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Research Note

Attention Arousal Through Price Partitioning

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Existing evidence suggests that preferences are affected by whether a price is presented as one all-inclusive expense or partitioned into a set of mandatory charges. To explain this phenomenon, we introduce a new mechanism whereby price partitioning affects a consumer's perception of the secondary (i.e., nonfocal) benefits derived from a transaction. Four experiments support the hypothesis that a partitioned price increases the amount of attention paid to secondary attributes tagged with distinct price components. Characteristics of the offered secondary attributes such as their perceived value, relative importance, and evaluability can therefore determine whether price partitioning stimulates or hinders demand. Beyond its descriptive and prescriptive implications, this theory contributes to the emerging notion that pricing can transform, as well as capture, the utility of an offer.

Key words: consumer behavior; pricing; price partitioning; attention; information processing; framing effects; multi-attribute utility

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Introduction

A common approach to evaluating consumer preferences is to assume that individuals have a utility function defined along multiple underlying product attributes or dimensions (Keeney and Raiffa 1993). Price information then enters the consumer choice process indirectly through the budget constraint or, as is customary in conjoint and logit analysis (e.g., Green and Rao 1971, McFadden 1974), directly as a separate observable attribute in the utility function. Either way, the convention is that the role of price is to index the cost of making a purchase. From the standpoint of the firm, price is supposed to capture rather than shape value.

Although this framework has been usefully applied to a variety of marketing problems, recent research on the psychological aspects of pricing suggests that the relationship between price and choice might be more complex than anticipated by standard economic principles (e.g., Winer 2005). In particular, a number of studies have shown that the way price information is presented can often influence perceptions of value (e.g., Anderson and Simester 2003, Dholakia and Simonson 2005, Heath et al. 1995, Prelec and Loewenstein 1998).

Consistent with this emerging view, this paper examines the effects of presenting a price either as one *all-inclusive* expense or *partitioned* into a set of mandatory charges. An online or catalog retailer might, for example, price DVDs at \$23.45 including shipping and handling, or at \$16.95 plus \$6.50 for the delivery service. One common intuition about price partitioning is that it makes transactions appear cheaper to consumers who have a tendency to discount or neglect smaller appended charges (Morwitz et al. 1998). A different point of view is that price partitioning should actually be avoided because consumers tend to perceive multiple prices as more punishing than a single price of equal amount (Thaler 1985). Although we acknowledge that changes in price format influence perceptions of costs, this research tests the additional hypothesis that a partitioned price can also increase the "depth" to which consumers analyze the various dimensions (benefits) of the offer. Our experiments show that participants presented with an all-inclusive price are likely to concentrate their evaluation on the *focal* attribute of the transaction (DVDs, groceries, movie tickets, etc.). A partitioned price, on the other hand, increases the amount of attention paid to *secondary* attributes (shipping and handling, scheduled delivery, advance booking, etc.), which in turn affects preference and choice.

Our argument rests on the straightforward notion that attention is selective at the point of purchase (Berlyne 1960, 1974; Kahneman 1973), and that the presence of multiple price tags can sensitize consumers to features they might otherwise overlook. We discuss this notion and its specific implications in the next two sections. We then report evidence from four experiments designed to test the unique predictions of our theory.

Background

The practice of price partitioning has become increasingly common. Instead of charging a simple, all-inclusive price, firms regularly post sets of mandatory charges attached to various attributes of an offer. Notably, this phenomenon is not limited to predictable settings such as Internet sites and catalogs. Today, one can also find furniture stores breaking out the cost of sofa pillows, hotels charging a separate fee for room keys, cable service companies itemizing the rental of set-top boxes and remote controls, and so on.¹ Many retailers treat each component of the transaction as a separate profit center (Schindler et al. 2005). There is also evidence of sellers trying to offset price competition on focal attributes with commensurate increases in the cost of secondary attributes (Daripa and Kapur 2001).

What are the effects of price partitioning on consumer behavior? In an influential paper, Morwitz et al. (1998) showed that price partitioning could *increase* demand because buyers tend to underestimate the total cost associated with multiple charges. Adopting an effort/accuracy framework (Johnson and Payne 1985, Shugan 1980), the authors identified three possible evaluation strategies that differ on how individual price components are weighted and combined. Their experiments revealed that many participants process partitioned prices by anchoring on the larger expense and adjusting insufficiently for the remainder (55% of cases) or by simply ignoring the additional surcharge (23% of cases).² According to Lee and Han (2002), consumers exposed to partitioned prices recall total costs that are approximately 8% lower than the actual amount.

¹ This trend is the subject of a number of articles that have appeared in the popular press, among them: Jennifer Bayot, "Fees Hidden in Plain Sight, Companies Add to Bottom Line," *New York Times*, 28 December 2002; Ellen Neuborne, "The Shipping Charge: Break It to Them Quickly," *BusinessWeek*, 29 October 2001; Anthony Orr, "E-Tailers Shifting to For-Profit Shipping to Bolster Bottom Line," *Chicago Tribune*, 17 June 2001; Gene Sloan, "Hotel Guests Hit with a Surfeit of Surcharges," *USA Today*, 15 August 2003; and Emily Thornton, "Fees! Fees! Fees!" *BusinessWeek*, 29 September 2003.

² The remaining 22% of participants used a mathematical calculation that, if executed correctly, leads to minimal price recall errors. Two factors that affect the choice of strategy are the effort required in each instance and the motivation to process prices accurately.

Further evidence of the positive impact of price partitioning on demand was provided by Hossain and Morgan (2006) in an online auction and Ayers and Nalebuff (2003) in the context of services. Xia and Monroe (2004) tested the moderating effect of type, amount, form, and number of surcharges. Importantly, they also proposed an alternative explanation, arguing that the act of breaking down an expense into separate components makes transactions more transparent, which in turn enhances consumers' perceptions of fairness, trustworthiness of the seller, and, consequently, likelihood of purchase.

A different stream of research, however, uses prospect theory's value function to suggest that price partitioning should *decrease* demand because multiple losses are generally more painful than a single loss of equal monetary value (Thaler 1985). Initial support for this mental accounting explanation was provided in the context of gambles (Thaler and Johnson 1990). Studies in the behavioral literature on bundling also found that listing the price of each bundle component magnified the disutility of paying (Drumwright 1992, Gaeth et al. 1990, Yadav and Monroe 1993).³ Similarly, Schindler et al. (2005) linked this view to perceptions of fairness and concluded that retailers should not itemize shipping charges when consumers feel that the expense is contributing to the seller's profits rather than simply covering incremental costs. Finally, although Lee and Han (2002) concentrated on brand and retailer attitudes rather than choice, their research showed that advertising a partitioned price often triggers negative affect, which, in turn, could degenerate into boycotting of the brand and damaging word-of-mouth.

On the whole, whereas these accounts are concerned exclusively with the impact of price partitioning on the perception of *expenses*, we propose that the perception of nonprice attributes, that is, of the *benefits* derived from the transaction, can also be affected. This new perspective complements existing research and leads to specific implications, chief among them that characteristics of the offered secondary attributes can determine whether price partitioning stimulates or hinders demand. Indeed, we show experimentally that a consumer's response to a partitioned price depends critically on such basic traits of secondary attributes as their perceived value (Experiments 1, 2,

³ A point of contention in the literature is whether price partitioning and bundling are different phenomena. According to Morwitz et al. (1998, p. 453), the former involves the division of prices of single products, the latter the collective pricing of distinct products, but others find this distinction irrelevant (Stremersch and Tellis 2002). We emphasize the framing effect of price presentation; bundles are usually offered at special price and therefore viewed as a vehicle for price discrimination (Schmalensee 1982).

and 3), relative importance (Experiment 3), and evaluability (Experiment 4). Prescriptively, our findings suggest that breaking down an expense can potentially stimulate demand by highlighting dimensions of differentiation that might otherwise go unnoticed. If, on the other hand, a supplier's strength lies with a focal attribute or the product offering is mediocre in terms of secondary attributes, then an all-inclusive price might be well advised.

Price Partitioning and Consumer Attention

Our argument builds on basic principles in the cognitive psychology of attention (Berlyne 1960, 1974; Fiske and Taylor 1991; Kahneman 1973). We assume that the various attributes of an offer represent multiple simultaneous stimuli that consumers process by exerting selective attention (Berlyne 1960, 1974), a well-documented phenomenon often encountered in extreme forms as when buyers ignore information that is readily available (Russo and Doshier 1983) or adopt myopic decision frames (Bettman et al. 1998). Selective attention is consistent with the notion of bounded rationality and the characterization of decision-making as a goal-directed process governed by trade-offs between cognitive effort and accuracy (Johnson and Payne 1985, Shugan 1980). It is also consistent with two of the evaluation strategies proposed by Morwitz et al. (1998), although it is important to remember that our research focuses on the effect of price partitioning on the elaboration of product benefits rather than price information.

When the posted price is all-inclusive, price presentation should have no specific impact on the relative salience of product attributes. Absent interference, we suggest that selective attention is guided by the consumer's goal and the relevance of each attribute to the task at hand (Fishburn 1974, Tversky 1972, Yadav 1994). This results in an *ex ante* separation of focal and secondary attributes, with focal attributes naturally receiving greater attention.

Price partitioning, in contrast, affects the process of selective attention because it highlights secondary attributes by tagging them with distinct price components. We argue that price components act as conditioned *indicating stimuli* that make these secondary attributes more salient and direct attention to their potential worth (or lack thereof) (Berlyne 1960). Indicating stimuli are signs that people have learned to associate with a need to re-focus their attention. Everyday examples of indicating stimuli include pointed fingers, signposts, alarms, sirens, and chapter headings. End-of-aisle or checkout displays and product labels (e.g., "new and improved") perform a similar function in marketing. Just as readers have learned

from experience that chapter headings are associated with distinct ideas that might deserve renewed attention, we argue consumers have learned that separate price tags indicate distinct goods calling for specific evaluation.⁴

Price Partitioning and Attribute Importance

Research on attention suggests that salience is correlated with importance in decision-making (Taylor and Thompson 1982). Therefore, considering that secondary attributes are initially less salient than focal attributes, we suggest that a shift from an all-inclusive to a partitioned price can increase the importance (weight) of secondary attributes in a consumer's overall evaluation of an offer. This reasoning is captured by our first hypothesis.

HYPOTHESIS 1. *The weight of a secondary attribute in the evaluation of an offer is greater when this attribute is associated with a distinct price component (i.e., when the price is partitioned) than when it is not (i.e., when the price is all-inclusive).*

Experiments 1, 2, and 3 test this central hypothesis by examining cases where the perceived value of secondary attributes is manipulated to be either positive or negative. If it is true that secondary attributes have a greater impact on evaluation when tagged with distinct price components, then a change from an all-inclusive to a partitioned price should *increase* demand in the first instance and *decrease* demand in the second. To test these specific predictions, we will use one-tailed planned contrasts that compare the participants' overall evaluations under the two price formats (Rosenthal and Rosnow 1991).

Two additional comments are in order with respect to Hypothesis 1. First, while previous studies have shown that price partitioning can be either beneficial or harmful for the seller, they did not propose a mechanism that could jointly accommodate both outcomes. In contrast, our experiments consider secondary attributes of both positive and negative perceived value because we intend to capture this duality. Second, if consumers tend to neglect a product's secondary attributes when the price is all-inclusive, then the perceived value (positive or negative) of such features should have little or no effect on demand. If observed, this "null" effect would further corroborate Hypothesis 1 and the general notion that

⁴ Note that if price partitioning is unusual in the category in which it is being used, another attention effect, occasioned by stimulus novelty, might be that the price is altogether more salient. Alternatively, stimulus complexity resulting from partitioning the price might engender an experience of uncertainty that might discourage purchase. While these situations are certainly plausible, our experiments focus on attention effects that influence the way consumers process the benefits derived from purchase.

changes in price format determine how consumers evaluate market offerings.

Moderating Effects

The key implication of a link between price partitioning, consumer attention, and attribute importance is that the effect of price partitioning on demand will ultimately depend on basic characteristics of the secondary attributes on offer. As discussed above, an obvious candidate characteristic is their perceived value: A partitioned price could presumably be used to highlight an attractive secondary feature and an all-inclusive price to conceal an unattractive one.

However, price components can function as indicating stimuli that arouse attention only if consumers tend to overlook secondary attributes in the first place—that is, if the distinction between focal and secondary attributes is meaningful. When other independent factors increase the salience of these neglected attributes, the effect of price partitioning should diminish (if not disappear). This contingency suggests that the relative importance of secondary attributes should play a moderating role:

HYPOTHESIS 2. The impact of price partitioning on the evaluation of an offer is diminished when distinct price components are associated with secondary attributes of greater relative importance.

Finally, while the impact of secondary benefits on evaluation is expected to increase under price partitioning, the magnitude of this effect might vary depending on how consumers integrate information from multiple attributes to form an overall assessment of the offer (Anderson 1971). One possibility is that consumers simply weigh benefits according to their relative monetary worth such that secondary features associated with (typically) small expenses are of little consequence with respect to final preferences. However, research on evaluation modes (Hsee et al. 1999) and cue validity (Mellers et al. 1992) demonstrated that the influence of an attribute is often related to its evaluability, that is, whether a consumer can assess the attribute's desirability with confidence (Hsee et al. 1999, Leclerc et al. 2005). In some cases, a highly evaluable secondary attribute brought to a consumer's attention by price partitioning can exert disproportionate influence in decision-making (Campanelli 2002, Lewis et al. 2006). In a recent study by consulting firm Ernst and Young, for example, 46% of consumers cited shipping charges as the biggest factor discouraging an online purchase and 42% of would-be customers abandoned shopping carts for this reason alone.⁵ This suggests that

a third characteristic of secondary attributes, their evaluability, is also needed to predict the eventual effect of price partitioning on demand. Accordingly, we propose:

HYPOTHESIS 3. Under price partitioning, the weight of a secondary attribute in the evaluation of an offer depends on the evaluability of that attribute: Consumers are expected to place greater emphasis on a secondary attribute that is comparatively easy to evaluate.

Experiment 1: Price Partitioning and Attribute Salience

Our first experiment was designed to test Hypothesis 1. The stimulus described a purchase situation in which participants were asked to choose between two air travel alternatives. The focal attribute was a one-way flight from Boston to San Juan; secondary attributes were in-flight entertainment and meal service. In a separate pretest, 46 participants ranked these dimensions in order of importance. As expected, airfare was the primary feature for the majority (74%, $\chi^2(1) = 10.52$, $p < 0.001$).⁶ The experiment itself used a 2 (Price Format: All-Inclusive, Partitioned) \times 2 (Perceived Value of Secondary Attributes: "Bad" Deal, "Good" Deal) full-factorial between-subjects design. A first option, Airline A, was held constant across conditions and described simply by its long travel time, two flight segments totaling seven hours and 49 minutes, and price of \$165. The second option, Airline B, offered a four hour and 15 minute non-stop flight plus in-flight entertainment and meal service at either the all-inclusive price of \$215 or a partitioned price of \$205 for the flight and \$10 for secondary attributes consisting of one episode of a sitcom and refreshments (Bad Deal condition) or six movie channels and a full-service meal (Good Deal condition).

The participants were asked, after reading their assigned scenario, to indicate their preference between airlines (1 = definitely Airline A, to 8 = definitely Airline B) and evaluate the overall attractiveness of each option (1 = very unattractive, to 7 = very attractive). To determine whether the perceived value of the secondary attributes was manipulated as intended, we also collected an attractiveness rating for the in-flight entertainment and meal service (−3 = very unattractive, to 3 = very attractive).

Participants

The participants ($n = 210$) were registered members of a subject pool managed by the research center of a large U.S. business school. We used this resource in all the experiments. At the time of the study, the

⁵ Ernst and Young (2000), "Global Online Retailing," <http://www.ey.com/global/content.nsf/International/Home>.

⁶ We used a one-tailed test in this and all other analyses where a directional prediction was made.

pool's population of 5,447 members was, on average, 61% female and 31 years of age. Eighty-seven percent of the members had completed undergraduate education or higher. The participants, selected at random and recruited via e-mail, were informed that the poll involved hypothetical purchase decisions, that there were no right or wrong answers, and that they should consider only their own preferences. Participation was voluntary, with a \$5 payment upon completion. The experiment was carried out online.

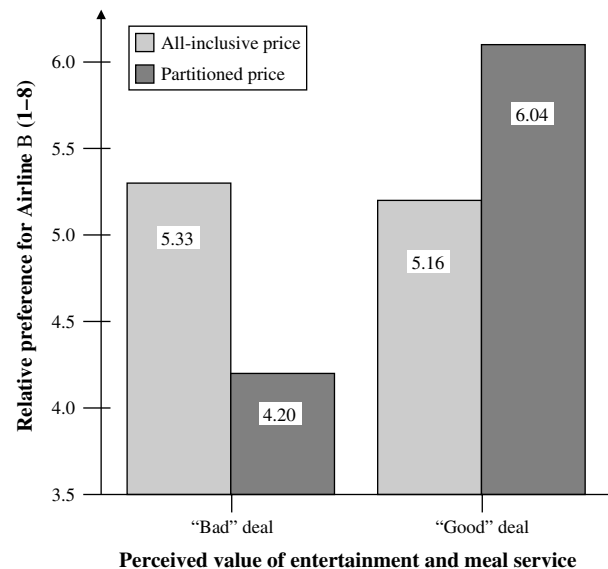
Results and Discussion

A preliminary analysis of variance (ANOVA) confirmed that participants rated the secondary attributes as more attractive in the Good Deal ($M_{\text{good deal}} = 0.91$) than in the Bad Deal ($M_{\text{bad deal}} = -0.17$; $F(1, 206) = 20.59$, $p < 0.001$) condition. Neither the main effect for Price Format nor the interaction between Perceived Value of Secondary Attributes and Price Format was significant.

We subsequently analyzed the participants' preferences in a 2×2 ANOVA with Price Format and Perceived Value of Secondary Attributes as between-subjects factors. This analysis revealed a significant main effect for Perceived Value of Secondary Attributes such that a better deal on in-flight entertainment and meal service increased purchase intentions for Airline B ($M_{\text{good deal}} = 5.57$ vs. $M_{\text{bad deal}} = 4.75$; $F(1, 208) = 6.67$, $p = 0.010$). More important, this effect was qualified by the expected interaction with Price Format ($F(1, 206) = 9.52$, $p = 0.002$). To support Hypothesis 1, the data should indicate that, relative to the all-inclusive price, the partitioned price *increased* preference for Airline B in the presence of a good deal on the secondary attributes, but *decreased* preference for Airline B in the presence of a bad deal. Planned contrasts yielded precisely this pattern of results (see Figure 1): Participants presented with six movie channels and a full-service meal were more likely to choose Airline B when the price was partitioned ($M_{\text{partitioned}} = 6.04$) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.16$; $t(101) = 1.99$, $p = 0.025$), but this effect was reversed when only a sitcom episode and refreshments were offered ($M_{\text{partitioned}} = 4.20$ vs. $M_{\text{all-inclusive}} = 5.33$; $t(105) = -2.37$, $p = 0.010$).

The ratings of overall attractiveness yielded similar results. A 2×2 ANOVA on the evaluation of the offer made by Airline B showed a main effect for Perceived Value of Secondary Attributes ($F(1, 208) = 4.19$, $p = 0.042$), qualified by the interaction with Price Format ($F(1, 206) = 5.88$, $p = 0.016$). Consistent with Hypothesis 1, the impact of Price Format was again found to be contingent on the attractiveness of the secondary attributes. Specifically, in the Good Deal condition, participants evaluated Airline B more favorably when the price was partitioned ($M_{\text{partitioned}} =$

Figure 1 Experiment 1: Effects of Price Format and Perceived Value of Secondary Attributes on the Evaluation of Air Travel Alternatives



5.79) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.29$; $t(101) = 1.79$, $p = 0.039$). However, in the Bad Deal condition, participants evaluated Airline B less favorably when the price was partitioned ($M_{\text{partitioned}} = 4.91$) than when it was all-inclusive ($M_{\text{all-inclusive}} = 5.37$; $t(105) = -1.68$, $p = 0.048$).

Note that both the preference ($M_{\text{good deal}} = 5.16$ vs. $M_{\text{bad deal}} = 5.33$; $t(105) = -0.32$, n.s.) and attractiveness ($M_{\text{good deal}} = 5.29$ vs. $M_{\text{bad deal}} = 5.37$; $t(105) = -0.25$, n.s.) responses of participants in the All-Inclusive condition were insensitive to changes in the secondary attributes offered by Airline B. As discussed earlier, this null result gives further support to the notion that changes in price format determine how consumers evaluate multiple attributes and, specifically, that all-inclusive prices fail to impact the process of selective attention.

One might argue that participants in the Partitioned condition paid undue attention to the secondary attributes not because of the way price was presented, but because these features were somehow perceived to be unusual. We should mention that at the end of the experiment we asked this subset of respondents two additional questions: whether they felt the partitioned price was atypical (1 = not at all typical, to 7 = very typical) and whether they believed airlines should always break down their prices to consumers (1 = strongly disagree, to 7 = strongly agree). Participants rated typicality near the midpoint of the scale ($M = 3.82$ vs. 4; $t(102) = -1.12$, n.s.) and did not express strong convictions concerning the way airlines ought to price their offers ($M = 3.74$ vs. 4; $t(102) = -1.31$, n.s.), which suggests that the impact

of surprise in these data is probably minimal. Furthermore, we should also mention that our results hold for more “conventional” attribute combinations as those used in Experiments 2 and 3 below.

These results complement the findings of earlier studies of price partitioning. The takeaway here is that price partitioning affects the processing of benefits *as well as* expenses: manipulating the Perceived Value of Secondary Attributes allows us to test the first relationship while holding constant (not rule out) the second. Existing evidence is often consistent with our explanation. For example, Xia and Monroe (2004) found that the type (shipping charge or tax) and amount (small or large) of a surcharge moderate the positive impact of price partitioning on demand, but both manipulations can also be viewed as variations in the Perceived Value of the Secondary Attribute. Similarly, Schindler et al. (2005) talk about “shipping-charges skepticism,” but perceptions of fairness and value are obviously related and it makes sense to think about price partitioning increasing the amount of attention paid to the commercial motives behind secondary attributes.

Experiment 2: Effect Robustness

Would informing participants that there is no objective difference between the all-inclusive and partitioned price eliminate the impact of Price Format? Experiment 2 offers an additional test of Hypothesis 1, while demonstrating the robustness of the effect even in cases where consumers are aware that the price format is being manipulated. Warning participants of the equivalence of two or more ways to present information is common practice in studies involving framing effects (Tversky and Kahneman 1981). For our purposes, it is important to remember that this procedure should also diminish the likelihood that the effect of price format (if any) is caused by errors in numerical processing.

The stimulus asked participants ($n = 85$) to compare two formats that could be used to present an online grocer’s prices to customers. An opening paragraph clearly informed participants that these formats were equivalent in terms of total expenditure. It was then explained via an example that the cost of a typical shopping basket (focal attribute) plus the cost of scheduling the delivery (secondary attribute, described in terms of “arranging a time slot for having the goods delivered”) could be framed either as one lump sum of \$95 (Format 1) or as separate charges of \$86 and \$9 (Format 2). A pretest confirmed that individuals ($n = 43$) perceived the shopping basket to be more important than the delivery service (74%, $\chi^2(1) = 10.34$, $p < 0.001$). The Perceived Value of the Secondary Attribute was manipulated

between subjects by offering a vague (eight-hour), firm-selected time slot for delivery during working hours (Bad Deal condition) or a specific (one-hour), customer-selected time slot for delivery any time during the week (Good Deal condition).

The participants were asked to indicate which of the two price formats made the offer look more appealing (1 = definitely Format 1, to 7 = definitely Format 2) and to rate their probability of purchase assuming the online grocer adopted each format (two questions; 1 = very low, to 7 = very high). They were also asked to evaluate the attractiveness of the delivery service (-3 = very unattractive, to 3 = very attractive) and to judge whether it is unusual for an online grocer to charge this component separately from the price of the shopping basket (1 = highly usual, to 7 = highly unusual).

Results and Discussion

A one-way ANOVA with Perceived Value of Secondary Attribute as the between-subjects factor confirmed that delivery scheduling was viewed more favorably when it represented a good deal ($M_{\text{good deal}} = 0.85$) than when it represented a bad deal ($M_{\text{bad deal}} = -0.66$; $t(83) = 4.39$, $p < 0.001$). We also established that pricing this attribute separately from the basket of groceries was not perceived to be unusual ($M = 3.81$ vs. 4; $t(84) = -0.87$, n.s.), which again suggested that any eventual result could not be attributed to the surprise factor discussed at the end of Experiment 1.

The main finding of this study is that the results of Experiment 1 generalize to situations in which individuals are conscious of the numerical equivalence of the two price formats. Instead of providing answers close to the indifference point on the scale, participants felt that the partitioned price made the offer look more appealing when the secondary attribute represented a good deal ($M = 4.66$ vs. 4; $t(40) = 2.35$, $p = 0.012$) and that the all-inclusive price made the offer look more appealing when the secondary attribute represented a bad deal ($M = 3.25$ vs. 4; $t(43) = -2.68$, $p = 0.005$). We further observed that varying the perceived value of the delivery service influences likelihood of purchase if the seller opts for a partitioned price ($M_{\text{good deal}} = 4.63$ vs. $M_{\text{bad deal}} = 4.05$; $t(83) = 2.00$, $p = 0.025$), but has no effect if an all-inclusive price is used instead ($M_{\text{good deal}} = 4.05$ vs. $M_{\text{bad deal}} = 4.16$; $t(83) = -0.31$, n.s.). This pattern of results is consistent with Hypothesis 1.

Experiment 3: Attribute Importance as a Moderating Effect

The main goal of Experiment 3 was to show that product evaluation becomes less sensitive to changes

in price format when differences in the salience of focal and secondary attributes are mitigated by other contextual factors (Hypothesis 2). If differences in evaluation across price formats are observed to diminish as secondary attributes gain importance for reasons independent of price format, then (1) the processing of nonprice dimensions very likely contributes to the effect of price partitioning, and (2) selective attention is a plausible explanation for why secondary attributes are overlooked under an all-inclusive price.

To address this issue, we extended the design of Experiment 1 to a 2 (Price Format: All-Inclusive, Partitioned) $\times 2$ (Perceived Value of Secondary Attribute: "Bad" Deal, "Good" Deal) $\times 2$ (Importance of Secondary Attribute: Low, High) full-factorial between-subjects design. Participants ($n = 339$) were shown a single scenario involving the purchase of a movie ticket (focal attribute) using a telephone booking service (secondary attribute). The transaction price was either all-inclusive \$10.25 or partitioned into \$8.75 for the ticket and \$1.50 for the booking service. The booking service in the Bad Deal condition required participants to queue at the box office to complete the transaction. In the Good Deal condition it allowed participants to skip the queue and use an automated ticket-dispensing machine. Finally, Importance of Secondary Attribute was manipulated by telling participants either that the movie had been screening for some weeks and the session was likely to be empty (Low condition), or that the movie was premiering that very night and the session was likely to be quite full (High condition).

In terms of dependent measures, participants were asked to rate the transaction (1 = very bad deal, to 9 = very good deal) and the probability of purchase (1 = very low, to 9 = very high). We also asked them to indicate whether they believed the offer represented a "good buy" (1 = strongly disagree, to 9 = strongly agree). To further test whether price format affected the amount of attention paid to the booking service, we posed the following question: "How much attention do you think you paid to the telephone booking service when you evaluated the overall offer? (1 = very little attention, to 7 = a lot of attention)." Finally, to check our manipulations we asked participants if they agreed with the statement: "I consider the booking service to be a central component of the offer" (1 = strongly disagree, to 7 = strongly agree) and, as in Experiments 1 and 2, to rate the attractiveness of this attribute (−3 = very unattractive, to 3 = very attractive).

Results and Discussion

We present first the results of the two manipulation checks. Separate three-way ANOVAs confirmed that participants were more likely to view the secondary

attribute as a central component of the offer in the High importance condition ($M_{\text{high}} = 4.79$) than in the Low importance condition ($M_{\text{low}} = 3.99$; $F(1, 337) = 15.98$, $p < 0.001$), and more attractive when it represented a good deal rather than a bad deal ($M_{\text{good deal}} = 0.85$ vs. $M_{\text{bad deal}} = -0.80$; $F(1, 337) = 73.55$, $p < 0.001$). The direction of both results was as expected, and no other main, two-way, or three-way effect was statistically significant.

Given the high correlation of responses to the main dependent measures (Cronbach's $\alpha = 0.88$), we decided to collapse these data into a single preference score by taking the average of the three numbers. The results of a $2 \times 2 \times 2$ ANOVA on this derived measure revealed a main effect for Perceived Value of Secondary Attribute ($F(1, 337) = 10.64$, $p = 0.001$) and a significant Perceived Value of Secondary Attribute by Price Format interaction ($F(1, 335) = 2.82$, $p = 0.094$). More important, both effects were qualified by the three-way interaction predicted by Hypothesis 2 ($F(1, 331) = 5.81$, $p = 0.016$).

The pattern of responses when the importance of the telephone booking service was low closely replicates that of the first experiment. Consistent with Hypothesis 1, changes in the perceived value of the secondary attribute had a greater impact on the overall assessment of the offer when the price was partitioned: A bad deal on the telephone booking service hurt preferences more under a partitioned price ($M_{\text{partitioned}} = 4.22$) than under an all-inclusive price ($M_{\text{all-inclusive}} = 4.93$; $t(79) = 1.76$, $p = 0.042$), but the effect reversed when this attribute was viewed as a good deal ($M_{\text{partitioned}} = 5.57$ vs. $M_{\text{all-inclusive}} = 4.62$; $t(95) = 2.38$, $p = 0.009$).

For the four conditions in which the importance of the booking service was high, however, the outcome was noticeably different. Under these conditions, the secondary attribute appeared to be taken into consideration in the overall assessment of the offer both when the price was partitioned and when it was all-inclusive. That we found no difference between price formats whether the booking service was perceived unfavorably ($M_{\text{partitioned}} = 4.58$ vs. $M_{\text{all-inclusive}} = 4.48$; $t(84) = 0.22$, n.s.) or favorably ($M_{\text{partitioned}} = 5.24$ vs. $M_{\text{all-inclusive}} = 5.43$; $t(84) = -0.50$, n.s.) suggests that price format no longer affects the evaluation process for attributes that are equally salient.

Our final analysis involved the subjective measure of attention. A three-way ANOVA revealed a main effect for Importance of Secondary Attribute ($F(1, 337) = 23.48$, $p < 0.001$) as well as a significant two-way interaction between this factor and Price Format ($F(1, 335) = 25.38$, $p < 0.001$). These were the only significant effects in the analysis. In the more common event that an attribute such as

the telephone booking service is relatively unimportant, presenting a partitioned price might be sufficient to induce heightened attention ($M_{\text{partitioned}} = 5.50$ vs. $M_{\text{all-inclusive}} = 3.64$; $t(331) = 7.38$, $p < 0.001$). If the attribute is important, however, price format might not have an effect ($M_{\text{partitioned}} = 5.47$ vs. $M_{\text{all-inclusive}} = 5.39$; $t(331) = 0.36$, n.s.). As expected, changes in the relevance of the secondary attribute had no effect on attention when the price was partitioned ($t(331) = 0.15$, n.s.) but had a significant effect when the price was all-inclusive ($t(331) = -6.46$, $p < 0.001$).

Experiment 4: The Impact of Attribute Evaluability

Hypothesis 3 predicts that preferences formed under price partitioning are biased toward attributes that buyers find easier to evaluate. To test this proposition in an experiment, we first had to resolve two issues: (1) how to infer attribute weights from participants' overall evaluations and (2) how to operationalize evaluability. We addressed the first issue by presenting participants with different partitions (or price "splits") of the same underlying expense. When the total cost of a transaction is held constant, any increase in the price of one attribute implies a decrease of equal magnitude in the price of the other attribute (assuming of course that there are only two attributes). Therefore, as long as preferences are sensitive to changes in partitioning, we can infer which specific attribute is driving the aggregate response by looking at the direction of this change.

The second issue was addressed by manipulating the range of prices participants were expected to consider when evaluating the offer. One factor known to influence evaluability is price expectations (Kalyanaram and Winer 1995, Urbany and Dickson 1991). In particular, when the range of acceptable prices for any given attribute is narrow (broad), consumers can decide with greater (lesser) confidence whether that feature is worth the associated price tag. Given our objective, we reasoned that the stimulus should feature a product category in which the range of acceptable prices for both the focal and secondary attribute was initially broad. From there, we would then manipulate evaluability by providing some participants with a narrow range of market prices for the focal attribute, the secondary attribute, or both.

Design and Procedure

The experiment employed a 3 (Price Split: +\$5/−\$5, Expected Price/Expected Price, −\$5/+\$5) × 4 (Increased Evaluability: Secondary Attribute Only, Focal Attribute Only, Neither Attribute, Both Attributes) full-factorial between-subjects design. Participants ($n = 531$) were provided with a purchase scenario

in which the focal attribute was a Christmas tree (expected price, EP = \$40) and the secondary attribute was netting (EP = \$6.50). These expected prices were elicited in a pretest ($n = 43$). The pretest also gave us the opportunity to confirm that consumers feel equally uncertain about the range of prices they find acceptable for each attribute ($M_{\text{tree}} = 1.70$ vs. $M_{\text{netting}} = 1.61$; $t(84) = 0.24$, n.s.).⁷

The first factor, Price Split, varied the way price was partitioned across three levels such that one condition used the expected attribute prices collected in the pretest and the other two conditions shifted allocation of the total expense by \$5 in favor of the focal or secondary attribute. The second factor, Increased Evaluability, was manipulated across four levels such that in one condition we provided no additional information while in the other three we included a narrow reference price range for Christmas trees (\$38 to \$42), netting (\$6 to \$7), or both. Note that marketing studies often use external price information to control price expectations (e.g., Heath et al. 1995). In the price partitioning literature, Schindler et al. (2005) found that reference prices were necessary for participants to respond to changes in price format. On this occasion, participants were told that they had learnt this information on their own. For instance, to increase the evaluability of the focal attribute, the stimulus included the following sentence: "From the research you conducted you found that the price of Christmas trees generally varies from \$38 to \$42."

Similar to Experiment 3, after reading the scenario participants were asked to rate the transaction (1 = very bad deal, to 9 = very good deal), the probability of purchase (1 = very low, to 9 = very high), and to indicate whether they believed the offer represented a "good buy" (1 = strongly disagree, to 9 = strongly agree). As a manipulation check, they were also asked to rate, for each attribute, how confident they would be making a purchase decision given the price shown in the stimulus (1 = not at all confident, to 9 = very confident).

Results and Discussion

To test whether attribute evaluability was manipulated as intended we ran a two-way ANOVA on the confidence level reported for each feature. As expected, for both Christmas tree and netting the

⁷ The pretest asked participants to estimate three market prices—maximum, minimum, and expected—for each attribute. Expected prices were rounded down to the nearest dollar value. Maximum and minimum prices provided an indication of the range of acceptable prices. To support comparisons of evaluability across attributes, we expressed each price range as a proportion of the expected price for that attribute (e.g., for the Christmas tree, $M = 1.70$ means that the range of acceptable prices is 1.70 times greater than the expected price).

only significant effect was for Increased Evaluability (Christmas tree: $F(3, 527) = 6.60$, $p < 0.001$; netting: $F(3, 527) = 8.59$, $p < 0.001$). Independent contrasts confirmed that including a reference price range for either attribute increased participants' confidence in their purchase decisions (Christmas tree: $M_{\text{present}} = 5.85$ vs. $M_{\text{not present}} = 4.98$; $t(527) = 4.28$, $p < 0.001$; netting: $M_{\text{present}} = 5.58$ vs. $M_{\text{not present}} = 4.57$; $t(527) = 5.08$, $p < 0.001$).

Given Hypothesis 3, holding the total expense constant, as the price of the secondary attribute gradually increases we would expect overall evaluations to:

(1) *Decrease*, if a reference price range is provided only for the secondary attribute (as the evaluability effect would draw attention to the increasing price of this feature);

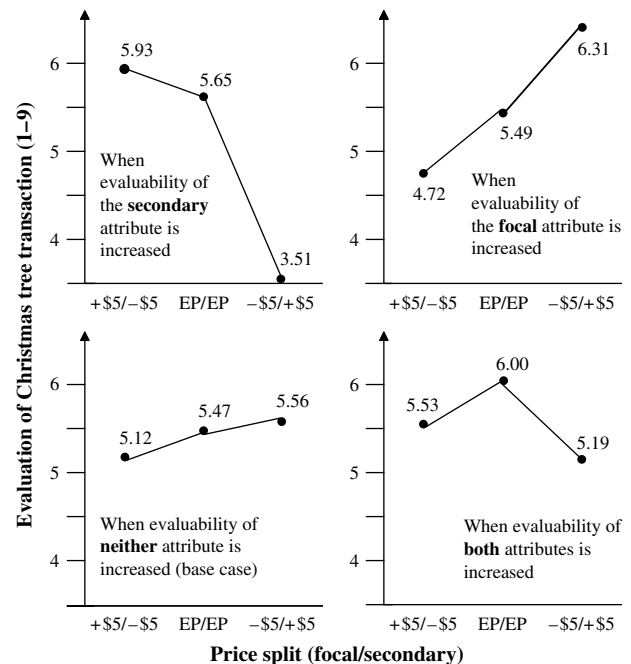
(2) *Increase*, if a reference price range is provided only for the focal attribute (as the evaluability effect would draw attention to the decreasing price of this feature); and

(3) *Remain constant*, if no reference price range is provided (as component prices would be equally difficult to evaluate across attributes).

We did not include a formal prediction for the fourth Increased Evaluability condition (reference price ranges provided for both attributes) because the final outcome will depend on factors other than evaluability, outside the scope of this paper. One possibility is that preferences will peak at expected prices. This inverted-U relationship would be consistent with prospect theory (Kahneman and Tversky 1979) and makes sense if we believe that (a) deviations from expected prices are perceived as a loss on one attribute and a gain on the other and (b) losses loom larger than gains.

The main results of the experiment are displayed in Figure 2. Similar to Experiment 3, we first collapsed the three preference measures into a single preference score by averaging the responses (Cronbach's $\alpha = 0.90$). Second, we tested each prediction by conducting separate trend analyses in the corresponding Increased Evaluability condition. Consistent with the first prediction, participants who received a reference price range only for netting evaluated the offer less favorably as the price of that attribute increased ($M_{+\$5/-\$5} = 5.93$, $M_{\text{EP/EP}} = 5.65$, and $M_{-\$5/+\$5} = 3.51$; $F(1, 136) = 30.35$, $p < 0.001$). Conversely, participants given a reference price range only for the Christmas tree evaluated the offer more favorably across the same Price Split conditions ($M_{+\$5/-\$5} = 4.72$, $M_{\text{EP/EP}} = 5.49$, and $M_{-\$5/+\$5} = 6.31$; $F(1, 123) = 17.46$, $p < 0.001$). Finally, no linear trend was observed in the absence of price information ($M_{+\$5/-\$5} = 5.12$, $M_{\text{EP/EP}} = 5.47$, and $M_{-\$5/+\$5} = 5.56$; $F(1, 140) = 1.20$, n.s.). These three distinct patterns of results are consistent with the notion that increasing the evaluability of an attribute

Figure 2 Experiment 4: Effects of Price Split and Increased Evaluability on the Evaluation of a Christmas Tree Transaction



through the manipulation of price expectations coincides with an increase in the perceptual weight of that attribute under price partitioning (Hypothesis 3). We also observed that a specific price range for both attributes did in fact produce an inverted-U relationship ($M_{+\$5/-\$5} = 5.53$, $M_{\text{EP/EP}} = 6.00$, and $M_{-\$5/+\$5} = 5.19$; $F(1, 128) = 2.99$, $p = 0.086$). Again, this result falls outside the scope of this research but nonetheless seems to be consistent with a prospect theory explanation.

General Discussion

This paper has introduced a new set of behavioral effects that result from price partitioning. We have shown that price format influences the amount of attention consumers invest in various product attributes: An all-inclusive price discourages a thorough assessment of the offer while a partitioned price sensitizes consumers to secondary attributes they might otherwise overlook. This new relationship complements prior research that focused solely on the effect of price partitioning on numerical processing. In most cases, we were able to rule out existing alternative explanations simply by manipulating factors that have no theoretical connection to the processing of price information (e.g., the perceived value of secondary attributes). In some instances, we also discussed how previous findings could be re-interpreted in terms of the link between price format and selective attention.

On the whole, our experiments support the hypothesis that alternative price formats exert a systematic effect on how consumers process secondary attributes such as shipping and handling, in-flight entertainment, telephone booking services, and so on. This effect generalizes to situations in which individuals are conscious of the logical equivalence of alternative price formats (Experiment 2). We were also able to demonstrate that the impact of price partitioning diminishes when the distinction between focal and secondary attributes is weakened by contextual factors that make these features equally important (Experiment 3). An additional moderating factor is the relative evaluability of attributes: secondary features that are relatively easy (difficult) to evaluate receive exaggerated (minimal) consideration under price partitioning (Experiment 4).

Although stimulating a deeper product assessment before purchase might seem desirable a priori, our last experiment showed that individuals sometimes place excessive emphasis on secondary features to which a price is assigned. In fact, spelling out what consumers “get” for their money through price partitioning might or might not be good business. If a product offering is mediocre in terms of secondary attributes, for example, firms might benefit by using all-inclusive prices to focus attention to the focal attribute. Conversely, firms that offer commoditized products might use price partitioning to capitalize on the attractiveness of secondary features and distract attention from any weakness in the main value proposition.

An important distinction between this research and earlier work is that an emphasis on perceived benefits (rather than expenses) can accommodate situations in which price partitioning benefits demand as well as situations in which price partitioning harms demand. This paper offers a new and distinct set of predictions that could not be formulated by approaches that view price-partitioning effects in terms of changes in the processing of price information.

We believe that in many commercial settings, secondary attributes are more frequently encountered and priced with less variance than focal attributes. For instance, shipping and handling is a requisite in most online or catalog transactions, and the cost associated with this service typically varies little across vendors. When such is the case, one can observe the paradoxical effect that a secondary attribute is neglected if price is all-inclusive but overemphasized if price is partitioned. As discussed, this is a plausible explanation for the much maligned “abandoned basket effect” that causes many online transactions to fall through once shipping charges are levied.

More broadly, our approach provides one example of how information processing theories and behavioral decision research can be brought together to

study marketing problems (see also Randall et al. 2007). Together with other researchers (Johar et al. 2006), we believe this to be a fruitful and interesting avenue for developing our understanding of consumer decision making. In the pricing domain, our studies suggest that price is not simply an independent cause of disutility, but also a determinant of the degree to which consumers assess product benefits. Our results are thus consistent with other recent efforts to show how price stimulates a change in tastes, preferences, and consumption behavior (Shiv et al. 2005, Wathieu and Bertini 2007). Finally, we would also like to point out this paper complements research on how consumers make inferences from firm behavior (e.g., Kahneman et al. 1986) by suggesting that price format might be an effective means of channeling a consumer’s attention from one type of attribute to another.

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