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# The impact of trial runs on the acceptability of environmental taxes: Experimental evidence<sup>☆</sup>



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### ABSTRACT

This paper examines the political difficulty of enacting welfare-enhancing environmental taxes. Using referenda in a market experiment with externalities, we investigate the effect of trial periods on the acceptability of two theoretically equivalent Pigouvian tax schemes. While implementing either tax is in subjects' material self-interest, we find significant levels of opposition to both schemes, though the level differs considerably. Results show that trial runs can overcome initial tax aversion, which is robust across schemes, but a trial with one scheme does not affect the acceptability of the other. Trial periods also mitigate initial biases in preferences of alternative tax schemes.

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## 1. Introduction

A significant challenge facing effective environmental policy is the political difficulty of implementing a Pigouvian tax – a tax intended to increase welfare by incentivising agents to internalise the social costs of an externality. Recent history provides many examples of failed attempts to enact a Pigouvian tax (or something similar), including the rejection of a Btu (British thermal unit) tax in the U.S. (Erlandson, 1994), the failure of the 2005 referendum to impose an Edinburgh road user charge (Gaunt et al., 2007), the rejection of the 1993 proposal to increase the value added tax on domestic energy in the U.K. (Dresner et al., 2006a), and the rejection of three proposals in 2000 to tax fossil energy in Switzerland (Thalmann, 2004).

This challenge, of course, is not new. Starting with Buchanan and Tullock (1975), the large literature on rent-seeking behaviour and special interest groups provides numerous arguments that can explain why proposals for Pigouvian taxes are defeated in the political process, and why the design is often suboptimal when such taxes are enacted.<sup>1</sup> Most of this literature is focused on the role that businesses and NGOs play in policy formulation. These are, however, not the only actors that can influence policy. The public's opinion also matters. This is obvious in some cases, such as when a tax proposal must receive a majority of the votes in a public referendum to be implemented, but in many other cases, the link between public acceptability and political feasibility is less direct. While policy can be advanced in the absence of strong support, elected policymakers often cannot politically afford to enact highly unpopular policies (List and Sturm, 2006). Indeed, in the case of the proposed Btu tax in the U.S., public officials rejected the policy in response to strong public opposition (Erlandson, 1994). And as Gaunt et al. (2007) point out, "commentators now acknowledge that the greatest impediment to implementation [of the Edinburgh road user charge] is public [...] acceptability."

Given that public opposition is a key barrier to enacting environmental taxes, what can be done to overcome this opposition? The successful implementation of a congestion charge in Stockholm may provide some insights to this question. Prior to a public referendum on the congestion charge, there was a trial run that enabled people to experience the workings and impacts of the policy. The experience seemed to boost acceptability, increasing public support in the polls by 18 percentage points. The increase in support was sufficient for the tax to win a majority in the public referendum, a win not predicted in the polls before the trial began (Winslott-Hiselius et al., 2009; Schuitema et al., 2010). Considering the concurrent political and procedural influences, such as lobbying activities, voting rules, and public relations, the impact of the trial run remains an open question.<sup>2</sup> Indeed, Hong Kong conducted a two-year pilot of an electronic road pricing system, after which local government boards voted down permanent implementation because of continued public opposition (Hau, 1990).

The prospect of trial runs raises two questions. First, when individuals form opinions about environmental taxes, can opposition arise from cognitive constraints and biases instead of material self-interest? Findings from the behavioural sciences indicate that people often fail to arrive at optimal decisions because of limits to rationality, and some of these behavioural elements may underlie the negative perceptions of Pigouvian taxes (e.g., heuristics, status quo bias, etc.). Second, can such behavioural influences be mitigated if people experience a trial period of the workings and impacts of the policy instrument? Considering the role of public perceptions in determining the acceptability of environmental taxes, it is important to investigate the potential of mechanisms, such as trials, that overcome opposition to the welfare-enhancing policies. Herein, we experimentally examine whether a trial run with a Pigouvian tax can lessen behavioural aversions and opposition to the policy. Our results indicate that it can, thereby increasing the acceptability of the tax. The finding is robust across different Pigouvian tax schemes.

<sup>1</sup> See for instance the Journal of Public Policy special issue on interest group influence (Dür and De Bièvre, 2007).

<sup>2</sup> A key procedural element was the decision to only allow Stockholm residents to vote in the referendum, which excluded affected commuters that lived in surrounding areas. Feeling disenfranchised, many surrounding areas held their own non-binding referendum to express their preferences, which were generally in opposition to the congestion charge.

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