Don’t worry, be happy: what economics can (and cannot) tell us about well being’

Moderator

Professor Gary Banks, AO
Dean and CEO
ANZSOG

Speaker

Professor Justin Wolfers
University of Michigan

Please switch off all devices for the duration of the seminar
Economics and Happiness

Justin Wolfers
University of Michigan and Sydney University (visiting)
Plus Brookings, CEPR, CESifo, IZA, NBER and PIIE)
Drawing on joint research with Betsey Stevenson

ANZSOG seminar series – Melbourne, February 18 2016.
Measuring Subjective Well-being

Survey questions

- **Satisfaction ladder:**
  - “Here is a ladder representing the ‘ladder of life’. Let's suppose the top of the ladder represents the best possible life for you, and the bottom, the worse possible life for you. On which step of the ladder do you feel you personally stand at the present time? [0-10 steps].”

- **Life satisfaction**
  - “All things considered, how satisfied are you with your life as a whole these days?”
    - [1=Dissatisfied – 10=Satisfied]

- **Happiness**
  - “Taken all together, how would you say things are these days—would you say that you are: very happy, pretty happy, or not too happy?”

- **Daily affect**
  - Did you experience the following feelings during a lot of the day yesterday? How about: a) Happiness; b) Enjoyment; c) Anger; d) Sadness; e) Stress; f) Worry

Survey responses are related to other measures

- **Physical evidence**
  - Smiling, laughing, heart rate measures, sociability, and electrical activity in the brain.

- **Subjective assessments**
  - Evaluations by friends, self-reported health, sleep quality, and personality.

- **Objective circumstances**
  - Life circumstances (unemployment, marriage, divorce)
**Research Question:** What is the relationship between happiness & income?

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**Implications**

Relative income determines well-being

**Policy conclusions**

De-emphasize growth
**Research Question:** What is the relationship between happiness & income?

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**Implications**
- Relative income determines well-being
- Relative income determines well-being... once “basic needs” are met

**Policy conclusions**
- De-emphasize growth
- Rich countries should de-emphasize growth and raise income tax

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*Stevenson and Wolfers, Subjective Well-Being*
Research Question: What is the relationship between happiness & income?

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Implications

- Relative income determines well-being
- Relative income determines well-being... once “basic needs” are met
- There’s no paradox (and never was)

Policy conclusions

- De-emphasize growth
- Rich countries should de-emphasize growth and raise income tax
Within-Country Comparisons

“Taken all together, how would you say things are these days?”

<table>
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<th>Family income</th>
<th>Very happy</th>
<th>Pretty happy</th>
<th>Not too happy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$12,500 (bottom 10%)</td>
<td>21%</td>
<td>53%</td>
<td>26%</td>
</tr>
<tr>
<td>$12,500-$49,999</td>
<td>25%</td>
<td>61%</td>
<td>13%</td>
</tr>
<tr>
<td>$50,000-$149,999</td>
<td>40%</td>
<td>54%</td>
<td>6%</td>
</tr>
<tr>
<td>≥$150,000 (top 10%)</td>
<td>53%</td>
<td>45%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: U.S. General Social Survey, 2006

“When we plot average happiness versus income for clusters of people in a given country at a given time, we see that rich people are in fact much happier than poor people. It’s actually an astonishingly large difference. There’s no one single change you can imagine that would make your life improve on the happiness scale as much as to move from the bottom 5 percent on the income scale to the top 5 percent.”

- Robert Frank (2005)
Figure shows the central 90% of the income distribution for each country.
Satisfaction and Log(Family Income)

Lowess fits for the 25 Largest Countries; Gallup World Poll

\[ \beta_{\text{within}} \approx 0.35 \]

Figure shows the central 90% of the income distribution for each country.

No evidence of satiation

<table>
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<tr>
<th>Annual Household Income</th>
<th>Panel A: Happiness</th>
<th>Panel B: Life Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Happy</td>
<td>Fairly Happy</td>
</tr>
<tr>
<td>&lt;$10k</td>
<td>35%</td>
<td>44%</td>
</tr>
<tr>
<td>$10k-$20k</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>$20k-$30k</td>
<td>43%</td>
<td>52%</td>
</tr>
<tr>
<td>$30k-$40k</td>
<td>55%</td>
<td>41%</td>
</tr>
<tr>
<td>$40k-$50k</td>
<td>46%</td>
<td>46%</td>
</tr>
<tr>
<td>$50k-$75k</td>
<td>55%</td>
<td>40%</td>
</tr>
<tr>
<td>$75k-$100k</td>
<td>60%</td>
<td>36%</td>
</tr>
<tr>
<td>$100k-$150k</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>$150k-$250k</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>$250k-$500k</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>&gt;$500k</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Whole Sample</td>
<td>53%</td>
<td>41%</td>
</tr>
</tbody>
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Outline: Assessing the Happiness-Income link

- Within-country comparisons
  - USA
  - All countries

- Between countries:
  - Through time
  - Multiple datasets
  - Both happiness and life satisfaction
  - No evidence of satiation

\[ \beta_{\text{within}} \approx 0.35 \]

- National Time Series and International Panels
  - Japan
  - USA
  - Europe

- Other measures of well-being
  - Pain, sadness, smiling, good tasting food to eat, respect

“the happiness differences between rich and poor countries that one might expect on the basis of the within country differences by economic status are not borne out by the international data.” – Easterlin, (1974)
Gallup World Poll

$\beta_{\text{between}} \approx 0.35$

$y = -2.955 + 0.342 \times \ln(x) \ [\text{se}=0.019]$

Correlation = 0.82
Early Cross-National Studies of Well-Being and GDP

Gallup, 1946 (Happiness)

\[ y = -9.96 + 1.14 \ln(x) \quad \text{[se=0.31]} \]
Correlation=0.93

Gallup, 1949 (Happiness)

\[ y = -9.46 + 1.08 \ln(x) \quad \text{[se=0.60]} \]
Correlation=0.63

Tension Study, 1948 (Satisfaction)

\[ y = -4.11 + 0.49 \ln(x) \quad \text{[se=0.23]} \]
Correlation=0.63

Patterns of Human Concerns, 1960 (Satisfaction ladder)

\[ y = -2.45 + 0.31 \ln(x) \quad \text{[se=0.17]} \]
Correlation=0.49

World Survey III, 1965 (happiness)

\[ y = -1.60 + 0.17 \ln(x) \quad \text{[se=0.15]} \]
Correlation=0.41

\[ \beta \text{between} \approx 0.35 \]
World Values Survey

1981-84 wave

\[ y = -4.07 + 0.46\times \ln(x) \ [se=0.22] \]

\[ \text{Correlation}=0.57 \]

1989-93 wave

\[ y = -4.69 + 0.51\times \ln(x) \ [se=0.08] \]

\[ \text{Correlation}=0.74 \]

1994-99 wave

\[ y = -4.00 + 0.43\times \ln(x) \ [se=0.05] \]

\[ \text{Correlation}=0.72 \]

1999-2004 wave

\[ y = -2.88 + 0.32\times \ln(x) \ [se=0.04] \]

\[ \text{Correlation}=0.72 \]
Pew Global Attitudes Survey, 2002

$\beta_{\text{between}} \approx 0.35$

$y = -1.73 + 0.20 \times \ln(x)$ [se=0.04]

Correlation=0.55
Gallup World Poll

\[ y = -2.955 + 0.342 \ln(x) \quad [\text{se}=0.019] \]

Correlation=0.82

\( \beta_{\text{between}} \approx 0.35 \)
Outline: Assessing the Happiness-Income link

- **Within-country comparisons**
  - USA
  - All countries
  
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- **Between countries:**
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- National Time Series and International Panels
  - Japan
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  “the happiness differences between rich and poor countries that one might expect on the basis of the within country differences by economic status are not borne out by the international data.” – Easterlin, (1974)


- **Other measures of well-being**
  - Pain, sadness, smiling, good tasting food to eat, respect
Time Series: No rise in happiness, despite growth

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<td>Eurobarometer</td>
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Source and notes: Veenhoven, 1983. An ordinary least squares regression is fitted to the data; the coefficient of mean satisfaction on year is not statistically significant.

Fig. 1. Percent very happy, United States, 1972–1991.

Source and notes: National Opinion Research Center, 1991. The question is, “Taken all together, how would you say things are these days — would you say that you are very happy, pretty happy or not too happy?” An ordinary least squares regression line is fitted to the data; the time trend is not statistically significant.

Fig. 2. Percent very satisfied with their lives in general, nine European countries, 1973–1989.

Source and notes: Inglehart et al. 1992. The question asked is, “Generally speaking, how satisfied are you with your life as a whole? Would you say that you are very satisfied, fairly satisfied, not very satisfied, or not at all satisfied?” Ordinary least squares regressions (not shown) yielded time trends that were not significant for five countries, significant and positive for two, and significant and negative for two.
Evolution of Subjective Well-Being and GDP in Japan

Pattern of responses from four different questions

- How do you feel about your circumstances at home:
  - Satisfied
  - Not satisfied, not dissatisfied
  - Somewhat dissatisfied
  - Extremely dissatisfied

- How do you feel about your life at home:
  - Completely satisfied
  - Satisfied
  - Somewhat dissatisfied
  - Completely dissatisfied

- How do you feel about your life now:
  - Completely satisfied
  - Satisfied
  - Somewhat dissatisfied
  - Completely dissatisfied

- Overall, to what degree are you satisfied with your life now:
  - Satisfied
  - Somewhat satisfied
  - Somewhat dissatisfied
  - Dissatisfied

Well-being: Ordered Probit Index

Change in Life Satisfaction and Economic Growth in Europe

Life Satisfaction, 0-10 Scale

Real GDP per capita (thousands of dollars, log scale)

\[ y = 2.53 + -0.25 \times \log(GDP) \text{ [se=0.14]} \]

Correlation = -0.31

Belgium

\[ y = -3.63 + 0.36 \times \log(GDP) \text{ [se=0.05]} \]

Correlation = 0.73

Denmark

\[ y = -2.05 + 0.21 \times \log(GDP) \text{ [se=0.10]} \]

Correlation = 0.22

Greece

\[ y = -3.91 + 0.39 \times \log(GDP) \text{ [se=0.10]} \]

Correlation = 0.63

France

\[ y = -0.90 + 0.09 \times \log(GDP) \text{ [se=0.05]} \]

Correlation = 0.30

Ireland

\[ y = -6.75 + 0.68 \times \log(GDP) \text{ [se=0.09]} \]

Correlation = 0.81

Italy

\[ y = -1.88 + 0.19 \times \log(GDP) \text{ [se=0.07]} \]

Correlation = 0.41

Netherlands

\[ y = -1.34 + 0.13 \times \log(GDP) \text{ [se=0.03]} \]

Correlation = 0.48

United Kingdom

\[ y = -1.08 + 0.11 \times \log(GDP) \text{ [se=0.08]} \]

Correlation = 0.19

West Germany

\[ y = -0.85 + 0.21 \times \log(GDP) \text{ [se=0.01]} \]

Correlation = 0.28

The time series \( \beta \approx 0.35 \)
Changes from 1982 to 1996 wave

Changes from 1990 to 2000 wave

Changes from 1996 to 2005 wave

Changes from 1982 to 2000 wave

Changes from 1990 to 2005 wave

Changes from 1982 to 2005 wave

Cumulative change in life satisfaction (z-scale)

Cumulative change in real GDP per capita (log points)

$\beta_{long diffs} \approx 0.35$
### Research Question: What is the relationship between happiness & income?

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USA: Is it surprising that happiness hasn’t grown?

Stevenson and Wolfers, Subjective Well-Being

Income and Happiness Trends in the U.S.
Income gains since 1973

Figure 1

Income Gains Widely Shared in Early Postwar Decades — But Not Since Then

Real family income between 1947 and 2012, as a percent of 1973 level

Source: CBPP calculations from U.S. Census Bureau data

Center on Budget and Policy Priorities | cbpp.org

Stevenson and Wolfers, *Subjective Well-Being*
Subjective Well-Being and the Business Cycle

Stevenson and Wolfers, Subjective Well-Being

CORRELATION = -0.45

Business Cycle and Happiness, U.S.

Correlation = -0.45

Unemployment rate - Natural Rate
Scale reversed

Standardized happiness index

Happiness

Unemployment, relative to NAIRU (right axis; inverse scale)

Correlation $= 0.49$

Proportion who experienced this feeling during a lot of the day yesterday

Real GDP per Capita at PPP ($000s, log scale)$
Correlation = 0.29
Proportion who experienced this feeling during a lot of the day yesterday.

Real GDP per Capita at PPP ($000s, log scale)

Correlation = 0.33
Did you have good tasting food to eat yesterday?

Correlation = 0.60
Did you smile or laugh a lot yesterday?

Proportion agreeing vs. Real GDP per Capita at PPP ($000s, log scale)

Correlation = 0.29
Would you like to have more days just like yesterday?

Correlation = 0.21
Were you treated with respect all day yesterday?

Correlation = 0.46
Correlation = 0.13
Proportion who experienced this feeling during a lot of the day yesterday.

Correlation = 0.11

Boredom

Real GDP per Capita at PPP ($000s, log scale)
Correlation = 0.15
Proportion who experienced this feeling during a lot of the day yesterday

Correlation = 0.09

Real GDP per Capita at PPP ($000s, log scale)
Were you proud of something you did yesterday?

Correlation = 0.00
Did you feel well rested yesterday?

Correlation = 0.14
Did you learn or do something interesting yesterday?

Correlation = 0.01
Correlation = 0.39

Source: Alan Krueger, Betsey Stevenson and Justin Wolfers, “A World of Pain”
Love and Economic Development

Proportion who experienced love yesterday vs. GDP per capita at PPP ($000s, log scale)
Don’t worry, be happy: what economics can (and cannot) tell us about well being’

Moderator

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Speaker

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Upcoming Applied Learning Seminars

Knowing what’s valuable: managing service delivery in a turbulent and complex world
Speaker: Professor Mark Moore
Melbourne 3 March

Enquiries
Applied Learning
T +61 3 8344 1900
appliedlearning@anzsog.edu.au

Details online at anzsog.edu.au
## Upcoming Executive Education Workshops

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<td>Melbourne</td>
<td>25-26 February</td>
</tr>
<tr>
<td>Course leader: Mark Moore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy and Program Skills</td>
<td>Canberra</td>
<td>5-7 April</td>
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<tr>
<td>Course leader: Michael Mintrom</td>
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<tr>
<td>Leading Ethical Organisations</td>
<td>Melbourne</td>
<td>23-24 May</td>
</tr>
<tr>
<td>Course leaders: Dr Michael Macaulay</td>
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Executive.education@anzsog.edu.au

Details online at anzsog.edu.au