Applying Well-Being Metrics to Public Policy: Lessons from Experiments around the World

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Complementing GNP with Well-Being Metrics: Implications for Public Policy in the U.S. and Beyond

Carol Graham
The Brookings Institution

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A Celebration of a new science?

• Until five or so years ago, I was one of a very small number of seemingly crazy economists using happiness surveys, and surely the only one working on developing economies.

• Today - remarkable interest in the topic; momentum, reflects the work of many academics, and experiments like those of Bhutan (and now the UK) that have taken the science and the metrics seriously.

• Then there is the Jeff Sachs effect......getting Nobel Prize winners AND the UN to agree! (and the clear risks of the publicity/agenda capture)

• NAS panel on hedonic versus evaluative measures of well-being for policy. Three themes for today which speak to the question of well-being metrics and policy and are at root of the questions facing our panel:
  
  • a) Why the particular definition of well-being matters – agency issues
  • b) Adaptation
  • c) Changes versus levels in the process of growth and development
A new science: the metrics

• The “science” of measuring well-being has gone from a nascent collaboration between economists and psychologists to an entire new approach in the social sciences.

• Can answer questions as diverse as the effects of commuting on well-being, why cigarette taxes make smokers happier, why the unemployed are less unhappy when there are more unemployed people around them, and why people adapt to things like crime and corruption and bad governance.

• Method is particularly well-suited for questions that revealed preferences do not answer, such as situations where individuals do not have the agency to make choices and/or when consumption decisions are not the result of optimal choices. 

Examples: a) the welfare effects of macro- and institutional arrangements that individuals are powerless to change (macro-economic volatility, inequality) b) behaviors that are driven by norms, addiction or self-control problems such as: i) lack of choice by the poor due to strong norms or low expectations ii) obesity, smoking, and other public health challenges.
From Metrics to Policy?

- As discussions have moved from empirical studies that aim to deepen our understanding of human well-being to whether or not happiness is an appropriate policy objective, there are a number of unresolved questions.
- The most important, in my view are:
  - What definition of happiness is most relevant and appropriate for policy?
  - How does that definition vary across societies?
  - How do people’s capabilities or agency mediate the dimension of well-being that they think of when they answer surveys
Terminology

- The terms “happiness,” “well-being,” “subjective well-being,” and “life satisfaction” often used interchangeably in the economics literature; psychologists take much more care in distinguishing the nuances between them. The differences in the meaning could have vastly different policy implications.

- **Happiness**: Most open-ended and least well-defined of the terms, although attracts the most public attention. In the U.S. Declaration of Independence. Attempts to gauge how happy feel about their life in general. From an empirical research perspective, it does not impose a definition of happiness on respondents.

- **Life satisfaction** – correlates very closely with happiness questions, yet slightly more framed and correlates a bit more closely with income. When asked about satisfaction with their lives, people more likely to evaluate their life circumstances as a whole, in addition to happiness at the moment.
Terminology (2)

- **Ladder of life question** – an integral part of the Gallup World Poll – is often used interchangeably with happiness. Yet introduces a relative component. Asks respondents to compare their lives to the best possible life they can imagine. Responses to the ladder of life question correlate even more closely with income than life satisfaction questions; most respondents compare their lives to a national/international reference norm (Afghanistan example).

- **Subjective well-being**: encompasses all of the ways in which people report their well-being, from open-ended happiness to satisfaction with different domains, such as work, health, and education, among others. Psychologists conduct separate analysis in each of these domains, comparing the results of each of them with particular variables of interest.

- **Well-being**: the most encompassing of all of these terms and implies an evaluation of human welfare that extends beyond the components that income can accurately capture or measure.
Happiness and Income per Capita

Life Satisfaction and GDP per capita
Select countries, 1998-2008

Percent above neutral on life satisfaction (WVS)

GDP per capita, PPP constant 2005 international $ (WDI)

OECD countries in red; Non-OECD countries in blue.
R-squared = 0.498

Source: Chattopadhyay and Graham (2011) calculations using World Values Survey (for Life Satisfaction) and World Development Indicators, The World Bank (for GDP per capita).
Happiness in Latin America: Age-pattern conforms!
Happiness patterns across the world

- Happiness and age (figure)
- Income
- Health
- Employment
- Friendships
- Gender (less clear)
- Because of these consistent patterns, we can then explore the “happiness” effects of things that vary, such as commuting time, environmental quality, the inflation or unemployment rate, the nature of governance, obesity rates, crime and corruption rates, cigarette smoking, exercise, and more
- To some extent, the world is our oyster!
Why the Definition of Happiness Matters

• Relationship between the standard variables and open-ended happiness questions is remarkably consistent across respondents worldwide, including in countries of different development levels.

• Consistency allows us to test for the effects of other variables, such as living under different levels of inflation and/or kinds of governance and environmental regimes. Do not ask respondents if phenomena such as inflation, pollution, commuting time, and/or the nature of their government (for example) make them unhappy. Compare the variance in happiness scores that is explained by these additional variables, controlling for effects of standard socioeconomic/demographic variables.

• Works clearly and simply from a research perspective. Yet policy perspective more complicated. Policy driven by factors ranging from ethical norms to aggregate welfare objectives to cultural differences. Those, in turn, influence the definition of happiness across individuals and countries.
Bentham or Aristotle in the statistics offices?

- Broad agreement among scholars on two related but distinct concepts of well-being; each could have implications for policy which, in turn, could vary depending on the country context.
- Jeremy Bentham’s concept of welfare was maximizing the contentment and pleasure of the greatest number of individuals as they experienced their lives – that is, people feeling happy on a day-to-day basis – falls under the general rubric of hedonic or experienced well-being.
- Aristotle thought of happiness as eudaimonia, a Greek word that combined two concepts: “eu” meaning well-being or abundance, and “daimon” meaning the power controlling an individual’s destiny. Falls under the rubric of evaluative well-being and implicitly includes the opportunity to lead a purposeful or meaningful life.
- Hedonic well-being measures better for assessing QOL and life at the moment; evaluated well-being better for assessing people’s capacities to make choices and to seek fulfilling lives.
Agency and Well-being

- My research suggests that which dimension matters to a particular person is in part determined by his/her capacity to pursue a meaningful life.

- Lacking capacity – for instance, due to government restrictions or a lack of wealth or education – people may place more value on simple, day-to-day experiences, such as friendship and religion.

- Those with more capacity may have less time and interest in day-to-day experiences, particularly if they are very focused on some overarching objective or achievement.

- Income and experienced vs evaluative well-being in the US (Kahneman and Deaton); income as proxy for agency in life evaluation responses?

- LatAm: poor and friends/family; rich and work/health (Graham and Lora); work/health = agency, friends/family = safety nets
The Adaptation Conundrum

- Adaptations are psychological defense mechanisms;

- Those with limited means may emphasize the daily experience dimension of well-being over life evaluation; Afghanistan findings (smiling/happiness versus BPL)

- Is this adaptation – e.g., a way to preserve psychological well-being in the face of adverse conditions and low expectations?

- This may be good from an individual perspective but may also result in collective tolerance for bad equilibrium, such as high levels of crime and corruption or poor norms of health.

- My research shows that individuals are better able to adapt to unpleasant certainty – poverty, high levels of crime and corruption – than they are to uncertainty – pain and anxiety, rapid or volatile economic growth, and changes in crime/corruption rates.
Best Possible Life and the Dow Jones Industrial Average

Dow and Happiness (2008-2009)

<table>
<thead>
<tr>
<th>Date</th>
<th>Dow Jones Indus Avg (day end)</th>
<th>Best Possible Life (0-10 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Jan 08</td>
<td>14000</td>
<td>6.2</td>
</tr>
<tr>
<td>01 Jul 08</td>
<td>13000</td>
<td>6.4</td>
</tr>
<tr>
<td>01 Jan 09</td>
<td>12000</td>
<td>6.6</td>
</tr>
<tr>
<td>01 Jul 09</td>
<td>11000</td>
<td>6.8</td>
</tr>
<tr>
<td>01 Jan 10</td>
<td>10000</td>
<td>7.0</td>
</tr>
</tbody>
</table>
(Happy) Levels versus (Unhappy) Changes in the Development Process

- We know that people are, on average, happier in countries with higher levels of GDP per capita, BUT......

- a) happy peasants and frustrated achievers; unhappy migrants

- b) paradox of unhappy growth (may be because of effects of rapid growth, because of rising aspirations, or because of lower level effects in t-0 – e.g. the unhappy, fast-growing countries started off at lower levels of income and well-being to begin with)

- Some uncertainty is often necessary to achieve progress; so does frustration/unhappiness necessarily underlie the development process? Highlights why the nature of growth/policy matters, as well as why societies may resist policy reforms and change even when their situations seem abysmal by the standards of external observers; may help us understand why societies do and do not rebel at seemingly predictable moments.
The paradox of unhappy growth

<table>
<thead>
<tr>
<th>The relationship between income per capita, economic growth, and satisfaction</th>
<th>122 countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GDP per capita</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>0.788 ***</td>
</tr>
<tr>
<td>Standard of living</td>
<td>0.108 ***</td>
</tr>
<tr>
<td>Health satisfaction</td>
<td>0.017 *</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>0.077 ***</td>
</tr>
<tr>
<td>Housing satisfaction</td>
<td>0.084 ***</td>
</tr>
</tbody>
</table>


- OLS regression, dependent variable is average life satisfaction per country, growth rates are averaged over the past five years, N=122
- GDP per capita: the coefficients are the marginal effects, how much does the satisfaction of 2 countries differ if one has 2X the income of the other
- Economic Growth: How much does an additional % point of growth affect satisfaction
- The life satisfaction variable is on a 0 to 10 scale, all others are the percentage of respondents that are satisfied
- Graham and Chattopadhyay find similar effects for Latin America, based on individual data rather than country averages
Research on the causal channels of different dimensions of well-being

• Ongoing research:

• A) Different dimensions of well-being and major change (e.g. unhappiness and progress?)

  • i) unhappiness and intent to migrate;

  • ii) well-being trends pre- and post- the Arab Spring rebellions

• B) Different dimensions of well-being and longer-term outcomes/behaviors

  • i) job satisfaction/meaningful work/productivity;

  • ii) different dimensions of well-being and public health outcomes (obesity, discount rates)
Well-Being Metrics in the Policy Realm

• Much to resolve before agreeing on a single measure of well-being as a benchmark, for example, of development progress; a single measure may never be appropriate. Low risk first step: adding a few robust questions to national/international statistics.

• Five tried and true questions would fully capture both dimensions of well-being (and could be mapped to more detailed studies, for example, time-use and daily experience studies)

• These are:
  » Life satisfaction in general terms (happiness or life satisfaction)
  » Happiness in relative terms (best possible life question)
  » Life as experienced on a daily basis, via positive and negative affect questions, such as smiling yesterday, worrying yesterday, and time spent with friends
  » Happiness in the Aristotelian or life purpose sense
What This Might Achieve

- The information from the metrics might trigger some public debate about, for example, whether societies value:
  - Opportunity or outcomes more
  - Achievements or process (e.g., life evaluation versus day-to-day experiences), or both

- The US, for example, has traditionally emphasized the importance of opportunities over outcomes; its citizens would likely opt for a definition of happiness based on the opportunity to pursue life fulfillment. Other societies might value experienced living more.

- Promising the opportunity for life fulfillment requires providing citizens with the tools and agency to do so – in the end this is THE challenge of development policy.

- Worst kind of (and unhappiest) society promises life fulfillment but does not provide the opportunities to achieve it - Arab Spring? Unequally distributed opportunities - U.S.?
Concluding Thoughts/Questions

• Happiness is, in the end, a much more complicated concept than is income. We can compare income across people with clarity on what it seeks to measure. With happiness, in addition to definitional issues, many questions remain, such as:

• a) Cardinality versus ordinality – e.g. reducing misery or raising aggregate levels of well-being? Reducing poverty, for example, is only one objective of macro-economic policy, and requires targeted resources: similar choices for well-being policies?

• b) Inter-temporal issues: today’s well-being versus the future well-being of children? Policies may not be the same...

• Should policy be concerned with how people experience their daily lives? A) perhaps, particularly if daily experience undermines longer term objectives (obesity and discount rates, Krueger job search findings, Akerlof gang findings) B) daily experience, time use surveys particularly good for QOL issues, such as end of life decisions

• In my view, though, eudemonic well-being – e.g. people’s capacity to make choices and to lead fulfilling lives – is more directly relevant at least as a policy objective