Beliefs in Technology and Support for Environmental Taxes: An Empirical Investigation

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Motivation

International agenda of promoting 'green technologies' within the context of sustainability

Secretary-General Ban Ki-moon: 'Investment now will result in major savings in the future, and can propel economic growth today. It can support universal energy access, sustainable cities and well-being for people and the planet'.

How to achieve these goals? Fiscal policy?

'We need more **public finance**, more private finance and better mechanisms for channelling investments to where they are most needed.'

Motivation

Taxes as a viable tool for sustainability?

Out of 78 936 individuals in our sample (WVS w5),

- 12 percent are engaged in environmental organizations, while 87 percent are not.
- more than half of the respondents state that they are willing to either pay environmental taxes.

Questions

What are the determinants of an individual's support for environmental taxes?

- an individual trust in government and in people?
- an individual awareness of climate change?
- an individual beliefs in technology?

Other factors: gender, education and income (Torgler and Garcia-Valinas, 2007)

Beliefs in Technology

Beliefs in Technology may increase, decrease or may not influence an individual support for environmental taxes because

- may diffuse an individual responsibility regarding environmental issues (Borden, 1984)
- may strengthen an individual understanding of the need to invest in green tech
- lack of knowledge and/or uncertainty regarding the potential benefits and costs of technological innovation

Preview of Findings

The main determinants of an individual attitude regarding support for environmental taxes

- Income and education
- Confidence in government and trust in people
- Environmental awareness

Beliefs in technology exhibit, if anything, a nonlinear impact

Data: Dependent variables

World Value Survey (wave n5, 2005-2009).

- 'Tax' is a dummy variable equal to 1 if the response to the statement 'I would agree to an increase in taxes if the extra money were used to prevent environmental pollution' is strongly agree or agree and 0 if it is strongly disagree or disagree.

- The second variable, 'Income' is a dummy variable equal to 1 if the response to the statement 'I would give part of my income if I were certain that the money would be used to prevent environmental pollution' is strongly agree or agree and 0 if it is strongly disagree or disagree.

- The third variable, 'Member' is a dummy variable equal to 1 if the respondent declares to be a member of an environmental organisation and 0 otherwise.

Data: Explanatory variables

i) socio-demographic characteristics

ii) levels of trust

iii) environmental awareness

iv) beliefs regarding the role of technology.

Methodology

Logistic regressions

- robust standard errors clustered at the country level
- country fixed effects

The coefficients we display are odd ratios

Attitudes and Socio-Demographic Characteristics

	Tax	Income	Member
Gender	0.9913	1.0395	0.8940***
	(0.0235)	(0.0246)	(0.0337)
Low income	0.6945***	0.6680***	0.7854***
	(0.0406)	(0.0342)	(0.0652)
Middle income	0.8725***	0.8454***	0.8789**
	(0.0437)	(0.0393)	(0.0466)
No education	0.5768***	0.4053***	0.4343***
	(0.0369)	(0.0285)	(0.0677)
Primary education	0.6349***	0.5218***	0.5472***
	(0.0353)	(0.0331)	(0.0387)
Secondary education	0.7763***	0.6664***	0.7075***
	(0.0323)	(0.0307)	(0.0429)
Country fixed effects	yes	yes	yes
Observations	60 463	60 576	65 698
Number of clusters	50	50	53
Pseudo R-squared	0.0757	0.0993	0.1681

Notes: We also control for age and children. A constant is included
$*p < .10$, $**p < .05$, $***p < .01$ (two-tailed tests)

Attitudes and Trust

	Tax	Income	Member
Confidence in Government	1.2450***	1.2205***	1.152731***
	(0.0233)	(0.0278)	(0.0434)
Trust in People	1.2444***	1.2409***	1.2380***
	(0.0623)	(0.0668)	(0.0711)
Baseline controls	yes	yes	yes
Country fixed effects	yes	yes	yes
Observations	50 398	50 473	54 612
Number of clusters	47	47	50
Pseudo R-squared	0.0772	0.1080	0.1684

Notes: Reported values are the odds ratios from logit regressions (with robust standard errors clustered at the country level, in parentheses); the unit of observation is an individual respondent.

Attitudes and Environmental Awareness

	Tax	Tax	Tax
Global warming	1.2911***		1.1779***
	(0.0402)		(0.0413)
Pollution		1.3246***	1.2179***
		(0.0346)	(0.0327)
Baseline controls	yes	yes	yes
Country fixed effects	yes	yes	yes
Observations	53 815	56 029	53 396
Number of clusters	47	47	47
Pseudo R-squared	0.0819	0.0836	0.0841

Notes: Reported values are the odds ratios from logit regressions (with robust standard errors, in parentheses); the unit of observation is an individual respondent.

Attitudes and Beliefs in Technology

	Tax	Tax	Tax
Tech good	1.0240**		
	(0.0080)		
Tech better		1.0295***	
		(0.0075)	
Tech extreme			1.1696***
			(0.0428)
Baseline controls	yes	yes	yes
Country fixed effects	yes	yes	yes
Observations	52 014	53 509	52 014
Number of clusters	45	46	45
Pseudo R-squared	0.0728	0.0761	0.0732

Notes: Reported values are the odds ratios from logit regressions (with robust standard errors clustered at the country level, in parentheses); the unit of observation is an individual respondent.

Ongoing Work and Extensions

Who is the Ecological citizen?

- What does the data tell us?
- Apply Butler's performativity to this analysis?

Extensions

- Does being engaged in environmental organization changes an individual support for taxes?
- Extend analysis: partial least squares methodology

Thank you!