

Two Decades of Measuring Environmental Concern

Axel Franzen and Dominikus Vogl
Institute of Sociology
University of Bern

ESRA – Ljubljana - 18th of July 2013

Overview

- I. Motivation and Theory
- II. Measurement and Trend of Environmental Concern
- III. Individual Differences and Country Differences
- IV. Conclusion

The Problem

- > Solving environmental problems like global climate change needs public support
 - Support for environmental regulation and legislation
 - Change in (voluntarily) individual behavior

- > Environmental concern is an indicator for a general level of support in society

Franzen/Vogl

Questions

- > This talk has two goals
 1. How has environmental concern changed since 1993?
 2. Can we explain level and trend?

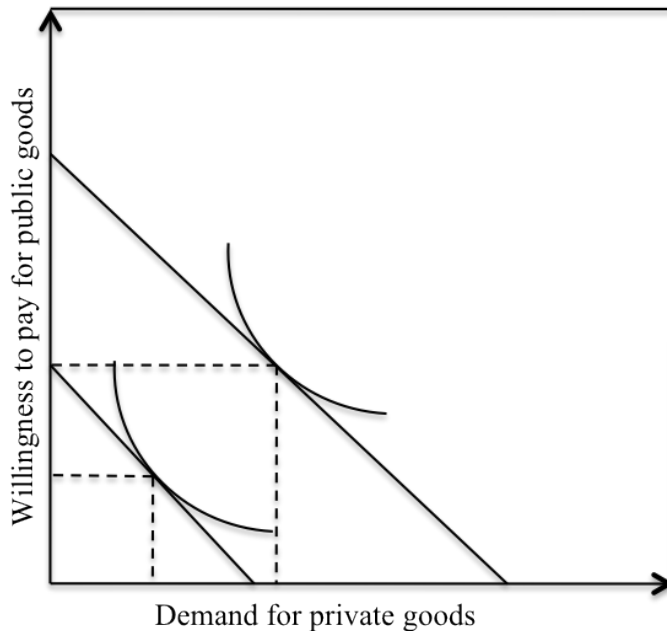
Franzen/Vogl

Hypotheses

- > Post-materialism hypothesis
 - In wealthier countries there is a shift from materialistic values (stability of prices) to post-materialistic values (freedom of speech, democratic participation) (Inglehart 1995)
- > Globalization hypothesis
 - Developing countries have equally high or higher environmental concern than developed countries (Dunlap and York 2008)
- > Affluence hypothesis
 - With higher income the demand for environmental goods should increase
 - Individuals in wealthier countries should have a higher willingness to pay for environmental goods (Franzen 2003, Franzen and Meyer 2010)

Franzen/Vogl

Affluence hypothesis



A shift in income (GDP) shifts the budget restriction away from origin and leads to higher demand for private and public goods (e.g. clean environment)

Franzen/Vogl

Data

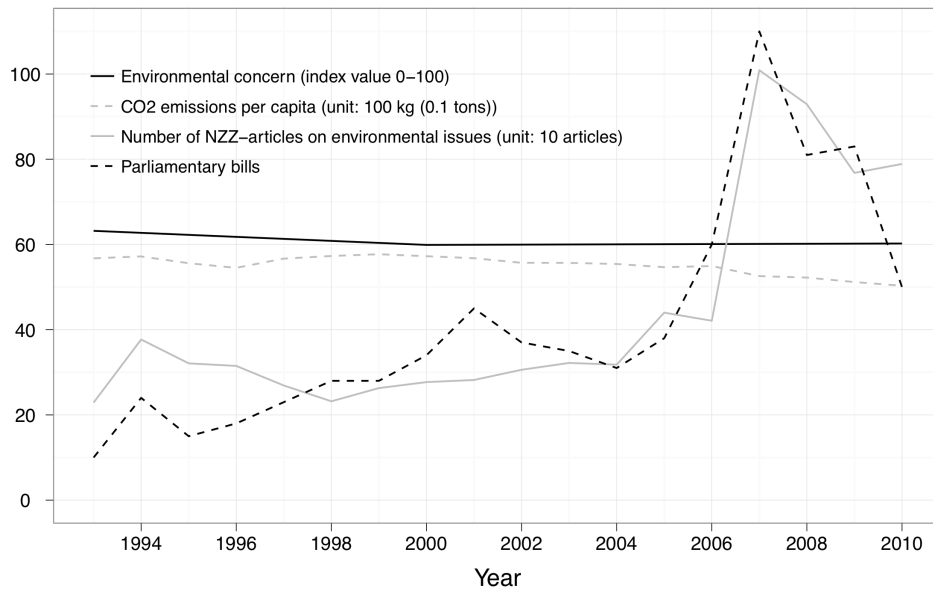
- > International Social Survey Programme (ISSP) in 1993, 2000 and 2010
 - conducted 2010 in 33 countries

Franzen/Vogl

Measurement

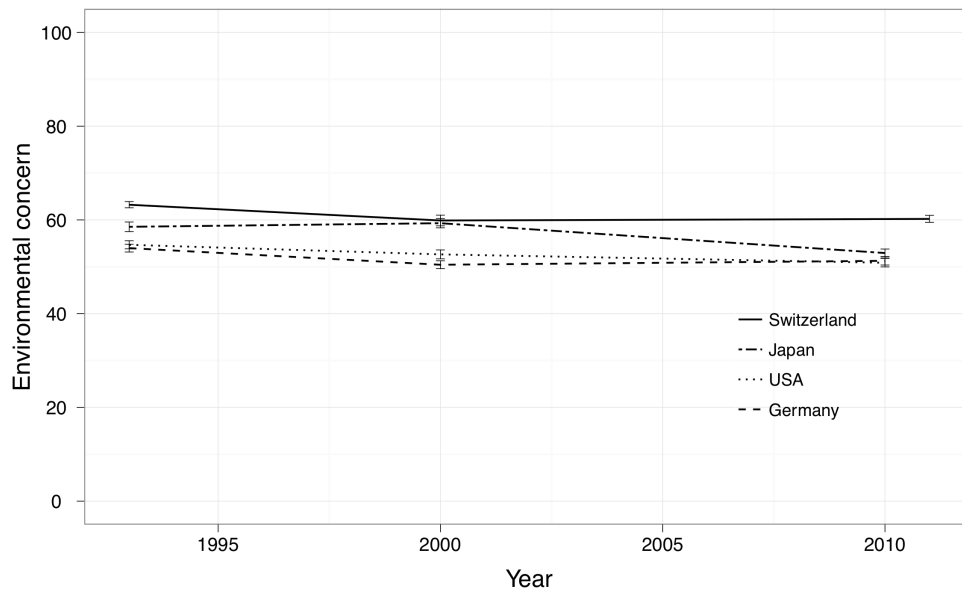
Questions	1993	2000	2011
(1) How willing would you be to accept cuts in your standard of living in order to protect the environment? (% very and fairly willing)	69%	57%	64%
(2) How willing would you be to pay much higher prices in order to protect the environment? (% very and fairly willing)	60%	55%	57%
(3) How willing would you be to pay much higher taxes in order to protect the environment? (% very and fairly willing)	44%	34%	40%
(4) I do what is right for the environment, even when it costs more money or takes more time. (% very and fairly willing)	78%	75%	68%
(5) Modern science will solve our environmental problems with little change to our way of living. (% strong and fairly strong disagreement)	55%	52%	65%
(6) People worry too much about human progress harming the environment. (% strong and fairly strong disagreement)	56%	57%	51%
(7) We worry too much about the future of the environment and not enough about prices and jobs. (% strong and fairly strong disagreement)	54%	54%	50%
(8) In order to protect the environment the country needs economic growth. (% strong and fairly strong disagreement)	51%	44%	51%
(9) It is just too difficult for someone like me to do much about the environment (% strong and fairly strong disagreement)	66%	68%	69%
Index-value of all 9 items (value range from 0 to 100)	63.2	59.9	60.2

Environmental concern in Switzerland



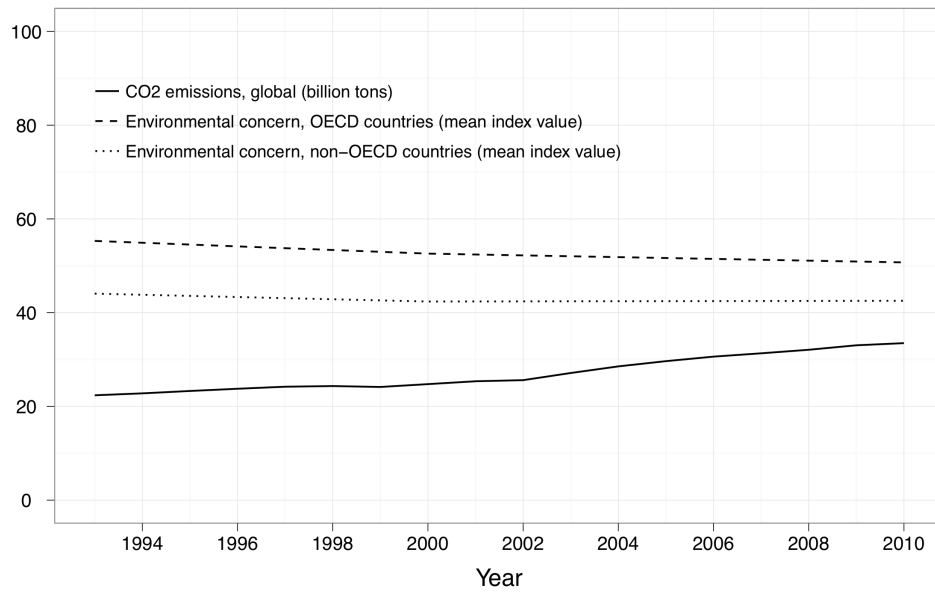
Franzen/Vogl

International comparison



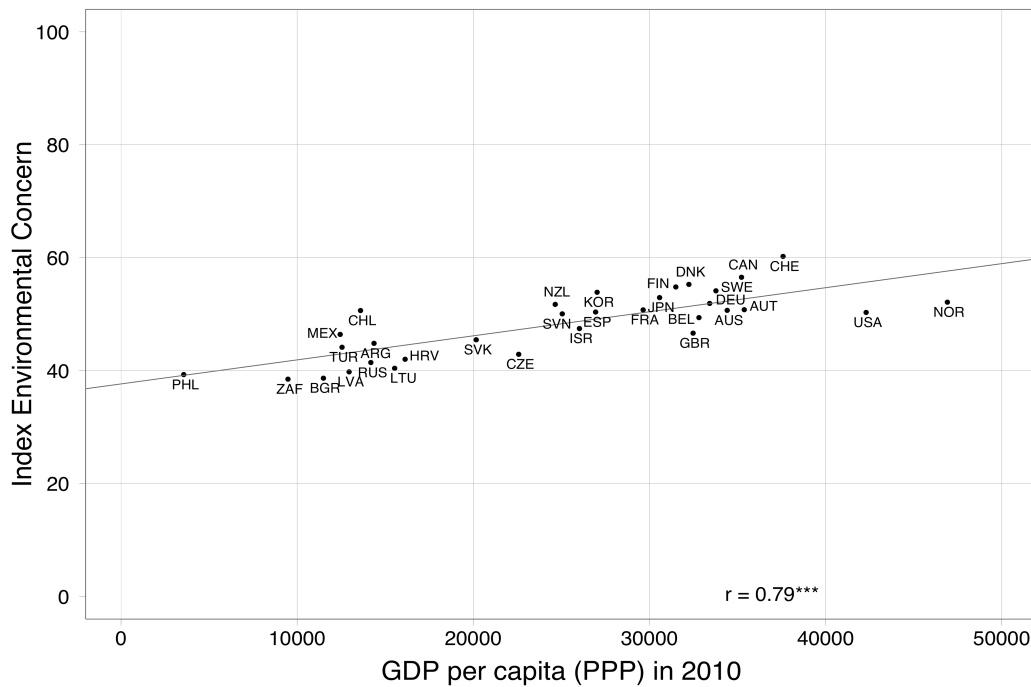
Franzen/Vogl

Rich vs. poor countries



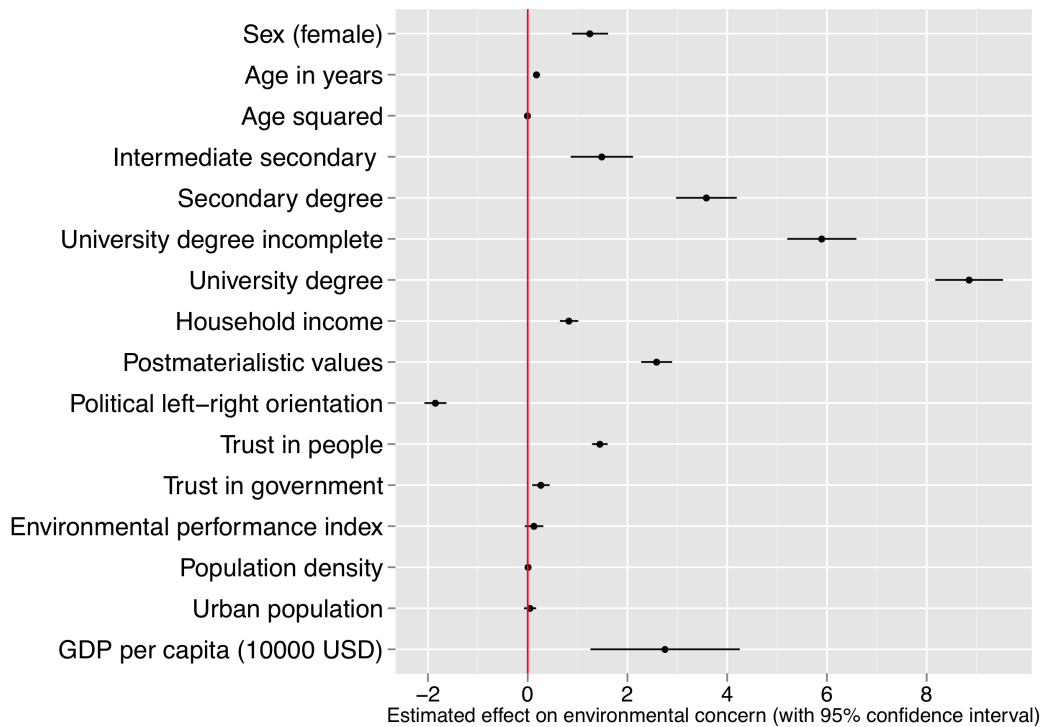
Franzen/Vogl

Correlation



Franzen/Vogl

Multivariate Regression



Franzen/Vogl

Effect of wealth over time

- > Fixed effects model with GDP per capita as explanatory variable.

Table 4: Fixed effects panel-regression (unbalanced)

	Environmental Concern per Country
log GDP per capita (PPP)	6.91 ^{***} (2.66)
<i>Periode effects</i>	
2000	-3.16 ^{***} (0.71)
2010	-6.43 ^{***} (1.05)
R ² within	0.65
Number of countries	25
Number of observations	65

Note: Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusion

- > More affluent countries have higher levels of environmental concern.
- > But why did it not increase over time?
 - Bad measurement
 - Fatigue
 - Conflicting information
 - Competing issues
 - Pool depletion
- > The strongest effect is education.
- > How can we increase environmental concern?

Franzen/Vogl

The paper



Franzen, Axel, Vogl, Dominikus, Two decades of measuring environmental attitudes: A comparative analysis of 33 countries. *Global Environ. Change* (2013), <http://dx.doi.org/10.1016/j.gloenvcha.2013.03.009>.

Available upon request from franzen@soz.unibe.ch

Appendix:

u^b

	Model 1 USA	Model 2 all Data	Model 3 all Data (income imputed)
<i>Individual-level variables</i>			
Sex (1=female)	1.31 (1.02)	1.25*** (0.18)	1.39*** (0.16)
Age in years (18-80)	-0.049 (0.032)	0.18** (0.035)	0.16 (0.030)
Squared age in years (18-80)		-0.0019*** (0.00037)	-0.0017** (0.00031)
Intermediate secondary	1.26 (1.67)	1.49*** (0.32)	1.80*** (0.28)
Secondary degree	8.28** (2.26)	3.58*** (0.31)	3.83*** (0.27)
University degree incomplete	7.48*** (2.00)	5.90*** (0.35)	6.04*** (0.31)
University degree	7.40** (2.34)	8.85*** (0.35)	9.09*** (0.30)
Relative income within country (Model 1: absolute income)	0.065*** (0.019)	0.83*** (0.094)	0.84*** (0.092)
Postmaterialism	1.44 (0.84)	2.59*** (0.16)	2.57*** (0.14)
Party affiliation (1=left, 5=right)	-3.66*** (0.66)	-1.85*** (0.11)	-1.79*** (0.10)
General trust in people	2.01** (0.41)	1.45*** (0.080)	1.40*** (0.071)
General trust in government	0.45 (0.48)	0.26* (0.089)	0.13 (0.078)
<i>Country-level variables</i>			
GDP (PPP) in 1000		0.28*** (0.076)	0.27*** (0.073)
Proportion urban population		0.048 (0.063)	0.043 (0.060)
Population density		0.0079 (0.0055)	0.0081 (0.0052)
Environmental Performance Index		0.13 (0.095)	0.13 (0.091)
Constant	49.0*** (3.32)	18.8* (7.99)	19.8 (7.63)
Standard deviation			
country level		3.65***	3.50***
individual level		13.4***	13.4***
Intraclass correlation (ICC)			
null model		0.16	0.15
model with covariates		0.069	0.064
Explained variance			
country level		0.64	0.64
individual level		0.12	0.11
Adj. R ²	0.15		
Number of countries	1	31	31
Number of observations	872	21646	27460