

What Makes Countries Happy? The Role of Health, Wealth and Social Capital

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Lorenzo Rocco, PhD
Assistant Professor of Economics
Department of Economics
University of Padova
Italy

Richard M. Scheffler, PhD
Distinguished Professor of Health Economics and Public Policy,
University of California, Berkeley
Director, the Nicholas C. Petris Center on Healthcare Markets and
Consumer Welfare

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Is going to church good for your health?

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“ONE of the most striking scientific discoveries about religion in recent years is that going to church weekly is good for you. Religious attendance — at least, religiosity — boosts the immune system and decreases blood pressure. It may add as much as two to three years to your life. The reason for this is not entirely clear.”



T. M. Luhrmann, Professor of anthropology at Stanford University. New York Times, Sunday Review, The Opinion pages, 20.04.2013

The New York Times

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To the Editor:

Do healthy people go to church, or does church make you healthy? If the answer is that church makes you healthy, what is the mechanism? Leaving out divine intervention, what happens in church that produces health?

Economists and other social scientists have examined the relationship between health and social capital, which includes church, social clubs and having a support network of friends. Social capital provides information on health habits, better doctors or hospitals, and reduces stress, which can lead to heart disease and mental problems.

But we must confront the problem of causation. Those who attend church are on average healthier than those who do not: the selection effect. To deal with this, we would need to study the health of those who are randomly assigned to attend church and who do not attend.

Without this evidence, we can only hope that going to church makes us healthier, though it might be a good thing anyway.

RICHARD SCHEFFLER
Madrid, April 22, 2013



Research question and Data

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- What is the marginal effect of health, wealth and social capital on happiness within a country?
- Data Source: World Values Survey (WVS), Waves 1994-1999, and 2005-2007
- 55,000 observations from 24 countries
- Macroeconomic Variables from World Bank WDI (GDP per capita, government expenditure, proportion of urban population, population density).

Measurement Strategy

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• Survey Question

Variable Specification

Happiness

V10. Taking all things together, would you say you are...

- 1 Not at all happy
- 2 Not very happy
- 3 Rather happy
- 4 Very happy

0

1

Dependent Variable

Self Reported Health

V11. All in all, how would you describe your state of health these days? Would you say it is...

- 1 Very poor
- 2 Poor
- 3 Fair
- 4 Good
- 5 Very good

0

1

Dependent Variable

20% of the sample

Relative Income

V253. Here is a scale of incomes on which 1 indicates the "lowest income decile" and 10 the "highest income decile" in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in.

0, if answer from 1 to 7

1, if answer from 8 to 10
20% of the sample

Social Capital

-Trust

-Active Membership to social organizations

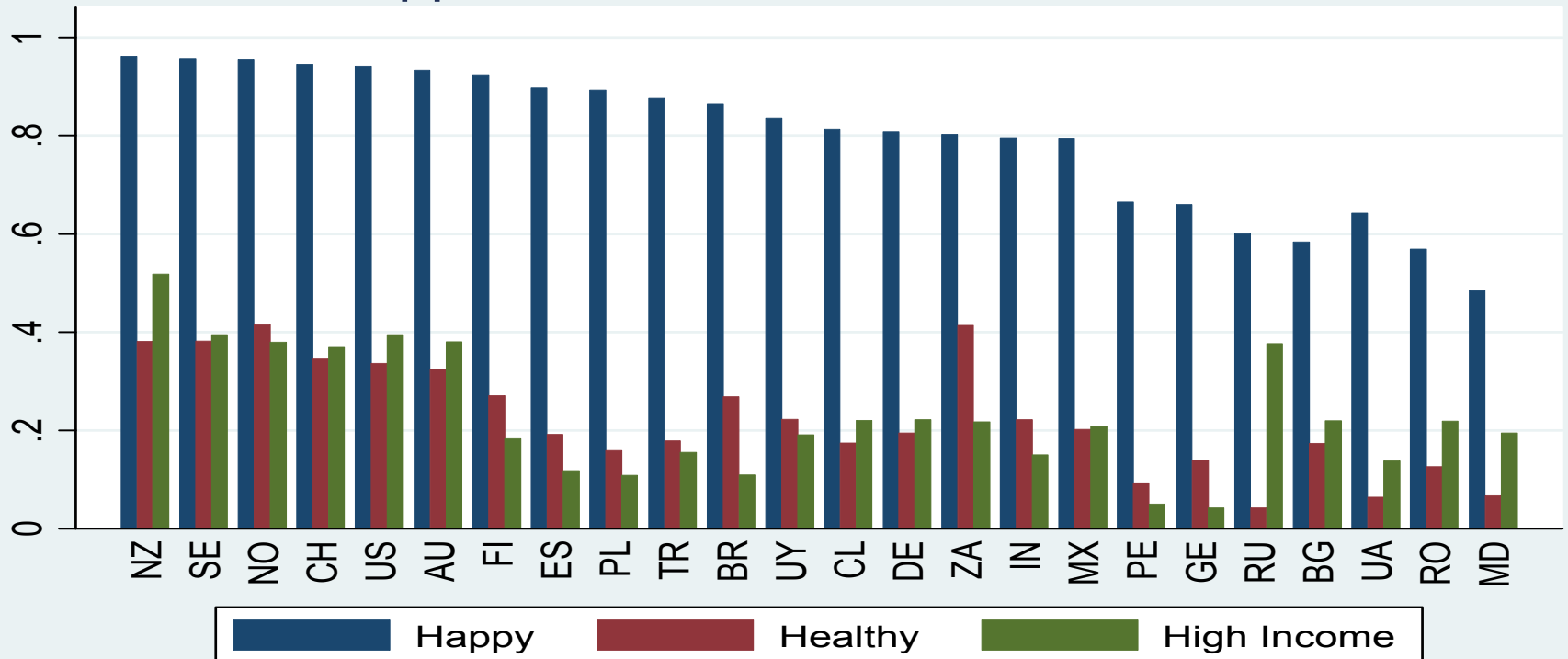
1, if individual trusts most of the others. 0, otherwise

1, if individual is active in at least one organization. 0, otherwise

Descriptive Statistics (1)

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Happiness, health and relative income

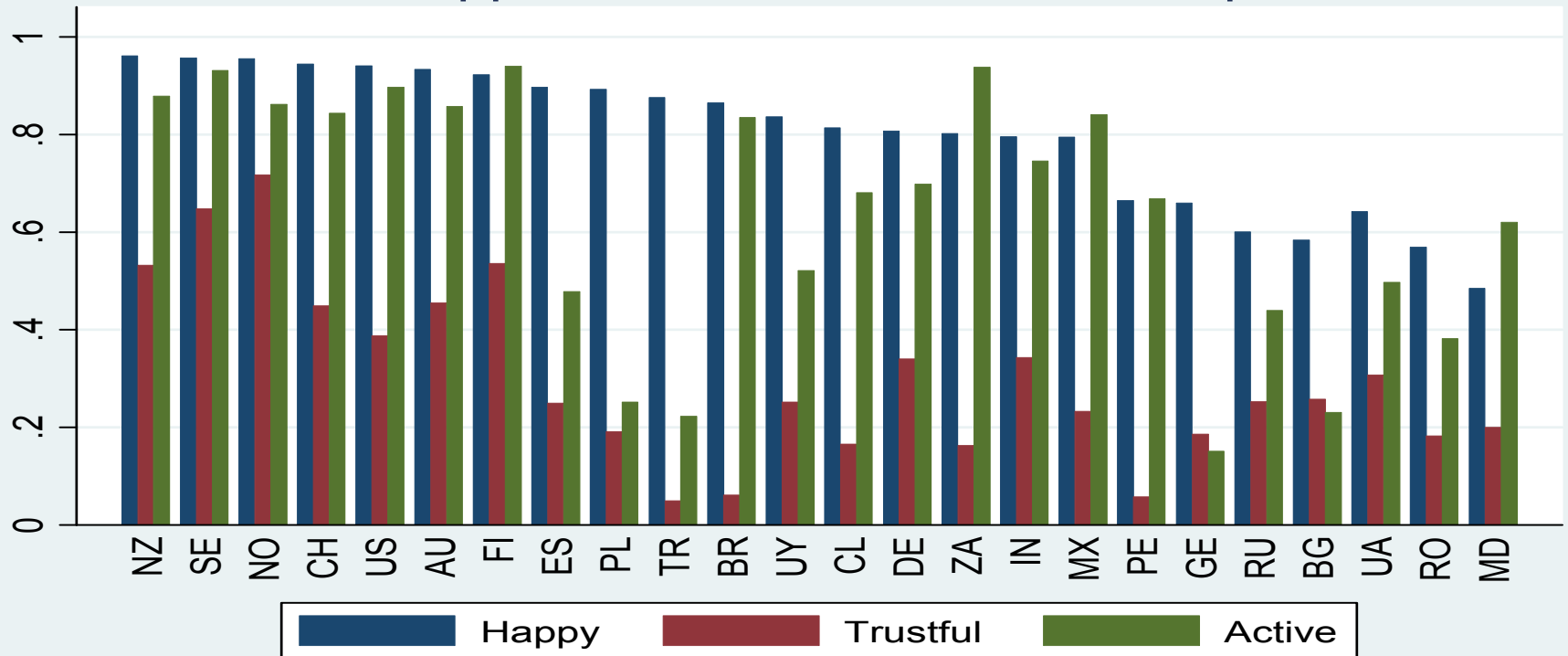


Happy is defined as level 3 or 4 on a scale ranging from 1 to 4
Healthy is defined as level 5 on a scale ranging from 1 to 5
High income is defined as levels 7 to 10 on a scale ranging from 1 to 10

Descriptive Statistics (2)

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Happiness, trust and membership



Happy is defined as level 3 or 4 on a scale ranging from 1 to 4
Trustful is defined as who reports of trusting most of the other people
Active is defined as who is active member in at least one social organization

Specification of the empirical Model

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- Basic Empirical Model

$$happy = a_0 + a_1H + a_2W + \alpha_3SC + X\beta + \varepsilon \quad (1)$$

-Vector X: control demographic variables (age, marital status, gender, wave of WVS)

- Distinction of direct and indirect effect (i.e. that going through Health and Wealth)

$$happy = a_0 + a_1(\lambda_1SC + \hat{H}) + a_2(\lambda_2SC + \hat{W}) + \alpha_3SC + X\beta + \varepsilon$$

Collecting terms:

$$happy = a_0 + a_1\hat{H} + a_2\hat{W} + (\alpha_3 + a_1\lambda_1 + a_2\lambda_2)SC + X\beta + \varepsilon$$

Total effect of social capital: $(a_3 + a_1\lambda_1 + a_2\lambda_2) > a_3$, if $\lambda_1, \lambda_2 > 0$

Selected results for 4 countries

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Table 2 – Estimates of model (2) for a selection of countries – Marginal effects reported

VARIABLES	(1) United States	(2) Brazil	(3) Germany	(4) Russian Federation
good health	0.053*** (0.011)	0.106*** (0.015)	0.111*** (0.018)	0.118*** (0.044)
high income	0.027** (0.011)	0.068*** (0.021)	0.048*** (0.017)	0.164*** (0.018)
dtrust	0.018* (0.010)	0.025 (0.027)	0.115*** (0.014)	0.130*** (0.019)
female	-0.011 (0.010)	-0.020 (0.013)	-0.002 (0.014)	0.014 (0.017)
age	-0.004*** (0.002)	-0.004 (0.003)	-0.011*** (0.002)	-0.024*** (0.003)
age2	0.000*** (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)
married	0.048*** (0.010)	0.054*** (0.014)	0.173*** (0.015)	0.196*** (0.019)
wave	0.001 (0.005)	0.034*** (0.007)	-0.008 (0.007)	0.060*** (0.009)
Observations	2,349	2,494	3,108	2,876

Selected results for 4 countries

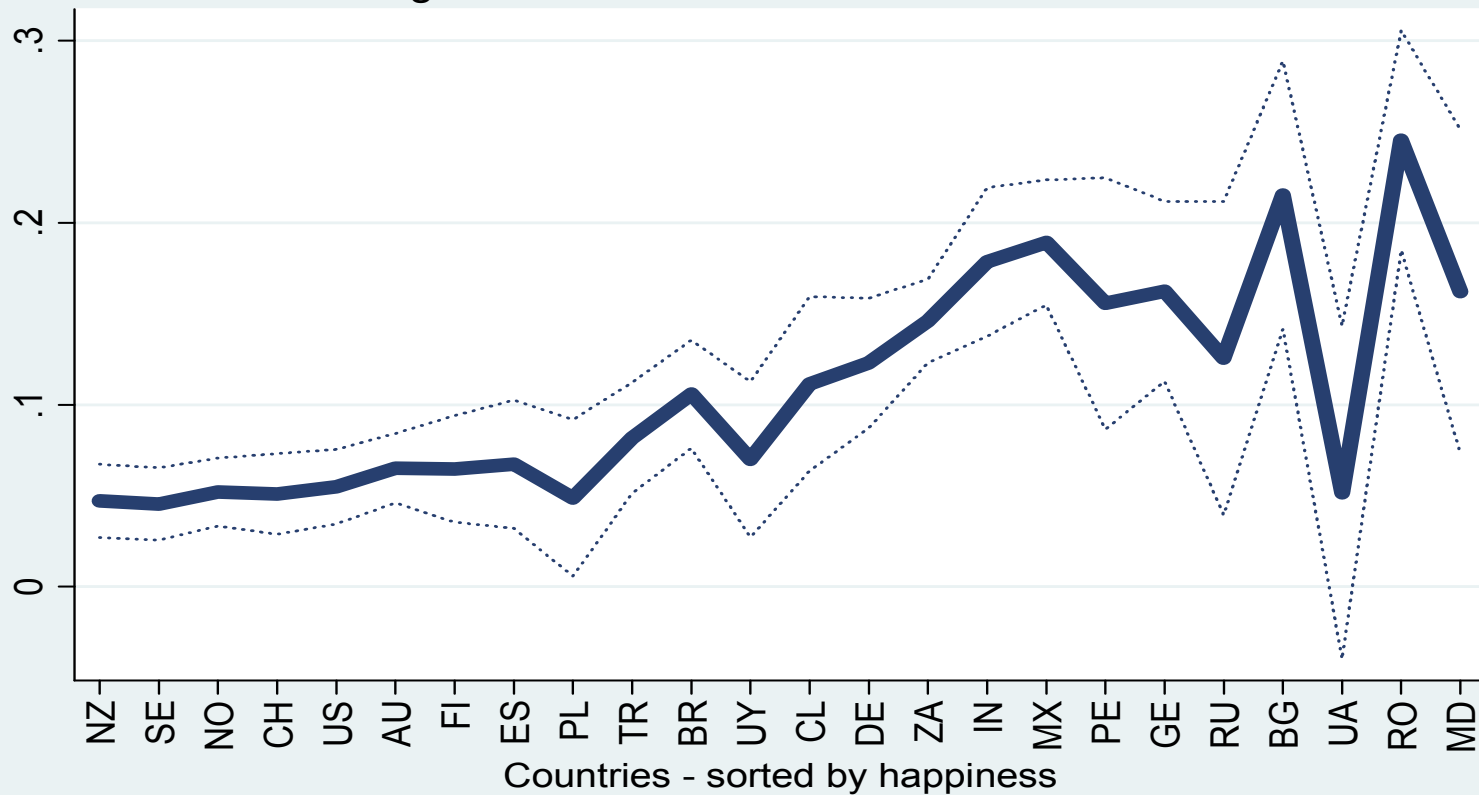
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- Example 1: In United States, an individual with very good health has 5.3% more probability of reporting happiness. On the other hand, high income can give him only 2.7% more probability.
- Example 2: In Russia, an individual with high income has 16.4% more probability of reporting high level of happiness than an individual with low income.

Effect of health on happiness

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Effect of SR health on happiness
Marginal effects and 95% confidence intervals

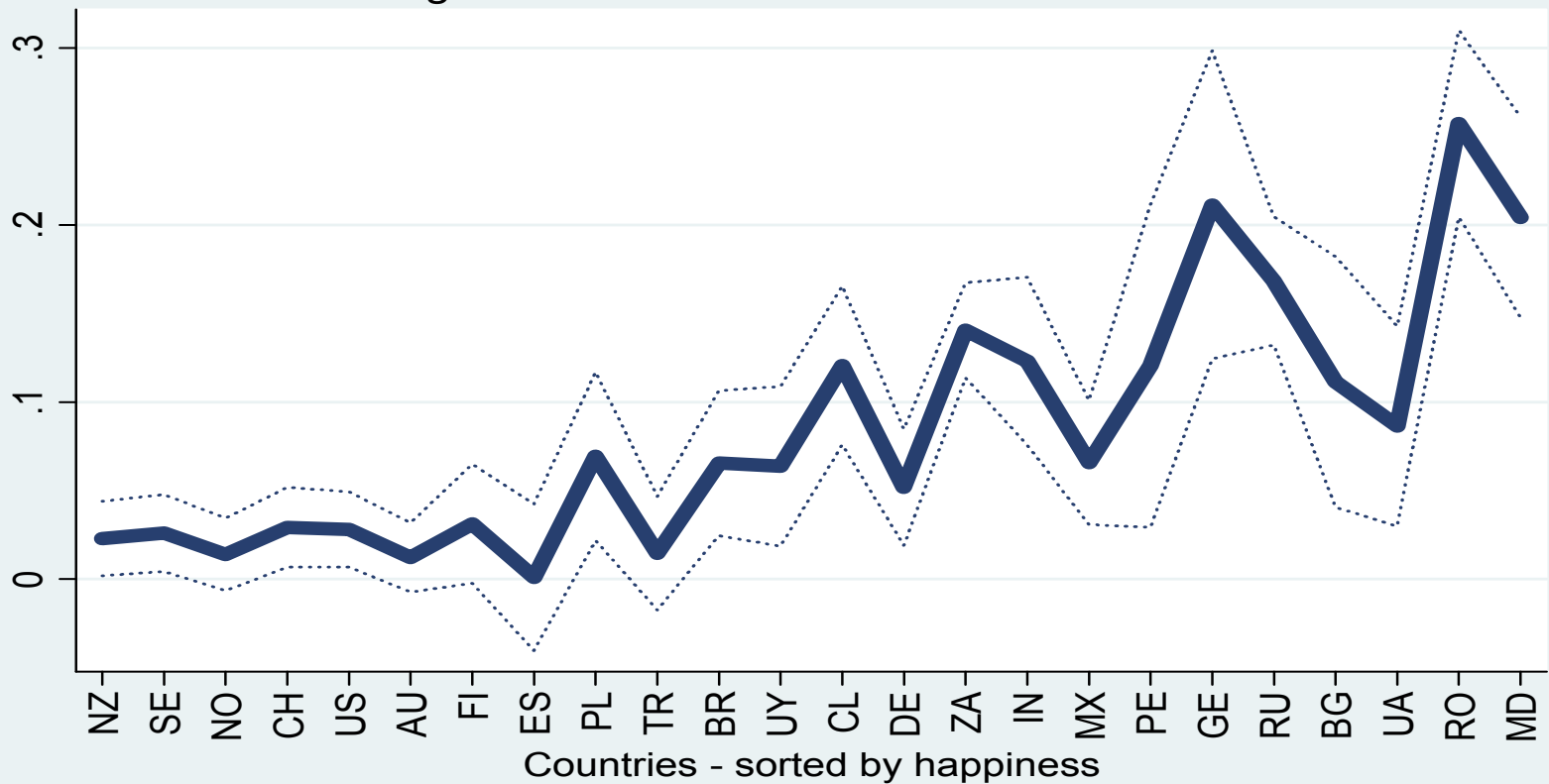


Happiest countries are lying to the left of the x-axis

Effect of relative income on happiness

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Effect of relative income on happiness
Marginal effects and 95% confidence intervals

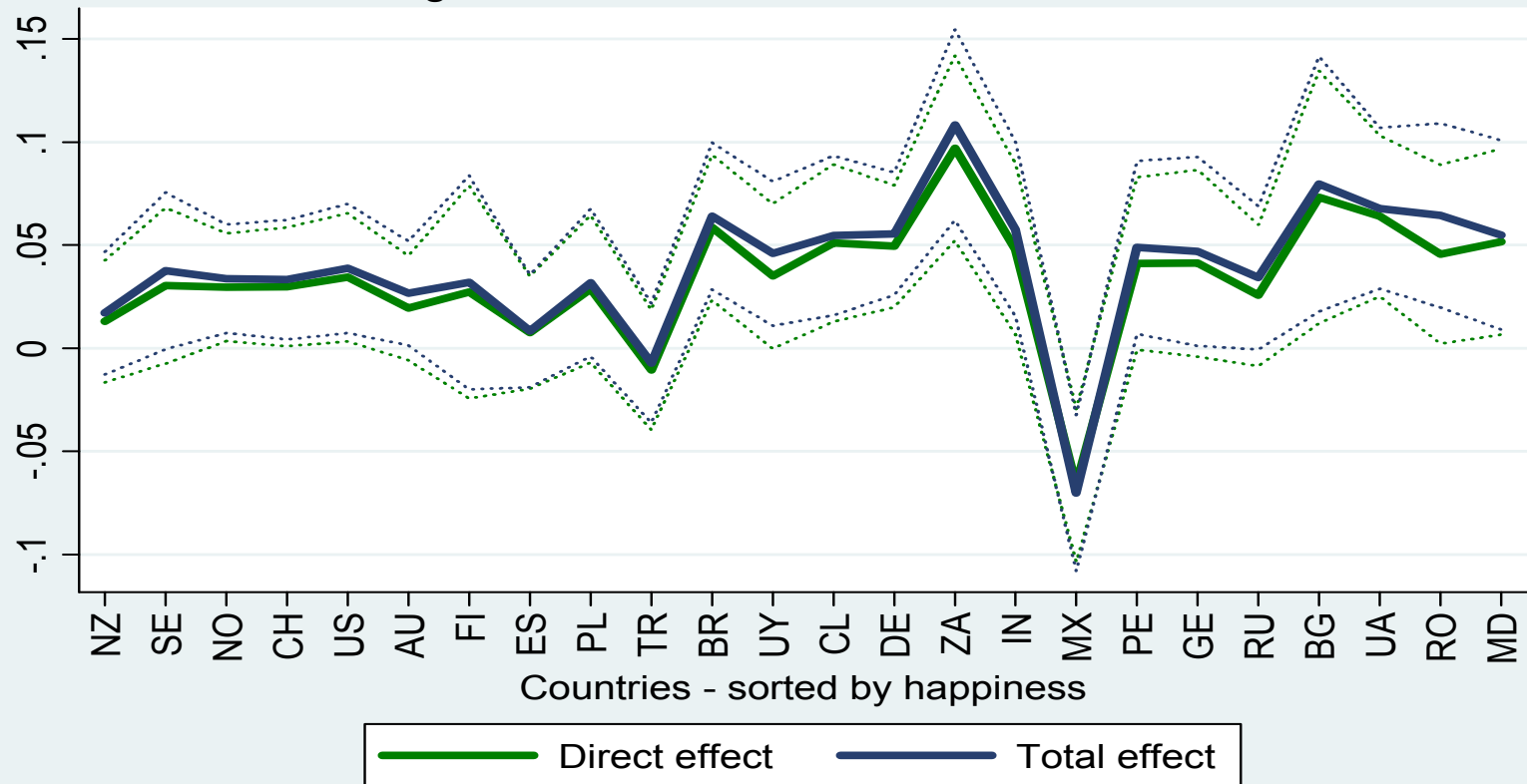


Happiest countries are lying to the left of the x-axis

Effect of social capital on happiness

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Direct and total effect of active membership on happiness
Marginal effects and 95% confidence intervals

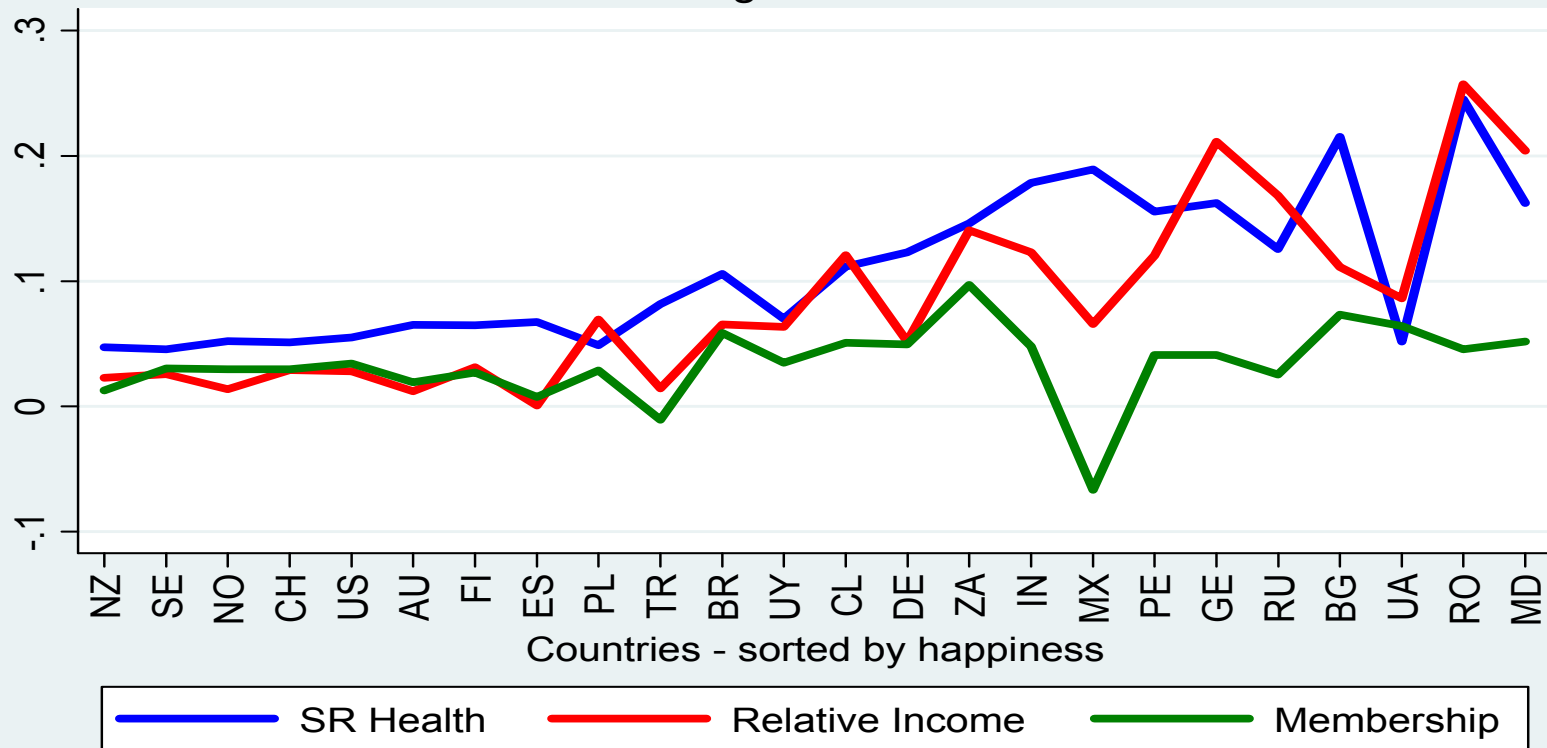


Happiest countries are lying to the left of the x-axis

Effect of each variable on happiness

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Effect of SR health, relative income and social capital on happiness
Marginal effects



Happiest countries are lying to the left of the x-axis

Comments

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- Group New Zealand – Spain: The overall correlation between health and happiness is higher than the correlation of social capital and relative income with happiness
- The marginal impact of the variables on happiness is higher for health and similar for relative income and social capital measured through active membership in associations.
- Group Poland – India: Health has still the highest impact on happiness, but income becomes a more important factor for happiness than social capital
- For the least happy countries (India, Peru, Russia Bulgaria) on the right of the graph, relative income gets even more important than social capital and in a few cases, is a more important driver than health on happiness (Georgia, Ukraine, Romania).

Interesting cases

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- Chile, South Africa: Relative income has almost the same importance to happiness as health
- United States, Finland, Spain, Brazil: Social Capital and income have more or less the same effect on happiness
- Mexico: Social capital has a very low effect

Relation between GDP and selected sociodemographic characteristics and effect of each variable on happiness

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- New Model (happiness across the 24 countries)
- Dependent variable: effect of health, relative income, trust on happiness
- Regressors:
 - Average level of health (scale 1 to 5),
 - Average level of self reported education (scale 1 to 8),
 - employment rate (in 1000\$)
 - GDP per capita

Results

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VARIABLES	(1) effect of good health on happiness	(2) effect of high income on happiness	(3) direct effect of trust on happiness	(4) total effect of trust on happiness	Dependent Variables
average level of health	-0.037 (0.053)	-0.100* (0.051)	-0.148*** (0.043)	-0.149*** (0.044)	
average level of education	-0.006 (0.013)	0.012 (0.012)	0.002 (0.010)	0.002 (0.011)	
employment rate	0.017 (0.084)	0.019 (0.080)	-0.072 (0.068)	-0.067 (0.070)	
GDP per capita in 1000\$	-0.002* (0.001)	-0.002** (0.001)	0.002* (0.001)	0.002* (0.001)	
Constant	0.305 (0.227)	0.448* (0.218)	0.608*** (0.184)	0.614*** (0.189)	
Observations	24	24	24	24	
R-squared	0.398	0.608	0.411	0.399	

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Independent
Variables

Comments

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- GDP per capita has a slightly negative effect on the magnitude of the effect of good health and income on happiness, and a slightly positive effect on the magnitude of the effect of trust on happiness.
- The direct effect of trust on happiness accounts for most of its total effect.
- Average level of health has a negative effect on the magnitude of the effect of income and trust on happiness.
- The rest of the independent variables (level of education, employment rate) have no statistically significant effect.

Overall comments

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- Major determinant of happiness is health.
- Effect of health almost dominates the effect of income (with some notable exceptions)
- Effect of social capital is not negligible (even if we account only the direct effect)
- Effect of health on happiness is larger in poorer countries (in terms of GDP per capita).

Thank you!

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Questions?