WELL-BEING IN FOCUS OF A QUANTITATIVE ECONOMIST

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Abstract

Well-being may have a useful role in the measurement of consumer preferences and social welfare, if they can be done in a credible way. Economists have already made much use of well-being data Data on well-being have been used by economists to examine both macro- and micro-oriented questions.

What are economists to make of this enterprise? Can well-being be measured by a survey, even approximately?

In this paper, we discuss research on how individuals' responses to well-being questions vary with their circumstances and other factors. We will argue that it is fruitful to distinguish among different conceptions of utility rather than presume to measure a single, unifying concept that motivates all human choices and registers all relevant feelings and experiences. While various measures of well being are useful for some purposes, it is important to recognize that well-being measures features of individuals' perceptions of their experiences, not their utility as economists typically conceive of it.

Those perceptions are a more accurate gauge of actual feelings if they are reported closer to the time of, and in direct reference to, the actual experience. We conclude by proposing the U-index, a misery index of sorts, which measures the proportion of time that people spend in an unpleasant state, and has the virtue of not requiring a cardinal conception of individuals' feelings.

1. Introduction

It is difficult to define wellbeing and it is even harder measuring it In general, wellbeing measures can be classified into two broad categories: objective and subjective measures.

Objective measures wellbeing through certain observable facts such as economic, social and environmental statistics. People's wellbeing is assessed indirectly using cardinal measures.

On the other hand, subjective measures of wellbeing capture people's feelings or real experience in a direct way, assessing wellbeing through ordinal measures Happiness is what people are fighting for and the way to achieve it is wellbeing. In order to influence happiness, policy makers need measures wellbeing. So far, there is no consensus on the best measure.

GDP only measures the market value of all final goods and services produced within a country in a given period. It is the most widely followed metric for assessing an economy's performance. However, GDP includes many items that do not help well-being: depreciation, income going to foreigners, and regrettables like security expenditure. *Economic well-being* is a broader concept, but still restricted to material aspects. It is influenced by parts of GDP, by non-market activity, leisure and wealth. Unemployment and income inequality tend to reduce economic well-being.

The Centre for the Study of Living Standards sees the highest economic well-being in Norway, France and Belgium. *Individual living conditions* also include non-material aspects such as health, life expectancy, education and the state of the environment. The Weighted Index of Social Progress sees Sweden, Denmark and Norway on top, while the Happy Planet Index sees Colombia and Costa Rica among the leaders. *Happiness*, as the ultimate goal, requires the most encompassing measure. This happiness depends primarily on family, friends, work satisfaction and activities. Income does not play a major role. Unfortunately, society-wide happiness – as assessed via surveys – does not change much over time. More and more countries are publishing or developing national well-being accounts. This trend may soon also reach continental Europe. Understanding the different layers of well-being is crucial for understanding choices made by individuals and policymakers.

Many Empirical researches has clarified the reach and limitations of income-based measures as well as the flaws in foundational assumptions regarding human preferences and behaviors. Regardless of what motivates the interest of different kinds of actors, at national and international levels, in implementing a multidimensional measure of wellbeing, any actor will face a similar set of questions and problems:

– Choice of Unit of Analysis (person, household, community, institution)

– Choice of Order of analysis (first across people, or first across dimensions)

– Choice of Dimensions

– Choice of Variables/Indicator(s) for dimensions

– Choice of Cutoffs for each indicator/dimension *(if relevant)*

– Choice of Weights for indicators within dimensions *(if relevant)*

– If more than one indicator per dimension, aggregation within dimensions

– Choice of Weights across dimensions

– Identification method *(if relevant)*

– Aggregation method – across dimensions and possibly within

– Incorporation of inequality or of distributional weights *(if relevant)*

1. A traditional approach to a measure of wellbeing is typically based on poverty issue, which is focused on the net monetary income of a household unit, or on their consumption. For poverty, a traditional approach defines a person as poor if their income is below a poverty line. Some people define wellbeing with the same definition as it is used for poverty. According to them if people fall above poverty line they feel comfortable and well being; while if they fall under poverty line they feel uncomfortable.

2. Another approach on measuring wellbeing is the one considering it as "happiness" or "life satisfaction"

interchangeably as measures of subjective wellbeing (Easterlin 2004).

2.Wellbeing in scope of poverty

The poverty line may be subjective, objective, or hybrid. It is often established at a nationally determined level based on a food or consumption basket or as a percentage of the mean or median overall income distribution. Apart from income, other monetary measures of poverty include consumption-expenditure spending as well as savings. Similarly, traditional measures consider the quality of life of a person or nation in terms of their aggregate income or consumption.

Various attempts have been made in the past to quantify the multidimensional aspects of wellbeing of which the widest known instance are:

1. *Physical Quality of Life Index (PQLI):* The PQLI measured the quality of life in a country by combining the average of three statistics (basic literacy rate, infant mortality, and life expectancy at age one) that are all equally weighted on a 0 to 100 scale. The PQLI has also been critiqued for its limited dimensionality and it has been pointed out that since two of its three components relate to health, it overemphasizes the importance of health in human development (Booysen, 2002). A considerable impediment to the utility of this index is the limited availability of reliable data on a number of non-income achievements, particularly for comparative purposes at a global level.

2. *Human Development Index (HDI):* The HDI is used to rank countries. The index measures quality of life as a weighted combination of three domains (life expectancy (health), literacy & educational attainment (education), and GDP per capita (income)). This method gives equal weights to the attributes of the composite index under the assumption that they are equally important in capturing the defined aspects of the concept. The HDI has a narrow definition of the concept of human well-being. This is not due to a conceptual narrowness but rather to a lack of available data and to the HDI's initial construction as a crude comparator to GND/capita. HPI considers three dimensions: longevity, knowledge, and a decent standard of living. Using aggregate data, the indicator for standard of living is created by the summing the percentage of the population who are deprived of access to safe water, to health services, and the percentage of moderately and severely underweight children under five, and dividing by the number of indicators (three). The HPI is then constructed by the following formula:

$$\text{HPI} = \left[\tfrac{1}{3} \left(P_1^3 + P_2^3 + P_3^3 \right) \right]^{1/3}$$

Where P1 is the percentage of people not expected to survive to the age of 40, P2 is the percentage of adults who are illiterate, and P3 is the standard of living index

3. *Basic Needs Approach (BNA):* The BNA expanded the needs included in the measurement of poverty (e.g. consumption of food, shelter, clothing, and access to such essential public services as pure water, sanitation, public transport, health, and education). However the approach did not specify a priori how they were to be chosen or the way in which they were to be weighted. The Basic Needs Approach (BNA) was a response in the late 1970s to the idea that monetary growth – economic and income – alone would promote human well-being through a trickle down effect. BNA promoted the construction of selective policies to target basic needs of the whole population directly, rather focusing on an indirect approach to satisfying basic human needs. At the basic level, the BNA included the satisfaction of minimum levels of material needs such as consumption of food, shelter, clothing, and access to such essential public services as pure water, sanitation, public transport, health, and education.

4. *Integrated Rural Development (IRD):* This approach focused on small and medium level farmers, and aimed to bring them beyond subsistence farming by implementing a holistic set of interventions. It was primarily implemented in developing countries IRD was a holistic way to improve well-being in a community unit along social, economic and environmental dimensions. The approach drew on systems thinking, an emphasis on local participation and community ownership, and on observations that economic growth was not necessarily benefiting the rural poor directly. It recognized the complementarities of, and interconnections between, different development objectives.

5. *Integrated Development Programmes / Planning (IDP):* The IDP was primarily an rebased approach that was implemented to decentralize decision – making and spending at the local level to fight local level wellbeing. An IDP sets a framework for the long term development of the area by planning the allocation and investment of its resources (infrastructure and personnel) to different areas of development in accordance with the vision for that particular sphere e.g. land management.

However this section has at least indicated that many different approaches to development policy and measurement consciously have chosen to focus on multiple variables of interest. More sophisticated methods of measurement are, however, quite a recent phenomenon as we shall see, and depend both upon the increase in data and in the computational power available.

3. Wellbeing in scope of Happiness and Life satisfaction

Instead of trying to define happiness from an outside perspective, economists try to capture it through other means. Literature offers two extreme concepts of happiness (subjective and objective happiness) and ways to capture them and one in the middle—experience sampling measures.

Subjective happiness asks people how happy they feel themselves to be. They result from surveys where people are asked to self report about how happy they feel, all things considered. *Objective happiness* is a physiological

approach which aims to capture happiness through the measurement of brain waves. A third way to capture happiness (*experience sampling measures*) is through sampling people's moods and emotions several times a day for a prolonged time.

Table 1 presents a list of variables which are correlated with global reports of life satisfaction and happiness. The primary sources can be found by consulting Diener and Suh (1999), Layard (2005) and Frey and Stutzer (2002). Some visible signs of cheerfulness, such as smiling, are positively associated with self-reported happiness. Recent positive changes in circumstances, as well as demographic variables including education and income, are also positively correlated with happiness or satisfaction.

Literature review shows that years of schooling are positively associated with satisfaction, and that this result holds up after using features of compulsory schooling laws as an instrumental variable for schooling to address the possibility of reverse causation (that is, the possibility that greater life satisfaction may cause people to complete more schooling). Variables that are associated with low life satisfaction and happiness include: *recent* negative changes of circumstances; chronic pain; and unemployment, especially if only the individual was laid off. Gender is uncorrelated with life satisfaction and happiness. The effects of age are complex—the lowest life satisfaction is apparently experienced by those who have teenagers at home, and reported satisfaction improves thereafter.

We have developed a questionnaire and made a survey on 57 people. Among different individual questions on happiness and wellbeing they were asked: "Taking all things together, how satisfied are you with your life as a whole these days? Are you very satisfied, satisfied, not very satisfied, not at all satisfied?" We assigned a numeric value of 1 to 4 to their answers to compute the correlation. Than we in interviewed them again after 3 weeks and we found we correlation of 0.59 of life satisfaction across individuals. So, being affected by researcher initiated manipulations of context and mood, reported life satisfaction fluctuates in natural settings over short time periods.

Table 1

Correlates of High Life Satisfaction and Happiness

Smiling frequency
Smiling with the eyes ("unfakeable smile")
Ratings of one's happiness made by friends
Frequent verbal expressions of positive emotions
Sociability and extraversion
Sleep quality
Happiness of close relatives
Self-reported health
High income, and high income rank in a reference group
Active involvement in religion
Recent positive changes of circumstances (increased income, marriage)

Sources: Diener and Suh (1999), Layard (2005) and Frey and Stutzer (2002).

Respondents have little trouble answering these questions. According to computations, than 1 percent of respondents refused to provide an answer or answered "don't know"; by contrast, 17 percent of respondents refused to provide their earnings.

Considerations of the effects of context, mood and duration neglect indicate certain limits on the reliability of the standard life satisfaction and happiness questions, but they are not necessarily grounds for dismissing the method altogether.

Moreover, research finds that retrospective evaluations are relevant for some subsequent choices, so measures of satisfaction may be relevant for future decisions despite their shortcomings as a measure of real-time experience.

In any event, measures of temperament and personality typically account for much more of the variance of reported life satisfaction than do life circumstances. For example, measures of psychological depression (such as acknowledging difficulty finding the enthusiasm to get things done) are highly correlated with life satisfaction. Apparently, a person's subjective evaluation of his or her own wellbeing is to a significant extent a personality trait. Identical twins separated immediately after birth, for example, show the same concordance on happiness as on other traits for which a genetic basis is well established, like height. Correlations of life satisfaction with physiological measures are intermediate in size.

Correlations of life satisfaction measures with variables like active involvement in religion tend to be positive but lower. Since the components of affect and life assessment are potentially distinct, it is necessary to establish, for each correlate of life satisfaction, whether the correlation is higher for one of the constituents of the composite measure than for the other.

The same question can be raised both with respect to possible causes and to possible consequences of wellbeing. To answer such questions, of course, it is necessary to have a separate measure of people's affect over time.

Table 2 presents an analysis of evaluated time use for various activities for our sample.

- The first column reports the proportion of the sample engaged in each activity. Percentage of sample is the percentage of individuals who engaged in the activity, and time spent is not conditional on engaging in the activity. If an episode involved more than one activity, it enters more than once, so total hours in a day are not constrained to sum to 24.

- The second column presents the unconditional average amount of time devoted to the activity.

- The third column contains *net affect*, defined as the average of the three positive categories (happy, warm, enjoying myself) less the average of the six negative ones (frustrated, depressed, hassled, angry, worried, criticized), all on a 0 to 6 scale, where 0 means not at all and 6 means very much. Net effect is a common measure of mood in the psychology literature. Here we average over each individual's duration-weighted net affect for episodes involving the specified activity. Net effect is the average of three positive adjectives (happy, warm/friendly, enjoying myself) less the average of six negative adjectives (frustrated/annoyed, depressed/blue, hassled/pushed around, angry/hostile, worried/anxious, criticized/put down).

- The final column reports the U-index, which for each activity we define as the proportion of time (aggregated over respondents) in which the highest rated feeling was a negative feeling. The U-index and net affect lead to a similar but not identical ranking of activities. For now, we focus on the more conventional net affect measure. The U-Index is the proportion of each person's time engaged in an activity in which the dominant emotion was negative, averaged over individuals.

What we can conclude from table 2 data is that net effect is highest, on average, when individuals are engaged in leisure activities (such as socializing after work) and lowest when they are engaged in market work and investment or personal maintenance activities (such as housecleaning).

Table 2
Mean Net Affect by Activity

Activity	Percentage of sample	Time spent (hours)	Net Affect	U-Index
Intimate relatons	11	0.20	4.91	0.030
Socializing after work	44	1.1	4.27	0.061
Relaxing	72	2.28	3.84	0.057
Dinner	62	0.91	3.73	0.063
Lunch	56	0.48	3.81	0.052
Exercising	13	0.33	3.78	0.091
Praying/worship	20	0.36	3.62	0.107
Socializing at work	37	1.02	3.63	0.105
Watching TV	71	2.28	3.58	0.091
Phone at home	36	0.78	3.47	0.131
Napping	34	0.69	3.32	0.147
Cooking	57	1.11	3.25	0.167
Shoping	18	0.61	3.23	0.187
Computer	21	0.57	3.19	0.188
Household	40	1.23	2.84	0.180
Childcare	27	1.12	2.83	0.201
Evening commute	58	0.74	2.67	0.212
Working	87	0.38	2.58	0.223
Morning Commute	54	0.36	2.01	0.301

Respondents who answer abstract evaluative questions about activities are likely to be reminded that both work and childcare are desirable aspects of their life.

For each feeling we calculated the average variance of ratings within a subject's day (that is, across each subject's episodes), and the variance across people after aggregating over the entire day. Feelings of depression, being criticized and worried had relatively larger person components, while feelings of frustration and impatience were more features of situations.

Time use predicts net affect more than it predicts life satisfaction. These contrasts suggest that net affect provides a window on people's experience that is distinct from that captured by standard life satisfaction measures

4. U- Index

The thing is that individuals may interpret and use the response categories differently. If I feel satisfied and you very satisfied, does it mean that you feel more satisfied than me?

We propose an index, called the U-index (for "unpleasant" or "undesirable"), which overcomes this problem. The U-index measures the proportion of time an individual spends in an unpleasant state. This statistic is immediately understandable and has other desirable properties as well.

Most importantly, the U-index is an ordinal measure *at the level of feelings*.

There are many possible ways to classify an episode as unpleasant or pleasant. The classification of the episode as unpleasant if the most intense feeling reported for that episode is a negative one—that is, if the highest rating on any of the negative affect dimensions is strictly greater than the maximum of rating of the positive affect dimensions.[7] Notice that this definition relies purely on an ordinal ranking of the feelings within each episode. It does not matter if Tim uses the 2 to 4 portion of the 0 to 6 intensity scale and Jim uses the full range. As long as they both employ the same personal interpretation of scales to report the intensity of positive and negative emotions, the determination of which emotion was strongest is unaffected (ignoring ties).

Once we have categorized episodes as unpleasant or pleasant, we define the U-index as the fraction of time that is spent in an unpleasant state. The U-index can be computed for each individual (what proportion of the time is this person in an unpleasant emotional state?) and averaged over a sample of individuals. The same index can also be used to describe situations (what proportion of the time that people spend commuting is experienced as unpleasant?), as in Table 2.

As with net affect, we find that personality traits significantly affect the percentage of time individuals spend in an unpleasant state. Figure 1 shows that those who report less satisfaction with their lives as a whole also spend a greater fraction of their time in an unpleasant state. Overall, the top 10 percent of people account for 38 percent of all the time spent in an unpleasant state.

Figure 1

U-Index by Global Life Satisfaction

Taking all things together, how satisfied are you with your life as a whole these days? Would you say you are very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?
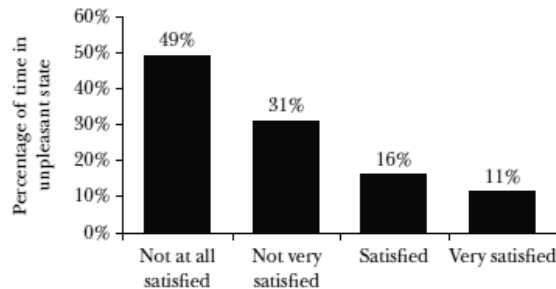
5. Conclusions

We tried to show to the audience that actually there is a great interest in multidimensional poverty measurement across different economic settings. The paper notes that current attempts at multidimensional poverty measurement differ from previous approaches by placing greater emphasis on the contextual meaning of poverty in different countries.

There are different methods, which try to focus on wellbeing based on its scope towards poverty; happiness (subjective one) ect.

Subjective measurement requires, could have a profound impact on economics. First, subjective measures of well being would enable welfare analysis in a more direct way that could be a useful complement to traditional welfare analysis. Second, a focus on subjective well-being could lead to a shift in emphasis from the importance of income in determining a person's well-being toward the importance of his or her rank in society. Third although life satisfaction is relatively stable and displays considerable adaptation, it can be affected by changes in the allocation of time and, at least in the short run, by changes in circumstances.

Based on our survey we find as well that respondents who answer abstract evaluative questions about activities are likely to be reminded that both work and childcare are desirable aspects of their life.

The U-index, or proportion of time people spend in an unpleasant emotional state, however, strikes us a promising measure of an important feature of society's well-being. The U-index is particularly well suited for cross-country comparisons, which may be distorted by cultural or language differences in answering standard satisfaction questions.

6. Literature

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