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Signaling quality through gifts: Implications for the charitable sector

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ABSTRACT

A popular belief amongst fund-raisers is that potential donors are more generous when provided gifts as part of the solicitation request and there is a growing body of experimental research supporting this belief. To date, such behavior has been modeled through the lens of gift-exchange and reciprocity. We provide an alternate rationale for gift-giving by nonprofit organizations based on the signaling model of Spence (1973). We first show that in the presence of uninformed donors there exists a separating equilibrium under which high quality charities expend scarce resources to signal quality and receive higher donations. We then explore how gift-giving and competition amongst charities impacts net public good provision. In doing so, we highlight a perverse effect – competition amongst charities can lead to lower public good provision when the likelihood a charity is of high quality is high and/or when the difference in quality across high and low type firms narrows.

1. Introduction

Behavioral economics has matured to the point where theorists are leveraging psychological insights to improve their models and practitioners are using behavioral results to influence decision-making. One particular result that has attracted increasing attention is gift-exchange and the influence of reciprocity on individual choice and subsequent market outcomes. Although much of the literature on gift-exchange has focused on worker effort and associated labor market outcomes, the notion of reciprocity has been explored in a number of related contexts.[1] For example, within the realm of charitable giving, there is ample empirical evidence that providing potential donors unconditional gifts enhances fund-raising success (see, e.g., Landry et al., 2010; Alpizar et al., 2007; Edlund et al., 2007; Falk, 2007; Regan, 1971; Whatley et al., 1999).

While such evidence is consonant with reciprocity and models of gift exchange, not all charities include gifts as part of their solicitation request. Moreover, even amongst those charities that do engage in the practice, there is great variation in

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[1] For example, there are a number of laboratory studies showing that principles offer wages in excess of market clearing levels and agents reciprocate by providing effort levels in excess of the required minimum (see, e.g., Fehr et al., 1997; Fehr and Falk, 1999; Hannan et al., 2002; Charness, 2004; List 2006), A subsequent line of work has employed field experiments to explore the importance of reciprocity in naturally occurring markets (see, e.g., Gneezy and List, 2006; List, 2006; Bellemare and Shearer, 2009; Cohn et al., 2009; Kube et al., 2010).

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both the size of the gifts offered and/or whether they are offered unconditionally or only for donations in excess of some predetermined threshold.[2] Such heterogeneity is puzzling if gift giving is viewed strictly through the lens of reciprocity.

This study provides an alternate explanation for gift-giving based upon signaling theory (Spence, 1973). Our focus on signaling is in part motivated by findings in Landry et al. (2010) showing heterogeneity in the response to gifts across prior donors and cold-list counterparts. While the contributions of prior donors are unaffected by offered gifts, both the likelihood of contributing and average donation levels are greater when cold-list households are provided a gift before being asked to give. To the extent that cold-list households have less information about charitable quality, such heterogeneity is consonant with a model whereby gifts serve to signal quality.

Our framework formalizes this idea by positing a game of incomplete information whereby potential donors must decide whether and how much to contribute to a charity of unknown quality.[3] Charities desire to maximize public good provision and provide potential donors gifts that may alter donors' beliefs regarding charitable quality. As such, gifts may act as a signal of quality which leads to larger donations to high quality charities.

We first consider the case where a single charity approaches an individual donor who may be uninformed about the quality (type) of the charity. In this setting, we show the existence of a separating equilibrium in which only high quality charities provide gifts. As such, gift-giving provides a credible signal of type and thereby generates higher donations and associated public good provision. While there also exist pooling equilibria in which both types provide a gift to the donor and no information is revealed, these do not satisfy the Intuitive Criterion (Cho and Kreps, 1987). We next demonstrate how the size of gifts supporting the separating equilibrium depends on (i) the proportion of informed donors, (ii) the effectiveness of the low-type charity, and (iii) the difference in quality between the high- and low-type charities. We then derive conditions under which increased expected donations offset the resources spend on gifts to signal quality. Importantly, we show that separation through giving gifts may lead to lower expected levels of public good provision.

In practice, many charities must compete with other organizations for donations. We therefore extend the basic model to analyze this scenario. The competing charities are assumed to produce substitute public goods and target the same set of potential donors. We establish, once again, the existence of a separating equilibrium whereby high type charities use a gift to signal its type. This allows us to explore how both the size of gifts as well as expected public good provision is affected by the presence of competition. In doing so, we highlight a perverse finding: competition can lead to *lower* levels of public good provision. Perhaps more surprising, however, are the conditions under which competition leads to lower public good provision. Competition leads to lower expected public good provision when the likelihood a charity is of high quality is large and/or when the difference in quality between the high- and low-types is small.

We conclude by discussing extensions of our baseline model to consider (i) conditional as opposed to unconditional gifts, (ii) a charity whose objective is something other than maximizing net public good provision, and (iii) a continuum of charity types. In regards to conditional gifts, we show that what matters for separation is the expected gift per donor contact. That is, the signal only depends on the product of the size of the gift and the probability that a donor contributes more than the required threshold. Ceteris paribus, the optimal conditional gift will thus be larger than the optimal unconditional gift which corresponds to having a zero donation threshold to award the gift.[4] In regards to the objective function of the charity, we show the importance of our assumption that charities seek to maximize net public good provision on the existence of separation. Lastly, we show that our separation result can be generalized to allow for a continuum of charity types.

Our paper is closely related to work in industrial organization deriving conditions under which firms use uninformative advertising and/or prices as a signal of product quality (e.g., Kihlstrom and Riordan, 1984; Milgrom and Roberts, 1986; and Bagwell and Riordan, 1991). In such models, firms selling experience goods forego potential profits as a means to signal unobserved product quality to uninformed consumers. Yet, we are the first to explore quality signaling in the context of charity and nonprofit firms who desire to maximize net public good provision.

The role of signaling has been explored within the existing literature on charitable giving, albeit through a different channel: seed money donations and leadership gifts may provide a way for informed donors to reveal private information and signal charitable quality to other potential donors (e.g., Vesterlund, 2003; Andreoni, 2006).[5] Similarly, Landry et al. (2006) and Huck and Rasul (2011) discuss that the existence of lottery prizes and money for matching gifts may reveal private information of a lead donor and thus sends a signal of charitable quality. Our model differs from this earlier work along an important dimension. Instead of assuming that the signals of quality are conveyed by actions of a lead donor, quality signals in our approach are conveyed directly by a charitable organization that expends *scarce resources* to reveal

[2] Koop (2005) notes that between 55 to 60 percent of all mail solicitations include some form of a gift with this total equally split amongst front-end (unconditional) and back-end (conditional) gifts.

[3] A key feature of our model is the presence of uninformed donors. In this regard, our model complements the work of Krasteva and Yildirim (2013) who explore a donor's decision to acquire information and various factors that impact this choice.

[4] In this regard, our model provides an alternate interpretation of the behavioral literature on motivational crowding and the "costs" of control. Rather than conditional incentives crowding out motivation, it is possible that such incentives send a weaker signal and thus have a less pronounced impact on the subsequent behavior of interest.

[5] The key feature of such models is the presence of a lead donor who pays an upfront cost to acquire information about the quality of a charity and sends a signal of their private information by making an initial donation (seed money gift) that is observed by other potential donors.