The Deadweight Loss of Christmas

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When economists comment on holiday gift-giving, it is usually to condone the healthy effect of spending on the macroeconomy. However, an important feature of gift-giving is that consumption choices are made by someone other than the final consumer. A potentially important *micro*economic aspect of gift-giving is that gifts may be mismatched with the recipients' preferences. In the standard microeconomic framework of consumer choice, the best a gift-giver can do with, say, $10 is to duplicate the choice that the recipient would have made. While it is possible for a giver to choose a gift which the recipient ultimately values above its price—for example, if the recipient is not perfectly informed—it is more likely that the gift will leave the recipient worse off than if she had made her own consumption choice with an equal amount of cash. In short, gift-giving is a potential source of deadweight loss.

This paper gives estimates of the deadweight loss of holiday gift-giving based on surveys given to Yale undergraduates.[1] I find that holiday gift-giving destroys between 10 percent and a third of the value of gifts. While these recipients may be unrepresentative of the U.S. population, their *gifts* are not necessarily unrepresentative. Holiday expenditures average $40 billion per year, implying that a conservative estimate of the deadweight loss of Christmas[2] is a tenth as large as estimates of the deadweight loss of income taxation. I also explore how deadweight loss and the tendency to give cash gifts vary with the relationship and age difference between giver and recipient. I find that gifts from friends and "significant others" are most efficient, while noncash gifts from members of the extended family are least efficient and destroy a third of their value. I develop a simple expected-utility model to explain the decision to give cash, as opposed to in-kind gifts. The data are consistent with the model: cash gifts are most common from the sorts of givers whose noncash gifts have the lowest expected value to recipients (given their cost) and high variability in recipient valuation.

I. Theory

A. *The Consequences of Gift-Giving*

Students are customarily taught in economics courses that unfettered consumer choice leads the consumer to higher utility than constrained choice. Thus, for example, government grants-in-kind are inefficient, unless the consumer would have chosen to consume at least the amount of the good granted, had the grant been cash.

One can analyze the possible inefficiency of gift-giving from the recipient standpoint

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[1]Much existing research examines the theoretical desirability of cash, as opposed to in-kind transfers (e.g., Maria Schmundt et al., 1975; Ronald A. Dye and Rick Antle, 1986; Charles Blackorby and David Donaldson, 1988). I am aware of no empirical research on recipient valuation of transfers, except Eugene Smolensky et al. (1977), which presents estimates of the value of government in-kind transfer programs to benefits recipients. Their results are compared with mine below.

[2]References to the deadweight loss of Christmas should be understood to apply equally to Hanukkah and other holidays with gift-giving rituals.

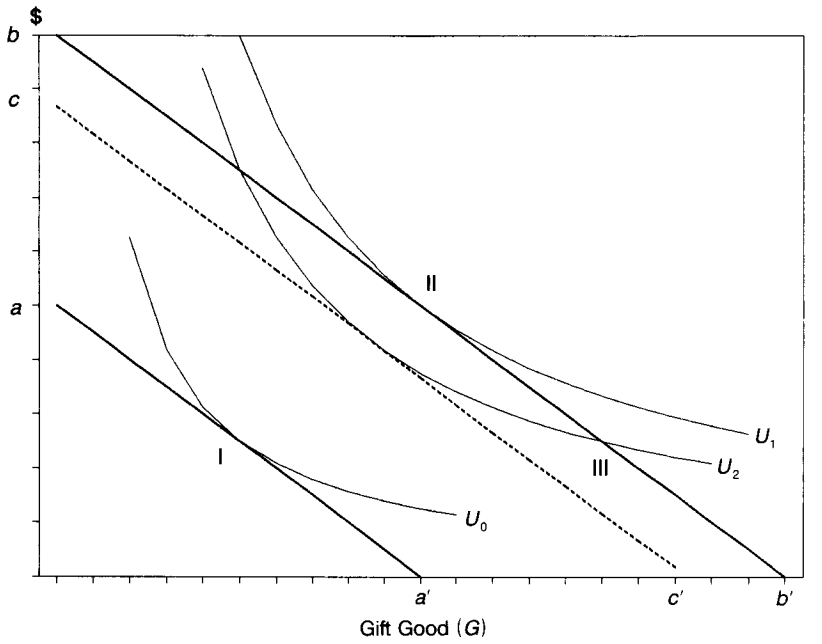

FIGURE 1. GIFT-GIVING AND DEADWEIGHT LOSS

Notes: The amount of the gift good (G) is on the horizontal axis. The vertical axis measures all other goods, in dollars. Point I on budget line aa' describes the recipient's holdings of the gift good and all other goods prior to receipt of the gift, when her utility is U_0. When she receives $a'c'$ units of the gift good, her holdings are represented by point III on budget line bb'. At this point her utility is U_2. Had she received a cash gift of equal cost to the giver, she could have chosen any point on budget line bb', and she would have chosen point II, with utility U_1. Because the utility of the bundle chosen freely by the recipient exceeds utility of an equal-cost bundle that includes the gift, there is a deadweight loss. In dollars, this deadweight loss is distance cb on the vertical axis.

in an indifference-curve diagram.[3] Consider Figure 1, with the gift good (G) on the horizontal axis and all other goods (A, with $P_A = 1$) on the vertical axis. Point I depicts the gift recipient's position prior to receiving this year's gift. Suppose that the giver is planning to spend $\$x$. If the gift comes in the form of cash, the recipient moves to budget constraint bb', on which she may choose any point. Given this unconstrained choice, she chooses point II. In this case the gift is completely efficient: $\$x$ is the minimum expenditure necessary to increase utility from U_0 to U_1.

If, instead of cash, the gift consists of only the gift good, then the recipient receives (x/P_G) units of gift and arrives at point III, also on budget constraint bb'. The resultant recipient utility is U_2. This gift is inefficient because the recipient could have reached this level of utility with a cash gift smaller than $\$x$. The dashed budget constraint shows the minimum additional expenditure necessary to achieve U_2; it is distance ac,

[3]Giving may confer utility on the giver. The present note is concerned only with the recipient. Even if the sum of giver and recipient valuations of gifts exceed their price, deadweight loss is present if the recipient values the gift below her valuation of a gift of equal cost that the giver finds equally enjoyable to give.

which is less than the cost of the gift, distance *ab*. Hence, distance *cb* is the deadweight loss associated with the gift.[4]

The size of the deadweight loss depends on both the giver's acquaintance with the recipient's preferences and the recipient's knowledge of her own preferences. If the recipient is perfectly informed about gift items, then the giver can do no better than to give cash; and the better the giver knows the recipient's preferences, the closer the giver can come to reproducing the recipient's choice. However, if recipients are imperfectly informed, the giver may be able to choose a gift that the recipient would not have chosen but which makes the recipient better off than a cash amount equal to the cost of the gift. In this case, it is possible for a gift to create, rather than destroy, value. The better the giver knows the recipient's preferences—including, possibly, preferences the recipient is unaware of—the more likely it is that the giver will choose a gift that the recipient values above its cost and will thereby create value through giving.

B. *Cash Gifts and the Goals of Gift-Givers*

Givers sometimes give cash and sometimes give gifts in kind. This section describes a simple expected-utility model to explain the observed pattern of cash-giving.

As far as the giver is concerned, the value that the recipient will attach to a noncash gift is a random variable g. Givers perceive that recipients evaluate their gifts according to the utility function $U(g)$. If the giver has decided to spend an amount g_0 on a gift, the giver's problem is to decide whether to give cash, which confers utility of $U(g_0)$ on the recipient, or a noncash gift, which has expected utility of $\int f(g)U(g)\,dg$, where $f(\cdot)$ is the density function of recipient valuations. This density function has interesting interpretations. If the recipient is perfectly informed and the giver has exactly the recipient's knowledge, $f(\cdot)$ is a spike at g_0. For a person who knows the recipient "better than she knows herself," whose gift costing g_0 may have value to the recipient above g_0, $f(\cdot)$ includes probability density for $g > g_0$. The density of recipient valuations of gifts from a giver ignorant of the recipient's preferences has a low mean and a high variance.

Giver maximization of recipient utility implies that the giver gives cash if the giver's perception of the recipient's utility of g_0 in cash exceeds the giver's expected recipient utility of a gift costing the giver g_0. Givers whose gifts share the same distribution of recipient valuations may differ according to the degree of risk aversion they attribute to recipients. Hence, some givers of a type give cash while others give in-kind gifts. (Some grandparent gifts are cash, and some are noncash, even if all grandparents' gifts share the same distribution of recipient valuations.)

The observable implication of this model is that cash gifts are more likely from givers aware that their noncash gifts have lower expected utility. Hence, cash gifts are more likely from givers who give low-value noncash gifts, relative to their costs. If givers perceive recipients to be risk-averse, then givers whose noncash gifts have higher variance in value will also be more likely to give cash, all else constant.

II. Data

In the first of the two surveys, completed voluntarily by 86 intermediate microeconomics students in January 1993, gift recipients were asked to estimate the total amounts paid (by the givers) for all of the holiday gifts the respondents received in 1992. Students were asked their gender and whether they exchanged any of their gifts. Finally, students were asked to place a value on their gifts, based on their willingness to pay for the gifts. The question was worded as follows:

> If you made no exchanges, think of the gifts you received directly.

[4] The fact that gifts may typically be exchanged eliminates this problem only in principle. Because of transaction costs and perhaps guilt, many inefficient gifts are not exchanged. See the results in Sections II and III.

> If you made exchanges, think of the gifts you did not exchange as well as the things you obtained in exchange for gifts you received directly.
>
> Apart from any sentimental value of the items, if you did not have them, how much would you be willing to pay to obtain them?

The second survey, given in March 1993, gathered data on each respondent's individual gifts. Fifty-eight respondents gave usable information on 278 gifts.[5] The survey asked respondents to describe each of their gifts, identify the givers' ages and relationships to the recipient (parent, aunt or uncle, sibling, grandparent, friend, or "significant other"), estimate the prices that the givers paid for the gifts, and indicate whether the gifts were exchanged. The gift description allows gifts to be divided into three categories: cash, gift certificates, and gifts. The respondents were asked to estimate the value of the gifts as the

> ...amount of cash such that you are indifferent between the gift and the cash, not counting the sentimental value of the gift. If you exchanged the original gift, assess the value of the object you got in exchange for the original gift. If you exchanged the original gift for cash, put the cash amount you received here.

The survey also asked gender, age, family income, and the amount the recipient spent on holiday gifts for others in 1992. Note that valuations from both surveys take exchanges into account.

The difference between the two surveys' valuation methods may be described as follows: the first survey asks for the *maximum* the respondent would pay for her gifts, while the second survey asks for the *minimum* the respondent would accept in lieu of the gifts. As Jack L. Knetsch and J. A. Sinden (1984) demonstrate, experimental subjects require more in return than they are willing to pay for similar objects. Hence, we expect valuations to be higher—and deadweight losses to be lower—in the second survey. The true amount of deadweight loss lies in between.

TABLE 1—AVERAGE AMOUNTS PAID AND VALUES OF GIFTS, BY RECIPIENT

Variable	Survey 1	Survey 2
Amount paid ($)	438.2	508.9
Value ($)[a]	313.4	462.1
Percentage ratio of average value to average price paid[b]	71.5	90.8
Average percentage yield[c]	66.1	87.1
	(3.3)	(3.2)
Number of recipients	86	58

[a]In survey 1, respondents valued their gifts by their willingness to pay for them. In survey 2, respondents valued their gifts as the money they would accept in lieu of the gifts (see text).

[b]Ratio of average value to average price paid.

[c]Average of ($value_i/price_i$). The standard error of average yield is given in parentheses.

III. Empirical Analysis

A. *How Large is the Deadweight Loss?*

The responses of the 86 students taking the first survey and the 58 students taking the second survey, are reported in Table 1.[6] In survey 1, respondents estimate that friends and family paid an average $438 for the recipients' total gifts, but respondents express a willingness to pay only $313, on average, for the same gifts. Because losses are approximately proportionate to receipts across receipt sizes, the ratio of average value to the average price (71.5 percent) is close to the average ratio of value to price, or average "yield," of 66.1 percent. A regression of log value on log price across recipients' total gift receipts confirms that the relationship between value and price is

[5]An observation is usable if it includes valid information on price, value, relationship and age of giver, age of recipient, whether the gift was cash, and whether the gift was exchanged.

[6]Table 1 reports data averaged across recipients. The remaining tables report averages across gifts.

essentially proportional:

$$\log(\text{value}_i) = \underset{(0.44)}{-0.314} + \underset{(0.08)}{0.964}\log(\text{price}_i)$$

with standard errors in parentheses and an R^2 of 65.6 percent. Forming a deadweight-loss measure from average yield indicates that gift-giving destroys a third of gift value. Note that the cash component of a recipient's gifts are included in both the price and value estimates in survey 1. Hence, the average yield on noncash gifts is below 66.1 percent, and the deadweight loss among noncash gifts actually exceeds one-third. Putting aside the inclusion of cash, the valuation by willingness to pay in survey 1 makes one-third an upper-bound estimate of the deadweight-loss fraction.

The 58 respondents to the second survey estimate that $509 was paid for their gifts, but they value these gifts at only $462. The average yield across these recipients (87.1 percent) is quite similar to the ratio of the average value to the average price (90.8 percent). A regression of the log value of receipts on log prices across recipients again confirms that value is nearly proportional to price:

$$\log(\text{value}_i) = \underset{(0.23)}{-0.618} + \underset{(0.04)}{1.075}\log(\text{price}_i)$$

with standard errors in parentheses and an R^2 of 93.2 percent. As expected, the implied deadweight loss is less than the results of the first survey would suggest. For comparability with total receipt figures in survey 1, cash is not excluded, so that the deadweight loss among noncash gifts is higher. Averaged across gifts, rather than recipients, the average yield on noncash gifts is 83.9 percent, suggesting a deadweight-loss fraction of 16.1 percent (see Table 2). This is a lower bound because of the survey-2 valuation method.

While the survey respondents' total gift receipts (averaging $400–500) and family incomes (averaging $143,000 for the 43 students reporting family income) are unrepresentative of the U.S. population, the fraction of the gifts' value destroyed through inefficient exchange need not be unrepresentative.[7] First, among survey recipients the yield ratio does not vary with family income. Thus, while the general population has lower average income than the survey recipients, yield rates for survey recipients with income nearer to the population average do not differ from the survey average.

TABLE 2—AVERAGE YIELD BY PRICE OF GIFT (EXCLUDING CASH GIFTS)

Price range	Percentage average yield	Standard error (percent)	N
$0–$25	85.8	5.6	102
$26–$50	74.4	3.4	82
$51–$100	89.8	4.2	47
Over $100	88.5	4.2	47
Overall:	83.9	2.8	246

Note: Overall figures are based only on observations with valid information about giver.

Second, deadweight losses are large and significant for gifts in all price ranges, thus including price ranges typical for gift recipients generally. Table 2 reports the average yield for noncash gifts in various price ranges. Over a third of the gifts in the survey are estimated to cost less than $25, a range with an average yield of 85.8 percent (with a standard error [SE] of 5.6 percent). Nearly an additional third of gifts are estimated to cost between $26 and $50; these gifts have an average yield of 74.4 percent (SE = 3.4 percent). Average yield is somewhat higher for larger gifts, about 89 percent for gifts estimated to cost over $50. The fraction of gift price that is wasted reaches a maximum of a quarter for gifts costing between $25 and $50 and is otherwise approximately constant at 10–15 percent. Recall that these figures are based on the conservative valuation method of survey 2. Whatever the average size of gifts in the general population, if their yields are similar to the yields on similar-sized gifts in this

[7]The average holiday gift expenditure per U.S. family was $400 in 1992 (see Bureau of National Affairs, 1992).

TABLE 3—GIFT YIELD AND TENDENCY TO GIVE CASH, BY IDENTITY OF GIVER

Variable	Aunt, uncle	Sibling	Parents	Significant other	Grandparent	Friend	All
A. *Yield of Noncash Gifts:*							
Number of observations	24	49	113	8	15	31	246
Value ($)[a]	40.5	23.5	133.3	24.1	56.1	22.1	77.6
Price ($)[b]	64.6	28.3	135.6	25.4	75.9	25.3	84.0
Percent yield[c]	64.4	86.2	86.5	91.7	62.9	98.8	83.9
	(7.0)	(5.2)	(3.2)	(8.3)	(10.3)	(14.7)	(2.8)
Yield standard error	34.1	36.1	33.9	23.6	40.0	82.0	43.9
Percentage exchanged[d]	20.8	6.1	9.7	0.0	13.3	6.5	9.8
B. *Tendency To Give Cash:*							
Number of observations	28	52	125	8	26	33	278
Age[e]	44	20	48	23	73	27	41
Percentage cash[f]	14.3	5.8	9.6	0.0	42.3	6.1	11.5

[a]Estimated value of gift to recipient.
[b]Recipient's estimate of price giver paid for the gift.
[c]Average of ratio ($\text{value}_i/\text{price}_i$); standard errors of average yield in parentheses.
[d]Fraction of noncash gifts exchanged.
[e]Age of giver (recipients are all aged 18–22).
[f]Percentage of gifts that are cash or gift certificates.

sample, then the deadweight loss will be at least 10 percent of the price of gifts.

B. *Determinants of Gift Yield and Cash-Giving*

This section examines gift yields and the tendency to give cash, by type of giver, to answer the following questions. First, how does the deadweight loss vary with familiarity of the giver with the recipient's preferences? We expect the deadweight loss to increase with the social distance between giver and recipient, as measured by the nature of the relationship (aunt or uncle, sibling, parent, significant other, grandparent, and friend) and the age difference between giver and recipient. Second, when do givers give cash? Are cash gifts more likely when the expected utility of noncash gifts is likely to be low?

The top panel of Table 3 reports the fraction of gifts exchanged, as well as the average value, price, and yield of gifts, by identity of the giver. The table also reports the standard error of gift yield. The table clearly indicates that gifts from givers bearing different relationships to the recipients vary significantly in their suitability to recipient preferences. Excluding cash gifts, the fraction of gifts exchanged gives a rough measure of how well the gifts match the recipients' preferences. Aunt/uncle and grandparent gifts are most likely to be exchanged, at rates of 20.8 percent and 13.3 percent, respectively. Ten percent of noncash parent gifts are exchanged, as are between 6 and 7 percent of gifts of siblings and friends. None of the (few) gifts from significant others were exchanged.

Even after accounting for exchanges, aunt/uncle and grandparent gifts have by far the lowest yields (among noncash gifts) at 64.4 percent (SE = 7.0 percent) and 62.9 percent (10.3 percent). Gifts from friends and significant others have the highest average yields, of 98.8 percent (SE = 14.7 percent) and 91.7 percent (SE = 8.3 percent), respectively. The average yield of parent and sibling gifts is about 85 percent (with standard errors of 3–5 percent).

The size of the deadweight loss, broken down by the relationship between giver and recipient, is interesting not only in itself, but also because it allows one to examine whether the tendency to give cash varies in accordance with the expected-utility-maximization theory described above. In particular, the tendency to give cash is expected to be higher for givers with lower mean (and

higher variance) yield ratios.[8] Table 3B shows the fraction of cash gifts, by type of giver. Overall, 11.5 percent of gifts are cash. The tendency to give cash is strongly related the deadweight losses of a giver type's noncash gifts. Cash gifts are by far most common from grandparents (42.9 percent), the group whose noncash gifts have the lowest average yield (62.9 percent). Grandparents also have the highest yield standard error, except for friends, whose standard error is more than doubled by two yield observations of over 300 percent. Aunts and uncles have the second-highest tendency to give cash (14.3 percent) and are a close second for lowest yield (64.4 percent), although their yield variability is not very high. At the other extreme, friends, siblings, and significant others give at most 6 percent cash gifts and have average yields between 86 percent and 99 percent. Apart from the outlier-influenced friend standard error, these groups' gifts have low variation in recipient valuation. These facts are consistent with expected-utility maximization.

We can investigate the determinants of deadweight loss and the tendency to give cash more systematically using multivariate statistical analysis that simultaneously accounts for age and the relationship between giver and recipient.[9] Table 4 presents regressions of log(value) on log(price), relationship dummies, and terms in the age difference between giver and recipient. Regression specification (1) shows that value is approximately proportional to price (across gifts, as it is across recipients). Specification (2) includes a cash or gift-certificate dummy, which sharply raises the proportionality factor between value and price. In specification (3), the constant is replaced by relationship dummies. Gifts from siblings and significant others entail the smallest losses, while gifts from aunts/uncles and grandparents entail the largest losses.

Specification (4) adds controls for the age difference (and difference squared) between giver and recipient. Increasing age differences decrease value, up to about 30 years of age difference. After accounting for age difference, parent gifts appear to be extremely efficient, followed by significant others, friends, and siblings. As before, gifts from grandparents and aunts/uncles carry the largest deadweight losses, although significance levels are lower than before. The estimates in Table 4 confirm what is apparent in the raw data. The fraction of gifts lost increases with the social distance between giver and recipient. Losses are larger for the extended family than for the immediate family, and losses increase with the age difference between giver and recipient.[10]

The last column of Table 4 reports a probit on whether gifts are cash (or gift certificates) using relationship dummies and terms in the age difference between giver and recipient as explanatory variables. As predicted by the expected-utility theory, all factors lowering recipient valuation of gifts (and therefore raising deadweight loss) raise the probability that a giver will choose cash.

While the pattern of cash-giving across types of givers is consistent with expected utility, the level of noncash giving is, at first blush, puzzlingly high. The average yields for gifts from all sources except friends and significant others are significantly below unity, indicating that giving noncash gifts destroys not only value but also utility for recipients who are not risk-loving. Noncash

[8]Checking this implication is complicated slightly by the fact that the mean and variance of noncash gift yield rates are only observed for givers who choose to give an in-kind gift. The distribution relevant to the giver's decision of whether to give cash, the distribution of gift yields that would result if all gifts were in-kind is not observed. It is in principle possible that the observed pattern of yield means and variances is induced by the tendencies of different types of givers to give cash. In practice, this seems very unlikely. The groups with the highest proportions of cash gifts have the lowest yields and among the highest yield variances. Selection would cause low means and high variances among their noncash gifts only if those giving cash would otherwise have given high-mean, low-variance gifts. This seems implausible.

[9]The bottom panel of Table 3 reports average ages of different types of givers.

[10]Yield is invariant with respect to gender and, as was mentioned above, family income.

TABLE 4—RESULTS ON SOCIAL PROXIMITY AND DEADWEIGHT LOSS AND THE TENDENCY TO GIVE CASH

	Regressions (dependent variable = log(value))				
Independent variable	(1)	(2)	(3)	(4)	Cash probit[a]
Constant	−0.372 (−3.46)	−0.346 (−3.24)			
log(price)	1.034 (37.72)	1.019 (36.76)	0.991 (35.16)	1.005 (34.74)	
Cash or gift certificate		0.264 (2.66)	0.337 (3.22)	0.330 (3.15)	
Parent			−0.205 (−1.61)	−0.021 (−0.13)	−1.112 (−2.36)
Aunt, uncle			−0.510 (−3.62)	−0.334 (−1.97)	−0.851 (−1.71)
Sibling			−0.193 (−1.70)	−0.241 (−2.08)	−1.570 (−5.62)
Significant other			−0.112 (−0.57)	−0.110 (−0.56)	na[b]
Grandparent			−0.365 (−2.36)	−0.306 (−1.15)	−0.286 (−0.38)
Friend			−0.223 (−1.86)	−0.200 (−1.66)	−1.502 (−4.18)
Age difference				−0.0157 (−2.05)	−0.018 (−0.74)
Age difference squared				0.00025 (1.76)	0.00038 (0.97)
R^2: N:	0.840 272	0.845 272	0.848 272	0.851 272	 272

Note: Numbers in parentheses are t statistics.
[a]Dependent variable is whether the gift is cash.
[b]No gift is cash, so the coefficient cannot be identified.

gift-giving may nevertheless arise for (at least) two reasons. First, the giver may derive some utility from giving the particular gift, which he would not derive from giving cash or another gift. Indeed, one may view the deadweight losses as measures of giver satisfaction. A second reason why noncash gifts are so common is that a stigma may be attached to giving cash gifts. Introspection suggests that cash gifts are socially awkward between some types of givers and recipients. Of course, this stigma seems to have dissipated where it would be most destructive: grandparents, aunts, and uncles are most willing to give cash.

C. *Uncle Sam versus Santa Claus*

Government grants in kind are often criticized, on theoretical grounds, for value-destruction. There is little existing research on the fraction of value destroyed by such programs, but it is interesting to compare the available evidence on government value-destruction through in-kind transfers with the present evidence on gift-giving and

deadweight loss. Smolensky et al. (1977) calibrate utility functions with demand data on food, housing, and medical insurance, which they use to calculate the value of various in-kind transfers to benefit recipients. They find that food stamps and rent supplements, which most resemble cash, generate no deadweight loss, while the deadweight losses for public housing, Medicare, and Medicaid are between 9 percent and 39 percent, assuming an elasticity of substitution (σ) of 0.5, and between 5 percent and 24 percent assuming $\sigma = 1.0$. The simulated proportionate deadweight losses of government in-kind transfers are thus no larger, and in many cases are smaller, than the deadweight losses of holiday gift-giving.[11]

IV. Conclusion

Estimates in this paper indicate that between a tenth and a third of the value of holiday gifts is destroyed by gift-giving. Because average losses of at least 10 percent hold for all gift price ranges in the sample, the lower-bound proportionate loss estimates may be reasonably applied to other populations. While the generality of these results is not settled, the deadweight losses arising from holiday gift-giving may well be large: holiday gift expenditures in 1992 totaled $38 billion according to one estimate.[12] If between a tenth and a third of this spending was wasted, then the deadweight loss of 1992 holiday gift-giving was between $4 billion and $13 billion.

To develop a feel for the significance of the deadweight loss of Christmas, one may compare it with an estimate of the deadweight loss of taxation. Edgar K. Browning (1976) estimates the total static welfare cost of income tax to be about $50 billion dollars (inflated to 1992 dollars using the CPI). Thus, the annual deadweight loss of holiday gift-giving is between a tenth and a third of the annual static welfare losses associated with income taxes.

[11] It should be noted that the *total* deadweight loss of government transfers includes not only the effect of misallocation of transfers, discussed here, but also the excess burden of the taxes used to finance the transfers.

[12] A November 1992 survey released by the Conference Board indicated that U.S. households planned to spend an average of $400 on holiday gifts. The survey was conducted by National Family Opinion and was based on 5,000 households (see Bureau of National Affairs, 1992). One obtains similar estimates of the amount of holiday gift expenditure from seasonally unadjusted retail sales figures. Between 1989 and 1992, the December figure averaged $193.9 billion (in December 1992 dollars), compared with $163.4 billion for November and $143.0 billion for January. Estimating holiday gift expenditures as average December retail sales less average retail sales in adjacent months gives a range between $30.5 billion and $50.9 billion (see *Survey of Current Business*).

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