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**Measuring Progress**

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## ABSTRACT

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### Measuring Progress\*

Societal progress is characterized primarily as an improvement in the distribution of well-being; however, a small set of additional variables are also necessary. Social indicators based on objective measures are inherently limited by the subjective assessments necessary of “experts” to select and combine measures into indicators. Subjective well-being overcomes this limitation but is insufficient to guide all policy decisions and address certain issues, especially those relating to future concerns. Subjective well-being is the single most important, but necessarily not the only, indicator of progress. This entry also briefly discusses: recent history of well-being measurement; what makes people better off in theory; the difference between subjective and ‘objective’ measures of well-being; their limitations; what we need to improve measures of progress, and examples of government implementation of well-being indicators.

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**Keywords:** well-being, wellbeing, societal progress, quality of life, GDP, subjective well-being, social indicators, beyond GDP, SDGs, life satisfaction

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## Societal progress is marked by increasing well-being

The most authoritative view on societal progress arguably comes from the United Nations (UN). Based on more than “two years of intensive public consultation with civil society and other stakeholders around the world (United Nations, 2015, p. 3)” 17 Sustainable Development Goals (SDGs) were identified, with 169 targets, which should be monitored using 232 indicators. However, 232 indicators, even 17 goals, is a lot for practitioners to manage, summarize, and communicate. What is more, 232 indicators may still be incomplete.

Well-being represents a consistent and more tractable target. The SDGs were based (at least in part) on earlier work in well-being. In 1990, “we are rediscovering the essential truth that people must be at the centre of all development. The purpose of development is to offer people more options. One of their options is access to income - not as an end in itself but as a means to acquiring human wellbeing (United Nations Development Programme, 1990, p. iii).” In 2006, 48 social scientists signed a set of guidelines to develop national indicators of well-being to guide policy debates and decision making (Diener, 2006). In 2009, The Commission on the Measurement of Economic Performance and Social Progress (CMEPSP), comprised of 25 social scientists, including six Nobel laureates, recommended “shift[ing] emphasis from measuring economic production to measuring people’s well-being. And [that] measures of well-being should be put in a context of sustainability (Stiglitz et al., 2009, p. 12).” Also, at the 2011 UN General Assembly member states were invited “to pursue the elaboration of additional measures that better capture the importance of the pursuit of happiness and well-being in development with a view to guiding their public policies (United Nations, 2011).”

Societal progress is marked *primarily* by improvement in the distribution of well-being. Concerning the distribution, Jeremy Bentham famously argued that we should target the greatest good for the greatest number, while others argue that we should focus on those who are suffering (Rawls, 1971). The preferred target is largely an ethical question that should be determined by the people; however, we can say greater average well-being, without making someone worse off, represents an improvement. For brevity, I discuss progress primarily as increasing average well-being and abstract from distributional effects. Additional indicators are also necessary, however, to make policy decisions and to address limitations in measures of *current* well-being as suggested by the CMEPSP recommendation above (context of sustainability) and discussed below. This view of societal progress was informed by the work of Christopher Barrington-Leigh (e.g., Barrington-Leigh, 2021) among others.

To assess well-being, the CMEPSP recommended using both objective and subjective measures (Stiglitz et al., 2009). Objective measures do not depend on individuals’ assessments and are independently verifiable by third parties, while subjective measures are inherently different; they are internally determined based on one’s circumstances and standards (Diener et al., 1985). There are also different types of subjective well-being. Unless otherwise specified, I refer to *evaluative* subjective well-being, which is measured by asking people to evaluate their circumstances, for example, life satisfaction is based on questions like the following, “All things considered, how satisfied are you with your life as a whole these days?” In this way, respondents

are able to evaluate what is relevant in their life and implicitly assign importance to each aspect. The primary alternative forms of subjective well-being focus on experiential or momentary affective states (i.e., emotions). For additional details on the types of subjective well-being, see (Diener, 2006; OECD, 2013; Stone and Mackie, 2013).

### **Recent history of well-being measurement**

Policy makers and media outlets implicitly measure progress using average economic output per person, referred to as Gross Domestic Product per capita (GDP). Yet, Noble Laureate Simon Kuznets, pioneer of GDP measurement, repeatedly stressed that GDP does not measure national well-being (73D Congress 2d Session, 1934; Easterlin, 2021, chap. 9; O'Donnell and Oswald, 2015), and today, there is a growing movement to go "Beyond GDP" as a goal of policy making and measure of progress, as exemplified by the CMEPSP's recommendation above.

The Beyond GDP movement grew out of the science of happiness, and social indicators and sustainability movements. The economics of happiness got started in the early 1970s when Richard Easterlin challenged the traditional view of economists that growth in GDP leads to better lives. His findings indicated that happiness did not necessarily increase when GDP grew (Easterlin, 1974, 1973). In short, this is because happiness reflects much more than absolute levels of income. For an update and more complete explanation, see Easterlin and O'Connor (2020).

The 1960s and 70s also saw the rise in the social indicators movement, as best illustrated by the journal, *Social Indicators Research* (Land et al., 2012; Sirgy et al., 2006). Social indicators measure aspects of progress by building sets of relevant data (e.g., pertaining to health, education, and income), summarizing these sets into single indices, or adjusting current measures. The database "Measuring progress and well-being" (MPWB), prepared by Christopher Barrington-Leigh and colleagues, presents information on 166 projects or indicator systems. The self-stated purpose of these indicators has been in reference to keywords such as "quality of life", "well-being", "progress", "sustainability", and "happiness" (Barrington-Leigh, 2022). Prior to the SDGs, the UN developed what is perhaps the best-known social indicator, known as the Human Development Index. Other prominent indicators include: the Better Life Index, Genuine Progress Indicator, and Happy Planet Index. Also, official statistics and national accounting standards are periodically updated to improve indicators for decision making, e.g., to include environmental activity (Allin, 2022; European Commission. Eurostat. et al., 2014).

### **What makes people better off in theory?**

Orthodox economic theory assumes *goal fulfillment* makes people better off – stated in other words, individuals are rational decision makers who undertake intentional behavior to maximize their utility (i.e., their satisfaction). For instance, freedom is seen as both the "primary end and as the principal means of development (pg. XII)," because freedom is necessary for individuals to exercise their "reasoned agency" (Sen, 1999). In psychology, the related goal-setting theory suggests that obtaining a goal is paramount, irrespective of what the goal is (Locke and Latham,

1990). Essentially, people enjoy more the activities that they deem to be important and or consistent with their values (Oishi et al., 1999).

According to *self-determination theory*, not all goals are created equal however. “Intentional behaviors differ in the degree to which they are autonomous (i.e., self-determined) versus controlled (i.e., compelled). (Ryan et al., 1996, p. 9)” Self-determined goals are more intrinsic in nature and conducive to individuals’ basic needs for psychological well-being, which, according to self-determination theory are autonomy, competence, and relatedness.

Individual goal fulfillment, leading to increased *individual* well-being, may not lead to societal progress however. Setting aside people with bad intentions, individual success is still frequently described in comparison or relative to others – in colloquial terms, as “keeping up with the Jones”. When individual success is relative, one person gains while another loses and there is no societal progress. Societal progress is inherently an aggregate phenomenon. For a general discussion of others’ consumption affecting one’s subjective well-being, see Barrington-Leigh (2014) and for an example related to income, see Luttmer (2005).

For additional discussion of subjective well-being theory, philosophy, and history see (Fabian, 2022a; McMahon, 2006).

### **Subjective well-being measures**

Support for the use of subjective measures of well-being is substantive and growing. The greatest skepticism came from economists, but this is diminishing. As mentioned above, the CMEPSP, which included six Nobel Laureates in economics, recommended collecting “[m]easures of both objective and subjective well-being [in order to] provide key information about people’s quality of life... (Stiglitz et al., 2009, p. 16)”

Another two prominent economists advocate focusing on subjective well-being, especially life satisfaction, as the *single measure* of well-being (Easterlin, 2019; Layard, 2020). Richard Layard makes the argument that everything else, even freedom, income, and health, are in service of another goal, that is, to make people happy (or satisfied with life, to be more precise) (Layard, 2020). In contrast, individuals pursue happiness to be happy not to serve any other outcome. Indeed, life satisfaction is all encompassing, capturing the life domains, including but not limited to: family, finances, work, health, housing, and leisure (Easterlin and Sawangfa 2007; Van Praag and Ferrer-i-Carbonell 2004).

Individuals may prioritize whatever they choose when assessing their life; in other words, subjective well-being measures are non-paternalistic. As an example, many conditions for women have improved since the 1970s in the United States, including a reduction in the wage gap (albeit not complete), yet women there do not report feeling better today than they did then (O’Connor, 2017). In fact, they have reported a decline in happiness, both in absolute terms and relative to men. This finding illustrates that the factors that experts (paternalistically) choose to measure or emphasize may miss important aspects of people’s well-being. For women, entering

the workforce granted freedoms but also affected intra-household dynamics and came with greater responsibility and expectations. Each of these aspects should be accounted for. If instead, experts do not account for expectations, they are likely to incorrectly estimate that well-being increased for women over this period.

Subjective well-being consistently measures individuals' sense of well-being, that is, it is considered to be a reliable and valid measure. This claim has been assessed and supported by many forms of evidence including for instance, biometric data coming from functional magnetic resonance imaging (fMRIs) (OECD, 2013). Today, the majority of Organization for Economic Cooperation and Development (OECD) countries are collecting subjective well-being in a harmonized way (OECD, 2020, p. 147). This is further indicative of the growing emphasis placed on subjective well-being, given the belief that "what we measure affects what we do (Stiglitz et al., 2018, p. 13)".

Among subjective well-being measures, life satisfaction in particular is gaining prominence. As an example, Nobel Laureate Daniel Kahneman initially preferred experiential subjective well-being, in contrast to evaluative ones such as life satisfaction (Kahneman et al., 2004; Kahneman and Krueger, 2006). However, he has since changed his view, stating in a 2018 interview, that "People don't want to be happy the way I've defined the term [...] it's much more important for them to be satisfied, to experience life satisfaction [...]" (Mandel, 2018). This is important because expert agreement or disagreement affects government decision making.

Not everyone agrees that life satisfaction is sufficient however. Christopher Barrington-Leigh argues it can serve as a headline measure of progress and provide an organizing concept for governments, but further argues that life satisfaction needs to be supplemented with an additional set of indicators (Barrington-Leigh, 2021).

### **Social indicators of well-being using objective measures**

The most prominent concept of well-being in economics that uses objective measures is the capability approach, developed by Noble Laureate Amartya Sen and Martha Nussbaum. The capability approach distinguishes well-being inputs from outcomes, that is, capabilities from functionings. Sen (1985) argues that targeting outcomes, including well-being, has two important limitations. First, individuals place different value (or weight) on different outcomes. For instance, one individual may prioritize their career and income, while another prioritizes family life, and yet another prioritizes leisure. Is it ethical to equalize income in this scenario? Subjective well-being overcomes this limitation, as individuals can assign different weights to the aspects of their lives, but still falls prey to Sen's second concern. His second concern is that evaluations may not adequately capture physical conditions. Here he asks us to consider a destitute beggar, landless laborer, overworked servant, and subjugated housewife (Sen, 1985). If they have come to terms with their circumstances, they may not experience low subjective well-being. On the other hand, high achieving individuals may report low well-being due to high expectations. In this vein, Graham & Pettinato (2002) distinguish "happy peasants" and "frustrated achievers". In contrast, promoting and equalizing capabilities does not face these issues; promoting capabilities

promotes freedom, allows individuals to better pursue their own goals, and is considered ethical generally.

In practice, operationalizing the capability approach is difficult and requires subjective assessments, first in agreeing on which capabilities to target and measure. Sen does not compile a list, while Nussbaum (1999) lists ten. The Human Development Index, mentioned above, was inspired by the capability approach and covers only three dimensions: income, health, and education (United Nations Development Programme, 1990).

Social indicators of well-being simply have not received the amount of attention in policy making that the advocates of the Beyond GDP movement would have liked (Layard, 2020). Today, there is little awareness of well-being metrics and the limitations of GDP among policymakers and journalists, at least in Scotland and Italy (Battaglia, 2022). More generally, the sheer number of alternatives makes it difficult to choose one metric over another. Another challenge is that the indicators are often analytically and data intensive to prepare. In part for this reason, not all indicators are updated and continued (Barrington-Leigh, 2022).

The most difficult challenge of social indicators is in interpretation. When comprised of multiple indicators (typically referred to as dashboards), users can cherry-pick the indicators that support their story (as is often the case for the SDGs). Indicators may also move in opposite directions, for instance, environmental conditions and household consumption. Even within the economic domain, interpreting multiple indicators is challenging. Is the economy improving when inflation is increasing yet unemployment is decreasing? The answer is unknown without assigning relative weights. Indeed, to create an *index* one must assign weights to combine subcomponents to obtain one summary value. Okun's Misery Index serves as an example in which equal weights are now known to be inappropriate. Calculated as the sum of the inflation and unemployment rates, it assumes people care equally about each component; however, the evidence using subjective well-being indicates that people care about unemployment nearly twice as much as they care about inflation (di Tella et al., 2001). The OECD's Better Life Index overcomes this issue by applying weights that are subjectively determined; however, the weights vary across countries and years and the OECD does not recommend using it to make comparisons over time (Balestra et al., 2018). Hence, it cannot be used to measure progress.

For more social indicators, see the Measuring progress and well-being database discussed above (Barrington-Leigh, 2022).

### **Limitations of well-being measures**

The CMEPSP recommended using both objective and subjective measures because each set has their pros and cons. Subjective well-being overcomes many of the limitations of social indicators that require a selection and combination of underlying measures (both objective and subjective). When assessing their lives, people implicitly assign their own weights and indicate what is important. Conceptually, this is also limiting however. Different people care about and respond to different things differently. In practice, this may not be much of an issue however. Individual

differences become less important when looking at groups of people as idiosyncrasies tend to cancel each other out with more people. Indeed, individuals care about the same things on average. In an open-ended question about the most important concerns for well-being, individuals across 12 countries consistently referred to living condition, family, health, character (i.e. meaning), and work (Cantril, 1965). Progress is also about change, not about differences across people, which means we can abstract from individual differences (e.g., personality) when observing change.

Assessing changes over time is not flawless either. Indeed, that is why the OECD states their Better Life Index cannot be used for this purpose. People's priorities (weights) change over time. Although that is not a problem for subjective measures, shifting valuations, or perceptions of experience does limit their comparability over time (Fabian, 2022b; van Praag and Ferrer-I-Carbonell, 2010). To the extent that individuals adjust their valuations or habituate to improvements in living conditions, these improvements no longer raise subjective well-being. We may have experienced progress but then adjusted to it.

Some issues are not well captured by subjective well-being, in particular social justice and environmental issues. People care for the future (Bartolini and Sarracino, 2018), but likely not enough. In the Cantril (1965) study, less than ten percent of the populations listed social equity, domestic or international issues as important concerns for their well-being. Consider also the need to protect minority groups, tax gasoline, and facilitate public pension systems. These policies would be less important if individuals were (1) fully informed rational decision makers that (2) care about their future and the lives of others and (3) undertake intentional behavior to maximize their subjective well-being. In reality, people often mis-predict the subjective well-being benefits of certain activities (Odermatt and Stutzer, 2019; Schwandt, 2016).

Subjective well-being faces four other issues that are more or less addressed. First, it is typically measured on scale from 0 to 10, meaning it cannot increase forever, unlike GDP for instance. In practice this is not an issue, as there is scope and precedent for positive change over a significant period of time. In the latest *World Happiness Report* more than 40 countries report being closer to their perceived worst possible lives than their best (Helliwell et al., 2022) and in the U.S., African Americans saw an increase in happiness over a period of more than three decades (O'Connor, 2017). Second, different individuals may conceive of and report their well-being differently. There is presently an ongoing debate regarding this issue with the most recent two contributions suggesting at least partial solutions (Bond and Lang, 2019; Chen et al., 2019; Kaiser and Vendrik, 2019; Schröder and Yitzhaki, 2017). Third, individuals may choose to strategically respond to questionnaires to influence reported subjective well-being and thereby political outcomes (Frey and Stutzer, 2010). We do not have evidence of this however, and it could be mitigated by targeting the inputs to subjective well-being rather than the outcome directly. Last, people in different countries may pursue different concepts of well-being, and to different degrees, corresponding with their cultural values, e.g., interdependent well-being in collectivist versus individual well-being in individualistic societies (Hitokoto and Uchida, 2015; Hornsey et al., 2018; Krysz et al., 2019). This issue is relatively new to the Western-oriented literature. As always, more research is necessary, yet the responses are promising.

## **What is needed to better measure progress**

First, the research community should determine how to best address limitations in subjective well-being measures (see for instance: Chen et al., 2022; Fabian, 2022b; Kaiser and Vendrik, 2019; Kryszewski et al., 2019; Montgomery, 2022). Then, multinational organizations such as the UN, OECD, and Eurostat should work together to harmonize its measurement around the world. This is nothing new, but needs to be furthered. Indeed, the OECD has issued guidance to this effect (OECD, 2013), and national accounting standards, for GDP and other statistics, are already updated in such a way (European Commission. Eurostat. et al., 2014).

Second, assuming not all limitations in subjective well-being can be addressed and supplemental measures are necessary, the set of measures should be determined, at least initially. Stiglitz et al. (2018) says the set should be “small enough to be easily comprehensible, but large enough to summarise what we care about the most. (pg. 13)” In consultation with the research community, the multinational organizations should (1) consult their respective stakeholders (especially the public) to determine which measures are important and not well captured by current subjective well-being (e.g., future ecological issues), (2) issue guidance to harmonize their measurement, and (3) test and retest them in different contexts, e.g., through reporting and rigorous policy evaluation. Different countries have different needs, but an initial baseline set of harmonized indicators will allow progress to be assessed across countries and over time, perhaps not perfectly, but better than what is available today. “[W]hat we measure affects what we do (Stiglitz et al., 2018, p. 13)”.

For alternative recommendations, see (Battaglia, 2022; Stiglitz et al., 2018, 2009).

## **Implementation of well-being frameworks**

There is a growing number of initiatives to implement well-being frameworks into government decision making. The Wellbeing Economy Alliance coordinates an expanding group of governments (WEGo) that are working to go beyond GDP in their activities. Some governments aim to align their activities according to a single well-being framework, which would subsume the many existing disparate frameworks, allowing for better coordination of synergies and tradeoffs (Brandt et al., 2022). The most famous is New Zealand’s Well-being Budget (Brandt et al., 2022). Many more countries are in the stages of agenda setting and policy formulation. Exton and Shinwell (2018) discuss in depth the common implementation practices and limitations across seven countries: Ecuador, France, Italy, New Zealand, Scotland, Sweden and the United Kingdom. Another recent publication discusses the implementation initiatives in these seven countries as well as Australia, Netherlands and the United Arab Emirates, and reports on the measurement efforts in a further eight countries (Stiglitz et al., 2018). See also: (Brandt et al., 2022; Frijters and Krekel, 2021; Graham and MacLennan, 2020; The Global Council for Happiness and Wellbeing, 2019). The United Kingdom is one of the more advanced; as an example, the U.K Treasury offers

official guidance (the Green Book) for their civil servants on how to include life satisfaction in cost benefit analysis to select between policy alternatives (MacLennan and Stead, 2021a, 2021b).

Data collection is an integral part of any implementation strategy. For example, the Italian Statistical office collects more than 130 indicators as part of their Equitable and Sustainable Well-being (BES) Framework and their Ministry of Economy and Finance provide projections using a subset of indicators to set policy targets (Bacchini et al., 2021). Each indicator and projection provides information pertaining to specific objectives regarding particular locations, demographic groups, and life dimension.

## Conclusion

Societal progress is marked by improvement in subjective well-being and a small set of additional indicators. The additional indicators allow us to monitor progress towards forward-looking societal goals that are difficult to capture using current reports of subjective well-being. This is different from solely reporting on the SDGs in the primacy that subjective well-being takes. Because subjective well-being summarizes well many of the other targets, and can be used to assign relative weights between conflicting goals, it should be the single most important, but not the only, indicator of progress. Society can then decide on whether they want to target average well-being or emphasize particular groups, e.g., those who are suffering.

Promoting well-being promotes progress, but could also beget future progress, as happier people are more trusting and have better health, social, and labor outcomes (de Neve et al., 2013; DiMaria et al., 2020; Guven, 2011; O'Connor, 2020; Tay et al., 2015). Promoting well-being could also lead to a more environmentally sustainable world (Sarracino and O'Connor, 2021).

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