

The pricing literature is replete with research that focuses on how consumers respond to sales promotions when both the reference level and the change are expressed in dollar terms (i.e., discounts). The psychophysics of pricing suggests that changes in monetary magnitude are not based on their absolute level, but rather on their deviation from some reference level, or how the change is “framed.” Often, however, a promotion is presented in nonmonetary terms (e.g., a premium). When two resources are delivered simultaneously, but in different currencies (e.g., receive a free razor with the purchase of a can of shaving cream), the marginal value of the nonmonetary, incremental benefit may be difficult to evaluate in relation to the focal product or its price. Therefore, the value of the premium may be less likely than a comparable discount to be viewed in a relative sense and thus less likely to suffer from diminishing marginal returns. This research explores how people often fail to exhibit the same diminishing sensitivity to an incremental benefit, or cost, when it is accrued in a currency other than the referent currency. The authors define two different carriers of wealth or welfare (i.e., resources) that are difficult to convert into any meaningful common unit of measurement as “incommensurate.” This research introduces a novel mechanism for influencing whether people attend to absolute rather than relative differences. This work also offers guidance to managers who might benefit from the strategic use of nonmonetary promotions.

Incommensurate Resources: Not Just More of the Same

The pricing literature is replete with research that focuses on how consumers respond to sales promotions when both the reference level and the change are expressed in dollar terms (i.e., discounts). Yet many everyday exchanges involve a variety of resources other than money (Donnenworth and Foa 1974; Foa 1976). Purchase incentives are often presented in nonmonetary terms, and premiums are the most frequently used nonprice-oriented sales promotion.¹ In 2000, the Promotion Marketing Association estimated that the premium industry was a \$24 billion business (see www.info-now.com/pma/). Still, relatively little is known about how consumers evaluate gift-with-purchase offers,

particularly when the premium’s price or value in dollar terms is not transparent. Consider the advertisement in the April 22, 2001 *Parade* magazine (see Figure 1). Enesco, the manufacturer of the Precious Moments line of figurines, offered readers a complimentary leaded crystal bud vase with the purchase of a \$27.50 statuette, but the advertisement did not specify the vase’s price or dollar value. We doubt that most buyers noticed, much less inquired about, the missing price, and thus it is highly unlikely that they ever estimated the price of the vase or evaluated its value relative to the figurine’s \$27.50 price tag.

Prospect theory assumes that people respond to changes in wealth or welfare in much the same way that the Weber–Fechner law of psychophysics states people respond to changes in physical stimuli such as brightness, loudness, temperature, and mass (Kahneman and Tversky 1979). Just as 5 pounds is less noticeable when added to a 120-pound barbell than when added to a 10-pound barbell, the difference between \$120 and \$125 seems smaller than the difference between \$10 and \$15 (Tversky and Kahneman 1981). A significant stream of research dedicated to the psychophysics of pricing (see Monroe 1973; Winer 1988) suggests that people perceive cash discounts in relative terms.

¹The ranking is according to the New Jersey-based Incentive Federation’s “1999 Incentive Survey of Buying Practices.” The survey’s results can be found at <http://www.incentivecentral.org/pages/research/user9905.html>.

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Figure 1
ADVERTISEMENT OF PRECIOUS MOMENTS FIGURINE

Give A Mother's Day Gift That Blooms!




Give Mom this touching porcelain bisque *Precious Moments*® figurine and she'll also receive a discount card from FTD.COM and a complimentary leaded crystal bud vase that stands 5" tall!

But hurry, this figurine RETIRES on Mother's Day, May 13, 2001!

To locate a participating retailer in your area,
please call 1-800-NEAR YOU
or visit our web site at www.enesco.com.




"You're A Dandy Mom, And I'm Not Lion"
#795232V \$27.50 SRP
Stands 5" High

#1 Collectible Figurine!
Source: Giftware Business Forecast 2001

Precious Moments®
by ENESCO

This is not to say people never attend to absolute differences, but they seem to focus first on whether the savings is a large percentage of the base price (Darke and Freedman 1993).²

When consumers are offered a premium with an unspecified pecuniary value, it is not clear how they evaluate the promotion. We posit that unlike cash discounts—in which

both the reference level and the change are expressed in monetary terms—premiums with unstipulated or vague dollar values can inhibit consumers' tendency to evaluate the promotion in relation to the focal product, or its price. Because of its incommensurate nature, the premium would be less likely than a comparable discount to be viewed in a relativistic sense and, consequently, is less likely to suffer from diminishing marginal returns. We define *incommensurate resources* as those individual carriers of wealth or welfare that are difficult to convert into a single currency or common unit of measurement. Therefore, a richer under-

²For evidence against the psychophysics of pricing, see Kamen and Toman (1970).

standing of consumer decision making requires a better understanding of how transactions are evaluated when they include resources that are incommensurate.

We are not the first to explore the relative effectiveness of offering something for free rather than a cash discount. Diamond and Sanyal (1990) find that when offered the choice between a free can of soup worth 49 cents with the purchase of a jar of spaghetti sauce and 25 cents off the spaghetti sauce, 56% of test consumers prefer the free soup. Conversely, when the same choice was reframed as 49 cents off the purchase of both the soup and the spaghetti sauce versus 25 cents off the spaghetti sauce alone, only 37% preferred 49 cents off the larger purchase (soup and sauce). The authors suggest that segregating the free soup in accordance with Thaler's (1999) silver lining principle can explain these results. Thaler's silver lining principle implies that small savings should be segregated from large losses because $v(x) + v(-y) > v(x - y)$ when $x < y$.

An alternative explanation exists for their results. We suspect that the 49-cent benefit (i.e., free soup) was viewed relative to the price of the spaghetti sauce in the first choice set, but was viewed relative to the price of the entire purchase required (i.e., sauce and soup) in the second choice set, a much smaller relative gain. Had Diamond and Sanyal (1990) concealed the price of the soup, it would have made it more difficult for consumers to judge this incremental benefit as a marginal gain, which may have resulted in an even stronger preference for the free soup in the first promotion. This research demonstrates how the strategic use of a premium—offered without an explicit price tag—can effectively suppress the diminishing sensitivity that has long been associated with relativistic processing and the evaluation of cash discounts.

The remainder of this article is organized as follows: We first discuss how the proposed notion of incommensurate resources differs from well-known but distinct concepts in the marketing literature, such as compatibility and noncomparable alternatives. We then review the relevant literature on mental accounting and framing and describe how this work differs from and extends the existing research in this area. The three studies that follow support our predictions regarding incommensurate resources and describe potential applications for promotions and pricing.

More specifically, in Study 1, an incremental (i.e., added) benefit provided in an incommensurate currency is shown to moderate the effect of diminishing marginal sensitivity that is often associated with cash discounts, a commensurate currency. Our results suggest that the process by which people evaluate incremental gains is sensitive to the ease and effort of encoding and that incommensurate resources are more difficult to view in relative terms. We also test important boundary conditions for the processing of incommensurate resources. In Study 2, we demonstrate how incommensurate incremental costs are also more likely to be evaluated in absolute terms and thus perceived as more severe. Study 2 generalizes the results to a currency other than dollars (frequent flier miles), which opens the door for future research into prices composed of payments made in two or more incommensurate currencies (Drèze and Nunes 2002). Study 3 is a natural experiment that adds external validity. We illustrate how the effectiveness of a cash discount in boosting sales can depend on the size of the discount relative to the focal product (e.g., P/P), whereas the effectiveness of a

premium need not. We conclude by offering some theoretical and managerial implications and suggestions for further research.

INCOMMENSURATE RESOURCES AND THE EVALUATION OF JOINT OUTCOMES

Wright (1999) proposes a constructive model in which people can be more or less sensitive to absolute or relative price differences depending on the context of the decision. He argues that in complex situations, people attend to either the relative or the absolute difference, and if one is too difficult to obtain, they will rely on the other. By making joint outcomes incommensurate, we introduce a novel mechanism for influencing whether people attend to absolute rather than relative differences, and these differences need not be constrained to changes in price.

In many respects, the notion of incommensurate resources resembles the concept of compatibility. Previous work on scale compatibility biases suggests that the specific nature of a response scale tends to focus people's attention on compatible features of a stimulus (Shafir 1995; Slovic, Griffin, and Tversky 1990; Tversky, Sattath, and Slovic 1988). For example, people typically price a gamble with a large payoff and low probability higher than an equivalent gamble with a smaller payoff and higher probability, which they actually prefer. Yet when Slovic, Griffin, and Tversky (1990) used gambles with nonmonetary outcomes (e.g., dinner for two at a local restaurant), they found that this tendency was reduced by half. It seems that the nature of the stimulus can influence a person's response, and making the payoff incommensurate helps prevent subjects from overweighting the attribute of price. Accordingly, the use of discounts should place a greater emphasis on price, leading people to assess the incentive relative to what they pay, though nonmonetary promotions such as premiums should take the focus away from price.

In turn, if a cash discount puts the emphasis on price, it may elicit a different type of reasoning than a premium does. By their very nature, commensurate outcomes may evoke quantitative reasoning (e.g., value differences, ratios), whereas incommensurate outcomes evoke qualitative reasoning (e.g., ordering of preferences, to buy or not to buy) in which a greater weight is attached to the most prominent dimension (e.g., the promotion). In this way, we might consider relativistic processing quantitative reasoning and absolute processing more qualitative, the latter predictably focusing consumers on the most prominent attribute—the premium. This interpretation is consistent with the *strategy compatibility hypothesis* (Fischer and Hawkins 1993; Fischer et al. 1999), which suggests that the stimulus may affect the decision strategy employed.

Similar to Johnson's (1984) idea of noncomparable alternatives and Zhang and Markman's (1999) notion of nonalignable differences, most of the work on compatibility has focused on how people respond to dissimilarity in the traits of competing options. Unlike these concepts, this research addresses how making joint outcomes—not competing ones—incommensurate influences judgment and not choice, or other comparative tasks. In this sense, making outcomes incommensurate is reminiscent of the principle of *evaluability* (Hsee 1996; Hsee et al. 1999), which posits that it is more difficult to evaluate attributes separately than jointly because of the absence of a frame of reference. If consumers

are given a choice between a premium and a discount, any advantage an ambiguously valued gift-with-purchase possesses when evaluated separately would likely disappear, as consumers would suddenly have a standard by which to assess the nonmonetary promotion's value.

Making incremental benefits incommensurate may be viewed as one way to induce the segregated processing of joint outcomes. In this sense, this conforms to Thaler's (1980, 1985) rule for segregating outcomes. Thaler argues that gains should be segregated because the concavity of prospect theory's value function implies that $v(x) + v(y) > v(x + y)$ or $v(\$5) + v(\$120) > v(\$125)$.³ However, it is important to point out that commensurability and incommensurability are not synonymous with Thaler's notions of integration and segregation (for other issues, see the "Conclusion" section). Although the mental process associated with segregating joint outcomes, $v(x)$ and $v(y)$, appears to be the same as that associated with viewing an incremental gain, or $v(x)$, in absolute terms, it is not as clear that the psychological mechanism at work when people integrate outcomes is the same as when people rely on relativistic processing. With relativistic processing, people frame one outcome in light of another, or some other element in the decision context. In other words, they evaluate a premium, $v(x)$, or discount, $-v(-x)$, relative to the price paid, $v(-y)$, perhaps as $-v(-x)/v(-y)$. People who integrate outcomes instead focus on the net cost, $v(x - y)$. Therefore, the notion of commensurability can account for the context-dependent evaluation of a single outcome whereas hedonic editing does not. Specifically, commensurability affects whether the promotion $v(x)$ is evaluated relative to price $v(-y)$ or the focal product, say, $v(y)$, not necessarily whether it is evaluated holistically as $v(x - y)$.

Although all of our experiments use joint outcomes, consider the following illustration involving a single outcome. The happiness associated with receiving \$500 from a retailer for being the one-millionth customer to make a purchase is likely to be diminished if the next customer, who breaks the one-million mark, receives \$1,000. What would happen if the next customer was awarded a home computer instead? These are not joint outcomes per se (neither customer receives both prizes), yet commensurability may determine the degree to which the context influences the first customer's evaluation of his or her prize.

In Study 1, we investigate how people process joint outcomes differently when they are incommensurate and demonstrate how delivering an incremental benefit in an incommensurate currency can negate the diminishing marginal sensitivity that is so often associated with cash discounts. In addition, we specify and test several boundary conditions for the effect.

STUDY 1

In their seminal study illustrating the psychophysics of pricing, Kahneman and Tversky (1984) use the following scenario to demonstrate how people spontaneously engage in relativistic processing while evaluating the possibility of saving \$5:

³Linville and Fischer (1991) show the tendency to prefer temporal separation does not always occur when individual gains or losses come from different domains (e.g., financial, social, academic). Their "renewable resources" model takes the approach that people are limited in their ability to cope with negative outcomes and savor positive outcomes.

Imagine that you are about to purchase a jacket for (\$125) [\$15] and a calculator for (\$15) [\$125]. The calculator salesman informs you that the calculator you wish to buy is on sale for (\$10) [\$120] at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store?

When the \$5 savings was issued on the \$15 calculator, 68% of respondents said that they would travel 20 minutes to the other store. In comparison, only 29% of respondents said that they would make the trip to save \$5 on a \$125 calculator.

Kahneman and Tversky (1984) argue that the topical organization of mental accounts leads people to frame the consequences (i.e., saving \$5) with respect to a reference level determined by the context of the decision (i.e., the cost of the calculator). If people instead paid attention to just the direct consequences (a minimal frame), they would ask themselves in either case whether they were willing to drive 20 minutes to save \$5. Alternatively, if people considered the amount to be saved (i.e., \$5) relative to the overall purchase amount (i.e., \$140), they would have taken a more comprehensive account.

Method and Design

We modeled this study after Kahneman and Tversky's (1984) classic jacket and calculator study, but we include four separate, revised versions. Respondents were 320 students at a major West Coast university who participated for course credit. The first two versions test our principal hypothesis: Delivering an incremental benefit in an incommensurate currency can negate the type of diminishing marginal sensitivity that is associated with commensurate outcomes (i.e., discounts). We included the third and fourth versions to test possible boundary conditions. The first version was essentially a replication of the original study and read as follows:

Imagine that you set off to buy a desk lamp and wool blanket at what you believe to be the least expensive store in your area. When you arrive, you find that the prices are consistent with what you expected to pay. You are about to purchase the lamp for (\$125) [\$25] and the blanket for (\$25) [\$125] when the salesman informs you that the exact same blanket that you wish to buy is on sale for \$10 less or (\$15) [\$115] at another branch of the store that has the exact same blanket and lamp in stock. The other store is a 15-minute drive away. Would you make the trip to the other store?

This scenario offered more money (\$10) for a slightly shorter commute (15 minutes) than the original, which after almost 20 years we view as somewhat dated. Della Bitta and Monroe (1980) find that consumers' perceptions of savings from a promotional offer do not vary significantly with 30%, 40%, and 50% discount levels, but do vary significantly between the 10% and 30%–50% levels. Consequently, our scenarios offer a savings of either \$10 on \$125 (8%) or \$10 on \$25 (40%).

We altered the second version to include a premium—a travel umbrella—instead of a cash discount. A pilot study placed the umbrella's value at approximately \$10, making it a comparable benefit. The same pilot study found that the umbrella was not deemed functionally complementary (Gaeth et al. 1990) with either a blanket or a desk lamp (i.e., they are typically not used or consumed together). We were

also careful to avoid affective complementarity by not mixing a frivolous product with a charitable one (Strahilevitz and Myers 1998). We intentionally omitted the umbrella's value in dollars in an effort to make the promotion incommensurate. The second version read as follows:

Imagine that you set off to buy a desk lamp and wool blanket at what you believe to be the least expensive store in your area. When you arrive, you find that the prices are consistent with what you expected to pay. You are about to purchase the lamp for (\$125) [\$25] and the blanket for (\$25) [\$125] when the salesman informs you that the store is giving away a free travel umbrella with all blanket sales. Unfortunately, the store you are at is out of the umbrellas, but they are still available at another branch of the store that has the exact same blanket and lamp in stock. The other store is a 15-minute drive away. Would you make the trip to the other store?

Notice that the consumer is asked to travel to another branch of the same store; the decision to buy elsewhere cannot be construed as a response toward this particular retailer. A priori, we predicted that most consumers would not exert the cognitive effort necessary to assign the umbrella a dollar value. This would impede relativistic processing and make the difference between conditions (\$25 and \$125 blanket prices) expected in the first version disappear. After making their choice, respondents received a separate questionnaire asking them what value, in dollars, they would ascribe to the umbrella. They were then told that the experimenter would sell the travel umbrella to the highest bidder and were asked what, if anything, they would be willing to pay. We explained that the highest bidder was obligated to buy the umbrella.

To gain insight into the decision process, we asked a subsample of respondents in the first two versions to "articulate aloud any thoughts that come to you" while making their choice. We recorded, transcribed, and analyzed these thoughts as verbal protocols. Although it is not clear whether respondents had access to the process underlying their decision (Nisbett and Wilson 1977b), we expected the think-aloud protocols to reveal the factors considered by respondents (Ericsson and Simon 1980) and corroborate the following explicit framing measure:

Which of the following best describes how you thought about the decision? (Please check one.)

- ☐ I considered the (\$10 savings, umbrella) on its own, in its own right.
- ☐ I considered the (\$10 savings, umbrella) in relation to the (\$25, \$125) price paid to buy the blanket.
- ☐ I considered the (\$10 savings, umbrella) in relation to the total expenditure of \$150.
- ☐ I considered the (\$10 savings, umbrella) in relation to traveling 15 minutes.

We also asked respondents to indicate whether they viewed each item (i.e., blanket, lamp, and umbrella) as hedonic, utilitarian, neither, or both according to definitions drawn from Dhar and Wertenbroch (2000).⁴ We did not

expect an umbrella to be perceived as principally hedonic, which could lead respondents to travel for a self-indulgent product they could not justify buying for themselves. In addition, if respondents viewed the blanket as principally utilitarian, Chandon, Wansink, and Laurent's (2000) "benefit congruency" framework suggests that a utilitarian cash discount (first version) should be more effective than a hedonic nonmonetary promotion (second version). Consequently, any comparison between the efficacy of the discount in the first version and the premium in the second version would be a much more conservative test. Finally, respondents indicated on a seven-point scale how believable they thought each scenario was. We did not expect any differences in believability between the two versions.

The third version was almost identical to the second, except it specified an explicit dollar value for the umbrella within the scenario. The third version included the following text:

You are about to purchase the lamp for (\$125) [\$25] and the blanket for (\$25) [\$125] when the salesman informs you that the store is giving away a free travel umbrella, which costs the retailer \$10, with all blanket sales.

The dollar figure was presented as a cost to the retailer rather than as a list price to preclude any inferences about retail mark-ups that might increase the variance in the perceived dollar value. Because the premium's value was provided in a commensurate currency, we predicted that consumers would again view the premium as a marginal benefit and that differences in people's willingness to travel based on the price of the blanket would reappear.

In the fourth and final version, instead of providing an explicit dollar figure, we asked respondents, "How much do you believe the umbrella is worth in dollars and cents?" In this way, respondents were compelled to perform a personal valuation before deciding whether to make the trip. Therefore, a priori, we did not expect the proportion of people willing to travel to differ on the basis of the price of the blanket, but instead expected each respondent's idiosyncratic valuation to drive their choice; those who valued the umbrella more would be more willing to make the trip. Among those willing to make the trip, however, we expected the average valuation to be lower in the \$25 condition than in the \$125 condition. In other words, it would take less of an incentive to motivate people to travel 15 minutes in the \$25 blanket condition than in the \$125 condition. The effect of relativistic processing would reemerge, but exhibit itself in a different manner.

To summarize, we expected the effect of relativistic processing to be present when the promotion was a cash discount (first version) and when the dollar value of the umbrella was provided (third version) but absent when the dollar value of the premium was left ambiguous (second version). We also expected the effect of relativistic processing to be present when a self-generated dollar value was elicited from respondents (fourth version), albeit manifested differently than in the first and third versions.

Analysis and Results

A summary of the results for all four versions appears in Table 1, though we address the first two versions separately as the primary test of our principal hypothesis. These versions comprise a 2 (blanket price: \$25, \$125) 2 (commen-

⁴Dhar and Wertenbroch (2000, p. 63) define a utilitarian product as "something that is useful, practical, functional, something that helps you achieve a goal (e.g., a vacuum cleaner)." They define a hedonic product as "something that is pleasant and fun, something that is enjoyable, or something whose consumption may even induce a little bit of guilt, although it doesn't have to."

Table 1
STUDY 1: EFFECTIVENESS OF AN INCOMMENSURATE BENEFIT

<i>Dependent Variable: Willingness to travel 15 minutes to obtain promotion</i>				
<i>Version</i>	<i>Would Go</i>	<i>\$25 Blanket: Reported Average Value (Bid)</i>	<i>Would Go</i>	<i>\$125 Blanket: Reported Average Value (Bid)</i>
1. \$10 discount	64%	N/A	31%	N/A
2. Free travel umbrella	45%	\$10.46 (\$6.41)	43%	\$11.69 (\$5.91)
3. Free travel umbrella (\$10 cost to retailer)	53%	N/A	25%	N/A
4. Free travel umbrella (Self-generated value)	38%	\$9.04 (\$7.07)	43%	\$8.47 (\$7.37)
Those willing to travel:		\$8.13 (\$7.77)		\$11.14 (\$10.28)

Notes: N/A indicates “not applicable” to this version of the scenario.

surability: cash, premium) full-factorial design in which the dependent measure is whether respondents are willing to travel 15 minutes in exchange for the promotion. We analyzed the data using the analysis of variance (ANOVA) categorical modeling procedure in SAS, and the results include a main effect for blanket price ($\chi^2 = 5.95, p = .01$) qualified by a significant interaction ($\chi^2 = 5.73, p < .05$). Overall, more respondents were willing to travel 15 minutes when the promotion accompanied a \$25 blanket (53%) than when it accompanied a \$125 blanket (36%), but this difference depended on whether the promotion was commensurate.

In the first version, \$10 off of the standard price of \$25 led 64% of respondents to say they would make the 15-minute trip. In comparison, only 31% of respondents said they would make the trip when the \$10 discount was on the \$125 blanket; this difference is highly significant ($\chi^2 = 8.34, p = .004$). This result replicates Kahneman and Tversky's (1984) classic jacket and calculator study. More interesting, however, is what happened in the second version. When the blanket cost \$25, 43% of respondents said they would make the trip, and 41% said they would go when the blanket cost \$125 ($\chi^2 = .02, p = .899$). The value of the umbrella, expressed as a trade-off for a 15-minute commute, did not depend on the price of the blanket, as the promotion was incommensurate.

In addition, the average value of the umbrella elicited from respondents did not differ significantly on the basis of the price of the blanket ($\chi^2_{25} = \$11.69, \chi^2_{125} = \$10.46; t_{69} = -.69, p = .25$), nor did the average bid ($\chi^2_{25} = \$6.41$ versus $\chi^2_{125} = \$5.91; t_{53} = .26, p = .40$). However, the average bid was significantly less than the average value ($t_{132} = 3.76, p < .001$). It appears that though respondents acknowledged that the umbrella possessed a value near \$10 (perhaps its retail price), they typically were not willing to pay this amount, as indicated by their bids. This is not surprising given the semi-arid climate and rare precipitation in the region where the experiment was conducted.

Responses to the framing question suggest that respondents evaluated the incremental benefit differently when it was delivered in an incommensurate currency (see Table 2). When the promotion was delivered in cash, 39% of respondents reported viewing the savings in relation to the price of the blanket or the total expenditure; this is almost three times the number (14%) of respondents who reported viewing the umbrella in this way ($z = 3.23, p < .01$). Conversely, 39% of respondents reported seeing the umbrella in its own right, and only 5% viewed the \$10 savings this way; this difference is highly significant ($z = 6.17, p < .001$).

These measures are consistent with the verbal protocols (see Table 3). Two independent judges who were blind to the

Table 2
STUDY 1: SELF-REPORTS OF FRAMING

<i>Dependent Variable: Frame in which respondents reported viewing promotion</i>						
<i>Frame</i>	<i>Promotion I considered the (promotion) ...</i>	<i>Cash</i>			<i>Premium</i>	
		<i>\$10 with \$25 Blanket</i>	<i>\$10 with \$25 Blanket</i>		<i>Umbrella with \$25 Blanket</i>	<i>Umbrella with \$25 Blanket</i>
Pure gain	on its own, in its own right	8%	3%	(5%)	40%	38%
Topical	in relation to the price paid to buy the blanket	33%	44%	(39%)	0%	8%
Comprehensive	in relation to the total expenditure	13%	8%	(10%)	8%	13%
Minimal	in relation to traveling 15 minutes	46%	46%	(46%)	53%	41%

^aThe difference across promotion types is statistically significant at the $p < .01$ level.

Notes: Numbers in parentheses are averages across conditions.

Table 3
STUDY 1: THINK ALOUD PROTOCOLS

Frame	Promotion Type	
	Cash Discount (<i>n</i> = 30)	Premium (<i>n</i> = 31)
On its own (no mention of price)	0%	35.5% ^a
In relation to the price paid to buy the blanket	26.7%	6.5% ^b
In relation to the total expenditure	6.7%	0%
In relation to traveling 15 minutes	56.7%	51.6%
None of the above	10%	6.5%
Average number of reasons	1.06	1.07

^aThe difference across promotions is statistically significant at the $p < .01$ level.

^bThe difference across promotions is statistically significant at the $p < .05$ level.

purpose of the study coded each respondent's statements. Most respondents made unambiguous statements such as "Fifteen minutes is a long way to drive for \$15" and "I would go because \$10 on \$25 is a really good difference." We initially classified each explanation into one of seven categories on the basis of whether the respondent evaluated the promotion on its own or compared its value with the price paid for the blanket, the total expenditure, the travel cost (15 minutes) alone, the travel cost and blanket price, the travel cost and total expenditure, or none of the above (Bettman and Park 1980). The nature of the responses enabled us to collapse the coding scheme from seven to the four categories shown in Table 3, which summarizes the results. There was extremely high agreement among the judges, as indicated by an "index of reliability" of .96 (Perreault and Leigh 1989). Disagreements were resolved through discussion.

An analysis of the verbal protocol data reveals that respondents framed the decision differently on the basis of the nature of the promotion, as indicated by a test of homogeneity ($\chi^2 = 16.81 > 13.28, p < .01$). More specifically, significantly more respondents mentioned the price of the blanket while evaluating the discount than while considering traveling for the umbrella (26.7% versus 6.5%, $p < .05$). Conversely, no one spoke of the \$10 savings without mentioning price or the travel time involved, and 36% of respondents focused squarely on the umbrella without mentioning either ($p < .01$). The average number of reasons offered to explain their choice (Simonson, Carmon, and Curry 1994) did not differ across conditions and was almost always one.

It is important to note that almost none of the respondents viewed the travel umbrella as purely hedonic (5%) or "neither hedonic nor utilitarian" (2%). In contrast, nearly everyone viewed it as either utilitarian (79%) or "both hedonic and utilitarian" (14%). Therefore, it is unlikely that respondents were motivated to travel for a frivolous item they otherwise could not justify buying (i.e., reason-based choice). Similarly, the blanket was perceived as utilitarian by 85% of respondents, versus 5% who viewed it as hedonic and 10% who viewed it as both. Therefore, benefit congruency

(Chandon, Wansink, and Laurent 2000) predicts that respondents should be more willing to travel for the relatively utilitarian monetary promotion. In addition, Simonson, Carmon, and Curry (1994) suggest that consumers often react negatively to premiums that are deemed unneeded, such as an umbrella in a desert climate. Yet it is a testament to the effect of making promotions incommensurate that nearly as many respondents were willing to travel for the umbrella (44%) as for the discount (47%). Finally, there were no differences in believability ($t_{\text{discount}} = 4.62$, $t_{\text{premium}} = 4.71$; $t_{55} = -.318, p = .38$).

The results for the third version reveal the effect of providing a nominal dollar value. When told the umbrella cost the retailer \$10, a greater proportion of respondents were willing to travel when the premium accompanied the \$25 blanket (53%) than when it accompanied the \$125 blanket (25%); the difference is significant ($\chi^2 = 6.31, p = .012$). It appears that respondents took the \$10 figure at face value and viewed this amount in light of what they were spending on the blanket. Providing a dollar value, or perhaps a list price, can apparently lead respondents to take a relative perspective.

The results for the fourth version were also as expected. The proportion of respondents who were willing to travel did not differ on the basis of the elicited value of the blanket (38% versus 43%; $\chi^2 = .41, p = .5231$). Instead, the respondents willing to travel, on average, assigned higher values to the umbrella ($t_{\text{yes}} = \$10.05$, $t_{\text{no}} = \$8.11$); this difference approaches significance ($t_{77} = -1.53, p = .064$). More important, among those willing to make the trip, the values were lower in the \$25 blanket condition (\$8.13) than in the \$125 blanket condition (\$11.14); this difference was significant ($t_{30} = -1.93, p = .03$). Considering that the average values among all respondents ($t_{\$25} = \9.04 , $t_{\$125} = \8.47) did not differ across conditions ($t_{69} = .42, p = .33$), these results suggest that when the price of the blanket was larger (\$125), a higher valuation for the umbrella was necessary, on average, to motivate people to make the trip. This too is indicative of relativistic processing.

Discussion

In Study 1, the use of a nonmonetary benefit with an ambiguous dollar value averted the type of relativistic evaluation that is so commonly associated with discounts. Basic intuition suggests that consumers should almost always prefer \$10 to a good with a market value of \$10, because anyone who receives cash can simply exchange it for anything costing \$10. However, the results from Study 1 suggest that respondents valued \$10 more than a comparable premium, valued independently at \$10, when the discount accompanied a \$25 purchase (64% versus 45%), but not when it accompanied a \$125 purchase (43% would travel for the umbrella, 31% for \$10).

These results suggest that marketers should assess whether a discount they plan to offer will be perceived as relatively small, and if so, it may be prudent to offer a comparable premium instead. The results also indicate that it is important to have an accurate understanding of how much consumers value the premium. Had the umbrella truly been worth \$10 to respondents (i.e., a narrower distribution of bids around \$10), the premium would likely have had an even greater overall impact. Finally, two important bound-

any conditions include (1) whether the dollar value of the premium is presented externally and (2) whether consumers internally generate an equivalent value in a commensurate currency. If a premium's price is widely known (e.g., the seller includes a list price) or if consumers assign a specific dollar value to a nonmonetary promotion, the effects of relativistic processing are likely to reemerge.

STUDY 2

In Study 2, we replicate the findings of Study 1 while comparing incremental changes in costs (surcharges) rather than benefits (promotions). We also test the idea of incommensurate resources on a currency other than dollars, frequent flier miles. To be most useful, economists argue that a medium of exchange must be divisible, uniform and storable, and within themselves; both dollars and miles satisfy these three conditions. However, when combined, the two currencies are incommensurate because of people's general reluctance or inability to translate miles into dollars and vice versa, which prevents them from viewing an incremental cost levied in one currency relative to a principal amount charged in the other. Therefore, when the surcharge is relatively small as compared with the principal amount, we predict that an incremental cost assessed in an incommensurate currency (e.g., miles on dollars) will seem larger and more severe than one assessed in the same currency (e.g., miles on miles).

Method and Design

Participants were 280 students enrolled at a major West Coast university who participated for course credit. In this study, we used a 2 (base cost currency: dollars or miles) \times 2 (promotion currency: "same" or "different" currency) \times 2 (ratio of promotion/base: high, low) full-factorial design. In this way, the ratio of the incremental cost (\$50 or 5000 miles) to the base cost (\$250 or \$500 and 25,000 or 50,000 miles) was varied while the commensurability of the currencies was manipulated. A pilot study revealed that students valued 5000 miles at about \$50, such that the incremental costs, independently, were comparable in value.⁵

After we collected and analyzed the initial data, we ran four additional conditions on 140 respondents from the same sample population. We designed the additional conditions to illustrate that respondents would be sensitive to the absolute size of an incremental cost, even if it were incommensurate, by including an incremental cost of 2500 rather than 5000 miles (see Table 4). This also helped ensure against possible ceiling effects in the original design. We expected the percentage of respondents willing to travel to decrease significantly in each of these four conditions, yet we still expected respondents who were asked to pay the incremental cost in a commensurate currency to be more sensitive to the relative size of the surcharge.

We created the initial eight scenario-based questionnaires in a fashion similar to the jacket and calculator study. We instructed respondents in half of these conditions, in which the base cost was in dollars, to imagine the following scenario:

⁵When offered the opportunity to sell or buy 5000 frequent flier miles, subjects (college students) reported a mean selling price of \$53.67 and a mean buying price of \$48.82 ($n = 100$). The median and mode for both response types was \$50.

Table 4
STUDY 2: THE EFFECTS OF CHANGING CURRENCIES

<i>Dependent Variable: Willingness to travel 20 minutes to save incremental cost</i>				
		<i>Incremental Cost</i>		
<i>Base Cost</i>		<i>Money: \$50</i>	<i>Miles: 5000</i>	<i>Miles: 2500</i>
Money	\$250	85.7% ^a	91.4% ^a	31.4% ^c
	\$500	57.1% ^b	85.7% ^a	28.6% ^c
Miles	25,000	85.7% ^a	82.9% ^a	31.4% ^c
	50,000	88.6% ^a	51.4% ^b	8.6% ^d

Notes: $N = 35$. Proportions with different superscripts differ significantly at $p < .01$.

You are on the phone with your favorite airline and have just secured a ticket to a popular ski destination several weeks from today for \$500 [\$250]. This ticket will easily be processed before you intend to travel.

You now need to relinquish \$250 [\$500] for a ticket to attend the funeral of an uncle you really liked and admired. He died suddenly, and you must depart in a few days. The ticket agent you are speaking with tells you that the ticket can be expedited by phone, but it will cost you \$50 [5000 miles from your frequent flier account]. This cost can be avoided if you go to a ticket office or to the airport to book your ticket. The nearest ticket office is 20 minutes from your home. Would you make the trip?

In the two supplemental conditions, the surcharge was reduced from 5000 to 2500 miles. Participants in the other half of the original eight conditions, in which the base cost was in miles, read the following scenario:

You are on the phone with your favorite airline and have just secured a ticket to a popular ski destination several weeks from today for 50,000 [25,000] miles. This ticket will easily be processed before you intend to travel.

You now need to relinquish 25,000 [50,000] miles for a ticket to attend the funeral of an uncle you really liked and admired. He died suddenly, and you must depart in a few days. The ticket agent you are speaking with tells you that the ticket can be expedited by phone, but it will cost you 5000 miles from your frequent flier account [\$50]. This cost can be avoided if you go to a ticket office or to the airport to book your ticket. The nearest ticket office is 20 minutes from your home. Would you make the trip?

Again, the two additional scenarios reduced the incremental cost to 2500 miles, for a total of 12 scenarios. The cost of a second, unrelated ticket to a popular ski destination was included to control for wealth effects by keeping the total expenditure on airline tickets equivalent across respondents. The focal trip was deliberately described as one in which the respondent was planning to attend a funeral out of state to avoid any effects from reason-based choice (i.e., whether subjects would go out of their way to avoid the extra charge to help justify a discretionary trip). In addition, the flight was scheduled to depart in a few days, which allowed a reasonable amount of time to make a trip to the ticket office, while avoiding the possibility of simply paying the additional fee at the time of departure.

Table 5
STUDY 2: ANOVA

<i>Dependent Variable: Willingness to travel 20 minutes (yes or no)</i>			
<i>Incremental benefit: \$50 or 5000 miles</i>			
<i>Independent Measure</i>	<i>Degrees of Freedom</i>	<i>Chi-Square</i>	<i>Probability</i>
Intercept	1	86.90	< .0001
Base cost currency	1	.39	.5343
Promotion currency	1	16.32	< .0001
Base cost promotion	1	.10	.7560
Ratio (promotion/base)	1	11.68	.0006
Base ratio	1	.10	.7560
Promotion ratio	1	9.66	.0019
Base promotion ratio	1	.39	.5343

<i>Incremental Benefit: 2500 or 5000 miles</i>			
<i>Independent Measure</i>	<i>Degrees of Freedom</i>	<i>Chi-Square</i>	<i>Probability</i>
Intercept	1	404.60	< .0001
Promotion currency	1	10.59	.0011
Ratio (promotion/base)	1	8.75	.0031
Promotion ratio	1	7.09	.0078
Surcharge size (number of miles)	1	119.79	< .0001
Promotion surcharge	1	4.27	.2388
Ratio surcharge	1	.79	.3749
Promotion ratio surcharge	1	.00	1.0000

The dependent measure was always whether the subject would make the trip (i.e., spend 20 minutes to avoid the additional cost). The setup was essentially the same as in the jacket and calculator studies, in that if respondents relied on relative judgments, they would be more inclined to make the trip when paying the lower base cost (\$250 or 25,000 miles). The incremental expense of \$50 was expected to seem larger and more excessive on \$250 than \$500. Similarly, the incremental expense of 2500 and 5000 miles was expected to appear both larger and more excessive on 25,000 than 50,000 miles. Therefore, when dollars were added to dollars and miles to miles, we expected a greater percentage of respondents to make the trip when the incremental cost was a relatively large percentage of the base cost. Otherwise, we expected no difference. Consequently, we predicted a main effect for ratio that would be qualified by an interaction with the promotion currency (i.e., whether the incremental cost was incommensurate). We also obtained all of the independent contrasts.

Analysis and Results

We analyzed the data within the original 2 × 2 × 2 design (initial eight cells) using the ANOVA categorical modeling procedure as in Study 1. The main effects for promotion currency and ratio and the interaction between promotion currency and ratio were all significant at $p < .001$ (see Table 5). We then replaced the conditions in which the surcharge was in dollars with the four additional cells in which the surcharge was 2500 miles and reanalyzed the data in a similar fashion. Base currency, which became redundant, was replaced with surcharge size (i.e., 2500 or 5000). The results are essentially identical (see Table 5), except for a main effect for surcharge, which indicates that people were generally more willing to travel to save 5000 than 2500 miles. Again, the interaction implies that the ratio mattered only when the surcharge was incommensurate.

Independent contrasts (see Table 4) reveal that more respondents were willing to travel 20 minutes to save 5000 miles on a 25,000-mile base cost than on a 50,000-mile base cost ($\chi^2 = 7.31, p = .0069$), and the same holds true for 2500 miles ($\chi^2 = 5.07, p = .0244$). Similarly, more respondents would make the trip to save \$50 on \$250 than on \$500 ($\chi^2 = 6.46, p = .011$). These results imply that people took a topical frame, replicating the jacket and calculator study in the domain of dollars and another currency (i.e., frequent flier miles) as well.

However, as predicted, these effects disappear when the currency of the incremental cost changes. Essentially the same number of respondents would travel 20 minutes to save \$50 on a base cost of 25,000 miles as 50,000 miles ($\chi^2 = .96, p = .326$). Likewise, saving 5000 miles on \$250 is no more appealing than saving the same amount on \$500 ($\chi^2 = .13, p = .7215$), and the same holds true for 2500 miles ($\chi^2 = .07, p = .7943$). By mixing currencies within the transaction, people are prompted to take a minimal perspective; they focus on the incremental cost in absolute terms, asking themselves if the amount is worth a 20-minute commute.

However, what may be most exciting for marketers is how changing the currency of the incremental cost can enhance or diminish the perceived value or size of the expense. For example, when the base cost was \$500, the proportion of subjects who were willing to make the trip to the airport when the incremental cost was 5000 miles (86%) was significantly larger than when it was \$50 (57%). This difference was highly significant ($\chi^2 = 6.46, p = .011$). Similarly, more subjects said they would make the trip to save \$50 (89%) than to save 5000 miles (51%) when the base cost was 50,000 miles ($\chi^2 = 9.99, p = .002$). Recall that subjects in this population reported valuing 5000 miles at approximately \$50. People apparently equate the two without any context, but the additional content in the scenarios changes this assessment. The \$50 seems less appealing (i.e., easier to give up) in relation to \$500, whereas the 5000 miles retain their value. Similarly, both the 2500 and 5000 miles are easier to give up in the context of spending 50,000 miles, whereas the \$50 retains its value.

Discussion

In Studies 1 and 2, we show how incommensurate resources can affect the perceived value of an incremental benefit and incremental cost. In Study 2, we have evidence that two different resources (i.e., \$50 and 5000 miles), which independently were perceived as equivalent, have different effects when included as an incremental cost based on the currency of the primary expense. This finding is particularly relevant for airlines and other firms (e.g., Milepoint.com) that allow consumers to exchange bundles of currencies (e.g., a mixture of money and miles) for various products and services. In Study 3, we test whether a premium, or incommensurate benefit, can be more effective in boosting sales than comparable cash discount, a commensurate benefit, in the real world.

STUDY 3

Method and Design

Study 3 provides an empirical test of the principle of incommensurate resources in a natural experiment conducted at a high-end, sole proprietor pet shop in a major West Coast city. The study incorporated a 2 (package size)

Table 6
STUDY 3: DESCRIPTION OF PET STORE PROMOTIONS

Size	Regular	Sale	Premium
Large (64-ounce)			
Offer		\$1.99 off (18%)	free can opener with purchase
Price	\$10.99	\$9.00	\$10.99
Small (26-ounce)			
Offer		\$1.99 off (28%)	free can opener with purchase
Price	\$6.99	\$5.00	\$6.99

2 (promotion type) full-factorial design. As part of the study, the store's management ran two different promotions at separate times over the course of three months on both the 64- and 26-ounce packages of Innova brand dog treats. Dog treats were chosen as the focal product primarily because they are a discretionary item. By way of comparison, pet owners typically buy food, flea powder, and other nondiscretionary products whether they are on promotion or not. In addition, dog treats were moderately selling items for which management believed variability in sales due to a promotion might easily be detected.

During each promotion, a sign at the product display touted a "Special Offer" and stated that the treats either (1) were on sale or (2) included a premium with every purchase made at the regular price. The promotion changed daily, and the order was counterbalanced. Table 6 summarizes the details of the different promotions. Each promotion ran for a total of 14 days, and the store provided approximately six months of sales data before the onset of the first promotional test period for both sizes. We used these data and data from the periods between promotions to provide a baseline for average daily sales. We expected the promotions to boost overall demand in general. In the sale condition, the price reduction (i.e., \$1.99) was an 18% reduction on the 64-ounce package and a 28% reduction on the 26-ounce package. Therefore, because of relativistic processing, we expected the cash discount to work better for the 26-ounce package than for the 64-ounce package.

In the premium condition, the sign at the product display read "Pet can opener free, now with every box, 4-lb. box for \$10.99" or "Pet can opener free, now with every bag, 26-ounce bag for \$6.99." The pet can openers were standard can openers molded with either a cat's or a dog's face on the handle, and the sign included a picture of the can opener in its original packaging. The can openers, normally priced at \$1.99 and still available for purchase at the store, were not displayed near the product or cash register but hung in an aisle with other such hardware. A sales clerk provided the premium to the customer at the time of purchase. This particular premium was chosen for several reasons. First, the \$1.99 price tag meant that anyone who purchased treats on a sale day could take their \$1.99 savings and purchase the can opener independently. In this fashion, the premium was not exclusive to the promotion, and its value was not enhanced by any perceived scarcity (e.g., Teeny Beanie Babies at McDonald's). Second, the retailer was trying to dispose of a large surplus of the can openers. Finally, in

pretests we found that this particular premium was perceived as utilitarian. We used Dhar and Wertenbroch's (2000) scale to survey respondents. None of the 35 shoppers viewed the can opener as purely hedonic, 71% rated it as purely functional, and 29% considered it both hedonic and utilitarian. We deliberately avoided using a purely hedonic premium for three reasons.

First, we feared that a hedonic premium awarded with dog treats, which we viewed as essentially hedonic, might moderate our attempt to make the benefits incommensurate. Second, a hedonic premium could have enhanced the deal by making the benefits congruent (Chandon, Wansink, and Laurent 2000). Third, people are often reluctant to purchase hedonic goods they deem difficult to justify. If this had been the case, the idea of receiving something they could not justify buying for themselves may have enhanced the attractiveness of the premium. Consequently, to prevent our effects from being confounded, we avoided using a frivolous premium (e.g., toys, rawhides).

On the basis of the list price of the can opener (i.e., \$1.99), a priori we expected the can opener to work as well as the \$1.99 discount in elevating sales for the 26-ounce (\$6.99) package of dog treats. Because we expected the effectiveness of the discount to weaken as the cost of the focal product grew (the proportion decreased), we expected the premium to surpass the discount in its effectiveness as a promotion in the large package (64-ounce) condition. We did not expect the effect on sales from offering the premium to differ across package sizes because the value of the premium would be viewed in absolute terms.

Analysis and Results

Figure 2 summarizes the daily sales for the dog treats. We analyzed the data using a general linear model with daily sales as the dependent variable. We included the type of promotion (i.e., none, sale, or premium) and package size (i.e., large and small) as independent variables. We included several additional variables in the model to test for any effects from temporal shopping patterns. Therefore, we included day of the week (Monday, Tuesday, and so forth), week of the month (first, second, and so forth), and month of the year.

Figure 2
EFFECT OF PACKAGE SIZE AND PROMOTION TYPE ON
SALES OF DOG TREATS

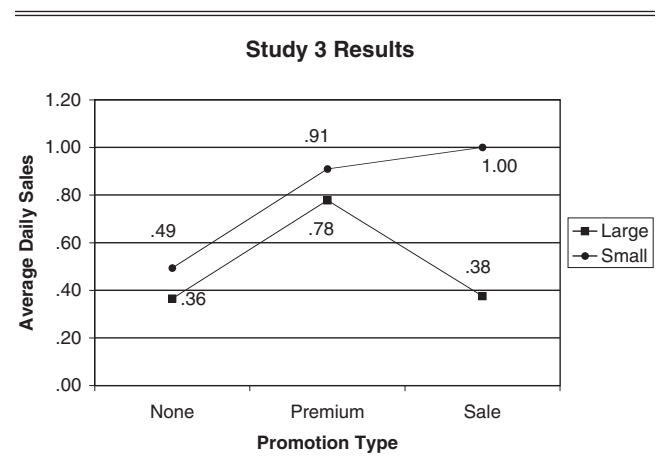


Table 7
STUDY 3: GENERALIZED LINEAR MODEL RESULTS

Source	Degrees of Freedom	Type I Sum of Squares	Mean Square	F Value	Pr > F
Model	24	20.75434193	.86476425	1.44	.0846
Error	462	278.36680797	.60252556		
Corrected total	486	299.12114990			
R-square		Coefficient Variation	RMSE		Sales Mean
.0693		167.26	.776225		.46406571

Source	Degrees of Freedom	Type III Sum of Squares	Mean Square	F Value	Pr > F
Month	9	8.21499023	.91277669	1.51	.1397
Week	4	1.74868902	.43717225	.73	.5748
Day	6	2.84702327	.47450388	.79	.5800
Type	3	5.24459064	1.74819688	2.90	.0346
Pack	1	4.04740530	4.04740530	6.72	.0098
Type Pack	1	.62529737	.62529737	1.04	.3089

Notes: RMSE = root mean square error.

The model found significant main effects for promotion type and package size, whereas none of the other measures (i.e., temporal shopping patterns) was significant (see Table 7). Given the amount of control data relative to test data (active promotions), it is not surprising that the interaction in the model was not significant, yet it was reassuring that there were no temporal shopping patterns evident with which to contend. The plot in Figure 2 illustrates how average daily sales varied within package size.

After running the general model, we recoded the data with dummy variables such that there were six separate types of events (i.e., the two promotions and a control group within each of the two size classifications). Performing the relevant independent contrasts revealed that the promotion using the premium led sales to be significantly higher than average (i.e., the control) in the large package condition ($F = 4.67, p < .031$), whereas the promotion using a discount did not ($F = .00, p < .958$). In the small package condition, both the discount ($F = 3.28, p < .071$) and the premium ($F = 3, p < .083$) led to significant increases in sales at the $p < .10$ level. Note that the average sales (i.e., sales when no promotions were running) of the large package was lower than average sales for the small package; this difference was also significant at the $p < .10$ level ($F = 2.98, p < .085$).

It appears that the premium was more effective than a discount within the large size package (64 ounces) and just as effective as a discount within the small size package (26 ounces), confirming our prediction. We believe that because the premium is delivered in an incommensurate currency (neither cash nor more product), its value is viewed in absolute terms, and its effect on sales did not change across package sizes. In contrast, promotions offering a cash discount struck the consumer as relatively generous when compared with the referent product in the small package condition (28% off), but this effect diminished in the large package condition (18% off).

Discussion

The results provide consistent directional support for our principal hypothesis. The incremental benefit delivered in the same currency (sale) was most effective when it was a relatively large proportion of the base price, but not as effective

when that proportion was relatively small. We manipulated the proportion in Study 3 by varying the price of the package (\$10.99 and \$6.99) and package size (64- and 26-ounce) while keeping the incremental benefit (\$1.99 off) constant. When the package was small and the discount large (28%), sales rose significantly. When the package was large, the same promotion (\$1.99 off) resulted in a small relative discount (18%), and sales failed to change significantly. Conversely, the effect of the premium (\$1.99 can opener) on sales was constant across price and size, increasing the average daily units sold in the small and large package conditions by equal amounts, .41 and .42, respectively. The increase in sales due to a premium was significant in both size categories, even though we cannot be certain about the precise value customers ascribed to the can opener. However, we can be certain that unlike the discount, the can openers cost the retailer less than \$1.99.

CONCLUSION

We have defined incommensurate resources as carriers of wealth or welfare that are difficult to convert into a singular currency or common unit of measure. The results from three experiments support the notion that making joint outcomes incommensurate can steer people away from viewing incremental costs or benefits in a relative sense (i.e., relativistic processing). Various promotions that marketers use (e.g., discounts, more product included free) may suffer from being viewed as incremental gains and diminish the value to the consumer by making the benefit appear small by comparison. As Studies 1 and 3 show, added benefits delivered in a different currency can help a promotion that might otherwise suffer by comparison retain more of its value and, thus, its allure. Conversely, in Study 2, added costs that are commensurate appear smaller in comparison and thereby less aversive.

The results from Study 1 specify two important boundary conditions. First, when the conversion is provided (i.e., one outcome is described in the units of measure of the other), an incommensurate benefit is in essence made commensurate, and people tend to rely on relativistic processing. Therefore, when sellers provide a list price or dollar value for a premium (externally generated), we would expect the

incremental change (i.e., promotion) to be viewed relative to the price paid. The second boundary condition pertains to whether consumers calculate a commensurate equivalent themselves (internally generated). When the conversion is easy to make or consumers are highly motivated to perform the conversion, consumers are more likely to see a change in relation to the referent outcome. For example, unlike the crystal vase mentioned previously (Figure 1), the dollar value of ten free gallons of gas is easily converted into dollars, as people typically monitor the current price of gas. Or, when considering spending \$40,000 for an automobile, consumers may make the effort to evaluate what free maintenance for four years might cost them in dollars.

One caveat for using ambiguously valued premiums may involve the use of items that people inherently value quite differently (e.g., art). Their valuations or estimates might be what Vickrey (1961) refers to as independent private values. In this case, buyers know the value of an item to themselves, but this value can differ widely across consumers. This is consistent with Ariely, Loewenstein, and Prelec's (2001) work that demonstrates that consumers' valuations may be surprisingly arbitrary, and consequently the perceived value of a premium for a consumer may be influenced by numerous extraneous factors. Rather than chance consumers' idiosyncratic valuations, sellers may want to use a premium that is likely to be valued similarly across the target population or at least valued at parity with what would be the competing discount. For example, rather than provide decorative items (e.g., an ornamental plate), perhaps sellers should provide staple items (e.g., aluminum foil), which might make better premiums. The difficulty is in selecting an item target consumers would value similarly, but for which the dollar value is not immediately transparent.

In addition, in some cases, people may actually avoid doing the conversion, especially when the value associated with a desired transaction makes little economic sense. For example, Thaler (1999) notes how for years the National Football League had problems motivating players to show up at the annual Pro Bowl. In 1980, by moving the game to Hawaii and including two first-class tickets with accommodations, the problem was solved.⁶ Yet a trip to Hawaii has a dollar value that is fairly easy to approximate and that most National Football League players could easily afford. The strong affective component probably leads players to avoid thinking about the financial value of the trip, knowing that if they did the conversion, the dollar amount would not justify accepting the offer. The effects of motivation and affect, as well as the hedonic versus utilitarian nature of a premium, are interesting issues for further research.

In Study 2, we demonstrate that relatively small incremental costs delivered in a different currency can seem larger and more egregious because they are not perceived as incremental. Given the increasingly common practice of combined currency pricing, or prices composed of payments delivered in more than one currency (Drèze and Nunes 2002), our results may have profound implications for managers at airlines and firms with significant reward programs (e.g., credit cards, hotels). Marketers might need to reassess

how they charge consumers when there is a possibility of buyers simultaneously paying in two or more incommensurate currencies. The popularity of alternative currencies created by loyalty programs such as frequent flier miles makes this an especially fruitful avenue for further research.

Study 3 highlights the idea that there may be times when the marketer wants to encourage relativistic processing. This would seem to be the case when an incremental gain, by proportion, is relatively large. Although we did not demonstrate how a relatively large commensurate benefit might outperform its incommensurate equivalent, we would expect a relatively large incremental gain to benefit from being made commensurate. Note that our results are not intended to be broadly generalizeable, as the effective level for " k " ($k = P/P$) is likely to differ on the basis of numerous variables including product class (e.g., cars versus consumer packaged goods), custom, geographic location, base price, and so forth. Individual sellers must recognize what a meaningful discount is in percentage terms in their environment and act accordingly. When a potential discount is likely to be perceived as relatively small, it may be more prudent to offer something difficult to view in relative terms—an incommensurate benefit. When it is relatively large, it may be wise to make the added benefit commensurate.

Our results have important implications for further research addressing the relationship between the cognitive processes at work here and the ones underlying Thaler's (1980, 1985) normative rules for hedonic editing. Although our results may be evocative of Thaler's silver lining principles, there are conceptual difference between the relativistic processing and integration explained previously. How and when people evaluate joint outcomes differently and whether they are truly integrated, with a net effect of $v(x - y)$, or simply bundled and subject to relativistic processing, $-v(-x)/v(-y)$, are issues worthy of further exploration. Moreover, Thaler and Johnson (1990) indicate that the notion of segregation and integration may not operate if an outcome is expressed in a different currency than the current decision. Acknowledging that people do not always spontaneously adhere to hedonic editing's normative rules, they speculate (p. 660) that "a prior outcome is less likely to have an effect if it were expressed in a different currency than the current decision."

This research has explored how people evaluate outcomes that involve different currencies and, as a result, differs from previous work on hedonic editing on several dimensions. First, rather than inducing segregation by temporally spacing a sequence of outcomes, the present studies induce separation by making the resources incommensurate, while offering and delivering the outcomes concurrently. Second, rather than reframing identical bundles of outcomes, we substitute an incommensurate cost or benefit for a commensurate one, which implicitly involves changing the bundle. Finally, although Thaler's (1980, 1985) outcomes all involve dollars, our effects extend to other currencies as well (e.g., frequent flier miles).

In addition, although the present studies examine how people process joint outcomes in the sales promotion context, the results may be readily extended to other areas of consumer decision making. For example, when consumers are introduced to a particular rewards program, it may matter in which currency the frequency of their consumption is measured: dollars, occasions, or points. When the action

⁶In 1998, under terms of the Collective Bargaining Agreement, each player on the winning team received \$25,000, and each player on the losing squad earned \$12,500.

required to receive a reward is expressed in terms of the number of points consumers need to earn, yet the reward is expressed in dollars, we expect similar effects to those documented here. Such results may tie this research back to notions of scale compatibility and may also be a fruitful avenue for further research.

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