



What does predict the trends of happiness? Comparing Social capital and GDP

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Subjective Well-Being (World Values Survey)

- **Happiness**
- Taking all things together, would you say you are:
 - 1 'Very happy'
 - 2 'Quite happy'
 - 3 'Not very happy'
 - 4 'Not at all happy'
- **Life satisfaction**
- All things considered, how satisfied are you with your life as a whole these days?
- Answers on a 10 points scale (1 'Dissatisfied', 10 'Satisfied')

Reliability of Subjective Well-Being

- Happiness is well correlated to:
- Authentic smiles (so called Duchenne smiles: this latter occur when the zygomatic major and orbicularis oris facial muscles fire, and humans identify this as 'genuine smiles').
- Heart rate
- Blood pressure
- Psychosomatic illnesses such as digestive disorders and headaches
- Electroencephalogram measures of pre-frontal brain activity
- Suicides
- Assessment of the person's happiness by friends and family members
- Assessment of the person's happiness by her/his spouse

International differences in the trends of SWB

- The trends of Subjective Well-Being (SWB) show a substantial heterogeneity across countries. In the last thirty years SWB has increased in some countries and decreased in others, (Stevenson and Wolfers, 2008; Inglehart, 2009)
- What does predict these differences?
- **GDP vs. social capital:** We compare the capacity of the trends of social capital and GDP to predict the trends of SWB, on the same samples of countries.

GDP and happiness over time

- Much of the happiness literature revolves around the question:
- “How far is general income growth (beyond income levels already achieved) likely to increase average happiness? This is a question about time series relationships” (Layard et al., 2009, p. 1)”
- An answer: **The Easterlin paradox** (SWB does not increase as income grows)

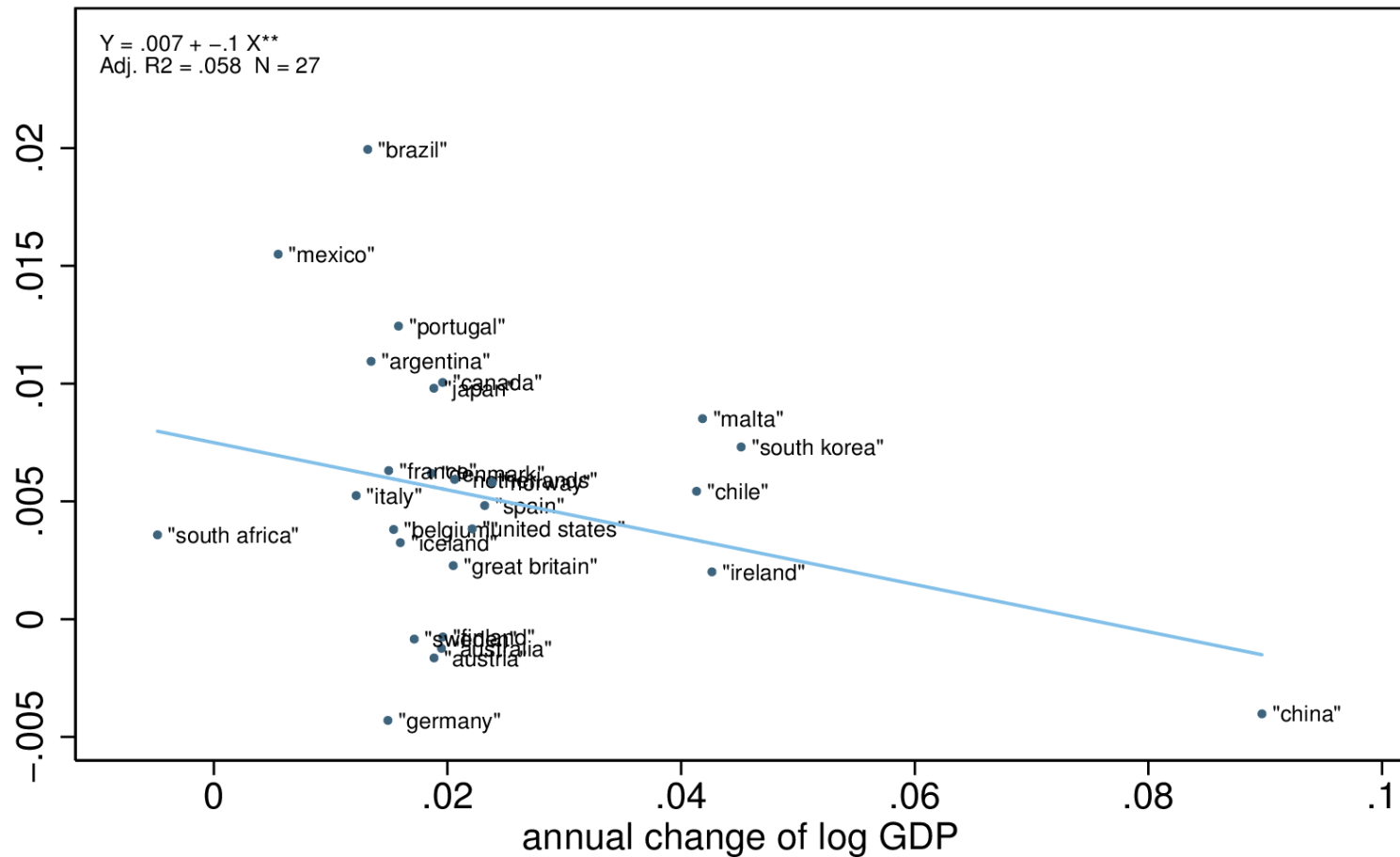
The Paradox Questioned

- The existence of the paradox has been recently questioned by Stevenson et al. (2008, 2010):
 - - they analyze a large sample of countries
 - - bivariate regressions show that average SWB is positively correlated with average income over time
- Answer by Easterlin et al. (2009):
 - - Stevenson et al. fail to distinguish between the short and long-term relationship between SWB and GDP
 - - in the short term SWB and GDP are related but unrelated in the long run

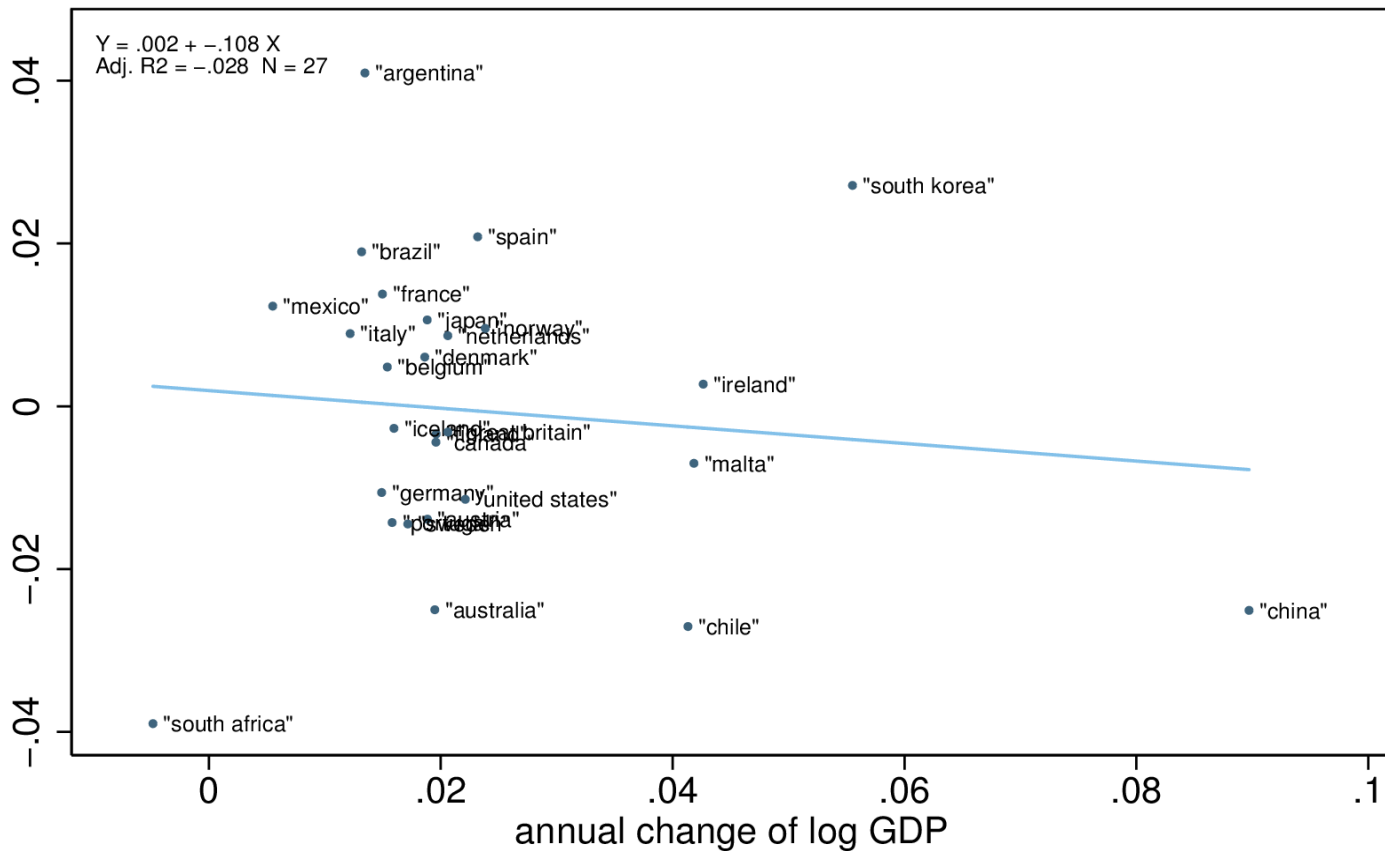
Methodology

- The contrast is not methodological
- Stevenson et al. and Easterlin and Angelescu use the same methodology
 - Bivariate methodology with SWB variations over time regressed on GDP variations
 - Regressions using longest time span available and all the possible data sets

Happiness and GDP over at least 15 years: an example



Life satisfaction and GDP over at least 15 years: an example



Social capital vs. GDP

- In the former sample GDP does not predict the variations over 15 years of SWB.
- How did we select such a sample? Data come from the **World Values Survey**
- We included all the countries provided with long time series (at least 15 years) of SWB and of a social capital variable: **participation to groups or associations.**

Social capital vs. GDP

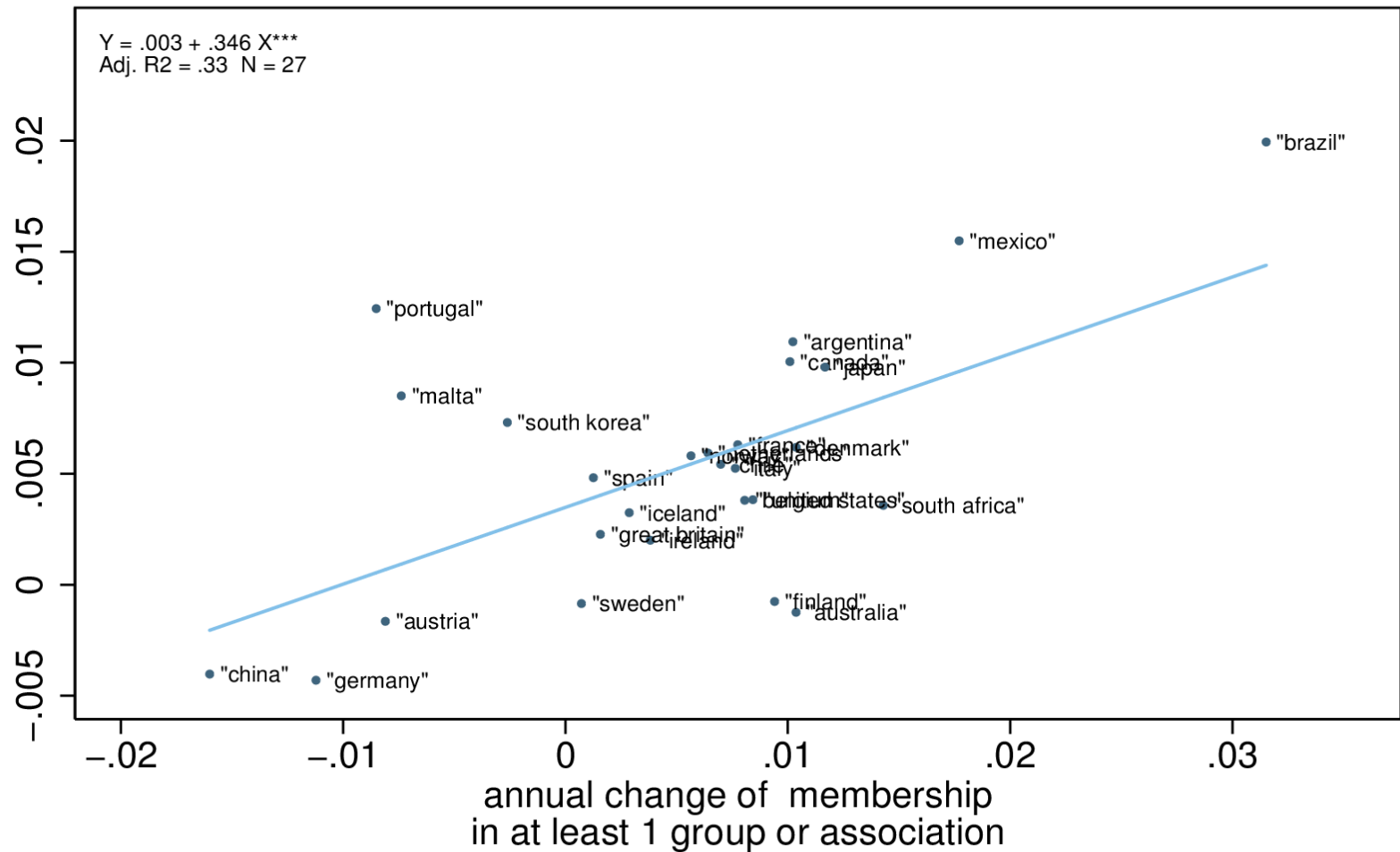
- In this way we can compare the predictive potential of social capital and GDP
- In the following regression we simply substituted GDP with the share of the population participating in at least one group or association

Groups and associations

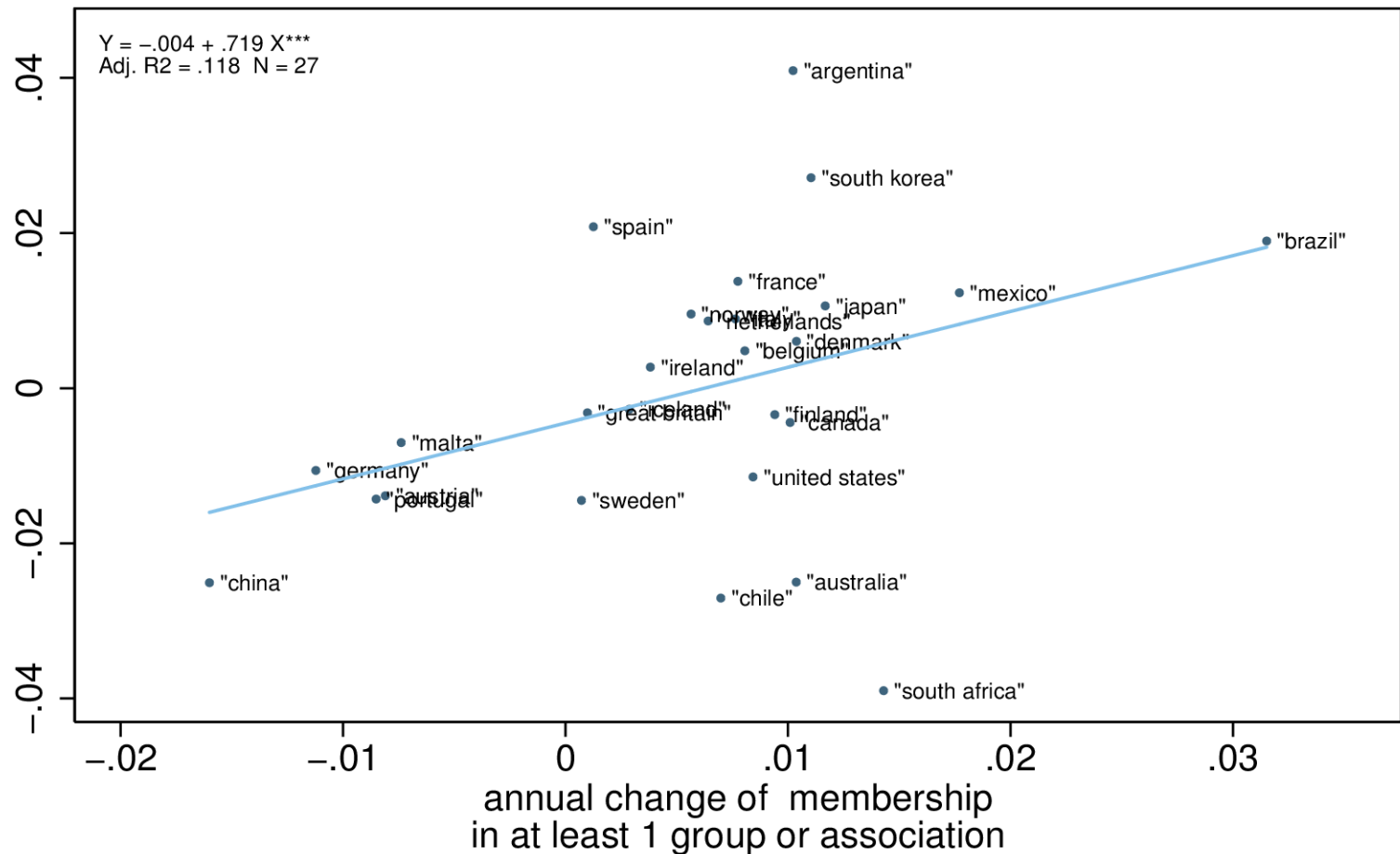
- Social welfare service for elderly
- Religious organizations
- Education, arts, or cultural activities
- Labour unions
- Political parties
- Human rights
- Conservation, the environment, ecology, animal rights

- Youth work
- Professional associations
- Sports or recreation
- Women's group
- Peace movement
- Organizations concerned with health
- Consumer groups
- Other groups

Happiness and membership over the long run (at least 15 years)



Life satisfaction and membership over the long run (at least 15 years)



• annual change of life satisfaction
(absolute amount on a 1 – 10 scale)

— Linear prediction

Tri-variate regressions of happiness on social capital and GDP in the long run (at least 15 years)

	(1) happiness
membership in group or association	0.356** (2.27)
log GDP	0.0103 (0.16)
Observations	27
Adjusted R^2	0.303
<i>t</i> statistics in parentheses	
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$	

Tri-variate regressions of life satisfaction on social capital and GDP in the long run (at least 15 years)

	(1) life satisfaction
membership in group or association	0.793** (3.57)
log GDP	0.0874 (0.37)
Observations	27
Adjusted R^2	0.087
<i>t</i> statistics in parentheses	
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$	

First conclusion

- The data used on SWB are the same in both regressions on social capital and GDP: The sample and the time span do not vary
- Results suggest that in the long run (at least 15 years) GDP does not matter
- Social capital matters a lot

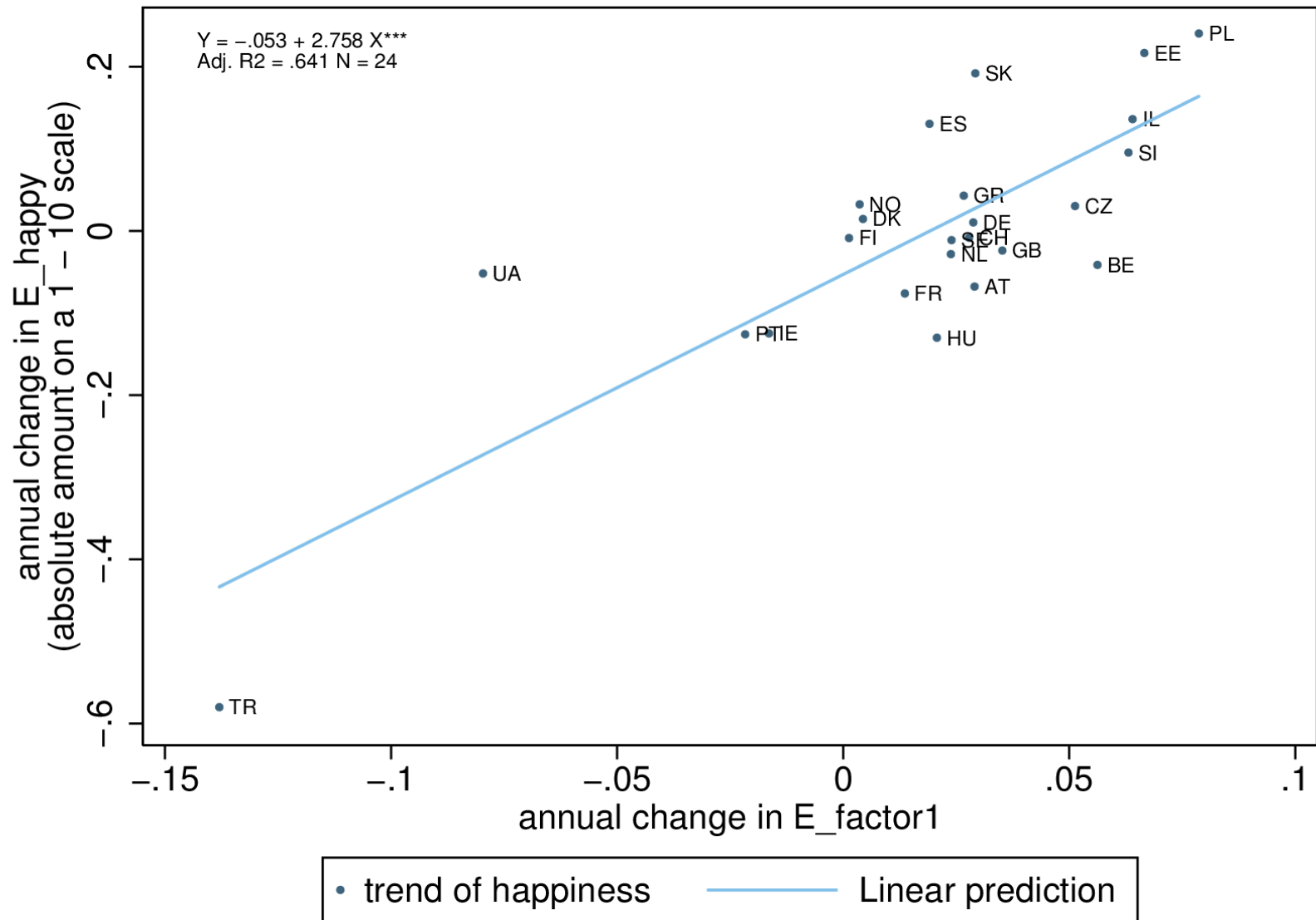
From the long to the medium term

- What happens if we shorten the time span?
- Will the results about GDP and social capital change?
- And what happens if we change the proxy of social capital?
- Social capital variable: **trust**
- Data from the European Social Survey (4 waves every 2 years in 2002-2008)

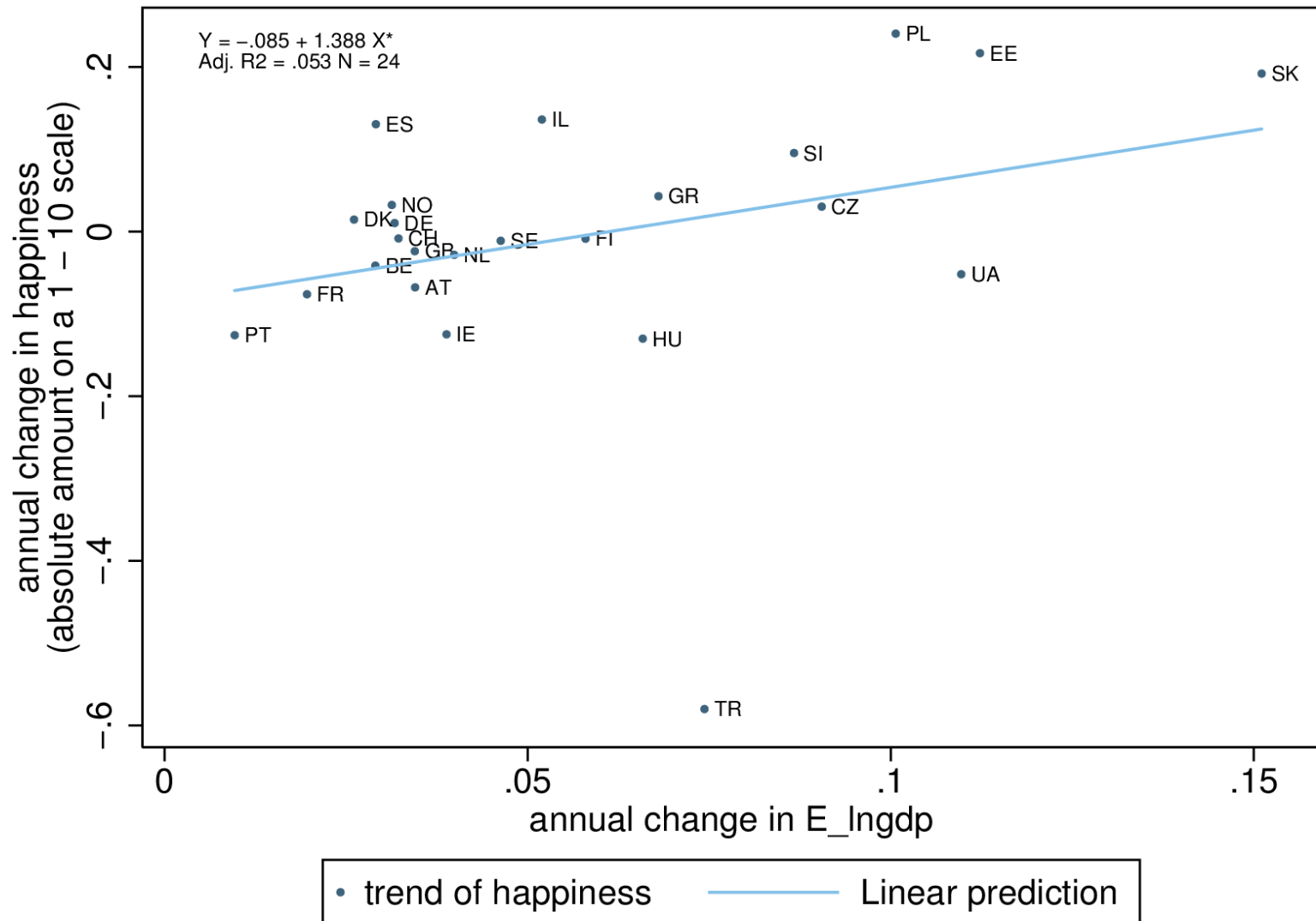
Trust

- We build an index of trust by means of factor analysis using 3 types of trust:
- **Most people can be trusted:**
“Would you say that most people can be trusted?”
- **Most people are helpful**
“Would you say that most of the time people try to be helpful?”
- **Most people are unfair**
“Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?”

Happiness and trust over the medium run (6 years)



Happiness and GDP over the medium run (6 years)



Tri-variate regressions of happiness or life satisfaction, on trust and GDP, over 6 years

	(1) happiness	(2) life satisfaction
index of social trust	2.713*** (4.03)	2.681*** (8.06)
trend of log GDP	1.209** (2.41)	1.574* (2.02)
Constant	-0.121*** (-3.98)	-0.111** (-2.55)
Observations	24	24
<i>t</i> statistics in parentheses		
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$		

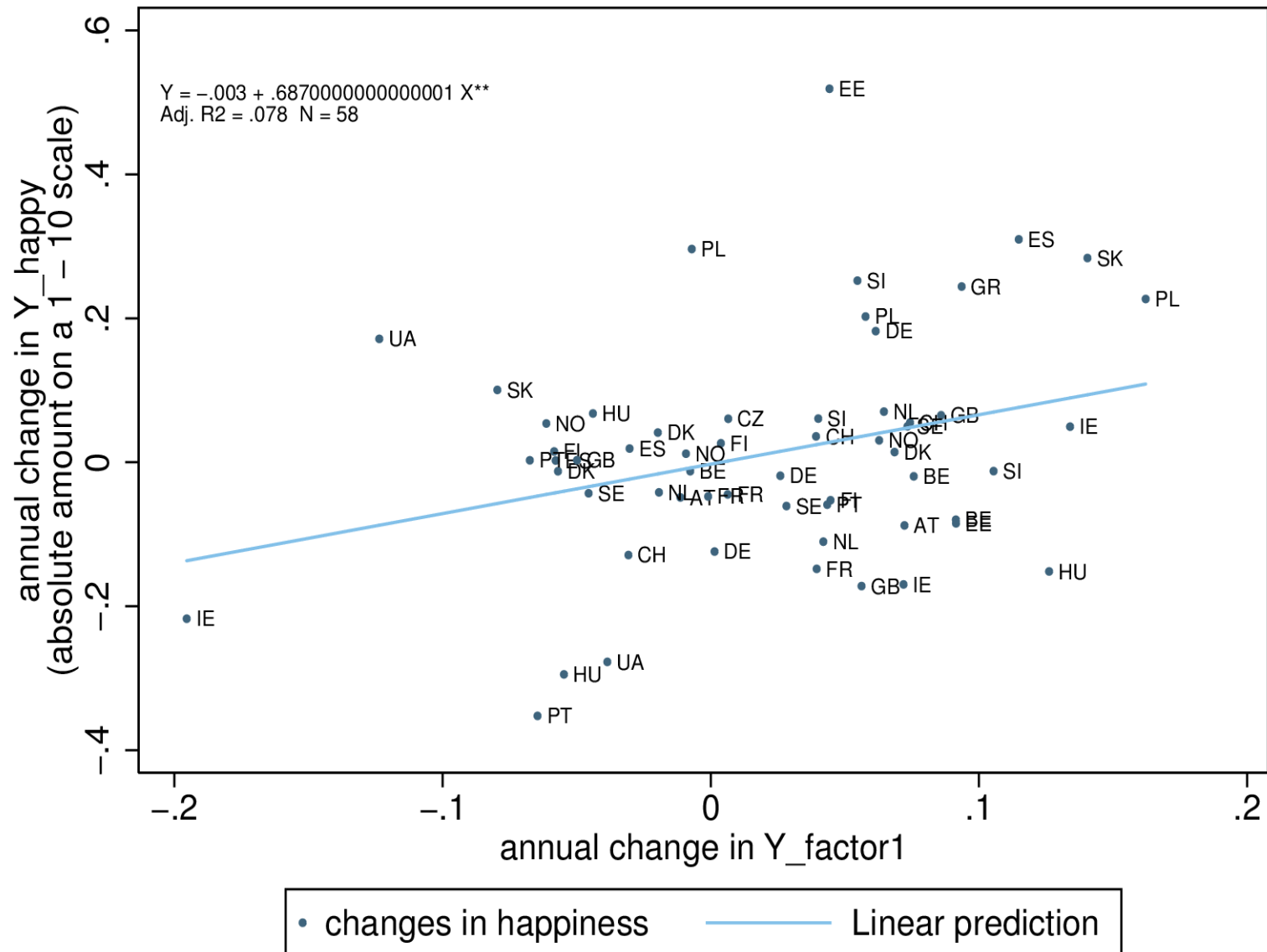
Second conclusion

- In the medium run, social capital still matters a lot
- But GDP begins to become relevant!

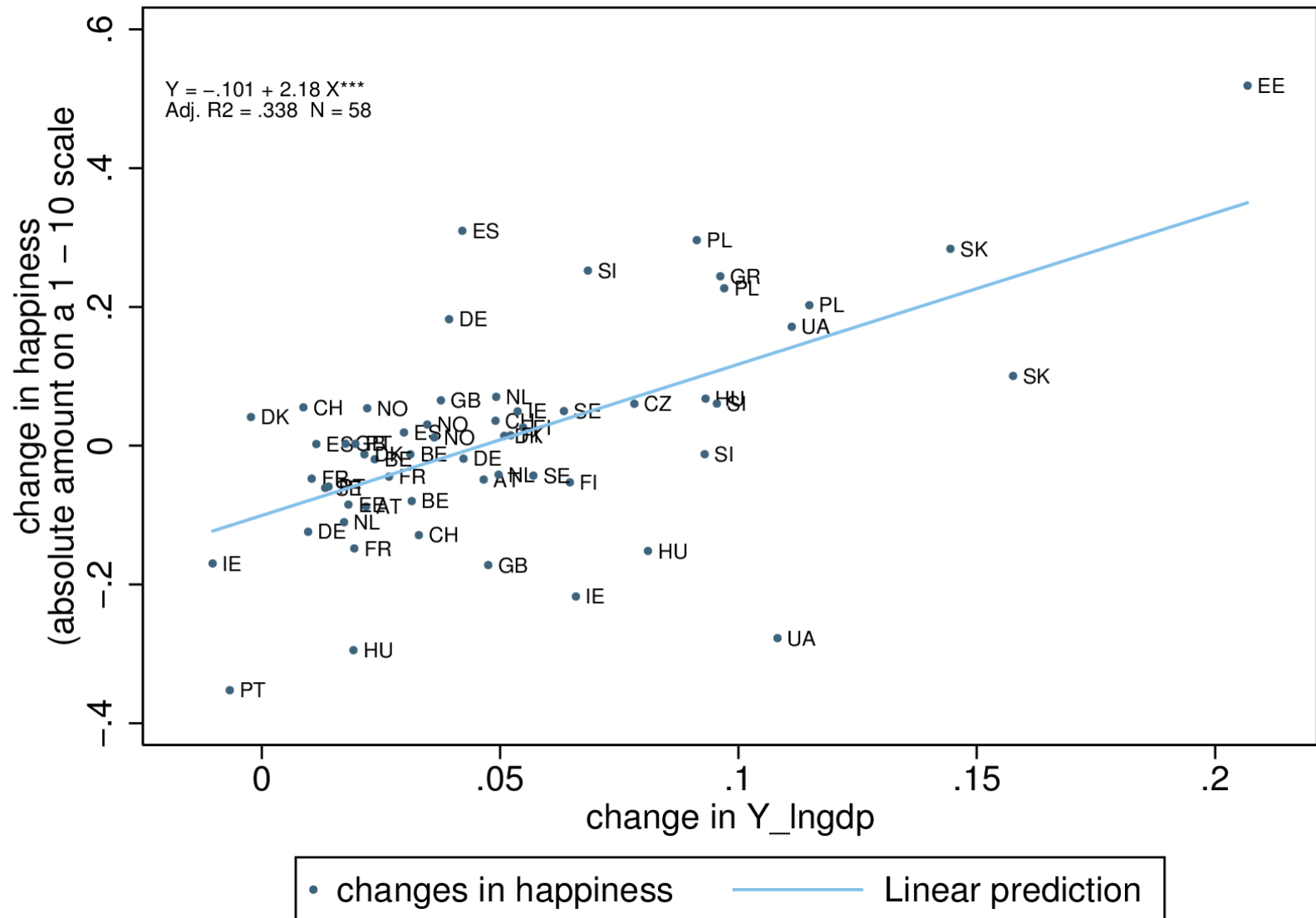
From the medium to the short run

- What happens if we further shorten the period?
- Will the results about GDP and social capital change?
- We use the same data as before: trust, ESS (2002-2008)
- In practice, instead than calculating the trend of SWB and trust in 2002-2008, we divide the time series in three sub-periods: 2002-2004, 2004-2006, 2006-2008

Happiness and trust over the short run (2 years)



Happiness and GDP over the short run (2 years)



Tri-variate regressions of happiness or life satisfaction on trust and GDP, over 2 years

	(1) happiness	(2) life satisfaction
index of social trust	0.569** (2.18)	0.563 (1.58)
changes in log GDP (2yrs)	2.092*** (4.69)	2.286*** (4.73)
Constant	-0.108*** (-4.45)	-0.0943*** (-3.51)
Observations	58	58

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Medium and short run compared

Short run

	(1) happiness	(2) life satisfaction
index of social trust	0.569** (2.18)	0.563 (1.58)
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Medium run

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trend of log GDP	1.209** (2.41)	1.574* (2.02)
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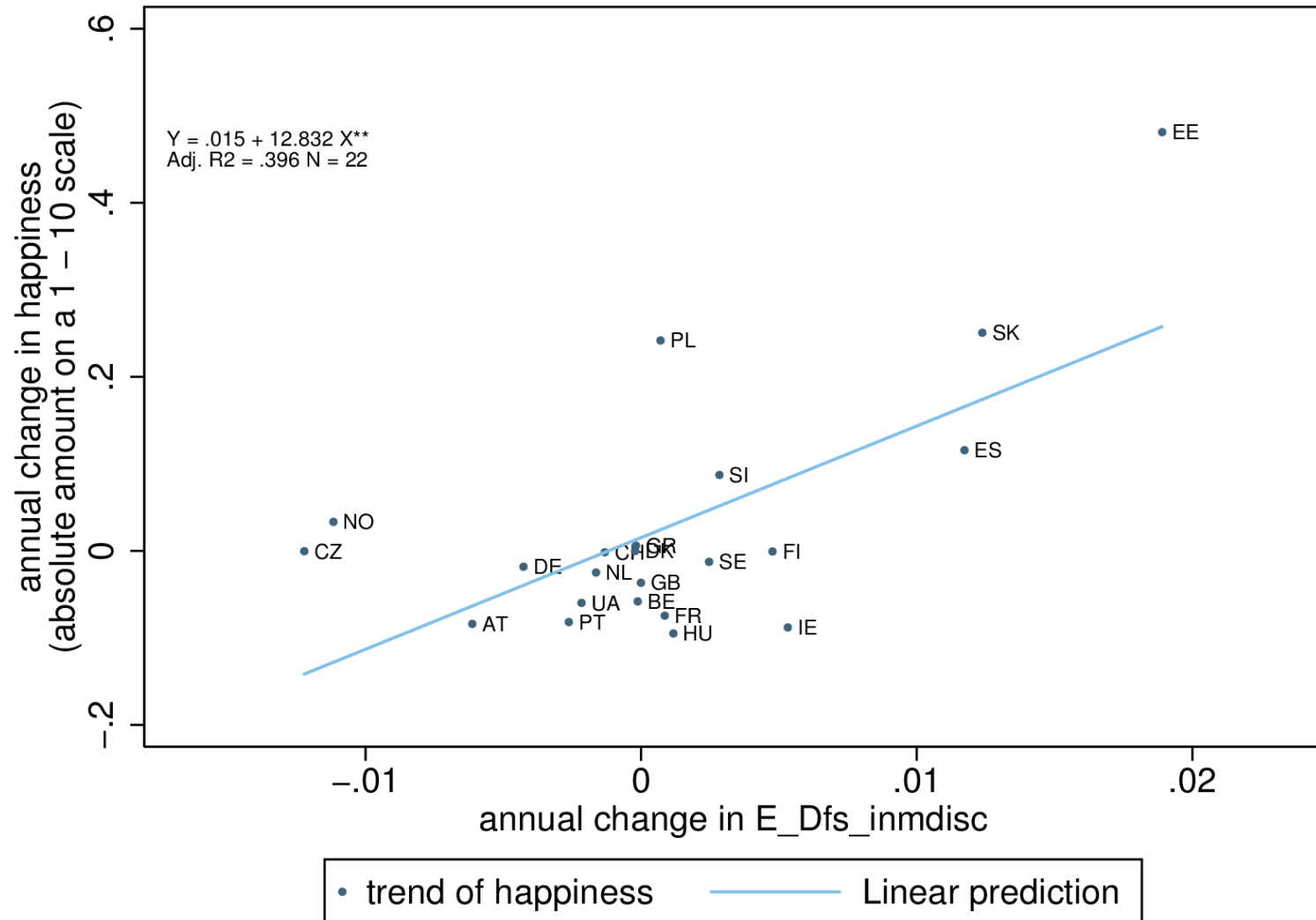
Third conclusion

- In the short run the capacity of social capital to predict SWB weakens sharply
- And GDP becomes more and more important

What happens if we change again the social capital variable?

- Now we use intimate relations: “to have someone to discuss about confidential arguments”
- Data from the European Social Survey (4 waves every 2 years in 2002-2008)

Happiness and intimate relations over the medium run (6 years)



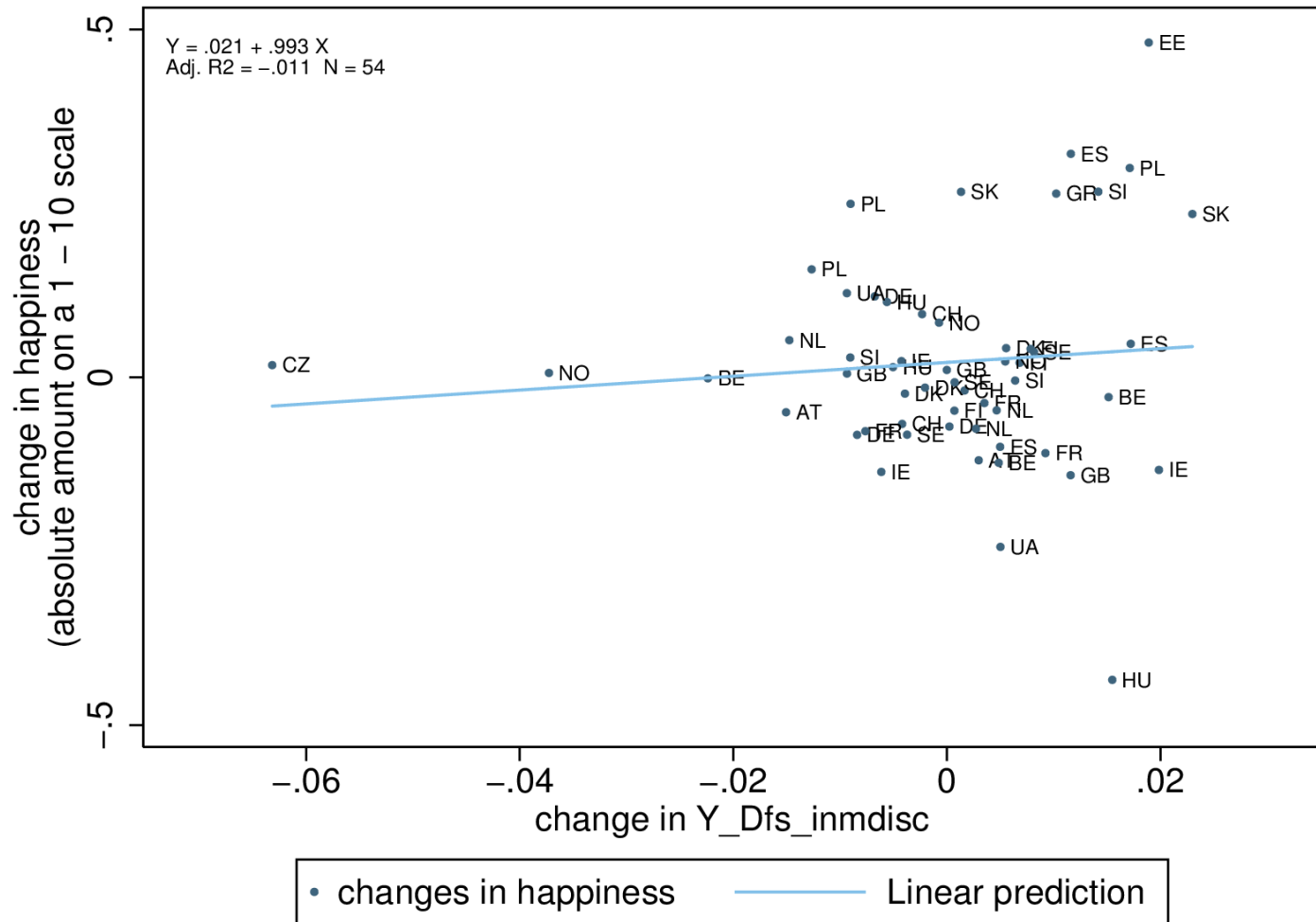
Tri-variate regressions of happiness on intimate relations and GDP, over 6 years

	happiness
Having someone to discuss with	9.39**
Trend of log GDP	1.740**
Constant	-0.08**
Observations	22

From the medium to the short run

- Again, we shorten the period
- Instead than calculating the trend of happiness and intimate relations in 2002-2008, we divide the time series in three sub-periods: 2002-2004, 2004-2006, 2006-2008

Happiness and intimate relations over the short run (2 years)



Tri-variate regressions of happiness on intimate relations and GDP, over 2 years

	happiness
Having someone to discuss with	-0.854
Changes in log GDP (2yrs)	2.282***
Constant	-0.114***
Observations	62

Medium and short run compared

Short run

	happiness
Having someone to discuss with	-0.854
Changes in log GDP (2yrs)	2.282***
Constant	-0.114***
Observations	62

Medium run

	happiness
Having someone to discuss with	9.39**
Trend of log GDP	1.740**
Constant	-0.08**
Observations	22

Summarizing: GDP

- GDP does not matter for SWB in the long run
- It begins to be important in the medium-term
- Its importance increases as the period shortens: Short run coefficients are greater and more significant than medium run coefficients
- Easterlin seems to be right

Summarizing: social capital

- Social capital is strongly correlated to SWB in the long and the medium-term
- This correlation tends to evaporate in the short run: The coefficients are much smaller and less significant than the medium-term ones

Policies for social capital

- Social capital can be the target of public policies (Bartolini 2010)
- Cities
- Media
- Work
- Schools
- Healthcare system

Possible policy implications (for rich countries)

- Do we want a quick effect on happiness which tends to get lost as time goes by? We should persist to be obsessed by economic growth
- Do we want an effect on happiness which is slow and durable? Policies should target social capital

GDP vs. social capital: the US example

- In the US happiness declined in the last 30 years despite substantial economic growth
- The reason: decline in social capital (Bartolini, Bilancini, Pugno (2011))
- The lesson: policies for growth should take into account the sustainability of social capital