0.324)	(0.261)	(0.322)	(0.426)
Middle Income (15-85%)	-0.437***	-0.360***	-0.474***	-0.272***	-0.145	-0.367***
	(0.059)	(0.082)	(0.084)	(0.074)	(0.104)	(0.105)
Top Income (Top 15%)	-0.468***	-0.339***	-0.549***	-0.248**	-0.086	-0.369***
	(0.073)	(0.100)	(0.105)	(0.097)	(0.134)	(0.139)
Separated	1.368***	0.562	1.671***	1.242***	0.129	1.817***
	(0.202)	(0.389)	(0.246)	(0.337)	(0.614)	(0.420)
Constant	133.247***	79.720***	178.897***	826.769***	798.380**	867.985**
	(19.285)	(26.123)	(28.030)	(290.600)	(404.829)	(411.644)
Observations	40628	18965	21663	40628	18965	21663
R-squared	.	.	.	0.035	0.041	0.034

Psychological Distress is Measured on a 12-36 Scale. A Hausman Test significantly rejects the Random Effects Model (P<.0001). For Employment Categories, Full Employment is the Baseline category. For the "Separated" variable, married is the baseline comparison category.

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2: Cross Sectional Estimates of Determinants of Well-Being (European Social Survey)

	(1)	(2)	(3)
VARIABLES	All	Male	Female
Age	0.013***	0.013***	0.013***
	(0.002)	(0.003)	(0.003)
Some Health Problems	0.511***	0.675***	0.372
	(0.171)	(0.240)	(0.244)
No Health Problems	1.173***	1.246***	1.122***
	(0.157)	(0.220)	(0.224)
Unemployed	-0.978***	-1.011***	-0.960***
	(0.195)	(0.269)	(0.281)
Male	0.100*	0.000	0.000
	(0.059)	(0.000)	(0.000)
Household Income	0.081***	0.048***	0.109***
	(0.012)	(0.018)	(0.017)
Constant	5.586***	5.846***	5.662***
	(0.225)	(0.287)	(0.284)
Observations	3414	1541	1873
R-squared	0.059	0.053	0.068

Well-Being is measured on the 1-25 WHO-5 Scale. Major Health Problem is the baseline category for the Health Variable. Full Employment is the base category for the employment variable. Household Income is measured as a ten-category scale.

*** p<0.01, ** p<0.05, * p<0.1
Standard errors in parentheses

Table 3 OLS Estimates of Life Satisfaction (SHARE)

Variables	All	Men	Women
Age	0.00962	0.0126	0.0082
	(0.00695)	(0.011)	(0.00918)
Female	0.2209*		
	(0.1138)		
Separated	-0.525**	-0.08	-0.779**
	(0.253)	(0.427)	(0.323)
Never Married	-0.476***	-0.477**	-0.479*
	(0.167)	(0.224)	(0.256)
Divorced	-0.27	-1.481*	0.0614
	(0.391)	(0.791)	(0.457)
Widowed	-0.535***	-0.686**	-0.441**
	(0.158)	(0.272)	(0.202)
Long Term Illness	-0.444***	-0.481***	-0.437***
	(0.109)	(0.164)	(0.147)
Retired	-0.0025	0.0418	-0.071
	(0.15)	(0.211)	(0.222)
Unemployed	-0.663**	-1.311**	-0.207
	(0.33)	(0.536)	(0.428)
Sick/Disabled	-1.405***	-0.906***	-1.782***
	(0.236)	(0.338)	(0.338)
Homemaker	-0.278*	0.59	-0.352*
	(0.164)	(0.906)	(0.192)
R Squared	0.1003	0.104	0.1197
Observations	1011	458	553

Life Satisfaction is measured on 1-10 scale. Married is the base category for the marital status variable. Absence of Long-Term Illness is the base category for the health variable. Fully employed is the base category for the employment variable.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$
Standard errors in parentheses

5. CONCLUSIONS

If one looks at psychological distress measures, Ireland from 1994 to 2001 fits well with the pattern of relationship between economic growth and well-being described by Richard Easterlin in his seminal papers on the topic. The substantial period of economic growth throughout the late 20th century may have had a strong welfare component to the extent that it funded advancements of elder life expectancy. However, there is no evidence for large increases in psychological well-being from the data available. Furthermore, the substantial increase in the suicide rate among young-men during this period raises a question about the nature of the growth model pursued by Ireland in terms of its effects on young males.

The extent to which well-being should be considered a goal for policy is heavily contested in the literature. Diener and colleagues (2004) argue that well-being should be central to policy, in areas such as the labour market, health, environmental protection and so on. The results in this paper once again fit well with a model where core factors such as health, social support, employment and so on have dramatically stronger effects on well-being than income and consumption. Christopher Hsee's suggestion that economic growth can increase welfare if resources are then devoted to increasing the

amount of inherently evaluable goods deserves further study in the Irish context. The extent to which this insight is sufficient to actual target policy is a matter for much further debate. If we examine some of the findings from the current paper, then the strong correlations between well-being and factors such as arthritis, unemployment, divorce, low social contact, poor health and so on may imply that the next wave of growth should focus on these issues. This is particularly important in the context of an aging society. The prospect of a growing number of people facing chronic pain and social isolation should stimulate us to think whether this literature is a guide to reducing this.

A core limitation of basing policy on results from well-being regressions is the difficulty of obtaining a causal relationship between well-being and the independent variables. The work of Moro *et al.* (2008) and others provides substantial information on the geographical and environmental predictors of well-being. Yet, in the presence of measurement error in income and in the presence of endogenous sorting, we are potentially over-estimating the effect of geography and environment through two channels. Methods for correcting these biases require very strong assumptions on data-structures or intensive data collection and this provides a limit to the extent that such models can be used for policy.

A further consideration relates to the fact that much of the modern literature points to failures of individual rationality in individual consumption choices. In standard economic models, individuals are assumed to be the best judge of their own welfare and to maximise their utility. However, several recent models point to psychological biases such as the focusing illusion and non-standard preferences such as hyperbolic discounting that may lead people to make choices that reduce their long-term welfare. In particular, it is argued that individuals in an economy such as Ireland may over-focus on the role of income in promoting well-being and also engage in patterns of consumption fuelled by advertising, addiction and peer effects that are at odds with long-term health and well-being. A recent literature has been examining in depth the extent to which features of the choice environments of individuals might be altered to promote well-being. This work, associated with Richard Thaler and Cass Su, is becoming increasingly influential.

A further limitation is the extent to which well-being results are comparable. Differential item functioning (DIF) has been widely discussed across an array of literatures in recent years. DIF refers to the idea that people may differ fundamentally in how they interpret the scales. The literature thus far has largely focused on how people from different countries interpret attitude and health questions. For example, King *et al.* (2004) explore the finding that Chinese people have higher subjective political freedom than people in Mexico. Using a technique called anchoring vignettes, they provide hypothetical examples to the respondents of each country describing different levels of political freedom. They find that Chinese respondents are far more likely to rate the hypothetical person as being politically free despite restrictions placed on the person's political activity. Statistically reweighting based on responses to these vignette questions reverses the country orders. Similarly, Kapteyn *et al.* (2007) find that the higher rates of stated disability among Dutch respondents in surveys compared to American respondents is largely illusory and due to more lenient interpretations of disability in Holland compared to the USA.

The extent to which differential item functioning is a problem for measures of subjective well-being is open to debate. Kapteyn *et al.* (2009) provide evidence, once again, that Dutch respondent apply more lenient standards to their satisfaction with income than American respondents, and argue that this is one potential explanation for the Easterlin paradox. In the Irish context, the failure for well-being to increase during the period included in this study may possibly be due to such an effect, whereby Irish respondents began to apply harsher standards to the scales as time went by. However, this needs to be examined more carefully. If the effect is purely a "scale-norming" effect whereby respondents are simply using the scales differently over time, then using Ireland as an example of the Easterlin paradox is clearly problematic. However, if the Irish population are using the scales differently precisely because of hedonic adaptation, then this is clearly in line with the Easterlin paradox. It is not clear at this point whether there is a clean test between the two alternatives.

With respect to the relationship between static, global measures of well-being and flow measures of well-being, detailed nationally representative data do not yet exist. Krueger and Schkade (2008) demonstrate moderate relationships between net-affect measured on a day-to-day basis and overall well-being. They also demonstrate higher correlations between income and overall life satisfaction than between income and net-affect. Overall, they conclude: "*While reliability figures for subjective well-being measures are lower than those typically found for education, income and many other*

microeconomic variables, they are probably sufficiently high to support much of the research that is currently being undertaken on subjective well-being, particularly in studies where group means are compared (e.g., across activities or demographic groups)." This work, and related validation of self-reported, measures lend reasonable support to their use as welfare measures but clearly further work is needed to examine the implications of the different predictions yielded by different well-being measures.

The results also lead us to ask about the potential well-being effects of a long and protracted recession in Ireland. With regard to this, a number of principles apply. The fact that well-being did not increase during the period studied in Section 4 of this paper does not imply that it will not decrease consequent on a protracted decrease in material living standards. As pointed out by Easterlin and others, the fact that the valuation of losses is so greater than the valuation of gains makes it entirely possible for well-being to react negatively to a drop in material living standards. Furthermore, the literature points to strong effects of unemployment on well-being, far greater than those related to income alone. This is somewhat mediated by the fact that, over time, unemployment may become a norm among one's peer group, thus weakening the hedonic effect. Other aspects of a protracted recession that may have negative effects on well-being include the negative reference effects experienced by those who have purchased assets at different stages of the cycle. If "keeping up with the Jones's" is as important as some of this literature would lead us to believe, then the experience of Mr. Smith who purchased his home in 2007 seeing his neighbour Mr. Jones, who purchased in 2001, living in relative harmony may compound Mr. Smith's woes.

A limitation of this paper is that we have focused solely on the well-being of Irish people who stayed in Ireland. Current ongoing work is examining the well-being and health of those who migrated and this will provide a fuller picture of the effects of Irish policy in the 20th century on the welfare of people born there. Another substantial limitation that must be acknowledged in the context of this essay is the relative paucity of data in Ireland compared to that of the UK and US, and in particular some Scandinavian countries. If the roots of well-being and welfare are to be found in the conditions of early childhood experienced throughout the 20th century, then we will face a number of challenges in writing comprehensively on the history of Irish welfare in the late 20th century and early 21st century. Given the history of migration during this period, it is also imperative to examine the well-being of those who migrated to give a more comprehensive account.

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