The Great Happiness Moderation

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Is there any promise of happiness in the process of development?

- We’ve learned that “raising the income of all will not raise the happiness of all” (Easterlin)
- But what about the distribution of happiness?
- Will development harmonize the happiness of all?

- Happiness inequality matters to people and politicians
  - Risk averse agents
  - Political economy of social unrest
    - Tullock (1971), Gurr (1996)
What happens to happiness distribution during episodes of growth?

- We uncover a declining spread in happiness over time during periods of positive income growth
  - *In developed countries*
  - *Not based on a fall in income inequality (... on the contrary)*
  - *Not based on a fall in the happiness gaps between demographic groups*
- An “augmented Easterlin paradox” (mean-preserving declining spread in happiness)
- What theories are consistent with it?
Not a completely new stylized fact

• Special issue of the *Journal of Happiness Studies* (2005) dedicated to “the Inequality of Happiness in Nations” (edited by Ed Diener, Alex Michalos, Ruut Veenhoven and Robert Cummins)
  
  ✓ *Cross-countries comparisons of happiness spread*
    
    ▪ Ovaska and Takashima (2010)
    ▪ Ott (2010)

• Veenhoven (2005b) and Kalmjin and Veenhoven (2005)
  
  ✓ *EuroBarometer: 1973-2001*
    
    ▪ Fall in within-country happiness spread in EU countries
Not a completely new stylized fact

- Stevenson and Wolfers (2008b) and Dutta and Foster (2011)
    - Fall in happiness inequality by 21% from the 1970s to the 1990s, about one-third of which reversed in the subsequent decade.
    - Happiness gap between men and women has vanished
    - Two-thirds of the black-white happiness gap has disappeared
    - Education and age gaps have widened
    - “pervasive decline in within-group inequality experienced by even narrowly defined demographic groups”.

- Becchetti, Massari and Naticchioni (2011)
  ✓ Germany (both East and West)
    - Similar findings:
    - Fall in within-group variance
    - Null contribution of income inequality to happiness inequality
Data
(Respondents 18-65 years old)

  - Periods of positive income growth, at least 5 years apart $\rightarrow$ 60 countries
The American *General Social Survey* (1972-2009)

- The only long run survey containing a happiness or life satisfaction question in the United-States.
- But only 3 modalities: very happy, pretty happy, not too happy
- Obviously not fit to the analysis of the variance (although W&S, Dutta and Foster)
- We consider the results with greater caution.
Household Income

- Ideally, use the net disposable income after tax and transfers.
- GSOEP and HILDA: measure of the annual disposable net combined income after taxes and public transfers (Government pensions and benefits).
- BHPS: combination of labor income, non-labor income and pensions for all household members, in the previous year, before taxes.
- GSS: “total family income”, i.e. all types of income from all sources, for all members of the household, before taxes, in the previous year.
Standard deviation / mean happiness

- Self-declared happiness is a choice on a proposed scale
  - Equality ➔ all respondents choose the same rating

- Standard deviation of self-declared happiness / mean happiness for each country*year
  - No scale dependence
  - Cardinalization
  - Index of Ordinal Variance
  - Wolfers and Stevenson (2008), Dutta and Foster (2011) device sophisticated measures of happiness inequality
    - which lead to exactly same results as ours.
A doubling of GDP per capita is associated with a 10% reduction in happiness.
Happiness inequality and GDP per capita cross-countries
Rich and poor countries
WVS, last available year (2000s)

sd(satisfaction) over mean = -0.045 * ln(GDP) + 0.71 ; R² = 0.207 if GDP per capita < 8000 $

sd(satisfaction) over mean = -0.053 * ln(GDP) + 0.78 ; R² = 0.3885 if GDP per capita > 8000 $
Change in sd(happiness) and log GDP per capita between the two extreme dates available during periods of positive growth.

Delta Sd Satisfaction over mean=-0.043**(delta)ln(GDP)-0.020 R²=0.0407

Delta Sd Satisfaction over mean=-0.078*(delta)ln(GDP)+0.003 R²=0.1703
Trends in income growth, average happiness and happiness inequality
Great-Britain (BHPS)
Trends in income growth, average happiness and happiness inequality
West Germany (GSOEP)
Trends in income growth, average happiness and happiness inequality
Australia (HILDA)
Trends in income growth, average happiness and happiness inequality
USA (GSS)
Trends in income growth, average happiness and happiness inequality
Other OECD countries
(10 years, positive growth), flat happiness trend)

France

Italy
Trends in income growth, average happiness and happiness inequality

Other OECD countries

(10 years, positive growth), flat happiness trend)
Trends in income growth, average happiness and happiness inequality

Other OECD countries

(10 years, positive growth), flat happiness trend)
The mean-preserving concentration of happiness

BHPS

Not too satisfied: 0-3
Pretty satisfied: 4-6
Very satisfied: 7
The mean-preserving concentration of happiness
Germany

Not too satisfied: 0-2
Pretty satisfied: 3-8
Very satisfied: 9-10
The mean-preserving concentration of happiness
Australia

Not too satisfied: 0-2
Pretty satisfied: 3-8
Very satisfied: 9-10
The mean-preserving concentration of happiness
United States

Not too happy: 0
Pretty happy: 1
Very happy: 2
Starting in the 1980s, in Australia, Great-Britain, Germany, United-States, general rise in income inequality

- *Dustmann, Ludsteck and Schönberg (2008)*
- *Atkinson, Piketty and Saez (2011)*

General fall in the spread of happiness

→ although in Germany and the US, this trend breaks in the 1990s.
Income inequality and happiness inequality in G-B

**Sd(income) and sd(happiness)**

- **Income level by quintile**
- **Average happiness by quintile**
- **Sd(happiness) by quintile**
Income inequality and happiness inequality in Germany

Sd(income) and sd(happiness)

Income level by quintile

Between

Average happiness by quintile

Within

Sd(happiness) by quintile

Legend: black (quintile 1), navy (quintile 2), green (quintile 3), cranberry (quintile 4), teal (quintile 5)
Happiness inequality between and within income groups, Germany: 2 periods


GSOEP: 1992-2009

Average happiness by quintile

Sd(happiness) by quintile
Income inequality and happiness inequality in Australia

Sd(income) and sd(happiness)

Income level by quintile

Average happiness by quintile

Sd(happiness) by quintile

Legend: black (quintile 1), navy (quintile 2), green (quintile 3), cranberry (quintile 4), teal (quintile 5)
Income inequality and happiness inequality in the U.S.

Legend: black (quintile 1), navy (quintile 2), green (quintile 3), cranberry (quintile 4), teal (quintile 5)
Happiness inequality between and within income groups, USA: 2 periods

**Between**
- Average happiness by quintile
- Sd(happiness) by quintile

**Within**
- Average happiness by quintile
- Sd(happiness) by quintile
Is happiness equalization due to demographic change?

- Happiness gaps between groups increase for education (except in Australia) and decrease for gender and marital status.
  - before reverting in Germany and the US, after 1990.
- The evolution of the gaps between age groups and employment status groups is quite different across countries.
- Common trend: happiness inequality declines in all countries within age, education, gender, marital status and employment status categories,
  - most of this downward evolution in within-group happiness spread is reverted in the US and Germany after 1990.
RIF regressions of the variance in happiness
Recentered Influence Function regressions
(Firpo, Fortin and Lemieux, 2009)

• RIF regressions based on the WVS show that:
  
  GDP per capita and income inequality affect happiness inequality
  
  ✓ beyond the impact of demographic change
  
  ✓ beyond the change in within group variance (socio-demographic controls).
  
  ✓ both in cross-section estimates (controlling for year fixed-effects) and over time (controlling for country fixed-effects).
### Table 1.B  World Values Survey.

**RIF estimates of variance of life satisfaction over time**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>Ln GDP per capita</td>
<td>-0.849***</td>
<td>-0.892***</td>
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</tr>
<tr>
<td></td>
<td>(0.0756)</td>
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<td>(0.111)</td>
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<tr>
<td>Mean Log Deviation in Income</td>
<td></td>
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<tr>
<td></td>
<td>4.265***</td>
<td>2.685**</td>
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<td>(0.924)</td>
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<td></td>
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<td></td>
<td>(0.0160)</td>
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<tr>
<td>Observations</td>
<td>126035</td>
<td>122681</td>
<td>86534</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.073</td>
<td>0.073</td>
<td>0.064</td>
</tr>
</tbody>
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*Other controls: Country fixed effects, age categories, gender, number of children, education, employment status, marital status. Cluster(country). Weighted estimates.*
Interpretation

• Explain: (1) the rise in average income per capita over time, (2) the stability of average happiness over time, (3) the fall in happiness inequality over time.

• Not the evolution of income inequality

• Not a demographic change
1. Happiness as a log function of (absolute) income and nothing else? (W&S)

- Possible is income distribution concentrates around the mean or median
  - Not really what’s happening

- Test:
  - Estimate happiness function in first year:
    - Happiness = a₀ + a₁ age + a₂ age² + a₃ log income + a₄ gender + ε
  - Predict distribution of happiness in end year
Estimation in 1996 of: \[ \text{Happiness} = a_0 + a_1 \text{age} + a_2 \text{age}^2 + a_3 \log \text{income} + a_4 \text{women} + \varepsilon_i \]

Prediction of happiness in 2008 with the demographic composition of 2008 and the happiness function of 1996

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<thead>
<tr>
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<tbody>
<tr>
<td>Average</td>
<td>5.23</td>
<td>5.47</td>
<td>5.24</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.32</td>
<td>1.29</td>
<td>1.22</td>
</tr>
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</table>
Actual versus predicted distribution of happiness
GSOEP

Prediction of happiness in 2009 with the happiness function estimated in 1984.

<table>
<thead>
<tr>
<th></th>
<th>Life satisfaction 1984</th>
<th>Life satisfaction 2009 predicted</th>
<th>Life satisfaction 2009</th>
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</thead>
<tbody>
<tr>
<td>Average</td>
<td>7.58</td>
<td>7.50</td>
<td>6.68</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.97</td>
<td>2.00</td>
<td>1.83</td>
</tr>
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Actual versus predicted distribution of happiness

HILDA


<table>
<thead>
<tr>
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<th>Life satisfaction 2001</th>
<th>Life satisfaction 2009 predicted</th>
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<tr>
<td>Average</td>
<td>7.95</td>
<td>8.36</td>
<td>7.88</td>
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<tr>
<td>Standard deviation</td>
<td>1.66</td>
<td>1.69</td>
<td>1.42</td>
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Actual versus predicted distribution of happiness
United-States

<table>
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<tr>
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<th>Happiness 1972</th>
<th>Happiness 2010 predicted</th>
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<tr>
<td>Average</td>
<td>2.14</td>
<td>2.58</td>
<td>2.09</td>
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<tr>
<td>Standard deviation</td>
<td>0.66</td>
<td>0.60</td>
<td>0.63</td>
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2. Social comparisons

- *A priori*, in the presence of rising income inequality, income comparisons should lead to an increase in the standard deviation in happiness, not to a fall.
- Comparisons are mostly upward
- Top income are diverging
- Not easy to imagine how comparisons could lead to a reduction in the happiness spread, unless all quintiles become less happy except the upper quintile, which is not what is happening.
3. Adaptation

- Satisfaction depends on (attainment – aspirations)
- But aspirations change together with people’s situation and context
- Simple negative influence of lagged income?
  
  \[ \Rightarrow \text{No convergence of happiness} \]
- Bliss point, satiation point?
  
  ✓ **Complete adaptation beyond a certain threshold**
    - The positive gradient in happiness disappears after $10\,000 - $15\,000 (Layard, 2005; Frey and Stutzer, 2002), or $26\,000 - $33\,000 (Proto and Rustichini, 2012)
  
  \[ \Rightarrow \text{No stability or convergence of happiness} \]
- Maslow
Maslow’s hierarchy of needs

Model of development of human needs & motivations by stages

- **physiological needs**: breathing, food, water, shelter, clothing, sleep
- **safety and security**: health, employment, property, family and social stability
- **love and belonging**: friendship, family, intimacy, sense of connection
- **self-esteem**: confidence, achievement, respect of others, the need to be a unique individual
- **self-actualization**: morality, creativity, spontaneity, acceptance, experience purpose, meaning and inner potential
• Higher needs may be much more difficult to fulfill than basic needs.
• Survival versus life; Survival societies versus modern societies
• “Economic development increases people’s sense of existential security, leading them to shift their emphasis from survival values towards self-expression values and free choice…” (Inglehart 2010).
• Development → the share of the population that feels totally deprived (the bottom of the scale) and totally satisfied (the top of the scale) both shrink.
• Consistent with “augmented Easterlin paradox”, but less negative message concerning growth.
Rescaling

- Satisfaction treadmill rather than hedonic treadmill
  - relationship between latent happiness and self-declared happiness
    - “The ‘best possible life for you’ is a shifting standard that will move upwards with rising living standards” (Deaton, 2008)
  - Unequal growth: people “rescale” more at the top of the ladder than at the bottom, because their world of opportunities expands more than that of less fortunate people.
  - This would create a convergence movement whereby the self-declared happiness of the poor would rise whereas that of the rich would not
- Consistent with “augmented Easterlin paradox”, but less negative message concerning growth
4) Social harmonization, public goods and modern growth

- Externalities of economic growth and modernization
  - Welfare system
  - Improvement in education, health, life expectancy, child mortality
  - Infrastructure
  - Political rights, private liberties, gender equality, capabilities
- Extension of public goods ➞ fall in the spread of happiness
### Table 1B  World Values Survey.

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Conclusions

• Concentration of happiness:
  ✓ Enhanced by the extension of public goods, i.e. positive externalities of modern growth
  ✓ Positive message to developing countries: promise of greater social homogeneity
  ✓ More optimistic interpretation of the Easterlin paradox
WVS: Joint distribution of IOV and standard deviation of Life satisfaction

\[ y = 0.8862x + 1.9824 \]

\[ R^2 = 0.2124 \]