E C O N O M I C S B U L L E T I N

On the Use of Cheap Talk in New Product Valuation

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Abstract

This study reports on the potential use of "cheap talk" in hypothetical new product valuation research using a simple field experiment eliciting subjects' willingness to pay for a new product. While cheap talk has been used in the non-market valuation literature, its application in hypothetical new product valuation research is very limited.

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1. Introduction

Due to rising interest in estimating demand for new product concepts, economists are increasingly conducting research that relies on surveys in which participants are paid to answer questions about hypothetical purchase decisions. Because these studies are conducted in hypothetical situations with no purchase or consumption consequences for the participants, they are unable to uncover "true" preference structures. For example, in contingent valuation studies, participants have been found to overstate the amount they are willing to pay for an increase in quality of a private good. Evidence of this "hypothetical bias" is widespread (Cummings, Harrison and Rutstrom 1995; List and Gallet 2001; Loomis et al. 1997; Neill et al. 1994). To counter such problems, some research has begun to investigate means of calibrating hypothetical studies to non-hypothetical results obtained in experimental setting (Blackburn, Harrison, and Rutstrom 1994; Fox et al. 1998; List, Margolis, and Shogren 1998). Applications to new product valuation research of these *ex post* correction of hypothetical bias are limited, however, because extensive secondary data from actual markets are unavailable when dealing with proposed new product introductions. Actual test marketing can be performed but these are expensive and should be conducted after some pre-market introduction research such as a consumer acceptance or willingness-to-pay (WTP) study. In addition, results from previous research imply that calibration factors vary on a case-by-case basis and hence, a specific calibration factor must be determined for each study (Lusk 2003).

An alternative method of reducing hypothetical bias is incorporating a "cheap talk" script that explains the problem of hypothetical bias to study participants prior to administration of a hypothetical question (Cummings and Taylor 1999). The premise behind this technique is that one might be able to reduce or eliminate hypothetical bias by simply making respondents aware

of it regardless of its underlying causes. Lusk (2003) argued that the use of cheap talk is more general than calibration because it provides an *ex ante* bias correction.

Murphy et al. (2005) performed a meta-analysis of 28 studies that utilized WTP. Their findings indicate support of the generally held belief that hypothetical bias increases WTP values beyond what would likely be paid in non-hypothetical situations. They found that calibration techniques, including cheap talk, were effective in mitigating the bias. While many in the field tout the benefits of utilizing cheap talk to address hypothetical bias, others urge caution because the evidence on cheap talk's robustness is mixed. Aadland and Caplan (2005) conducted telephone surveys utilizing a generalized cheap talk script to see if a more neutral cheap talk was effective in addressing hypothetical bias across different types of goods. Their study design incorporated a public good (curbside recycling) with private good attributes (reduced garbage fees, convenience, etc.). Their cheap talk design did not reference higher hypothetical payment values as in Cummings and Taylor (1999) and List (2001). They received mixed results in their study, finding that while hypothetical bias appears to exist, cheap talk may either mitigate or exacerbate the bias depending on its length, structure, and valence. Other studies have also evaluated the effect of short versus long script. Poe et al. (2002) found that a short script did not influence decisions. List (2001), as noted above, reported that long script did not reduce hypothetical bias with experienced card dealers. Brown et al. (2003) found that long cheap talk script was successful, but only for high payment amounts.

In addition to the mixed results in the literature, cheap talk studies to date have been limited to mostly laboratory setting. Cheap talk will be more valuable to researchers if it can be applied in field surveys or experiments.

2. Survey Design

We conducted a field experiment utilizing grocery shoppers in different cities of Texas and elicited their WTP for a novel product in irradiated mangoes. Food irradiation is a relatively new process from an adoption perspective and debate continues on its acceptability as a food process. Irradiated mangoes, and for that matter, irradiated fruit in general is not currently available in most markets in the U.S.

WTP was solicited from participants in the form of a payment card. Values for the payment card were calculated from pre-tests and according to a method described by Rowe, Schulze, and Breffle (1996). Respondents were informed of the average price of mangoes (50 cent each), which was provided to us by a supermarket chain. The categorical values used in the payment card were determined based on pre-tests and were calculated using the method described in Rowe, Schulze, and Breffle (1996). Based on the pre-tests, we offered choices within the range of 0-50 cents and an option of "more than $0.50".

The study was conducted in grocery stores in major metropolitan areas of Texas in the late winter/early spring of 2006. Subjects were informed about the food irradiation process. In all, 352 individuals participated in our study. However, due to incomplete responses, our study utilizes data from 304 participants (149 given cheap talk and 155 given no cheap talk script prior to WTP question).

Our cheap talk script was similar to that used by Carlsson, Frykblom, and Lagerkvist (2004) and is more akin to the short versions that have been used in the past and not the long version used by List (2001) and Brown et al. (2003). Murphy et al. (2005) indicates that hypothetical bias tends to be positive in nature. Hence, we chose to maintain reference to this positive effect in our description of this bias. The cheap talk script was as follows.

"Previous studies indicate that, individuals in general respond to surveys in a different way than they act in the real life. It is quite common to find that individuals say they are willing to pay higher prices than those that they are really willing to pay. We believe that this is due to the difficulty to calculate the exact impact of these higher expenses on the household economy. It is easy to be generous when in reality one does not need to pay more in the shop. I would then like to remind you that it is perfectly fine if you are not willing to pay any premium, given that paying extra for these irradiated mangoes will leave you with less disposable income for other products or savings.

The average price for mangos in the past year was $0.50 each.

How much more for each irradiated mango than this would you be willing to pay?"

3. Results and Conclusion

We regressed the WTP values on the variables of cheap talk (dummy variable for presence/absence) and control variables for income (greater than or less than $50,000), education (college degree or less than college degree), gender (dummy for male/female), and race (white – base, Hispanic, and all other races). We also estimate the model using ordered logit as described in Cameron and Huppert (1989) and Boyle (2002). The results are quite similar to the OLS estimates and hence are not reported here. In particular, among the variables of interest, cheap talk and knowledge do not show statistically significant effect, while trust is seen to have a significant positive effect on the WTP. Brown et al. (2003) reported that cheap talk script was successful for high payment amounts. Hence, in addition to the OLS estimate, we also estimate the model using quantile regression to investigate the effect of cheap talk on various quantiles of the WTP distribution. As shown in table 1, the cheap talk variable is not statistically significant

across different models. This result indicates that WTP values with and without cheap talk are not statistically different, suggesting the absence of cheap talk effects. Because irradiated mangoes have yet to be made commercially available, the good was undeliverable and a non-hypothetical treatment was not conducted. We would have wanted to conduct a non-hypothetical treatment with actual product and payment involved. This was not, however, possible because we could not find and acquire irradiated mangoes to use for the experiment during the conduct of the study. Hence, while certainly possible, our finding cannot unequivocally be interpreted as implying that cheap talk cannot reduce hypothetical bias. Our results simply imply that cheap talk script does not significantly reduce willingness to pay in the majority of our sample. It is possible that hypothetical bias did not exist to begin with. Our finding adds to the current debate of whether cheap talk, especially the short scripts used in the past, can really effectively reduce potential hypothetical bias. However, our goal is to show the potential usefulness of cheap talk in hypothetical new product valuation research.

The study of cheap talk is still in its infancy and the conditions in which cheap talk is effective at reducing hypothetical bias are not fully known (Lusk 2003). While cheap talk has been used in the non-market valuation literature, its application in hypothetical new product valuation research is very limited. Our study, which hopefully provides exposure to this topic, should be replicated for other products, other versions of cheap talk, and other elicitation mechanisms to test the robustness of our findings.

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Table 1. WTP OLS and Quantile Regression Models

Variable	OLS	Q1	Q2	Q3
Cheap Talk	-.0232	-.0245	-.0056	-.0071
(1 if included)	(.0234)	(.0174)	(.0126)	(.0527)
Trust	.1265*	.0894*	.1639*	.1714*
(1 if trust; 0 otherwise)	(.0246)	(.0179)	(.0133)	(.0555)
Knowledge	-.0004	.0014	-.0056	-.0243
(1 if knowledgeable, 0 otherwise)	(.0271)	(.0204)	(.0146)	(.0630)
Participant Age	-.0015*	-.0008	-.0006	-.0025
	(.0009)	(.0006)	(.0004)	(.0020)
Participant Gender	.0564*	.0388*	.0409*	.0914
(1 if female)	(.0270)	(.0195)	(.0146)	(.0626)
Hispanic Race	.0873*	.0205	.0875*	.1793*
	(.0298)	(.0224)	(.0162)	(.0665)
Other Race	.0110	.0011	-.0060	-.0075
	(.0309)	(.0239)	(.0164)	(.0673)
Income	.0307	.0126	.0183	.0196
(1 if > $50,000/yr.)	(.0252)	(.0183)	(.0136)	(.0593)
Education	-.0382	-.0278	-.0130	-.0377
(1 if College Degree or higher)	(.0257)	(.0194)	(.0138)	(.0602)
Constant	.0412	-.0727	-.0716	.1428
	(.0570)	(.0409)	(.0308)	(.1362)
R^2	.1483	.0429	.1261	.1001

* denotes statistical significance at 0.05 level. Standard errors are in parentheses.
Q1, Q2 and Q3: Quantile regression at the first, second and third quartile.