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The Deadweight Loss of Diwali

By

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Abstract:

Using a survey sample of students from a business school in India, we conduct an empirical analysis of different aspects of gift giving on the occasion of Diwali in lines with a similar analysis for Christmas in Waldfogel (1993). Based on simple OLS regression analysis, we find that accessories and electronic goods have higher yield compared to other kinds of gift items. Also, closer the relation and/ or lesser the age difference between the person gifting and the receiver lesser is the deadweight loss. This suggests that these gift givers are more capable of guessing the preferences of the gift receiver than others. We, however, did not find any systematic difference in valuation of gifts by gender of the recipients.

1.Introduction

In a standard textbook partial equilibrium model of a market, consumption decisions taken by the buyer do not result in any efficiency loss in equilibrium. By efficiency loss we mean the difference between the market price and the buyer's own valuation. An equilibrium price signifies a unified value perception on the part of buyer as well as seller and hence a zero efficiency loss.

Gift giving, however, differs from a market transaction where the consumer is deciding for himself. Instead it implies taking consumption decision on behalf of someone else in expectation that valuation of the ultimate consumer is same if not more as of the buyer. Notwithstanding the generous intentions of the gift giver, as a result there is always a high possibility of loss of value when consumption decisions are not taken by the consumer. To the extent this is true; it can be argued that the process of gift giving inflicts a deadweight loss on the economy as a whole¹.

In a seminal paper, Waldfogel(1993) tries to estimate the efficiency loss from gift giving on Christmas. There has been significant contributions to this literature since then by Waldfogel himself and others, the latest being a short book *Scroogenomics* by Waldfogel himself². We, in this paper try to do conduct a similar analysis for gift giving on Diwali, a festival of lights, celebrated all over India, during the month of November.

¹ It is important to note that this is not the only way of looking at the whole gift giving process. Gifting as a socio-economic phenomenon has been around in almost all the societies around the world for thousands of years. It not only has cultural and often ritual significance but also can be seen as a process of income redistribution suggesting some dampening of the deadweight loss. See Kolm and Ythier (2006) for a more comprehensive perspective on the economics of gift giving and other altruistic activities.

² Waldfogel (2009). It cites this paper as one of the international attempts at estimating deadweight loss of gift giving.

Traditionally, Diwali has always involved purchase of new clothes and other consumption goods for the family as a whole. In addition to these common purchases it also involved some gift giving, specifically from a brother to the sister for *Bhaubij* (or *bhaiduj* in the Northern parts of India) and from a husband to the wife on *Padva*. Gift giving has also been quite pervasive in the form of corporate gifts on the occasion of Diwali. While, there is no concrete evidence as far as we know, casual observation suggests that gift giving to non family members on such festive occasions is also becoming a norm at least in certain sections of the society. This could be the result of the phenomenal increase in per capita incomes in the post liberalization period as well as increased influence of advertisement and other media.

To get some empirical perspective on these conjectures about changing gifting on festive occasions, we decided to look at the kind of commodities purchased and amount spent on gifts and purchases in addition to clothes on the occasion of Diwali by students from the Kohinoor Business School. These students typically come from higher middle class and richer families and hence make an ideal sample.

The remaining of the paper is organized as follows. Section 2 talks about the methodology and section 3 presents the empirical results and analysis. Section 4 concludes.

2. Survey Methodology

For the purpose of empirical analysis, a deadweight loss arising from a gift exchange is defined as the ratio of difference in market price and own valuation to the market price with the ratio of own valuation to market price being the yield.

We have in all around 300 students on campus. We took a sample of 74 students, basically those who were willing to share the information. We asked them to list the gifts that they received and estimate its market value. In most of the cases they knew the market price or at least could put a number which was reasonably close to the market price. In addition to this they were asked to put their own valuation on these gifts and mention the relation of the person giving the gift. While explaining the concept of own valuation we told them that if they were window shopping and happen to see the commodity they got as gift, without a price tag, how much would they be willing to shell out of their pocket to acquire it. We found that the point of keeping emotional value out of own valuation was driven home better if we posed the situation to them in such a way.

The straight implication of posing the question in this way is that the reported valuations are based on willingness to pay (WTP) rather than willingness to accept (WTA). To this extent the valuations will tend to be lower suggesting higher deadweight loss at least when compared against own purchase bench mark of 100 % (Waldfogel 2004, Knetsch & Sinden, 1984)). In spite of this we got a couple of responses like 'invaluable' or 'too good' which we obviously dropped from the analysis.

The gifts that were reported have been categorized as Food Items, Clothes, Electronic Goods, Accessories, Cash, and Others. The people gifting have been categorized as Parents, Siblings, Friends, Uncle/Aunt, Grand Parents, Cousin, & Others.

The following table gives the average yield on all the commodities received as gifts and number of respondents.

Table No. 1

Number of Respondents	74
Average Yield on Gifts	85%

3. Analysis & Results

3.1 Type of Gifts and Yield

Will a gift of a food item be valued differently than say an accessory? Table No.2 sheds some light on this aspect. It gives the yield or the extent of deadweight loss by type of commodities.

Table No.2

Deadweight Loss by Type of Gifts

Description	N	Mean	Std. Deviation
Yield on Food Items	19	86	27
Yield on Clothes	55	82	25
Yield on Electronic Goods	32	87	17
Yield on Accessories	30	92	35
Yield on Others	12	88	31
Yield on Cash	6	100	0

Accessories top the list having the highest yield of 92% followed by others and electronic goods. This seems obvious as the people receiving the gifts are in the age group of 18-20 years. They can be expected to be sensitive to fashion trends and in the tech savvy world of today they are the ones who are on the frontiers of consumption when it comes to electronic goods. Also the yield on electronic goods has lowest variability compared to other gift items. There might be what we call as an endowment effect in play here. We tend to value what we own more highly, simply because we own it (The Economist, 2006). There is relatively less possibility of something out of the blue to be called as clothes or food. Whatever, we buy or get as gift in this category is going to be similar to what we own or might have consumed in past. However, in case of electronic goods, the possibility of new conceptual products coming in market place tends to be very high. The product today may have very little resemblance to what we had earlier. Hence, the consumer might value an electronic good highly compared to a food item or clothes.

3.2 Yield and the Person Giving the Gift

If we accept that consumers are perfectly informed about their preferences at least when it comes to current consumption choices and commodities familiar to them, then it will be impossible for the givers at matching the recipient's preferences or choices. However, the evidence on consumer irrationality also provides contrary evidence where givers have a better idea of the recipient preferences than the recipient himself. This implies that gift givers more familiar with recipient preferences will choose items more highly valued by recipients, per dollar spent (Waldfogel 2004 pp. 6). The evidence to this end hence would mean that the consumer acts rational, though in a limited sense.

The relevant question is then do we value gifts differently depending on who gifts them? Put another way are some people better at approximating our consumption preferences while giving gifts? Table No.3 gives the deadweightloss on gifts according to the type of person gifting.

Table No.3

Deadweightloss by Type of Person

	N	Mean	Std. Deviation
Yield on Gifts given by Parents	54	85	18
Yield on Gifts given by Siblings	20	100	42
Yield on Gifts given by Friends	27	89	23
Yield on Gifts given by Uncle and Aunt	23	74	17
Yield on Gifts given by Grand Parents	5	69	12
Yield on Gifts given by Others	2	101	7
Yield on Gifts given by Cousins	6	92	20

Yield on gifts given by siblings is the highest at 100% followed by yield on those given by cousins and friends at 92 % and 89% respectively. Yield on gift given by others include data for only two cases. Grand parents get the lowest ranking followed by uncle and aunt with parents getting a 4th rank at 85%. This signifies that generation gap as well as proximity of the person giving the gifts is an important determinant in valuation of gifts. Smaller the generation gap and closer the person giving the gift, higher would be the yield on the gift and hence lower the deadweight loss.

We also ran a regression of total yield for all the gifts on the type of person gifting. Out of all the kinds of people gifting we found the dummy for parents, siblings and grand parents to be statistically significant. Table No. 4 reports the results of regression of total yield on dummy variables for parents, siblings and grand parents. The regression and the individual coefficients are significant at 5% level of significance. The mean yield for parents giving the gift is 83%. The mean yield for gifts given by siblings is higher by 10% and that on gifts given by grandparents is lower by 14% compared to the mean yield of gifts given by parents.

Table no. 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379	.143	.119	15.95051

a Predictors: (Constant), DGR, DSB

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3025.858	2	1512.929	5.947	.004
	Residual	18063.743	71	254.419		
	Total	21089.601	73			

a Predictors: (Constant), DGR, DSB

b Dependent Variable: TYLD

Coefficients

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B		Beta			Lower Bound	Upper Bound
1	(Constant)	83.203	2.302		36.140	.000	78.612	87.793
	DSB	10.195	4.245	.268	2.401	.019	1.730	18.659
	DGR	-13.815	6.907	-.223	-2.000	.049	-27.586	-.043

a Dependent Variable: TYLD

3.3 Gender & Valuation

We also thought it worthwhile to check if there is any difference in valuation of gifts according to gender of the recipients. Table No.5 gives the comparative yields across type of gifts and type of person gifting.

Table No. 5

Significance of Difference in Valuation of Gifts according to Gender

	GENDER	N	Mean Yield	Std. Deviation
Yield on Food Items	0	8	90	35
	1	11	83	21
Yield on Clothes	0	18	82	36
	1	37	82	19
Yield on Electronic Goods	0	9	90	17
	1	23	86	18
Yield on Accessories	0	5	92	11
	1	25	92	38
Yield on Gifts given by Parents	0	15	83	22
	1	39	86	17
Yield on Gifts given by Siblings	0	7	90	21
	1	13	105	50
Yield on Gifts given by Friends	0	8	93	37
	1	19	88	15
Yield on Gifts given by Uncle and Aunt	0	8	71	14
Average	1	15	75	18

Though there is a difference in the way male students value gifts compared to female students, there is no tendency for female valuation to be systematically different than male valuation across categories according to the test of difference in mean valuation. This suggests a considerable homogeneity in perceptions of male and female gift recipients towards the person from whom the gift originated and the nature of commodity exchanged as a gift among the students this income and age group.

Table No. 6

Statistical Significance of Difference in Mean Valuation by Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)			Lower	Upper
GFTFDYLD	Equal variances assumed	.460	.507	.554	17	.587	7.0428	12.71783	-19.78950	33.87504
	Equal variances not assumed			.511	10.542	.620	7.0428	13.79045	-23.47134	37.55688
GFTCLYLD	Equal variances assumed	4.746	.034	-.059	53	.954	-.4321	7.38032	-15.23517	14.37092
	Equal variances not assumed			-.047	21.456	.963	-.4321	9.09908	-19.33026	18.46601
GFTELYLD	Equal variances assumed	.263	.612	.558	30	.581	3.8185	6.84345	-10.15772	17.79467
	Equal variances not assumed			.564	14.975	.581	3.8185	6.77464	-10.62343	18.26039
GFTACYLD	Equal variances assumed	.971	.333	.005	28	.996	.0944	17.47776	-35.70717	35.89595
	Equal variances not assumed			.010	24.466	.992	.0944	8.99975	-18.46149	18.65028
GFTPRYLD	Equal variances assumed	3.294	.075	-.527	52	.600	-2.9602	5.61731	-14.23212	8.31181
	Equal variances not assumed			-.465	20.436	.647	-2.9602	6.36809	-16.22564	10.30533
GFTSBYLD	Equal variances assumed	.986	.334	-.745	18	.466	-14.8676	19.95323	-56.78774	27.05263
	Equal variances not assumed			-.932	17.397	.364	-14.8676	15.96018	-48.48219	18.74709
GFTFRYLD	Equal variances assumed	2.357	.137	.496	25	.624	4.9191	9.91164	-15.49429	25.33254
	Equal variances not assumed			.363	8.022	.726	4.9191	13.56867	-26.35556	36.19381
GFTUAYLD	Equal variances assumed	1.863	.187	-.529	21	.602	-3.9266	7.41602	-19.34909	11.49581
	Equal variances not assumed			-.578	18.298	.570	-3.9266	6.78811	-18.17127	10.31798

3.4 Gift Preferences, Relationship, and Implications for Advertising

It is interesting to see what kind of commodity is preferred by which person for gifting.

Table No. 7 gives the data relating to this phenomenon. While parents gave 44 % of the total gifts received, 41 % percent of those gifts comprised of clothes, 32% of electronic goods, and 19% of accessories. This shows the increasing tendency to buy goods other than clothes for the kids on festive occasions. This coupled with the fact that electronic commodities as gifts have a relatively higher yield it makes sense for concerned companies to target parents in their advertisements, especially on festive occasions.

Siblings show an almost equal preference for gifts of different types with no cash gifts at all. 41 % of gifts given by friends comprised of accessories followed by 24 % of clothes. Again for the companies manufacturing accessories, it will help to target sibling relation in their advertisements. Gifts given by uncle and aunt mainly comprise of food items and clothes.

Table No. 7

Type of Gifts by People

	Food	Clothes	Electronic Goods	Accessories	Cash	Others	Total
Parents	1	32	25	15	1	4	78
Siblings	2	8	6	5	0	4	25
Freinds	5	7	4	12	0	1	29
Uncle/Aunt	9	8	1	3	3	1	25
Grand Parents	2	2	0	0	1	1	6
Others	1	1	0	0	1	1	4
Cousins	1	3	1	1	0	3	9
Total	21	61	37	36	6	15	176

4. Conclusion

Empirical aspects of economics of gift giving is a very under researched area in India. This paper tries to fill in the gap in a small way. Using a survey sample of students from a business school, we conducted an empirical analysis of different aspects of gift giving on the occasion of Diwali. We found that accessories and electronic good had higher yield compared to other kinds of gift items. Also, closer the relation and/ or lesser the age difference between the person gifting and the receiver, lesser is the deadweight loss. This suggests closer relatives or people with less age difference are more capable of guessing the preferences of the gift receiver. We, however, did not find any systematic difference in valuation of gifts by gender of the recipients.

This study does not lend itself to robust generalizations, though. The sample that we have belongs typically to higher income group and hence the behavior of deadweight loss according to income categories of recipients could not be dealt here. We plan to expand our sample to educational institutions with relatively higher degree of diversity in their students as our follow up effort to this paper. This will not only allow us to capture other aspects of gift giving like the socio-cultural determinants of valuations across commodities exchanged as gifts and the implied income redistribution but also facilitate use of better econometric techniques like panel data methods for a richer analysis.

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