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Framing and the Price Elasticity of Private and Public Goods

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The purpose of this research is to show that goods framed to emphasize their association to political concerns produce a distribution of willingness to pay (WTP) different from that produced when the same goods are framed to emphasize their instrumental qualities. Specifically, we hypothesize and find that symbolic presentations of both market and nonmarket goods produce a WTP distribution that is characterized by higher variance and weaker price elasticity than that produced by instrumental presentations of these goods. In addition, we find support for the proposition that changes is the price elasticity of a good are produced by respondents' differential reliance on instrumental and symbolic considerations. Results are discussed in terms of their implications for marketing and mass politics.

Both the firm looking for ways to market office supplies made from recycled materials and the public official looking for ways to garner voter support for a proposed school tax confront a related problem; In each situation, the decision maker must weigh the consequences of emphasizing symbolic versus instrumental values. Instrumental appeals call attention to the direct benefits the individual may derive from consuming a good; symbolic appeals focus attention on the gratification the individual may derive from contributing to or expressing support for a valued collective good or cause. Do appeals to

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symbolic themes, such as environmentalism or commitment to quality education, change the considerations people use in determining whether they will purchase a good or support a particular policy? How will emphasizing these themes rather than direct economic benefits influence willingness to pay (WTP)?

Intuitively, one might suppose that consumers are willing to pay more for a product that has the additional benefit of "saving the environment," particularly in light of the fact that, between 1989 and 1990, the percentage of new products advertised with an environmental claim rose from 4.5% to 11,4% (Selling Green, 1991). However, it is also intuitive that a symbolic appeal will not influence everyone in the same way. Because people have different beliefs and values, some may be attracted and others repelled by a product that is associated with political symbolism (e.g., food baskets sold to benefit the Moral Majority).

Few studies speak directly to the question of how framing in symbolic versus instrumental terms affects consumer behavior. To date, research has examined gross indices of consumer response, such as an overall change in the product's market share (e.g., Henion, 1972), preference for one brand over another (e.g., Shavitt, 1990), or mean WTP (e.g., Snyder & DeBono, 1985). Missing from this literature, as Huber, Holbrook, and Kahn (1986, p. 250) noted, is an analysis of how frames affect the variance or elasticity of WTP.

The purpose of the present article is to present an analysis of how symbolic and instrumental frames change the distribution of WTP for a good. We propose that (a) associating political or ideological symbolism with a good elicits additional considerations in determining WTP; and (b) these considerations, in turn, produce a very different distribution of WTP from that produced when the same good is framed to emphasize its instrumental or economic attributes. We open our argument with a discussion of WTP for consumer goods and how it may be influenced by symbolic versus instrumental presentations. We continue with a brief survey of supporting research based on attitude function theory and research that has examined the valuation of private, consumption goods and public, nonmarket goods- Finally, we present two experiments that provide support for our predictions. We direct our conclusions to the implications of our findings for marketing and mass politics.

THE UTILITY OF WTP AS A MEASURE

We have chosen WTP as the dependent variable in our analysis for two reasons. First, the construct is widely used throughout the social sciences. Market researchers ask people how much they would be willing to pay for new products. Pollsters interested in the popularity of certain policy initiatives test the depth of public support by asking citizens whether they would be willing

to pay more in taxes in return for certain government services. Consumer researchers measure the price ranges that shoppers find acceptable for various products. Economists, too, have employed survey research methods in order to assess the public's contingent valuation of various public, or nonmarket, goods.

WTP is also an attractive measure due to its behavioral implications. Although a verbal statement of WTP does not imply that a purchase at that price is imminent or that the individual intends to make the purchase in the future, one would expect those who say they would be willing to pay $50 for a hand calculator to be more likely to make such a purchase than those who express unwillingness; in the political realm, one would expect those expressly willing to pay $50 more in taxes for local schools to be more likely to vote in favor of such a ballot measure than the expressly unwilling (D. Green, 1992). Indeed, verbal expressions of WTP and actual purchasing behavior are found to be correlated (Banks, 1950; Gabor, 1985; P. Green & Tull, 1978; Udell, 1965). Experiments have also shown that people tend to report essentially the same WTP regardless of whether they are required to back up their responses with cash payment (Bohm, 1972; Dickie, Fisher, & Gerking, 1987). Finally, a measure of WTP is likely to be more readily interpretable by *both* respondent and researcher than standard evaluative scales, such as the semantic differential. Unlike abstract rating scales, the WTP measure is marked with a familiar metric, dollars (but see Kahneman, Ritov, Jacowitz, & Grant, 1993).

HOW MIGHT INSTRUMENTAL VERSUS SYMBOLIC FRAMING AFFECT WTP?

We propose that instrumental versus symbolic framing changes the WTP distribution by eliciting qualitatively different considerations used in a determination of how much one might pay for a good. That is, when a good is framed to emphasize its instrumental attributes, WTP will be primarily a function of the extent to which the individual might benefit personally and materially from purchasing the good. For example, the individual might consider the quality of the product, its usefulness, how it compares to others like it, and so forth. We propose that, *across* individuals and within a particular consumer market, such considerations will produce relatively similar estimates of WTP (i.e., a tight distribution around the mean WTP). This pattern of dispersion is expected because the valuation of instrumental attributes is relatively well defined by the prevailing consumer market. As a concrete example, most people in the United States agree on how mudi a bar of soap is worth, as do most people in Mexico. Hence, in the United States, WTP estimates for soap should fall within a relatively small range around a mean of x, and in Mexico WTP

estimates for the same soap should vary not far from a mean of y, although x and y might be fairly discrepant.

In contrast, when a good is framed to emphasize its symbolic associations, WTP will also be a function of the extent to which the individual endorses or rejects the values symbolized. That is, assuming that the symbolic content of the message is noticed and that it elicits considerations of the individual's commitment to the political goals and identities represented by the good, WTP will reflect the good's ability to substantiate or promote those commitments (see McCracken, 1986). In this case, we propose that, across individuals, relatively diverse estimates of WTP will be obtained (i.e., a wide distribution around the mean WTP) because attitudes tend to vary considerably on most political matters. Returning to our soap example, if the soap is framed to emphasize its nonpolluiing elements, we would predict that the distribution of WTP in both the United States and Mexico would be relatively wide with the degree of variability depending on the dispersion of opinions concerning environmentalism. Although it is sometimes difficult to anticipate which political values will be engaged by a particular marketing appeal, certain basic political orientations suggest themselves. Political party identification, for example, may be a useful predictor of WTP for many symbolically framed goods.

Although our predictions are concerned with the variance of WTP, framing may also affect the mean estimate of WTP. Specifically, we propose that the consumer market will, in most cases, anchor people's estimates of WTP. To the extent that equal proportions of the population endorse or reject the political values associated with a good, the mean WTP (assuming WTP > 0) may be similar in the instrumental and symbolic presentations of the good. However, if these values resonate with a large or very passionate proportion of the population, the mean WTP will be higher when the good is framed symbolically rather than ins tramen tally. The opposite effect would be predicted if this segment of the population instead rejected such symbolism.

More formally, consider two sources of WTP: the individual's instrumental utility for a given product (*I*) and the utility associated with the achievement of some social objective (*S*; cf. Etzioni, 1986; Margolis, 1982). When evaluating a consumption good, such as a solar-powered radio, individuals almost invariably consult their instrumental utility but may or may not consider the symbolic implications of the product (cf. Shavitt, 1990). In Zaller and Feldman's (1992) terms, individuals sample from different considerations, *I* and *S.* The WTP an individual reports, then, is the weighted sum of *I* and *S,* where the weights determine whether the individual considers that dimension of his or her utility. Letting *W* represent the individual's WTP, we may write:

$$e^{W} = e^{(\lambda 1)}1 + (\lambda 2)S$$

where λ_i =1, if the individual considers his or her instrumental utility (zero otherwise); and λ_2 = 1, if the individual considers his or her symbolic utility

(zero otherwise). In this equation, *e* represents the base of the natural logarithm, so that when *w* is exponentiated, the resulting WTP is always a positive number.

For consumer goods, one might suppose that λ_i is almost always 1 for all individuals. The expected value of λ_2 , however, will vary depending on the product and the way in which it is framed (Thaler, 1985). All other things being equal, instrumental frames will reduce the expected value of λ_2; symbolic frames will raise it.

How does changing the value of λ_2 affect the variance of WTP *across* individuals? In typical situations, increasing the overall probability that individuals will sample from their symbolic utility will increase the variance of *W,* sometimes substantially.[1] Consider, for purposes of illustration, what happens to the variance of *W* when *I* and *S* are independent normal variables, each with a mean of 0 and variance of I Suppose that a market good is always evaluated in instrumental terms (so that $\lambda_1 = 1$ for all observations) but that $E[\lambda_2]$, the expectation of λ_2, varies from .2 to .8 depending on whether the good is framed symbolically. In the instrumental frame, where $E[\lambda_2] = .2$, the variance of *W* is approximately 13; when symbolic considerations are emphasized, so that $E[\lambda_2]$ $^{=.8,}$ the variance of *W* jumps to approximately 38.

Practical Implications of Increased Variance

One potential implication of higher variance is that a greater proportion of the population would be willing to pay a high price for the good. That is, unless the associated symbolism is distasteful, symbolic frames will increase the number of people at the upper end of the WTP distribution. It may be said, therefore, that increasing the variance in WTP reduces the price elasticity of preferences (D. Green, 1992). Widely varying distributions have weak elasticities in the sense that large changes in price have relatively little effect on the proportion of the population that is willing to pay. Distributions with small variance, on the other hand, imply price elastic preferences; small changes in price drastically reduce the proportion of the population that is willing to pay.

A numerical example helps illustrate the distinction between strong and weak price elastic preference distributions. Suppose consumers" WTP for Good X were distributed normally with a mean of $10 and a standard deviation of $1. Assuming that individuals are willing to pay amounts *up to* their stated WTP, approximately 84% of this population of consumers would be

[1]That is. cases in which $ is not so sharply negative as to drive all WTP to zero (e.g... radios with swastika emblems), *S* has a nontrivial amount of variance, and *S* and *I* are relatively independent (e.g., instrumental utilities from solar-powered radios bear little statistical association with symbolic utilities from environmental protection). Note that even when S and I are correlated, our general argument may still hold, but the formal depiction becomes more complex.

willing to pay $9; 50% would be willing to pay $10; but just 16% would be willing to pay $11. Now consider another distribution of consumer preferences with the same mean of $10, but a standard deviation of $3. Again, 50% of the second population would be willing to pay $10. Now, however, 63% are willing to pay $9, and *37% are willing to pay $11* Notice that a $1 increase or decrease in price has a much more pronounced effect on the first set of consumers' preferences; these preferences have less variance and thus display greater price elasticity.

A SYMBOLIC-INSTRUMENTAL DISTINCTION IN ATTITUDE FUNCTION THEORY

The basis of our argument is that framing in instrumental versus symbolic terms elicits qualitatively different considerations. Attitude function theory provides a parallel analysis in its distinction between psychologically different ways of evaluating objects. In its basic form, the theory proposes that instrumental attitudes structure perceptions and evaluations of the attitude object such that personal, physical benefits are maximized and such costs are minimized for the individual. In contrast, symbolic attitudes structure perceptions and evaluations of the attitude object such that normative convictions and identities are expressed (Herek. 1986; Prentice, 1987)[2] It follows logically that instrumental attitudes are based on the material value of the attitude object relative to its costs, and symbolic attitudes are based on the attitude objects ability to represent or express the individual's convictions and identities.

Early theorists proposed that the salience of environmental cues will elicit instrumental versus symbolic attitudes (e.g., Katz, 1960; Kelman, 1958). In several experiments, for example, Kelman (1958, 1961) manipulated the type of cues (instrumental vs. symbolic) associated with a particular policy and assessed the extent to which subjects' subsequent attitudes toward the policy were based on instrumental or symbolic concerns. That is, when the instrumental aspects of the policy had been made salient, subjects in a later session were supportive of the policy only when those benefits were salient. In contrast, when the symbolic aspects of the policy had bees previously made salient, subjects were supportive of the policy regardless of the salience of personal gain.

More recently, LeClerc, Schmitt, and Dubé-Riox (1989) attempted to elicit instrumental versus symbolic considerations toward consumer products by

[2]Although the present interest is m these two broad categories of attitude function, symbolic attitudes have beset further classified as social-adjustive (Smith, Bruner, & White, 1956; cf. Kelman, 1958), value-expressive (Katz, 1960; cf. Kelman, 1958). or ego-defensive (Katz, 1960; cf. Smith et al., 1956).

changing the pronunciation of the products' brand name. These researchers demonstrated that, for U.S. students, a French pronunciation of brand names elicited symbolic considerations, whereas an English pronunciation of the same brand names elicited instrumental considerations. Similarly, Shavitt and Fazio (1990) found that instrumental attitudes were elicited by having subjects evaluate a list of foods according to "how good they taste to you'' (p. 92) and symbolic attitudes were elicited by having subjects evaluate a list of actions according to "the extent to which your doing each of these things would make a good impression on others" (p, 92). These studies support the present proposition that framing a good in a manner that emphasizes either its instrumental or symbolic aspects will elicit the corresponding attitude function or consideration.

THE INFLUENCE OF SYMBOLIC VERSUS INSTRUMENTAL CONSIDERATIONS ON WTP: EVIDENCE FROM THE VALUATION OF PRIVATE AND PUBLIC GOODS

D. Green (1992) classified goods as private or public based on (a) who is entitled to use the good, (b) who pays for the good, (c) who consumes the good, and (d) whether the good serves the public welfare. His analysis of WTP responses in surveys, experiments, and a fund-raising campaign showed that the elasticity of WTP differed depending on whether the good being offered was private or public in nature. Specifically, WTP for *private* goods, such as soap or hardcover books, decreased rapidly with relatively small increases in price. In other words, the *WTP distribution* was *characterized by relatively low variance,* such that few people were willing to pay an amount much higher than the mean. In contrast, WTP for *public* goods, such as providing shelter for the homeless or ending illegal drug trade, decreased slowly with relatively large increases in price. In this case the *WTP distribution was characterized by relatively high variance,* such that many more people were willing to pay an amount much higher than the mean.

D. Green (1992) argued that public goods may elicit normative concerns that compete with instrumental utility as a basis for determining WTP, whereas for private goods, instrumentalities are the primary consideration used in determining WTP. As further evidence that public goods elicit primarily normative concerns, Kahneman and Knetch (1992) found that WTP for various public goods did not vary as a function of the *amount* of good being offered (e.g., the reduction of acid rain damage in Muskoka vs. all of eastern Canada); rather. WTP was positively related to the degree of satisfaction respondents thought they would receive from contributing. Together, these results suggest that introducing ideological or symbolic considerations in the determination of WTP decreases price sensitivity and increases the variance of

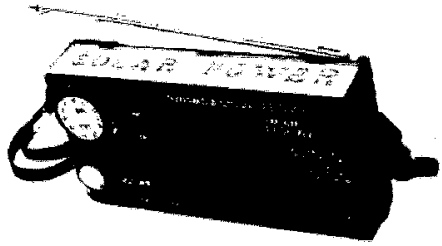
the WTP distribution, compared to the activation of instrumental considerations alone.

It is unclear, however, whether symbolic versus instrumental considerations were the critical factors in the D. Green (1992) and Kahneman and Knetch (1992) studies. Public goods may be less price sensitive than private goods simply because people are unfamiliar with the material value of public goods or because of other inherent differences noted earlier, making a comparison between private and public goods less than ideal for a determination of how different types of considerations alter WTP, Therefore, we conducted two studies to test more precisely our prediction that the WTP distribution would change in the face of symbolic versus instrumental considerations. To avoid the problems inherent in drawing conclusions based on comparisons between different goods, we compared WTP for private, consumer goods (Study 1) and a public good (Study 2), framed in either symbolic or instrumental terms.

STUDY 1

We chose a solar-powered radio and a silk tie patterned with bald eagles (both advertised in a National Wildlife Federation mail-order catalog) as our experimental stimuli. For each good, two advertisements were composed that contained identical information concerning the attributes of the good, but emphasized either its instrumental or symbolic features (see Figure 1). The ads were accompanied by identical color photographs of the goods. To avoid contrast effects and suspicion, the study utilized a mixed design so that each person received and responded to either the instrumental advertisement or the symbolic advertisement of both goods. Thus, the type of ad was a between-subjects factor, and the goods were a within-subjects factor.

Our main hypothesis was that when a good is presented in ways that emphasize symbolic considerations (e.g., patriotism, environmentalism), symbolic beliefs and attitudes would be elicited, and, hence, *across* subjects, WTP would be less price sensitive than when the same good is advertised in ways that emphasize its use value. In other words, we expected that an emphasis *on* symbolic considerations would increase the variance in WTP. We expected that the mean estimate of WTP would differ in the two conditions only if a large proportion of the population similarly endorsed or rejected the political values emphasized in the symbolic condition. To support our contention that systematically different considerations were elicited in response to different frames, we also assessed the extent to which WTP was related to subjects' political party identification and altitudes toward environmentalism and patriotism. Because instrumental frames are expected to elicit instrumental considerations, whereas symbolic frames are expected to elicit a mixture of symbolic and instrumental considerations, we hypothesized that political party identifi-

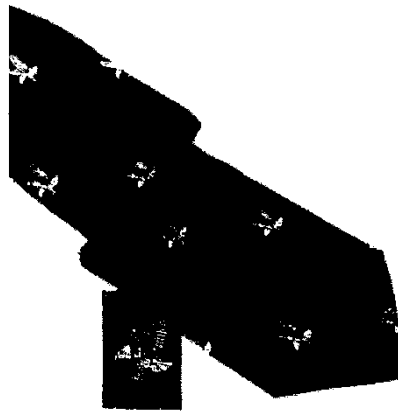


Symbolic Radio

Reduce Toxie Waste. Battery-powered portable radios mean discarded batteries - even rechargeable batteries have to be thrown out eventually. Batteries contain very poisonous heavy metals which are released into the environment. contaminating the water supply. Now there is a solution. This solar AM/FM radio is a mini marvel. It runs off a sollar power cell (When charged, will play up to 8 hours, even in complete darkness) and can draw power from incandescent lights as well as the sum. It's water resistant and has Toshiba components for a great sound!

Instrumental Radio

No More Hassles. No expensive batteries needed to power this AM/FM radio. No longer will you reach for your radio to find that the batteries are dead and you don't have any new ones. Our solar AM/FM radio is a mini-marvell It runs off a solar power cell (when charged, it will play up to 8 hours, even in complete darkness) and can draw power from Incandescent lights as well as the sun. It's water resistant and has Toshiba components for great sound!



Symbolic Tie

Proud to be an American! Rich, dark navy, this handsome 100% silk tie is patterned with the great American Bald Eagle. It's subtle and conservative, but carries a strong patriotic message. An ideal gift for any special day.

Instrumental Tie

Quality is Always in Good Taste! Rich, dark navy, this handsome 100% silk tie is subtle and conservative. Patterned with the Bold Eagle, it's a unique and ideal gift for any special day.

FIGURE 1 Symbolic and instrumental advertisements of the solar-powered radio and the silk tie, Study 1.

cation and attitudes toward environmentalism and patriotism would relate to WTP only in the symbolic condition. In other words, only when the patriotic aspects of the silk tie were emphasized did we expect attitudes toward patriotism to relate to WTP for the tie.

Method

Subjects. One hundred ninety-eight graduate and professional students participated voluntarily (134 men, 60 women, and 4 who did not indicate their gender). The subjects were students in a graduate-level statistics course at the Yale School of Organization and Management. Subjects participated during their regularly scheduled class (approximately 66 students in each session). Within each session, subjects were randomly assigned to either the symbolic or instrumental presentation condition.

Materials and Procedure. Each subject received a booklet, 8.5" x 5.5", with a cover sheet titled "Opinions on *Market Products* and Current Issues." The cover sheet briefly explained the purpose of the survey, requested that subjects not discuss the questions with the other students until they completed the survey, and assured the subjects of anonymity. In addition, the subjects were asked to try approaching each question as if it were the first, so as to minimize question order effects (Kahneman et al., 1993).

The next four pages of the booklet contained the experimental manipulation and main dependent measures. Each good was displayed on a separate page, the color photographs taken from a National Wildlife Federation mail-order catalog. The solar-powered radio was always presented first, and the silk tie patterned with bald eagles was always presented second. Next to each picture was a brief description (see Figure 1). To retain authenticity, the descriptions were altered from those given in the original catalog only to fit our purposes. Approximately half of the subjects were given presentations that emphasized the instrumental value of the products (for the solar-powered radio, "No More Hassles" with dead batteries; for the silk tie, "Quality is Always in Good Taste"). The other half of the subjects received presentations that emphasized the products' symbolic attributes: environmentalism and patriotism. The solar-powered radio was promoted on the grounds that "Battery-powered portable radios mean discarded batteries.... Batteries contain very poisonous heavy metals which are released into the environment, contaminating the water supply." Similarly, the necktie was introduced with the phrase "Proud to be an American," and the presentation that followed encouraged subjects to take notice of the "strong patriotic message" of the "great American Bald Eagle."

Although the thrust of the two sets of messages differed, we were careful to

include the same information regarding the objective attributes of the products in each pair of presentations. In both the instrumental and the symbolic presentations of the radio, subjects were informed that the radio is solar-powered, has AM/FM bands, will play for 8 hr when charged, is water resistant, and has Toshiba components. Both necktie presentations stated that the tie is rich, dark navy, handsome, 100% silk, subtle and conservative, patterned with the bald eagle, and an ideal gift. The difference between the two types of presentations was the additional symbolic content in one experimental condition and the order in which the information was presented. To increase the generality of our results, the social values and identities invoked in the symbolic presentations were chosen to appeal to different sorts of political predispositions. We anticipated that environmental themes would appeal more to people on the left of the political spectrum, whereas patriotic themes would appeal more to people on the right.

Following each presentation was a page with the question, "Of the prices listed below, which is the most you would be willing to pay for the radio/tie on the preceding page? (circle one)," The price list began at $5 and increased in increments of $5 up to $75 (see Cameron, 1988, for a discussion of this response format). The last page of the booklet was a series of questions designed to assess political party identification (Democrat/Republican/Independent/ foreign citizen); attitude toward the Persian Gulf war (5-point scale ranging from *just and heroic* [1] to *regrettable* [5]); attitude toward environmental regulation (three categories: fewer regulations, keep the same, make more stringent); and subject gender.

The study was conducted in class. Students completed the questionnaires at their own pace, and the questionnaires were collected when everyone had finished.

Results

Our main hypothesis was that an emphasis on the political symbolism associated with the solar-powered radio and the silk tie would increase the variance in WTP and consequently decrease price elasticity, relative to an emphasis on the goods' instrumental value. The frequency distributions of respondents' WTP for each of the four presentations (instrumental/radio, symbolic/radio, instrumental/tie, symbolic/tie) are presented in Tables 1 and 2. Casual inspection of the two WTP distributions for the solar-powered radio suggests that there is more variance, and hence weaker price elasticity, in the symbolic condition. For example, in the instrumental condition, 14% of the respondents were willing to pay less than $15, and 17% were willing to pay more than $40. In contrast, the symbolic presentation elicited WTP of less than $15 from 20% of the respondents, whereas another 26% were willing to pay more than $40, Moreover, the cumulative distribution in the instrumental

TABLE 1
Observed and Expected Willingness to Pay Frequencies for the Radio, by Framing Condition (Study 1)

	Instrumental Frame			*Symbolic Frame*		
WTP	*Expected*	*Observed*	*Percentage of Total Observed*	*Expected*[a]	*Observed*	*Percentage of Total Observed*[b]
Less than $10	2.9	6	6.3	6.3	10	9.8
$10, but < $15	8.8	7	7.3	11.2	10	9.8
$15, but < $20	15.6	11	11.5	14.9	9	8.8
$20, but < $25	18.1	20	20.8	15.2	17	16.7
$25, but < $30	15.6	17	17.7	13	12	11.8
$30, but < $35	11.3	14	14.6	10.1	11	10,8
$35, but < $40	7.6	5	5.2	7.5	7	6.9
$40, but < $45	4.9	8	8.3	5.5	12	11.8
$45, but < $60	6.9	5	5.2	9.2	9	*8.8*
$60 and above	4.2	3	3.1	9	5	4.9
x^2		9,425			14.454	
P		.308			.071	
Log-likclihood		-210.742			-236,761	
n		96			102	

[a]The expected frequencies were based cm a log-logistic distribution, [b]Percentages do not sum to 100 due to rounding.

TABLE 2
Observed and Expected Willingness to Pay Frequencies for the Tie, by Framing Condition (Study 1)

	Instrumental Frame			*Symbolic Frame*		
WTP	*Expected* [a]	*Observed*	*Percentage of Total Observed* [b]	*Expected* [a]	*Observed*	*Percentage of Total Observed*
Less than $10	33.3	35	36.8	53.9	55	53.9
$10, but < $15	24.8	22	23.2	13.7	14	13.7
$15, but < $*20*	14.9	11	11.6	8.8	9	8.8
$20, but < $25	8.4	11	11.6	7.8	8	7.8
$25, but < $30	4.8	6	6.3	3.7	7	6.9
$30, but < $35	2.9	6	6.3	2.4	4	3.9
$35, but < $40	1.8	1	1	1.6	1	1
$40, but < $45	*1.2*	1	1	1.2	2	2
$45, but < $60	1.9	2	2.1	2	1	1
$60 and above	1.8	0	0	2.9	1	1
x^2		7.847			8.667	
p		0.449			0.371	
Log-likclihood		*-169.027*			-161.63	
n		95			102	

[a]The expected frequencies were based on a log-logistic distribution. [b]Percentages do not sum to 100 due to rounding.

condition shows that an increase in price from $15 to $40 would reduce the proportion of the sample who would be willing to pay from 86% to 17%. In contrast, the equivalent price change would reduce WTP fa the symbolic condition from 80% to 26%.

Turning to evaluations of the silk tie, we find again that the tails of the WTP distribution appear to be thicker in the symbolic condition of the experiment. The percentage of subjects willing to pay less than $10 increased from 37% in the instrumental condition to 54% when patriotism was emphasized. Similarly, the percentage willing to pay more than $40 increased from 3% in the instrumental condition to 4% is the symbolic condition. As the cumulative distribution shows, an increase in price from $10 to $25 would reduce the percentage willing to pay by 46% in the instrumental condition but by only 30% in the symbolic condition. Thus, a presentation that stresses symbolic over instrumental considerations appears to increase the variance of WTP and weaken its price elasticity.

A maximum likelihood estimation procedure (see Cameron, 1988, and D. Green, 1992) was used to test formally whether WTP for goods presented in a symbolic versus instrumental manner are indeed distinct distributions. Specifically, we tested whether the variances of these distributions were statistically distinguishable, because, as noted earlier, it is the variance that determines the price elasticity of WTP. To use maximum likelihood to estimate the central tendency and dispersion of the WTP distribution, we were required to assume an underlying distribution. Based on statistical evidence from previous studies of this kind (Cameron & Huppert, 1989; D. Green, 1992; Nicholson, 1984), we assumed a log-logistic probability density function. The close correspondence reported in Tables 1 and 2 between the observed values and predicted values (based on a log-logistic distribution) Justified this assumption. In each of the four cases, the chi-square goodness-of-ftt test was nonsignificant, $p > 05$, indicating that one cannot reject the null hypothesis that the data in fact were drawn from log-logistic distributions.

The price elasticities for each of the four WTP distributions that is, the extent to which a one-unit change in the log of price would change the log-odds of an individual's WTP for the good—are reported in Table 3. For both the radio and the silk tie, the elasticities were stronger in the instrumental condition, suggesting that instrumental appeals elicit more price-sensitive responses than symbolic appeals. For the radio, the difference in elasticities across experimental conditions was statistically significant, $P < .05$, one-tailed test. For the necktie, the contrast in elasticities was also significant, $p = .05$, but unlike the radio data, the joint test of significance for different elasticities and intercepts proved significant, $p < .05$. In other words, the symbolic presentation of the necktie not only increased the variance in WTP, it also produced significantly more people willing to pay only very low prices than the instrumental presentation.

TABLE 3
Estimated Willingness to Pay Elasticities by Framing Condition (Study 1)

	Radio		*Tie*	
Variable	*Instrumental*	*Symbolic*	*Instrumental*	*Symbolic*
Elasticity[a]	–3.652	–2.82	–2.541	–1.928
	(0.334)	(0.254)	(0.278)	(0.249)
Intercept	11.861	9.211	6.467	4.354
	(1.107)	(0.857)	(0.76)	(0.666)
n	96	102	95	102

Note. Standard errors in parentheses.
[a]Estimates-obtained by maximum likelihood.

To get a better intuitive grasp of what these estimates mean in terms of consumer reactions to each good, consider Figure 2. The upper two lines in the figure depict respondents' WTP for either the instramentaliy or symbolically framed solar-powered radio, using the parameter estimates listed in Table 3. Both lines slope downward, indicating that WTP drops off as price increases. Notice, however, that the lines intersect at approximately $24. If the price were below $24, the instrumental appeal would be expected to generate greater WTP; above $24, the symbolic appeal would be more attractive. Much the same pattern holds for the silk tie: Below $31, the instrumental advertisement would attract more consumer interest; above $31, the symbolic appeal would be more effective. These results imply that to some extent, the price of the good determines whether an instrumental or symbolic appeal would be more effective.

The price actually demanded by the National Wildlife Federation for the radio featured in our presentations was $37.95. At this price level the estimates in Table 3 suggest that the symbolic presentation would outperform the instrumental: The former would elicit WTP from 26% of the population, as compared with 19% for the latter. This represents a fairly substantial advertising effect—that is, a 37% increase in the proportion of consumers willing to pay. The silk tie, on the other hand, was actually priced at $25. This price lies to the left of the intersection of the symbolic and instrumental curves, indicating that the instrumental appeal would outperform the symbolic appeal Approximately 13.6% of consumers would be willing to pay $25 for the symbolically framed tie, as opposed to 15.3% for the instrumentality framed tie. This advertising effect is smaller, but the instrumentai appeal would increase the proportion of consumers willing to pay $25 by about 13%.

The Interplay Between Frames and *Considerations*. Our hypothesis concerning the difference in price elasticities was based on the expectation that

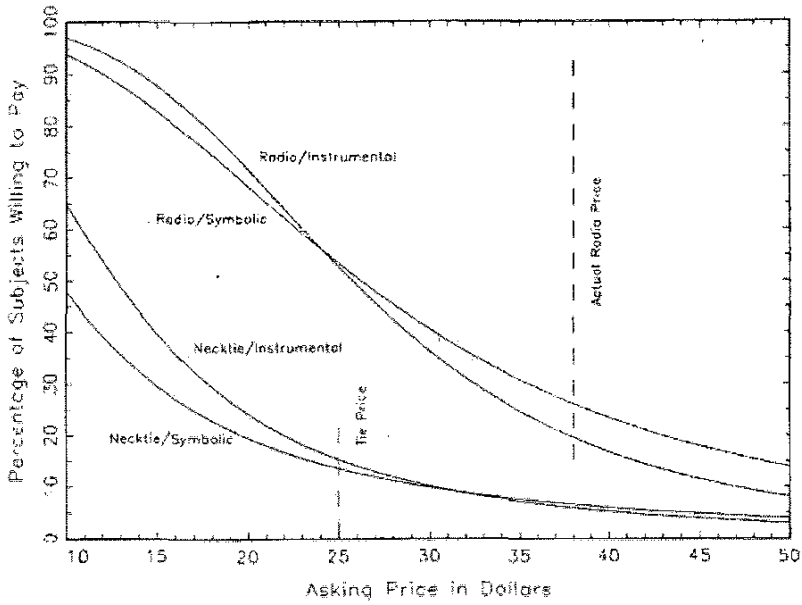


FIGURE 2 Willingness to pay for the radio and silk tie as a function of price and framing condition, Study 1.

instrumental presentations would elicit predominantly instrumental considerations and symbolic presentations would elicit symbolic, as well as instrumental considerations. One way to assess the support for this expectation is to examine the association between political ideology and WTP in the two conditions. That is, if instrumental considerations are primarily elicited by the instrumental presentations. WTP in this condition should not be correlated with measures of political ideology, whereas in the symbolic condition, these variables should show a strong association. Rank-order correlations between WTP in the two framing conditions and political party identification, attitudes toward environmental regulation and the Gulf war are presented in Table 4. As expected, there was no difference in WTP between Democrats and Republicans for the instrumentally framed radio. Similarly, support for more environmental regulations and WTP were not associated in this condition. In contrast, an emphasis on the radio's environmental qualities produced greater WTP from Democrats than Republicans. However, against expectations, support for more environmental regulations was not related to WTP for the symbolically framed radio.

We expected that Republicans would be more sensitive to the patriotic appeal for the necktie than Democrats. However, Republicans proved more

TABLE 4
Rank-order Correlations (gamma) Between Willingness to Pay and Relevant Political and Attitudinal Variables by Framing Condition (Study 1)

	Willingness to Pay			
	Radio		*Tic*	
Variable	*Instrumental*	*Symbolic*	*Instrumental*	*Symbolic*
Political parly identification[a]	.06	–.24**	.27**	.20**
	(77)	(78)	(76)	(78)
Attitude toward environmental regulations	.03	–.13	.05	– .42**
	(93)	(101)	(92)	(101)
Attitude Toward Persian Gulf War	.07	.00	.01	.27**
	(93)	(101)	(92)	(101)

Note. Higher numbers indicate greater willingness to pay, Republican party affiliation, in favor of more environmental regulations, and greater support for the Gulf war. respectively. The number of cases used in each calculation is indicated in parentheses.

[a]Calculations involving political party identification excluded subjects from foreign countries.

**$p < .05$, one-tailed test.

willing to pay for the necktie, regardless of condition (see Table 4). Still, there was an unmistakable ideological imprint in subjects' reactions to the necktie when it was framed symbolically. Greater support for the Gulf War was positively related to WTP for the symbolically framed necktie, but not the instrumentally framed necktie. Interestingly, support for more environmental regulations was negatively related to WTP for the symbolically framed necktie, although there was no relation in the instrumental condition. Although Republicans may generally find neckties more attractive than Democrats, liberals and conservatives appear to differ only when the content of the message elicits their ideological predispositions.

Discussion

The data support our hypothesis that symbolically framed goods would elicit greater variance in WTP and demonstrate less price sensitivity than instrumentally framed goods. Although this study is one of the first to assess such an association, we believe this finding to be particularly compelling in light of the overall similarity between the instrumental and symbolic conditions. Recall that in both conditions subjects saw exactly the same pictures of the goods and received largely the same information; subjects in the instrumental condition were aware that the radio was solar-powered and that the tie was patterned with bald eagles, and subjects in the symbolic condition were aware of the

products' instrumental features. The only differences between the instrumental and symbolic conditions were a few words and the order in which the informa tion was presented.

Notwithstanding these similarities, one could argue that the two conditions contained different *amounts* of information. It is possible that price elasticity is simply a function of the amount of information, regardless of its nature. That is, one could argue that more information increases the absolute number of things over which people can find disagreement, increasing the variance of WTP regardless of the nature of the information. Note, however, that the opposite is also plausible: Decreasing the amount of information could in-crease the variance of WTP because people would possess *less similar information* to use in estimating WTP. At the limit, no information about a product might inflate the variance in WTP because people must interpret the product with their own idiosyncratic dimensions and varying degrees of knowledge (see Assar & Chakravarti. 1984). In either case, our design does not allow us to draw conclusions regarding the role of the amount of information in determining WTP. To avoid confounds introduced by different amounts of information. Study 2 was constructed such that the instrumental and symbolic conditions contained equal amounts of information.

The Elicitation of instrumental and Symbolic Considerations. Our hypothesized difference m the distribution of WTP was based on the proposi-tion that emphasizing a consumer product's instrumental attributes would elicit primarily instrumental considerations, whereas emphasizing its symbolic associations would elicit symbolic as well as instrumental considerations. Supporting this proposition, self-described Democrats were willing to pay higher amounts than Republicans for the solar-powered radio only when its value in saving the environment was emphasized. In the instrumental condition. Democrats and Republicans did not differ in WTP for the radio, indicating that subjects' attitudes toward the radio in this condition were based on instrumental and not symbolic concerns. Similarly, support for the Gulf War was positively related to WTP for the silk tie only in the condition that emphasized its value as a patriotic symbol

Somewhat unexpectedly, support for environmental regulations did not relate to WTP for the symbolically framed solar-powered radio, yet was negatively associated with WTP for the symbolically framed silk tie. A minor typographical error in the questionnaire and a very skewed response distribu-tion render these findings somewhat tentative. Future research interested in the relation between WTP for environmentally sound products and attitudes toward the environment should employ a more unambiguous assessment, such as Kinnear and Taylor's (1973) index of ecological concern.

Preliminary results from a study by D. Green and Blair (1994) suggest that the symbolic ad for the radio elicited more environmental considerations than

the instrumental ad. In that research, subjects were asked to report their thoughts after reading either an instrumental or symbolic presentation of the solar-powered radio. The presentations were similar to those in the present study except that the amount of information was equated and the radio's instrumental versus symbolic value was emphasized in an introduction to the product instead of in the product description itself Subjects' thoughts were subsequently content-analyzed and coded to assess the extent to which subjects were considering the instrumental and symbolic aspects of the radio. A thought was coded as instrumental if it focused on either the physical attributes of the radio (e.g., "It might not be powerful enough") or its material benefits for the individual (e.g., "I could use it at the beach"). If the thought went beyond the radio's attributes and focused instead on its ability to affect the environment (e.g., "I'm against toxic waste''), the thought was coded as symbolic. We found that when the instrumental value of the radio was emphasized, only 8% of the subjects listed any symbolic thoughts, compared to 80% in the symbolic condition. These data, then, support the general findings of Study 1 that framing in instrumental versus symbolic terms elicits qualitatively different considerations on which the consumer bases his or her WTP estimate.

It is reasonable to suppose that consumer goods will always be evaluated to some extent in instrumental terms. D. Green and Blair (1994) found that even though subjects who received the symbolic frame of the radio were more likely to have symbolic thoughts, those thoughts always occurred in conjunction with instrumental thoughts. Recent work by Shavitt (1990) also suggests that some attitude objects elicit primarily instrumental or symbolic evaluations, regardless of how the objects are framed. For example, air-conditioners and coffee elicited evaluations that were primarily concerned with each object's material benefits and costs for the individual, whereas the American Flag and wedding rings elicited evaluations based on the symbolism expressed by the object. Retrospectively, we realize that the silk tie may have weakened our instrumental manipulation because ties are by nature expressive and not utilitarian products. The solar-powered radio, in contrast, was more amenable to framing as an instrumental or symbolic product.

This first study concentrated on how framing private, consumer goods in instrumental versus symbolic terms affected (a) the considerations used in determining WTP and (b) the consequent variance of WTP or changes in the price elasticity of preferences. The results of Study 1 show that when we inject political considerations into a product advertisement, the resulting distribution of WTP becomes more like the distribution of WTP observed by D. Green (1992) for public goods. Does the opposite effect obtain when public goods, such as national defense or public education, are presented in an instrumental or private-regarding manner? Unfortunately, despite the importance of instrumental or symbolic appeals to voters in, say, local public school tax referenda, there are no published experimental studies of the effects of differently oriented

campaigns on the price-sensitivity of voter preferences. On the one hand, one might suspect that a campaign stressing instrumental concerns would increase the effect of price on WTP. On the other hand, it may be that political values and symbolism are so deeply imbedded in the way in which citizens understand public issues that campaigns do not much alter the distribution of WTP.

STUDY 2

The purpose of this second study was to test further our hypothesis that compared to instrumental frames, symbolic frames produce an increase in the variance of WTP and a decrease in price elasticity. Specifically, we were interested in demonstrating that changes in considerations alter the WTP distribution for a *public good,* as it did in Study 1 for private goods. In contrast to Study 1, we manipulated the context in which subjects evaluated the good rather than the terms in which the good was described.

The public good chosen was a proposed bullet train that would form a high-speed rail link between New York and Boston. Following a neutral description of the train, but before being asked about their WTP, subjects encountered a question designed to prime either symbolic or instrumental considerations. One line of questioning asked respondents about their potential use of the train (instrumental frame); another, the extent to which they endorsed government subsidies for mass transit (symbolic frame). To test our intuition that public goods tend automatically to elicit symbolic considerations, we included a condition in which subjects provided estimates of their WTP immediately after reading the neutral description. If this intuition is correct, the symbolic and control conditions should produce similar patterns of data.

Measures of political attitudes and beliefs and subjects' expected usage of the train were obtained from all subjects. To the extent that WTP is based primarily on symbolic considerations, it ought to correlate more highly with measures of political attitudes and beliefs than with expected usage of the train. Indeed, if public goods cannot be separated from their symbolic associations, we should observe this pattern of correlations regardless of the experimental manipulation. On the other hand, if public goods are sometimes considered primarily in terms of their instrumental value (i.e., when instrumental considerations are emphasized), WTP ought to be less correlated with measures of symbolic attitudes and beliefs and more correlated with expected usage of the train.

Method

Subjects. The subjects were 210 graduate and professional students in a graduate-level statistics course at the Yale School of Organization and Management. Of these students, the data from 47 were dropped from the analyses:

Two were omitted due to missing data, and 45 were dropped because they indicated that they were foreign students, making them theoretically exempt from equal payment, via taxes, for the public good. Hence, 163 subjects were used for all analyses—99 men, 61 women, and 3 who did not indicate their gender. The subjects participated voluntarily during their regularly scheduled class m February of 1993 (approximately 70 students in each session). Within each session, subjects were randomly assigned to one of the three conditions .

Materials and Procedure. Each subject received a booklet, 8.5" x 5.5", with a cover sheet titled "Opinion Survey." Otherwise, the survey introduction was similar to Study 1. The second page of the survey contained a description of the bullet train:

> During the recent presidential election campaign, a great deal of attention centered on the need to rebuild the nation's "infrastructure," its network of roads, bridges, and rail lines. Recently, there has been talk that the. incoming federal administration may revive longstanding plans for a high-speed rail link between New York and Boston, plans that include a stop in New Haven. This "bullet" train, which would replace existing commuter trains, is expected to cut commuting time by about 50%.

Immediately following this description, subjects in the control condition were asked to estimate their WTP for the bullet train. Subjects in the two experimental conditions received a question designed to manipulate instrumental or symbolic considerations before they were asked to estimate their WTP. Instrumental considerations were activated by asking subjects to consider whether they or members of their family would derive any immediate benefits from the high-speed rail line, such as shorter commutes to work, and then indicate their likely extent of use (five categories; *very frequently, often, occasionally, infrequently, not at all).* Symbolic considerations were activated by asking subjects to indicate whether they thought the construction of mass transit facilities, like the bullet train, ought to be supported by government subsidies or the private marketplace. A 7-point scale ranging from *government should subsidize* (1) to *government should not subsidize (7)* was used. WTP was assessed by asking subjects the open-ended questions, "If state and federal taxes had to be raised in order to build and maintain this high-speed rail line, what is the MOST you would be willing to pay in taxes each year in order to pay for the proposed bullet train?"

Following their WTP estimate, subjects in the instrumental condition responded to the item assessing their belief that government versus the private marketplace ought to support mass transit, subjects in the symbolic condition responded to the item assessing their expected usage of the train, and subjects in the control condition responded to both questions. On the last two pages, subjects responded to a number of scale items designed to assess their political

party identification, the extent to which they believed that government was responsible for a good standard of living, their favorability toward various social and political groups (e.g., minority leaders, realtors), and subject gender. The procedure was identical to that used in Study 1.

Results and Discussion

We expected that frames emphasizing the bullet train's instrumental utility would decrease the variance of WTP and increase subjects' price sensitivity, compared to frames that focused on the train's symbolic utility. The relevant frequency distributions of WTP for each of the three conditions (instrumental, symbolic, and control) are presented in Table 5. The data show that, as expected, the variance was reduced and the price elasticity was strengthened by introducing instrumental considerations. For example, the cumulative distribution shows that when subjects were asked to consider their expected usage of the train, an increase in taxes from $10 to $75 would reduce the proportion of the sample willing to pay from 84% to 16%, whereas the equivalent tax increase would reduce WTP from 78% to 25% of the sample who were asked to consider the role of government in providing mass transit. Supporting our intuition that public goods spontaneously elicit symbolic considerations, the WTP distribution for subjects whose considerations were not manipulated is similar to that in the symbolic condition; an increase in taxes from $10 to $75 would reduce the proportion of this sample willing to pay from 73% to 27%.

The apparent difference between the WTP distribution produced in the instrumental condition and those produced in the symbolic and control conditions was tested by the maximum likelihood procedure used in Study 1. The price elasticities for each of the three WTP distributions are reported in Table 6. The estimates in the top panel provide clear evidence that the instrumental manipulation strengthened the elasticity of WTP compared to the control condition, $p < .05$. In other words, a one-unit change in the log of price is more likely to change the log-odds of an individual's WTP for the train when the individual is asked to consider his or her usage of the train than when the individual is asked to simply consider the idea of a public train. The elasticity estimates in the symbolic and instrumental conditions were also different, but at a lower level of statistical significance, $p < .10$. The nonsignificant difference, $p > .10$, between the elasticity estimates in the symbolic and control conditions provides further support for our expectation that political symbolism is deeply intertwined with public goods.

Drawing on these parameter estimates, the distinctive variance of the WTP distribution found in the instrumental condition is illustrated in Figure 3. The slope of the lowest line, representing responses framed by instrumental stimuli,

TABLE 5

Observed and Expected Willingness to Pay Frequencies for the Bullet Train by Framing Condition (Study 2)

	Instrumental			*Control*			*Symbolic*		
WTP	*Expected* [4]	*Observed*	*Percentage of Total Observed* [5]	*Expected* [3]	*Observed*	*Percentage of Total Observed* [b]	*Expected* [a]	*Observed*	*Percentage of Total Observed*
Less *than $5*	*3.9*	6	12.2	8.2	9	17.6	7.0	10	*15,9*
$5, but < $10	5.3	2	4.1	5.5	5	9.8	6.4	4	*6.3*
$10, but < $25	13.2	14	28.6	10.0	11	21.6	11.5	12	19.0
$25, but < $50	11.5	11	22.4	*8.2*	1	2.0	11.9	8	12.7
$50, but < $75	5.2	8	16.3	4.3	11	21.6	6.2	13	20.6
$75, but < $200	6.9	6	12.2	7.7	*9*	17.6	10.4	10	15.9
$200, but < $500	2.1	1	2.0	3.8	2	3.9	4.5	5	7.9
$500 and above	.8	1	2.0	3.2	3	5.9	2.9	1	1.6
x^2		5,350			18.079			12.22	
p		.375			.003			.032	
n		49			51			63	

*The expccted frequencies were based on a log-logistic distribution. [b] Percentages may not sum to 100 due 10 rounding.

TABLE 6
Estimated Willingness to Pay Elasticities for the Bullet Train by Framing Condition
(Study 2)

Variable	*Instrumental*	*Control*	*Symbolic*
Elasticity	–1.411	–.943	–1.109
	(0.187)	(0.126)	(0.129)
Intercept	4.710	3.173	3.856
	(0.683)	(0.502)	(0.516)
n	49	51	63
	Controlling for Respondents' Expected Usage		
Elasticity	–1.930	–1.079	–1.188
	(0.262)	(.147)	(0.140)
Usage			
None	5.638	1.271	2.472
	(38.974)	(1.268)	(1.074)
Infrequently	5.886	2.449	3.144
	(1.040)	(.661)	(.638)
Occasionally	6.309	3.848	4.490
	(.956)	(666)	(622)
Often	7.081	4.464	4.631
	(1.080)	(.762)	(.729)
Very frequently	8.804	4.042	4.168
	(1.419)	(.901)	(.939)
n	49	51	63

Note. Standard errors in parentheses
[a] Estimates obtained by maximum likelihood

is much steeper than for either the control or symbolic conditions.[3] More concretely, if the bullet train were proposed for less than $40 in increased taxes, frames, whether instrumental or symbolic, would have little effect on the proportion willing to pay. Above that price, however, fewer people would be willing to pay if the tram's instrumental value were emphasized, compared to either a symbolic emphasis or a neutral presentation.

An analysis of the relation between the distribution of WTP and priming is further informed by controlling for expected usage of the bullet train (see lower panel of Table 6). When expected usage is held constant, the elasticity estimate in the instrumental condition is significantly stronger, $p < .05$, than those in either the control or symbolic conditions, whereas the latter two are not significantly different from one another. The differences in the WTP distribution produced by the three conditions when subjects' expected usage of the

[3]For case of Illustration, Figures 3 and 4 ascribe the same intercept to all experimental conditions.

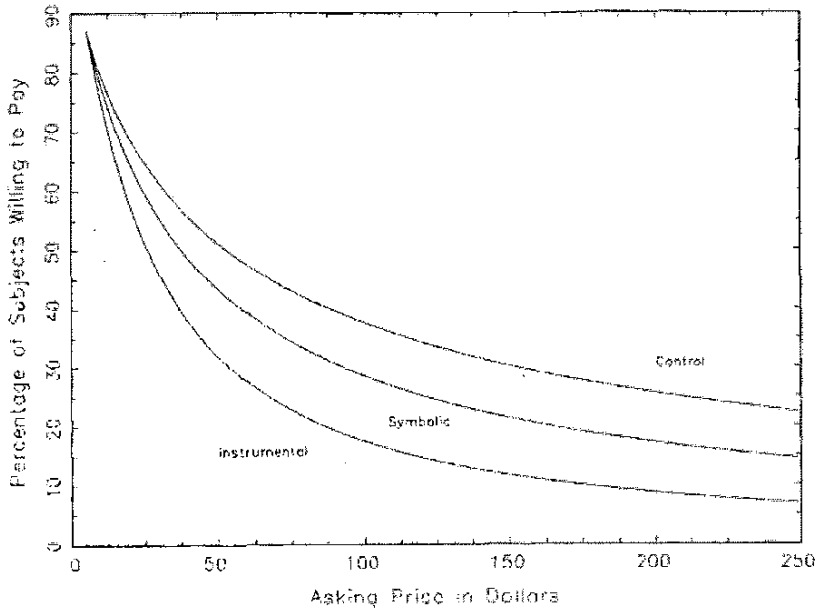


FIGURE 3 Willingness to pay for the bullet train as a function of price and framing condition, Study 2.

train was controlled are illustrated in Figure 4. When usage is taken into account, a focus on instrumental concerns produces a much sharper decline in WTP as price increases, compared to either a focus on symbolic concerns or no given focus. In addition, the log-odds of WTP in the instrumental condition increase much more systematically as a function of expected frequency of usage than in either the control or symbolic conditions.

The Manipulation of Instrumental and Symbolic Considerations. The heightened price sensitivity produced by asking subjects to consider their usage of the train suggests that public goods are not invariably considered in symbolic terms. Additional evidence of these underlying processes can be obtained by looking at the pattern of correlations between WTP and (a) subjects' political attitudes and beliefs and (b) subjects' expected usage of the train. WTP based on instrumental considerations ought to be correlated with subjects' expected usage of the train and less so with political attitudes and beliefs, whereas the opposite pattern of correlations ought to be obtained if WTP was, instead, based on symbolic considerations. The rank-order correlations between WTP in the three conditions and political party identification (PID), endorsement of government's role in providing mass transit and a good stan-

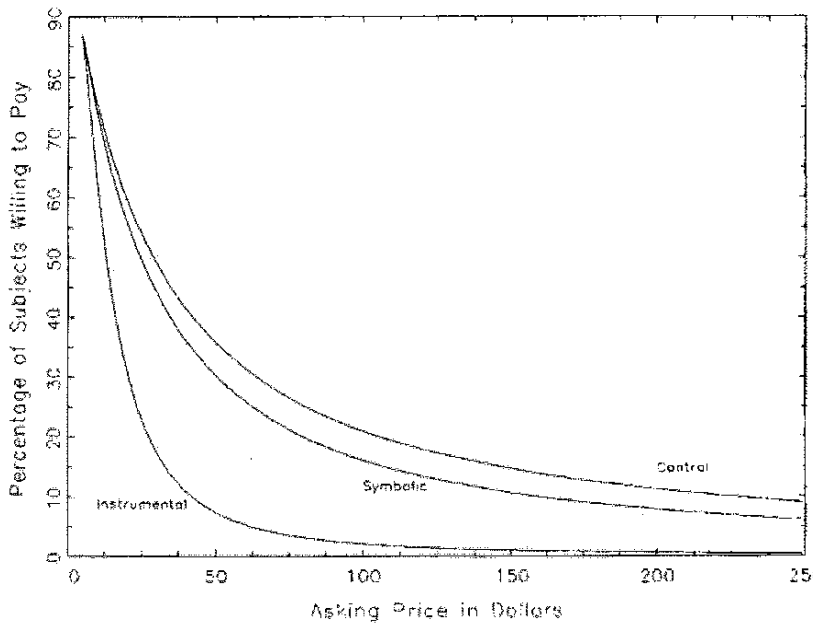


FIGURE 4 Willingness to pay (adjusted for expected usage) for the bullet train as a function of price and framing condition, Study 2.

dard of living, favorability toward conservative versus liberal groups,[4] and subjects' expected usage of the bullet train are presented in Table 7.

WTP in the instrumental condition was significantly correlated with expected usage of the train, but not with any of the measures of political attitudes and beliefs, verifying the effectiveness of our manipulation in changing the basis of WTP. In contrast, significant correlations between political attitudes and beliefs and WTP in the symbolic and control conditions affirm the strong influence of political considerations on the evaluation of public goods. Notwithstanding the similarity between the two WTP distributions, it appears that the political considerations elicited by the bullet train did not completely coincide in the two conditions. WTP in the control condition was significantly correlated with PID but not with endorsement of government responsibility in upholding living standards or with favorability toward conservative versus liberal groups, whereas WTP in the symbolic condition was significantly cor-

[4]To simplify the analysis, an mdex of liberal-conservative favorability was created by subtracting mean favorability toward liberal groups (minority leaders, environmentalists, union officials, and Democrats) from mean favorability toward conservative groups (realtors, business owners, and Republicans).

TABLE 7
Rank-order Correlations (gamma) Between Willingness to Pay and Relevant Political and Attitudinal Variables and Expected Usage of the Bullet Train by Framing Condition (Study 2)

	Willingness to Pay		
Variable	*instrumental*	*Control*	*Symbolic*
Political party identification	*.08*	–.24**	–.15
Government should subsidize mass transit	.11	*.36***	.23**
Government should guarantee employment and income	.03	.10	.23**
Favorability toward conservative versus liberal groups	.13	–.16	–.28**
Expected usage of train *(never* to *very frequently)*[a]	.53**	.46**	.30**
n	47	49	60

Note. Higher numbers indicate greater willingness to pay, Republican party affiliation, endorsement of government rotes, greater favorability toward conservative than liberal groups, and more frequent train usage, respectively.
[a]Train usage was coded as highest expectcd usage for either self or family, $^{**}p < .05$, one-tailed test

related with the latter two measures but not PID. WTP was significantly correlated with endorsement of government subsidies for mass transit in both the control and symbolic conditions.

Interestingly, WTP was strongly correlated with expected usage of the bullet train in all conditions of Study 2. This result indicates that instrumental considerations figured in the evaluation of this public good, even when symbolic considerations were emphasized. Although public goods may increase the probability that symbolic considerations will be elicited, self-interest may generally contribute to WTP when it is clearly and directly linked to the policy in question (D. Green & Gerken, 1989).

GENERAL DISCUSSION

Our central thesis is that the variance of a WTP distribution and its associated price elasticity are determined by the relative contributions of instrumental and symbolic evaluations of a good. Under conditions in which instrumental considerations dominate, the WTP distribution is characterized by smaller variance and higher price elasticity compared to that obtained under conditions in which symbolic considerations dominate. We hypothesized that the balance of considerations may be altered by framing a good in terms that emphasize its instrumental qualities versus the political symbolism associated with the good. Moreover, we proposed that private, consumer goods typically elicit instru-

mental considerations, whereas public, nonmarket goods typically elicit symbolic considerations.

Taken together, the results from Studies 1 and 2 support these three propositions. Study 1 demonstrated that a presentation emphasizing the political symbolism associated with consumer goods, such as the environmental benefits of a solar-powered radio or the patriotism expressed by a silk tie patterned with bald eagles, increased the variance in WTP and decreased subjects' sensitivity to price, compared to a presentation of the same goods that emphasized their instrumental benefits for the individual The same effects were obtained in Study 2 by asking subjects to consider either their usage of a high-speed rail line or their belief in the role of government subsidies; a decrease in the variance of WTP and an increase in price sensitivity were obtained when usage was considered, compared to a consideration of the role of government. These effects were particularly strong when subjects' expected usage of the train was taken into account The mediating role of instrumental versus symbolic considerations in producing the observed changes in the WTP distributions was further supported by the interaction between the experimental conditions and the correlations between WTP and measures of political attitudes.

Instrumentality and Symbolism of Private Versus Public Goods

D. Green (1992) showed that WTP is more price sensitive when the goods in question are consumer products, like books or cable television, rather than nonmarket goods, such as environmental protection or shelter for the homeless. D. Green suggested that the elasticity difference between market and nonmarket goods may be due to the fact that moral or ideological considerations are more likely to enter the minds of citizens trying to assess the value of cleaner air than the minds of consumers trying to assess the value of air fresheners. The principal shortcoming of D. Green's (1992) analysis, however, was that the comparisons were based on quasi-experimental data. Hence, differences in price elasticity may have been attributable to differences in individuals' familiarity with assessing WTP for public versus private goods and in the availability of substitutes. In contrast, the present research demonstrates changes in the WTP distribution *for the same good* by manipulating the balance of instrumental and symbolic considerations used in estimating WTP, with the necessary experimental controls in place.

Notwithstanding evidence for the transmutability of private and public goods, we also found that the manipulation of instrumental and symbolic considerations may be constrained by the nature of the good. In the control condition of Study 2, we found that simply presenting a public good (the bullet train) produced a pattern of results similar to that obtained from experimentally focusing subjects on political considerations. Moreover, across all experi-

mental conditions, the price elasticity for the bullet train was weaker than those for the two consumer goods, suggesting limits to the extent to which evaluations of market and nonmarket goods may be manipulated by the rather subtle frames we use here. Thus, the manner in which a good is framed accounts for some but not all of the contrast between public and private goods noted by D. Green (1992).

Implications for Consumer Marketing and Mass Politics

The results of our experiments have implications for a wide array of different research literatures within social science. The first and most obvious among these is the literature on product perceptions and price acceptability. Although there ts an extensive literature on the ways in which products elicit consumer attitudes and identities (e.g., Belk. 1988; Hirschman, 1980; Lee, 1990; McCracken, 1986; Mittal, 1988; Ratchford & Vaugn, 1989; Shavitt, 1990; Zinkhan & Hong, 1991), the specific effects of political or symbolic appeals vis-à-vis instrumental appeals have not been examined. This is an important lacuna to fill in an era when an increasing number and range of products are marketed with a public-regarding slant (Lautenberg, 1991; "Selling green," 1991, "So, what is," 1991). Our findings suggest that firms' use of such appeals is not only good for public relations, it may be profitable as well. A successful marketing campaign that links a particular brand of ice cream with preservation of the rainforest or a brand of spaghetti with donations to charitable causes may well alter the distribution of WTP, thereby increasing demand at a given market price. Our findings also showed that symbolic appeals tended to outperform instrumental appeals at higher prices, suggesting the effectiveness of using symbolic advertising for higher priced products. Symbolic appeals have limitations, of course, as when symbolism is inappropriately associated with consumer goods (e.g., religious devotion and toilet seats). Furthermore, consumers may resist symbolic appeals that are regarded as manipulative or mercenary.

The present research also suggests that successful marketers should direct their symbolic appeals to receptive consumer segments (cf. Haley, 1968). Much of the early research in ecological marketing was directed toward identifying consumers who were ecologically concerned (Kinnear & Taylor, 1974; Webster, 1976). The present research supports a segmentation approach anytime symbols representing certain values and reference groups are associated with consumer goods. When a symbolically framed appeal is mistakenly directed toward those who find the symbolism distasteful, WTP becomes much lower than if the same good were framed in an (ordinary) instrumental manner. It is possible that we encountered such a situation when we emphasized the patriotic nature of the silk tie.

Perhaps the most intriguing finding presented here is that the manner in

which consumer goods are evaluated carries over into the world of politics. In election campaigns, competing factions attempt to tailor symbolic and instrumental appeals to the tastes of particular constituencies (Edelman, 1964). But our point goes beyond the observation that every campaign seeks to appropriate for itself attractive symbols and arguments. Campaigns also affect the salience of certain considerations in the minds of voters. Study *2* shows that encouraging voters to evaluate public goods with an eye toward personal use-value can profoundly influence the level of voter support. Just as marketing agencies evidently appreciate the importance of framing consumer decisions, campaign consultants too may be far ahead of social scientists in terms of their intuitive understanding of how to garner votes.

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