Gift-giving and deadweight loss

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A R T I C L E   I N F O

A B S T R A C T

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

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[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).

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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

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[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.

Niagara Falls. We deliberately distributed the survey early in the spring semester, when the memory of the holiday season would still be fresh. Because this was during the first 2 weeks of the students' first or second college course in economics, the subjects had had minimal prior exposure to the formal study of economics. While they were informed that the project concerned gift-giving, it is unlikely that many (if any at all) perceived it as relating to dead-weight loss until the results were tabulated and explained to them later in the semester.

The survey had two phases: an in-class portion and a home-work portion. For the in-class phase, we first asked the subjects to describe the gifts they had been given in as much detail as possible. Following Waldfogel (1993, 1996), we asked two questions to elicit their personal valuations: a WTP question, and a WTA question. The WTP question asked, "Ignoring sentimental value, how much money (maximum) would you have been willing to pay for this product or service?" [8] To avoid the "technical" jargon of indifference used by Waldfogel (1993) and simultaneously avoid the excessively "happy" language of Solnick and Hemenway (1996), our WTA question was phrased as follows. "Ignoring sentimental value, how much money (minimum) you would have been willing to accept in exchange?"[9]

Next, we asked the respondents to identify their relationship to the giver of each gift. Finally, following the earlier studies, we instructed the subjects (during class) to estimate the amount of money they thought the giver had paid for each gift. However, we explicitly instructed the respondents to ignore any sales taxes and transportation fees, which does not appear to have been clarified in prior studies.[10] The surveys were then collected and photocopied, to ensure that the subjects could not alter their responses during the second phase.

In the following class period, the second phase was initiated: the surveys were returned to the subjects, and they were given a homework assignment to determine the actual market price of each gift they had listed. They were invited to visit stores, shop online using the Internet, check the price in a catalogue, or contact the giver for information. When the homework assignments were submitted, the cost data were added to the data file. Of course, the prices may have changed between the time of purchase and the time of the survey, so that our measure of market price may have been affected by holiday sales or post-holiday sales. In fact, it is difficult to know whether the prices of these specific items rose or fell in the period between the purchase and the survey. (General price inflation of approximately 0.2 percent per month would not appear to have distorted our price estimates substantially.) Nevertheless, our objective measures of market price would seem to be more reliable than the subjective estimates provided by recipients during phase one. Indeed, in those instances in which the recipient directly asked the giver what price was paid or saw the sales receipt, we ostensibly collected exact market prices.

4. Results

4.1. Summary statistics

While not nationally representative, our sample was not unlike most of the smaller student samples used in earlier studies. Our survey covered 105 respondents, almost equally divided by gender: 53 males and 52 females. Their ages ranged from 18 to 53 years, with a mean of 21.3 and a mode of 19. Collectively, they reported on 476 Christmas gifts, the average market value of which was $216.73.

Only 7 gifts (or 1.5 percent) were given in cash; 437 (or 91.8 percent) were gifts in-kind, and 32 (or 6.7 percent) were gift cards. The infrequency with which cash was given confirms earlier observations that there is a social stigma attached to giving cash gifts, particularly when the giver and recipient are ostensibly close (Waldfogel, 2002). To avoid this stigma, givers may provide gifts in-kind to signal their knowledge of recipient preferences (Prendergast and Stole, 2001). On the other hand, perhaps to compensate for the stigma, the average size of cash gifts, $421, was substantially greater than the average market price of in-kind gifts ($225) and more than six times larger than the average gift card ($65).[11]

In addition to providing roughly half of the presents in our sample, parents were the most generous givers, bestowing gifts worth an average of $332.52. This relatively high average reflects the inclusion of some of the most expensive gifts: new or used vehicles (automobiles and snowmobiles) and computers. The next most generous givers were boyfriends ($144.23), spouses ($133.85), grandparents ($120.57), and girlfriends ($94.66), followed by aunts, uncles, and cousins ($80.31). Less expensive gifts were given by friends and co-workers ($70.39), siblings ($48.06), in-laws ($47.44), and children ($40.43).[12]

4.2. Comparison of cost estimates with market prices

We tested the methodology used in prior research to determine whether it was valid to use the recipient's estimation of cost as a proxy for a gift's market price, since the marketing literature suggests potentially large errors in cost estimation. In order to ascertain the actual market prices of the gifts they received, the subjects used a variety of sources: 47.4 percent of the market prices were obtained by asking the giver, 22.9 percent were found on the Internet, 20.1 percent were obtained by visiting the store, 6.6 percent were taken from the actual sales receipt, and the remaining prices were found in a catalogue or advertisement.

Table 1 shows the results of the significance tests analyzing the difference between the recipient's estimated cost and the actual market price for 21 categories of gifts in-kind. In only one category (health and beauty products) was the estimated cost significantly less than the market price (at the 10 percent level). While some

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[8] In a further effort to keep the instructions value-neutral, we referred to a "product" rather than a "good".

[9] Naturally, sentimental value is an important component of many gifts. But even if a recipient values a gift because it is from a beloved giver, (s)he may have valued a different gift from the same giver even more. Thus, a present may have a welfare gain or loss that is independent of sentimental value. We therefore followed prior practice by instructing respondents to exclude sentimental value.

[10] Sales taxes and transaction costs introduce a separate source of deadweight loss, which occurs even when a good is purchased for one's own use. If respondents in prior studies estimated the costs incurred by givers to include sales taxes or shipping fees, then *C* was over-estimated and *Y* was underestimated. In Niagara Falls, the sales tax alone exceeds eight percent of the purchase price, so that failure to clarify this issue could induce a substantial distortion.

[11] Others offer alternative explanations for in-kind gifts. Camerer (1988) argues that because gift-giving is often reciprocal, accepting an inefficient gift indicates the recipient's willingness to engage in a long-term relationship (whereas accepting an efficient gift does not). Thus, proffering an inefficient gift signals the giver's desire for such a relationship. Ruffle (1999) suggests that the favorable emotional impact of a gift in-kind, such as a pleasant surprise, provides utility for both the recipient and the giver which may offset some or all of the monetary inefficiency. Kaplan and Ruffle (2008) suggest that givers may possess superior information regarding products and store locations. In that case, giving the good rather than cash is efficient, as it economizes on search costs.

[12] The reasons why givers provide gifts to recipients in the first place has sometimes been treated as a separate question, unrelated to the form or size of the gift (Prendergast and Stole, 2001). But the two may be linked. If the objective is to signal the giver's wealth or generosity, then an expensive gift with a relatively low yield may suffice; alternatively, if the giver's motivation is more altruistic, then (s)he may attempt to select a gift with a relatively high yield for the recipient, even if the gift is inexpensive. For a study of the motivation underlying giving, see van de Ven (2002).

Table 1
Estimated cost and market price by in-kind gift category.

Gift	Sample size[a]	Estimated cost	Market price	Significance level
Accessories	17	90.0000	90.3459	.939
Health/beauty	20	39.4250	42.1460	.077
Books	11	30.6809	41.8836	.321
Clothes	99	60.2222	59.8833	.813
Computer	11	339.5455	394.3600	.131
Decor	16	43.9681	39.2925	.133
DVD	34	35.7353	32.8276	.219
Electronics	80	199.9624	195.7404	.433
Food	3	23.3333	21.2200	.281
Footwear	29	81.7931	78.9610	.364
Furniture	9	140.0000	165.9867	.607
Jewelry	35	143.6571	135.4823	.205
Kitchen gadgets	18	42.6389	43.0733	.917
Musical instruments	7	142.8571	142.8243	.997
Pets	2	150.0000	150.0000	1.000
Services	6	387.5000	334.8317	.290
Sporting goods	12	147.9167	154.1350	.346
Tickets	10	158.5000	160.6990	.452
Tools	4	66.2475	82.9950	.217
Travel	2	181.0000	125.0000	.500
Vehicles	8	6393.1250	6276.5000	.698
All gifts in-kind	433	227.54	225.02	.643

[a] The overall sample size is slightly smaller than the 437 total gifts in-kind because of one missing observation in each of the following categories: clothes, decor, sporting goods, and tools.

prices were over-estimated and others were under-estimated by recipients, on average, the estimated cost of a Christmas present was almost exactly correct: $227.54 versus an actual market price of $225.02. Thus, among all gifts in-kind, we found a mean over-estimate of cost equal to only 1.1 percent of market price, and this difference was not statistically significant, having a prob-value of 0.643.

4.3. Yield estimates

A comparison of the responses to the WTP and WTA questions revealed no statistically significant difference; personal valuations of gifts by recipients appeared to be measured equally well by either response.[13] Thus, to simplify the analysis, we follow the majority of the prior literature by reporting results based on the WTA question. To determine the magnitude of welfare gains or losses, we calculated two measures of yield for each gift: $\hat{Y} = V/\hat{C}$, and $Y = V/C$, where V is given by WTA. The former replicates the measurement instrument used in previous studies, while the latter is taken to be a more accurate measure of yield when the two differ.

Table 2 contains the average yield calculations for each gift category as well as for gifts at different price levels. We find no evidence of significant welfare gains in any gift category, regardless of which cost figure was used to calculate the yield. There are significant deadweight losses for more than one-third of our gift categories (accessories, books, clothes, gift cards, kitchen gadgets, musical instruments, sporting goods, and vehicles). In three additional categories (footwear, electronics, and video disks) the yield based on estimated cost ($\hat{Y}$) is significantly below 1.0 while the yield based on actual market price (Y) is not.

Table 2
Yields by gift category and market price.

Gift type	$\hat{Y}$	Y
Accessories	0.7803***	0.7345***
Health/beauty	0.9953	1.0024
Books	0.8002**	0.7429**
Clothes	0.7952***	0.8174***
Computer	1.6326	1.2600
Decor	1.0638	1.2515
DVD	0.8618***	0.9176
Electronics	0.8541***	0.9164
Food	0.8500	0.9478
Footwear	0.8917*	0.9152
Furniture	0.9074	0.9017
Jewelry	1.0703	1.1420
Kitchen gadgets	0.8096**	0.7749***
Musical instruments	0.7657**	0.7630**
Pets	0.6667	0.6667
Services	1.0623	1.1218
Sporting goods	0.7833**	0.8120*
Tickets	1.5315	1.4960
Tools	0.7566	0.7185
Travel	1.1696	1.5754
Vehicles	0.7779*	0.7345*
All gifts in-kind	0.9015***	0.9266***
Giftcards	0.8566***	0.8594***
All non-cash gifts	0.8987***	0.9224***
Market price		
Price ≤$75	0.8953***	0.9414*
Price >$75	0.9161*	0.8959***

* Significantly different from 1 at the .10 level.
** Significantly different from 1 at the .05 level.
*** Significantly different from 1 at the .01 level.

In particular, we found the average yield on gift cards to be less than 0.86, which was significantly different from 1.0 well below the one percent level.[14] This result implies a deadweight loss of more than 14 percent, closely replicating the average deadweight loss of 15 percent on gift cards obtained by Offenberg (2007). This consistency appears to validate our methodology.

Among gifts in-kind, the largest deadweight losses, approaching or exceeding 25 percent of market value, occurred on accessories (wallets, belts, etc.), books, kitchen gadgets, musical instruments, and vehicles. Greater generosity of the giver did not appear to improve the yield: deadweight losses on the most expensive gifts (those with a market price above $75) were comparable to—indeed, slightly larger than—the losses on less expensive items.[15] On average, our estimates indicate that Christmas presents (including gift cards) involve a statistically significant deadweight loss ranging from 7.7 percent to 10 percent, similar in magnitude to the losses obtained by Waldfogel (1996).

Finally, Table 3 distinguishes deadweight losses by giver and recipient. Deadweight losses are large and statistically significant on gifts to males and younger recipients, but not on gifts to females or older recipients. Separating gifts by giver, we found that some givers are more adept at avoiding deadweight losses than others. The results indicate that large and statistically significant deadweight losses, ranging from 12 to 24 percent of cost, occur on gifts from girlfriends, spouses, grandparents, and in-laws, regardless of which cost measure is used to determine the yield; smaller losses (6–10 percent) occur on gifts from parents.[16] Consistent with the results in Table 2, we find no evi-

Table 3
Yields on non-cash gifts by giver and recipient.

Giver	Sample size[a]	Mean value	Estimated cost	Market price	$\hat{Y}$	Y
Aunt/uncle/cousin	17	66.0588	63.6837	71.3858	0.8665	0.8099[*]
Boyfriend	51	126.9608	143.0392	144.2310	0.9868	0.9629
Child	6	38.3333	46.7857	40.4271	1.1074	1.0157
Friend/co-worker	23	61.9565	66.3261	70.3878	0.9686	0.9902
Girlfriend	29	68.5517	101.1500	94.6637	0.7819[***]	0.7649[***]
Grandparent(s)	20	59.4500	70.4750	67.4705	0.8613[***]	0.8799[**]
In-law(s)	17	32.5882	50.1471	47.4447	0.7563[***]	0.7991[*]
Parent(s)	240	252.6385	333.5655	332.0274	0.9038[**]	0.9401[*]
Sibling	49	45.3061	53.7937	48.0576	0.8803[***]	0.9511
Spouse	6	125.7143	152.5000	133.8514	0.8008[*]	0.8589[*]
Total	458	167.3258	215.1773	213.6587	0.8987[***]	0.9224[***]
Recipient						
Male	205	137.0722	193.5545	183.3356	0.8353[***]	0.8590[***]
Female	253	191.8622	232.9298	238.3183	0.9500	0.9735
Age ≤ 19	270	119.2222	177.3644	180.8596	0.8877[***]	0.8937[***]
Age > 19	188	235.6835	268.1153	259.2409	0.9145[*]	0.9630

[a] The reported sample sizes are those used for calculating $\hat{Y}$; the overall sample is smaller than the total number of non-cash gifts (469) because of missing observations.

[*] Significantly different from 1 at the .10 level.

[**] Significantly different from 1 at the .05 level.

[***] Significantly different from 1 at the .01 level.

dence of significant welfare gains on gifts by any givers to any recipients.[17]

5. Discussion

We find no statistically significant difference between the recipient's estimate of cost and the actual cost of the gift in 95% (20 out of 21) of the in-kind gift categories. Our results therefore appear to validate the methodology employed in the prior literature, which used the recipient's estimate of cost as a proxy for the market price of a gift in the yield calculation.[18]

Our results also imply that there is considerable market failure associated with in-kind gift-giving, as we find no evidence of significant welfare gains in any gift category, but rather significant deadweight losses in more than 1/3 of our gift categories. Both gift-givers and recipients recognize the potential for this deadweight loss and have adopted a variety of conventions to correct the market failure. The use of cash, checks, and (to a lesser extent) gift certificates as presents suggests that givers who cannot accurately assess recipient preferences avoid gifts in-kind to restrict inefficiency. Indeed, Waldfogel (1993, 2002) links cash gifts with social distance, so that the prevalence of cash gifts increases as personal familiarity between the giver and recipient declines.[19] At the

same time, the modern institution of the bridal registry (now often called the gift registry)—whereby brides-to-be (or engaged couples) identify desired gifts and givers then purchase items from the list—reflects an explicit effort by recipients to minimize or eliminate the deadweight loss of gifts in-kind.

Gift cards, a market-based innovation and one possible solution to the deadweight loss associated with in-kind gifts, have introduced a new type of market failure. In recent years, gift cards—the modern analogue of paper gift certificates—have become increasingly popular, especially as holiday presents (Offenberg, 2007). Gift cards represent a compromise between gifts in-kind and cash, inasmuch as they provide recipients with greater flexibility than the former and less convenience than the latter. Thus, they evince an effort to strike a balance: reducing deadweight loss while avoiding the stigma of cash. But gift cards often carry their own form of deadweight loss: in addition to restricting recipient choice to specific stores, they frequently impose non-usage fees and expiration dates which erode their value (Horne, 2007). Offenberg (2007) used actual e-bay auctions of gift cards to measure their WTA value to recipients and their deadweight loss. She found that recipients were, on average, willing to sell their gift cards online for 15 percent less than the original cost of the cards, excluding shipping fees. Consistent with this result, we also find a deadweight loss for gift cards of more than 14 percent, nearly twice the average loss on gifts in-kind.

Our results, as a whole, thus suggest that there remains substantial deadweight loss associated with non-monetary gift-giving. Market-based solutions have not been successful in alleviating this market failure.

[17] Because the mean of a ratio is not equal to the mean of the numerator divided by the mean of the denominator, it is not possible to compute the mean yields in Table 3 from the means in the preceding columns.

[18] However, our results do not necessarily rule out the possibility of measurement error in the yield estimated by prior studies, as most of the data used in the existing literature are from the early to mid-1990s, before internet usage became pervasive in society. The accuracy of our subjects' cost estimates potentially suggests that the recent development and widespread utilization of the internet may have made consumers more knowledgeable regarding prices in general, since it is now possible to shop or browse online and thereby obtain price information without leaving home (Bakos, 1997; Grewal et al., 2003). Thus, it is not too surprising that the individuals in our study are able to accurately estimate the market prices of gifts they have received. An alternative explanation for the accuracy of cost estimates is based on signaling—i.e., direct or indirect preference revelation. If potential recipients identify gifts that they would like to receive and provide either overt statements or covert hints to givers who then honor those wishes, it would not be surprising to find recipients having highly accurate estimates of market prices. In that case, however, we should also find little or no deadweight loss.

[19] We are unable to reliably replicate this finding due to the paucity of cash gifts in our survey.

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