Journal of Economic Psychology 59 (2017) 87–98

Contents lists available at ScienceDirect

Journal of Economic Psychology

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

Spillovers from targeting of incentives: Exploring responses to being excluded

Francisco Alpízar [a], Anna Nordén [b,c,*], Alexander Pfaff [d], Juan Robalino [a]

[a] Environment for Development Center for Central America, CATIE, 7170 Turrialba, Costa Rica
[b] Department of Economics, University of Gothenburg, Vasagatan 1, PO Box 640, SE 405 30 Gothenburg, Sweden
[c] Department of Physical Geography and Ecosystem Science, Lund University, Sweden
[d] Duke University, Sanford School of Public Policy, Durham, NC 27708, USA

ARTICLE INFO

Article history:
Received 10 March 2015
Received in revised form 30 January 2017
Accepted 3 February 2017
Available online 14 February 2017

JEL classification:
C91
D03
H4

PsycINFO classification:
2260
2360
3040

Keywords:
Monetary incentives
Targeting
Spillovers
Economic experiments
Behavioral economics

ABSTRACT

A growing set of policies involve transfers conditioned upon socially desired actions, such as attending school or conserving forest. However, given a desire to maximize the impact of limited funds by avoiding transfers that do not change behavior, typically some potential recipients are excluded on the basis of their characteristics, their actions or at random. This paper uses a laboratory experiment to study the behavior of individuals excluded on different bases from a new incentive that encourages real monetary donations to a public environmental conservation program. We show that the donations from the individuals who were excluded based on prior high contributions fell significantly. Yet the rationale used for exclusion mattered, in that none of the other selection criteria used as the basis for exclusion resulted in negative effects on contributions.

1. Introduction

Public policies often use incentives to improve public health and education or to lower poverty and environmental degradation by promoting behaviors more valuable to society than to the individual decision maker.[1] Yet in many cases, given limited resources, incentives are not offered to all potential recipients. One reason for exclusion is that authorities want to avoid

* Corresponding author at: Centre for Environment and Sustainability (GMV), Chalmers University of Technology and University of Gothenburg, Aschebergsgatan 44, 3rd floor, 412 96 Gothenburg, Sweden.
E-mail addresses: falpizar@catie.ac.cr (F. Alpízar), anna.norden@chalmers.se (A. Nordén), alex.pfaff@duke.edu (A. Pfaff), robalino@catie.ac.cr (J. Robalino).

[1] Some policies focus on outcomes for individuals, e.g., "conditional cash transfers" based on vaccination or school attendance (Fizsbein & Schady, 2009; Miller & Babiarz, 2013). Varied terms describe them including "pay for performance" (Miller & Babiarz, 2013) and "performance-based payments" (Pattanayak, Wunder, & Ferraro, 2010; Pfaff, Robalino, Sanchez-Azofeifa, Andam, & Ferraro, 2009).

http://dx.doi.org/10.1016/j.joep.2017.02.007
0167-4870/

transfers that do not change behavior, e.g. paying a mother to bring her kids to regular health checks when she planned to do so even in the absence of the incentive. Little if anything has been said about the effects of excluding individuals from such targeted incentives.

This paper uses a laboratory experiment to study individuals *excluded* from receiving a new incentive. We explore whether exclusion affects prosocial behavior and whether the rationale for exclusion matters.[2] When an incentive targets those who have not previously acted prosocially in an effort to induce additional prosocial behavior, we hypothesize that those who did act prosocially in the past – and thus were excluded from the incentive for that very reason – may deem their exclusion to be unfair and react negatively.[3] Such responses could offset gains obtained from establishing the incentive.

Potential reactions of this type generally are not considered within the design of incentives. One reason is that they are assumed away in economic theory since, for the excluded individuals, relevant prices and incomes are unchanged. Yet a lack of changes in relevant prices and income does not rule out negative reactions based upon, for example, concerns about a policy's fairness. If those excluded from access to an incentive may in fact feel that their exclusion was unfair then, as a result, they may intentionally shift behavior in ways that run counter to the incentive's aims.

Envy, spite, and inequity aversion (Bolton & Ockenfels, 2000; Dur & Glazer, 2007; Fehr & Schmidt, 1999; Goel & Thakor, 2005; Pillutla & Murnighan, 1996; Straub & Murnighan, 1995) also could explain negative reactions to exclusion. Rabin (1993) finds that we treat nicely those who treat us fairly but treat poorly those who do not treat us well – in line with documentation of reciprocity (for theory see Falk & Fischbacher, 2006). Preferences for fairness are suggested by relatively equal resource divisions in dictator games and by costly punishment of those who propose unequal resource allocations (Dawes, Fowler, Johnson, McElreath, & Smirnov, 2007; Fehr & Schmidt, 2006).

Yet shifts in prosocial behavior after exclusion could, instead, be due to changes in the social value of prosocial behavior. If behavior is driven by a desire to be perceived by others as altruistic, then a subsidy to donations could spoil their signaling value (Ariely, Bracha, & Meier, 2009; also see Akerlof, 1980; Andreoni & Bernheim, 2009; Bénabou & Tirole, 2006; Ellingsen & Johannesson, 2008; Hollander, 1990). We note that this would be independent of the selection rule employed. Generally, there are many possibilities for what exactly drives responses to exclusion. In this paper, we explore varied responses to exclusion without learning all of the underlying reasons for them.

To that end, we implemented a laboratory experiment where Costa Rican university students made three rounds of real monetary donations to a public environmental conservation program.[4] The experiment began with the well-known game in which one player acting as dictator is given money to allocate between herself and another player, the receiver (see Forsythe et al., 1994; Hoffman, McCabe, & Vernon, 1996; Kahneman, Knetsch, & Thaler, 1986). In our experiment, the recipient was not present in the room but instead was a conservation program widely perceived to pursue social goals (we follow Carpenter, Connolly, & Myers, 2008; Eckel & Grossman, 2003 in using a program as the recipient).

Our experiment compares treatments involving selection and exclusion to an incentive, with a control treatment. In selection treatments, subjects received money endowments in each of three rounds, and the following procedures were followed. Round 1 was a simple standard dictator game. Round 2 then introduced a regulator, randomly selected from the participants, who chose a selection rule that determined who would receive the incentives in Round 3. The regulator received a payoff that rose with the amount of donations (without the regulator actually doing anything). The presence of a regulator who chooses the selection rule, and enjoys donations, allows excluded actors who feel they are treated unfairly to "punish" the regulator by reducing their donations. Importantly, the subsidy is unexpectedly introduced and paid only in the last round. This is done to rule out any dynamic and strategic behavior that could result from expectations about future payments.

To determine who would get the subsidy, the regulator could use one of three selection rules: *additionality* – selecting those who made 'low' (i.e., below a threshold) Round 2 contributions to the public good; *reward* – selecting those who made high (above threshold) Round 2 contributions; and *random* – selecting the individuals with access to the incentive based solely upon a lottery.[5]

In the control treatment, no incentive was ever introduced. Subjects played three rounds with the following procedures. Round 1 was again just a simple standard dictator game. Rounds 2 and 3 then added a regulator but with no subsidy, i.e., no choice actually being made by the regulator. We compare the outcomes of this control treatment with those of the selection treatments using a difference-in-difference approach implemented in regression analysis. We do this both for absolute and relative changes in contributions. Thus, we examine the changes in contributions for each individual and test whether the observed individual change is partly due to our treatments. The regression analysis allows us to control for socioeconomic characteristics and "subject type", thereby allowing the estimation of the effects of exclusion and inclusion without potential biases due to, for instance, characteristics of the individuals or the 'experimenter effect' (see, e.g., Hoffman et al., 1996; Zizzo, 2010).

We provide empirical evidence that stakeholders *excluded* from monetary incentives may act less prosocially than before the incentive was introduced – even without changed prices or incomes for those excluded. Equally important, this exclu-

[2] We use the term "prosocial" to describe types of behavior that would not be predicted by the narrow definition of a purely selfish *homo economicus* since they provide some benefit to others at some form of cost to oneself.

[3] Studies in psychology and economics show that even those receiving a monetary incentive for an action considered prosocial may exhibit less pro-social behavior (via "motivational crowding out"), compared with when the action is driven by intrinsic motivation (Deci, Ryan, & Koestner, 1999; Frey, 1993, 1994; Gneezy & Rustichini, 2000; James, 2005).

[4] The program, Bosque Vivo, helps to conserve forest ecosystems in Costa Rica, the location for our experiments.

[5] These labels were not used with the participants in order not to generate any signals about expected behavior.