The Journal of Socio-Economics 38 (2009) 215–220

Contents lists available at ScienceDirect

The Journal of Socio-Economics

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

Gift-giving and deadweight loss

Kristine E. Principe[a], Joseph G. Eisenhauer[b,*]

[a] Department of Commerce, 254E Bisgrove Hall, Niagara University, Niagara University NY 14109, United States
[b] Department of Economics, 248 Rike Hall, Wright State University, 3640 Colonel Glenn Highway, Dayton, OH 45435, United States

ARTICLE INFO

Article history:
Received 16 June 2008
Received in revised form 29 October 2008
Accepted 12 December 2008

JEL classification:
A13
D12
D62
D82
Z13

Keywords:
Deadweight loss
Market failure
Externalities
Christmas
Gift-giving

ABSTRACT

Although economic theory asserts that cash is often superior to gifts in-kind for maximizing welfare, there has been no empirical consensus on whether in-kind gift-giving destroys or creates value—i.e., whether recipients value gifts less than, as much as, or more than givers pay for them. The present study introduces a simple but important methodological innovation. Whereas prior studies focused exclusively on recipients' estimates of the costs of gifts, we obtain more objective information on actual market prices. We also compare gifts in-kind to gift cards. We find a deadweight loss that averages more than 7 percent of the market price on gifts in-kind, and more than 14 percent on gift cards.

1. Introduction

Gift-giving is a long-standing tradition on holidays such as Christmas and Mothers' Day and other special occasions such as birthdays, graduations, and weddings. In a well-known series of articles in the *American Economic Review*, Waldfogel (1993, 1996, 1998), Solnick and Hemenway (1996, 1998, 2000), List and Shogren (1998), and Ruffle and Tykocinski (2000) debate the welfare loss—or gain—associated with the gifts given in celebration of Christmas. The central issue is whether recipients value the gifts less than, as much as, or more than the givers pay for them. While economic theory suggests that cash may be superior to gifts in-kind, rather surprisingly, there has been no consensus in the empirical research on whether gift-giving creates or destroys value.

The present study contributes to this literature by introducing a simple but important methodological innovation. Rather than merely asking recipients, as in prior studies, how much money they think the givers paid for the presents, we also obtain more objective information on actual market prices.

Section 2 provides a brief background on the earlier studies, and identifies a potentially significant source of estimation bias. Section 3 describes our own survey. Section 4 discusses our results and the implications of our findings. Section 5 gives a short conclusion.

2. Prior research

Conventional public finance theory posits that cash transfers may be welfare-maximizing because recipients of cash can achieve levels of utility that are at least as high as those achieved with transfers in-kind, since the latter may not match the recipients' preferences. Applying this logic to the custom of personal gift-giving, Waldfogel's (1993) original analysis starts from the premise that if the recipient's personal valuation (V) of a gift is lower than the cost (C) incurred by the giver, then the difference, $C - V$, represents deadweight loss or inefficiency. Equivalently, if the yield of the gift, $Y = V/C$, is less than unity, then a deadweight loss has occurred.[1]

Waldfogel (1993) initially conducted two surveys of Yale University undergraduates regarding presents they had received in celebration of the holidays, eliciting two different measures of personal value. In the first survey, involving 86 students, he asked how

[1] In a frictionless economy, recipients of unwanted gifts could return the unused items to the store or sell them in the market to get their fair market value; in that case, gifts would involve no deadweight loss. For inefficiency to occur, there must be some market friction such as transaction costs (Mercier Ythier, 2006).

* Corresponding author. Tel.: +1 937 775 3070; fax: +1 937 775 2441.
E-mail address: Joseph.Eisenhauer@wright.edu (J.G. Eisenhauer).

1053-5357/$ – see front matter © 2008 Elsevier Inc. All rights reserved.
doi:10.1016/j.socec.2008.12.005

much money the recipient would have been willing to pay in order to purchase the total volume of goods and services received as gifts. In the second survey, covering 58 students, he asked how much money would have made the recipient indifferent between receiving each gift and receiving cash. In both surveys, he instructed the respondents to ignore any sentimental value resulting from personal attachment to the giver. Recognizing that the former question is framed as a "buyer's decision" or willingness to pay (WTP) while the latter is framed as a "seller's decision" or willingness to accept (WTA), and that willingness to accept generally exceeds willingness to pay, Waldfogel (1993) reasoned that the true valuation (V) was bounded by these two terms, such that WTP < V < WTA.[2] As an estimate of cost, Waldfogel (1993) asked the subjects in each survey how much money they believed the givers had spent on the gifts. In this way, he estimated average yields between 0.661 and 0.871, implying deadweight losses of 12.9–33.9 percent of cost. Thus, Waldfogel (1993) concluded that, compared with cash, gifts in-kind lost between 10 percent and one-third of their value by the time they reached the recipient.

Solnick and Hemenway (1996) replicated Waldfogel's (1993) study by polling graduate students and staff at Harvard University as well as adults from the general public. To simplify the question regarding a recipient's "indifference" between cash and a non-cash good, which they considered too technical for non-specialists, Solnick and Hemenway (1996) asked participants how much money would have made them "equally happy", after discounting sentimental value. They also restricted attention to three gifts per recipient. After removing five outliers, Solnick and Hemenway (1996) found an average yield of 2.14, implying that the recipients generally valued their gifts well *above* the estimated costs. On this basis, Solnick and Hemenway (1996) concluded that Christmas gift-giving *creates* value—i.e., generates a welfare gain.

Waldfogel's (1996) reply suggested that by explicitly restricting attention to only three gifts, Solnick and Hemenway (1996) may have inadvertently encouraged their respondents to focus on the gifts they prized most highly, thereby artificially inflating the yield. Moreover, he argued that by asking only a WTA valuation question, Solnick and Hemenway (1996) were producing only upper bounds on yields, and that their respondents may have failed to exclude sentimental value despite the instructions to do so. Waldfogel (1996) then reported on a follow-up study in which he found an average yield of 0.929, implying a mean deadweight loss of 7.1 percent.

List and Shogren (1998) drew a distinction between hypothetical recipient valuations based on WTA survey responses and actual recipient valuations as revealed by an experimental auction. Their results, based on 36 undergraduates at the University of Central Florida, suggested that WTA values obtained through surveys were, on average, 27 percent lower than values obtained through a revealed preference approach, so that the former might indicate the existence of deadweight loss whereas the latter revealed a welfare gain. They estimated that Christmas gifts yield a value-to-cost ratio of 1.21 to 1.35—substantially lower than the Solnick and Hemenway (1996) estimate, but nevertheless implying the existence of welfare gains.[3]

In a further effort to reconcile the differences between Waldfogel (1993) and Solnick and Hemenway (1996), Ruffle and Tykocinski (2000) investigated the framing of the recipient surveys. They found that personal valuations based on the Solnick and Hemenway (1996) wording—i.e., how much cash would make the recipient "equally happy"—were significantly larger than personal valuations based on the original Waldfogel (1993) question of "indifference". They inferred that the phrase "equally happy" had caused respondents to reflect more favorably on the gifts they had been given, inflating the gift yields.

More recently, Waldfogel (2002) reported on a study of students at four different universities. Using only a WTA valuation question, he found that the average yield on the most expensive gifts (those estimated by recipients to cost more than $500 in 1993) was 1.17, but that the mean yield for all non-cash gifts was 0.944, implying an average deadweight loss of 5.6 percent.[4,5]

In all of this work, careful attention has been paid to the elicitation of the recipient's personal valuation of the gift, or the numerator of the yield ratio. Far less attention has been focused on the denominator of the yield ratio, the true cost of the gift. Indeed, the prior studies simply asked recipients how much money they thought the givers had paid for the gifts, either individually or in the aggregate, without further verification.[6] Only Ruffle and Tykocinski (2000) mention—in a footnote—that the true market price ought to be used in calculating yields. But the distortion resulting from misestimation of the giver's cost is potentially large, with important implications. Indeed, it is well established in the marketing literature that consumer knowledge of market prices is quite limited. As Estelami and De Maeyer (2004, p. 129) note, "This research stream indicates that a large proportion of consumers do not know prices for items they regularly purchase, and that their price estimates are often far apart from the products' actual prices."[7] If this is true of goods that consumers routinely purchase, it seems that the recipients of gifts might also be inaccurate at estimating the prices of items that they did not purchase and may have rarely or never previously bought.

To see the effect of measurement error, suppose that the recipient's valuation, V, is elicited with perfect accuracy but the cost estimate, $\hat{C}$, differs from the true cost, C. Writing the true yield as $Y = V/C$ and the estimated yield as $\hat{Y} = V/\hat{C}$, simple algebra reveals $Y = \hat{Y}(\hat{C}/C)$ or $\hat{Y} = Y(C/\hat{C})$. Thus, if costs are underestimated, yields will be over-estimated, and vice versa. To address this issue more systematically, the present study introduces more objective measures of the market prices. Accurate cost data allow us to test for any systematic bias in the prior literature, which exclusively used the recipient's cost estimate.

3. Survey procedure

In January of 2008, we surveyed undergraduates in principles of economics courses at a State University of New York campus near

[2] WTP is generally lower because its determination implicitly involves a budget constraint. In addition, the behavioral economics literature has proposed the existence of an endowment effect, whereby individuals become more reluctant to part with items they already possess than to acquire the identical items in the first place.

[3] If presents are consistently valued by recipients above the price paid by buyers, this is itself a form of market failure or inefficiency akin to the existence of positive externalities, in the sense that the volume of gift-giving is less than the optimum.

[4] This could indicate that cost estimates are influenced by personal valuations—i.e., for the gifts they prize most highly, recipients assume that the giver paid dearly.

[5] $Y = 1$ has been the customary threshold for comparison, though other efficiency thresholds are possible. In particular, because infra-marginal units of a good typically generate consumer surplus, the average yield on an individual's own-purchases may exceed unity. Using own-purchases as the benchmark, Waldfogel (2005) estimated that per dollar spent, gifts generate an average of 10–18 percent less value for the recipient than goods that an individual purchases for his or her own consumption.

[6] In Waldfogel (2002, p. 416), for example, "Yield is calculated as the ratio of recipient valuation to recipient estimate of giver price paid [sic] for the gifts. In the survey, respondents are instructed to estimate the price paid as 'how much you think the giver paid'."

[7] In their own study, Estelami and De Maeyer (2004, p. 133) found that "on average, 39% of consumers were able to provide price estimates within 25% of the actual price." The remaining 61 percent of consumers exhibited errors exceeding 25 percent. Estelami (1998) found pricing errors ranging from 18.5 percent to more than 50 percent of an item's actual price.