Indices of current and future happiness: Conceptual aspects and economic determinants in light of the Brazilian experience

(a view from a non-expert)

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Happiness economics: basic issues

Economics is about <u>choices, particularly to the extent it helps understand collective behavior</u>: "utility" is a very old concept, with a very restricted, though useful, role in economic models. Like a description of individual <u>grains of sand</u> necessary to understand dynamic of beaches and costs.

New ways to look into individual well being with new developments in experimental economics, game theory, decisions under uncertainty, interfaces with psychology, behavioral economics, as having to do with looking at individual grains of sand in higher complexity.

Sharply increased interest on "happiness literature": <u>Sarkozy Commission</u> was a milestone, yet, in itself, with somewhat disappointing results & recommendations. Yet, extremely successful in raising <u>awareness</u> on issues related to "happiness literature", such as (to cite from the Sarkozy Report":

    i. Material living standards (income, consumption and wealth);
    ii. Health;
    iii. Education;
    iv. Personal activities including work
    v. Political voice and governance;
    vi. Social connections and relationships;
    vii. Environment (present and future conditions);
    viii. Insecurity, of an economic as well as a physical nature.

**Composition the Sarkozy Commission
(Commission on the Measurement of Economic Performance and Social Progress)**

Joseph E. STIGLITZ, Chair, Columbia University
Amartya SEN, Chair Adviser, Harvard University
Jean-Paul FITOUSSI, Coordinator of the Commission, IEP

Other Members

Bina AGARWAL *University of Delhi*
Kenneth J. ARROW *StanfordUniversity*
Anthony B. ATKINSON *Warden of Nuffield College*
François BOURGUIGNON *School of Economics,*
Jean-Philippe COTIS *Insee,*
Angus S. DEATON *Princeton University*
Kemal DERVIS *UNPD*
Marc FLEURBAEY *Université Paris 5*
Nancy FOLBRE *University of Massachussets*
Jean GADREY *Université Lille*
Enrico GIOVANNINI *OECD*

Roger GUESNERIE *Collège de France*
James J. HECKMAN *Chicago University*
Geoffrey HEAL *Columbia University*
Claude HENRY *Sciences-Po/Columbia University*
Daniel KAHNEMAN *Princeton University*
Alan B. KRUEGER *Princeton University*
Andrew J. OSWALD *University of Warwick*
Robert D. PUTNAM *Harvard University*
Nick STERN *London School of Economics*
Cass SUNSTEIN *University of Chicago*
Philippe WEIL *Sciences Po*

12 Recommendations of Sarkozy Commission (1)

1: When evaluating material well-being, look at <u>income and consumption</u> rather than production

2: Emphasize the <u>household perspective</u>

3: Consider income and consumption jointly with <u>wealth</u>

4: Give more prominence to the <u>distribution</u> of income, consumption and wealth

5: Broaden income measures to <u>non-market activities</u>

6: Quality of life depends on people's objective conditions and capabilities. Steps should be taken to improve measures of people's <u>health</u>, <u>education</u>, <u>personal activities and environmental conditions</u>. In particular, substantial effort should be devoted to developing and implementing robust, reliable measures of <u>social connections</u>, political <u>voice</u>, and <u>insecurity</u> that can be shown to predict life satisfaction.

7: Quality-of-life indicators in all the dimensions covered should assess <u>inequalities</u> in a comprehensive way.

12 Recommendations of CMEPSP (Sarkozy) Commission (2)

8: <u>Surveys should be designed </u>to assess the links between various quality-of-life domains for each person, and this information should be used when designing policies in various fields

9: <u>Statistical offices</u> should provide the information needed to aggregate across quality-of-life dimensions, allowing the construction of different indexes.

10: Measures of both objective and subjective well-being provide key information about people's quality of life. <u>Statistical offices should incorporate questions to capture people's life evaluations</u>, hedonic experiences and priorities in their own survey.

11: <u>Sustainability assessment requires a well-identified dashboard of indicators</u>. The distinctive feature of the components of this dashboard should be that they are interpretable as variations of some underlying "stocks". A monetary index of sustainability has its place in such a dashboard but, under the current state of the art, it should remain essentially focused on economic aspects of sustainability.

12: The <u>environmental aspects of sustainability </u>deserve a separate follow up based on a well-chosen set of physical indicators. In particular there is a need for a clear indicator of our proximity to dangerous levels of environmental damage (such as associated with climate change or the depletion of fishing stocks.)

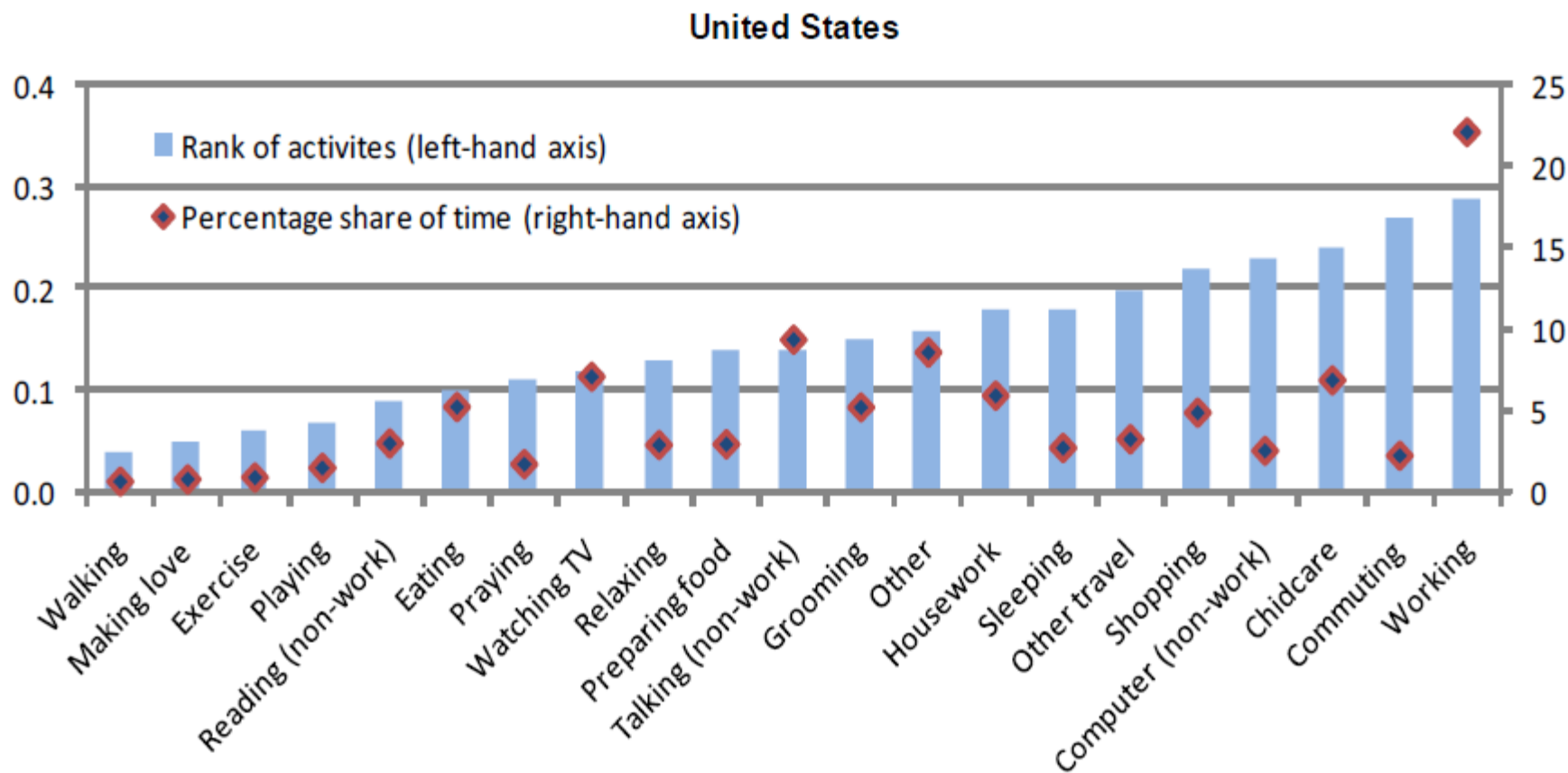# Measurement of happiness and quality of life: ask people !

1. <u>Direct way</u>:

   1) 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?*"

   2) Life satisfaction – "*On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?*"

   3) Psychological health and mental strain - for example from the British Household Panel Survey, *Such as the GHQ score, which amalgamates answers to questions about how well people have been sleeping, their level of confidence, feelings of depression, among others*
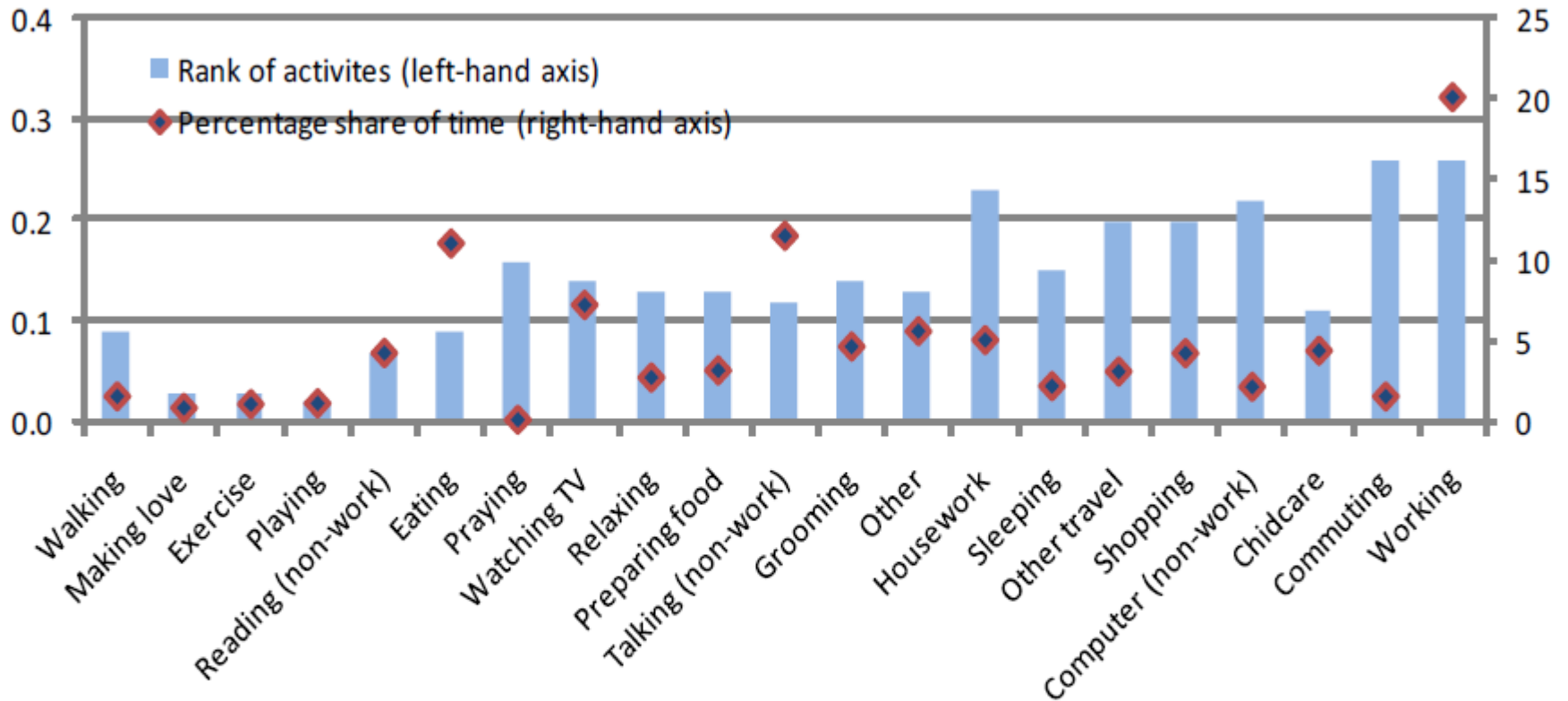
2. <u>Relative way</u>: "ladder of life": *"Considering the best life you can possibly live, how do you rank yours, from 0 to 10?"*

3. <u>DRM (Day Reconstruction Method), "U-index"</u>: time devoted to activity and intensity of episode

Figure 2.2. Ranking of personal activities based on women's hedonic experiences and time devoted to them in selected cities in the United States and France

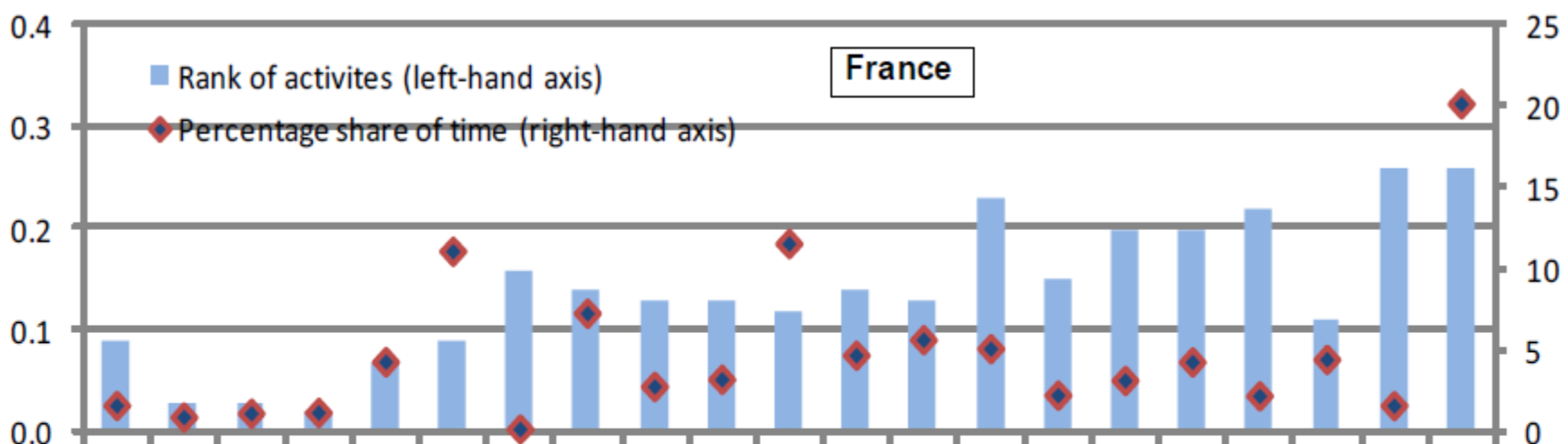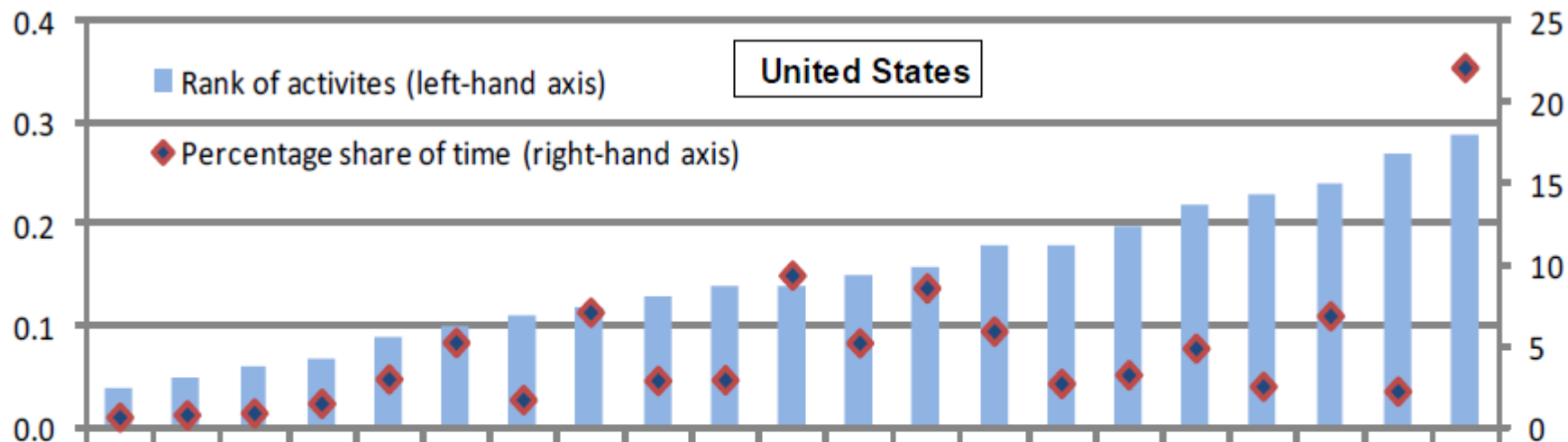Activities ranked in decreasing order of enjoyment in the United States

United States

France

Legend:
- Rank of activites (left-hand axis)
- Percentage share of time (right-hand axis)

Activities (x-axis): Walking, Making love, Exercise, Playing, Reading (non-work), Eating, Praying, Watching TV, Relaxing, Preparing food, Talking (non-work), Grooming, Other, Housework, Sleeping, Other travel, Shopping, Computer (non-work), Chidcare, Commuting, Working

Note: The ranking of activities is based on information on the proportion of 15-minute intervals in which the hedonic experience of "stress", "sadness" or "pain" exceeded that of "happiness". Data refer to a sample of women in Columbus (Ohio, United States) and Rennes (France), interviewed in 2006 with the *Princeton Affect and Time Survey.*

Source: Krueger, A.B., D. Kahneman, D. Schkade, N. Schwarz and A. Stone (2008), "National Time Accounting: The Currency of Life", NBER, forthcoming in A. B. Kruger (ed.), *Measuring the Subjective Well-being of Nations: National Accounts of Time Use and Well-Being,* University of Chicago Press, Chicago.

United States

■ Rank of activites (left-hand axis)

◆ Percentage share of time (right-hand axis)

France

■ Rank of activites (left-hand axis)

◆ Percentage share of time (right-hand axis)

Walking · Making love · Exercise · Playing · Reading (non-work) · Eating · Praying · Watching TV · Relaxing · Preparing food · Talking (non-work) · Grooming · Other · Housework · Sleeping · Other travel · Shopping · Computer (non-work) · Chidcare · Commuting · Working

Figure 2.8. Measures of the U-index in three cities
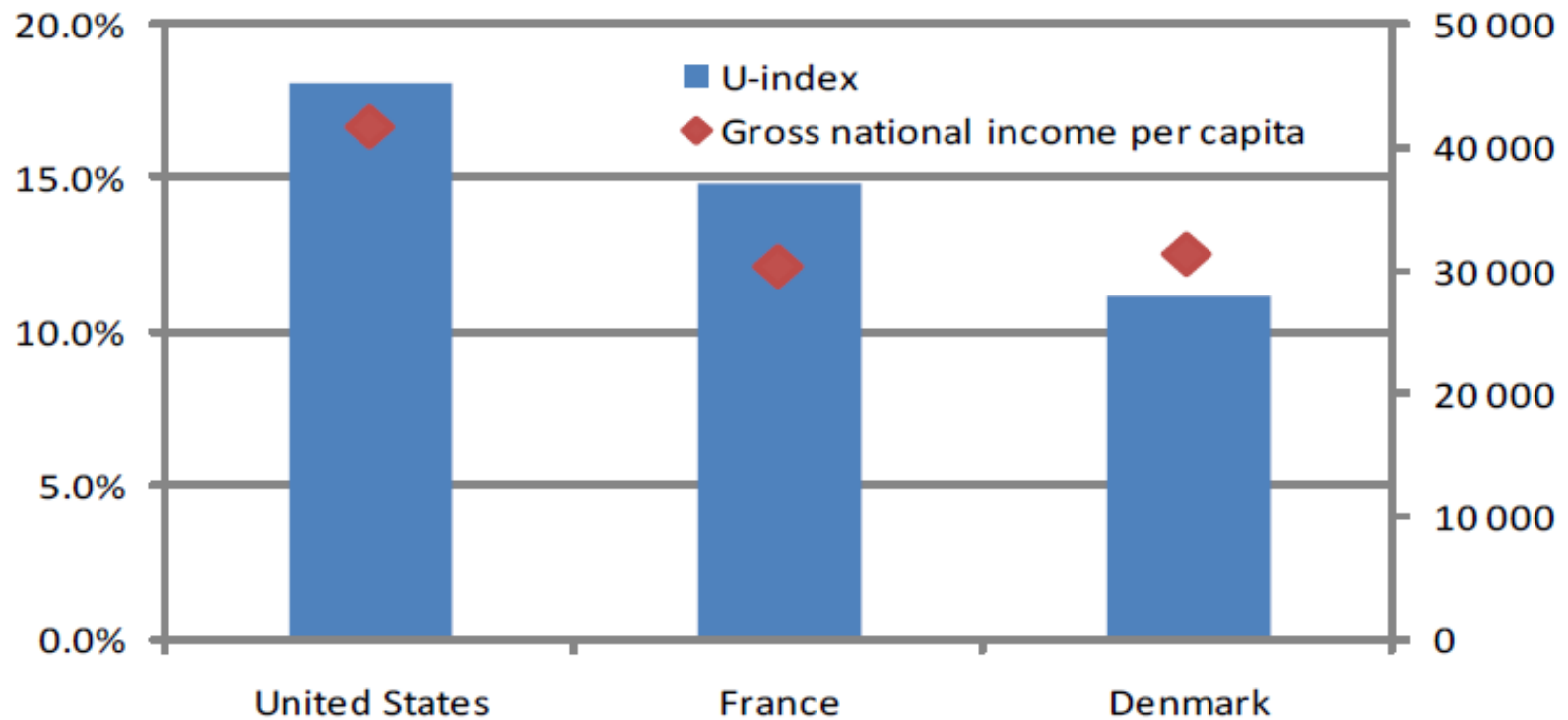
Note: Estimates for the U-index refer to women aged 18-68 who are not full-time students in the three cities of Columbus, Ohio (United States), Rennes (France) and Odense (Denmark), as provided by Alan Krueger. The U-index is the proportion of time that the maximum rating of being tense, depressed, or angry exceeds the rating of being happy. Measures of GDP per capita in 2008 are OECD estimates.

"Validation" of happiness indices (or defining what happiness ultimate means) in the presence of "right" correlations with

1. objective characteristics such as <u>unemployment</u>;

2. assessments of the person's happiness by <u>friends and family</u> members;

3. assessments of the person's happiness by his or her <u>spouse</u>;

4. <u>heart rate and blood-pressure</u> measures of response to stress;

5. the risk of coronary <u>heart disease</u>;

6. duration of authentic or so-called <u>Duchenne smiles</u> (a Duchenne smile occurs when both the zygomatic major and obicularus orus facial muscles fire, and human beings identify these as "genuine" smiles);

7. <u>skin-resistance measures</u> of response to stress;

8. electroencephelogram measures of <u>prefrontal brain activity</u>

"Validation" of indices in the presence of "right" correlations (2)
Usual findings: happier people are:

1. women,
2. people with lots of friends,
3. the young and the old (50 is the most unhappy age)
4. married and cohabiting people,
5. the highly educated,
6. the healthy,
7. those with high income,
8. the self-employed,
9. people with low blood pressure
10. those who have sex at least once a week with the same partner,
11. right-wing voters,
12. the religious,
13. members of non-church organizations,
14. volunteers,
15. those who take exercise, and
16. those who live in western countries
17. those less likely to commit suicide

"Validation" of indices in the presence of "right" correlations (3)
What is the object of these studies after all?
What are we working with? Are we rediscovering the obvious?

... Reliability studies have found that reported subjective well being is moderately <u>stable and sensitive to changing life circumstances</u> (Ehrhardt, Saris, and Veenhoven 2000; Heady and Wearing 1991). Consistency test reveal that happy people <u>smile more often</u> during social interactions (Fernández-Dols and Ruiz-Belda 1995), are rated as happy by friends and family members (Lepper 1998; Sandvik, Diener, and Seidlitz 1993) and by spouses (Costa and McCrae 1988), and are <u>less likely to commit suicide</u>.

From Bruno Frey <u>Happiness: a Revolution in Economics,</u>, CES, The MIT Press, 2008, p. 19.

"Validation" of happiness indices and Easterlin Paradox

By far most uncomfortable empirical finding related to happiness Indices is related to seminal work of Richard Eaterlin (1974), known as "The Easterlin Paradox":

It shows that the level of happiness in the USA and Japan in the post-war period remained flat, despite huge increases in per capita GDP and a variety of other indices related to material progress. How come? Is material progress irrelevant to happiness?

Similar findings some recorded in cross country comparisons where, however, the paradox is reportedly "weaker": "Unhappy Growth Paradox" (Graham & Lora)
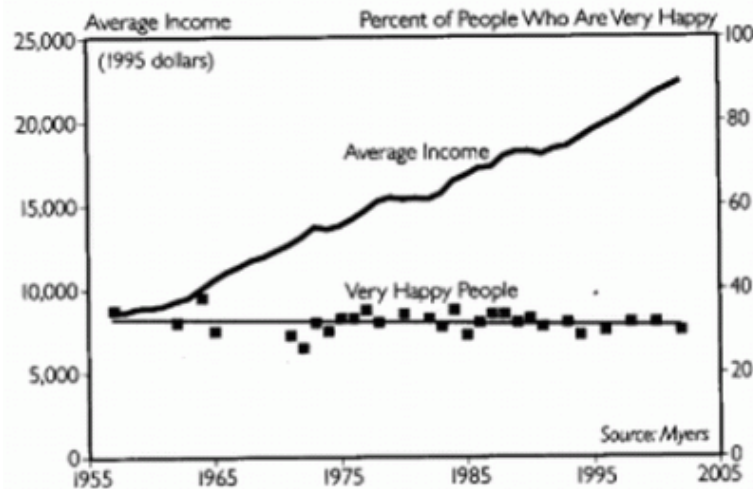

Figure 8–1. Average Income and Happiness in the United States, 1957–2002

The Easterlin Paradox: a "technical explanation"
(a serious measurement problem)

By *construction*, the happiness data can exhibit <u>no trend</u>. As individuals answer a survey in which they are asked to state their own level of happiness on an n-point scale, the data is therefore bounded between one and n.

In contrast, real GNP, for the past 200 years, has shown <u>a persistent trend increase</u>.

This means that we have to exercise <u>extreme caution </u>in drawing any inferences from the correlation, or rather the lack of it, between time series data on well being and real GNP.

From a statistical perspective, <u>*any* calculation of a correlation between a variable which exhibits a trend and one which does not is fraught with inherent problems</u>.

The Easterlin Paradox: a "technical problem"

Further, there is no correlation in time series data between reported happiness levels and a whole series of factors which might reasonably be thought to affect well-being: <u>income, public spending, longevity, gender equality, income inequality</u> – even the incidence of depression in a population. <u>Everything that had an "upward trend", or that has been improving thru time</u>.

**US Well-being and US income inequality (Gini) 1971-2004
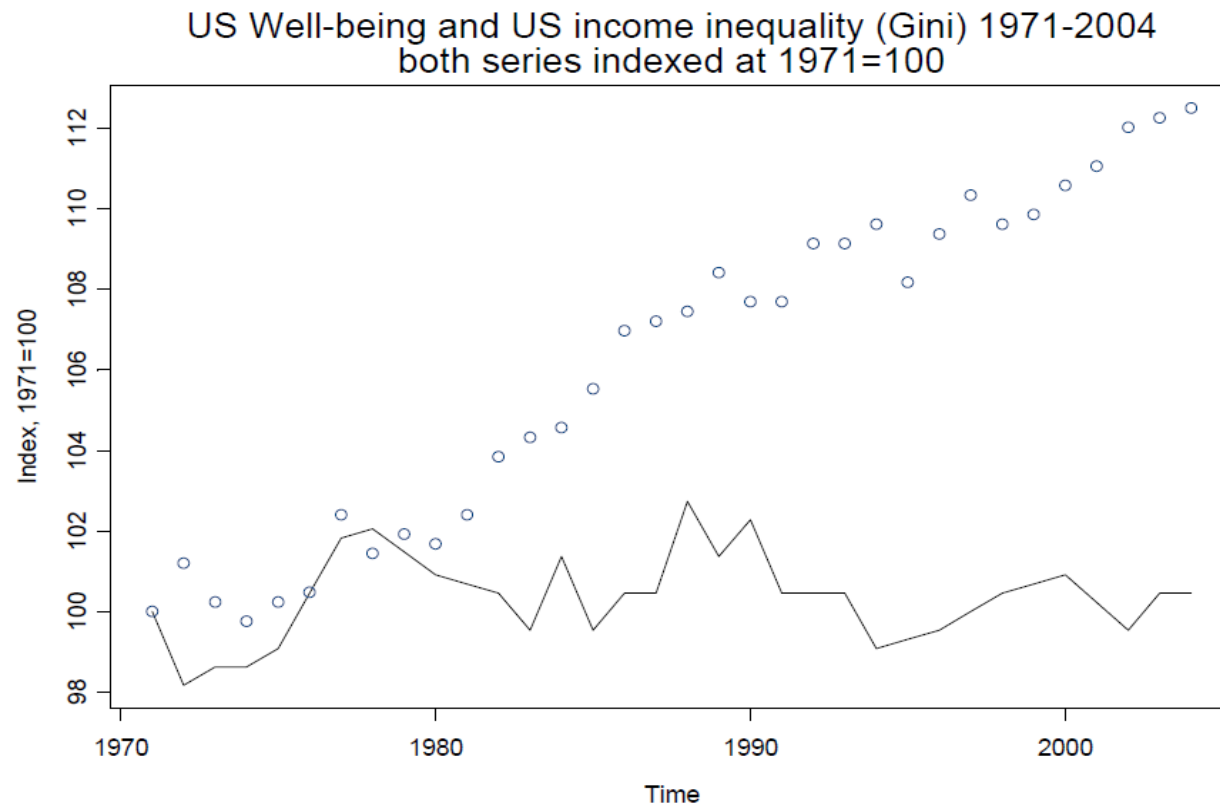both series indexed at 1971=100**

Figure 1: *US well-being and Gini coefficient 1971-2004, both indexed at 1971=100. Solid line is well-being, dotted line is the Gini coefficient*

The Easterlin Paradox: other explanations

Happiness literature has chosen to explain the paradox as produced by "<u>adaptation</u>", and build a "politically correct" interpretation, summarized by the following theorem:

<u>"MONEY DOESN'T BUY HAPPINESS" THEOREM</u>

After reaching some "minimal" level of income, people "adapt" the higher standards of living, and do not have incremental happiness with further material progress. The same goes for countries: after getting to satisfactory level, do not get happier with higher income per capita

Evidence to this direction is given by studies on lottery winners, said to return to "previous" levels of happiness after sometime after the prize, and by empirical studies similar to the original Easterlin panel.

The Easterlin Paradox: changes in "aspirations" or the politically correct interpretation of the Faust legend (as in Goethe's version not Marlowe's)

Trade off between income and happiness is shifted. An "improvement" such as a-b-c, might by downscaled to d-e, even to a "loss" of happiness, as in a-g, if "aspirations" are sufficiently upgraded. "Adaptative aspirations", or a "Faust curse", could be a malign feature of consumption driven globalized societies ... increases in happiness never reached, Faust never ready to say "stop that moment" and surrender soul to Mephisto, a hallmark of Modern Times.
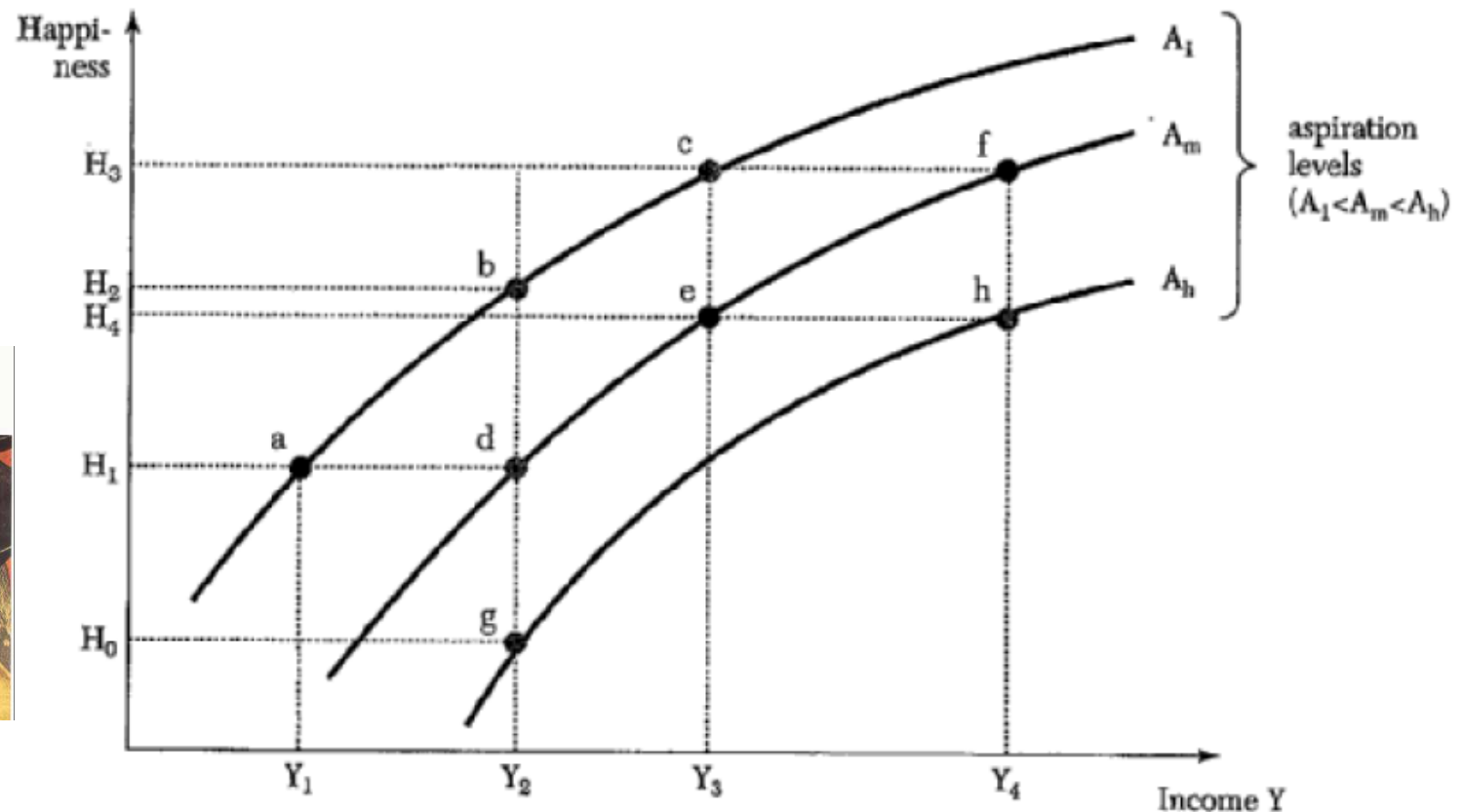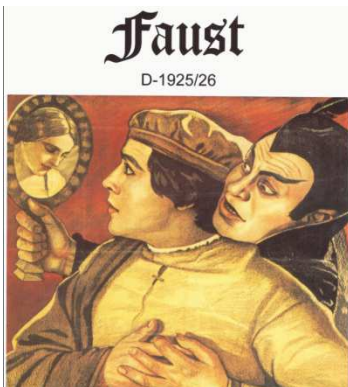
The Easterlin Paradox: other explanations

Alternative, <u>non "politically correct"</u> interpretation, is summarized by the following theorem:

<u>DOCTOR HOUSE THEOREM</u>

Everybody lie !

Technical interpretation: if some method is devised to allow for cumulative increases in consumption, self reported answers will ultimately reveal the truth. As, for instance, asking questions on happiness 5 years before and 5 years from now (as Gallup actually does now), one sees that people do "reveal" substantial progress over the years, which cold allow the construction of indices with "trend", overcoming technical flaw previously mentioned.

Alternative would be to ask individuals to value the "loss" of something that apparently has not increased happiness (e. g. refrigerators in Japan)

Others (Deaton, 2007) reworked empirical data with better results

The Easterlin Paradox uncovered 1

Reworking the empirical, mostly cross country, data, it appears that money buys happiness, though still the "income elasticity" of happiness very low: in log-linear regressions, for each 10% additional income, happiness grows 1,5% ! Still a paradox, I am afraid …
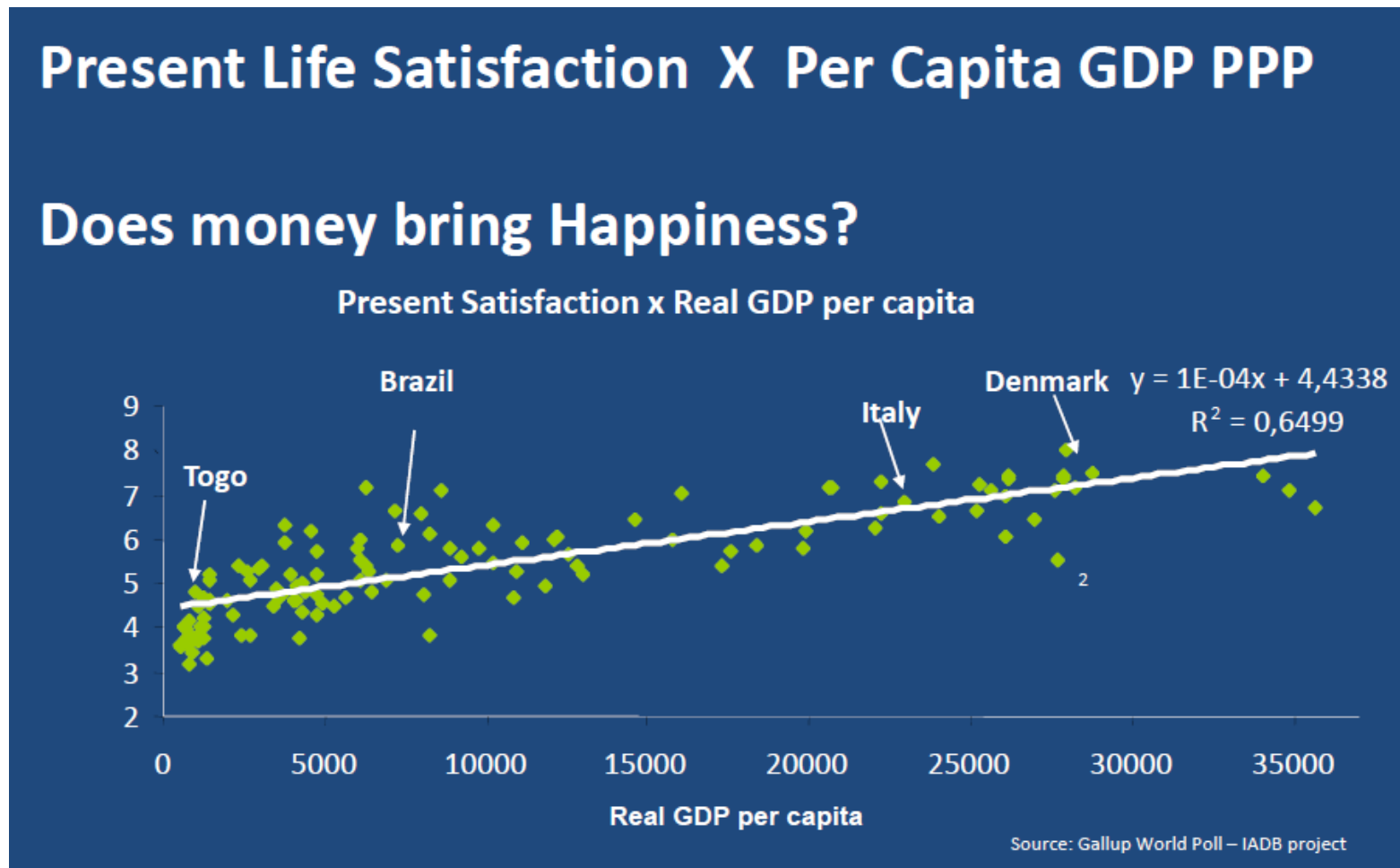
The Easterlin Paradox uncovered 1.1

Angus Deaton 2007 paper, with "proper" calculations.

Life satisfaction and GDP per person at PPP*

Circle size is proportional to population size
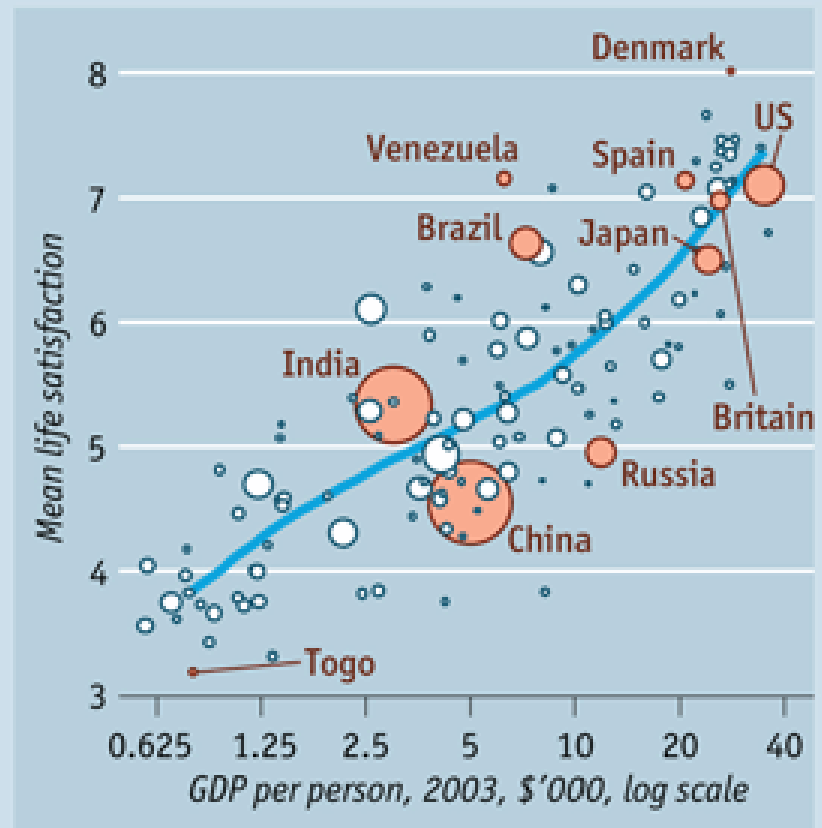
Sources: Penn World Table 6.2; Gallup World Poll, Angus Deaton

*Purchasing-power parity

The Easterlin Paradox uncovered 2

People "confess" that life in the past was worse, even though they report the same level of absolute happiness year after year. The "lie" appears more flagrant the richer the individual

Life satisfaction and income in Latin America 2007: difference between current and past well being, accoring to current income per capita (moving average within percentiles)
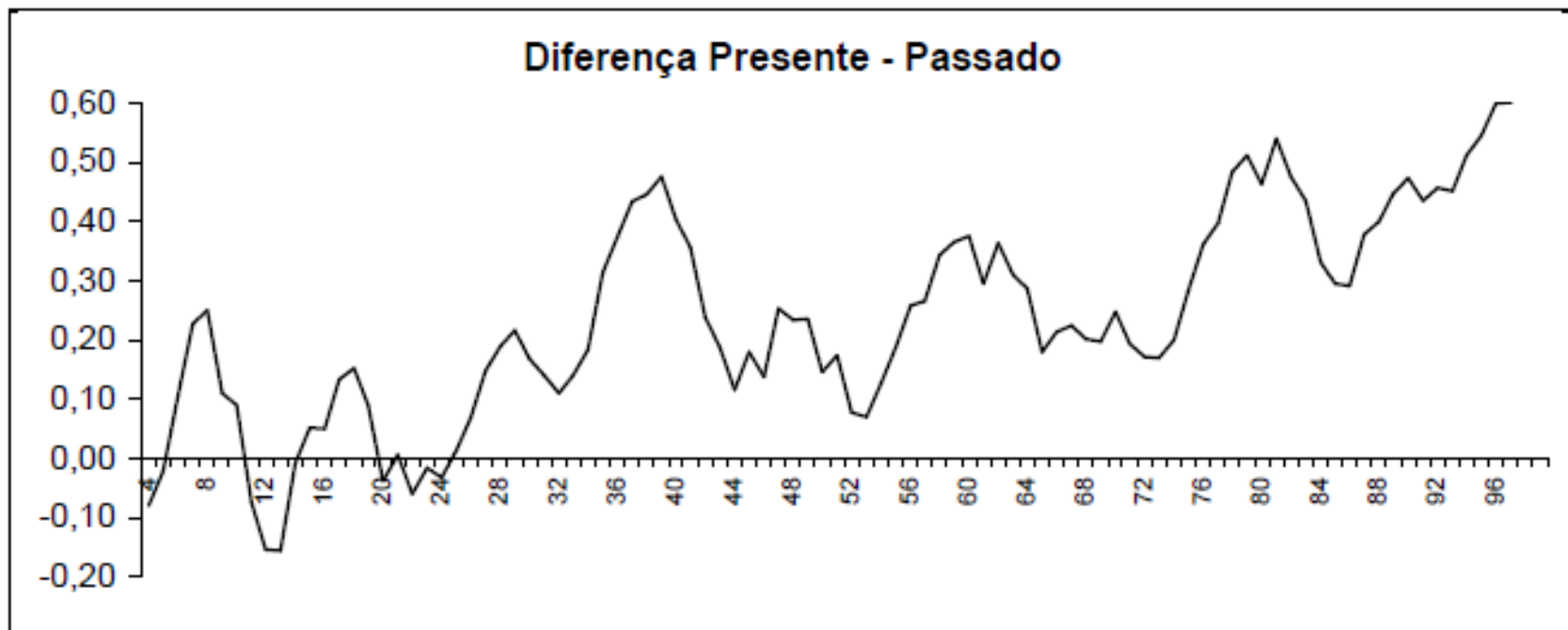
Fonte: CPS/FGV a partir do microdados do Gallup World Poll 2007

Gallup Global Wellbeing, 2005 - The Behavioral Economics of GDP Growth

The tables show life evaluation estimates of the percentage "thriving," "struggling," and "suffering" in countries and regions across the world, according to respondents' perceptions of where they stand now and in the future.

Life satisfaction is measured by asking respondents to rate their present and future lives on a "ladder" scale with steps numbered from 0 to 10, where "0" indicates the worst possible life and "10" the best possible life.

Individuals who rate their current lives a "7" or higher *and* their future an "8" or higher are considered thriving. Individuals are suffering if they report their current *and* future lives as a "4" or lower. All other individuals are considered struggling.

HERE'S THE PARADOX: The tables also include daily wellbeing averages (0-10 scoring) based on responses to 10 items measuring daily experiences (feeling well-rested, being treated with respect, smiling/laughter, learning/interest, enjoyment, physical pain, worry, sadness, stress, and anger). Each daily experience is scored dichotomously with higher scores representing better days (more positive and less negative daily experience or affect).

Wellbeing in Africa

Sorted by percentage thriving

	Thriving	Struggling	Suffering	Daily Experience
	%	%	%	
Malawi	25	64	10	8.0
Libya*	24	68	8	6.0
Botswana	24	65	11	7.3
South Africa	21	71	8	7.3
Somaliland	18	77	5	7.1
Algeria	18	77	6	6.7
Nigeria	18	78	4	7.3
Cameroon	14	77	9	7.0
Tunisia	14	77	9	6.8
Zambia	14	78	8	7.6
Central African Republic	12	75	13	6.4
Ethiopia	12	67	21	6.4
Namibia	11	79	10	8.1
Angola	11	81	8	6.8
Mozambique	10	78	11	7.2
Egypt	10	71	19	6.1
Mauritania	10	83	7	7.2
Zimbabwe	10	73	17	7.3
Morocco	10	80	10	7.0
Kenya	9	78	13	7.5
Ghana	9	83	8	7.5

Wellbeing in Asia

Sorted by percentage thriving

	Thriving	Struggling	Suffering	Daily Experience
	%	%	%	
New Zealand	63	35	2	7.6
Israel	62	35	3	6.4
Australia	62	35	3	7.5
Turkmenistan	52	47	1	7.5
United Arab Emirates	51	48	1	7.7
Kuwait	47	50	3	7.0
Cyprus	45	50	5	6.6
Qatar	41	58	1	6.8
Bahrain	32	45	23	7.0
Jordan	30	61	8	6.7
South Korea	28	61	12	6.9
Saudi Arabia	27	69	3	6.7
Pakistan	27	50	23	6.2
Kazakhstan	22	72	6	7.2
Taiwan	22	64	14	7.5
Lebanon	21	64	15	6.3
Thailand	20	75	5	8.0
Iran	19	66	14	6.3
Hong Kong	19	65	16	7.1
Singapore	19	75	6	6.9
Japan	19	69	12	7.4

Wellbeing in the Americas
Sorted by percentage thriving

	Thriving	Struggling	Suffering	Daily Experience
	%	%	%	
Costa Rica	63	35	2	8.1
Canada	62	36	2	7.6
Panama	58	39	3	8.4
Brazil	58	40	2	7.5
United States	57	40	3	7.3
Mexico	52	43	5	7.7
Venezuela	50	48	2	8.0
Puerto Rico	47	45	8	7.6
Colombia	46	47	7	7.7
Jamaica	46	49	5	7.7
Trinidad and Tobago	44	51	5	7.9
Argentina	44	50	6	7.8
Belize	44	50	6	6.8
El Salvador	42	51	7	7.7
Chile	41	52	7	7.3
Uruguay	41	54	5	7.5
Guatemala	40	50	10	7.7
Honduras	37	49	14	7.5
Dominican Republic	35	54	11	7.3
Bolivia	34	59	7	7.0
Ecuador	34	52	15	7.6
Paraguay	32	59	9	8.3

Wellbeing in Europe
Sorted by percentage thriving

	Thriving	Struggling	Suffering	Daily Experience
	%	%	%	
Denmark	82	17	1	7.9
Finland	75	23	2	7.8
Norway	69	31	0	7.9
Sweden	68	30	2	7.9
Netherlands	68	32	1	7.7
Switzerland	62	36	2	7.6
Austria	57	40	3	7.7
Belgium	56	41	3	7.3
United Kingdom	54	44	2	7.4
Ireland	49	49	2	7.5
Iceland	47	49	4	8.2
Luxembourg	45	54	1	7.3
Germany	43	50	7	7.4
Malta	40	48	12	6.6
Czech Republic	39	51	9	6.6
Italy	39	54	7	7.1
Spain	36	58	6	7.0
France	35	60	6	7.0
Greece	31	57	11	7.0
Belarus	29	59	12	6.5
Kosovo	29	65	6	6.2

Gallup Happiness Index – now, 2010

Latest | World | Life Today | Mean

2.8   7.8   N/A

Life Today - Mean
Brazil: 6.8
2010
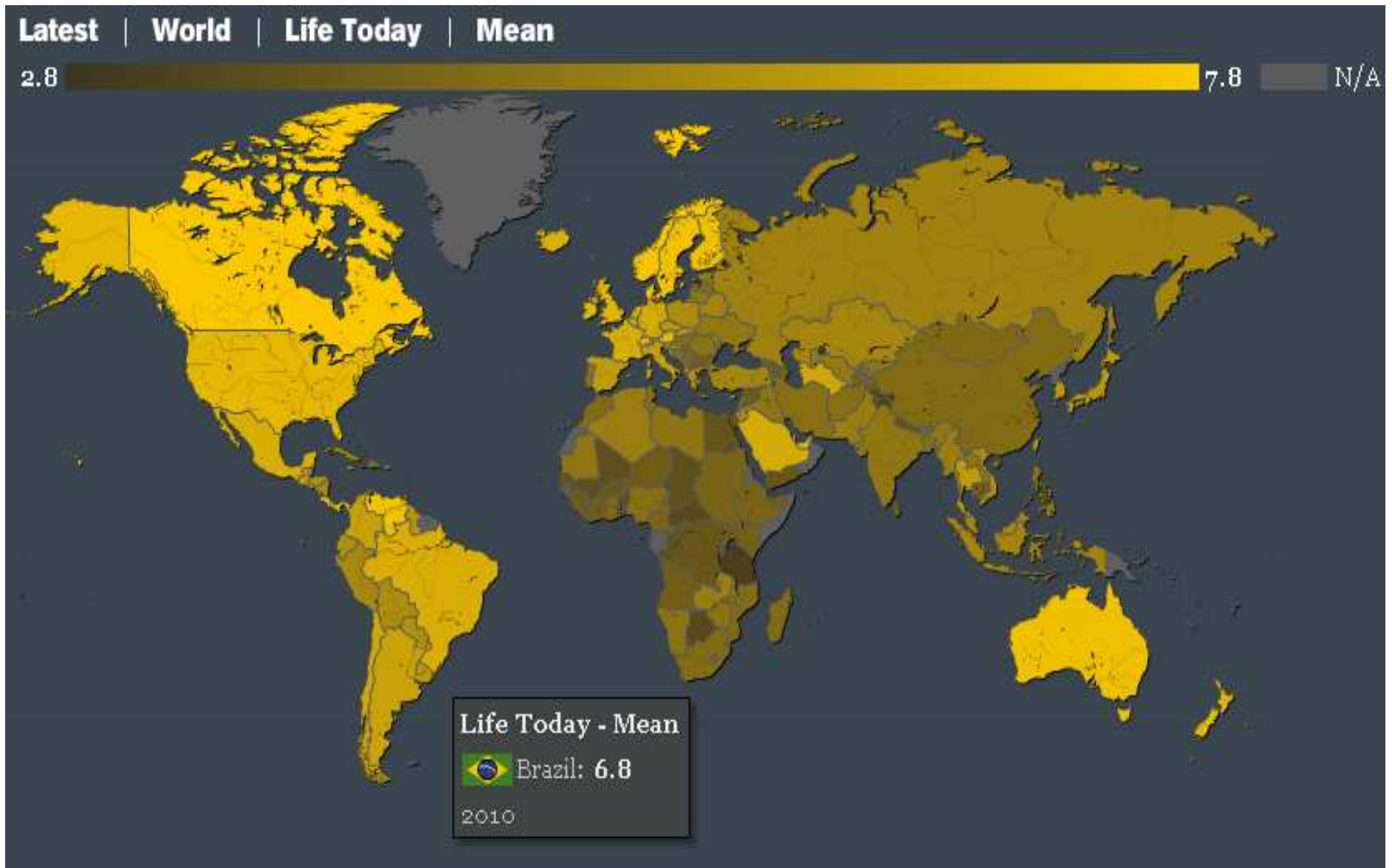
Gallup Happiness Index – 5 years from now, 2010

Latest | World | Life in Five Years | Mean

4.7   8.6   N/A

Life in Five Years - Mean
Brazil: **8.6**
2010

Gallup Happiness Index – 5 years before, 2005 seen at 2010

Latest | World | Life Five Years Ago | Mean

3.1   7.2   N/A

Life Five Years Ago - Mean
Brazil: 6.0
2008
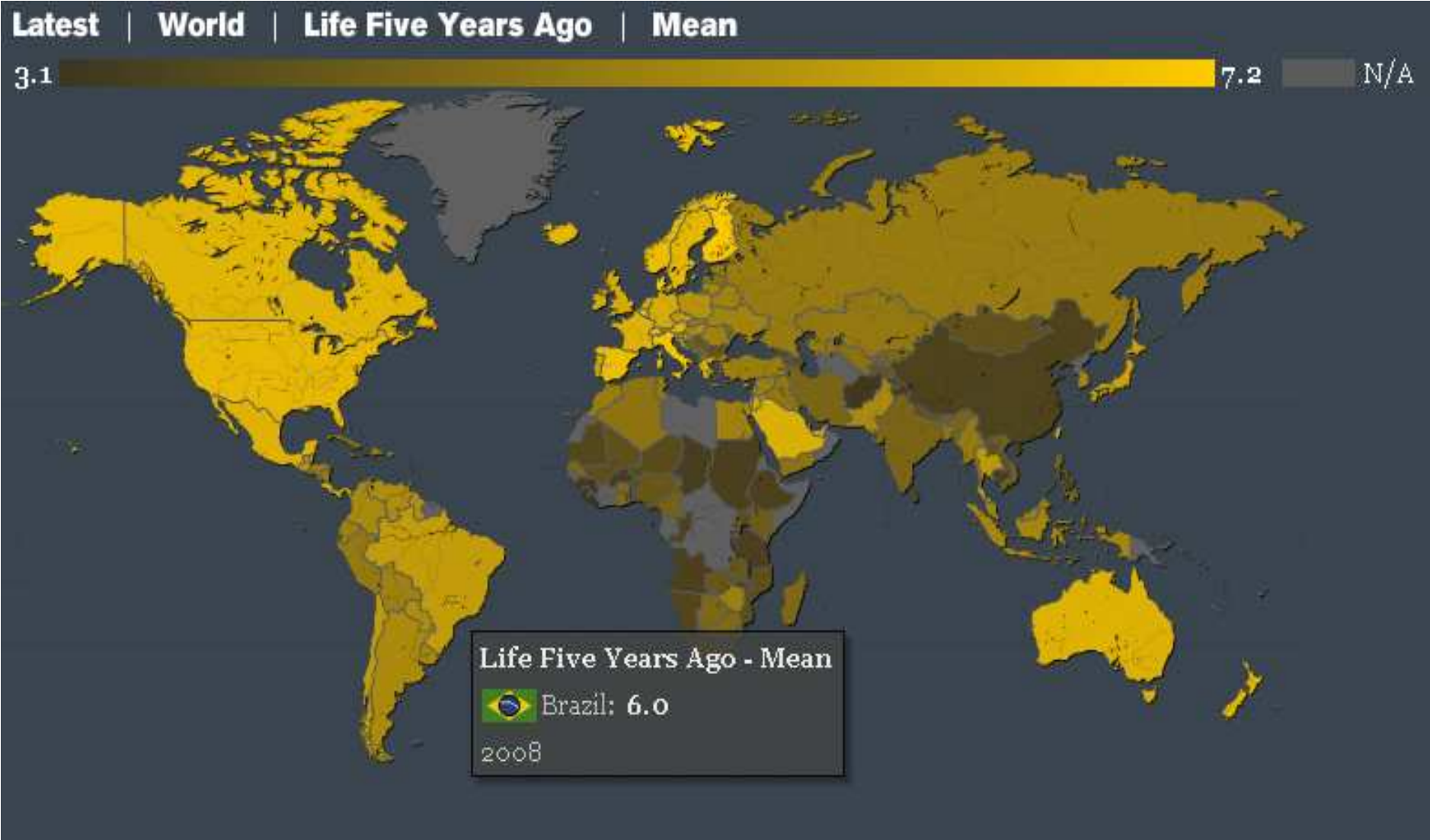
EXPECTATIVA ECONÓMICA PAÍS Y PERSONAL

TOTAL AMÉRICA LATINA 2001- 2011

P1. ¿Y en los próximos doce meses cree Ud. que, en general, la situación económica del país será Mucho mejor, Un poco mejor, Igual, Un poco peor o Mucho peor que ahora?

P2. Y en los próximos doce meses, ¿Cree que su situación económica y la de su familia será Mucho mejor, Un poco mejor, Igual, Un poco peor o Mucho peor que la que tiene hoy? "Aquí solo 'Mucho mejor' más 'Un poco mejor'.

Situación personal futura

Gallup, Happiness Index, 2006	
Future Life Satisfaction **Individual**	*Future Life Satisfaction* **Nation**
8,78	**6,84**

Gráfico de líneas - Personal (azul): 2001: 35, 2002: 37, 2003: 36, 2004: 41, 2005: 43, 2006: 49, 2007: 46, 2008: 46, 2009: 44, 2010: 44, 2011: 42

País (rojo): 2001: 23, 2002: 25, 2003: 28, 2004: 30, 2005: 31, 2006: 39, 2007: 31, 2008: 38, 2009: 33, 2010: 34, 2011: 32
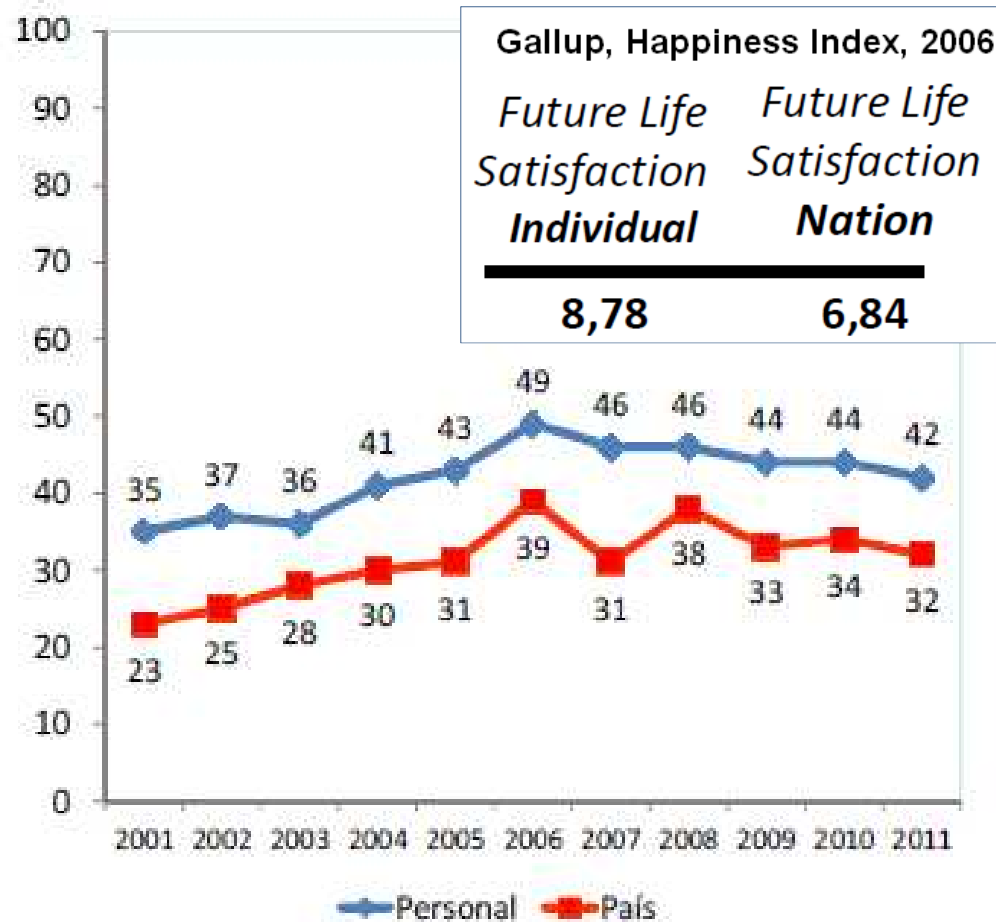
Leyenda: ◆ Personal ■ País

País	Situación personal futura
Brasil	64
Colombia	61
Paraguay	52
Panamá	52
Argentina	46
Venezuela	46
Costa Rica	45
Perú	45
Ecuador	43
Uruguay	41
México	39
Honduras	36
Nicaragua	35
Guatemala	34
Bolivia	33
Chile	30
El Salvador	23
República Dominicana	23
Latinoamérica	42

Fuente: Latinobarómetro 2001-2011
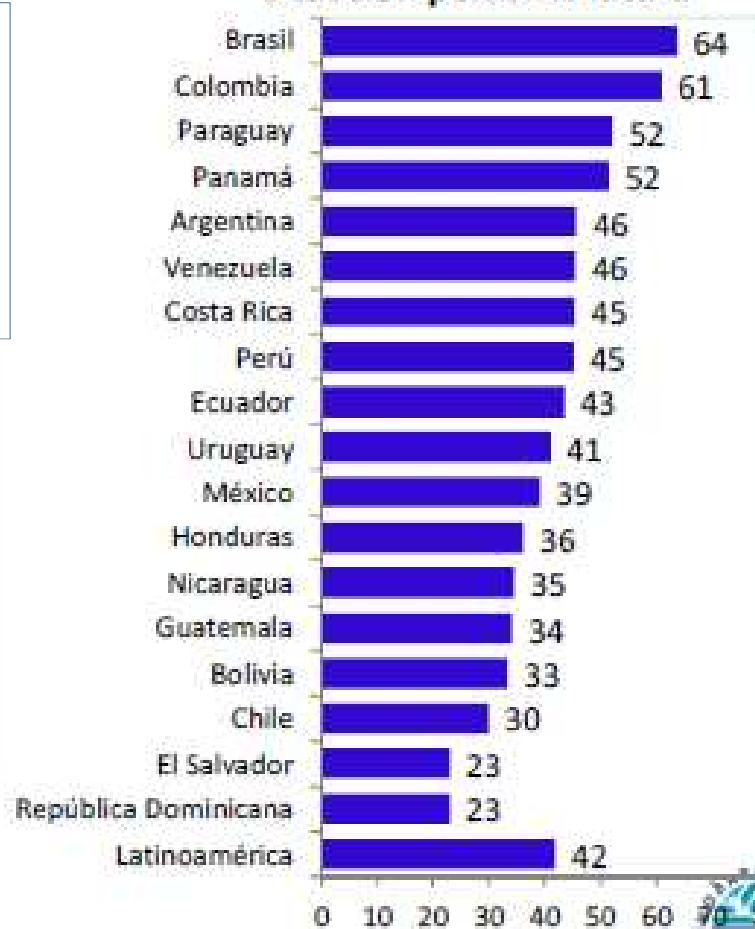
Contrasting national experiences in happiness and aspects of development

What correlations should there be between happiness indices and other important attributes of development models adopted in different countries? Table shows rankings produced by several institutions describing different aspects of national economic environments

	competitiveness				attractiveness		corruption	happiness		human dev't
	WEF	IMD	EDB	IEF	ATK-FDI	Rating	TI-CPI	GHP-n	GHP-5+	HDI
Brazil	53	44	126	113	4	Baa2	69	23	1	84
Russia	66	49	120	143	18	Baa1	154	73	93	66
India	56	32	132	124	3	Baa3	87	62	61	134
China	26	19	91	135	1	Aa3	78	100	78	101
Mexico	58	38	53	48	8	Baa1	98	26	31	57
Argentina	85	54	113	138		B3	105	30	26	45
Korea	24	22	8	35		A1	39	50	66	15
total	142	58	183	179	25		178	132	155	169

WEF, World Economic Forum, Competitiveness Index, 2011-12; IMD Global competitiveness Index 2010 ranking; EDB - Ease of doing business index, IFC & The World Bank, 2011; IEF, Index of Economic Freedom, Heritage Foundation WSJ, 2011; AT Kearney FDI Confidence Index, 2010; Sovereign ratings by Moodys; Transparency International, Corruption Perception Index, 2010; Gallup Happiness Poll, 2006, "n"= now, "5+"=in 5 years; HDI, Human Development Index, UNDP, United Nations Development Program, 2011.
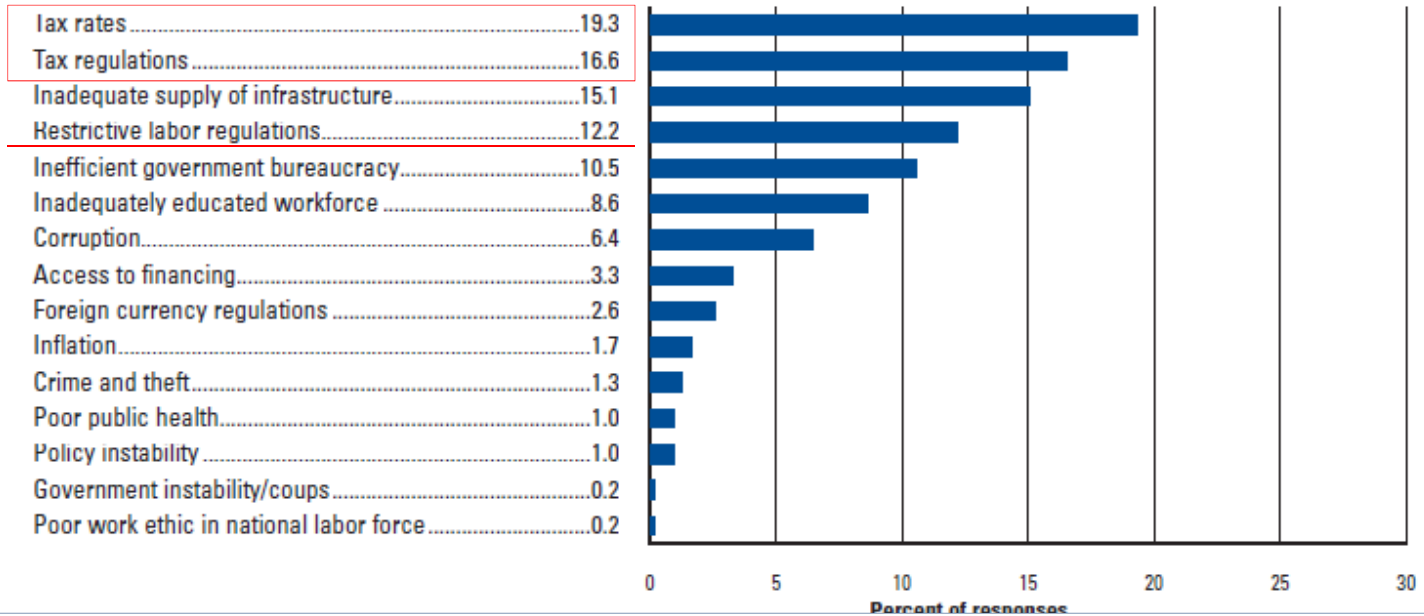
Brazil

Global Competitiveness Index

	Rank (out of 142)	Score (1–7)
GCI 2011–2012	53	4.3
GCI 2010–2011 (out of 139)	58	4.3
GCI 2009–2010 (out of 133)	56	4.2
Basic requirements (35.5%)	83	4.3
Institutions	77	3.7
Infrastructure	64	4.0
Macroeconomic environment	115	4.2
Health and primary education	87	5.4
Efficiency enhancers (50.0%)	41	4.4
Higher education and training	57	4.4
Goods market efficiency	113	3.8
Labor market efficiency	83	4.2
Financial market development	43	4.5
Technological readiness	54	4.0
Market size	10	5.6
Innovation and sophistication factors (14.5%)	35	4.0
Business sophistication	31	4.5
Innovation	44	3.5

China

Global Competitiveness Index

	Rank (out of 142)	Score (1–7)
GCI 2011–2012	26	4.9
GCI 2010–2011 (out of 139)	27	4.8
GCI 2009–2010 (out of 133)	29	4.7
Basic requirements (40.0%)	30	5.3
Institutions	48	4.3
Infrastructure	44	4.6
Macroeconomic environment	10	6.2
Health and primary education	32	6.2
Efficiency enhancers (50.0%)	26	4.7
Higher education and training	58	4.3
Goods market efficiency	45	4.4
Labor market efficiency	36	4.7
Financial market development	48	4.4
Technological readiness	77	3.6
Market size	2	6.8
Innovation and sophistication factors (10.0%)	31	4.1
Business sophistication	37	4.4
Innovation	29	3.9

The most problematic factors for doing business

Factor	Percent
Tax rates	19.3
Tax regulations	16.6
Inadequate supply of infrastructure	15.1
Restrictive labor regulations	12.2
Inefficient government bureaucracy	10.5
Inadequately educated workforce	8.6
Corruption	6.4
Access to financing	3.3
Foreign currency regulations	2.6
Inflation	1.7
Crime and theft	1.3
Poor public health	1.0
Policy instability	1.0
Government instability/coups	0.2
Poor work ethic in national labor force	0.2

Percent of responses

Brazil

The most problematic factors for doing business

Factor	Percent
Inflation	11.6
Access to financing	11.5
Inefficient government bureaucracy	10.9
Policy instability	9.9
Corruption	8.5
Inadequate supply of infrastructure	7.8
Tax rates	6.9
Inadequately educated workforce	6.6
Tax regulations	6.4
Poor work ethic in national labor force	6.1
Restrictive labor regulations	4.5
Foreign currency regulations	3.8
Government instability/coups	2.9
Poor public health	1.8
Crime and theft	0.5

Percent of responses

China

Economic development models and happiness
(explaining the Brazilian phenomenon)

Models of economic development are <u>stereotypes</u>; national history, culture, incidents are paramount.

Yet, each national combination of elements assembled to obtain development may produce, as by-product, very relevant <u>discrepancies between "development success" and self reported well being</u>.

We know <u>development is not about GDP only</u>, concept of development much broader than growth, so are not back to the questions posed by the Sarkozy Report.

Development models are about <u>collective choices</u>, or choices made by politicians or policy makers. It always involves trade-offs and difficult decisions on sacrifices. Including whether democracy hinders development.

<u>Development models are always like "Faustian Pacts"</u> through which authorities "negotiate" development now against some sacrifice (e. g. savings). Sometimes development is conducted with heavy sacrifices in the form of forced savings, inflation, taxation, inequality, natural resources depletion, and it is not always clear (in fact, it is almost always unclear) how was the "calculus" undertaken by the man in power to define sacrifices in the name of development.

# Economic development models and happiness: not growth

Why China and other BRIC countries rank so low in happiness? And Brazil so high? Question is all the more intriguing as the rate of <u>growth</u> in Brazil has not been this high, and exhibited substantial volatility.

Panel regressions on factors contributing (explaining) happiness show "growth" with ambiguous, even negative influence (apparently growth signals change and uncertainty about future)

GDP GROWTH - 4 quarters moving average
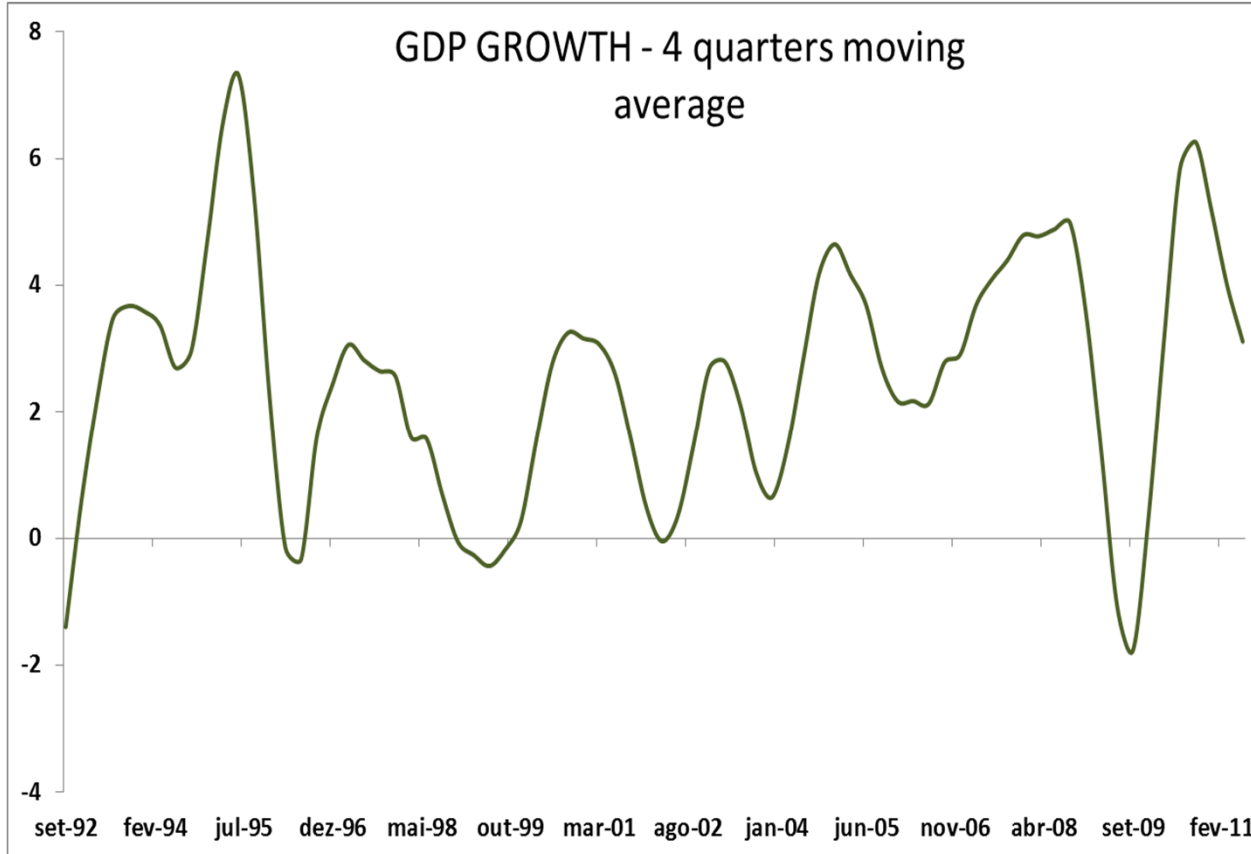
Recent economic development in Brazil: inequality ?

Transition to low inflation (in 1994) after a decade and half of semi-hyperinflation, important demographic changes and growth (with some help from targeted social programs) succeeded in drastically reducing inequality, as shown by Gini coefficients
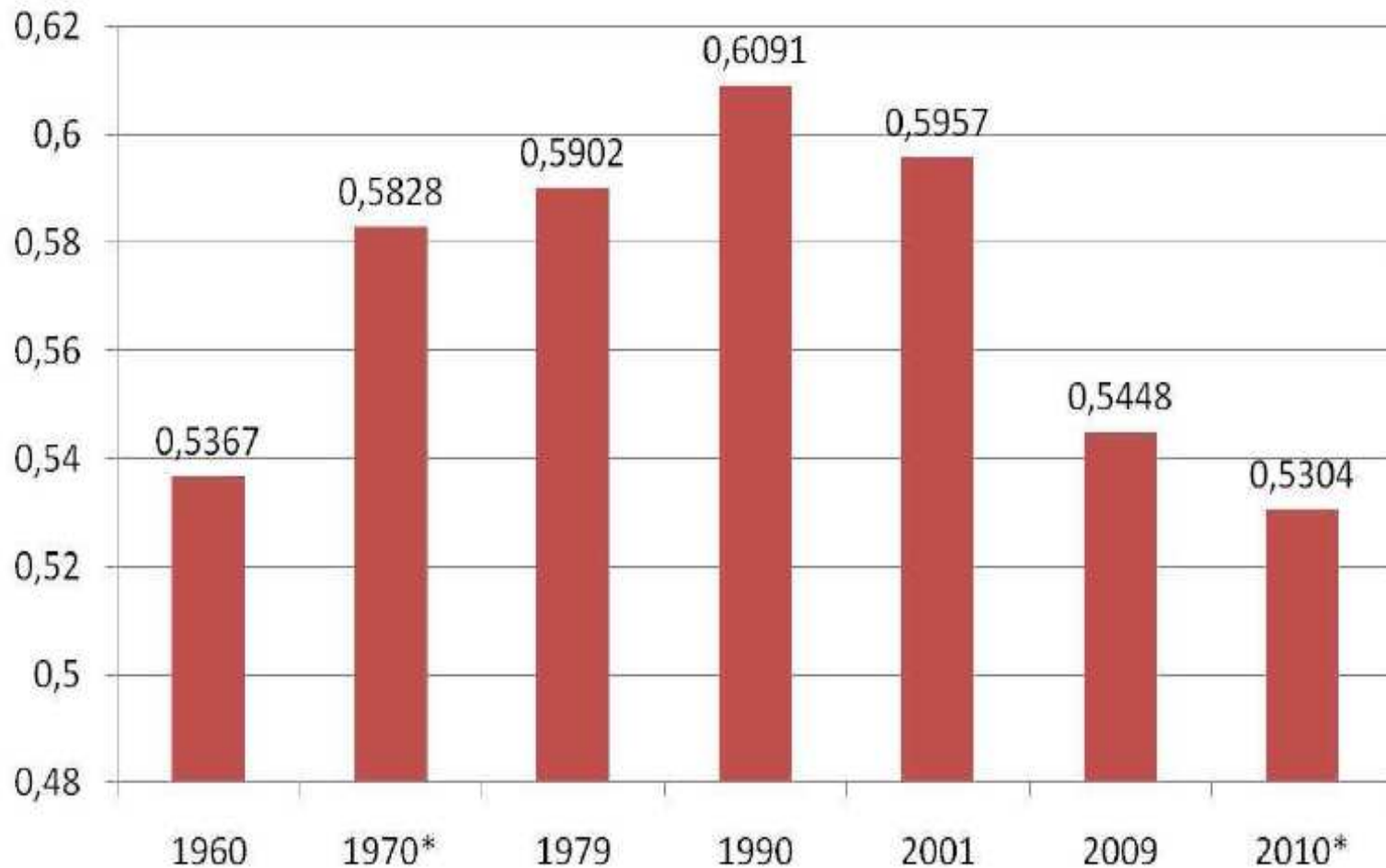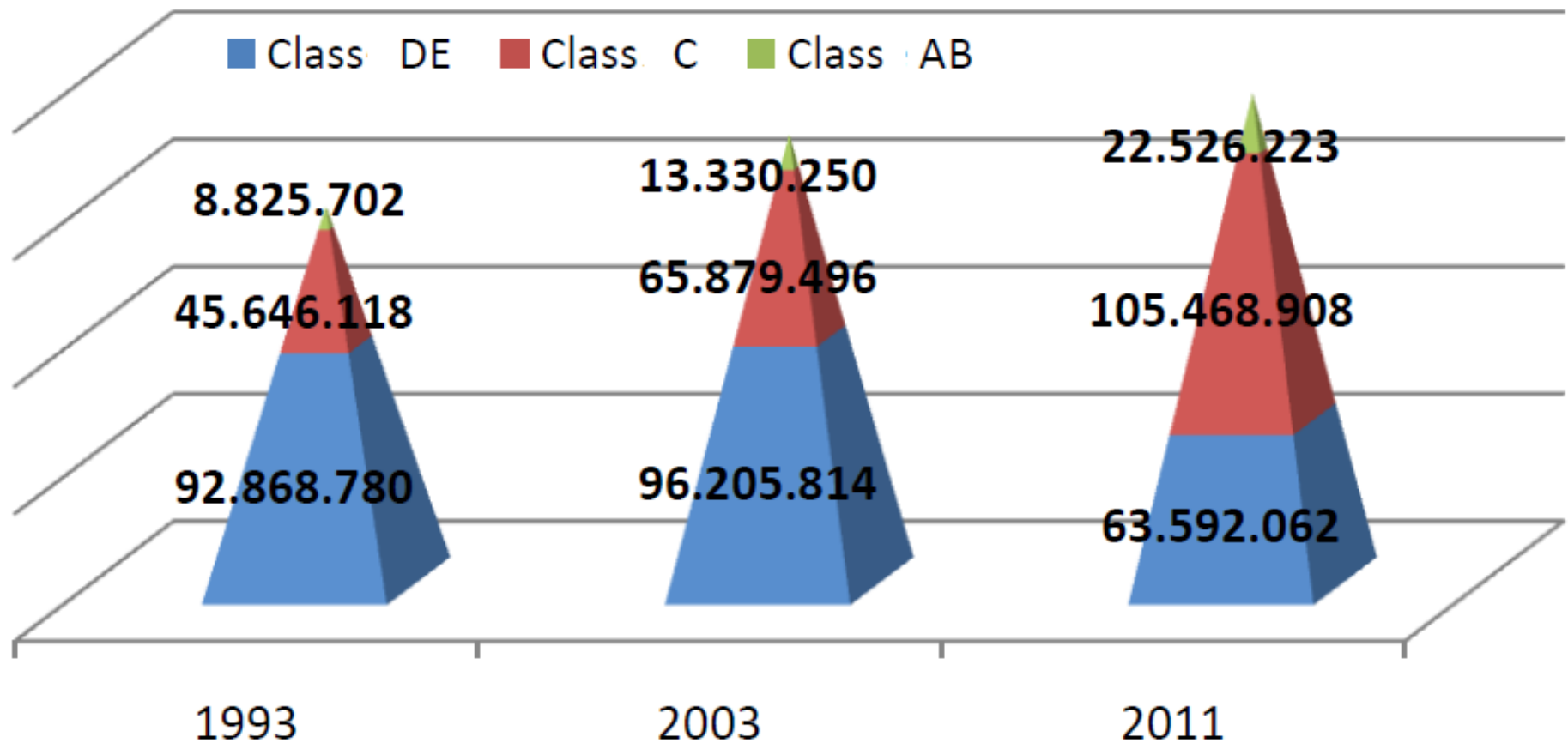

Source: CPS/FGV based on microdata from PNAD, PME and Censo / IBGE and Langoni 1973

Recent economic development in Brazil: social mobility yes

In absolute number, social mobility is huge after 1993, with the interaction of stabilization, growth and demographics. 60 million "new consumers" entered "class C" (new middle class = household with aggregate earnings *circa* US$ 5,000 per month) and substantial ability to leverage consumption.

The New Middle Class in Brazil, 1993-2011

Legend: Class DE, Class C, Class AB

Year	Class AB	Class C	Class DE
1993	8.825.702	45.646.118	92.868.780
2003	13.330.250	65.879.496	96.205.814
2011	22.526.223	105.468.908	63.592.062

Consumption indicators

Consumer durables upwards. Huge demand for services as tourism and private health plans

Computador com Internet - 1992 a 2009

8,22% — 2001
10,01% — 2002
11,10% — 2003
12,06% — 2004
13,65% — 2005
16,96% — 2006
20,52% — 2007
24,78% — 2008
28,46% — 2009

Fonte: CPS/FGV a partir dos microdados da PNAD/IBGE

Máquina de Lavar Roupa - 1992 a 2009

23,09% — 1992
23,15% — 1993
25,43% — 1995
29,35% — 1996
31,00% — 1997
31,45% — 1998
31,92% — 1999
32,78% — 2001
32,93% — 2002
33,46% — 2003
33,65% — 2004
35,03% — 2005
36,87% — 2006
38,77% — 2007
41,32% — 2008
44,37% — 2009

Celular - 1992 a 2009

30,79% — 2001
34,46% — 2002
38,57% — 2003
48,88% — 2004
61,40% — 2005
65,81% — 2006
70,04% — 2007
78,58% — 2008
81,55% — 2009

Fonte: CPS/FGV a partir dos microdados da PNAD/IBGE

Geladeira - 1992 a 2009

69,88% — 1992
69,89% — 1993
73,23% — 1995
76,86% — 1996
79,22% — 1997
80,80% — 1998
81,77% — 1999
84,25% — 2001
85,77% — 2002
86,57% — 2003
87,33% — 2004
87,92% — 2005
89,20% — 2006
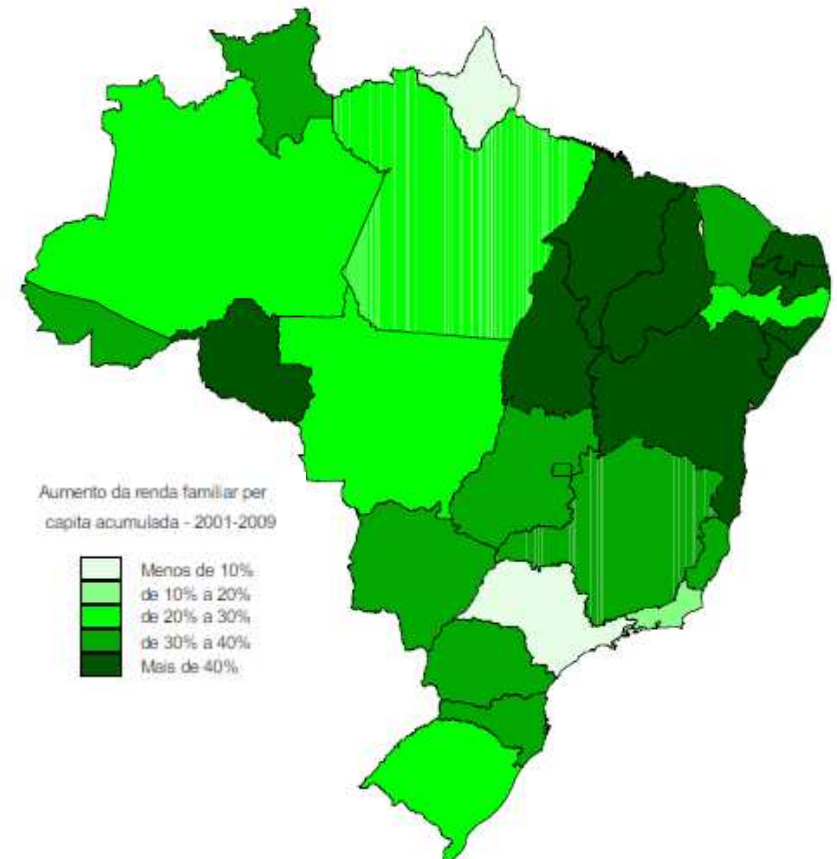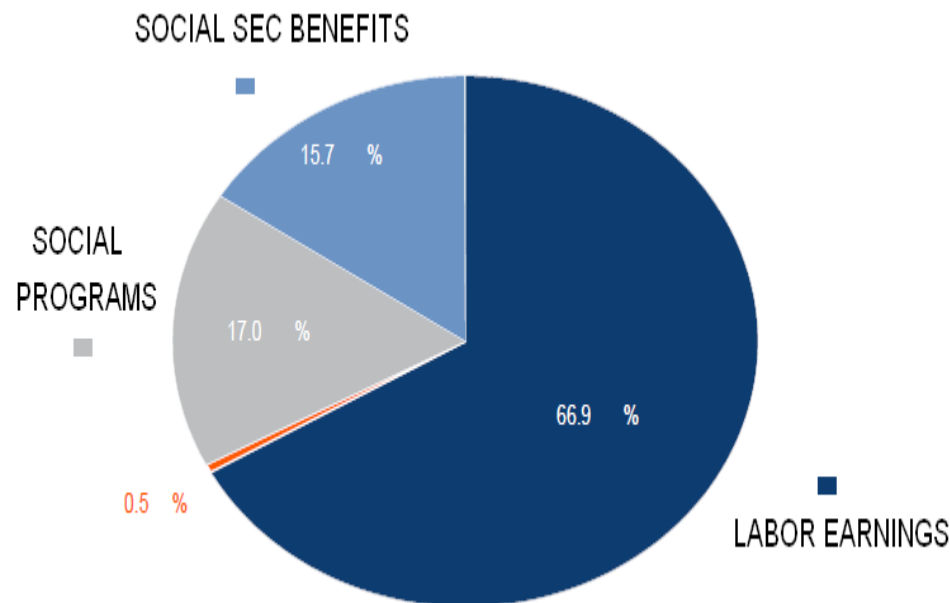90,83% — 2007
92,40% — 2008
93,85% — 2009
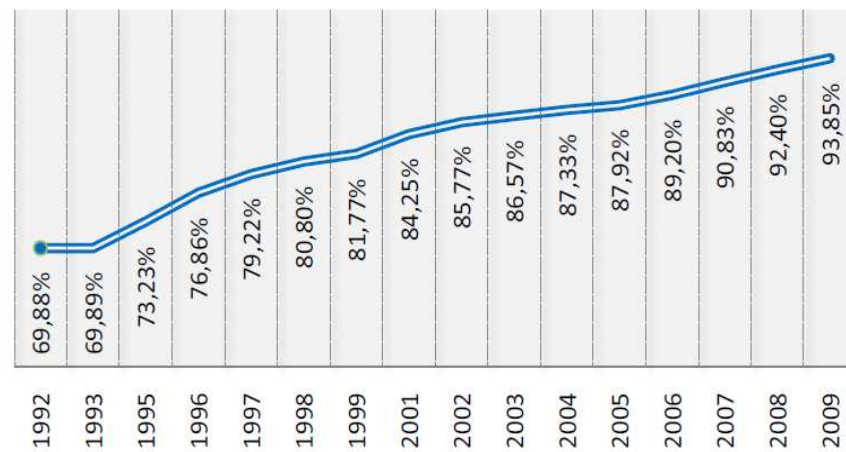
Fonte: CPS/FGV a partir dos microdados da PNAD/IBGE

Sources of inequality reduction in Brazil 2003-2008

Earnings explain 2/3 of inequality reduction, with Social Security and "Bolsa Familia" explaining the rest, yet at very different costs. Major increases in per capita income observed in poorer areas, mostly Northeast. Second is agricultural belts around big cities. São Paulo major loss in relative position.

Poverty fell by 67% since the Real Plan (1994-the end of hyperinflation); much better than the Millenium Development Goal: to reduce poverty by 50% in 25 years (1990 to 2015).

SOCIAL SEC BENEFITS
15.7 %

SOCIAL PROGRAMS
17.0 %

0.5 %

66.9 %

LABOR EARNINGS

Aumento da renda familiar per capita acumulada – 2001-2009

Menos de 10%
de 10% a 20%
de 20% a 30%
de 30% a 40%
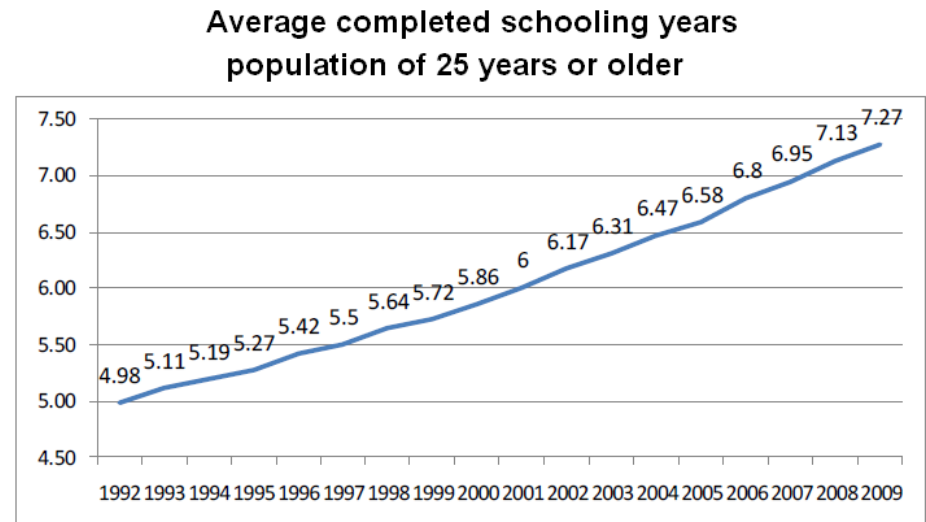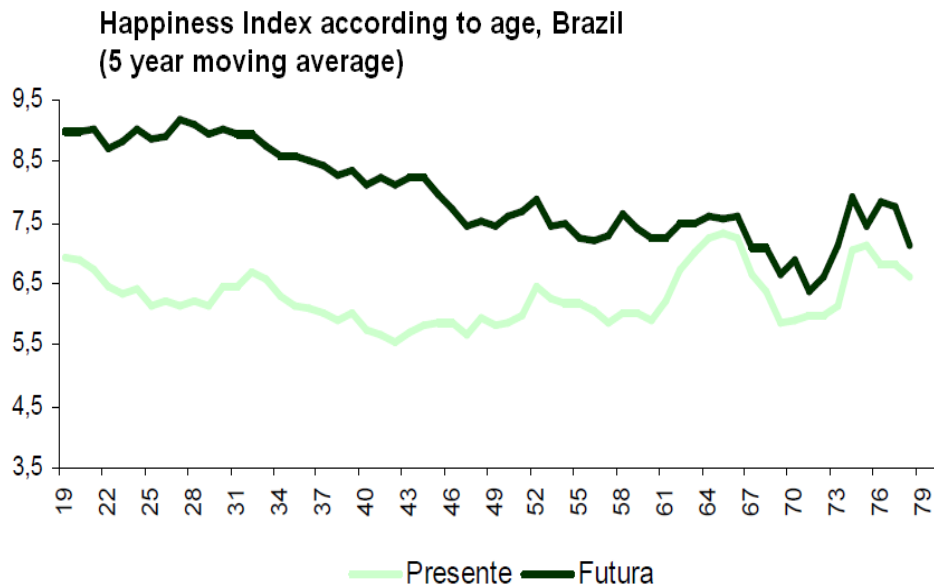Mais de 40%

Why Brazilians are so happy?

By and large, they are <u>younger</u> ! And <u>social mobility</u> has been remarkable.

Since they're younger they have less education than needed in labor market, which is continuously undersupplied in the upscale end: <u>The "rate of return" on "human capital" is just gigantic</u>.

Way too early in the game to argue that "money doesn't buy happiness" in this country ….

Happiness Index according to age, Brazil
(5 year moving average)

Presente — Futura

Average completed schooling years
population of 25 years or older

Fonte: CPS/FGV a partir dos microdados da PNAD/IBGE