

RESEARCH ARTICLE

Can trust in politicians explain individuals' support for climate policy? The case of CO₂ tax

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Received 29 December 2004; received in revised form 2 December 2005; accepted 11 February 2006

Abstract

This article provides an analysis of the support for public policies from a trust perspective. The empirical focus is on the use of a tax on carbon dioxide (CO₂), a policy tool aimed at coordinating national emissions targets in Sweden. Among economists and experts in the field of climate policy, a CO₂ tax is viewed as a cost-effective policy. The policy problem is that public support for CO₂ taxes is very low, leaving policy makers with high-cost options. Apart from traditional explanatory variables such as demographic factors, level of education, ideology and self-interest, what can explain this public opposition? Using individual level data, we analyse whether support for increases in the CO₂ tax on gasoline can be explained by citizens' *generalized trust* in other individuals (who they do not necessarily know) or by their *trust in politicians*. We find that only the latter measure gains support in a regression analysis. Moreover, when splitting the sample into high-trusting and low-trusting individuals, we find that high-trusting individuals who have access to a car (compared with those without access) are statistically no more likely to resist increases in CO₂ taxes than people without access to a car. Rather, it is individuals with access to a car and who do not trust their politicians who are likely to resist CO₂ taxes.

Keywords: Climate change; Trust; Generalized trust; Social capital; Policy; Carbon dioxide tax; Transport; Tax compliance

1. Introduction

The emission cuts required to reach sustainable concentration levels of greenhouse gases in the atmosphere pose great challenges for liberal democracies in industrialized countries; one is gaining support for increased fuel taxes in private transport. Although the use of fuel taxes is a cost-effective policy instrument, there is also a well-known opposition to high fuel taxes.

In this article we analyse, using individual level data, the public support for increases in the Swedish carbon dioxide (CO₂) tax¹ on gasoline, a policy adopted in order to reach the national

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climate policy goal.² Although generally unpopular with the public, some people (approx. 20%) nevertheless say they would vote for a tax increase, or even maintain that it would be a good thing. How can these differences in public opinion be explained? We proceed from the social capital literature and particularly the trust element therein, and analyse whether *generalized trust* and *trust in politicians* can explain individual support of increases in the CO₂ tax.

By connecting social capital with environmental politics and policy, several contributions are made. First, within economics and political science, few analyses have used *individual level data* to study the importance of trust as a factor explaining *support for public policies*. Our empirical findings indicate that *trust in politicians* seems to be of greater significance than *generalized trust* when explaining public support for an increased CO₂ tax. This result is in line with the findings of previous research (e.g. Torgler, 2003) that trust in public officials and the legal system has a significant positive effect on tax morale. Second, our national focus is important from a global inequality perspective – low-emitting countries generally bear a disproportionately high burden of climate change (see Cazorla and Toman, 2001) – since the necessary measures undertaken to overcome these inequalities *at some point* must be decided upon within each country. Third, when it comes to taxes as a measure to overcome (climate-related) inequality, a ‘high-tax’ country such as Sweden is of particular interest. If it turns out that there is scope for *additional* tax increases in Sweden, where the current tax level is already high, then there might be an even larger potential for increases in other Western countries. On the other hand, Sweden is also a ‘high-trusting’ country (Rothstein and Stolle, 2003; Uslaner, 2002), which may make the previous conjecture less likely. In fact, it may very well be that tax increases, of whatever kind, presuppose a high level of trust.

2. Social capital and trust: from theories to hypotheses

Although widely contested (Bankston and Zhou, 2002; Fine, 2001; Portes, 1998; Robison et al., 2002), social capital *usually* refers to two different aspects: degree of social networking and degree of generalized trust (e.g. Putnam et al., 1993; cf. Stolle, 2001; Wuthnow, 1998). Social networking refers to socially skilful people with experience of joining associations and participating in club activities. These people, it is argued, are more inclined to accommodate, accept and support the formal rules of society. In essentially the same way, interpersonal or generalized trust – to be distinguished from particular trust (Yamagishi and Yamagishi, 1994) – is a factor that can explain why people follow and support societal institutions. What is important to remember is that generalized trust does not primarily refer to trusting people who we already know, but rather to a trust in humanity, or at least in people who we do not necessarily know (Uslaner, 2002). If most people in a country both participate in social networking and have a large degree of generalized trust, then the democratic system and the fundamental institutions in that country can be expected to work well (Dekker and Uslaner, 2001).

The research built upon generalized trust has primarily been focused on three areas: (1) why democracy works in certain countries but not in others (Dekker & Uslaner, 2001; Knack and Keefer, 1997; Putnam et al., 1993; Uslaner, 2002); (2) the considerably more commonly examined issue of why it is difficult to introduce democracy in certain countries but not in others, and also what can be done about it (Grootaert and Van Bastelaer, 2002; Hooghe and Stolle, 2003); and (3) why certain governments and other institutions (e.g. courts of law, police forces, employment

agencies) are trusted and considered trustworthy in certain countries, but not in others (see Rothstein, 2003; Rothstein and Stolle, 2002, 2003).

Moreover, *trust* (generalized as well as trust in politicians and institutions) is now becoming an increasingly important factor explaining phenomena on the individual level, such as why people tend to pay tax although a rational choice assumption based on a narrow definition of self-interest typically predicts us not to (Feld and Frey, 2002; Scholz and Lubell, 1998; Scholz and Pinney, 1995). However, the potential relevance of social capital has not been applied in environmental economics and environmental politics, or in Green political theory. The only exception that the authors are aware of is the research on Common Pool Resources (CPR) regimes (Ostrom, 1990). According to Ostrom, ‘trust’ is one of the building stones behind practically every successful CPR.

According to Uslaner (2002), moral *trust* is what engages people collectively. In fact, moralistic trust is even argued to be the key to a wide range of collective action problems and to the creation of a climate in which people reason well together (see Dekker and Uslaner, 2002). To quote Uslaner (2002: p. 49), moralistic trust is ‘a message of shared values and shared concerns for others’. According to Uslaner (2002: p. 49), we are more likely to find public willingness to conform to policies aimed at dealing with collective action problems in countries with relatively high degrees of generalized trust: ‘If we are looking to solve larger-scale collective action problems, we must rely upon generalized trust rather than knowledge-based faith in others’.

In a similar vein, Janoski (1998) has argued that generalized trust gives rise to a kind of ‘collective spirit’ which increases the probability of supporting policies (‘regimes’, in Janoski’s terminology) aimed at coping with a threatened or a strained common resource. This means that trusting persons are more inclined to support measures aimed at increasing the utility of the collective, and the link between trust and policy support goes via a collective spirit caused by trust.

2.1. Hypotheses

Proceeding from Uslaner’s and Janoski’s arguments, we should thus expect that those respondents who say that they have great confidence in others will be more supportive of a CO₂ tax increase, since it is aimed at coping with a grander scheme collective action problem. Thus, from this viewpoint, the following hypothesis can be established:

Hypothesis 1. The probability of someone being supportive of an increased CO₂ tax is higher if the degree of *generalized trust* is high.

According to Rothstein (2003), generalized trust and trust in politicians and other institutions in society are correlated. Political trust as such may actually be an explanation as to why some people tend to accept or support an increased CO₂ tax. The reason for this is quite straightforward: Why would I support an increased tax burden imposed on me by someone I do not trust?

Another reason to analyse the relationship between attitudes towards an increase in the CO₂ tax and trust in politicians is the very nature of the tax. It is used as a steering instrument, rather than primarily as a source of income. The public must thus be both confident that the tax will have the intended effects, *and* feel certain that the government will manage the revenues in an appropriate

way. This reasoning is also in line with Uslander (2003). Hence, a second complementary hypothesis is proposed:

Hypothesis 2. The probability of the public supporting an increased CO₂ tax is higher if trust in politicians is high.

Also, it is commonly known that there are a number of explanations as to why people have certain attitudes towards political action and policies. Hence, a range of other factors will be controlled for in order to find out whether trust may have any independent explanatory power. These control factors are *demographic* conditions (age, gender, living conditions, education), *party preference/ideology* (left- or right-wing, and Green), *self-interest* (access to a car), whether climate change is perceived to be a threat, and the perceived *efficacy* of the tax.

When interpreting the results of our analysis, one should bear in mind that the attitude towards a policy in general and a tax in particular can be explained by more factors than we are able to control for, and the trust dimension can differ in relevance among different types of policies. For instance, the importance of trust for supporting climate policy can differ a lot between a tax on CO₂ and measures to develop public transport. Also, trust can play different roles depending on the tax under study. These potential facts motivate other research designs (and data). The importance of how trust can explain the attitudes towards different types of taxes is illustrated by Hammar et al. (2005), who show that trust in politicians can help explain the CO₂ tax level but *not* the level of real estate tax.

3. Results

3.1. Descriptive statistics

We use survey responses from a mail questionnaire sent out in autumn 2002 to a random sample of 3,000 individuals from the adult Swedish population aged 18–85 gathered from the National Register. In total 1,778 individuals returned the questionnaire (net response rate 64%), and 1,270 questionnaires were fully completed and available for analysis. The sample was judged to be sufficiently representative of the Swedish population as a whole (SOM Institute, 2004).

The dependent variable, i.e. *support for an increased CO₂ tax on gasoline*, was measured by the following question:

- One important reason for the climate change that has been observed during the last couple of years is considered to be carbon dioxide (CO₂) emissions from motor transport among other sources. What is your opinion of the following proposal to limit carbon dioxide emissions in Sweden?

Generalized trust and *trust in politicians* were measured with the following questions:

- To what degree do you think it is possible to trust other people in general?
- Generally speaking, how great is your trust in Swedish politicians?

Before we present the regression results, the summary statistics can be seen in Table 1 for the whole sample (1,270 cases). As expected, relatively few respondents (21%) were in favour of increasing the CO₂ tax on gasoline. High generalized trust corresponds to 8–10 on a scale of 0–10, and was

Table 1. Summary statistics, used in estimations

Variable	Operationalization	Mean	Std. Dev.
Think higher carbon dioxide tax on gasoline is a good or very good proposal (dependent variable)	=1 if proposal is <i>very good</i> or <i>good</i> , =0 if proposal is <i>neither good nor bad</i> , <i>bad</i> or <i>very bad</i> .	0.21	0.41
High generalized trust	=1 if 8–10 on a scale of 0–10, zero otherwise	0.43	0.50
High trust in politicians	=1 if 1–2 on a scale of 1–4, zero otherwise	0.36	0.48
Male	=1 if male, zero otherwise	0.52	0.50
Living in city	=1 if living in city, zero otherwise	0.61	0.49
Left wing	=1 if 1–2 on a scale of 1–5, zero otherwise	0.41	0.49
Right wing	=1 if 4–5 on a scale of 1–5, zero otherwise	0.34	0.47
Green	=1 if sympathize with the Green Party, zero otherwise	0.09	0.29
High school	=1 if completed high school, zero otherwise	0.27	0.44
Post-high school	=1 if studied at university or college, zero otherwise	0.34	0.48
18–30 years	=1, zero otherwise	0.23	0.42
31–60 years	=1, zero otherwise	0.58	0.49
Access to a car	=1, zero otherwise	0.81	0.39
Consider climate change a threat	=1 if 8–10 on a scale from 0–10, zero otherwise	0.64	0.48
Taxes are a very effective tool to change individual behaviour	=1 if 8–10 on a scale of 0–10, zero otherwise	0.21	0.41
Total number of cases		1270	

found among 43% of the respondents. High political trust corresponds to 3–4 on a scale of 1–4, and was found among 36% of the respondents. A large proportion of the respondents live in a city (61%), and an even larger proportion have access to a car (81%). We controlled for the left–right dimension from the responses on a scale from 1 to 5. We found that 41% consider themselves to be ‘left-wing’ (score of 1–2), 34% describe themselves as ‘right-wing’ (score of 4–5), and therefore 25% identify themselves as being neither left- nor right-wing (score of 3). The proportion of ‘Green’ supporters is 9%, which is fairly representative.

3.2. Empirical model and results

3.2.1. The discrete-choice random-utility model

In surveys, respondents are asked to choose one of several alternatives. It is assumed that they will choose the alternative giving the highest utility, u . Moreover, the available alternatives are constrained to one of J alternatives. The associated utility of the chosen alternative j can be described by

$$u_j = v_j + \varepsilon_j \quad j = 1, \dots, J,$$

where v_j is the utility of choosing alternative j , and ε_j is an error term. In a random utility framework (McFadden, 1974), the choice made by the respondent is assumed to provide the most utility for the respondent. The realized error term, $\varepsilon = \varepsilon_1, \dots, \varepsilon_n$, is unobserved, but is assumed to be randomly drawn from some known joint density function. In our case, of the probability of accepting higher CO₂ taxes on transport fuels, there is an obvious cost if this proposal were to be implemented. In formal economic terms this can be described by a loss in income y . Hence the direct utility from higher CO₂ taxes is

$$v_j = v(y - c_j, X_j, I),$$

where c_j is cost of choosing alternative j , X_j is a vector of the characteristics of alternative j (in our case given by a scale from 1 to 5 ranging from *a very good proposal* to *a very bad proposal*, plus *no opinion*), and I is a vector of the characteristics of the individual (such as car ownership, sex, age, level of education).³ In a survey of attitudes, where information on actual levels of policy (e.g. increase in tax per litre) and the degree to which policy affects the particular individual (e.g. annual driving distance and fuel economy) is lacking, simplifications are required. We assume, in line with the above, that the respondents would choose the most preferable alternative.

3.2.2. Empirical models

Below we present results from four econometric models in which the public support for a CO₂ tax increase is explained. In all models we use the same control variables. However, the models differ with respect to how trust is modelled. The first model includes both generalized trust and trust in politicians. The second model does not include generalized trust. The third and fourth models estimate the probability of support among high- and low-trusting individuals, respectively, acknowledging the potential fact that it might be an over-simplification to treat these groups equally in the regression analysis.

The dependent variable equals 1 if the respondent believes it is a very good or good proposal, and zero otherwise, i.e. for those who are negative or neutral to the suggestion. Those who have no opinion are deleted from the analysis. How different groups might differ in their *probability* of being positive towards the suggested tax increase is accounted for by means of the regression analysis. All explanatory variables are dummy variables, i.e. the effect in the table should be interpreted as the effect compared with some comparison group. For instance, the group with high generalized trust (shown in table) is compared with the group with low generalized trust (not shown in table, and hence a comparison group), and males (shown in table) are compared with females (not shown in table, and hence a comparison group).

3.2.3. Does trust matter?

Before commenting on the econometric results, we should bear in mind that we are looking at the *relative support* here, remembering that only 21% of the sample supported an increased CO₂ tax (see Table 1). In Table 2 we present the regression results. In all four models the dependent variable is the support for an increase in the CO₂ tax on gasoline.

We find that *generalized trust* does not have any positive effects on the support for an increased CO₂ tax, but that *trust in politicians* does.⁴ It should be remembered that statistical significance says nothing about the size of the effect. Hence, for presentation reasons we choose to present the

Table 2. Explanations of a positive attitude towards increases in the CO₂ tax on gasoline, changes in probabilities for a discrete change of dummy variable from 0 to 1, evaluated at sample mean, based on logit estimation (standard errors in parentheses)

	Full sample	Full sample	High political trust	Low political trust
High generalized trust	0.023 (0.023)			
Trust in politicians	0.062*** (0.024)	0.067*** (0.024)		
Male	-0.034 (0.022)	-0.036 (0.022)	-0.018 (0.043)	-0.049* (0.025)
Living in city	0.037 (0.023)	0.038 (0.023)	0.075* (0.044)	0.022 (0.026)
Left wing	0.049* (0.030)	0.052* (0.030)	0.044 (0.057)	0.048 (0.034)
Right wing	-0.011 (0.031)	-0.010 (0.031)	0.061 (0.062)	0.010 (0.034)
Green	0.146*** (0.047)	0.146*** (0.047)	0.220*** (0.079)	0.097* (0.056)
High school	0.029 (0.032)	0.029 (0.032)	0.086 (0.066)	-0.005 (0.033)
Post-high school	0.083*** (0.031)	0.086*** (0.031)	0.168*** (0.059)	0.038 (0.033)
18–30 year	-0.040 (0.031)	-0.043 (0.031)	-0.095 (0.058)	-0.016 (0.036)
31–60 year	-0.070** (0.030)	-0.073** (0.030)	-0.068 (0.057)	-0.076** (0.034)
Access to car	-0.105*** (0.033)	-0.102*** (0.033)	-0.040 (0.054)	-0.141*** (0.043)
Consider climate change as a threat	0.060** (0.023)	0.062** (0.023)	0.090** (0.043)	0.046* (0.026)
Taxes are a very effective tool to change individual behaviour	0.180*** (0.033)	0.180*** (0.033)	0.163*** (0.053)	0.196*** (0.042)
Log likelihood	-578.31	-578.82	-245.05	-326.82
Chi squared	146.98	145.95	53.27	88.25
Cases	1270	1270	462	808

*Statistically significant at the 10% level,

**statistically significant at the 5% level,

***statistically significant at the 1% level.

marginal effects, calculated from the parameter estimates. Since all variables are dummy variables, the marginal effect is the change in the probability for a discrete change of dummy variable from 0 to 1. We find that if political trust is high, then the probability, calculated at sample mean, of supporting a CO₂ tax increase is higher (0.062 for model 1 and 0.067 for model 2). While this may sound negligible, one must not forget that there is a wide range of factors explaining why people have the specific attitudes that they have. Thus, the trust variables that we have analysed here should be added to the list of other factors contributing to a fuller understanding of the massive opposition against (or the moderate support for) increases in the CO₂ tax.

If we look at the effects of the other factors included in the analysis, it is clear that there are other more important factors in terms of the size of the effect. For example, the effects of whether one believes that *taxes are an effective way of changing people's behaviour* (0.180), of the *Green Party dimension* (0.146), of *access to a car* (-0.102), and of people with *high level of education* (0.086), are stronger than trust in politicians in terms of size.

In line with Bennulf (1994), when comparing the Green Party sympathizers with all other party sympathizers, the Green dimension of the CO₂ tax issue appears to be very clear. Apart from the Green dimension, respondents considering themselves 'left-wing' are more positive compared with 'right-wing' respondents and the ones in the middle. When comparing respondents with and without access to a car, those with access are less likely to support a tax increase. This result is expected, according to

previous research (Lind and Tyler, 1988; Sears and Funk, 1990), since those who have a car will suffer considerably more from increased costs related to car use and ownership.⁵ The same is true of those who perceive climate change to be a great risk. They are more likely to support tax increases.⁶

The finding that a large degree of confidence in taxes (as an *effective way of changing people's behaviour*) increases the probability of supporting a tax increase implies that one possible way for the Swedish government to implement an increased CO₂ tax might be a nation-wide campaign aimed at persuading the Swedes that the tax would actually 'do the job'. However, the inclusion of confidence in taxes can be argued to bias the results, since it more or less measures the same thing as the dependent variable. The correlation between the dependent variable and the variable measuring confidence in taxes amounts to roughly 0.20.

Regarding the demographic factors, none of the results are particularly startling. We see that the 31–60 age group is more negative than other age groups. We find that the support for tax increases is not appreciably affected by gender, or by where someone lives. We also find an effect from education: It is more likely that more highly educated people (students or former students at universities/colleges) have positive attitudes towards a tax increase compared with less well educated people.

3.2.4. *Are high-trusting people different from low-trusting people?*

In the last two columns of Table 2, we present the results after having split up the sample into a high-trusting and low-trusting group. For many of the independent variables, the results from our first and second model remain. There are, however, two interesting exceptions.

First, it turns out that the high-trusting individuals within the 'Green' group are more likely to support CO₂ tax increases compared with low-trusting 'Greens'. Thus, we see here a sign of a trust dimension in Green political issues. This means that support for climate policies is not simply a Green issue.

Second, and perhaps most interesting, the group that, according to the self-interest literature, ought to be most strongly against an increased CO₂ tax, is the one constituted by people with access to a car. Any changes in fuel prices immediately affect their private economy and mobility. Seen from this perspective, it is interesting to discover that this expected opposition is only valid for low-trusting people with access to a car. Motorists who trust their politicians *are not* more likely to resist CO₂ tax increases than high-trusting persons with no access to a car.

4. Concluding discussion on trust and the CO₂ tax

Our results indicate a massive opposition among the Swedes towards an increased CO₂ tax. This opposition is found within nearly every group being studied, except among those who have sympathies with the Green Party. However, there is a great deal of variation between groups if one looks at the relative support (see above). Here we focus on how trust contributes to the understanding of the relative support for a CO₂ tax.

Our general result is that we are more likely to find public willingness to conform to policies aimed at dealing with collective action problems among 'trusting' Swedes. However, the public support is only statistically significant for *trust in politicians*. Janoski's (1998) idea about a collective spirit, which is supposed to originate in an environment with high generalized trust, is not supported

in the case of the Swedish CO₂ tax. Hence, our first hypothesis does not receive any support here. However, one should remember that it might be valid for *other* climate policy instruments.

Our second hypothesis, however, is supported by the data. Trust in politicians does have an independent, significant and positive effect on the support for a tax increase. This is consistent with the following logic: if I am inclined to trust politicians, I probably also trust the policies that the politicians decide upon and implement. Our results are in line with Uslaner (2003), who argues that tax compliance in general is ‘more about our reactions to government performance and honesty than to a sense of solidarity with our fellow citizens’ (Uslaner, 2003: 4). Moreover, Scholz and Lubell (1998) argue that individuals are more inclined to comply with taxes if they trust that others will do the same, which means that if I trust that others will do their share, then I am more inclined to do mine. In the particular case of a CO₂ tax, everyone – apart from the relatively few who avoid fuel taxes by fuelling up in neighbouring countries and those who illegally escape taxes by buying fuel on the black market – complies, since they do not have a choice as long as they wish to drive their cars. Hence, supposedly, generalized trust is relatively more important in cases where one might suspect that others ‘cheat’. If an increase in the CO₂ tax is implemented it is quite hard to cheat, which also means that generalized trust is needed less. The trust in politicians, however, is important in order to support tax policies that a citizen might not fully understand.

Apart from finding a clear Green dimension in the support for climate policy, we also find signs of a ‘trust’ dimension in Green political issues. The comparison between the groups of high and low political trust shows that self-interest (measured by access to a car) is only a statistically significant explanation in the low-trusting group. Hence, an interesting result is that the prevalence of high political trust among citizens tends to give larger weight to collective issues such as, for instance, solving the complex problem of a national climate policy. This means that support for climate policies is not a mere Green issue. It is also a matter of trust.

4.1. Policy implications

To draw *direct* policy implications from our major finding (i.e. that there is a trust dimension regarding increases in the CO₂ tax) is not straightforward. Still, for the sake of understanding the possibilities and limitations of successful climate policy, some policy-related issues ought to be discussed. One natural starting point is to reflect upon the relationship between actual efficacy of the political system (i.e. how well functioning it is) and people’s perception of it. A tax-financed general welfare state, such as Sweden, relies upon its ability to raise sufficient amounts of tax revenue for the system to function efficiently. This, however, also implies that additional tax increases, for whatever purpose, may cause resistance merely due to scepticism about the State’s need for additional tax revenue, and thereby challenges the possibility of using taxes to reach climate policy goals. Clearly, the potential scepticism is likely to be dependent on factors such as whether or not one trusts the politicians. This argument is likely to be valid for the CO₂ tax as well, but there is an additional factor that makes the trust dimension even more important. The design and motivation of the CO₂ tax is such that its primary objective is to affect behaviour, while most other taxes are designed to affect behaviour as little as possible – so-called ‘Ramsey taxes’ (Ramsey, 1927). The fact that the CO₂ tax also raises a considerable amount of revenue (which of course is of fiscal interest and can be used, for instance, to lower other taxes) is another factor that might be

pedagogically challenging for policy makers to overcome. However, we want to highlight two possibilities.

First, since the use of environmental taxes is a relatively new method for changing behaviour, *information on the characteristics of a measure* such as the CO₂ tax is motivated. Hence, in addition to the paternalistic aspect of these types of taxes and the fact that in some cases they are of fiscal concern, the public might very well have trouble in understanding the rationale for using these types of policies. What do measures aimed at increasing the understanding of the use of market-based policies look like? It is important to remember that if trust is one part of the problem, there may be difficulties if the information about the benefits of using a market-based policy instrument comes from the same mistrusted actors who are also supposed to implement the measures. Hence, potential candidates for spreading this type of information include the research community and non-governmental organizations (NGOs). Drawing from this line of reasoning, one hypothesis would be that such information can be trusted if disciplines and/or NGOs from different areas draw the same conclusions regarding the benefits of the proposed market-based policy instruments. For instance, if only ‘Green’ groups advocate the use, the support for the measure will run the risk of being mixed with the stringency (or level) of the measure.

Second, confidence that tax revenues are used for something ‘good’ can be hypothesized to increase via earmarking (e.g. guaranteed to be used for a particular purpose, or destined for a certain expenditure area), especially if trust in politicians is weak. Earmarking could in this perspective potentially be seen as a way for politicians to reassure low-trusting citizens that the extra revenues from increasing the CO₂ tax is used for something ‘good’ (e.g. a better environment) and through that possibly also increase public support. However, the idea behind a representative democracy is that the elected representatives are reasonably well equipped to decide how tax revenues should be used in order for social welfare to be maximized. Naturally, *what kind* of social welfare to be maximized also depends on the incumbent’s preferences and ideology. We do not, however, believe that earmarking would guarantee any long-lasting positive attitudes. One reason is that earmarking results in either a higher regulatory pressure or in less resources being spent on things that individuals would prefer the State to spend resources on. Still, if the increased regulatory pressure leads to a better environment, support can increase in spite of a higher tax pressure. Moreover, an earmarking strategy might benefit from having a broad social welfare perspective, rather than only being motivated by environmental policy goals, especially from a general welfare state perspective, since earmarking systems run the risk of turning politically weak groups into losers.

In future research we suggest a separation of the effects of resistance to (or misunderstanding of) CO₂ taxes and climate policy as such, and the effects of overall resistance to (or misunderstanding of) the general welfare state. This would call for an experimental approach with information on the properties of the policies and the welfare state varied among different groups of respondents.

Before concluding this article we wish to return to where we started – the unpopularity of the Swedish CO₂ tax. Our findings follow a general pattern found in most survey studies on environmental public opinion, in which cost-effective policies, such as the CO₂ tax, score high on the unpopularity scale. Although we in this article have suggested a lack of political trust as a driving force behind these attitudes, distributional effects (see e.g. Kriström et al., 2003) are also commonly suggested to be important factors behind the unpopularity of these policies. Consequently,

respondents are more positive towards alternative instruments such as non-fossil-fuel subsidies and expanded public transport systems. However, when forming an opinion on these kinds of matters, do people fully contemplate the costs to themselves if instead those *alternative measures* were implemented? How much would an expanded public transport system in Sweden cost in terms of further taxation? What would comprehensive fuel subsidies cost? We believe that respondents tend to respond quite ‘one-dimensionally’, i.e. they do not consider the full costs of alternative measures. This is also an important policy implication related to the matters discussed in this article. In fact, when comparing the popularity of the CO₂ tax with *other* taxes (i.e. primarily fiscal taxes and those taxes typically having to be increased in order to finance, for example, fuel subsidies), it turns out that the CO₂ tax is a relatively popular tax (Hammar et al., 2005; Hammar and Jagers, 2006). Thus, the fact that the CO₂ tax is unpopular compared with other climate policy measures must not necessarily mean that those alternatives can be more successfully implemented.

Finally, one should keep in mind that this study has taken place in Sweden, which is one of the most trusting countries in the world (Rothstein and Stolle, 2003). That is, if we find significant differences in a population that is, relatively speaking, rather trusting, then one might expect the differences between high- and low-trusting persons in countries where the general level of political trust is low to be even larger. The application of our results to other countries is, however, difficult. On a somewhat speculative note, drawing from our own results, it is likely that the more low-trusting a country is, the greater would be the opposition to any increases in the CO₂ tax (and also to its introduction in the first place).

Acknowledgements

Both authors are grateful for helpful comments from Anders Biel, Eva Samakovlis and two anonymous referees. Financial support from the Swedish Environmental Protection Agency is gratefully acknowledged.

Notes

- 1 A CO₂ tax is a tax levied on the fossil content of fuel that has a direct effect on CO₂ emissions when burned or combusted. See Baumol and Oates (1988) for a textbook on environmental policy from an economic perspective and Brännlund and Nordström (2004) for the distributional and welfare effects of using CO₂ taxes in Sweden.
- 2 In the Government Bill (2001/02:55), the Swedish Parliament establishes that in 2010, the Swedish emissions of greenhouse gases should be at least 4% *lower* than 1990 emissions. This goal is more stringent than the internationally agreed limit of a 4% *increase*. In the Government Bill (1997/98:56) the Swedish government stipulates that in 2010, the carbon dioxide emissions from the transport sector ought to be stabilized at the 1990 level.
- 3 See Morey et al. (2003) for a more elaborate derivation of how income effects are handled in logit models.
- 4 There is, as expected, a positive correlation between generalized trust and trust in politicians that amounts to 0.19. The likelihood ratio test (LR test) is used to test linear constraints of the parameters. In this case we test whether generalized trust should be included in the model. The results indicate that, statistically speaking, generalized trust can be excluded from the model. As we theoretically perceive the importance of trust in politicians in terms of support for climate policies, this is not very surprising, since trust in politicians is expected to be a more direct effect than generalized trust that can explain support. However, for comparison purposes we choose to also present the regression with generalized trust included, since this is the most common way of measuring trust. When running a regression and excluding trust in politicians, generalized trust is significant at the 13% level of significance.

- 5 A more precise measure of car use, which is even more related to self-interest, would have been to use a measure that accounts for kilometres driven, fuel efficiency and to control for income and whether it is a company car or not. When trying to account for this we find that these measures are too imprecise or have been too hard to answer (non-item responses). These potentially important measures have therefore been omitted in the analysis.
- 6 The reason why this effect might seem small may depend on the small variation in the responses (cf. von Borgstede and Lundqvist, 2003).

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