WHY DOES IRELAND STILL DO SO BADLY ON THE UN'S HUMAN POVERTY INDEX?

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1. Introduction

Each year, the publication of the *Human Development Report* by the United Nations Development Programme (UNDP) is marked by newspaper headlines and media attention in Ireland – most recently, on the publication of the 2002 Report (UNDP, 2002) during this summer. This attention is stimulated not so much by the wealth of information these reports present about the situation of the 80 per cent of the world's population living outside the highest-income countries, and the messages it seeks to convey about how to improve the situation of the poorest in particular. Instead it focuses more on Ireland's ranking among the high-income countries. In particular, it highlights the fact that on one headline measure of poverty Ireland is still second-last among seventeen rich countries, despite our recent unprecedented economic growth. Why does Ireland still do so badly, and how seriously do we take this ranking? This paper, in setting out to answer those questions, looks in some detail at how this summary poverty measure is constructed and what the results for Ireland reflect.

2. Measuring Development and Poverty

The *Human Development Report* has been produced annually since 1990, and since its inception the feature which has received most attention is the attempt to summarise and rank the level of development in each country by a single summary index, the Human Development Index (HDI). This has been enormously successful in garnering headlines, and has also worked to shift the focus somewhat from reliance on GNP per capita, which represents the key justification of the HDI from the UNDP's point of view. The underlying concept of development has itself come to be more clearly defined, by the UN among others, in terms of a process of enlarging people's choices by expanding human capabilities and functionings (heavily influenced by the work of Nobel-prize winner Amartya Sen, e.g. Sen, 1997). The limitations of income per head as a

measure of development in this sense have been amply rehearsed, in early editions of the *Human Development Report* and elsewhere. While the UNDP reports explicitly recognised that such a broad concept is not adequately captured by even a comprehensive set of indicators, it is argued that a single composite measure of human development can draw attention to the issues quite effectively. Not everyone accepts that this is the best approach, however, for reasons that will become clear.

The three elements entering into the Human Development Index are

- life expectancy,
- education, and
- income per capita,

with the way these are measured and combined having been refined on a number of occasions since the first report. The most recent report incorporates life expectancy at birth, educational attainment as reflected in the adult literacy rate and in combined primary, secondary and tertiary enrolment, and GDP per capita in Purchasing Power Parity terms.

From a local perspective, the fact that Ireland ranks in the top twenty out of 173 countries on the HDI is arguably the most important – and relatively neglected – result. However, our focus here is not on the HDI, but on another summary measure introduced in the 1997 Human Development Report called the Human Poverty Index (or HPI), with variants specifically designed for industrialised versus developing countries.

The rationale advanced for the Human Poverty Index is that it complements the HDI, but has a different focus. Whereas human development focuses on the advances made by all groups in a community or society, from rich to poor, it is also crucially important to see how the poor and deprived are faring. Lack of progress in improving their situation cannot be "washed away" by large advances made by the better-off (UNDP, 1997, p. 15). The HPI is thus intended to capture "human development from a deprivational perspective".

Poverty is recognised as multidimensional in character and diverse in content, with an emphasis once again on the capabilities perspective – poverty represents not merely an impoverished state but the lack of real opportunity. While acknowledging that human poverty includes many aspects that cannot be measured or are not being measured, the HPI is "an attempt to bring together in a composite index the different features of deprivation in the quality of life to arrive at an aggregate judgement on the extent of poverty in a community" (1997, p. 17). Since the nature of deprivation varies with the social and economic conditions of the community in question, different indicators are used for developing countries and for industrialised ones – labelled HPI-1 and HPI-2. Our interest here is in the latter.

The HPI-2 includes the same three elements incorporated into the HDI, under the headings "a long and healthy life", "knowledge", and "a decent standard of living", but measures them differently. It also includes a fourth element, labelled as "social exclusion". To understand Ireland's ranking, we need to see how each of these is actually measured. In constructing the Human Poverty Index,

- "A long and healthy life" is measured by the probability at birth of not surviving beyond age 60.

- "Knowledge" is measured by the percentage of adults lacking functional literacy skills.
- "A decent standard of living" is measured by the percentage of people living below a relative income poverty line set at 50 per cent of median income.
- "Social exclusion" is measured by the long-term (12 months or more) unemployment rate.

Serious questions have to be asked about the extent to which these measures – individually and in combination – are likely to successfully capture the underlying concepts. To bring this out, we turn now to the actual basis for the results for Ireland.

3. Understanding Ireland's Score on the Human Poverty Index

Results for the HPI-2 have been presented in recent Human Development Reports for a sub-set of OECD countries only. Ireland ranks 16th among the seventeen shown in the 2002 Report, with only the USA doing worse. What is perhaps most surprising is that this is consistent with the results for Ireland since the HPI was first produced: we have seen no improvement despite the unprecedented economic growth and rise in living standards from the mid-1990s. Why is this, and what are the implications?

The first point to be noted is that the countries with the data required for the index are also mostly among the richest in the OECD, whereas those with lower GNP per capita like Greece, Portugal, or the European transition economies are not at present included. Among those included, though, Ireland certainly does a good deal worse than it would on a simple per capita income ranking. Indeed, figures presented in the 2002 Report show that Ireland ranks fourth overall – among all 173 countries – on GDP per capita in purchasing power parity terms. While average GNP per capita is lower and would be expected to reflect average living standards more accurately – the difference between that and GDP being exceptionally large because of the scale of profit repatriations here – we still do much worse by the summary human poverty index than by average income. Indeed, the scale of economic growth since the early/mid-1990s has been such as to move Ireland up from 15th to 4th in terms of income per capita, but our ranking in terms of HPI has remained unaffected.

To understand why, it is worth reproducing in full from the most recent Human Development Report the values for the different elements of the HPI for Ireland and the other 16 OECD countries covered. This is done in Table 1, with countries ordered in terms of their HPI rank. We see that the Scandinavian countries and the Netherlands are at the top, while the UK, Ireland and the USA are at the bottom among the seventeen countries covered. The countries which do best on the summary HPI index have values well below average on all four of the elements, although Sweden does best in terms of life expectancy and functional illiteracy, Norway has the lowest long-term unemployment and Luxembourg and Finland have the lowest relative income poverty rates. But what about the bottom of the ranking: why does Ireland continue to do so poorly?

Table 1: Human Poverty Index and Constituent Elements, Ireland and 16 Other OECD Countries

Country	Human Poverty Index Value	% of Birth Cohort not Surviving to Age 60	% Age 16-65 Lacking Functional Literacy Skills	% of Labour Force Long-Term Unemployed	% Below 50% of Median Income
		1995-2000	1994-98	2000	1997-98
Sweden	6.7	8.0	7.5	1.4	6.6
Norway	7.5	9.1	8.5	0.2	6.9
Netherlands	8.5	9.2	10.5	0.9	8.1
Finland	8.8	11.3	10.4	2.4	5.1
Denmark	9.5	12.0	9.6	0.9	9.2
Germany	10.5	10.6	14.4	3.9	7.5
Luxembourg	10.8	11.4	..	0.6	3.9
France	11.1	11.4	..	3.8	8.0
Japan	11.2	8.2	..	1.2	11.8
Spain	11.3	10.3	..	6.0	10.1
Italy	12.2	9.1	..	6.5	14.2
Canada	12.3	9.5	16.6	0.8	12.8
Belgium	12.6	10.5	18.4	4.0	8.2
Australia	12.9	9.1	17.0	1.8	14.3
UK	15.1	9.9	21.8	1.5	13.4
Ireland	15.3 (16th)	10.4 (10th)	22.6 (17th)	5.6 (15th)	11.1 (11th)
USA	15.8	12.8	20.7	0.2	16.9
Average	12.0	9.5	14.8	2.4	9.9

Source: Human Development Report 2002, Human Development Indicators Table 4, p. 160.

Examining the values for the individual indicators in Table 1, Ireland does best on life expectancy, measured by the percentage living beyond sixty, where we rank 10th among the seventeen countries. On this indicator Ireland performs about as well as Belgium, Germany and Spain, better than Denmark, Finland and France though less well than for example Australia or the Netherlands. What is striking about this indicator, however, is that most of the countries covered actually fall into a rather narrow range. Apart from Sweden and Japan at one end of the scale, and the USA at the other, all the countries are clustered on values between 9 and 11.5 per cent. So while Ireland is certainly below average, it is comfortably within this narrow range. Since the increase in average income levels in Ireland has been so concentrated over a relatively short and very recent period, it is also not surprising that an indicator such as life expectancy, affected by conditions over a lengthy period, lags behind.

The indicator on which Ireland does next-best is the relative income poverty rate, where we rank 11th. Much of the emphasis in the Irish response to our poor overall performance has indeed been focused on this element – on whether the figure is fully up-to-date, reflecting recent spectacular economic growth, and whether it is the most appropriate measure of poverty. It is not entirely clear where the poverty rate figure for Ireland used in deriving the 2002 index comes from, but it does appear to be a few years out of date. This does not help to improve our ranking, though, because it turns out that the numbers falling below such relative income poverty lines rose rather than fell in the mid to late-1990s. An up-to-date figure for the percentage below 50 per cent of median income would actually be higher, about 13 per cent rather than the 11 per cent used by the UNDP (Nolan *et al.* 2002).

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However, one would have to raise serious questions about whether this is in fact the best way to capture poverty, particularly in a period of very rapid economic growth such as Ireland has just experienced. This is an issue which has been discussed at length in a series of publications with ESRI colleagues monitoring and exploring the evolution of poverty in Ireland (see for example Layte, Nolan and Whelan, 2001; Layte *et al.,* 2001; Nolan *et al.,* 2002). There, we have complemented relative income poverty lines with a measure which also takes into account whether people are deprived of a set of basic necessities. What counts as basic necessities will be expected to change over time as living standards and expectations rise, but may not keep pace when that improvement is very rapid. This measure, which has come to be labelled "consistent poverty" (in that one has to be both on low income and experiencing basic deprivation to be identified as poor), has been adopted by the Irish government in setting the global poverty reduction target in the official National Anti-Poverty Strategy (NAPS). Substantial declines in consistent poverty, reflecting falling numbers reporting deprivation due to lack of resources, have been seen since 1994.

On its own the consistent poverty measure does not tell the whole story, but that is if anything even more true of relative income poverty rates. In the series of publications already mentioned, we have argued that one needs to look at trends in both measures to get a rounded picture. Relative income poverty certainly tells us something very important about underlying structures, but with deprivation falling so markedly in Ireland it is hard to accept that rising numbers falling below a relative poverty line during the 1990s represent an unambiguous increase in poverty. The measure employed in the UNDP report to capture "a decent standard of living" takes no account whatsoever of the very pronounced declines in deprivation levels which accompanied Ireland's economic boom. This is another reason why no improvement has been registered by the HPI index.

Turning to long-term unemployment, Ireland does very badly on the figures shown: only two countries (namely Spain and Italy) have a higher long-term unemployment rate than Ireland's 5.6 per cent. However, this Irish figure is clearly incorrect. While long-term unemployment was indeed that high in the early to mid-1990s, it then declined dramatically in the second half of the 1990s during the years of very rapid income and employment growth. In fact, the figure of 5.6 per cent seems to be the total unemployment rate for Ireland,[1] whereas the actual rate of long-term unemployment in 1999 was about half that figure. Subsequently long-term unemployment continued to fall, and by 2001 was down to about 1.2 per cent – which would have ranked Ireland at 7th rather than 15th among the countries covered. So the UNDP report entirely misses perhaps the single most important area of socio-economic progress produced by Ireland's economic boom.

The rate of functional illiteracy among adults in Ireland employed in the Human Poverty Index (HPI) is the highest of any of the seventeen

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[1] While the figures for the other countries are for the year 2000, a footnote to the Human Development Report table states that this Irish long-term unemployment rate is for 1999. The source cited by the Human Development Report for the long-term unemployment figures is an edition of OECD *Employment Outlook* which gives an overall unemployment rate for Ireland of 5.6 per cent in 1999.

countries covered by that index, at 23 per cent. Of the countries for which a corresponding figure is available, only the UK and the USA approach this level. The countries towards the top of the HPI ranking, by contrast, have measured functional illiteracy rates of 10 per cent or less. These figures come from the International Adult Literacy Survey (IALS), a multi-country and multi-language assessment of adult literacy, developing scales of literacy performance to allow literacy among people with a wide range of abilities to be compared across cultures and languages. The first survey was conducted in 1994 in seven countries, with further rounds of data collection in other OECD countries in subsequent years based on national representative samples. Literacy was defined as measuring whether a person is able to understand and employ printed information in daily life, at home, at work and in the community. Five literacy levels were used to rank literacy along three scales – prose, document, and quantitative. In countries where more than one in five adults had only the lowest of the five levels of literacy (including the UK, the USA and Ireland), the results were a source of particular concern.

In any study of this kind, questions arise about the comparability of the results across countries. Concerns were expressed at an early stage of the IALS about the comparability and reliability of the data and methodological and operational differences between the various countries. Indeed, France withdrew from the reporting stage of the study and the European Commission instigated a study of the EU dimension of IALS (Carey, 2000). Cultural specificity, differences in survey procedures and criticisms of the statistical modelling techniques led Blum, Goldstein and Guerin-Pace (2001), for example, to argue for "extreme caution in interpreting results in the light of the weaknesses of the survey". In relation to the Irish results, Kellaghan (2001) has drawn attention to the arbitrariness of the scales, pointing out that if one lowered the cut-off point for the lowest level marginally (from 225 to 200), the percentage of Irish adults at that level would drop from 23 per cent to 12 per cent. It is also worth noting that the cut-off points were derived from US data and may not be equally appropriate for other countries.

The experience with the IALS has contributed to other initiatives, such as the Adult Literacy and Lifeskills (ALL) survey and a new Programme for International Student Assessment (PISA) launched by the OECD, surveying students' skills and knowledge at age 15 in 32 countries, including all the EU Member States. Irish students do well in PISA (Shiel *et al.,* 2001), conveying a very different comparative picture to that shown for the working-age population in the IALS. For the present, without attempting here to assess the strength of the criticisms of the IALS, it is clear that Ireland's particularly poor performance compared with other countries cannot be regarded as firmly established. This is not to minimise the scale and importance of functional illiteracy among Irish adults: it is simply to say that we cannot be confident that Ireland is so much worse than other rich countries in this respect.

This is brought out by looking at an alternative and widely-used measure of educational disadvantage, the numbers having completed only lower secondary education or less. About half the current working-age population in Ireland has not gone beyond the Junior/Intermediate Certificate or equivalent in terms of attainment. This is much higher than the corresponding figure for Denmark, Sweden, Germany and Canada,

but on the other hand it is significantly lower than Spain and Italy, which score much better than Ireland on the illiteracy rate. The proportion with only this level of education has of course been falling sharply over the past forty years or so in the Irish case, so it is much lower in the younger age cohorts. This is brought out by the fact that two-thirds of those aged between 25 and 34 have at least attained the Leaving Certificate, compared to only one-third of those aged between 55 and 64. So once again "knowledge" is a key area where, in terms of the current working-age population, we would indeed expect Ireland to be still lagging behind countries which have been both rich and investing heavily in education for longer. This does not, however, mean that we should take a ranking as "worst out of seventeen" on this dimension as well-established.

Looking back at Table 1 shows another interesting feature in relation to the literacy element of the HPI: while all the seventeen countries covered have data on the other three elements, only twelve actually had data on literacy. Presumably because a measure covering only twelve countries would be regarded as much less interesting than one covering seventeen, the UNDP imputed a value for illiteracy in the missing five countries in deriving the HPI. The value imputed was simply the average across the twelve countries for which a figure was available, namely 15 per cent. It is worth noting that if Ireland had not participated in the IALS – or like France, simply disowned the results – and this average figure had been used in deriving our HPI value, Ireland would have ranked as 11th rather than 16th out of the seventeen countries. A cynical conclusion would be that the easiest way to improve Ireland's ranking would be not to participate in such international comparative data-gathering exercises. To understand why improving on this one element would have such a marked impact on Ireland's overall HPI ranking whereas reducing poverty or long-term unemployment would have little or no impact, we need to look at the way the summary index is derived from the four constituent elements.

4. Deriving the Summary Index

With the Human Poverty (HPI-2) index being based on the four elements of life expectancy, illiteracy, long-term unemployment and relative income poverty, we have seen that with the values used by the UNDP for these elements Ireland ranked 10th, 17th, 15th and 11th respectively. On the overall index, Ireland ranked 16th. Correcting the Irish long-term unemployment rate means that we rank 7th on that element rather than 15th. However, when the correct long-term unemployment rate of 1.2 per cent rather than 5.6 per cent is used in deriving the HPI index, this turns out to make no difference whatsoever to our overall ranking. This would have to make one wonder about the properties of the summary measure, so the precise method of constructing the summary index from its components obviously bears close inspection.

The HPI-2 index is constructed as
$$\text{HPI-2} = [1/4\ (P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha} + P_4^{\alpha})]^{1/\alpha}$$
where
P_1 = probability at birth of not surviving to age 60
P_2 = % of adults lacking functional literacy skills
P_3 = % below 50 per cent of median household disposable income

P_4 = % long-term unemployed (12 months or more)
and
α = 3.
So the value for each element is cubed, those figures are added, and the cube root of the result is taken.

Two features of this procedure bear careful scrutiny. The first is the choice of value for "α". If it were set to 1, the index would be a simple average of its elements. The 2002 Report acknowledges that the value chosen for "α" has a major impact on the value of the HPI. It notes that as the value rises, greater weight is given to the element or dimension in which the country displays most deprivation or does least well. As the value rises towards infinity, the HPI will tend more and more towards the value for that dimension. It justifies the choice of 3 as giving "additional but not overwhelming weight to areas of most acute deprivation" (UNDP 2002, p. 254).

It does indeed give additional weight to the area of worst performance, but one could certainly argue about whether that weight is appropriate. This is particularly problematic when combined with the second feature of the index, that it simply adds up percentages across the different dimensions with no attempt to standardise them, most obviously for the fact that they have different average values. The mean value for functional illiteracy across the seventeen countries is 15 per cent, whereas the mean value for long-term unemployment is only 2.4 per cent. This means that the index would be much more heavily influenced by the former than the latter, even if a simple average across the dimensions was used. The mean for the other two dimensions is about 10 per cent, so these will have more impact than unemployment but less than illiteracy on the index. A country could halve its long-term unemployment rate from 4 per cent to 2 per cent, and this would have the same impact as reducing its illiteracy rate from 23 per cent to 21 per cent. When we then add to this the fact that the percentages are in fact weighted, that "a" is 3 not 1, then this effect is compounded: reducing illiteracy from 23 per cent to 21 per cent will then have a much *greater* impact than cutting long-term unemployment from 4 per cent to 2 per cent. The greatest weight is in fact given to the dimension in which the country does least well in terms of *absolute* score, not the least well relative to the mean across the countries. This means that none of the countries receives a high weight for long-term unemployment, whereas those for literacy will be high even when the country is doing quite well relative to the mean in that dimension.

Having one element dominate in this way seems highly problematic, and particularly so when it happens to be the one where we have least confidence in the figures being used. It makes it very difficult indeed for Ireland to improve its overall score while it appears to be doing so poorly on the dimension which has most impact on the index. This explains why correcting the figure used in the Report for long-term unemployment, from 5.6 per cent to 1.2 per cent, has no impact whatsoever on our HPI ranking. To take another example, if we somehow managed to cut Ireland's relative income poverty rate in half, reducing it to the level of the best-performing countries in the OECD, then that would improve our overall HPI ranking by just one place – moving Ireland into 15th position, ahead of only the UK and the USA. So Ireland's performance on the UNDP measure has failed to improve during our economic boom not

only because it focuses on a relative income measure of poverty and missed the dramatic decline in long-term unemployment, but also because the way it is constructed gives a quite disproportionate weight to one, poorly-measured, dimension.

At a minimum, some attempt to standardise the different elements in the index for their differing means (and variances) seems appropriate. This, and simply averaging across the four elements, would not dramatically improve Ireland's ranking, but we would then appear in a relatively poorly-performing cluster along with Spain, Italy, the UK and the USA. We are in that situation effectively because Ireland does poorly on three out of the four dimensions of the index, and does not do particularly well on any. The specific measures of "knowledge" and "decent standard of living" being used then still have serious inadequacies which have already been discussed. A more comprehensive set of indicators in those areas and in "health" would still show serious shortfalls compared with the best-performing countries, and indeed often compared with the average for the seventeen rich countries covered here. This reflects major structural deficiencies, which long-term social investment building on our newly-improved per capita income ranking will be required to address. The UNDP index as currently constructed will not, however, be a sensitive indicator of such social progress.

5. **Conclusions**	The Human Poverty Index produced by the UNDP in its annual Human Development Report, like its Human Development Index, aims to capture in a single summary measure a set of highly complex and multi-faceted phenomena.

The Human Poverty Index produced by the UNDP in its annual Human Development Report, like its Human Development Index, aims to capture in a single summary measure a set of highly complex and multi-faceted phenomena. It seeks to measure life expectancy, knowledge, a decent standard of living, and social exclusion, and does so using four indicators. The hard questions facing any such summary index are whether these are the most appropriate indicators, whether they are being used and combined in the most satisfactory way, and indeed whether combining them into a single composite measure is a good idea in the first place.

One can raise serious questions on all these fronts about the HPI. Ireland has seen no improvement in its performance over the course of the recent economic boom, still ranking second-worst among the seventeen rich countries for which the overall index is presented. This index turns out to be disproportionately influenced by functional illiteracy among adults, which has been measured as being particularly high in Ireland. The reliability of this finding has been seriously questioned, and the index also fails to reflect sharply declining levels of unemployment and deprivation in Ireland over the 1990s.

While it has obvious attractions from the point of view of public impact, one has to question whether combining these – or other – different indicators of poverty into a composite index is in fact worthwhile. The absence of any conceptual underpinning to the weights applied to the different elements is the central problem. How do we value an extra year's life expectancy compared with a percentage point reduction in the illiteracy rate? Whose views should count in this valuation? In the absence of any basis on which to assign weights, simply presenting a range of indicators is surely more informative than imposing arbitrary weights and producing a summary index out of a black box.

If we just look at specific indicators and keep in mind the caveats about our ranking on illiteracy in particular, the picture that emerges is rather different. Rather than seeing Ireland as next-worst to the USA among seventeen rich countries in terms of poverty, a more robust conclusion would be that Ireland fares a good deal worse on a range of social indicators than in terms of average income level, where we now rank among the top handful of countries in the world. This points to major social deficits across a variety of areas of life, which only sustained social investment will enable us to close. In assessing progress towards that aim, it would be unwise to rely on the Human Poverty Index.

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