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Price Promotion for Emotional Impact

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Report Summary

A familiar concern with the use of price promotion is that it can exacerbate deal-seeking behaviors, creating consumers who are more calculated in their purchase decisions than otherwise may be the case. Aware of this possibility, some managers understandably fear that price promotion, though generally successful at lifting immediate sales, turns shopping into a dispassionate affair that dilutes the emotional connection between brand and customer and perhaps even accelerates the process of commoditization in a market.

Most of the research in marketing on price promotion presumes this calculated consumer, traditionally portraying a shopper whose objective is to maximize quality per dollar spent. In this calculus, a price promotion clearly improves the consumer's payoff, boosting the appeal of the discounted product relative to competition.

Aylin Aydinli and Marco Bertini present a different interpretation of the way consumers respond to price promotion, in particular with respect to product choice. This interpretation deviates from tradition in two important aspects. First, the authors assume that consumer purchase behavior is the outcome of separate cognitive and affective processes. Second, they argue that price promotions not only motivate action, but they also discourage deliberation. The intuition for this idea is straightforward: the prospect of paying a lower price with no corresponding change in quality, while certainly enticing, also reduces the consequences of making a bad decision. With less money at stake, the consumer is encouraged to economize on effortful thinking, effectively "dumbing down" the purchase encounter and allowing affect to play a large role in choice behavior.

The authors conducted six experiments to test this theory. Experiments 1 and 2 provide evidence of the phenomenon in choice as well as in valuation. They also demonstrate that price promotions mitigate deliberation. Experiments 3 and 4 test the underlying causal sequence by controlling in different ways a moderating variable that is conceptually linked to deliberation. Finally, experiments 5 and 6 study extensions of the basic phenomenon.

The results of the research speak primarily to the study of price promotion-induced brand switching and, in particular, the debate on the form and cause of asymmetric cross-price effects. More broadly, the possibility that price promotion elevates the relative standing of affect in product choice is an encouraging sign for the manager who fears a dilution of brand equity. The authors speculate that the emotional connection between brand and customer may not be in as much danger as assumed. They suggest that price reduction can open the door for firms to step in and reinvigorate interest in the more emotional aspects of their relation with customers.

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A familiar concern with the use of price promotion is that it can exacerbate deal-seeking behaviors, creating consumers who are more calculated in their purchase decisions than otherwise may be the case. Aware of this possibility, some managers understandably fear that price promotion, though generally successful at lifting immediate sales, turns shopping into a dispassionate affair that dilutes the emotional connection between brand and customer and perhaps even accelerates the process of commoditization in a market (Lodish and Mela 2007).

Most of the research in marketing on price promotion presumes this calculated consumer, traditionally portraying a shopper whose objective is to maximize quality per dollar spent (Blattberg and Neslin 1990). In this calculus, a price promotion clearly improves the consumer's payoff, boosting the appeal of the discounted product relative to competition.

Our objective in this paper is to present a different interpretation of the way consumers respond to price promotion, in particular with respect to product choice. This interpretation deviates from tradition in two important aspects. First, we assume that purchase behavior in general is the outcome of separate cognitive and affective processes. Though it is hard to imagine consumer phenomena that do not implicate both processes to some extent, affect is conspicuously absent from most studies of price promotion. Second, we argue that price promotions not only motivate action, but they also discourage deliberation. The intuition for this idea is straightforward: the prospect of paying a lower price with no corresponding change in quality, while certainly enticing, reduces the consequences of making a bad decision. With less money at stake, the consumer is encouraged to economize on effortful thinking by "shutting down" cognitive processes.

The next section reviews the relevant literatures and describes a theory linking these two statements to product choice. The theory posits that a drop in deliberation changes the relative weight of cognitive and affective processes in purchase decisions in favor of the latter, thereby also shifting the consumer's choice of product toward options with a strong affective component.

The sections that follow describe our empirical approach, report the experiments, and provide concluding remarks. Experiments 1 and 2 provide evidence of the phenomenon in choice as well as in valuation. They also demonstrate that price promotions mitigate deliberation. Experiments 3 and 4 use a moderation-of-process strategy to further test the underlying causal sequence (Spencer, Zanna, and Fong 2005). Essentially, these experiments control in different ways a moderating variable that is conceptually linked to deliberation. Finally, experiments 5

and 6 study extensions of the basic phenomenon. The conclusion discusses the implications of our findings, which speak primarily to the study of price promotion-induced brand switching and, in particular, the debate on the form and cause of asymmetric cross-price effects (Neslin 2002).

More broadly, the possibility that price promotion elevates the relative standing of affect in product choice is an encouraging sign for the manager who fears a dilution of brand equity. We speculate that the emotional connection between brand and customer may not be in as much danger as assumed.

A Dual-Process Interpretation of Price Promotion

Background and motivation

The idea that separate processes govern a person's behavior has strong roots among psychologists who consider that theories of multiple modes of reasoning better explain the complexity of individuals. The literature contains a rich discussion on the exact number and nature of these processes, as well as on the principles that guide their operations (Chaiken and Trope 1999). Yet, there is some consensus that models identifying two separate modes of reasoning yield useful insights with only a modest loss of parsimony. In particular, researchers often work with one of three classifications in mind, separating cognition from affect (Epstein 1994), reason from intuition (Kahneman 2003), or control from automaticity (Shiffrin and Schneider 1977). While these dualities are clearly related, our work focuses on the first.

Consistent with prior descriptions, we take the view that affective processes are automatic and constant, primed by default when a behavioral opportunity presents itself, while cognitive processes are characteristically more controlled and laborious. As a result, we expect affect to hold a certain primacy over behavior, with cognition playing a secondary, more corrective role that is activated selectively subject to effortful deliberation—that is, subject to the expenditure of attentional resources (Gilbert and Gill 2000; LeDoux 1996; Zajonc 1980, 1984).

For a variety of consumer phenomena, the idea that behavior combines cognition and affect is intuitive. For example, Rook (1987) applies this distinction to clarify the difference between planned and impulse purchases. A planned purchase is characterized by thoughtful evaluation, while an impulse purchase is spontaneous and immediate, resulting in an intense urge that has little regard for the consequences of spending. Babin, Darden, and Griffin (1994)

develop a scale intended to measure utilitarian and hedonic values in shopping events, portraying behavior as work or play, respectively. Bloch, Sherrell, and Ridgway (1986) distinguish between pre-purchase and ongoing search: the former is utilitarian in nature, directed, and extrinsically motivated, whereas the latter is more hedonic, non-directed, and extrinsically motivated. Finally, Shiv and Fedorikhin (1999) focus on the nature of the interaction between cognitive and affective processes, demonstrating that the two operate simultaneously and interactively, and importantly that affect can occur without the support of cognition, especially when the task at hand is not amenable to extensive deliberation.

Despite the track record of the cognition-affect duality in marketing, a manager seeking advice from scholars on the likely effects of price promotion is typically referred to models portraying a dispassionate consumer who tackles a utility maximization problem of when, what, and how much to buy (van Heerde, Leeflang, and Wittink 2004). The more psychologically rich accounts in the literature highlight different facets of a similarly calculated consumer, adding that price promotions can trigger inferences, expectations, and attributions that shape judgments of current and future prices (Alba et al. 1999; Lattin and Bucklin 1989), of product quality and efficacy (Raghubir and Corfman 1999; Shiv, Carmon, and Ariely 2005), and of fairness (Darke and Dahl 2008).

We share the opinion of some researchers that a broader perspective recognizing the role of affect in the appraisal of price promotions can generate additional insights (Chandon, Wansink, and Laurent 2000; Feinberg, Krishna, and Zhang 2002; Raghubir, Inman, and Grande 2004; Schindler 1998). Our paper is in part motivated by their observation. However, it is worth noting that these articles treat affect as the output of some established cognitive process, not as a separate input to behavior. For example, Schindler (1998) provides evidence that internal attributions of the discovery of price deals produce smart-shopper feelings that boost positive word-of-mouth. Chandon et al. (2000) propose that the search for better prices provides entertainment and exploration value. In Feinberg et al. (2002), consumers who learn of their exclusion from attractive deals experience negative emotions such as jealousy and betrayal that shape their purchase behaviors.

The theory we propose provides insight primarily into product choice. We are careful not to stretch our reasoning to other large components of the sales promotion bump such as category expansion or purchase acceleration (van Heerde et al. 2004)—though the results of one

experiment carry implications for the latter. Specific to product choice, marketing research offers several explanations for the observation that price promotion-induced brand switching is asymmetric for products at different price-quality positions in a market (Allenby and Rossi 1991; Blattberg and Wisniewski 1989; Bronnenberg and Wathieu 1996; Hardie, Johnson, and Fader 1993). We point to a source of asymmetry that is independent of such market structure, where the sales benefit of price promotion is related to the affective content of the product on offer, not to a general quality or price advantage.

Price promotion and consumer deliberation

One property that separates cognitive processes from affective processes is their relative demand on attentional resources. As indicated, cognition implies deliberation, which requires effort, while affect is relatively automatic and spontaneous. This distinction in turn suggests that factors tempering the motivation to allocate attentional resources to a task necessarily inhibit cognition but have no corresponding impact on affect, thereby increasing the likelihood that behaviors are based primarily on the latter (Baumeister and Vohs 2003; Fazio and Towles-Schwen 1999; Smith and DeCoster 2000).

A simple application of this reasoning provides the link to price promotion. Researchers in marketing are already familiar with the idea that consumers generally trade off the desire to make a correct choice and the desire to minimize effort when making purchase decisions (Johnson and Payne 1985; Payne 1982). Importantly, this trade off is context dependent, shaped in part by elements of the purchase environment (Johnson and Payne 1985). We suggest that price promotion is one such element, dissuading the consumer from effortful thinking. Specifically, firms typically use price promotion to incentivize behaviors in the market that presumably make them and consumers better off. Yet, the prospect of saving money also lowers the consequence of making an incorrect product decision, reducing the initial desire or need for accuracy. Given the lower stakes, the consumer “shuts down” thinking to economize on effort.

The literature offers at least two indications that price promotion and deliberation are causally related. The first sign comes from models and experiments that explore how different features of price can stimulate the appraisal of product benefits and impact behavior (Bertini and Wathieu 2008; Wathieu and Bertini 2007). We claim a similar relation, though the nature of our stimulus, a reduction in price, suggests an effect that is opposite in direction. The second sign

comes from the observation that price promotions prime the use of several decision heuristics (Inman, McAlister, and Hoyer 1990; Wansink, Kent, and Hoch 1998), and that heuristic processing in general results from a desire to minimize effort (Klein 1983).

If price promotions discourage deliberation, then the product choices of consumers buying at temporarily reduced prices should reflect a stronger influence of affective processes than those of consumers buying at regular prices. Perhaps the clearest way to observe this divergence is when consumers select among products that differ in affective content—similar to Shiv and Fedorikhin (1999). That is, the introduction of a price promotion should shift choice toward the product that performs best on the affective dimensions. This is the main prediction we sought to test in a series of experiments.

Empirical Approach

This section explains our approach to testing the theory. We start by highlighting key elements of the stimuli presented to participants, then overview the objectives and sequencing of the experiments, and conclude by discussing our plan to rule out alternative explanations.

Basic structure

There are four elements of the purchase scenarios that are worth noting. First, in all but one experiment participants were confronted with products differing in cognitive and affective content. We make continuous reference to these constructs, but the underlying operationalization involved several distinctions: instrumental/experiential (experiment 1), practical/pleasurable (experiment 2), highbrow/lowbrow (experiment 3), and utilitarian/hedonic (experiments 4 and 5). We adopted this variety to reflect and appeal to the breadth of classifications in the literature that build on the basic distinction between cognition and affect (Khan, Dhar, and Wertenbroch 2005).

Second, in the paper we talk mostly about the affective content of products because in the theory price promotion is expected to amplify the importance of this dimension. However, the experiments also vary the cognitive content of products to provide a counterbalancing force and avoid situations where one option clearly dominates the other(s). This approach allows us to draw conclusions about brand switching that differ from the extant explanations based on the price-quality positions of competing products (Neslin 2002). Third, the primary dependent measure is product choice, but in two experiments we also examine valuation (willingness to

pay). To the extent that willingness to pay is related to choice, these experiments offer a replication of the phenomenon with a complementary dependent variable. Fourth, we typically examine situations where the same price reduction applies to all products in the choice set. With this setup we hold relative prices constant and hence separate our phenomenon from the standard economic argument of price promotion.

Overview of experiments

Our empirical demonstration comprises six experiments organized in three sections. The experiments are grouped according to their objective(s) as follows. Experiments 1 and 2 test the predicted effect of price promotion on consumer choice. They also test for changes in deliberation by means of a recall task—an imperfect but commonly used indicator of cognitive activity (Eagly and Chaiken 1993). The two experiments manipulate a single independent variable, price promotion, to present participants with a regular price (the control condition) or a reduced price (the treatment condition). Importantly, while experiment 1 uses a standard choice problem, in the sense that participants simply selected and paid for one of two products, experiment 2 elicits willingness to pay for a series of products.

In the second section, experiments 3 and 4 use a moderation-of process approach to better understand the role of deliberation in the relation between price promotion and product choice. Moderation-of-process is recommended when a presumed mediating variable is difficult to measure but relatively easy to manipulate experimentally (Spencer et al. 2005), as is the case here. Recall that the effect of price promotion on deliberation is expected to vary depending on the consumer's motivation to allocate attentional resources to the purchase decision. The experiments adopt procedures established in the literature that control this motivation: a simple reminder to use cognition when completing the choice task (Pham et al. 2001, in experiment 3), and a comparison of individuals that inherently enjoy or avoid cognitive work (Cacioppo and Petty 1982, in experiment 4).

Experiments 5 and 6 study extensions of the basic phenomenon. The goal of experiment 5 is to contrast our “deliberation effect” of price promotion to the standard economic argument. To do this, we broaden the manipulation of price promotion to include two treatment conditions such that a price promotion is offered in turn on the affectively superior or cognitively superior option in a two-product choice set. While the economic argument is that the effectiveness of a

price promotion lies in the size of the incentive, our theory predicts that the type of product also matters. Finally, the goal of experiment 6 is to test for implications in other areas of the sales promotion bump. The literature on affective processing indicates that valuations are often characterized by a lack of sensitivity to the scope or magnitude of a stimulus (Hsee and Rottenstreich 2004). In our context, scope insensitivity implies that a consumer's willingness to pay should be responsive to the presence or absence of a product, but insensitive to further variations in quantity. Experiment 6 investigates this final prediction.

Alternative explanations

The idea that price promotions can “dumb down” a purchase by lowering its stakes is intuitive. Yet, there are two alternative explanations that might also explain the resulting effect on choice. One possibility is that price promotions act as a guilt-reducing mechanism, helping consumers justify the purchase of vice goods as prudent acts of saving money. Khan and Dhar (2010) and Mishra and Mishra (2011) show this idea in the context of bundling and price- versus quantity-based sales promotion, respectively. Alternatively, it could simply be the case that price promotions put shoppers in a good mood, and that this affective reaction is a stimulus to create a preference for affectively superior products (Heilman, Nakamoto, and Rao 2002; Naylor, Raghunathan, and Ramanathan 2006).

Our first reply to these two arguments is that it is unclear what predictions a justification or mood account can make with respect to the steps we take to measure and manipulate the mechanism in our theory. For instance, the literature on reason-based choice indicates that justifying a choice requires cognitive activity (Kivetz 1999), which suggests that price promotions should increase rather than decrease deliberation. Similarly, while positive mood has been shown to encourage heuristic processing (Schwarz and Clore 2007), the exact nature of the heuristic(s) and the impact on choice is not obvious.

A second factor to consider is that many of our stimuli avoid settings where consumers might feel the need to justify their behavior. Justification arises in the context of choice, and in particular when choice involves delicate tradeoffs—as is the case, for example, in the vice versus virtue paradigm typical of experiments in this area. However, in two experiments we present products individually and study valuation. Justification also implies finding unique explanations for a behavior, such as the possibility to save money if the hedonic product is purchased, but in

four experiments we manipulate price promotion such that the possibility to save money is the same for all products in the choice set. Third, experiment 6 tests for scope insensitivity, an effect that has no conceptual link to justification. Fourth, the articles that document mood effects in the context of sales promotion suggest that these affective reactions require a certain element of surprise to be impactful. This key characteristic is absent from the purchase scenarios we use. Finally, experiment 1 includes direct measures of justification and mood—though we acknowledge the limitations of drawing conclusions from null results.

Experiments 1 and 2: The Basic Effect

As indicated, experiments 1 and 2 share two main objectives. First, we want to demonstrate that price promotion shifts consumer choice toward the product with the strongest affective component. Experiment 1 tests this prediction in a simple binary choice task. Experiment 2 focuses on willingness to pay. Second, we want to show that price promotion reduces consumer deliberation.

Experiment 1: Binary choice

Participants. Participants ($n = 79$) were registered members of a subject pool managed by a business school in the United Kingdom. At the time of the experiment, this subject pool had 5,098 active members, of which 62% were female and 81% were completing undergraduate education. The median age was 24 years old. Participants were recruited via e-mail and assigned at random to one of two experimental conditions. They were informed that the research examined the role of product information on choice, that there were no right or wrong answers to the questions, and that they should rely exclusively on their preferences when responding. Participation was voluntary, compensated by a £10 payment on completion plus an additional £2, paid up front, to compensate for the purchase they would make. The experiment was grouped with several unrelated tasks to fill a one-hour laboratory session.

Design and procedure. The experiment manipulates one factor, price promotion, across two levels: regular price or reduced price. Upon arrival to the laboratory, participants were directed to one of two rooms and asked to approach a table displaying a Snickers candy bar and a Nature Valley granola bar. A label and a fact sheet flanked each product. The labels indicate the brand names and retail prices of the products. In the reduced price condition, the labels also

include a “50% off” caption and the resulting new prices. Note that the candy bar and the granola bar were priced the same at £0.80 or £0.40, depending on the experimental condition. The fact sheets provide a general description of the products plus details on country of origin, manufacturer, ingredients, possible allergies, serving size, calories, total fat content, and saturated fat content. Participants were instructed to examine the two products and study the information before them. They were allowed as much time as needed. When appropriate consent, the experimenter removed the fact sheets.

Pre-test. A pre-test ($n = 10$) indicates that, compared to the granola bar, the candy bar is perceived to be more impulsive ($M = 1.90$ vs. $M = 4.60$; $t(9) = -5.01$, $p = .001$; where 1 = “impulsive purchase,” and 7 = “planned purchase”), more hedonic ($M = 5.80$ vs. $M = 4.00$; $t(9) = 3.52$, $p = .007$; where 1 = “not at all hedonic,” and 7 = “extremely hedonic”), less healthy ($M = 1.40$ vs. $M = 4.30$; $t(9) = -8.33$, $p < .001$; where 1 = “unhealthy,” and 7 = “healthy”), and less utilitarian ($M = 2.00$ vs. $M = 4.20$; $t(9) = -6.74$, $p < .001$; where 1 = “not at all utilitarian,” and 7 = “extremely utilitarian”). In the literature, these aspects measure whether products are consumed primarily for instrumental or experiential purposes (Khan et al. 2005), which we relate to cognitive and affective dimensions, respectively.

Measures. The first task of participants was to purchase one unit of the preferred product. Next, participants received versions of the fact sheets with missing entries for country of origin, possible allergies, calories, and total fat content. They were asked to recall these data (four entries for each product, eight entries in total), and we use the number of features recalled correctly as a measure of deliberation (Eagly and Chaiken 1993). Third, we assessed health consciousness (1 = “not at all health conscious,” and 7 = “extremely health conscious”) and liking for the Snickers and Nature Valley brands (separate 1 = “not at all,” and 7 = “very much” scales). Fourth, we administered a manipulation check. The manipulation check is simply the correct recall of the size of the price promotion. Four participants failed this basic test and their responses were excluded from all analyses. Fifth, we collected measures of justification and mood. For justification, we asked participants to judge the extent to which they felt guilty when making the purchase (1 = “not at all guilty,” and 7 = “extremely guilty”). This is one of the measures used by Mishra and Mishra (2011). Mood was measured with five seven-point scales, adopted from Pham (1998), capturing the participants’ current feelings (depressed/cheerful,

sad/joyful, annoyed/pleased, unhappy/happy, and in a bad mood/in a good mood; Cronbach's $\alpha = .93$).

Results. A binary logistic regression of product choice on price promotion, health consciousness, and the two brand liking measures shows the expected significant effect of price promotion: Wald $\chi^2(1) = 7.02$, $p = .008$. The probability of buying the affectively (experientially) superior but cognitively (instrumentally) inferior candy bar is higher in the presence of a price promotion (.52) than in its absence (.40), with the share of this product increasing from 44.7% to 54.1% when the price of the products is reduced from £0.80 to £0.40.

Participants were asked to recall up to eight details from the fact sheets. We use this measure as a proxy for deliberation. Again as anticipated, recall in the reduced price condition was significantly lower ($M = 2.62$) than in the regular price condition ($M = 3.50$, $F(1, 73) = -5.33$, $p = .024$). Furthermore, a 2 (price promotion) \times 2 (product choice) analysis of variance (ANOVA) shows no significant interaction ($p = .496$), suggesting that the drop in deliberation triggered by the price promotion was not influenced by the specific choice of product.

Overall, we found initial support for our theory at the effect level and at the process level. Further analyses are inconclusive with respect to justification and mood. We observe that the manipulation of price promotion did not impact the participants' general perception of guilt ($p = .480$). The price promotion by product choice interaction term in a two-way ANOVA is marginally significant ($F(1, 71) = 3.77$, $p = .056$), but additional tests reveal that participants who chose the candy bar actually felt marginally more guilty in reduced price condition than the regular price condition ($F(1, 71) = 2.88$, $p = .094$), and participants who chose the granola bar reported similar levels of guilt irrespective of the experimental condition ($p = .300$). Finally, we observe no significant differences in mood ($p = .334$), suggesting that the shift in choice is not caused by an affective reaction to the price promotion.

Experiment 2: Willingness to pay

Participants. Participants ($n = 97$) were recruited from Amazon's Mechanical Turk marketplace to complete a short online survey. They were assigned at random to one of two experimental conditions and informed that the research examined attitudes for everyday consumer goods. Participants were paid the conventional fee for their contribution.

Design and procedure. The experiment presented 10 product-price combinations in random order: balloons (\$2.40), batteries (\$5.00), a candy bar (\$0.80), dishwashing liquid (\$3.00), a granola bar (\$1.00), ice tea (\$1.00), playing cards (\$9.00), a scented candle (\$6.50), scissors (\$4.70), and toothpaste (\$4.00). The participants' task was to provide monetary valuations for each of the 10 goods. In the regular price condition, the specific instruction is "type the maximum amount (in \$) you are prepared to pay the seller to purchase one unit of each product." In the reduced price condition, participants were first told that the seller is currently running a price promotion and then instructed to "type the minimum reduction (in \$) from retail price the seller needs to offer to convince you to purchase one unit of each product."

Pre-test. Fifty-five additional participants were asked to rate several products on the extent to which their purchase provides practical benefits (1 = "no practical benefits," and 7 = "a lot of practical benefits") and pleasure and fun (1 = "no pleasure or fun," and 7 = "a lot of pleasure and fun") (Sela, Berger, and Liu 2008). These scales capture the cognitive and affective content of products, respectively. From the broader list we selected 10 items that together provide a broad range of values (practical benefits: min. = 1.93, max. = 5.72, M = 3.96, STD = 1.27; pleasure and fun: min. = 2.20, max. = 6.23, M = 4.30, STD = 1.61).

Measures. The key measure of course is willingness to pay. Participants were also asked to recall the brand names of four products and the package color of two products. We use recall as a proxy for deliberation, as we do in experiment 1. Finally, we administered the same scales used in the pre-test.

Results. To draw a meaningful comparison across experimental conditions we first convert each willingness to pay estimate into a percentage reduction from retail price. These new values range from 0% (retail price) to 100% (zero price). We ran a fixed-effects regression with percentage reduction as dependent measure and price promotion, cognitive content (practical benefits), affective content (pleasure and fun), and the interactions between price promotion and each content rating as independent measures. Price promotion is a dummy-coded variable capturing our experimental manipulation. The results of the regression show a main effect of cognitive content: $\beta = -2.44$, $p < .001$. Importantly, the coefficient of the two-way interaction between price promotion and affective content is significant and negative: $\beta = -2.00$, $p = .035$, suggesting that participants demanded a smaller reduction in price—that is, they were willing to pay more—for products featuring a stronger affective component in the presence of a price

promotion, but not in its absence, controlling for cognitive content. If we assume that willingness to pay and choice are positively related, then this result is consistent with our theory.

In terms of process, we compare recall performance as a function of price promotion condition. As already seen in experiment 1, participants in the reduced price condition recalled less information ($M = 3.85$, out of six possible features) than participants in the regular price condition ($M = 4.45$, $F(1, 95) = -4.06$, $p = .047$).

Experiments 3 and 4: Moderation of Process

The goal of this section is to further test the causal sequence proposed by the theory. We follow a moderation-of-process strategy (Spencer et al. 2005) in which Experiments 3 and 4 control the motivation to allocate attentional resources, the moderating variable that is conceptually linked to deliberation. In Experiment 3, we increase this motivation simply by instructing one group of participants to use cognition when deciding—an intervention consistent with the procedure used by Pham et al. (2001) for a similar purpose. In Experiment 4, we rely on individual differences in need-for-cognition (NFC; Cacioppo and Petty 1982), anticipating a weaker effect of price promotion for high NFC participants.

Experiment 3: Inducing cognitive processing

Participants. Participants ($n = 111$) were recruited from Amazon's Mechanical Turk marketplace to complete a short online survey. They were assigned at random to one of four experimental conditions and informed that the research examined consumer decision-making. Participants were paid the conventional fee for their contribution.

Design and procedure. The experiment follows a 2 (price promotion: regular price or reduced price) \times 2 (decision process: unspecified or cognitive) design. The stimulus describes the use of a fictitious online DVD rental service called ABC Films. Participants were asked to take the perspective of a customer of ABC Films who is required to create a viewing list of 10 movies. They are first explained what the service entails and how it works. Next, participants read that the company sells packages representing different levels of service, and that their preference is for the package that allows customers to rent three DVDs at a time for \$14.00/month.

At this point, one group of participants was further told that ABC Films is trying to boost subscriptions with a price promotion to new customers for 50% off the regular price for three

months. The other group proceeded directly to the final section of the stimulus, which provides information on a sample of 20 movies in ABC Films' library. All participants were asked to study this information carefully, and we recorded the time spent on this section as a proxy for deliberation. The 20 movies, which are described by title, cover image, year of release, and synopsis, are presented separately and in random order. Importantly, the sample contains an equal number of so-called highbrow and lowbrow movies.

Pre-test. We populated ABC Films' library on the basis of a pre-test ($n = 15$) intended to differentiate between movies on a seven-point highbrow/lowbrow scale (1 = "highbrow movie," and 7 = "lowbrow movie"). According to the literature, a highbrow movie is "one that someone would feel compelled to watch. This might be because the movie is expected to improve the viewer in some way—intellectually, socially, or otherwise," while a lowbrow movie is "one that someone would choose to see for the pure enjoyment of it. The decision to watch a lowbrow movie is indulgent and pleasure-based." These definitions, which we adapted from Milkman, Rogers, and Bazerman (2009), are consistent with our use of cognition and affect, respectively. The 10 movies we judged as highbrow all received lower ratings than did those we judged as lowbrow, and the mean difference in ratings across groups is statistically significant: $M = 3.18$ vs. $M = 6.59$; $t(18) = 9.9$, $p < .001$.

Measures. The primary task in the experiment is the choice of 10 movies (from the sample of 20) to include in the viewing list. One group of participants was asked directly to create the list, while the other group was first instructed: "While creating your list, please focus on reason and logical arguments about watching each DVD. Try to be analytical. We have found that people's responses are better when they just make their decisions based on reason and logic." This instruction has been shown to induce a cognitive decision process (Pham et al. 2001).

The measures of interest then are the percentage and average rank of lowbrow movies in the viewing list, which are two ways to gauge choice of the affectively superior options. As mentioned, we also recorded the time spent on the movies information section. We identified two participants with standard scores for time spent greater than an absolute value of 3 and omitted their data from all analyses.

Results. Separate full-factorial ANOVAs with percentage of lowbrow movies selected or their average rank as dependent variable and price promotion and decision process as independent variables show the anticipated price promotion by decision process interactions: $F(1,$

105) = 5.77, $p = .018$) and $F(1, 105) = 4.78$, $p = .031$) for the two measures, respectively. None of the main effects in the two analyses reaches statistical significance (p -values $\geq .165$).

We highlight one element of these interactions that support the objective of the experiment. Starting with the selection measure, participants chose more affectively superior (lowbrow) movies in the presence of the price promotion than in its absence when the decision process was unspecified ($M = 55.33\%$ vs. $M = 42.73\%$; $F(1, 105) = 6.84$, $p = .010$), but not when the decision process was cognitive ($p = .466$). We see a similar result with the rank measure, though the effect in the unspecified decision process condition is only directional ($M = 5.40$ vs. $M = 5.93$, $p = .175$ —lower scores imply a higher average ranking for the affectively superior movies), and the price promotion actually decreases rank marginally in the cognitive decision process condition: $M = 6.03$ vs. $M = 5.38$; $F(1, 105) = 3.02$, $p = .085$.

Therefore, it appears that reminding people to rely on cognition in the choice task restores deliberation, counteracting the effect of the price promotion, and halts the shift in relative preference toward the affectively superior movies. A comparison of time spent provides further evidence in favor of this explanation: participants in the reduced price condition spent less time studying the sample of 20 movies ($M = 186.44$ seconds) than participants in the regular price condition ($M = 248.29$, $F(1, 107) = -4.97$, $p = .028$).

Experiment 4: Need for cognition

Participants. The sample for this experiment comprises 92 graduate students enrolled in a master of business administration program at a business school in the United Kingdom. At the time of the study, the average age of participants was 34 years old. Participants were recruited via e-mail and assigned at random to one of two experimental conditions. They were informed that the research examined consumer behavior in general, that there were no right or wrong answers to the questions, and that they should rely exclusively on their preferences when responding. Participants were not compensated for their time. The experiment was conducted online.

Design and procedure. The stimulus describes the possible purchase of a weeklong holiday in Jimbaran Bay, Bali (Indonesia). Participants were asked to consider the choice of accommodation. They were presented with two rooms at competing resorts recommended by the travel agent. They were told that the rooms were similarly priced, without providing actual prices.

To assist the decision, participants were referred to a table describing each option on four attributes: distance from room to beach and restaurants, room size, view from room, and design of room. Note that distance and size are intended to be more cognitive in nature, while view and design are intended to be more affective. Room B is constructed to be cognitively inferior but affectively superior to Room A, based on the attribute levels selected.

The experiment manipulates one factor, price promotion, across two levels: regular price or reduced price. Participants in the reduced price condition read that, for a limited time only, the travel agent offers accommodation at the two resorts at 30% off the regular price. They then saw an image of the voucher for this price promotion. Participants in the regular price condition proceeded directly to the measures.

Pre-test. We recruited 26 participants to pre-test the specifications of Room A and Room B. They studied the same table used in the experiment and completed four tasks. First, participants read the definitions of utilitarian and hedonic goods developed by Dhar and Wertenbroch (2000), which reflect cognitive and affective components, respectively. Second, they rated the four room attributes on separate 1 (“utilitarian”) to 9 (“hedonic”) scales. The scale, also developed by Dhar and Wertenbroch (2000), treats utilitarianism and hedonism as opposite equivalents. An exploratory factor analysis of these ratings with varimax rotation shows two orthogonal factors (71.37% of variation explained), one consisting of distance and size, the other consisting of view and design. Third, participants allocated 100 points to capture the relative importance of the attributes when choosing an accommodation. The utilitarian attributes were perceived to be marginally more important than the hedonic attributes: $M = 55.4$ vs. $M = 44.6$; $t(25) = 1.73$, $p = .096$. Fourth, they indicated the room they believed is superior on the utilitarian attributes but inferior on the hedonic attributes, and vice versa. Most of the participants classified the two rooms as intended (86.7% and 76.7%, respectively).

Measures. The primary measure in the experiment is relative preference. Specifically, participants used a sliding scale ranging from 0 (“strongly prefer Room A”) to 100 (“strongly prefer Room B”) to indicate which of the two accommodations they favored, and to what extent. They then completed the five-item reduced version of the NFC scale, as adopted by Epstein et al. (1996) (“I don’t like to have to do a lot of thinking,” “I try to avoid situations that require thinking in depth about something,” “I prefer to do something that challenges my thinking abilities rather than something that requires little thought,” “I prefer complex to simple problems,”

and “thinking hard and for a long time about something gives me little satisfaction;” where 1 = “completely false,” and 5 = “completely true;” Cronbach’s $\alpha = .72$). We identified three participants with standard scores for NFC greater than an absolute value of 3 and omitted their data from all analyses. Finally, we administered a manipulation check, asking participants to rate the room attributes on a 10-point utilitarian-hedonic scale similar to the one used in the pre-test.

Results. Consistent with the results of the pre-test, participants viewed distance and size as cognitive (utilitarian) attributes ($M = 2.72$, $t(88) = -12.72$, $p < .001$; $M = 3.79$, $t(88) = -5.39$, $p < .001$; respectively) and view and design as affective (hedonic) attributes ($M = 8.55$, $t(88) = 20.36$, $p < .001$; $M = 7.84$, $t(88) = 13.93$, $p < .001$; respectively), when compared to the neutral point of the scale. Moreover, a paired-sample t-test shows that the average of the two affective attributes is significantly different from the average of the two cognitive attributes: $M = 8.19$ vs. $M = 3.25$; $t(88) = 20.77$, $p < .001$. Critically, there is no effect of price promotion on any of these ratings (p -values $\geq .096$).

We ran a moderated regression with relative preference as dependent measure and NFC, price promotion, and the corresponding two-way interaction as independent measures. The variable NFC represents the mean-centered composite scores from the five scale items, while the variable price promotion is contrast-coded to capture our experimental manipulation. The results of the regression show a main effect of NFC ($\beta = -.32$, $p = .002$) and a simple effect of price promotion ($\beta = .21$, $p = .036$), the latter replicating the main finding in earlier experiments. Importantly, the coefficient of the two-way interaction is significant and negative as expected: $\beta = -.26$, $p = .013$. We plot estimated means at three values of NFC in figure 1. (Figure follows References.)

To better understand this interaction, we first examine the slopes of NFC at each level of a dummy variable for whether the price promotion is offered or not. The slope of NFC is significant and negative in the reduced price condition ($\beta = -20.69$, $p = .001$), but not in the regular price condition ($p = .618$). Next, spotlight analyses at one standard deviation above and below the mean of NFC show a significant difference across price promotion conditions for low NFC participants but not for high NFC participants. Participants with high NFC are generally motivated to deliberate. For them, the inclusion of a price promotion had no effect on relative preference ($p = .737$), presumably because this intervention was not sufficient to inhibit thinking.

Participants with low NFC, however, are comparatively less motivated. For them, the inclusion of a price promotion increased the appeal of the affectively superior Room B at the expense of the cognitively superior Room A: $\beta = .47, p < .001$.

Experiments 5 and 6: Extensions

Experiments 5 and 6 study two extensions of the basic phenomenon. First, we are interested in understanding the “strength” of our deliberation effect of price promotion relative to the standard economic argument. The previous experiments presented price promotions that applied to all products in a choice set, thus neutralizing the economic impact. Experiment 5 uses a design that allows us to compare the two effects. Second, we want to examine the implications of our theory outside of product choice. In particular, experiment 6 tests the idea that affective processing triggers scope insensitivity (Hsee and Rottenstreich 2004) by asking participants to evaluate multiple quantities of a product.

Experiment 5: Money versus thinking

Participants. Participants ($n = 154$) were recruited from Amazon’s Mechanical Turk marketplace to complete a short online survey. They were assigned at random to one of three experimental conditions and informed that the research examined attitudes to popular consumer brands. Participants were paid the conventional fee for their contribution.

Design and procedure. The instructions provided to participants read: “Imagine you are considering the purchase of one car, smartphone, and wristwatch from the pairs of options shown below. In each category, the two alternatives are similarly priced.” Participants then saw the product pairs presented in random order: a Volvo S Series and a BMW 3 Series, a Blackberry Bold and an Apple iPhone 4, and a Casio Databank and a Swatch Full-Blooded. The second product in each pair was expected to be affectively superior but cognitively inferior to the first.

The manipulation of price promotion was administered after participants completed their inspection of the options. We created three levels: (1) participants in the regular price condition proceeded directly to the measures, (2) participants in the second reduced price were told that the BMW, Apple, and Swatch products were offered at 20% off their respective regular price, and (3) participants in the first reduced price condition were told that the Volvo, Blackberry, and Casio products were offered at 20% off their respective regular price. Note that the economic and

deliberation effects of price promotion operate in the same direction in the second condition, but they operate in opposite direction in the third condition.

Measures. We first asked participants to use a sliding scale ranging from 0 (“strongly prefer Product A”) to 100 (“strongly prefer Product B”) to indicate which of the two options in each product pair they preferred, and to what extent. For the analyses, we correct the response scales to ensure that higher scores always indicate an increasing relative preference for the affectively superior product. Second, participants read the same definitions of utilitarian and hedonic goods used in experiment 4 and rated each product on two seven-point scales, the first measuring utilitarianism (1 = “not at all utilitarian,” and 7 = “extremely utilitarian”) and the second measuring hedonism (1 = “not at all hedonic,” and 7 = “extremely hedonic”)—adapted from Okada (2005). Unlike experiment 4, however, these scales treat the two constructs as independent dimensions.

Results. We start by checking that the options in each product pair were perceived as desired. Specifically, paired-sample t-tests show the expected result in five of six cases: (1) the Volvo S Series was rated as more utilitarian ($M = 5.11$) and less hedonic ($M = 4.25$) than the BMW 3 Series ($M = 4.69$, $t(153) = 3.67$, $p < .001$, and $M = 5.72$, $t(153) = -11.93$, $p < .001$, respectively), (2) the Blackberry Bold was rated as less hedonic ($M = 4.15$) than the Apple iPhone 4 ($M = 5.60$, $t(153) = -10.55$, $p < .001$ —with the difference on the utilitarian dimension only directionally consistent: $M = 5.24$ vs. $M = 5.06$, $p = .212$), and (3) the Casio Databank was rated as more utilitarian ($M = 5.91$) and less hedonic ($M = 3.06$) than the Swatch Full-Blooded ($M = 4.47$, $t(153) = 10.18$, $p < .001$, and $M = 4.92$, $t(153) = -10.05$, $p < .001$, respectively).

The main analysis is a 3×3 ANOVA with relative preference as the dependent variable, price promotion as the between-subjects factor, and product category as the repeated measure. The results show a main effect of product category ($F(2, 302) = 4.53$, $p = .012$) and, importantly, a main effect of price promotion ($F(2, 151) = 10.70$, $p < .001$). The two-way interaction between the factors failed to reach statistical significance ($p = .604$).

To explore the main effect of price promotion we contrast pairwise comparisons of the regular price condition to each of the reduced price conditions. The first test indicates that a price promotion offered exclusively on the affectively superior products increased the appeal of those products ($M = 74.60$), relative to the benchmark set by the control condition ($M = 60.42$, $F(1, 151) = 13.48$, $p < .001$). The change in relative preference in this case is 23.5%. However, the

second test indicates that a reduction in the price of the cognitively superior products did not cause a commensurate shift in relative preference ($M = 58.01$, $p = .531$)—a change of only 4.0%. This pattern of results evidences that consumer response to price promotions can differ markedly depending on the affective content of the product on offer, to the point that the economic impact of the incentive is virtually canceled out when the product performs (relatively) poorly on this dimension.

Experiment 6: Scope insensitivity in quantity purchases

Participants. Participants ($n = 114$) were registered members of a subject pool managed by a business school in the United States. At the time of the experiment, this subject pool had 4,223 active members, of which 58% were female and 87% had completed undergraduate education. The median age was 26 years old. Participants were recruited via e-mail and assigned at random to one of four experimental conditions. They were informed that the research examined consumer decision making, that there were no right or wrong answers to the questions, and that they should rely exclusively on their preferences when responding. Participation was voluntary, compensated by a \$5 Amazon.com gift certificate upon completion. The experiment was grouped with several unrelated tasks to fill a 20-minute online session.

Design, procedure, and measures. The stimulus, which closely resembles one used by Hsee and Rottenstreich (2004), describes the purchase of a CD box set containing a selection of hits from The Beatles. We first manipulated quantitative scope by informing participants that the box set included 5 or 10 CDs. Next, we told participants that the seller offered the box set at its regular price or at 50% off its regular price. We asked participants one question: “What is the maximum price you would be willing to pay for this box set?”

Results. A 2 (price promotion) \times 2 (quantitative scope) ANOVA with willingness to pay as dependent variable shows the unsurprising main effect of price promotion: participants were prepared to pay less for the box set in the reduced price condition ($M = \$37.04$) than in the regular price condition ($M = \$58.62$, $F(1, 110) = -11.49$, $p < .001$). We also see the unsurprising main effect of quantitative scope: participants were prepared to pay less for a box set of 5 CDs ($M = \$36.06$) than for one of 10 CDs ($M = \$59.59$, $F(1, 110) = -13.66$, $p < .001$).

More important, we find a significant two-way interaction ($F(1,110) = 3.97$, $p = .049$), such that participants were prepared to pay significantly more for 10 CDs than for 5 CDs in the

regular price condition ($M = \$76.73$ vs. $M = \$40.51$; $F(1, 110) = 16.80$, $p < .001$), but not in the reduced price condition ($M = \$42.46$ vs. $M = \$31.62$; $p = .240$). It is noteworthy that the willingness to pay for each CD in the box set was relatively constant in the absence of a price promotion: approximately \$8.10 in the 5-CD condition and \$7.67 in the 10-CD condition. However, the introduction of the price promotion caused a considerable drop in value from \$6.32 to \$4.25, respectively.

Concluding Remarks

The research presented in this paper documents the following phenomenon: consumers who encounter price promotions place greater emphasis on affect in their purchase decisions than consumers who do not. As a result, price promotions boost the choice of products that contain a strong affective component. To explain the effect, we propose a simple theory consisting of two ingredients. First, we argue that consumer purchase decisions result from some combination of cognitive and affective processes. Second, we argue that price promotions “dumb down” a purchase by lowering its stakes, compromising cognition and, in turn, allowing affect to play a large role in choice behavior.

The results of six experiments support this interpretation. In combination, the experiments document the phenomenon in 15 product categories, in choice or relative preference as well as in valuation, with small and large quantities, and for price promotions that are category wide or product specific. At the level of the process, we conducted a broad survey of the literature to apply several operationalizations capturing the cognitive and affective dimensions of products, we measured fluctuations in deliberation through recall and processing time, and we controlled in different ways a moderating variable that is conceptually linked to deliberation.

With respect to possible confounds, we outlined several arguments against the relevance of justification and mood in our research. While we certainly make no assertion that these two theories are inaccurate or inappropriate in the context of price promotions, we rely on measurement, on moderation, on several design elements of the stimuli, and on secondary phenomena (scope insensitivity) to claim that the relation between price promotion and deliberation is valid and independent.

We think the paper makes contributions to different streams of research within and outside of marketing. Broadly, our work adds to the psychology literature on dual-process models by

pointing out that elements of commercial exchanges can also impact the relative influence of cognitive and affective processes in the minds of decision makers. Importantly, we confirm in our research context two phenomena documented more generally: (1) people rely on cognition to the extent that they are motivated to do so (Fazio and Towles-Schwen 1999), and (2) a lack of processing motivation has implications beyond cognition, impacting also people's use of affect (Greifeneder, Bless, and Pham 2010).

Within marketing, we see a contribution to recent research linking pricing interventions to the motivation of consumers to use cognition. Our approach is consistent with that of Wathieu and Bertini (2007) in the sense that a price promotion can be interpreted as a negative price differential—for the same product over time, not between products at one particular moment in time—that triggers a state of inattention similar to the one identified in their article. We add a twist to their story by considering the presence, and in our case the eventual dominance, of affect.

But our main ambition is to broaden the current perspective on price promotion and its relation to brand switching. We are certainly not the first researchers to point out that studies in this area generally take a narrow view on the style of consumer response (Raghubir et al. 2004). Indeed, one can think of practical and conceptual reasons for emphasizing a cognitive framework. And although price is a simple, ubiquitous, and concrete characteristic that consumers are familiar with and presumably can consider with relative ease, our experiments show that price promotions can actually reduce thinking, which further raise the importance of developing broader theories.

At the same time, we are careful to discuss our empirical results mostly within the context of product choice—which we measure broadly in terms of choice itself, relative preference, and valuation. A large literature demonstrates that price promotion induces brand switching, and that switching effects are asymmetric across price-quality positions in a market (Neslin 2002). In particular, researchers have advanced economic and psychological explanations for the observation that higher-quality, higher-price brands are more successful at stealing share with price promotion than lower-quality, lower-price brands. Our experiments point to a more granular source of asymmetry, in the sense that we document a significant shift in choice at the level of product dimensions (the affective content of products). Importantly, we show that this pattern of substitution can occur irrespective of whether the product possesses a more general quality or price advantage. Instead, what seems to matter is the make up of the product relative to

the competition. A product that is purely utilitarian is not necessarily hurt by price promotions, just as a product that is purely hedonic does not necessarily benefit from them. A prediction is easier to make, however, in settings where competing products differ substantially on cognitive and affective dimensions.

Although we have not explicitly considered other components of the sales promotion bump such as category expansion or purchase acceleration, we believe our theory can suggest interesting predictions and experiments also in those contexts. We conducted experiment 6 as a way to start this discussion. The results of that experiment show that price promotions can trigger scope insensitivity. For a firm interested in incentivizing purchases of large quantities, the straightforward implication is that the chosen discount schedule should reflect this nonlinearity in the relation between quantity and willingness to pay.

We conclude by returning to the broader practical question with which we opened the introduction. Increasingly, managers lament having to entice their customers with large and frequent price promotions, fearing that their interventions today jeopardize the brand's ability to drive purchase behavior tomorrow. Our research provides one indication that this fear may be exaggerated. There are of course several limitations on our ability to draw conclusions about this issue—this paper is not intended to study the long-term effects of price promotion. Yet, we see our experimental results as an interesting and encouraging sign that managers and scholars can pick up on and develop further. While it may well be the case that the act of buying a product on promotion indicates a certain detachment from the brand (Lodish and Mela 2007), we are speculating that the price reduction can open to door for firms to step in and reinvigorate interest in the more emotional aspects of their relation with customers.

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Figure 1

Experiment 4: Relative Preference as a Function of Price Promotion and Need for Cognition

Relative Preference for
Affectively Superior
Room (0 to 100)

