Children and the economics of Christmas gift-giving

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In spite of its importance to the retail sector, there has been relatively little research on the economics of Christmas Season gift-giving. The one exception is Waldfogel (1993), The Deadweight loss of Christmas, American Economic Review, 83, 1328–1336, who found a substantial amount of deadweight loss associated with Christmas gift-giving. Here it is shown that the Waldfogel study is incomplete and alternative models of consumer choice theory which better explain Christmas gift-giving are identified. Although the standard neoclassical and altruistic models predict no relationship between the population of children and per capita Christmas spending, a model is developed that includes non-pecuniary externalities and predicts that children have a positive impact on Christmas gift-giving. This prediction is supported by empirical evidence.

I. INTRODUCTION

Holiday or Christmas season gift-giving is very important to the retail sector of the economy. For example, US retailers normally generate 25% of sales and 60% of profits between Thanksgiving and New Year’s Day (Fortune, 1985; Business Week, 1993).

In spite of the importance of the Christmas season to the retail sector, there has been relatively little economics research done on this subject. The one exception is Waldfogel (1993), who found a substantial amount of deadweight loss associated with Christmas gift-giving. The Waldfogel study presents an incomplete picture of the subject, however, since it assumes that the only motivation of gift-giving is altruism.

In the sections that follow, we provide a more general discussion of the economics of gift-giving. In particular, we discuss neoclassical, altruistic, and paternalistic motives for gift-giving. Although the standard neoclassical and altruistic models predict no relationship between the population of children and per capita Christmas spending, we develop a model that includes non-pecuniary externalities and predicts that children have a positive impact on Christmas gift-giving. This prediction is supported by empirical evidence.

II. THE ECONOMICS OF GIFT-GIVING

The economics of gift-giving is rather elementary in the neoclassical world found in most intermediate textbooks. In this setting, consumer preferences are represented by an increasing, twice continuously differentiable, and strictly concave utility function, $U(x)$, where $U$ is total utility and $x$ is a vector of consumer goods. By assumption, there is no sentiment, regret (Thaler, 1980), or interdependent utility functions (Leibenstein, 1950). Since any one person’s utility function does not depend upon the utility or consumption bundle of anyone else, gift-giving will not occur. This is because the act of giving a gift reduces the giver’s consumption opportunities without providing any compensating benefits. Thus, the institution of Christmas gift-giving will not exist in a simple neoclassical world.

Gift-giving can be explained, however, by extending the model. In the first extension, a consumer may give to others if the consumer has altruistic preferences. To illustrate, consider a setting with two individuals $i$ and $j$, where $U_i$ equals $i$’s total utility and $U_j$ equals $j$’s total utility. Individual $i$ is defined to be altruistic if $U_i = U_i(x_i, U_j)$ and $\partial U_i/\partial U_j > 0$. Gift-giving is possible in this case and will occur if the gain in utility from giving a gift exceeds the lost utility associated with the cost of the gift.

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1Following most retail advertisers, reference to Christmas gift-giving is taken to include Hannukkah and other holiday gift-giving customs.
The altruistic model is also a poor predictor of most gift-giving behaviour, however, because it can only explain cash gifts. A physical gift from \( i \) to \( j \) that costs $100 will more than likely leave \( j \) worse off than if \( j \) instead used this $100 to purchase a utility-maximizing good (\( x_j^* \)). Thus, unless \( i \) is perfectly informed or lucky (i.e. \( i \) purchases \( x_j^* \)), \( i \) will maximize \( U_i \) by giving a cash rather than an in-kind gift. However, Waldfogel’s (1993) survey indicates that over 88% of all Christmas gifts are in-kind rather than cash. This suggests that Waldfogel’s altruistic model is inappropriate and casts doubt on his conclusion that Christmas gift-giving is highly inefficient. Further, how could the institution of Christmas gift-giving evolve and persist if it were so inefficient?

A second extension better explains in-kind giving. In this case, the consumer is assumed to have paternalistic preferences, where \( i \) is defined to be paternalistic if \( U_i = U_i(x, x_i) \) and \( \partial U_i / \partial x_j > 0 \). Individual \( i \) will give an in-kind gift to individual \( j \) if the gain in utility from giving the gift exceeds the lost utility associated with the cost of the gift. Now, if \( i \) cares about which commodities \( j \) consumes, \( i \) will give gifts to \( j \) in order to maximize \( i \)'s utility rather than \( j \)'s utility. This paternalistic gift-giving motive will most likely be associated with children. For example, a parent may strongly prefer to give a child a classic novel rather than a comic book, cash, or an ounce of cocaine because such a gift boosts the child’s human capital. Clearly the institution of Christmas in-kind giving can exist in a paternalistic world.

### III. Christmas Spending and Children

In addition to paternalism, there are a number of reasons why children may generate positive spillovers when it comes to Christmas gift-giving. First, the shared experience of children opening presents on Christmas morning can enhance the parent’s direct or warm-glow benefits from giving. Second, as discussed above, if individuals feel more responsible for the development of children than others, then they will be more inclined to give gifts to children that enhance the child’s human and consumption capital (Stigler and Becker, 1977). Third, gifts from children may create other positive externalities that further enhance Christmas gift-giving. For example, a child may give a grandparent a piece of dried clay with an imprint of the child’s hand that has a very high sentimental value to the grandparent in spite of its low cost of construction. Such sentimental gift-giving may induce the grandparent to give more to the child (Cox, 1987) would call this an exchange-related motive for giving). Thus, if paternalistic, warm glow, and other external benefits are important determinants of gift-giving and if these benefits are greater when the recipient is a child rather than an adult, then Christmas gift-giving will increase with the number of children. In contrast, the simple neoclassical and altruistic models do not provide a clear connection between gift-giving and children.

In order to provide a simple test of these hypotheses, we estimate Equation 1. This requires several additional assumptions. First, we assume that Equation 1 can be derived from a single representative consumer. Thus, per-capital Christmas spending is modelled. Second, purchasing power is assumed to be captured by real per-capita income. Third, consumer preference for Christmas gift-giving is assumed to be captured by the percentage of the population that is Christian and by the percentage of the population under the age of 18. Finally, we specify Equation 1.
as a logarithmic function:

\[ \ln(CHS) = \beta_0 + \beta_1 \ln(Y) + \beta_2 \ln(PERCHRIS) \\
+ \beta_3 \ln(PERCHILD) \]  \hspace{1cm} (2)

where:

- \( CHS \) = real per-capita Christmas spending in the US
- \( Y \) = real per-capita income
- \( PERCHRIS \) = the percentage of the population that is Christian
- \( PERCHILD \) = the percentage of the population under the age of 18.

The same includes 40 annual US observations from 1951 to 1990, and all dollar figures are in 1983 dollars.\(^9\)

The ordinary-least-squares regression results of Equation 2 are presented below (absolute value of \( t \)-statistics are in parentheses):

\[ \ln(CHS) = -2.510 + 1.429 \ln(Y) - 0.879 \ln(PERCHRIS) \\
+ 0.933 \ln(PERCHILD) \]  \hspace{1cm} (1.337)  \hspace{1cm} (6.500)  \hspace{1cm} (1.025)

\[ R^2 = 0.707 \hspace{1cm} F = 32.332 \hspace{1cm} DW = 1.956 \]

As expected, per-capita Christmas spending is a normal good. The impact of per-capita income is positive and significantly different from zero at conventional significance levels. The percent Christian has a negative effect on Christmas spending. This may imply that church-going Christians are less materialistic during the Christmas season than others. In any case, the parameter estimate is not significantly different from zero. Most importantly, the empirical results provide support for our \textit{a priori} expectation that children have a positive and significant effect on Christmas gift-giving.\(^10\) A 1\% increase in the percentage of the population under 18 raises real per-capita Christmas spending by approximately 1\%. This is consistent with the paternalistic, warm glow, and other sentimental motives for Christmas gift-giving.

**IV. CONCLUDING REMARKS**

We have shown that there are several models of consumer choice which can explain Christmas gift-giving. For example, the altruist model predicts that all gifts will be in the form of cash. This is inappropriate, however, given that Waldfogel finds that over 88\% of Christmas gifts are in-kind.

We develop a more complete model, one that allows for altruistic, paternalistic, or warm glow motives for giving, which predicts that consumers may give cash and in-kind gifts. Our empirical results show that spending at Christmas is a normal good. We also find that Christmas spending increases with the number of children, supporting the hypothesis that children generate positive gift-giving spillover effects.

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**REFERENCES**


\(^8\)Because of Hanukkah, the percentage of the population that is Jewish may also influence Christmas season gift-giving. These data are not available for every year of the sample, however.

\(^9\)Christmas spending is defined as aggregate fourth quarter retail spending minus the average quarterly retail spending for each year. These data were obtained from the \textit{Current Business Reports: Monthly Retail Trade, Sales, and Inventories}, US Bureau of the Census. Per capita income is defined as disposable income, obtained from the \textit{Survey of Current Business}, divided by total US population, obtained from \textit{Handbook of Labor Statistics}, US Department of Labor Statistics. The Christian population includes all who regularly attend a Protestant or a Catholic church. These figures were taken from the \textit{Statistical Abstract of the U.S.}, US Department of Commerce, Bureau of the Census. The under 18 year old population figures were taken from the \textit{Handbook of Labor Statistics}, US Department of Labor, Bureau of Labor Statistics and \textit{Historical Statistics of the U.S., Colonial Times to 1970}, US Department of Commerce, Bureau of the Census.

\(^10\)Since per-capita wealth and the real interest rate would also affect the purchasing power of the representative consumer, Equation 2 was also estimated with these variables. Because of multicollinearity, however, the wealth and interest rate variables were never significant. Equation 2 was also estimated without PERCHRIS. The parameter estimate on PERCHILD remained positive and significant in each of these alternative specifications.