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Economic well-being and non-economic well-being: A poverty of the meaning and measurement of poverty

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Economic Well-being and Non-economic Well-being

A Review of the Meaning and Measurement
of Poverty

Andrew Sumner *

April 2004

Abstract

This paper discusses the measurement of poverty and well-being. A historical overview is given of the last fifty years. This is followed by discussion of three groupings of indicators: those measures based primarily on economic well-being; those based on non-economic well-being and composite indicators. It is argued that the choice of indicator should reflect its purpose and that economic measures are best when quick, rough-and-ready, short run, aggregate inferences are required. In contrast, non-economic measures are better when greater depth on medium- or longer-term trends and/or dis-aggregation are required.

Keywords: data, statistics, poverty, well-being

JEL classification: I30, I31, I32

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Acronyms

BNI	Basic needs index
FSI	Food security index
GDI	Gender-related development index
HDI	Human development index (UNDP)
HDR	<i>Human Development Report</i> (UNDP)
HPI	Human poverty index
IFAD	International Fund for Agricultural Development
IPI	Integrated poverty index
MDGs	Millennium Development Goals
PPA	Participatory poverty assessment
PRSP	Poverty reduction strategy papers
QOL	Quality of life index
RWI	Relative welfare indicator
SLA	Sustainable livelihoods approach
WDR	<i>World Development Report</i> (World Bank)
WSI	Women's status index

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1 Introduction

Does ‘well-being’ matter to economists? The answer is a resounding yes! Well-being has been of central interest: some have even placed it at the ‘heart’ of development economics today, albeit labelled as ‘poverty reduction’ (see, for example, Kanbur and Squire 1999: 1). Such interest is not new either. It drove not only the ‘founding fathers’ of quantitative economics, such as Petty and Quesnay but also the ‘pioneers’ of political economy—Marx, Smith, Ricardo, Malthus and Mill (Anand and Sen 2000: 2031). Furthermore, to this list we might also add the likes of Arthur Lewis and contemporary economists who have focused primarily on poverty and well-being such as Paul Streeten, Amartya Sen, Martin Ravallion and Ravi Kanbur, to name but a few.

This paper discusses the recent evolution of the debates on the meaning and measurement of well-being and poverty. It focuses on the post Second World War era—that period of time when development economics emerged into a distinct sub-discipline—as the ‘unfavoured child of two parental discourses’—mainstream economics and a general discourse on the human condition (Cameron 2003: 2). The paper is concerned with two questions over this period of time: first, how and why has the meaning and measurement of poverty and well-being evolved? And second, what are the comparative advantages (the relative efficiency in meeting objectives) of various indicators or groupings of indicators?

It is argued that the evolution of the meaning and measurement of poverty and well-being has been closely entwined with the evolution of development economics and its relationship with (or within) development studies.¹ In particular, the tension between what Fine (2002) termed *economic imperialism* (economics’ tendency to dominate the other social sciences) versus non-economic aspects of social phenomena and multi-disciplinarity that development studies pride themselves on and development economics is not unsympathetic to.²

Whatever the causal factors, one thing is certain: the measurement and assessment of poverty and well-being have never been so high on the international agenda. The new result-based development discourse, exemplified in the United Nations Millennium Development Goals (MDGs), and the rewritten mission statements of the International Monetary Fund and the World Bank, coupled with the poverty reduction strategy papers (PRSP) process and a mushrooming of new household surveys (the extension of the World Bank’s demographic health and living standards measurements surveys and participatory poverty assessment, PPA) have all meant that the prospects for a truer assessment of the well-being of the world’s population have never been so good (Booth

¹ For an interesting discussion of the evolution of development economics itself over the last 50 years, see Toye (2003) for an in-depth overview or Cameron (2003) for an entertaining personal journey in the sub-discipline.

² Recent discussions in *World Development* have addressed these issues. See Fine (2002) for economic imperialism and Harriss (2002) for multi-disciplinarity. White (2002) has argued that economics dominance has evolved from a false perception (and dichotomy) that economics alone is ‘rigorous’, objective and quantitative whilst other social sciences disciplines are prone to being methodological ‘soft’ by utilizing qualitative or subjective or non-rigorous. White argues that not only do non-economist use quantitative methods but economists themselves are not immune from subjectivity (in choice of underlying assumptions for example) or imperfect application of rigor in the methods.

and Lucas 2002; Falkingham and Namazie 2002). However, paradoxes and pit-falls lie ahead. Contemporary debates hold within themselves a series of unresolved contradictions and conflicts: the new found popularity of well-being measurement and results-led policy versus the severe limitations of the existing databank; the continuing dominance of economic or money-metric (especially the dollar-a-day) proxies given the widespread acceptance of poverty as multi-dimensional; the value of local and subjective definitions of well-being versus the inter-comparability of universal definitions; and the fact that who is identified as 'poor' (Sen's identification problem) and how many 'poor' people there (Sen's aggregation problem) are so critically dependent on the choice of indicator. This paper considers these conundrums whilst addressing what factors, policies, and contexts have led well-being research. The defining characteristics of a poverty or well-being indicator are taken as a point of departure.

2 Characteristics of poverty and well-being indicators

What are the defining characteristics of a well-being or poverty indicator? What characteristics does a 'good' poverty or well-being indicator exhibit? The UN's *Handbook on Social Indicators* (1989: 18) defines such indicators as accepted 'standards', assessing 'progress' through 'measurement'. This would seem non-contentious. Likewise, there is actually little disagreement on the characteristics of a 'good' indicator. Most commonly noted are the following criteria: the measure should have an underlying conceptualization of well-being (we know human beings need food for example), be policy-relevant (i.e. meaningful to policymakers), a direct and unambiguous measure of progress, specific to the phenomena, valid, reliable, consistent, measurable, user friendly, not easily manipulated, cost effective and up-to-date (DFID 2002; UN 1989; World Bank 2002). Fine in theory, but what commonly used poverty indicators could jump through all these hoops?

It is worth taking a further step backwards and reviewing the process that creates a poverty statistic. Indicators are the end product of a (lengthy) social process, which at every stage is shaped by the bias of agents involved. Errors are virtually certain to occur in both the sampling and non-sampling aspects of research. In the early stages, bias appears in the choice of survey questions and the interviewer may influence respondent's answers. There may be inaccurate reporting of consumption due to recall difficulties or concern over the use of the information. Under-representing of some groups in socioeconomic surveys will happen because sample frames are often based on incomplete official records (such as national identity card or electoral register) that 'hide' those without full 'legal status' such as the homeless or slum-dwellers. It is also likely that a disproportionate number of the 'hidden' households will be poor and thus there will be a downward bias in the absolute number of the poor as calculated. Further, in the later stages, when the data are collated, processed and interpreted, bias (and more errors) are introduced in the stages of inputting and defining how the raw data fit the definition of a specific indicator. With this in mind, a list of salient questions for reflection when utilizing data might include the following: How are these social indicators created? Who collects them and for what purpose? How is the sample frame created? Who is omitted? What definitions are used? How are these indicators used? What are they used for?

Whilst these points are important, they are also somewhat academic when data availability is limited and choice of indicators may simply be dictated by what is in existence. These data quality and availability issues are returned to at a number of points in the discussion below. For the moment, a history of the meaning and measurement of poverty and well-being is now given.

3 The meaning and measurement of poverty and well-being

What are the most important characteristics of poverty and well-being and how are they best measured? Over the last 50 years, the debate on this subject has moved from well-being as economically determined to broader conceptualizations of poverty, from considering the ‘means’ of well-being to analysing the ‘ends’, from identifying ‘needs’ to identifying ‘rights’, from no or few indicators to many, and from (at best) an afterthought to a central focus of the development discourse. In each decade since the Second World War, the dominant meaning and measurement of well-being have been shaped by the prevailing context and practice of development (see Table 1).

In each decade the evolution of the meaning and measurement of poverty and well-being has also closely reflected the position of (development) economics within development studies and the tension between economic imperialism and multi-disciplinarity. As development studies have moved from purely an economic pursuit to multi-disciplinary approaches, so has well-being moved away from economic determinism to a multi-dimensional definition. However, tensions remain—why is it that economic measures of well-being are dominant despite the widespread acceptance of multi-faceted poverty definitions?

In the 1950s, economic growth dominated. Well-being was assumed to be improving if there was growth, because that growth would eventually reduce any poverty by a mechanistic trickledown effect (Bourguignon *et al.* 2002). This was the era of ‘high development theory’. At either end of the political spectrum, newly independent nations defined ‘development’ as industrialization and catching-up with the former colonial powers. It was this new independence and the search for ‘short-cuts’ that created development economics as a distinct sub-discipline. Well-being was, at this time, if measured at all, assessed by GDP growth.

Table 1
Evolution of the dominant meaning and measurement of well-being 1950s-2000s

Period	Meaning of well-being	Measurement of well-being
1950s	Economic well-being	GDP growth
1960s	Economic well-being	GDP per capita growth
1970s	Basic needs	GDP per capita growth + basic goods
1980s	Economic well-being	GDP per capita but rise of non-monetary factors
1990s	Human development/capabilities	Human Development and sustainability
2000s	Universal rights, livelihoods, freedom	The MDGs and ‘new’ areas: risk and empowerment

Note: MDGs = Millennium Development Goals

However, in the 1960s well-being took on a greater importance. Economic emancipation was sought by many nationalist governments in the South, led by import substitution. 'Development' itself was seen as raising standards of living for the local population. Social data gradually became available, but for many countries the indicator was still GDP albeit per capita rather than just GDP growth. Only towards the end of the decade were there hints of the seismic shift at hand, beginning what was to become a Kuhnian shift in the conceptualization of poverty. The publication of Bauer's *Social Indicators* (1966) and *the Meaning of Development* by Dudley Seers in 1969 led the debate into *basic needs*. This shaped much of the 1970s and discussions were led by scholars such as Nancy Baster (see, for example, Baster 1979), Donald McGranahan (see for example, McGranahan *et al.* 1985), UNRISD (see, for example, 1970) and Paul Streeten (see, for example, Hicks and Streeten 1979; Streeten 1984). Well-being was equated with the satisfaction of basic needs—physical necessities such as food, shelter and public goods, as well as the means to acquire these through employment. This broader definition became reflected in the availability of new data on health and education for most developing countries in the 1970s. The fact that statistics failed to show that the benefits of economic growth had trickled down created increased interest in this *basic-needs approach*. Additionally, much research was led by the International Labour Office (see, for example, ILO 1976; 1977). The culmination of all these efforts was the first composite measure of well-being—Morris's (1979) physical quality of life index (PQLI). For the first time, there was a measure of well-being which took no account of income or economic well-being. The three components were life expectancy at birth, infant mortality, and adult literacy.

In the early 1980s, the publication of the Brandt Report (1980), Chambers' (1983) work on non-monetary poverty (in particular isolation and empowerment) and the coining of the phrase *well-being* and the 1980 *World Development Report* (WDR), appeared, in the first instance, to be shifting the debate further away from economic determinism. The WDR characterized well-being as beyond income and encapsulating nutrition, education and health (World Bank 1980: 32). However, the debt crisis pushed non-economic concerns off the agenda and well-being was once again equated primarily to economic growth (Dagdeviren *et al.* 2001).

Despite this, towards the end of the decade there was a renewed interest in non-economic aspects of well-being, as the social impacts of adjustment programmes became more evident (see, for example, Cornia *et al.* 1987). What emerged was a synthesis of economic plus non-economic components of well-being. This was thanks to the highly influential work of Amartya Sen, himself an economist, at UNDP, in establishing a new yearly report on well-being. The UNDP's *Human Development Report* (HDR) gave birth to the new concept of 'human development' and a new set of composite indicators led by the UNDP's human development index (HDI). The HDRs have since reoriented social development 'from the periphery to the core' (Sagar and Najam 1999: 743). In fact by 2000, the WDR was quoting Sen on the first page of its opening chapter (World Bank 2000: 15).

Sen (1982; 1985) and UNDP argued that well-being was not, as previously defined, based on 'desire fulfilment' (utility or consumption measured by the proxy of income: GDP per capita) as this does not take account of the physical condition of the individual. Instead it was *the process of enlarging people's choices* (UNDP 1990: 1). Sen shifted the focus from *means* (such as having income to buy food) to *ends* (such as being well-nourished). He noted there was a broad set of conditions (including being fed, healthy,

clothed, educated) that together constitute well-being. According to Sen, individuals have entitlements (command over commodities) which are created through endowment (assets owned) and exchange (trade and production by the individual). These entitlements were exchanged for capabilities—a set of opportunities to achieve the set of conditions of well-being. The UNDP indices are, though, only a partial and somewhat uneven application of Sen’s research on well-being. They do not incorporate a full range of the conditions of well-being (for example, being sheltered is not included), only certain capabilities are included and although exchange entitlements are accounted for, endowments are not.³

It could be argued that the end of the Cold War and the decline of meta-narratives were instrumental in a new (post-modern) focus on the individual, the body, mortality, and knowledge, a return to the fundamentals of well-being—people’s bodies (Cameron 2003: 32). What was certain was that the HDR and the HDI launch played a role in what was to become known as the decade in which social development would rise to prominence in academic and policy arenas. In the same year as the HDR launch, 1990, the World Bank also issued a new measure of well-being—the *dollar-a-day* poverty indicator. Throughout the decade there were numerous United Nations poverty conferences.⁴ Additionally, as the decade closed, as if to sum up, the 2000 *World Development Report* played a major role in solidifying the centrality of well-being in the discourse. Not only did the report accept a multi-faceted model of well-being, it ‘promoted’ well-being indicators to the early statistical tables and ‘relegated’ economic indicators to later tables.⁵

However, there was not complete consensus—the struggle between economic well-being and non-economic well-being continued and a further tension emerged—that between universal measures of poverty and those measurements which sought to capture the local experiences of well-being (for example, Narayan *et al.* 1999). The debate was simultaneously moving in opposite directions. The first direction was upwards towards universality. This was based on an international agreement in the UN Millennium Development Goals and work on new *rights-based* approaches to development. The second was a move downwards towards locally-based definitions of

³ For example, the human development index (HDI) and gender development index (GDI) include only the conditions of being educated (literacy data) and being healthy (life expectancy data), whilst the later human poverty index (HPI) chose different indicators but did not expand the set of conditions that creates well-being. The HDI and GDI contain only the capabilities of schooling (combined enrolment data), but not health as life expectancy is a well-being condition and not a capability. The HPI does include the capabilities of schooling, health care access, nutrition (malnutrition of under five year olds) and clean water access. Furthermore, the HDI and GDI include only the entitlement of exchange through income (measured as GDP per person) and take no account of entitlements through endowment. The HPI takes no account of entitlements.

⁴ Most notably, the 1995 Copenhagen World Summit on Social Development. This was the origin of the commitments that would become the Millennium Development Goals at the UN Millennium Assembly in 2000.

⁵ In addition to the dollar-a-day, the 1990 *World Development Report* listed just a few social indicators in its statistical annex. Of 32 tables, health and education data languished at 28 and 29, respectively and gender was the very last table. However, by the 2000 *Report* some social indicators had been ‘promoted’ to the first (annex) table of ‘basic indicators’. Whilst this first table was still primarily formed of economic indicators, Table 2 was ‘quality of life’ data, Table 4 was poverty, and education and health had risen to Tables 6 and 7, respectively.

well-being. This was reflected in the increased prominence of both the *sustainable livelihoods approach* (SLA), a term first coined by Chambers and Conway (1991), and *participatory poverty assessments* (PPA), a term claimed by World Bank (1992). Originally the SLA did not include indicators but measures have evolved since (see Norton *et al.* 2001 for greater detail).

In the former, development is the attainment of basic social, economic and political 'human rights' as enshrined in the Universal Declaration of Human Rights and various internationally agreed treaties. This perspective is a shift from an adequate standard of living as a need (as in basic needs) to a right. The MDGs are then a universally agreed set of goals for 2015 that incorporate indicators for income poverty, education and gender equality in education, health and environmental poverty.⁶ At the same time, the meaning and measurement of well-being have evolved downwards to the local level. This can be observed in the predominance in much donor literature of the micro-analysis, SLA and the methodology of PPA. The SLA is an assessment of people's changing access or ownership of the following assets (known as the asset pentagon): human capital, physical capital, social capital, financial capital and natural capital and the impact of changes in these on livelihoods.⁷

PPAs have sought to elicit poor households' perspectives on well-being (albeit with the contradiction of having to use some definition of poverty to identify the poor sample before hand). The largest study has been *the Voices of the Poor* (VOP) which included 69,000 people, and 78 PPAs in more than 47 countries (Narayan *et al.* 1999). The VOP study concluded that the poor define poverty as multi-dimensional and beyond material well-being (although food security and employment were highlighted). In particular, two *new* psychological aspects of well-being were commonly highlighted: (i) risk and vulnerability, and (ii) empowerment and participation. The first relates to economic well-being and the second to non-economic well-being.⁸

These new areas have been particularly taken into consideration in the thinking on poverty reduction strategy papers (Booth and Lucas 2002: 53). However, the conversion of these new aspects into indicators is in its infancy. Measures proposed include assessing risk, vulnerability and economic security through the variance of income (using household consumption surveys) and assets over time (using the World Bank's demographic health surveys).⁹ Indicators of empowerment and participation have been tentatively assessed by using qualitative and quantitative measures of the following: inclusion in decisionmaking at various levels, access to information and the potential for civil society monitoring of development projects (see World Bank 2000; 2002; 2003).

In sum, how and why have poverty and well-being indicators evolved? Over the last half decade, if not longer, the meaning and measurement of well-being have shifted

⁶ For greater detail on the rights-approach and the MDGs, see Sumner (2002).

⁷ For discussion of the sustainable livelihoods approaches, see in particular Farrington *et al.* (2002).

⁸ This (post-modern) concern with discourse, meaning and subjectivity that PPA illustrates (Fine 2002: 2058) has been taken as far as to argue (drawing on Foucaultian ideas of knowledge and power) that through labelling the 'poor' and 'poverty', these phenomena are created by the discourse itself (see for greater discussion, Escobar 1995).

⁹ See, for example, Pritchett *et al.* (2000); Sahn and Stifel (2000).

from purely economic to include non-economic factors. It is worth noting at this stage that how poverty and well-being are measured is entirely dependent on the definition accepted. If poverty is defined as basic needs or material standard of living, then economic or money-metric measures might seem more appropriate. However, if poverty is defined as capabilities or rights, then non-economic or non money-metric measures would seem more insightful. One implication of accepting a multi-faceted definitions of well-being is that it is quite feasible for a person to be poor in one aspect but non-poor in another—i.e. the concept of ‘poor’ is actually fragmented—thus having a very strong post-modernity resonance regarding the loss of meaning in long held concepts.

From the historical discussion, three clusters of well-being indicators can be identified and categorized: (i) those that measure poverty as primarily economic well-being; (ii) those that measure poverty as primarily non-economic well-being, and (iii) those that measure poverty as composites. Each grouping is now discussed. The indicators included are those most commonly used. They are drawn from the three major annual poverty publications—UNDP’s *Human Development Report*, and the World Bank’s *World Development Report* and *World Development Indicators*. Many of these measures are utilized in the Millennium Development Goals and/or various countries’ Poverty Reduction Strategy Papers, and their evaluation is thus of particular contemporary interest and relevance.

4 Economic well-being measures of well-being

Over the last fifty years, as noted above, economic or money-metric measures have struggled to remain central in the meaning of well-being. However, they have continued to dominate well-being in measurement. They define well-being as a higher income or consumption per person and a raised material standard of living or what Solly Frankel called ‘ec-fare’—economic welfare in the 1960s. Table 2 outlines the commonly used economic measures of well-being (grouped by the author). A number are MDGs (these are asterisked).

Nine commonly used well-being indicators can be identified and sub-divided into three further sub-groups. These are measures of (i) income per capita, (ii) those utilizing an income poverty line, and (iii) those assessing income inequality. The first includes GDP per capita, real wages per capita and the unemployment rate. Then there are three indicators based on an income poverty line (using the proxy of consumption)—the dollar-a-day measure, the national poverty line (usually based on the cost of 2100 calories per capita per day) and the relatively new measure of ‘vulnerability to income poverty’ through variance of income or assets over a year. Finally, there are three inequality measures—the poverty gap and severity indices, the income share of the poorest quintile, and the Gini coefficient.

The GDP per capita, the dollar-a-day poverty measure and national poverty lines are (although to a lesser extent than before) still the most commonly used poverty indicators (Booth and Lucas 2002: 23; Kanbur and Squire 1999: 4). Why is this? And what is the comparative advantage of measuring well-being in economic terms relative to non-economic terms? Economic measures of well-being are popular (with policymakers in particular) because they are useful when quick, rough-and-ready, short run, aggregate

Table 2
Most commonly used economic well-being measures of well-being (grouped by author)

Indicators
Income per capita
<ul style="list-style-type: none"> • GDP per capita • Real wages • Unemployment rate*
Income poverty lines
<ul style="list-style-type: none"> • Percentage of the population living under a dollar-a-day per capita * • Percentage of the population living under the national poverty line (2100 calories) • Percentage of the population vulnerable to poverty through variance of income or assets
<i>Income inequality</i>
<ul style="list-style-type: none"> • Poverty gap and severity indices at a dollar-a-day per capita* • Expenditure of bottom quintile as percentage of total expenditure* • Gini coefficient

Note: * indicator is a MDG.

inferences are required to make an assessment. They are more responsive, changing much faster than non-economic social data (that suffer a time lag). They are likely to be more recent and readily available than non-economic measures and are also cheaper and less complex to collect than non-economic poverty data (World Bank 2001a; 2001b).

It could be argued that the dominance of economic measures is additionally due to the preconception that economic measures are more precise and objective because they are amenable to quantification as they are tangible—consumption of a certain amount of rice in kilograms can be recorded (assuming there are no recall and respondent bias). In contrast, non-economic measures are somewhat less amenable to quantification and rely on more tenuous and subjective proxies—for example equating being ‘educated’ to the subjective concept of ‘literacy’. It is perhaps assumed that what is more amenable to quantification is more objective (i.e. the same to all people). For example, one kilogram of rice or one dollar-a-day is the same to everyone. Although it could be argued this is false as the gain or loss of a dollar or a kilogram of rice has a different welfare impact on a poor/hungry person than someone else better off/not hungry (Prennushi *et al.* 1998).

What is the comparative disadvantage of economic measures of well-being? There are several issues of contention. These are, first, omissions of non-market activity, of unrecorded informal sector work, of domestic housework or subsistence activity and environmental degradation and depletion. Second, they are static measures—only the vulnerability measures capture the dynamics of poverty, in that households may move in and out of poverty over the course of a year.¹⁰

¹⁰ Although asset variance overcomes the reliance on suspect price deflators, poverty lines and PPP currency converters (used in the income variance indicators), there is no account of different quality of

Finally, the measures take only limited account of differential experiences (especially intra-household, as they are typically based on the household head). Only the inequality measures make any assessment of differential experiences. It could be added that inequality measures are open to question as the data tend to be based on the distribution of consumption expenditure rather than income itself, thus hiding savings of wealthier groups and underestimating inequality, whilst unemployment rates are also questionable where there is no social security system (i.e. people have to seek income somehow).

Given that income poverty lines—and in particular the dollar-a-day measure—dominate (as noted above), it is worthwhile giving some further consideration to them.¹¹ There are several issues of contention on these measures alone. First, the lack of recent household survey data and second, the construction of the poverty line. The necessary household consumption survey data for the 1990s are not available for two-thirds (112) of all developing countries (171). This represents one in five people globally or an estimated 40 per cent of the world's poor (Loup and Naudet 2000: 11) because the dollar-a-day line is often not based on a recent household survey. The World Bank takes the last available survey and extrapolates forward using GDP per capita, making the questionable assumption that income inequality is static (Reddy and Pogge 2002).

Second, poverty estimates based on a poverty line are highly sensitive to the construction of that line. The common observation of clustering of the poor around the poverty line means that reducing the value of calories or the monetary cost of a minimum consumption basket automatically reduces the number of people below the line. Although poverty lines typically have a starting point of 2100 calories per capita per day, the pricing of items and basket weighting of component items can lead to widely differing poverty estimates from the same point of departure (for discussion see Ravallion 1992; 1998).

Other problems include the purchasing power parity (PPP) conversion either understating (Reddy and Pogge 2002) or overstating (Bhalla 2003) poverty levels, depending on whether the poverty line is constructed on average consumption (as PPP conversion rates are) or consumption of the poor. Further issues include the lack of account of different costs of living within a country, problems with heterogeneous sizes and compositions of households, the comparability and consistency of national household surveys and different consumption patterns in different countries (Lipton and Ravallion 1995).

The headcount ratios also lack information on the depth and severity of poverty and inequality among the poor; for example, two households may be defined as poor but one may be much further below the poverty line than the other. This led Foster *et al.* (1984) to calculate two further measures—the poverty severity index (the difference between the poverty line and the average income of the population under the poverty line) and the poverty gap (a combined measure of the incidence of poverty and the depth of poverty, calculated by multiplying the headcount and severity).

assets and no level of poverty given. For a review of measuring vulnerability to poverty, see Kamanou and Murdoch (2002).

¹¹ The line 'dollar-a-day line' is, in fact, a dollar and eight cents-a-day line (it was revised in World Bank 2000). Incidentally, at present exchange rates, this value is a euro-a-day.

In short, well-being measures based on economic well-being have had and continue to have enduring popularity despite debates over the meaning of poverty moving beyond purely economic measures. It is argued this is due to the notion that economic measures are perceived as more objective and more amenable to quantification as they are tangible. In contrast, non-economic measures are less so and rely on more tenuous and subjective proxies. Further, it is noted that economic indicators of well-being have the comparative advantage of being cheaper and quicker to collect and more responsive in the short run than non-economic poverty data.

5 Non-economic well-being measures of well-being

Non-economic or non money-metric measures of well-being have increasingly dominated the discourse on the *meaning* of well-being. They define and measure well-being with some resonance to Sen's conceptualization of well-being. Table 3 lists the most commonly used measures in four sub-clusters (as grouped by the author). A number are MDGs (these are asterisked again). Under education, the three indicators are: enrolment rates, survival to final year/completion of primary school and literacy rates (adult and youth). For health and nutrition, the indicators are malnutrition rates/food or calorie consumption/the body mass index (weight in kg divided by the height in meters squared), mortality and morbidity rates (including maternal, infant and under five years), life expectancy/not expected to survive to forty years old and infection rates for various diseases (in particular HIV) and health service usage (skilled personnel at birth/contraceptive prevalence rate/immunization rates). Environmental indicators of well-being are made up of the living bio-sphere of households—infrastructure provided near or inside the household, such as access to 'improved' water and 'adequate' sanitation, as well as the infrastructure of the household itself—for example, permanent material used for the walls of living quarters and electricity.

Also, there are empowerment and participation indicators. As noted previously, these are in their infancy (although UNDP proposed a gender empowerment index—see below). For inclusion in decisionmaking, these could be measurement of participation in general and local elections through the percentage of the population who vote (and/or perhaps the number of political parties active in elections). Where surveys are possible, access to information could be assessed by the extent of people's knowledge of local projects and district budgets. The potential for civil society monitoring could be assessed by the analysis of the number, size and revenue of active NGOs (for greater detail see World Bank 2003).

What is the comparative advantage of measuring well-being in non-economic terms? Non-economic measures of well-being are more useful than economic measures when a medium or longer run assessment is required, because they address more directly the *ends* or outcomes of policy (being educated and healthy) rather than the inputs or *means* (greater income). Although they are slower and more expensive to collect (often requiring their own tailored surveys and/or combined methods) than economic data, they have the additional benefit of being amenable to disaggregation, making them instructive for distributional impacts of policy changes (World Bank 2001a; 2001b).

Table 3
Most commonly used non-economic well-being measures of well-being (grouped by author)

Indicators
Education
<ul style="list-style-type: none"> • Education enrolment rates* • Survival to the final primary or secondary school grade/completion of primary or secondary school* • Literacy rates*
Health and nutrition
<ul style="list-style-type: none"> • Malnutrition rates*/food or calorie consumption per capita/Body mass index • Mortality and morbidity rates*/ life expectancy/ not expected to survive to forty years/infection rates* • Health service usage—skilled personnel at birth*/ contraceptive prevalence rate*/ immunization rates*
Environment
<ul style="list-style-type: none"> • Access to 'improved' water sources* • Access to 'adequate' sanitation* • Household infrastructure—permanent material used for walls of home and electricity supply
Empowerment and participation
<ul style="list-style-type: none"> • Participation in general and local election voting (decisionmaking at various levels) • Extent of knowledge of local projects and district budgets (access to information) • Number, size and revenue of active NGOs (potential for civil society monitoring)

Note: * Indicator is a MDG.

There are, in general, at least two significant limitations: (i) the availability and quality of the data, and (ii) difficulties in precise measurement of the stated social phenomena or capability. In terms of availability, there are a number of large gaps in non-economic social statistics. For example, at the turn of the century, UNDESA (1999: 32-3) and Loup and Naudet (2000: 11) broadly noted the same point (although using slightly different time periods). Both concluded that in the last ten years, between a third and half of all developing countries (171 countries) have no data collected for net primary enrolment, adult literacy, infant mortality, under five year old mortality and maternal mortality, access to 'improved' water sources and 'adequate' sanitation. In the case of Africa, the picture was one of a data *black hole*.¹² Additionally, the quality of what is available is open to question because it fails even a basic test of consistency: the data on health presented in the HDR and WDR do not tally. Loup and Naudet (2000: 11) cited a comparison of maternal mortality rates in the HDR and WDR in the mid 1990s. The WDR listed 56 countries with data and the HDR listed the same countries (minus one) and a further 48. Of the 55 listed in both, only a quarter were within a similar range (+/- 50/100,000), a half were much higher in the WDR and a quarter much lower. Booth and Lucas (2002: v) have noted that a blind-eye is being turned to poor data reliability

¹² UNDESA (1999: 32-3) observed that out of 54 African countries, only five had infant mortality rates, only four had under five mortality data and just two had a maternal mortality rate for the 1990s. Given that these are all MDGs, this is somewhat concerning. However, as noted above it is believed this situation will (with a time lag) improve and Sahn and Stifel's (2003) study illustrated what is possible with data collected from the World Bank's demographic health surveys.

in the PRSP process, especially when little else is available. As they also note, it is somewhat paradoxical that the poorest areas will likely have the least reliable data, because in these places the administrative support for surveying is weakest and least financially supported.

The second issue of contention is one of capturing precisely the nature of the well-being characteristic. For example, in terms of the capability of education, enrolment can be misleading as it does not necessarily mean that daily attendance, quality teaching and resources or 'learning' are occurring. Also, enrolment may be over-reported through children repeating years or inaccurate records on the total number of children in age cohorts. Similarly, in terms of literacy, being 'literate' is a relative concept—there is no defined cut-off point for 'illiterate'. Further, self-declared or household head declared literacy could also be misleading, as there may be a stigma in acknowledging illiteracy or literacy may be weak. Likewise, health, nutritional and environment measures are not without problems. For example, mortality data rely on accurate birth and death records that may not exist (and cause of death for maternal mortality rates) and individuals may be recorded as having access to water or sanitation even when the facilities are broken or the person is physically unable to reach them. There is also no internationally accepted definition of how far facilities need to be in order to be 'accessible' and what is defined as 'improved' or 'safe' water or 'adequate' sanitation differs between countries.

The new empowerment and participation indicators noted above are interesting extensions of measuring well-being, but also problematic to measure. They often require completely new and tailor-made surveys/PPAs to generate the statistics. Further, given the sensitive nature of power relations, the survey/PPA process may be more open to influence by local (or national) elites than in other indicators.

In short, measures based on non-economic well-being are useful to assess well-being outcomes when longer term trends or disaggregation are required. However, non-economic measures do suffer significant limitations. Given the flaws in both economic and non-economic well-being indicators, a pertinent question might be: do composite measures make up for deficiencies or exacerbate them?

6 Composite measures of well-being

There are a number of composite measures of well-being. These include the International Fund for Agricultural Development (IFAD)'s indices, the World Health Organization (WHO)'s quality of life (QOL) indicators and the UNDP's human development indices.

IFAD calculates five composite indicators with a largely rural focus. These are (i) the food security index (FSI) which focuses on food production and consumption; (ii) the integrated poverty index (IPI), a composite of the poverty headcount ratio, the poverty gap, poverty severity and the rate of growth of GNP per capita; (iii) the basic needs index (BNI), a measure of adult literacy and primary school enrolment, the population per doctor, the infant mortality rate, access to health care, safe water and sanitation; (iv) the women's status index (WSI) which is made up of the maternal mortality rate, the percentage of birth age women using contraception, the adult literacy of females, the

female gross primary and secondary enrolment, male and female wage ratios in agriculture and male and female ratio of labour force participation, and finally the relative welfare indicator (RWI) which is a composite of FSI, IPI and BNI.¹³

In line with the wider emergence of subjective and psychological poverty meanings, the WHO's quality of life indicators consider six quality of life domains: physical, psychological, independence, social relationships, environment and the spiritual. A survey instrument, known as QOL100, contains 100 questions covering the six domains and elicits the respondents personal feelings on scales of 1-5 relating to how they see their quality of life.¹⁴

Finally, there are the UNDP indices: human development index (HDI), the gender-related development index (GDI) and the human poverty index (HPI). Table 4 outlines the components of each.

The HDI, GDI and HPI each take account of well-being related to longevity of life and health, knowledge and education, and standard of living. There is also a gender empowerment measure (GEM). The GEM is a measure of gender equality in politics, business and wages. For greater detail on HDI methodology, see UNDP (1990; 1998). For GDI (and GEM), see UNDP (1995) and for HPI, see UNDP (1997).

Table 4
Commonly used composite indicators and their components

		Component indicators		
		Longevity	Knowledge	Decent standard of living
HDI	Life expectancy at birth.		Adult literacy rate; Combined enrolment rate.	Adjusted income capita (US\$ PPP).
GDI	Female and male life expectancy at birth.		Female and male adult literacy rate; Female and male combined enrolment ratio.	Female and male earned income share.
HPI	Percentage of people not expected to live to forty.		Adult illiteracy rate.	Percentage of the population without access to safe water; Percentage of the population without access to health services; Percentage of undernourished children under five.

Source: UNDP (1990; 1995; 1997; 1998)

¹³ For greater detail on IFAD indices, see Idris (1992).

¹⁴ A new survey currently being tested is the QOLBREF. It is an update and improvement of the QOL100. For details see WHO (1995; 1999).

What are the strengths and weaknesses of the IFAD, WHO and UNDP composites? None of the measures actually tells us how many people are poor (Sen's aggregation problem) or who is poor (Sen's identification problem). For example, although the IFAD measures are principally aimed at capturing characteristics of rural and agricultural poverty where the poor predominate (World Bank 2000), they do not give a headcount. However, their compilation and focus on the data most likely to represent the majority of the poor (albeit at the expense of significant numbers of urban poor people) are beneficial. The WHO QOL measures have strength in their deeper insights and depth of understanding of well-being, but they require the same survey in all countries in order to make comparisons. Further, as with IFAD measures, there is no information on the level of poverty.

There are a number of concerns relating to these UNDP measures: principally, the HDI and GDI show little more than income per capita (due to the heavy weighting of GDP per person in the index) and the index components themselves correlate very closely. However, as with the IFAD measures, it is the faults of the components parts that more seriously undermine their validity—often data do not exist for a particular year, resulting in the nearest available year being used or estimated by UN country staff. For example, given the large gaps in recent health and education data, the 2002 HDI for many countries may be made up of GDP per capita for 2002 but with education and health data from the mid-1980s (for more detailed HDI critique, see Desai 1991; McGillivray 1991; Srinivasan 1994). In sum, composite measures cannot make up for the deficiencies in components. Although the WHO QOL provides deeper insights into the state of well-being, all composites lack an ability to pinpoint the poor and create a headcount figure. Finally, one might note that all the measures, to a varying degree, still include economic well-being. In the case of the HDI, the indicator is little more than GDP per capita due to the weighting of this index.

7 Concluding discussion

What can be concluded from the above discussion? The evolution of the meaning and measurement of well-being has covered a vast amount of ground in fifty years. The area is very conceptually rich but operationalization is lagging behind. Future directions could consolidate this conceptual work whilst waiting for the database to (hopefully) catch-up.

In five decades, the debate has shifted emphasis from meaning and measurement based on purely on *means* (or economic welfare) to *ends* and broader definitions of well-being. When development was purely GDP growth, well-being was understandably economically determined. Now that development is beyond purely GDP growth, well-being has evolved in line with this.

What conundrums remain? First, despite the fact that measuring well-being has never been so popular, data availability (especially of key MDGs and particularly in Sub-Saharan Africa) and quality remain a concern at least until present surveys yield new data. Even then, cross-temporal and cross-country consistency is problematic and existing statistics questionable. Second, if it is now accepted that well-being is multi-dimensional, why do economic measures continue in prominence? It has been argued here that this question reflects ongoing discussions in development studies over

economic imperialism versus multi-disciplinarity and the false dichotomy that ‘economics = quantitative = rigour = objective’, whilst ‘non-economics = qualitative = non-rigorous = subjective’. Arguably the resilience of economic measures is due to the (perhaps false) preconception that such indicators of well-being are more amenable to quantification (as they are more tangible) and objective (the same to all). In contrast, non-economic measures are somewhat less amenable to quantification and rely on more tenuous and subjective proxies to capture their characteristics—measuring ‘being educated’ is an example of this.

So, how should one decide what indicator(s) to choose? Determining who is poor and how many poor people there are is critically dependent on the choice of indicator. It is certainly feasible, as the HDR continually shows, that a person may be poor in some facets and non-poor in others. Is there, then, a need for ranking importance (as PPAs have tried in as yet non-generalizable way)? What are the comparative advantages (relative efficiency in meeting its objective) of various clusters of indicators? It has been argued ‘horses for courses’—that the choice of indicator should reflect its purpose. For example, economic measures are best when quick, rough-and-ready, short run, aggregate inferences are required. In contrast, non-economic measures are better when medium or longer term trends on well-being and/or dis-aggregation are needed. The purpose of indicators as well as availability and the quality of what is available all need to play a role in choosing indicators. The alternative would be a *well-being profile*—a range of measures and/or a *hierarchy of indicators*—where some indicators are judged to be more important than others. If well-being is multi-faceted, then it would seem appropriate that the selection of indicators should reflect this.

In their 1999 review of the evolution of thinking on poverty, Kanbur and Squire concluded by asking what would Rowntree have to say if he were alive today? They suggested he might be surprised, one hundred years on, that income was still the main measurement for poverty, but would have likely agreed that health and education were important factors in well-being. What might some of the founding fathers of quantitative economics or classical political economy have to say if they were alive today?

All would have likely emphasized the essentialism of linking well-being to economic welfare but Smith and Marx might have added any over-emphasis on this would be to deny the broader aspects of the human condition (Marx) and/or the corrupting influence on moral sentiments of over-emphasis on the importance of money/income (Smith). One could speculate that Quesney, Ricardo and Malthus might take a closer interest in the importance of malnutrition given their shared interest in agricultural output and Petty might well have focused on the provision of public goods such as health and education given his work on public finance and fiscal policy. However, it might be John Stuart Mill who would have the most to comment on the current well-being debates given his focus on the importance of economic, political and social freedoms. Certainly he can provide one of the most sobering thoughts (when taken to apply to the analysis of poverty)—‘there are many truths of which the full meaning cannot be realized until personal experience has brought it home’.

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