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**Beliefs in technology and support for environmental taxes: an empirical investigation**

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

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## Abstract

This paper studies the impact of beliefs regarding technological progress on individual's willingness to pay higher taxes to finance environmental related policies. While existing research focuses on social, political and institutional factors behind environmental attitudes, in this paper we study how beliefs in technology impact the support for environmental taxes. We also analyse the role of education and income on the willingness to pay ecotaxes. We conclude the paper discussing the potential implications of our findings for policy makers that aim to develop policies during the transition towards a green economy that combines both technological progress and behavioural changes.

**Keywords: Environmental Taxes, Technology, Attitudes, Beliefs**

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In the 2014 World Economic Forum, Secretary-General Ban Ki-moon insisted on the role that businesses can play in fighting climate change.<sup>1</sup> He underlined in particular, how businesses investment in clean technologies can lead to a virtuous circle where ‘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’. Underlying this message lies a belief that technological innovation can indeed play a major role in addressing climate change. Ban Ki-moon also pointed out the need for coordination among businesses, governments and society at large. In particular, he argued ‘We need more public finance, more private finance and better mechanisms for channelling investments to where they are most needed.’

This paper analyses a specific dimension to be considered when promoting this agenda: the citizens willingness to accept environmental taxes, to finance those technologically related investments. Green taxes (also called ”environmental taxes”, ecotaxes or ”pollution taxes”) are taxes on environmental pollutants or on goods whose use produces such pollutants. An additional element of ecotaxing is that the tax revenue can be directed to financing green technologies.

Economic theory suggests that taxes on polluting emissions will reduce environmental harm in the least costly manner, by encouraging changes in behaviour by those firms and households that can reduce their pollution at the lowest cost. In practice, green taxes-even indirect ones, on proxies for emissions or on related goods-have rarely been imposed. The European Commission defines an environmental tax broadly as ‘a tax whose base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment.’ This definition includes taxes that were not enacted with environmental goals in mind. In fact, according to Eurostat, most of these taxes are on energy (76 percent of all environmental tax revenue) and transportation (21 percent), leaving a small fraction for pure pollution taxes.

Three fundamental aspects may determine citizen’s attitudes towards the latter: i) individuals trust in governments and in people in general; ii) individuals beliefs regarding technological progress and iii) individuals awareness of climate change. In addition to these, socio-demographic characteristics such as gender, education, income and number of children may also play an im-

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<sup>1</sup><http://www.un.org/apps/news/story.asp?NewsID=46995Cr=climate+changeCr1=>

portant role.

Torgler and Garcia-Valinas (2007) is the closest study to ours. They study the determinants of individual environmental attitudes. They do so focusing on a single country (Spain) and using the World Values Survey and European Values Survey for the 90s. In our study, instead, we analyse recent data from 2005-2009 and our sample includes 50 countries. Conceptually, the previous authors focus on the role of political interest and social capital as determinants of individual attitudes, while our main interest is to analyse whether beliefs regarding technological innovation drive respondents attitudes. Beliefs on future technological improvements may play a crucial role in the design of environmental tax reform. Indeed, behavioural changes are considered as essential both in understanding current environmental challenges (Vives-Rego et al. 2012 ; Wang, 2003, among others) and future ones. Borden(1984) argues that beliefs in technology may diffuse individuals responsibility regarding environmental issues.

In short, according to our data, education and income levels are the main determinants behind environmental attitudes. Further, individuals that exhibit a higher degree of confidence and trust in institutions and in people in general are more likely to agree to pay taxes for environmental purposes and to be engaged in environmental organizations. Individual's environmental awareness is also an important determinant of the willingness to pay environmental taxes. It is important to note that while our analysis is cross country, these result come from variations across individual characteristics and attitudes within countries, since our empirical analysis includes country fixed effects and clusters standard errors at the country level.

In the last part of our analysis we report a relatively novel aspect: the link between individual's perception of technological progress and their willingness to pay environmental taxes. We find that those respondents who believe that technology is good for societal progress, measured in a variety of ways, do not necessarily exhibit more pro-environmental attitudes. Yet, we also find that individuals that exhibit strong opinions, either positive or negative, regarding technology, will be more likely in favour of environmental taxes. This is in line with the hypothesis that beliefs in technology have a nonlinear impact in environmental attitudes, an issue to be further

developed in future research.

The study of pro-environmental attitudes has partly centered around the participation of individuals into environmental organisations on a voluntary basis (Pretty and Ward, 2001). A number of studies have analysed individuals willingness to pay for technological innovations, such as smart meters, which obviously may have a positive impact on environmental resources. Gerpott and Paukert (2013) and Hierzinger et al.(2012), among others, have studied willingness to pay for smart meters in Germany. As Gerpott and Paukert (2013) ask ‘to what extent is it possible to explain differences in WTP for SM by customer perceptions of various facets of SM features and general environmental awareness?’ (where WTP is willingness to pay and SM is smart meter). That is, what is the link between confidence in technology and environmental attitudes?

Regarding the role of environmental awareness, Ferreira et al. (2013) study the relation between self reported measures of air pollution and life satisfaction. They find a negative impact of  $SO_2$  concentrations on self-reported life satisfaction. Similarly, our study analyses how individual’s awareness of pollution and global warming relates to their willingness to pay environmental taxes.

The paper is structured as follows. In section 1 we describe the data, methodology and regression model. In section 2 we presents the results and discussion and conclusions are reported in section 3.

## 1 Data and Methodology

All of our variables come from the World Values Survey (2005-2009). This dataset provides a rich set of individual’s characteristics that allows us to study the determinants of environmental attitudes once country characteristics are controlled for.

### 1.1 Dependent variables

We consider three main dependent variables of interest related to individual’s attitudes towards green fiscal policies.<sup>2</sup>

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<sup>2</sup>The code of these variables in the original survey are V106, V105 and V29

The first variable; ‘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.

## 1.2 Explanatory variables

Since we are interested in understanding the determinants of individual’s environmental attitudes, and not in the institutional or country level factors affecting those, we include country fixed effects in all of our regressions. Our goal is to compare individuals from the same country but having different: i) socio-demographic characteristics; ii) levels of trust; iii) environmental awareness; and iv) beliefs regarding the role of technology. We next describe the our set of explanatory variables corresponding to each of these categories.

i) The set of socio-demographic characteristics includes: ‘Gender’ is a dummy variable equal to one if the respondent is female; ‘Young’ is a dummy variable equal to one if the respondent is less than 24 years old; four dummy variables concerning education : ‘Primary education’, ‘Secondary education’, ‘Tertiary education’ and ‘No education’, which are equal to one if the respondent education is not higher than primary, secondary and tertiary levels or if it lacks formal education, respectively; three dummy variables concerning income: ‘Low income’, ‘middle income’ and ‘high income’ which are three dummy variables equal to one if the respondent income scale is classified by the survey as lower than the fourth, eight and tenth steps respectively; ‘No children’ is a dummy variable equal to one if the respondent has no children.

ii) Our first measure to capture social capital is a categorical variable that ranges from 4 to 1 if the respondent answer to ‘how much confidence you have in The government (in your nations

capital) is ‘a great deal of confidence’, ‘quite a lot of confidence’, ‘not very much confidence’ or ‘none at all’ respectively. <sup>3</sup> Our second measure to capture social capital is a dummy variable equal to 1 if the respondent agrees with the statement that ‘Generally speaking, most people can be trusted’ and 0 if the respondent agrees with the statement that ‘you need to be very careful in dealing with people’. <sup>4</sup>

iii) We also analyse the role of environmental awareness. To do so, our first measure is a categorical variable that ranges from 4 to 1, and that concerns global warming or the greenhouse effect. In particular, we use the survey question that ask the following: ‘Now lets consider environmental problems in the world as a whole. Please, tell me how serious you consider each of the following to be for the world as a whole. Is it very serious, somewhat serious, not very serious or not serious at all? Global warming or the greenhouse effect.’<sup>5</sup> Our second measure regarding environmental awareness is a categorical variable that ranges from 4 to 1, and that concerns pollution. In particular, we use the survey question ‘Now lets consider environmental problems in the world as a whole. Please, tell me how serious you consider each of the following to be for the world as a whole. Is it very serious, somewhat serious, not very serious or not serious at all? Pollution of rivers, lakes and oceans’.

iv) We analyse the impact of beliefs regarding technological progress. To do so, we use two categorical variables, ‘Tech good’ and ‘Tech better’ which range from 10 to 1 based on the following two survey questions: First, ‘I would like to read some statements and ask how much you agree or disagree with each of these statements. For these questions, a 1 means that you completely disagree and a 10 means that you completely agree.: Science and technology are making our lives healthier, easier, and more comfortable.’ (WVS V91). Second, ‘All things considered, would you say that the world is better off, or worse off, because of science and technology? Please tell me which comes closest to your view on this scale: 1 means that the world is a lot worse off, and 10 means that the world is a lot better off. <sup>6</sup> Finally, we also develop a variable ‘Tech extreme’,

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<sup>3</sup>The code of this variable in the original survey is V138.

<sup>4</sup>The code of this variable in the original survey is V23.

<sup>5</sup>The code of this variable in the original survey is V111.

<sup>6</sup>The code of this variable in the original survey is V123.

which is equal to 1 for respondents that either completely agree or completely disagree, and 0 otherwise. We do this to capture the possibility that the impact of beliefs regarding technological progress have a nonlinear impact on individuals environmental attitudes.

### 1.3 Methodology

We use logistic regressions (with robust standard errors clustered at the country level and country fixed effects) to estimate the following empirical relations:

$$\Pr(\textit{Attitude}_{ij}) = \frac{\exp(F_{ij})}{1 + \exp(F_{ij})} \quad (1)$$

where  $\textit{Attitude}_{ij}$  is a nameholder for the three dependent variable of interest, ‘Tax’, ‘Income’ and ‘Member’ as described in the previous section where i denotes a respondent in country j

for  $F_j = \alpha + \beta X_{ij} + \varepsilon_{ij}$ .

The vector  $X_j$  includes the explanatory variables as described in the previous section.

For the presentation of equation (1) results, all coefficients are reported as odds ratios.

## 2 Results

We start by looking at the percentage of individuals involved in environmental organizations. Out of 78 936 individuals in our sample, 12 percent are engaged in environmental organizations, while 87 percent are not. Contrary to being a member of an environmental organization, more than half of the respondents state that they are willing to either pay taxes or give up income to protect the environment. The data we have shows that attitudes to pay environmental taxes are polarised.

### 2.1 Main results

Table 1 presents the results from estimating equation (1) where we study the impact of socio-demographic characteristics on attitudes regarding environmental taxes, engagement in environ-



mental organizations and willingness to donate income for the environment. The dependent variable in column (1), (2) and (3) is, respectively, 'Tax', 'Income' and 'Member', as defined above. The explanatory variables include the set of socio-economic characteristics as described above. Regarding the income variables we omit the dummy variable 'High income'. This means results for the other income dummies should be interpreted as the difference with respect to individuals with high income. Regarding the education variables we omit the dummy variable 'Tertiary education'. This means results for the other income dummies should be interpreted as the difference with respect to individuals with tertiary education.

The coefficients displayed are odd ratios which could be interpreted as follows: when the odd ratio is higher than one it means that when the explanatory variable increases the odds that the dependent variable is equal to one increase (or more concretely that the respondent is willing to pay higher taxes, or donate income or be engaged in an environmental organization). When the odd ratio is lower than one it means that when the explanatory variable increases the odds that the dependent variable is equal to one decrease (or more concretely that the respondent is less willing to pay higher taxes, neither to donate income nor to be engaged in an environmental organization). Finally, when the odd ratio is equal to one it means that the explanatory variable does not change the odds that the dependent variable is equal to one, or, in other words, that it has no impact on the respondent's willingness to pay taxes, give up income or engage in an environmental organization.

As coefficients in table 1 shows, being a female has no significant impact on the respondent willingness to pay higher taxes and to give up income for the environment. This is consistent with the literature which suggests inconclusive results regarding the role of gender. Yet, it has a negative impact on the likelihood of being member of an environmental organization, since the coefficient is lower than one and significant. Age does not necessarily impact environmental attitudes except with respect to being engaged as member in an environmental organization. Finally, having no children does not impact either the respondents attitudes, which may be of crucial relevance since according to this preliminary and simple result, we could guess that the

Table 1: Attitudes and Socio-Demographic Characteristics

	(1)	(2)	(3)
	Tax	Income	Member
Gender	0.9913 (0.0235)	1.0395 (0.0246)	0.8940*** (0.0337)
Young	1.0104 (0.0387)	1.0481 (0.0376)	0.8938* (0.0526)
No children	1.0083 (0.0239)	0.9668 (0.0300)	1.0204 (0.0475)
Low income	0.6945*** (0.0406)	0.6680*** (0.0342)	0.7854*** (0.0652)
Middle income	0.8725*** (0.0437)	0.8454*** (0.0393)	0.8789** (0.0466)
No education	0.5768*** (0.0369)	0.4053*** (0.0285)	0.4343*** (0.0677)
Primary education	0.6349*** (0.0353)	0.5218*** (0.0331)	0.5472*** (0.0387)
Secondary education	0.7763*** (0.0323)	0.6664*** (0.0307)	0.7075*** (0.0429)
Constant	1.3851**** (0.0859)	1.9333**** (0.1232)	0.54754*** (0.0360)
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:* 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. The control variables are defined in the main text. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$  (two-tailed tests)

overall population has an homogeneous concern about sustainability.

On the other hand, the coefficients for the education and income dummies display a very consistent pattern. Poorer and less educated respondents, compared to individuals with high income and with tertiary education are significantly less likely to be members of an environmental organization and less likely to be in favour of paying taxes and giving up income for the environment. The coefficients are all lower than one. Further, it is interesting to note that those individuals for which this effect is stronger are those with no formal education and with the lowest income level. As income and education increase the negative impact, compared to the benchmark group (high income and tertiary education) diminishes. That is, the coefficient gets closer to one.

Table 2 present the results from estimating equation (1) where we add to the set of explanatory variables those related to social capital. In particular, we add the variables ‘Confidence in Government’ and ‘Trust in People’.

From the results in table 2 it is interesting to note that the set of socio-demographic characteristics displays the same pattern as in table 1. Regarding the social capital variables, we find that individuals which state having higher degree of confidence in government are more likely to be willing to pay higher taxes and to give up income for the environment. This is not surprising since environmental taxes are always under the administration of the State. It is interesting to note that confidence in government also impacts positively the odds of being a member of an environmental organization. This suggest that confidence in government may be a proxy for confidence in institutions. Similarly, the coefficients for the variable ‘Trust in People’ are all bigger than one and significant at the 1% level. This can be explained by the fact that contributing to alleviate environmental damages implies that individuals internalise the externalities on others. Trust in others and social capital in general may increase the willingness to contribute to public goods in general, and the support for ecotaxes in this particular case.

Table 3 present the results from estimating equation (1) where we add explanatory variables related to environmental awareness. In particular, we add two variables, as described above, related to the awareness regarding global warming and pollution. We only present results on

Table 2: Attitudes and Trust

	(1)	(2)	(3)
	Tax	Income	Member
Gender	0.9894 (0.0256)	1.0558** (0.0272)	0.9411 (0.0402)
Young	1.0123 (0.0465)	1.0562 (0.0454)	0.9179 (0.0640)
No children	1.0192 (0.0264)	0.9945 (0.0335)	1.0402 (0.0447)
Low income	0.72033*** (0.0455)	0.6972*** (0.0372)	0.8486** (0.0705)
Middle income	0.9028* (0.0508)	0.8831** (0.0453)	0.8983* (0.0523)
No education	0.5768*** (0.0471)	0.4225*** (0.0382)	0.4683*** (0.06961)
Primary education	0.6262*** (0.0362)	0.5247*** (0.0359)	0.5690*** (0.0439)
Secondary education	0.7858*** (0.0335)	0.6870*** (0.0331)	0.7190*** (0.0418)
Confidence in Government	1.2450*** (0.0233)	1.2205*** (0.0278)	1.152731*** (0.0434)
Trust in People	1.2444*** (0.0623)	1.2409*** (0.0668)	1.2380*** (0.0711)
Constant	0.7733*** (0.0646)	1.0827*** (0.0911)	0.3502*** (0.0379)
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. The dependent variables and control variables are defined in the main text. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$  (two-tailed tests)

taxes, but results are similar for the other two measures, namely income and engagement in environmental organizations. Further, we do not display the coefficients for the socio-demographic variables but these display exactly the same patterns as in table 1 and 2.

Table 3: Attitudes and Environmental Awareness

	(1)	(2)	(3)
	Tax	Tax	Tax
Global warming	1.2911*** (0.0402)		1.1779*** (0.0413)
Pollution		1.3246*** (0.0346)	1.2179*** (0.0327)
Baseline controls	yes	yes	yes
Country fixed effects	yes	yes	yes
Constant	0.6828*** (0.0674)	0.5795*** (0.0576)	0.4823*** (0.0544)
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. The dependent variable and control variables are defined in the main text. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$  (two-tailed tests)

From the results in table 3 we see that as expected, the odds that an individual is in favour of paying higher taxes for the environment increase with the individual degree of environmental awareness regarding global warming and pollution. This strongly indicates that clear and unambiguous scientific and political communication of global warming and pollution are essential to encourage pro-environmental attitudes. As can be seen the odd ratios are all significant at the 1% level and are bigger than one. Notice that these results should be interpreted as if comparing individuals that live in the same country, and therefore facing to some extent similar climate and environmental conditions. In this context, those who are more aware of the environmental challenges are also more likely to react in terms of the different available options according to their socio-economic situation.

Table 4 present the results from estimating equation (1) where we add explanatory variables related to individuals perception of the benefits and/or costs of technological innovation. In

particular, we add two variables defined before on whether technology has been a positive driving force for our wellbeing and on whether the world is better off because of technology. The higher the score on these two variables are, the higher the positive assessment of technology is. Again, we only present results on taxes, but results are similar for the the other two measures, namely income and engagement in environmental organizations. As for table 3, we do not display the coefficients for the socio-demographic variables but these display exactly the same patterns as in table 1 and 2.

Table 4: Attitudes and Beliefs in Technology

	(1)	(2)	(3)
	Tax	Tax	Tax
Tech good	1.0240** (0.0080)		
Tech better		1.0295*** (0.0075)	
Tech extreme			1.1696*** (0.0428)
Constant	1.2110**** (0.0927)	1.1586* ( 0.1019)	0.3502*** (0.0379)
Baseline control variables	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. The dependent variable and the control variables are defined in the main text. \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$  (two-tailed tests)

The coefficients for ‘Tech good’ and ‘Tech better’ are significant but very close to one. This implies that individuals that believe that technology is a positive driving force for society are not significantly more or less likely to support environmental taxes. This is not surprising insofar it is not clear whether beliefs on technology should impact environmental attitudes positively or not. On the one hand a positive assessment of technological progress may dilute or diminish individuals sense of responsibility regarding environmental issues. On the other hand technological

innovation requires investment both from public and private actors. Those individuals that believe technology can alleviate environmental problems may be more inclined to pay taxes to foster innovation. Finally, it may also be the case that individuals with less extreme opinions regarding the role of technology are more uncertain of its potential benefits and costs for the environment. Ignorance can serve as a way to deresponsibilize themselves. Interestingly, individuals holding more extreme opinions are more likely to be willing to pay taxes for the environment. These findings are preliminary and further work will be required to understanding the link between the nonlinear relation between beliefs in technology and environmental attitudes. Finally, it is worth noting that our results are robust to including all the explanatory variables considered in our analysis in the same regression.

### **3 Discussion**

Humans have shown moral behaviour for as long as evidence exist, although the expression of this moral behaviour in the context of sustainability is diverse and controversial. Humans specially today, exhibit the capacity to understand what happens or may happen in Nature (although imperfectly) and consequently we may regulate our lives and to achieve a sustainable future in the context of the biophysics planet imposed limits to human desires and needs. Ecotaxes are a clear and direct manner to attack the environmental problems with the additional advantage that may supersede the lack of trust in the politicians and governments.

According to Onyx et al. (2012) ‘the attitudes of active citizenship show two faces of the same coin. One is a picture of an active, engaged citizen, proactive and willing to work for a better world and, on the other, of a citizen that avoids active engagement in the environmental political process. In other words, the citizen that prefers to work collaboratively with government and to work at the local or the national level always will be willing to accept and pay ecotaxes. Quite frequently, this citizen prefers to focus on concrete issues and interpersonal relations rather than taking political action aimed at wider policy change. In this sense ecotaxes wont pose any problem to this type of citizen.’

However, among those citizens who distrust the government, paying ecotaxes will always be most welcome, since those citizens know in advance that the money paid will be used which is no guaranteed for other type of taxes. Recently in several countries and particularly in Spain there has been talks of taxing a few cents per litre of fuel that would be aimed at ensuring social benefits. This is done mainly from the left ( Felipe Gonzales and others has been one of the promoters of course now has it easier, has no political responsibility. )

While broader international agreements are essential to foster a transition towards a green economy, understanding the role of attitudes and beliefs is key to design context-dependent implementation. In particular, depending on the level of trust, environmental awareness beliefs regarding technology, tax reforms will be better suited as directed to foster environmental companies RD, consumers behavioural changes and policy makers determination on these taxing tools.

The distributional impact of the fiscal instrument covered in the paper concerns the allocation of the burden from different sectors of the economy, consumers or producers, as well as technology intensive sectors versus labour intensive sectors.

We expect to derive policy applicable results regarding the impact of beliefs on technology on the attitudes towards tax reforms. In particular, to empirically disentangle whether believing in technology makes individuals de-responsibilize themselves from contributing to building a green economy or whether it fosters their understanding on the need to push for innovation from the demand side, by asking for greener technologies and changing their behaviour. Technological progress is defined by its uncertainty. How individuals and societies cope with such uncertainty is a fundamental question to analyse when designing tax reforms whose costs are bear today but whose benefits are long term. Beliefs regarding those long term benefits are a key factor to consider when studying the political feasibility of tax reforms.

A final philosophical consideration can be done taking Judith Butlers thinking on the bond between speech and action, or speech acts. We (and the numerous and diverse people that follow the Judith Butler proposal) consider that that the speech act is something performed by a subject, performed on another subject, or part of an address that one subject makes to another.



Consequently, society in general could develop links among the ecological challenges, the resulting debate and data (as the ones we report) and the present or potential taxing policies. In addition, we have to wonder if the scientific data that strongly indicates the ecological problems we have, together with all the discourses” that reach public arena, may by themselves act triggering or fostering the political decisions. The data on attitudes we report may at the same time be an account of the existence of an ecological citizen in today's planet. An ecological citizen is considered to be the citizen willing to pay a part of their incomes in the support of green economy and ecological remediation. Although the existence of the ecological citizen is on debate today, our results clearly indicate that this particular type of citizen exist and may be the more and more present in the current and future society.

Consequently, it is extremely important that citizens, economists and policy makers use the term sustainability and debate about its meaning and practical actuations to achieve it. A non-trivial question would be to what extent speaking about ecological constraints and ecotaxes could build the performative link between acting as ecological citizens and the political actions we need? Or if by simple but seriously debating at all societal levels about the need of ecotaxes will modify the citizens and politicians behaviour.

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