Journal of Behavioral and Experimental Economics 000 (2016) 1–8

Contents lists available at ScienceDirect

Journal of Behavioral and Experimental Economics

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

Comparing rebate and matching subsidies controlling for donors' awareness: Evidence from the field

Catherine Eckel[a,1], Philip J. Grossman[b,*]

[a] Department of Economics, Texas A&M University, TAMU 4228, College Station, TX 77843-4228, United States
[b] Department of Economics, Monash Business School, Monash University, Clayton, Victoria 3800, Australia

ARTICLE INFO

Article history:
Received 19 January 2014
Revised 8 January 2016
Accepted 11 April 2016
Available online xxx

Keywords:
Charitable giving
Field experiment
Subsidies

ABSTRACT

This paper compares the effectiveness of rebate and matching subsidies in the field and, to our knowledge, is the first to control for potential bias introduced by the failure to account for donors' awareness of the offered subsidies. Where previous field experiments have typically been limited to either rebate subsidies or matching subsidies, we study both types and determine whether donors are aware of any offered subsidy. We provide evidence that this methodological shortcoming (i.e., the loss of control) is not trivial. Our findings suggest the assumption in earlier field studies, that the offered price is equal to the perceived or actual price, is likely incorrect and may result in underestimation of the price elasticities of giving. This set of results has strong implications for the design of effective subsidies in a variety of decision settings. In addition, our results serve to validate the lab studies' finding that matching subsidies are more powerful than rebate subsidies of equivalent cost at increasing total giving to charities.

1. Introduction

Standard economic theory would imply that rebate and matching subsidies with the same impact on the price of giving should be equally successful in increasing giving to nonprofit organizations; rebating a portion r of a donation is equivalent to matching a donation at the rate $m = r/(-r)$. Several recent studies compared the two subsidy types in laboratory experiments and generally found that the two do not produce equivalent results (Eckel and Grossman, 2003, 2006a, 2006b; Davis, Millner and Reilly, 2005; Davis and Millner, 2005).[2] Field tests of the effectiveness of matching subsidies on charitable giving have been conducted by Huck and Rasul (2007, 2011), Rasul and Huck (2010), Karlan and List (2007) and Meier (2007).[3] Eckel and Grossman (2008), to our knowledge the only field experiment to examine the impact of rebate subsidies or to compare rebates to matches, also reports results qualitatively if not always quantitatively similar to laboratory results. Field experiments differ in important ways from lab experiments, and a choice between the two methodologies involves tradeoffs.[4] The comparability between laboratory and field experiments is, however, open to question and is the focus of this study.

Lab experiments allow for a great deal of control over the decision environment, but at a cost, since lab decisions are necessarily artificial in some respects. It is this control issue that motivates

* Corresponding author. Tel.: +61 3 9902 0052.
E-mail addresses: ceckel@econmail.tamu.edu (C. Eckel), philip.grossman@monash.edu (P.J. Grossman).
[1] Tel.: +979 845 8506; fax: +979 847 8757.

[2] An exception to this pattern is Davis (2006), who presents the two subsidies in a novel decision frame that eliminates observed differences between subjects' responses in the lab.

[3] Huck and Rasul (2007, 2011) found that matches at the rate of either 50 or 100% by a "lead donor" significantly increased the total donation received by their nonprofit organization (the Bavarian State Opera), but partially crowd out own giving. Rasul and Huck (2010) explore the role of transactions costs in response to fundraising campaigns. Karlan and List (2007) examine the effect of matching subsidies (at rates of 100, 200 and 300%) on the response rate and amount of giving, and found that the fact of a subsidy, but not its level, positively affects contributions. Finally, Meier (2007) looked at the long-term impact of a one-time matching subsidy (at the rates of 25 or 50%) on giving and found that the matching offers increased giving to the public good in the short term, but in subsequent periods giving by those in the treatment group declined. There is a considerable literature that addresses the rebate aspect of the federal income tax code regarding charitable giving (see, for example, Auten, Sieg and Clotfelter, 2002, and Clotfelter, 1989).

[4] Harrison and List (2004, p. 1012) identify six dimensions on which lab and field experiments can differ: the nature of the subject pool, information that the subjects bring to the task, the commodity, the task or trading rules applied, stakes levels, and the environment that the subject operates in. (For a discussion of these factors see also Carpenter, Harrison and List, 2005). The important differences for our study are the first two and last two factors. The subject pool consists of adults of all ages and income levels instead of the usual convenience sample of university students; donors probably know more about the activities of the charity than the descriptions provided to lab subjects; and decisions are made using subjects' own money instead of ours, generally involving contributions that are larger than the lab-provided stakes.

http://dx.doi.org/10.1016/j.socec.2016.04.016
2214-8043/

this study. The superior level of control in the lab experiments, i.e., the fact that researchers know their subjects have read and understood the instructions, eliminates uncertainty about which price subjects considered when making their giving decisions. In the lab, instructions are typically read aloud, examples are given, and procedural questions answered.

In most field studies of subsidies to charitable giving, solicitations announcing the subsidies are mailed in either the solicitation letter or an included insert, leaving open the possibility that the offer goes unnoticed by the decision maker. It is also possible that the offer is noticed but not understood. It could then be ignored in the decision making process or if not ignored introduces noise into the data. As such, field researchers are unable to ascertain with any degree of certainty that subjects actually saw the subsidy offer, understood its impact on them, and took it into account when making their decisions. This limits the inferences that can be made about the effect of such subsidies, and raises questions about the comparability of lab and field studies, since those unaware of the subsidy obviously cannot respond to it. It is also possible, for reasons we discuss below, for the decision maker to reject the subsidy. Lacking any means to determine if an offer has been noticed and accepted, a researcher has little choice but to use the offered price (the price of giving including the subsidy) to estimate the price elasticity of giving, assuming in effect that everyone in a treatment group is "treated," and thereby estimating incorrectly the responsiveness of giving to the subsidy offers.

This study provides evidence that this methodological shortcoming (i.e., the loss of control) is not trivial. We require subjects to check a box on the pledge form in order to receive the offered subsidy. Checking the box indicates that they have read the enclosed materials and wish to receive the subsidy. Our procedure can only determine that the decision maker was both aware of the offer and chose to accept it. Given this, we assume that the offer price influenced the donation decision for these subjects. Thus we are able to distinguish between respondents who accept the subsidy and make their decision with the subsidy in mind, and respondents who do not, either because they are unaware of the offer or consciously reject it. We are unable to distinguish between donors who are aware of the offered subsidy and choose not to take it from those who are just unaware. Furthermore, we are unable to ascertain if our subjects who accepted the subsidies truly understood the enclosed materials. Because we are unable to separate those who are unaware from those who knowingly reject the subsidy, we treat them alike in our analysis below and refer to both groups as respondents who did not accept the subsidy. Importantly, our method allows us to gauge the impact of the subsidy on those who actually receive it.

Our findings suggest that the assumption in earlier field studies, that the offered price is equal to the perceived or actual price, is likely incorrect and may result in substantial underestimation of the price elasticities of giving. In addition, our results serve to validate the lab studies' finding that matching subsidies are more powerful than rebate subsidies of equivalent cost at increasing total giving to charities. This result confirms similar findings on savings decisions (Duflo et al., 2006; Saez, 2009), where matching subsidies are shown to have a stronger effect on take up rates and savings levels (including the subsidy) than rebate or credit subsidies. Taken together, this set of results has strong implications for the design of effective subsidies in a variety of decision settings.

2. Previous work

It is straightforward to show that the effect on total charitable giving (i.e., the amount actually received by the charity) of a rebate subsidy of rate r should be equivalent to that of a match subsidy of rate $r/(1-r)$. Both laboratory and field experiments have, however, found that total giving is greater with match subsidies than their functionally equivalent rebate subsidies. Furthermore, the price elasticity of giving is significantly larger for match subsidies than rebate subsidies. Eckel and Grossman (2003 and 2006b) compared equivalent rebate and matching subsidies in controlled laboratory settings. In every pairwise comparison, the dollar value of the total donation received by the charity was significantly greater under the matching subsidy than under the rebate subsidy. Estimated match subsidy price elasticities were two to three times as large as the estimated rebate subsidy elasticities. For example, Eckel and Grossman (2003) report rebate and match price elasticities of –0.34, and –1.07, respectively.

Eckel and Grossman (2008) conduct a field study to determine if the laboratory results are replicated in the field. The field experiment was conducted in conjunction with an annual fund drive by Minnesota Public Radio (MPR). Solicitations were mailed to three different categories of (potential) donors: continuing members (persons who make regular contributions and maintain membership), lapsed members (persons who have in the recent past been members but have let their memberships lapse), and prospects (persons who have never been members and have no history of contributing to MPR). It had three main treatments: a baseline with no subsidy, a rebate to donors of a portion of their contributions to the charity, and equivalent matching subsidies. Eckel and Grossman assumed that all respondents were aware of any offered subsidy and that all donations were conditioned on the after subsidy price of giving. The rebate and match subsidy rates were the same rates used in the laboratory experiments (rebate rates: 20 and 25%; match rates: 25 and 33 1/3%). They report results that are both qualitatively and quantitatively similar to lab results; the reported rebate and match price elasticities are –0.11, and –1.05, respectively. For comparison with the LSS results, we re-estimated the MPR regressions for continuing members only. The reasons and results are discussed below.

Other field experiments (Huck and Rasul, 2007, 2011; Rasul and Huck, 2010; Karlan and List, 2007; Meier, 2007; and Meier and Frey, 2003) examining subsidization of charitable contributions focused on match subsidies only, and of these only Huck and Rasul (2011) and Karlan and List (2007) estimated price elasticities of giving. Huck and Rasul (2011) report price elasticities between –0.53 and –1.12; Karlan and List report price elasticities between –0.225 and –0.668. In both cases, the authors assume that all respondents were aware of any offered subsidy and that all donations were conditioned on the after-subsidy price of giving.

The studies by Huck and Rasul (2011) and Karlan and List (2007) are most similar to our own, though neither study addresses the comparison between rebate and matching subsidies. Huck and Rasul (2011) address an important potential confound in assessing the impact of price subsidies relative to a baseline with no subsidies. The presence of a "lead donor" or "concerned member"—or, in our case, "researcher," implies an endorsement of the quality of the charity. Such an endorsement may be interpreted by prospective donors as a signal of the quality of the charity, and may increase both the probability of making a donation and the size of the donation, independent of any matching offer. Prospective donors may assume that the endorser has vetted the organization and deemed it worthy of support; they would be unlikely to generously support a bad charity. Huck and Rasul (2011) disentangle these two effects by including a no-subsidy treatment with a "lead donor" who has already provided a substantial portion of the required budget. Their results suggest that the quality signal implicit in the endorsement by a major donor has a substantial effect on subsequent donors, almost doubling average donations received relative to the baseline. Important for our study is the fact that any

Please cite this article as: C. Eckel, P.J. Grossman, Comparing rebate and matching subsidies controlling for donors' awareness: Evidence from the field, Journal of Behavioral and Experimental Economics (2016), http://dx.doi.org/10.1016/j.socec.2016.04.016