



Decision costs and price sensitivity: Field experimental evidence from India



Dean Spears^{*,1}

Economics Department, Princeton University, Wallace Hall, Princeton, NJ 08540, United States

ARTICLE INFO

Article history:

Received 27 February 2012

Received in revised form 23 June 2013

Accepted 24 June 2013

Available online 2 July 2013

Keywords:

Deliberation costs

Cognitive limits

Social marketing

Cost sharing

Handwashing with soap

Pricing

Behavioral economics

Development economics

Field experiment

ABSTRACT

Poor people often exhibit puzzlingly high sensitivity to low prices of important consumer health goods. This paper proposes decision costs as one explanation: whether a person buys at a price depends on whether she carefully considers the offer, which itself depends on price. A simple model predicts that deliberation costs (1) increase sensitivity to low prices; (2) can prevent cost-sharing from targeting products to buyers with high value; and (3) can have larger effects on poorer people. The principal contribution of this paper is a field experiment that sold hand-washing soap in rural India. Participants were randomly assigned to be offered soap for either a low or very low price, which was experimentally crossed with assignment to a control group or to a treatment that required deliberation. Results matched predictions of the model: the treatment decreased price sensitivity relative to the control group, and increased targeting of product take-up by need.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Why do poor people often not buy products, such as inputs to health, that are inexpensive, relative to their marginal benefits? There are many possible explanations for high price sensitivity; this paper focuses on one relatively understudied factor that may be particularly important for poor people: decision costs. Deciding whether to buy may sometimes require first deciding whether to *consider* buying. Evidence that economic decision-making can be costly enough to influence economic behavior could have important implications in several fields of economics (e.g. Chetty et al., 2009; Chetty, 2011).

This paper first presents a simple, illustrative model in which whether or not an agent should accept an offer is not immediately obvious to her, but she can figure this out by deliberating. If thinking is costly, the agent will not always deliberate, and may ignore valuable offers. Whether the agent buys at a price partially depends on whether she thinks carefully about the offer, which itself depends on the price. Deliberation costs (1) can increase price sensitivity, especially

* Tel.: +1 918 493 6406.

E-mail address: dean@riceinstitute.org

¹ I have many people to thank for much (though, of course, errors are my own). Princeton's Research Program in Development Studies and Center for Health and Wellbeing partially funded the fieldwork; Tolani College of Arts and Sciences in Adipur provided support. I thank Abhijit Banerjee, Roland Bénabou, Jim Berry, Anne Case, Angus Deaton, Pascaline Dupas, Thomas Eisenbach, Rachel Glennerster, Tricia Gonwa, Faruk Gul, Karla Hoff, Michael Kremer, Stephen Morris, Simone Schaner, Sam Schulhofer-Wohl, Eldar Shafir, and Marc Shotland. P.M. Thapa assembled the survey team and spared no effort to support the project. Devjibhai got us to the participants and back. Sarita Bangari, Beena Mishra, Mitisha Patel, Meenakshi Sharima, and Shanu Soni actually did the interviews, and did wonderfully. The experiment could not have happened without Diane Coffey. Several hundred Kucchi women have my gratitude.

at low prices; (2) can prevent selling a product (rather than distributing it for free in a social program) from shifting the concentration of product adoption towards users with high value; and (3) can have larger effects on poorer agents.

The primary contribution of this paper is to report a field experiment that sold discounted soap door-to-door in rural Indian villages. Each participant was randomly assigned to one of two prices and to either a control group or a treatment group. In the treatment group, participants answered survey questions that required them to deliberate. Results matched predictions of the model of decision costs: participants with experimentally lowered marginal deliberation costs showed less price sensitivity; among this treatment group, but not in the control group, higher prices caused take-up to be more concentrated among consumers with plausibly higher health-production value for the product.

This paper proceeds in two main parts. First, [Section 2](#) presents a stylized model of consumer choice with deliberation costs. Then, [Section 3](#) describes the field experiment. In the remainder of this introduction, [Section 1.1](#) describes evidence for and treatments of decision costs in the literature; [Section 1.2](#) further introduces the field experiment in the context of other recent experimental studies of consumer pricing among poor people.

1.1. Decision costs and price sensitivity

If thinking and optimizing take effort, then this effort could register as a utility cost and shape how people approach economic problems. [Kool et al. \(2010\)](#) demonstrate that experimental participants avoid mental effort in decision-making tasks but will trade-off some of this disutility of effort in exchange for material incentives. They conclude that “cognitive demand weighs as a cost in the cost-benefit analyses underlying decision making” (677). This is unsurprising, given evidence from the experimental psychology literature that cognitive control of behavior is limited ([Botvinick et al., 2001](#)), that decision-making is subjectively costly ([McGuire and Botvinick, 2010](#)), and that making choices depletes finite mental resources ([Vohs et al., 2008](#); [Spears, 2011](#)).

This paper belongs to a growing literature that considers the economic implications of a boundedly rational agent who optimally deliberates in the face of a decision cost (e.g. [Reis, 2006](#); [Goldin and Homonoff, 2010](#)). Acquiring information and deliberating are conceptually and empirically distinct: people gather information from other agents or the environment and produce “deliberation” or “contemplation,” two terms that this paper will use interchangeably (cf. [Conlisk, 1996](#)). This paper’s model formally resembles one of an agent optimally collecting information. However, participants in the experiment acquire no new information other than the answers they themselves provide; they process what they know to arrive at a more deliberative conclusion — or they do not.²

[Section 2](#) presents a model in which an agent is offered a product for sale. She lacks no external information, but cannot effortlessly compute whether buying would increase her net utility. She has three options: accept without deliberating, reject without deliberating, or deliberate before deciding. If she elects to contemplate, she eliminates the risk of wasting money or missing a valuable offer, but she must pay a utility decision cost.

A key implication of the model is an agent’s endogenous price threshold. She will accept or reject offers below this threshold price without thinking, but will only accept an offer above her threshold price if she has thought about it. This threshold increases with her wealth. Therefore, a person of moderate wealth might spend a few dollars carelessly, but need to think before spending hundreds of dollars. For a poorer person, this threshold could be very low, so perhaps almost any positive price requires deliberation.

As a result, especially at low prices where the agent is deciding without thinking, buying can be very sensitive to price. In particular, potentially valuable offers could be foregone if the price becomes high enough to require deliberation, but the signal or apparent value is not enough to make deliberation seem worthwhile: in this case, the agent will simply walk away from the offer without thinking. This could explain high price sensitivity at low prices, especially for poor people: when deliberation is costly, an increase in price could require deliberation that the agent decides not to do.³

1.2. Pricing for the poor

Whether selling soap is a good way to prevent disease depends in part on how people, especially poor people, decide to spend their money. “Social marketing” programs sell products and services to poor people in order to achieve social goals. Many programs adopt techniques from for-profit firms, and often products are partially subsidized. Social marketing is also known as “cost sharing”: by charging, governments or NGOs share the cost of an intervention with recipients, potentially making programs more financially sustainable. Moreover, advocates suggest that charging for products will screen out recipients with little value for the item, targeting adoption to people with the greatest need.

A growing literature within development economics is producing a complex account of what cost-sharing can achieve (for a more detailed description of prior studies, please see appendix A). Unsurprisingly, results are different in different

² This may suggest to some readers an infinite regress: how does the agent decide how to decide how to decide, and so on? Like the other papers in this literature, this model stops at one level of bounded rationality, and its predictions match the pattern of empirical results.

³ Of course, there are many determinants of price elasticity of demand beyond the potential role of deliberation costs. For example field experiments by [Tarozzi et al. \(2011\)](#) and [Devoto et al. \(2011\)](#) illustrate that liquidity constraints are sometimes important barriers to poor people’s purchase of health inputs.

Download English Version:

<https://daneshyari.com/en/article/883576>

Download Persian Version:

<https://daneshyari.com/article/883576>

[Daneshyari.com](https://daneshyari.com)