



Contents lists available at SciVerse ScienceDirect

Resource and Energy Economics

journal homepage: www.elsevier.com/locate/ree



A fair share: Burden-sharing preferences in the United States and China[☆]

Fredrik Carlsson^a, Mitesh Kataria^{b,1}, Alan Krupnick^c, Elina Lampi^{a,*},
Åsa Löfgren^a, Ping Qin^{d,2}, Thomas Sterner^a

^a Department of Economics, University of Gothenburg, Box 640, SE-40530 Gothenburg, Sweden

^b Max Planck Institute of Economics, Kahlaische Straße 10, D-07745 Jena, Germany

^c Resources for the Future, 1616 P St., NW, Washington, DC 20036, USA

^d Peking University, College of Environmental Sciences and Engineering, 100871 Beijing, China

ARTICLE INFO

Article history:

Received 13 December 2011

Received in revised form 26 October 2012

Accepted 4 November 2012

Available online 14 November 2012

JEL classification:

Q51

Q52

Q54

Keywords:

Climate

Burden sharing

Fairness

China

United States

ABSTRACT

Using a sequential discrete choice experiment, we investigate preferences for distributing the economic burden of reducing CO₂ emissions in the two largest CO₂-emitting countries: the United States and China. We asked respondents about their preferences for four burden-sharing rules to reduce CO₂ emissions according to their country's relative (1) historical emissions, (2) income level, (3) emissions per capita, and (4) current emissions. We found that respondents overall favored the rule that was least costly for their country. In addition, the willingness to pay was much higher in China, suggesting that how mitigation costs are shared across countries is more important for Chinese than for Americans. To some extent the willingness to pay varies with socioeconomic characteristics and attitudes. For example, university-educated respondents in the United States are willing to pay more for the rule that is the least costly for their own country, compared with those with a lower education level. At the same time, the ranking of the two most preferred rules are generally robust across all socioeconomic groups within each country.

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[☆] Financial support from the Adlerbertska Research Fund, Formas, Formas through the program *Human Cooperation to Manage Natural Resources (COMMONS)*, Sida through the Environment for Development Initiative, Jan Wallander and Tom Hedelius Foundation, and Clipore (Mistra's Climate Policy Research Program) is gratefully acknowledged.

* Corresponding author. Tel.: +46 31 786 13 93; fax: +46 31 786 13 26.

E-mail addresses: fredrik.carlsson@economics.gu.se (F. Carlsson), kataria@econ.mpg.de (M. Kataria), krupnick@rff.org (A. Krupnick), elina.lampi@economics.gu.se (E. Lampi), asa.lofgren@economics.gu.se (Å. Löfgren), qin.ping@economics.gu.se, pingqin@ruc.edu.cn (P. Qin), thomas.sterner@economics.gu.se (T. Sterner).

¹ Tel.: +49 3641 686 632; fax: +49 3641 686 667.

² Present address: Ping Qin, School of Economics, Renmin University of China, 100872 Beijing, China.

1. Introduction

By now, the difficulties in forging an international agreement on an effective international climate policy are well known. Why is it so difficult for countries to agree on binding targets? One of many plausible explanations is that different burden-sharing rules may have very substantial economic impacts on individual countries, and the negotiators are most likely sensitive to domestic public opinion and hence want to ensure that the rules are in line with the interests of their country (see, e.g., Lange et al., 2007; Buchholz and Peters, 2005).³ Pitlik et al. (2011) found that (subjectively measured) self-interest explains attitudes toward economic policies. Driven strictly by self-interest, climate negotiators from developing countries can thus be expected to support burden-sharing rules that favor poor countries, while their counterparts from rich countries will support rules that cater to their interests. Moreover, citizens often adopt opinions that defend the reputation or interests of their country. A critical issue, therefore, is how citizens would prefer to see the economic burden for reducing CO₂ emissions distributed among countries—in other words, their preferences for different burden-sharing rules.

The purpose of this article is to shed light on this issue by presenting the results of a sequential discrete choice experiment that elicits preferences for different burden-sharing rules, conducted among ordinary citizens in the United States and China. We focus on these countries because they are the world's largest emitters of CO₂ and are critical to the outcome of any negotiations to reduce emissions. If the people (and negotiators) of these two countries are prone to evaluate their country more positively in relation to other countries—referred to as having an in-group bias⁴ (Tajfel, 1982)—then this can affect the potential to reach agreement.⁵ At the same time, these two countries are very different in their ability to pay, which might also affect how citizens respond to the survey.

While there is a vast literature on burden-sharing rules, it is mostly on a country or negotiator level. The country-level studies are often either an assessment of burden-sharing rules (comparing and ranking them) or based on game theory, discussing what is rational behavior for a country or coalition of countries (see, e.g., Burtraw and Toman, 1992; Rose et al., 1998; Cazorla and Toman, 2000; Ringius et al., 2002; Torvanger and Ringius, 2002; Eyckmans and Tulkens, 2003; Torvanger and Godal, 2004; Böhringer and Helm, 2008; Carlsson et al., 2011). Other studies have focused on the preferences of the negotiators, such as Lange et al. (2007, 2010) and Dannenberg et al. (2010).

Lange et al. (2010) found that agents involved in international climate policy preferred a distributional rule that was in line with their personal equity opinion and that had a lower cost for their country. Dannenberg et al. (2010) showed (in a simple nonstrategic game not related to climate change) that climate negotiators are inequality averse and that there are no significant differences in inequality aversion among negotiators from different regions. However, as the authors remark, it is likely that negotiators are affected by public opinion at home, in addition to their own preferences for equality. Other articles discuss the ethical aspects of burden-sharing rules (see, e.g., Miller, 2004; Posner and Sunstein, 2008; Klinsky and Dowlatabadi, 2009). However, we argue that the outcome of future climate negotiations will ultimately depend on how politically acceptable the agreement is to the domestic constituencies in the affected countries.

The burden-sharing rules discussed in the literature can be traced back, in general, to the basic principles of distributive justice: equity, equality, and need (Adams, 1965, pp. 267–99; Deutsch, 1975; Tyler et al., 1997). It seems that most countries appeal to some general principles of justice, but since there are several competing principles that give different results, this does not necessarily facilitate

³ On the other hand, Falk et al. (2003) argue that fairness models should consider not only that people have preferences over how actions are distributed, but also that many people value the intentions behind the actions; i.e., people take into account the fairness of the proposer's intentions when responding.

⁴ Essentially, in-group bias is exhibited whenever someone gives preferential treatment to members of a group to which he or she belongs.

⁵ Carlsson et al. (2011) found in their study among Swedish citizens that people's ranking of effort-sharing rules and the willingness to pay are not significantly dependent on whether a respondent could see country names, and hence they did not find any evidence of in-group bias in preferences for effort-sharing rules among Swedes.

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