

# MEASURING PROGRESS AND HUMAN DEVELOPMENT

A Briefing Paper for Government Statisticians and Policy-Makers



## Executive Summary

This briefing paper provides a non-specialist overview of work on the measurement of wellbeing and its use for policy-making around the world. It summarises the limits of GDP measures and provides criteria for developing multi-dimensional indicators of progress. Drawing on our research, the paper provides eight examples of policy-relevant analysis using quality of life data and discusses some of the key national and international developments in the field of measurement to date. The paper discusses an emerging consensus about the domains of quality of life measurement at national level in many developing and developed countries and recommends that all countries collect and publish a core set of indicators on a regular basis.

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# MEASURING GROWTH AND HUMAN DEVELOPMENT

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### I. GDP, its Limits and Some Desirable Properties for Indicators

The basics of measuring national income have been around since at least the 1640s when William Petty first estimated this to be some £40m for England and argued that some 80% of this was produced by the efforts of labour, rather than capital. It is now widely recognised that national income, as measured by financial statistics like average GDP per head, though useful for some purposes is limited for others not least of all because it is not a measure of human wellbeing, does not reflect the value of productive activities performed within the home, fails to account for the loss of environmental assets and does not engage sufficiently with issues of inequality and deprivation.

An alternative approach is to develop sets of indicators that provide a picture or dashboard that assists decision-makers' general understanding. The desirable properties of such indicators are well understood and include comprehensiveness, clarity, decision-relevance, conceptual validity and empirical robustness. This approach is demanding in some ways though it fits the way in which administrative data is routinely collected and avoids the issue of determining relative weights for potentially incommensurable objectives or dimensions inherent in the construction of a single number index. Such indicator sets can be seen as analytical tools that help people to ask questions about policy needs and success.

In this paper we focus on some of our research designed to help governmental and other bodies consider how progress might be measured from the perspective of human wellbeing. More specifically, we explain Sen's capabilities approach to welfare economics which has been a major conceptual driver for developments in this area, discuss the data required, illustrate a variety of ways in which it can be analysed and conclude with recommendations that might be useful to national statistical offices and others.

### II. From Welfare Economics to the Economics of Wellbeing

The new approach to the measurement of wellbeing is based on a theory which assumes that for any individual, it is possible to think of wellbeing as measured by the resources to which people are

entitled, the activities they undertake, their everyday (psychological) experiences of wellbeing, as well as all the things they could do or be, given their resources. This view, proposed first by Sen (1985), collects together ideas that can be found in traditional economics thinking but does so in a way that puts human quality of life at the centre of economic analysis and evaluation. These elements define three key relations which can be valuable in any evaluation, be it at national or project level, thus:

- (i) Activities (what a person does or is) depend on resources and people have different abilities converting resources into valued activities.
- (ii) Experienced (psychological) wellbeing depends on the activities actually undertaken.
- (iii) The set of activities a person engages in, given their resources, defines their capabilities and is also a measure of their advantage.

Activities, resources, experiences, opportunities, and their distribution within and between societies, are all of importance to people and hence to national leaders around the world. Much debate has centred around the difficulty of obtaining data on all of these aspects of wellbeing, particularly those in (iii) to do with opportunities and constraints but we have shown that all of these facets can be measured within the methodological conventions normally used to design household surveys. Such data, when collected can be used for a very wide range of analysis purposes as we show.

### III. The Emerging Consensus: Four Key Features

Countries around the world are increasingly interested in the development, use and communication of data on many aspects of life quality – a convergence that reflects the contributions of different initiatives from the late 1960s onwards. National interest is often traced back to the proposal from Bhutan that countries should monitor directly the wellbeing of their populations – an idea was given support in the form of a UN resolution in 2012 – and other similar developments can be found in academia and local government over the years.

**Table 1: Selected Comprehensive Wellbeing Surveys and Headline Domains**

UN Human Development Index (annual from 1990)	OCAP 2005 Survey	Gross National Happiness Survey 2010	Better Life Index OECD 2011	International Wellbeing Indicator Set 2012	ONS Wheel Measuring What Matters 2013	EU Quality of Life Indicators (current)
LIFE EXPECTANCY	LIFE	PSYCHOLOGICAL WELLBEING	HOUSING	HOME	PERSONAL WELLBEING	HEALTH
YEARS OF SCHOOLING	BODILY HEALTH	HEALTH	INCOME	WORK	OUR RELATIONSHIPS	EMPLOYMENT
INCOME PER HEAD	BODILY INTEGRITY	EDUCATION	JOBS	ENVIRONMENT	HEALTH	INCOME DEPRIVATION
	SENSES IMAGINATION AND THOUGHT	CULTURE	COMMUNITY	COMMUNITY	WHAT WE DO	EDUCATION
	EMOTION	TIME USE	EDUCATION	ACCESS TO SERVICES	WHERE WE LIVE	FAMILY
	PRACTICAL REASON	GOOD GOVERNANCE	ENVIRONMENT	HEALTH	PERSONAL FINANCE	SOCIAL PARTICIPATION
	AFFILIATION	COMMUNITY VITALITY	CIVIC ENGAGEMENT	LIFE SATISFACTION	EDUCATION AND SKILLS	HOUSING
	OTHER SPECIES	ECOLOGICAL DIVERSITY AND RESILIANCE	HEALTH	EDUCATION SOFT SKILLS & RESOURCES	ECONOMY	ENVIRONMENT
	PLAY	LIVING STANDARDS	LIFE SATISFACTION		GOVERNANCE	TRANSPORT
	CONTROL OVER ENVIRONMENT (A) POLITICAL (B) MATERIAL		SAFETY	ACTIVITY INVOLVEMENT YESTERDAY	NATURAL ENVIRONMENT	SAFETY
			WORK-LIFE BALANCE			LEISURE
						LIFE SATISFACTION

Note: the OCAP and IWIS were developed by the authors.

### International Measurement Initiatives Relating to Wellbeing

- 1974 Bhutan proposes Gross National Happiness
- 1992 UN publishes first Human Development Index
- 2004 OECD inaugurates Measurement of Progress
- 2007 EU launches ‘Beyond GDP’ initiative
- 2008 France commissions report on the measurement of wellbeing
- 2011 UK commissions ONS to develop and collate measures of wellbeing
- 2011 OECD publishes Better Life Compendium and Index
- 2013 Germany invites international experts to advise on happiness

Their precise design and rationale varies between countries and context but has four key features. Firstly, it is accepted that human wellbeing requires a portfolio of indicators covering a wide range of life

domains from personal health through to the quality of the environment. Secondly, it is now accepted that subjective evaluations have a legitimate role in contributing to understanding how a population feels about their situation. Thirdly, it is also accepted that ‘potential’ concepts such as ‘opportunity’ and ‘constraint’ can be measured in a variety of ways and that these are of importance to people whether or not they are reflected in everyday psychological experiences. Fourthly, and finally, it is increasingly accepted, amongst economists at least, that distributional issues are a legitimate and important concern for policy and go beyond merely the design of general taxation.

To illustrate these principles in action, Table 1 illustrates some of the key headline domains that have been used in surveys designed to provide comprehensive national level sets of wellbeing indicators. Terminology varies but there is clearly beginning to emerge some kind of broad agreement about the domains and variables that should be included.

## IV. Applications of Multi-Dimensional Wellbeing Measurement: Eight Examples

In this section, we offer eight examples, based on our published and on-going work, that show how such data can be used to inform key policy relevant issues.

### 1. Living standards, Poverty and Deprivation – What is deprivation and who is deprived?

This broader approach to welfare economics enables analysts to use definitions of poverty that go beyond financial thresholds and targets. For example, it is possible to identify the areas of life that are least satisfactory or most impacted by poverty and identify those who are poor on the basis of extensive deprivations. In work using data on 1000 adults, we use latent class analysis to search for the existence of a group who have low all round capabilities, Anand, Santos and Smith (2009). Our results indicate that such a group does indeed exist comprising some 8% of the adult population surveyed. Just over half of those in this group have some health problem though their average age was slightly lower than that of the population surveyed. In addition, we found a second group comprising approximately 10% of the sample who also exhibited similar all round levels of capability deprivation and in this case, just over 90% of those in this group were female. These distinct groupings and the factors predicting membership shed new light on who the extremely deprived are, and complements perspectives based on financial thresholds.

### 2. Health Measurement and Treatment Evaluation

Our research has shown that health is connected to wellbeing in a wide range of life domains but we have also conducted work on health that shows how broader measures of benefit can be developed to evaluate, in clinical trials, the effectiveness of medical interventions. The EQ5D is one of the most widely used measures of health status and already reflects this approach to welfare economics by measuring health in terms of what people can do (mobility), their mental states (pain, stress), autonomy (self-care), and what they actually do (daily activities). One potential problem with 'daily activities' is that they may adapt which in turn leads to underestimation of the value of clinical trial work. To address this potential problem, we have developed, and applied to the evaluation of a mental health clinical trial led by Oxford University a tool for measuring health status which replaces daily activities with a list of specific capabilities that may or may not be impacted by ill-health, Simon *et al* (2012). This provides a relatively detailed picture of health status that takes account of implications for everyday

activities more explicitly and we are currently exploring potential applications for other areas of health.

### 3. Costs of Violence

Some of the data we have generated provides a particularly rich picture of experiences of domestic violence which is predominantly, but not exclusively, conducted by men on women. Using life satisfaction equations, our empirical evidence suggests a detectable impact and, furthermore, that fear of violent acts in the future is every bit as troubling as past experiences, Anand and Santos (2008). Furthermore, we find some evidence that where females are relatively well off or more educated compared with male partners their risks may be greater, a finding which appears to be consistent with civil society experience and could, therefore, have implications for the design of programmes to protect women at risk. Our most recent work suggests that the costs of violence using the data we have collected leads to cost estimates that are least double those based on criminal justice costs alone.

### 4. Marginal Communities

We have used the approach to explore the situation of marginalised communities looking, as a case study, at the situation of Irish travellers, Coates *et al* (2013). In recent years, policy has focussed on housing needs but we have used the capabilities approach in conjunction with mixed methods research to understand the issues as they were experienced by members of this small minority community. These discussions revealed health problems in children due to damp conditions arising from poor housing build quality. It also became clear that applications for employment from known traveller sites or families would result in quick rejections leading to very high (up to 75%) unemployment rates. Finally there was evidence that teacher expectations were different for children from this community which in turn led to low levels of tertiary education and helped to transmit across generations this circle of deprivation. Financial government support to members of this community have not yet succeeded in enabling many to become autonomous members of society.

### 5. Disability

Financial work on disability often suggests that the effective cost of disability on average are something in the region of 25% to 40% of income. We have used our data on human wellbeing to shed light on the areas affected and find the only factor which is not lower for adults with a mobility impairment is access to a doctor (Anand, Gray and Roope, in preparation).



In other words, for the particular group studied, access to health care is arguably not a problem, though mitigation of constraints imposed by mobility impairment remains an issue.

## 6. Quality of Work

There is increasing interest in the quality of working life in terms of a wide range of non-financial aspects ranging opportunities for employment and training through to work-life balance. Our analyses indicate that having a job that enables people to use their skills and talents at work is positive for both sexes and statistically so for males, Anand *et al* (2009). By contrast, experiencing discrimination at work on grounds of colour has a significant and negative impact. Taken together with other work we believe that having access to work and decent employment is one of the most important mechanisms for social inclusion and that much more labour economics and general social science research could be devoted to this topic.

## 7. Child Development and Happiness

We apply the framework to the analysis of children's wellbeing where development and happiness are central and household income may only be part of the story. Using a model in which child development depends inter alia on parenting regime, household affluence and quality of the environment, we find evidence that active parenting and activities associated with the arts are positively related to child development, Anand and Roope (2013). We also find evidence in German data on two to three year olds, that visiting other families is related to social skills, that involvement in arts and crafts activities is related to movement, and singing by the parent related to the child's ability to speak. These analyses based on published household survey data complement work done by development psychologists and bring out patterns that can be found across a range of skills and activities.

## 8. Wellbeing in Older Age

Our work on wellbeing in older age was driven by the recognition that income may be relatively fixed at this stage in peoples' lives and therefore that having access to rewarding and cost-effective forms of time-use is particularly important. We find evidence that gender and education play significant roles in the level and nature of activities that older people engage in and we are beginning to find that experiences and freedom and constraint vary differently as men and women get older, Anand, Gray and Roope (2012). Being able to get out and to socialise appears to be positively related to

life satisfaction for people over the age of fifty, a simple finding, perhaps, but one that raises questions about isolation in old age and the need for mechanisms which might combat this.

## V. Policy Applications – The Experience of Bhutan

To underline the policy-value and relevance of this work, our research has looked also at the use of quality of life analysis in practice. Most countries around the world will be engaging with at least some of these issues but the case of Bhutan provides a particularly interesting example as the country is significant for its adoption of policies oriented towards human wellbeing at national level. The national planning commission now requires all ministry policies to go through a 22 criteria screening process and by mid-2013 some ten major policy initiatives had been through it. Only proposals that meet an overall threshold score (66 points out of a maximum of 88) are accepted and those that do not must be revised. The small industry action plan covering most of Bhutan's private sector for 2013–4 illustrates how policies consistent with this approach can emphasise rural employment, environmental sustainability, support for cultural industries, mainstreaming of gender equity considerations and be delivered by multiple agencies. The emphasis on explicitly considering a variety of issues that impact human wellbeing can be seen also in the private and civil society sectors where some business practices and models are emerging that reflect a holistic and human orientation. Bhutan's experience has inspired countries the world over to take stock of how economies and societies are contributing to human wellbeing and the country's experience provides useful lessons for policy-makers around the world.

## VI. Future Directions

Many countries around the world are interested in developing multi-dimensional non-financial data that more explicitly reflect the impacts on populations of economic and social changes, highlight the needs for policy or business interventions and provide a framework for the evaluation of projects or clinical trials. Such data has the capacity to reflect the values and objectives that countries in ways that summary measures and targets based on financial growth rates cannot. There has been some debate about dashboards versus indexes but there is a growing recognition that for practical policy purposes non-financial indicators are essential in many if not most areas of government. That said, single summary measures can be helpful in communicating with the media as well as priority setting. There is also

an affinity between this 'Beyond GDP' approach to monitoring economic and social progress and the rise of behavioural economics which shares the view that human psychology does not respond to financial incentives in exactly the way that traditional textbook models have suggested in the past. There are, and continue to develop many initiatives ranging from national policies though to small ngo programmes that actively pursue the integration of economic and social goals. The multi-dimensional approaches to the measurement of progress from a human perspective both highlight and shape these initiatives. Potentially, the explicit incorporation of human and social values into economic activity could be amongst the most profound changes in economic policy and analysis in the years to come. As a result we recommend that:

- 1 All countries around the world develop *dashboards of life quality* indicators along the lines indicated above. The development of these indicator sets requires time and thought and should reflect the following points.
- 2 In future, where feasible, some of this data should be collected by statistical offices, household surveys, or researchers as *panel data* so that appropriate analysis techniques can be applied.
- 3 Dashboards indexes now need to explore issues of child development *before and at school*. Policies and research on *quality of life in old age* should explore issues to do with effective time use.
- 4 Decent employment should be given more prominence as a key mechanism for social inclusion, and work-life balance.
- 6 A wide variety of new variables can be developed to track population needs and policy achievements. Statistical offices should develop measures that will meet the need of policy-makers to monitor progress from a human wellbeing perspective, along side those to do with money and resources.

## Further Reading

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