Reputation, volunteering, and trust: Minimizing reliance on taste-based explanations

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ABSTRACT

We develop a model of public good contributions as signals of the contributor's trustworthiness, and test the predictions of this model using data on volunteering in small Swiss towns. Unlike most previous work, we avoid assuming that agents simply have a taste for prestige, and instead model the material value of a prosocial reputation. The model predicts that, specifically in small communities with low population turnover where reputation is important, volunteering will decline with age (as the end of the agent's reputational game approaches). In communities with higher turnover, this effect will not be observed. Our results support this hypothesis. The model also implies that the presence of a public good which must be provided voluntarily enhances trust in bilateral market and non-market interactions.

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Over a century ago, Veblen (1899, p. 340) suggested an economic explanation for voluntary contributions to the provision of public goods. He wrote:

> [M]any ostensible works of disinterested public spirit are no doubt initiated and carried on with a view primarily to the enhanced repute, or even to the pecuniary gain, of their promoters.

The reputational motive for public good contributions was rediscovered by Olson (1983), who suggested that public goods are usually provided in a larger social context, in which agents repeatedly transact with each other in the supply of *private* goods. By free-riding, agents may lose reputations for trustworthiness that are valuable in their private-good transactions.

More recently, models have been proposed which introduce a taste for prestige or social esteem or social approval into the utility function of individuals, providing a simple explanation for prosocial behavior without assuming that agents are altruistic. Among the more influential of these models are those of Holländer (1990), Harbaugh (1998a, 1998b), Bénabou and Tirole (2006), Blumkin and Sadka (2007), Ellingsen and Johannesson (2008), and Andreoni and Bernheim (2009). While these models provide important and valuable insights, they have a common unsatisfactory feature: the introduction of a "non-standard" assumption on tastes. Since tastes cannot be directly observed, many economists view the introduction of specific tastes into a model, in order to explain puzzling behavior, as a solution of the last resort.[1]

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[1] See Stigler and Becker (1977) for the classic discussion of the unsatisfactory nature of taste-based explanations of human behavior.

The hypothesis that a taste for social esteem explains prosocial behavior has been supported by a long series of laboratory and field experiments, as well as conventional empirical tests.[2] This evidence, however, is also consistent with an alternative, less "psychological" explanation: such behavior is motivated by material returns that accrue to individuals who demonstrate their trustworthiness. Thus prosocial behavior, to the extent that it is observable to others, is an investment by agents who have "standard" preferences, for whom prestige is not an argument in their utility functions.[3] Using the terminology of Ariely et al. (2009), this alternative explanation can be called the "instrumental reputational motive"—as distinct from the "non-instrumental social esteem motive" that is at the basis of the models cited above.

The present model is closely related to signaling and reputational models which seek to explain the voluntary provision of public goods. In economics, such models have been developed by Glazer and Konrad (1996), Guttman (2001a, 2001b), Nelson and Greene (2003), and Katz and Rosenberg (2005). In the sociobiological literature, Gintis et al. (2001) and Panchanathan and Boyd (2004) have developed models introducing signaling and reputation, respectively. Empirical evidence supporting this approach has been presented by Roberts (1998), Smith and Bliege Bird (2000), Guttman (2001a), and Nelson and Greene (2003), among others.

This paper presents a standard game-theoretic model in which agents of two types—"opportunistic" and "prosocial"—repeatedly make two decisions in parallel in a finitely repeated game, in the tradition of Kreps et al. (1982). In a bilateral "trust game," agents buy and sell private goods which can be of either high or low quality.[4] In the absence of legal enforcement of contractual performance,[5] sellers have an incentive to cheat and produce low-quality goods. In the second decision, agents can either contribute or not contribute to the provision of a public good.

The model shows that the first decision changes the agent's incentives regarding the second decision, and vice-versa. The trust game provides the incentive for opportunistic agents to contribute to the provision of the public good: to build reputations for trustworthiness in their bilateral interactions. Conversely, the signal provided by contributing to the provision of the public good enhances trust in the bilateral trust game. This is true even when the population proportion of prosocial types is too low to support trust in the absence of the public good, due to the fact that the trust game is finitely repeated with a commonly known end point.

We then test the predictions of this model using a micro data set on volunteering in small towns (up to 2000 residents) in Switzerland. The empirical results show that, specifically in small, geographically immobile villages where the reputational mechanism is expected to operate, individuals volunteer less as they approach the end of their lifetimes. This time path of volunteering is not observed in towns with high population turnover, where the reputational mechanism would not be expected to operate. This empirical result supports the model, which views volunteering (by opportunistic agents) as a means of signaling trustworthiness.

Note that a simple decline in volunteering, as age increases, can be explained in a number of ways. For example, with age a person's physical strength and health decline, making volunteering more costly. But such alternative explanations do not predict that this decline in volunteering will be observed only in *towns with low population turnover*. It is precisely this age-turnover interaction which lends striking support to our model.

1. Model

1.1. Assumptions

Agents are randomly matched to play two-stage "trust games,"[6] which can be viewed as market transactions, in which the costs of using the legal system to enforce the terms of the contract are prohibitive. In this game, the first mover (the buyer) decides whether to buy a good from the second mover (the seller). The decision of the buyer to buy will be called "trusting" the seller. If the buyer decides not to trust (abstains from buying), the game ends, and the payoffs of both players are zero. If the buyer trusts, then the seller can honor this trust by producing a good of an agreed-upon level of quality, entailing an expenditure of effort which carries a cost of $c \in (0, 1)$. Alternatively, the seller can cheat, i.e., fail to honor trust by producing a defective good.[7]

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[2] See, for example, Gächter and Fehr (1999), Andreoni and Petrie (2004), Rege and Telle (2004), Soetevent (2005), Andreoni and Bernheim (2009), Ariely et al. (2009), Carpenter and Myers (2010), and Cappellari et al. (2011).

[3] It must be acknowledged, however, that the reputational model of this paper assumes that *some* individuals are "prosocial" types who endure a psychic cost when they unilaterally cheat their partners. Thus not *all* agents in the model have "standard" preferences. However, the population proportion of these non-standard types can be extremely small, and still the standard, opportunistic types also behave prosocially in equilibrium (with positive probability) over nearly all of the repeated game. In contrast, the models cited above must assume that a large proportion of agents have a taste for prestige or social approval, in order to explain the high proportion of agents exhibiting prosocial behavior that is empirically observed when such behavior is observable to others.

[4] Our use of a *market* trust game is only a metaphor for a host of social interactions that are based on trust.

[5] See Macaulay (1963), Ellickson (1991) and Bernstein (1992) for evidence that in business, agents typically do not rely on formal contracts in order to ensure that agreements will be honored. One reason is the high cost of enforcing contracts in the legal system. Moreover, as we pointed out in the previous footnote, our bilateral trust game uses a buyer–seller metaphor, but is equally applicable to a host of informal, non-market interactions in which legal enforcement is largely irrelevant.

[6] In reality, many or most bilateral interactions of the type analyzed here are (simultaneous-move) Prisoner's Dilemma games, but we analyze the sequential-move trust game for the sake of expositional simplicity.

[7] For an early experimental study of this game, see Camerer and Weigelt (1988). The game is similar to the "trust game" introduced by Berg et al. (1995), with three differences: (1) the sum sent from the sender (buyer) to the receiver (seller) is not multiplied by any number, (2) the receiver (seller) does not return part of the sum sent him or her, but rather returns a good (either high-quality or defective), and (3) the players' decision variables are binary rather than continuous.