

Ending a Price Promotion: Retracting it in One Step or Phasing it out Gradually

MICHAEL TSIROS
DAVID M. HARDESTY*

* Michael Tsiros is Associate Professor of Marketing, University of Miami, P.O. Box 248147, Coral Gables, FL 33124, phone: 305-284-5935, fax: 305-284-5326, e-mail: tsiros@miami.edu, and Tassos Papastratos Research Professor of Marketing, ALBA Graduate Business School, Athens, Greece. David M. Hardesty is Associate Professor of Marketing, University of

Kentucky, 455Q Gatton College of Business & Economics, Lexington, KY 40506-0034, phone: 859-257-9419, fax: 859-257-3577, e-mail: david.hardesty@uky.edu. The authors acknowledge the valuable feedback provided by the editor and the review team as well as Bill Bearden, Allan Chen, Blair Kidwell, Tatiana Levit, Kent Monroe, Akshay Rao, Terry Shimp, and Danny Weathers. The authors contributed equally to this research.

DO NOT PRINT

Ending a Price Promotion: Retracting it in One Step or Phasing it out Gradually

Using the pricing and regret literatures, we develop a conceptual model of purchase likelihood and propose a pricing tactic that appears to have marketplace potential. Sellers currently using a Hi-Lo pricing tactic discount a product for a limited time and then raise the price back to its original level in one step. Here, we investigate whether sellers should return prices to their pre-promotion levels all at once or in steps. We propose that sellers consider an alternative tactic that we label steadily decreasing discounting (SDD). This alternative tactic requires that the seller offer one or more additional discounts that are less than the prior discount before returning the product to its original price. We begin by conducting a laboratory experiment in order to test the proposed underlying mechanisms (future price expectations and anticipated inaction regret) influencing likelihood to buy. Then, an additional laboratory experiment is undertaken to provide further empirical support in favor of the SDD tactic, to address alternative explanations for the findings, and to demonstrate that there are no negative perceptions associated with using SDD. Finally, we conduct a field experiment to assess the effectiveness of SDD as well as examine scanner panel data to evaluate its generalizability.

KEYWORDS: Pricing Tactics, Regret, Price Promotions, Expectations, Hi-Lo and EDLP

Price promotions have been demonstrated to be profitable in the long-term and it has been suggested that sellers should continue to employ them (Kopalle, Mela, and Marsh 1999; Pauwels, Hanssens, and Siddarth 2002). In addition, Mazumdar, Raj, and Sinha (2005) in a review of reference pricing research concluded that how a firm frames a price offer may influence a consumer's decision to buy the brand. Occasionally, after offering an initial price discount, companies such as New York & Company, Boden Clothing Company, and Time Warner Cable offer a series of additional price promotions prior to returning the price of a product to its original level. For example, the Boden clothing company has advertised a series of consecutive promotions, such as, 15% off for three days, followed by 13% off for a day, 11% off for a day, and 10% off for a day before returning merchandise to its original price. These pricing practices raise an interesting question of whether or not prices should be returned to their original level, after an initial discount, all at once as is typically the case for the Hi-Lo pricing tactic or in steps. In the research presented here, and consistent with the examples above, we propose that sellers could offer one or more additional discounts that are smaller in size than the prior discount before returning the product to its original price. We label this practice “steadily decreasing discounting (SDD¹).”

Two particularly popular price promotion tactics are everyday-low-pricing (EDLP) and Hi-Lo pricing. Sellers that employ an EDLP tactic charge a constant, everyday price with no (or very infrequent and small) temporary price promotions (Monroe 2003). Alternatively, sellers that employ a Hi-Lo pricing tactic set relatively higher prices on an everyday basis, but offer frequent

¹ Airlines typically start with low prices for a scheduled flight and progressively increase the price as certain quotas are met and the departure date gets closer. While this pricing resembles SDD it does not start with the regular price and eventually reach that price as the departure date approaches. In addition to the price not having the same start and end level, prices may fluctuate as reservations may be cancelled or the company reassigns quota. Finally, airlines also often offer last minute sales in order to reach capacity. As such, SDD is not a dynamic pricing tactic (Desiraju and Shugan 1999) nor is it being compared to dynamic pricing in this research.

and substantial price promotions. Sellers use a Hi-Lo pricing tactic in an effort to discriminate between price-sensitive and price-insensitive consumers.

Given that many sellers employ Hi-Lo pricing, the current research examines the relative effectiveness of the alternative pricing tactic, SDD, versus the existing, and more used, Hi-Lo pricing tactic. Additionally, the EDLP tactic is evaluated in study 1. Drawing from literatures on future price expectations and anticipated regret, we argue that the increasing price trends associated with the SDD tactic versus the Hi-Lo pricing tactic may increase consumers' purchase likelihood in the current period through higher future price expectations (Jacobson and Obermiller 1990) and greater anticipated inaction regret (Sevdalis, Harvey, and Yip 2006; Tsiros 2009).

We begin our assessment of SDD by conducting a lab experiment to test a theoretical framework supporting SDD's effectiveness compared with the Hi-Lo pricing and EDLP tactics by showing that SDD generates higher future price expectations and leads to greater anticipated inaction regret each of which impact purchase likelihood. Consequently, we show that SDD generates more revenue than the existing Hi-Lo and EDLP pricing tactics.² Then, in study 2, we offer additional empirical support for the effectiveness of SDD, examine alternative explanations for the findings, and demonstrate that there are no negative perceptions associated with employing the SDD tactic. In study 3, we conduct a field study comparing the relative effectiveness of Hi-Lo pricing versus the SDD tactic. We show that revenues are higher when using the SDD tactic. Finally, we assess scanner panel data to uncover several instances of the effectiveness of the SDD tactic. As such, this research contributes to the pricing literature by

² We believe that SDD is most relevant for products with at least a moderate profit margin and for products that are purchased infrequently (once a year or less often). In this paper we provide consistent evidence using different products (a PDA in two lab studies and a wine stopper in a field study). However, we also show some initial evidence in support of SDD for grocery store items (e.g., soda and cereal).

demonstrating that the theoretical mechanisms driving the effectiveness of the SDD tactic relative to the Hi-Lo tactic are future price expectations and anticipated inaction regret. Moreover, this research has implications for managers in that SDD appears to be a more profitable pricing tactic than both Hi-Lo pricing and EDLP and is free of negative perceptions associated with using it. In the next section, we outline the theoretical framework guiding our research hypotheses (see Figure 1).

CONCEPTUAL FRAMEWORK

Consumer Future Price Expectations

Research by Ariely (1998) and Hsee, Abelson, and Salovey (1991) has shown that evaluation of a stimulus is determined not only by its position (the actual value of its outcome) but also by its velocity (the change in the value). Given the pricing pattern associated with SDD, we will focus on consumer expectations of future prices, an understudied forward-looking reference price (DeiVecchio, Krishnan, and Smith 2007; Sun, Neslin, and Srinivasan 2003). Winer (1985) found that consumer expectations of future prices play a significant role in purchase decisions. Similarly, and based on neoclassical economic theory, Jacobson and Obermiller (1990) suggested that consumers compare the sticker price to expected future price. Consumers expecting higher future prices are encouraged to purchase sooner; those expecting lower future prices are more likely to wait. Based on an analysis of 151 weeks of scanner data, Jacobson and Obermiller (1990) found empirical support that consumers conceptualize a reference price as an expectation of future price. Higher future price expectations resulted in increased quantity sold in the current time period. More recently, DeiVecchio et al. (2007) examined the effect of price promotion format and demonstrated that individuals have higher future price expectations for price promotions presented in percentage terms versus dollar terms.

These higher future price expectations resulted in greater choice of the percentage-framed price promotions. Similar to DeVecchio et al.'s (2007) research, we investigate the effect of expected future price on purchase likelihood during both the current and future promotion periods.³

The Hi-Lo and the SDD pricing tactics differ in terms of both the individual discounts offered and the pattern of prices. Prior research (Alba et al. 1999; DeVecchio et al. 2007) has demonstrated that deeper discounts produce lower future price expectations. In the current research, the average promotion size is held constant across the two pricing tactics. As such, the impact of the depth of the discounts offered has been controlled for and should not have differential impact across the tactics. However, the pattern of prices is different between the two pricing tactics and may impact future price expectations. Importantly, prior research has established that price judgments are impacted by the ordering of past prices (Buyukkurt 1986; Krishna 1991, 1994; Meyer and Assuncao 1990; Slonim and Garbarino 1999).

Here, we expect consumers will have higher future price expectations for SDD versus Hi-Lo pricing due to the greater prevalence of upward price trends when using the SDD tactic. Adaptation-level theory (Helson 1964) suggests that consumers judge current prices relative to their internal norms (adaptation levels) representing the combined effects of past, present, and future prices. For example, a marketer employing the SDD tactic might sell a product regularly at \$499 and offer an initial large sale at \$349 and then two smaller sales at \$399 and \$449 before returning the price to its original level. These additional sales result in more weeks containing an upward trend in price compared to using Hi-Lo pricing and consumers are expected to have higher future price expectations as a result. Each of the additional sales associated with the SDD tactic act as price anchors, leading to an upward shift in price expectations and a new, higher

³ Kalwani and Yim (1992) gathered expected future price data in their research and assessed purchases for a future occasion as we do in study 2 instead of assessing purchase intentions for the current sale like our study 1.

adaptation level being formed. This increased adaptation level associated with the SDD tactic makes the current price appear more attractive and results in greater likelihood to buy for SDD versus Hi-Lo. For example, when a product regularly priced at \$499 is discounted to \$349 and then raised to \$399, we expect that the upward trend from \$349 to \$399 (and since it has not reached its regular price of \$499)⁴ will result in higher adaptation levels, and thus, higher future price expectations.

In addition to the advantage that SDD receives associated with its upward price trend by shifting consumers' adaptation levels upward, price promotion research (Mace and Neslin 2004) has identified the phenomenon of a post-promotion dip (a significant drop in sales after a large discount is retracted). Under SDD, we expect this phenomenon to be significantly reduced compared to the Hi-Lo tactic since the price is coming back to the regular price in stages.

Anticipated Regret

A second important explanation for the success of SDD in generating greater likelihood to buy after missing a previous sale is due to consumers anticipating feelings of regret. Social psychology and behavioral decision theory have given much attention to regret, but regret is only beginning to be fully examined in the marketing literature into studies of purchase decisions (Simonson 1992) and customer satisfaction and repurchase intentions (Inman, Dyer, and Jia 1997; Inman and Zeelenberg 2002; Taylor 1997; Tsiros and Mittal 2000; Zeelenberg and Pieters 1999). Simonson (1992) found evidence that anticipated regret influences brand preference and timing of a purchase. In his study, consumers were asked to anticipate how they would feel if they passed on a current sale and learned later that the price was higher. Compared with those who were not asked to anticipate, consumers who anticipated such a scenario were more likely to

⁴ We assume that consumers expect prices to eventually reach the regular price level and not exceed it. This is why SDD outperforms Hi-Lo. Otherwise, going from \$349 to \$499 in Hi-Lo may indicate further, more drastic price increases than SDD's smaller increments.

make an immediate purchase rather than to wait for a better price. Anticipated regret provides an important explanation for the success of SDD in generating higher likelihood to buy after missing a previous sale.

Our research is also consistent with research on inaction inertia, the tendency of consumers to defer choice following a missed sale (Tsiros 2009; Tykocinski, Pittman, and Tuttle 1995; Tykocinski and Pittman 1998). They found that after consumers realize that they missed a large sale (e.g., 40% off), they are less likely to purchase a product at a significantly smaller sale in the future (e.g., 10% off). When the difference between the two sales (the one missed and the current one) was small (e.g., 40% off vs. 30% off), consumers did not vary significantly from the control group (those never missing the large sale) in their likelihood to take advantage of the smaller sale (Tykocinski and Pittman 2001). As such, inaction inertia should favor SDD as the difference between the consecutive sales is smaller (e.g., always 10%, such as, 40% off vs. 30% off or 30% off vs. 20% off, etc...) than the one experienced under Hi-Lo pricing (e.g., 40% off vs. no sale). In a more recent paper, Sevdalis et al. (2006) distinguished between two types of anticipated regret (anticipated inaction regret – regret anticipated to be experienced after forgoing the second sale and anticipated action regret – regret anticipated to be experienced after buying the item during the second sale). Across two studies support for the role of anticipated inaction regret in predicting likelihood to buy was evidenced while anticipated action regret did not significantly impact purchase intentions.

Here, we expect that SDD will lead consumers to experience higher levels of anticipated inaction regret at the current sale price than Hi-Lo pricing due to their expectations that the price will slowly return to its original level. For example, if a product is regularly priced at \$499 but recently sold for \$349 and is now on sale for \$399, we expect consumers to anticipate regretting

not buying the product at \$399 (anticipated inaction regret) as they expect the price to eventually go back to the regular level of \$499. Given that SDD has additional weeks with an upward trend in price, we expect that anticipated regret will be higher for SDD than for Hi-Lo pricing. In fact, we expect anticipated inaction regret to also mediate the effect of future price expectation on likelihood to buy.

In summary, we expect that higher future price expectations and more anticipated inaction regret associated with the SDD tactic will lead to greater likelihood to buy. In addition, we expect anticipated inaction regret to play a dual role as it is also expected to mediate the effect of future price expectation on likelihood to buy. This greater likelihood to buy is expected to result in increased purchase likelihood at higher prices for the SDD tactic than for Hi-Lo due to the price coming back to the regular price in stages. As such, and in addition to greater purchase likelihood, revenues are expected to be greater when using the SDD tactic versus the Hi-Lo tactic. Formally, we propose the following:

- H1: Compared with Hi-Lo pricing, SDD will generate higher revenue.
- H2: Compared with Hi-Lo pricing, SDD will lead to (a) higher future price expectations and (b) more anticipated regret by not buying the product (anticipated inaction regret), so that SDD will result in higher likelihood to buy.
- H3: Anticipated inaction regret mediates the effect of future price expectations onto likelihood to buy.

Study 1 is a laboratory experiment completed to assess the relative effectiveness of SDD versus Hi-Lo pricing (i.e., H1) and EDLP and to test the theoretical rationale (i.e., H2 & H3) for expecting SDD to outperform Hi-Lo. Then, study 2 is undertaken to resolve several limitations associated with study 1. In particular, study 2 is conducted to further evaluate the effectiveness of the SDD tactic, to show that there are no negative effects associated with employing it over a substantial period of time, and to assess consumers' likelihood to visit a store employing SDD versus Hi-Lo pricing. Importantly, in both studies 1 and 2, store and brand image are compared

across tactics as price promotion activity has been shown to negatively impact consumer perceptions (Grewal et al. 1998). Specifically, SDD offers an additional (though shallower) price promotion and based on the higher frequency of promotions might result in more negative perceptions. Finally, in studies 3 and 4, a field experiment is conducted and an evaluation of scanner panel data is undertaken to further demonstrate the effectiveness and generalizability of the SDD pricing tactic.

STUDY 1: THEORETICAL ASSESSMENT

Method

In an initial effort to investigate the effectiveness of SDD versus Hi-Lo pricing and to evaluate the theoretical rationale that might explain the relative effectiveness of SDD, prices were manipulated between participants at several levels for an iPAQ 4155 PDA (see Table 1).⁵ Each participant was randomly placed in one of the weeks' conditions displayed in Table 1, and each saw three price points.⁶ For example, the \$499, \$379, \$409 condition (see week 3 of SDD in Table 1) represents a regular price of \$499, a most recent past price of \$379, and a current price of \$409. Importantly, these prices were manipulated so that the average regular price (\$499), the average most recent past price (\$435), and the average current price (\$435) were the same for both tactics. Thus, this design allowed a fair comparison between the two tactics.

In order to empirically test the two hypotheses, data were collected from 463 undergraduate business students who were entered into a cash-prize raffle for their participation. Due to several missing values, three respondents were removed. There were a similar number of

⁵ The discount sizes used are consistent with prior reference pricing research (Grewal, Marmorstein, and Sharma 1996).

⁶ The "weeks" terminology is arbitrary and used for simplicity of explication. The time periods could be other timeframes besides weeks (e.g., days). Also, each participant saw and responded to prices for only one of the weeks displayed in Table 1. As such, we make an assumption that consumers remember the most recent promotion. This appears to be a reasonable assumption to make given the product category examined here (consumer electronics) and findings from past research indicating that consumers have some knowledge about past deals (Dickson and Sawyer 1990; Krishna 1994; Le Bouillier, Le Bouillier, and Neslin 1994; Vanhuele and Dreze 2002). However, this constraint is relaxed in study 2 as participants see twenty weeks of price data.

participants per condition. To begin the experiment, participants were given a scenario regarding the sale of an iPAQ 4155 PDA. The Appendix shows an example of the scenario for the \$499, \$379, \$409 condition. After reading the scenario and looking at two price advertisements, participants indicated whether or not they would buy the PDA. Additionally, they listed their thoughts regarding their buying decision. Then, they estimated what the price of the PDA would be one week from now (Janiszewski and Lichtenstein 1999). Next, participants completed two-item measures for store and brand image. Each pair of items comprising the image measures was significantly correlated (p 's < .01), and the items were averaged to form composite variables for each construct. Finally, we obtained a single-item measure for anticipated inaction regret. These scales are included in the Appendix.

Results

Hypothesis 1 states that sellers will generate greater revenue when employing an SDD pricing tactic compared to a Hi-Lo pricing tactic. To assess this prediction, we first compared the revenue generated across the weeks.⁷ Revenue was calculated as the current price times the percentage willing to purchase at the given price. As displayed in Table 2, and consistent with Hypothesis 1, results revealed that across the weeks, SDD generated \$1,076.73 of revenue, while Hi-Lo generated only \$990.88 ($t_{406} = 3.55, p < .01; d = .35$). Thus, the SDD tactic resulted in 8.7 percent higher revenue. The above findings support H1 and provide initial evidence that SDD may be a viable pricing tactic for sellers to employ. We next examined profits for the case where the product cost was assumed to be \$349 (the estimated cost to the retailer for the iPAQ 4155 PDA at the time of the study), a 30% profit margin that is representative of the PDA

⁷ A 100 percent conversion rate was assumed of the participants indicating their willingness to purchase the product at a given price. While this conversion rate is for explication purposes only, it should be noted that similar results are observed for any other conversion rate and we assume that conversion rate does not systematically vary with price.

marketplace.⁸ SDD generated \$144.90 in cumulative profit while the Hi-Lo tactic only resulted in \$76.50 in cumulative profit per person. Similar results were also observed for profit margins within ten percent of the estimated profit margin for retailers.

While SDD generated more profit, reducing prices may negatively affect the image of both the brand and the store; these variables have been shown previously to be impacted by price-promotion activity (Grewal et al. 1998). Since SDD involves two additional sales compared to Hi-Lo, we examine the effect of both tactics on brand and store image. For store image, no significant effects were found across pricing tactics (4.76 vs. 4.65, $t_{406} = 0.49$, $p > .10$). Similarly, brand image was also not significantly affected by the SDD tactic (5.19 vs. 5.22, $t_{406} = -0.21$, $p > .10$). These results are consistent with Monroe and Krishnan's (1985) suggestion that discounts on branded products may not impact brand image. Overall, SDD benefits the seller through higher revenue without any negative impact on store or brand image.

Hypothesis 2 posits that SDD will generate higher future price expectations and result in higher levels of anticipated regret for not buying the product so that SDD will lead consumers to be more likely to buy than will Hi-Lo pricing. To test this hypothesis, participants were asked to estimate what the product would cost in one week. In addition, participants were asked to determine how much regret they would feel if they did not buy the product now (see Appendix). Participants estimated next week's average price to be \$415.89 for Hi-Lo compared to \$430.14 ($t_{406} = 2.41$, $p < .01$; $d = .24$) for SDD. Similarly and as displayed in Table 2, SDD resulted in higher anticipated regret levels by not buying now compared to Hi-Lo pricing (3.32 vs. 2.52; $t_{406} = 2.46$, $p < .01$; $d = .24$). Thus, these results suggest that the relatively higher future price

⁸ After contacting store managers of two major electronics stores and the headquarters of major manufacturers of PDAs, the estimated profit margin for the retailer was determined to be 30%.

expectations and higher anticipated inaction regret associated with SDD pricing should enhance its effectiveness compared to the Hi-Lo tactic. Each of these findings supports H2.

In addition to the analyses above, we also content-analyzed responses to the open-ended question that asked participants to describe their thoughts leading to their decision. We expected Hi-Lo to generate a greater number of lower future-price expectations and SDD to generate more anticipated regret by not buying the product. To conduct the test, we asked two graduate students to code the responses based on the following categories: (1) lower future-price expectations, (2) anticipated regret by not buying the product, and (3) other thoughts that could not be classified in the previous two categories. Inter-judge agreement was 88% and all disagreements were resolved by a third judge. As expected, we observed moderately more “lower future-price expectations” in the Hi-Lo than in the SDD pricing tactic (46% vs. 32%, $\chi^2 = 2.83$, $p < .10$, $w = .15$; respectively) and significantly more thoughts dealing with “anticipated regret by not buying the product” in the SDD over the Hi-Lo pricing tactic (40% vs. 12%, $\chi^2 = 13.81$, $p < .01$, $w = .34$; respectively). A sample of lower future-price expectation thoughts from the Hi-Lo \$499, \$349, \$499 condition includes “Why buy the PDA for \$499 if I can buy it for \$150 less at a later time?” and “The fact that the PDA has sold for \$349 in the past led me to conclude there could be another sale and I would rather wait and save \$150.” An example of an anticipated inaction regret thought in the SDD \$499, \$349, \$379 condition was “\$379 is not that much more than the sale price of \$349 and you never know when it will be that price again.” Another respondent in the SDD \$499, \$439, \$469 condition wrote, “The price would go up now if I don’t take it now and I would miss an opportunity.”

Based on the above findings, SDD appears to perform better than Hi-Lo pricing because of the higher future price expectations and increased anticipated inaction regret associated with

the SDD price combinations. In addition to the above analyses, a path analysis was performed (see Figure 2) to test the mediating effect proposed in H3. First, and in support of H2, “tactic” (Hi-Lo = 1, SDD = 2) in Figure 2 (see panel A) had a positive influence on both expected future price expectations (.30, $p < .01$) and anticipated regret (.24, $p < .01$). As expected, both future price expectations and anticipated regret were positively related to purchase likelihood (.19, $p < .01$ and .43, $p < .01$; respectively). In addition, when a path from future price expectations to anticipated regret was included (see panel B) a positive relationship was observed between future price expectations and anticipated regret (.33, $p < .01$). Consistent with H3, it appears that anticipated inaction regret plays a dual role in influencing purchase likelihood. First, and consistent with prior studies (Sevdalis et al. 2006), anticipated inaction regret has a direct effect on purchase likelihood. Second, anticipated inaction regret partially mediates the effect of future price expectations on purchase likelihood. In the model shown in Figure 2, when the path from future price expectations to anticipated regret is set to zero (see panel A), the direct effect from future price expectations on purchase likelihood is more significant (.19, $p < .01$) than when the path from future price expectations to anticipated regret is estimated (.11, $p < .05$). Thus, anticipated inaction regret partially mediates the relationship between future price expectations and purchase likelihood since the coefficient for this path is reduced (from .19 to .11) yet is still significant.

A more formal test of mediation has been proposed by several researchers (Baron and Kenny 1986; Sobel 1982). Conducting a Sobel (1982) test (and the Aroian version of the Sobel test popularized by Baron and Kenny (1986)), we find a significant mediation effect of anticipated inaction regret on the relationship between future price expectations and purchase

likelihood (Sobel: $z = 2.33, p < .05, d = 28$; Aroian: $z = 2.31, p < .05, d = 28$). Thus, H3 is supported.

While our results provide support for our conceptual framework suggesting that future price expectations and anticipated inaction regret are the underlying mechanisms for SDD's success over Hi-Lo pricing, it is possible that SDD outperforms Hi-Lo pricing because there was less price volatility associated with the SDD tactic. Price volatility in study 1 (as measured by the standard deviation) was 80.2 for Hi-Lo and 58.6 for SDD. In order to rule out price volatility as an alternative explanation for the superiority of SDD over Hi-Lo pricing, EDLP was also empirically evaluated in this study. If price volatility drives the results related to SDD and Hi-Lo pricing, EDLP should be preferred over both as EDLP has no price volatility. Forty-four undergraduate student subjects from the same population were assigned to the EDLP condition. For the EDLP condition, the normal price, the most recent past price and the current price were all \$435. Thus, both the average most recent past price and the average current price were the same as for the Hi-Lo and SDD pricing conditions. Results revealed that twenty-seven percent of subjects were likely to buy yielding revenues of \$829.71 across the seven weeks for EDLP compared to \$990.88 in revenues generated from Hi-Lo pricing and \$1,076.73 for the SDD tactic. Thus, EDLP resulted in 16.3% lower revenues than Hi-Lo pricing and 22.9% lower revenues than SDD. These results rule out the price volatility alternative explanation as EDLP would be superior if price volatility were explaining the effects. Moreover, these results suggest that the SDD tactic results in greater revenues than EDLP as well.

To further test the proposed mechanism advanced here, we extended our study by varying the order of the intermediate steps for SDD. In this design we modified the order of the steps for SDD presented in study 1 (see Table 2). The only difference in the design of the study was in the

four intermediate discounts which in this case did not follow a strict “steadily decreasing” trend but in fact on a couple of occasions the discounts were larger than the one offered in the previous promotion period. Data were collected from 196 undergraduate students from the same population as before and seeing the same stimuli. Each of the seven conditions had the same number of participants. The results show that the new pricing tactic, without the steadily decreasing trend in the discounts, is performing similar to Hi-Lo and worse than SDD (\$983.15 vs. \$1,076.73, $t_{397} = 3.88$, $p < .01$; $d = .39$). Similarly, participants estimated next week’s average price to be \$419.51 compared to \$430.14 for SDD ($t_{397} = 2.09$, $p < .05$; $d = .21$) and anticipated regret levels by not buying now of 2.79 compared to 3.32 for SDD ($t_{397} = 2.25$, $p < .05$; $d = .23$). If we take for example the condition where the regular price is \$499, the last price was \$439, and the current price is \$409, we can see that even with a higher last price than the SDD condition with the same current price (\$499, \$379, \$409), future price expectations are lower (\$390.44 vs. 411.83), anticipated inaction regret is lower (2.91 vs. 3.78), and likelihood to buy is lower (38% vs. 50%). This is so because in this case consumers may expect the price to keep going down. Therefore, we argue that there is something fundamental about the order and magnitude of the price increments that offer a signal to consumers that the price is indeed in a trajectory that will reach the regular price and this signal drives both the higher future price expectations and anticipated inaction regret which lead to higher likelihood to buy and higher revenue.

In summary, study 1 provides initial empirical support in favor of SDD and of the conceptual model provided here. However, this study has a few limitations that must be addressed. First, the study limited participants in terms of the number of prices received. In study 2, this limitation is addressed by employing stimuli including twenty weeks of price information to allow for a more complete assessment of image perceptions. These new stimuli test more

strongly the potentially deleterious impact on image perceptions since it has been shown that such assessments are long-term (Blattberg, Briesch, and Fox 1995; Mela, Gupta, and Lehmann 1997).

A second limitation is that only one store and one pricing tactic was considered at a time. In study 2, this limitation is addressed by giving some participants historical pricing information from two stores, one employing a Hi-Lo pricing tactic and the other employing SDD. A third limitation is that Hi-Lo included three large discounts of \$150, while SDD employed five discounts (one at \$150, one at \$120, one at \$90, one at \$60, and one at \$30). In study 2, we include a condition where both tactics employ the same number of discounts to assess a discount-frequency potential alternative explanation (Alba et al. 1999). Moreover, by including an equal number of discounts we alleviate concerns regarding potential administrative cost differences associated with the SDD tactic. In particular, and as tested in study 1, SDD would require store managers to make more price changes and potentially incur higher advertising expenses, as more sales would need to be promoted. In addition, study 2 also assesses participants' willingness to pay and likelihood to visit the store in the future after exposure to twenty past prices for the SDD and Hi-Lo pricing tactics. The willingness to pay assessment allows another comparison of the effectiveness of SDD and the likelihood to visit store measure provides an opportunity to evaluate whether one tactic will generate greater store traffic than the other. Finally, and similar to Krishna's (1994) assessment of the certainty consumers associate with a deal occurring, study 2 also examines whether SDD generates higher levels of price certainty than Hi-Lo. That is, if SDD generates greater price certainty, this could be an alternative explanation for its relative effectiveness.

STUDY 2: PRICE-HISTORY DESIGN

Method

Having established the underlying theoretical mechanisms (future price expectations and anticipated inaction regret) associated with the effectiveness of SDD in study 1, study 2 was undertaken in an effort to further investigate the relative effectiveness of SDD versus Hi-Lo pricing and to address the limitations associated with study 1. Specifically, we manipulated the price histories that participants were exposed to using similar discount sizes to those used in study 1. Participants were randomly assigned to one of five conditions (see Table 3). Three of the conditions involved a single-store pricing tactic and two conditions involved two-store pricing tactics. For example, in the single-store conditions, each participant saw only one pricing tactic (A, A', or B). Condition A involved a Hi-Lo pattern (four sales of \$349). Condition A' was a variation of Hi-Lo involving the same number of promotions as in SDD (six sales of \$399). Finally, condition B involved the SDD pattern of prices (two sets of the following pattern of sales: \$349, \$399, \$449). In addition, two more conditions were included where participants observed two stores (one following the Hi-Lo and the other the SDD pricing pattern). In one condition (AB) the store using Hi-Lo pricing included four sales (A), and the store that used the SDD tactic (B), included six sales (See Table 3). In the other condition (A'B) both stores had six sales with store A' using Hi-Lo pricing and store B using SDD. Importantly, and for all conditions, each store had the same average price (\$469) across each twenty-week period.

Data were collected from 247 undergraduate business students who were entered into a cash-prize raffle for their participation. Participants began by reading a scenario and looking at price information available from two stores (or one store in the three single-store conditions). Under the scenario, participants were to imagine that they had consulted pricetrack.com (a

fictitious website) to gather past prices for a PDA described in the scenario, and that the website revealed the twenty most recent weekly prices for the PDA at two stores (A and B, or A' and B) or at one store (A, B, or A'). After evaluating the price information, participants were asked to assume they had gone home to visit family during a school break. Returning to school a few weeks later, they had gone to pricetrack.com in order to check prices again as they wanted to purchase the PDA, but the website was no longer available and had not been available while they were away. After reading this scenario, participants indicated the highest price they were willing to pay for the PDA, their likelihood of visiting the store, their best estimate of the price of the PDA after they went away, and their level of certainty regarding their price estimate. Then, respondents indicated their image of the store(s) along with their image of the brand using the two-item measures from study 1 (see Appendix).

Results

Willingness to Pay. Table 4 includes all of the results for study 2. We first evaluated willingness to pay across the two pricing tactics. Willingness to pay was assessed here instead of likelihood to buy (as in study 1) since respondents were not presented with a current price and therefore a decision of whether or not to buy. Results revealed that SDD generated a higher willingness to pay than both versions of Hi-Lo (B vs. A: \$435.63 vs. \$385.25, $t_{92} = 3.42, p < .01$; $d = .71$ and B vs. A': \$435.63 vs. \$392.76, $t_{90} = 3.43, p < .01$; $d = .72$). These findings provide further support for the relative effectiveness of the SDD tactic. Moreover, willingness to pay was not significantly different between conditions A (\$385.25) and A' (\$392.76, $p > .10$). In the two-store conditions, we only estimated one willingness to pay for the PDA (as opposed to one for each store) and both versions of Hi-Lo (AB and A'B) generated similar results (\$393.95 vs. \$371.29, $t_{86} = 1.22, p > .10$, respectively).

Likelihood to Visit Store. Next, we wanted to assess whether the SDD tactic resulted in greater likelihood to visit the store compared to the Hi-Lo pricing tactic. This was evaluated by assessing participants' likelihood to visit each store after experiencing a) each tactic for a period of twenty weeks or b) both tactics for a period of twenty weeks. Respondents were asked how likely they were to visit the store(s) (7 = very likely, 1 = very unlikely). Compared to the SDD (B) condition's average store traffic (4.61), the Hi-Lo (A) condition averaged 3.86 ($t_{92} = 2.71, p < .01; d = .57$) and the Hi-Lo (A') condition averaged 3.88 ($t_{90} = 2.01, p < .05; d = .42$). As with willingness to pay, store traffic was similar for the two Hi-Lo conditions (A and A'). In the AB condition, participants averaged 5.07 for the SDD store and 4.13 for the Hi-Lo store ($t_{44} = 3.34, p < .01; d = 1.03$). Thus, participants were significantly more likely to visit a store using the SDD tactic compared to the Hi-Lo pricing tactic. For the A'B condition, participants averaged 5.10 for the SDD store and 4.05 for the Hi-Lo store ($t_{43} = 3.47, p < .01; d = 1.06$), again showing significant differences in likelihood to visit in favor of the SDD store. So, the SDD tactic appears to increase the potential traffic a store may experience relative to the Hi-Lo pricing tactic. Moreover, store traffic for the Hi-Lo tactic was also similar for the AB and A'B conditions. Importantly, these results occur when consumers are made aware of prices. Recall that in study 1 it was assumed store traffic was constant across SDD and Hi-Lo. As such, study 2 results suggest that the study 1 results might be conservative given that SDD may lead to an increase in store traffic if promotions are also advertised.

Price Uncertainty. In order to examine the level of price uncertainty generated by the two pricing tactics, we first asked participants to estimate the price of the PDA a week after they went away for the break. Then, we asked participants to state their certainty with their price estimates (see Appendix). A potential alternative to SDD generating higher future price

expectations is that SDD may generate less uncertainty than Hi-Lo in consumer price estimates. However, the study results indicate that SDD (B) generated the same level of certainty as in both Hi-Lo versions (A and A') (84% vs. 80% vs. 77%, $F_{2, 119} = 1.49$, $p > .10$). As such, price uncertainty does not appear to be driving differences between SDD and Hi-Lo pricing.⁹

Store and Brand Image. Store image and brand image measures were included in the single-store conditions (A, B, and A') but only store image measures were included in the two-store conditions (AB and A'B).¹⁰ Compared to the SDD (B) condition's average store image (4.62), the Hi-Lo (A) condition averaged 4.27 and the Hi-Lo (A') condition averaged 4.47 ($t_{94} = 1.93$, $p < .10$; $d = .40$ and $t_{88} = 0.69$, $p > .10$). Thus, no significant differences were seen in store image across stores A' and B. However, the SDD store (B) had a slightly higher store image level than the Hi-Lo store (A). Store image did not vary between the two Hi-Lo conditions (A and A'). Similarly, compared to the SDD (B) condition's average brand image (5.53), the Hi-Lo (A) condition averaged 5.39 and the Hi-Lo (A') condition averaged 5.60 ($t_{90} = 0.77$, $p > .10$ and $t_{90} = -0.36$, $p > .10$; respectively). Thus, no significant differences were observed in brand image across tactics. Additionally, brand image was similar for the two Hi-Lo conditions (A and A').

In the two-store condition (AB) where the Hi-Lo tactic has four promotions and SDD has six promotions (this replicates study 1), store image averaged 4.94 for the Hi-Lo store and 4.92 for the SDD store ($t_{44} = .20$, $p > .10$). Thus, no significant differences were seen in store image across tactics. Importantly, these results suggest that the SDD tactic yields no additional negative long-term impact on store image. It is possible, however, that SDD benefits in the AB condition by having more sales (i.e., six versus four) than the Hi-Lo tactic. For the A'B

⁹ Consistent with our predictions and the study 1 results, the expected price for Hi-Lo (A) was \$462.12, under Hi-Lo (A') was \$458.11, and under SDD it was \$489.31. In other words, SDD led to significantly higher future price expectations than both versions of Hi-Lo ($F_{2, 119} = 4.03$, $p < .05$, $\eta^2 = .12$). In addition, SDD led to a higher future price expectation in the A'B condition (469.88 vs. 444.59, $t_{66} = 2.01$, $p < .05$, $d = .52$) but not in the AB condition (471.03 vs. 452.85, $t_{59} = 1.16$, $p > .10$, $d = .30$).

¹⁰ Brand image measures were not included in the AB and A'B conditions as participants were exposed to both pricing tactics and their relative impact on brand image is confounded.

condition, store image averaged 4.99 in the Hi-Lo store and 4.92 ($t_{41} = .54, p > .10$) in the SDD store. Again, no significant differences were observed in store image across tactics. Store image appears to be similar for the two tactics when the longer twenty-week timeframe is used as well as when an equal number of promotions are employed. Moreover, the store image values were similar for the Hi-Lo conditions AB and A'B.

In summary, across studies 1 and 2, participants were provided with past price information and asked to indicate their future price expectations and anticipated inaction regret in order to assess the relative likelihood to buy and willingness to pay for a product when using the SDD versus Hi-Lo pricing tactic. Collectively, these two studies revealed that SDD generates greater revenue and profit than Hi-Lo pricing and EDLP and has no deleterious effects associated with negative assessments of brand or store image. Moreover, it was established that SDD appears to be effective for both short and long patterns of price promotion and that future price expectations and anticipated inaction regret are the underlying mechanisms driving these effects. It should be noted that studies 1 and 2 used different dependent variables and anticipated inaction regret was not measured in study 2 precluding a further assessment of the underlying mechanism proposed. In addition, while study 1 provided some evidence against price volatility as a possible explanation for the improved performance of SDD, it should be noted here that while SDD had less price volatility than Hi-Lo (52.3 vs. 61.6, standard deviations respectively), this was not the case compared to Hi-Lo' (47.0). Thus, this offers further evidence that price volatility may not be a feasible alternative explanation for the results.

Next, in Study 3, and in order to further test the generalizability of the SDD tactic, we assess the relative effectiveness of SDD versus Hi-Lo pricing by adapting existing industry examples (e.g., New York & Company, Boden Clothing Company, Time Warner Cable) of the

SDD tactic. We provide consumers with the product's regular price as well as a series of upcoming prices in order to assess SDD in a field setting. Study 3 improves upon studies 1 and 2 by testing the effectiveness of SDD in an actual consumption setting with greater external validity and by using a different presentation of the price promotions in an attempt to demonstrate another condition where SDD may be more effective than the Hi-Lo pricing tactic.

STUDY 3: FIELD STUDY

The site for this study was an upscale kitchen appliance store that is located in a small and wealthy suburb of a large metropolitan area in the U.S. (population: over 30,000; median age: 34 years old; median household income: around \$66,000; education level: over 80% with high school, over 40% with a bachelor's degree or better, and over 16% with a Master's degree or better, according to the 2000 census). The product category selected was wine bottle stoppers which are sold in the store in different styles for a regular price of \$24.95. This product was selected based on several characteristics, such as, the store was allowed to offer promotions by the manufacturer, the product was fairly popular, and the price was not too high which made the study financially manageable. There had been no other promotions in the focal category all year. In addition, during the promotion periods, all other activity in the store (e.g., number of salespeople) remained constant.

Design and Procedure

The store used two separate pricing tactics (Hi-Lo and SDD) during the test period. These pricing tactics were alternated every week for a period of 30 weeks. The average price of the product was kept constant between the promotion tactics. In addition, after discussing the procedure with the store owner it was determined that customers do not visit the store weekly and thus we decided to run the promotions on a weekly basis and to alternate the two tactics.

As mentioned above, and to be consistent with the similar instances of the companies mentioned in the introduction (New York & Company, Boden Clothing Company, and Time Warner) and to use discount sizes consistent with prior research (Grewal et al. 1996), SDD was run at 30% off the first day, 20% off the second day, and 10% off the third day. Hi-Lo was run in two versions (at the same frequency as SDD --3 days at 20% off and at lower frequency but similar depth as SDD – 2 days at 30% off). More specifically, the wine stopper which was regularly priced at \$24.95 was discounted under the SDD tactic at \$17.45, \$19.95, and \$22.45 before bringing it back to the regular price. Under same frequency Hi-Lo, the product was discounted at \$19.95 for all three days and under same depth Hi-Lo, the product was discounted at \$17.45 for two days and the third day was back to the original price of \$24.95.¹¹ The SDD and Hi-Lo pricing tactic stimuli used in study 3 are displayed in the Appendix.

As mentioned above, and similar to the previous study, by allowing Hi-Lo to have two different versions we are able to test both the effect of frequency of promotion and depth of promotion. All three conditions were run for the same number of weeks (10), and had the same average price (\$19.95) across the three days. As such, each tactic was run for 30 days and sale signs were removed during the non-promotion periods. The total store sales volume during the thirty promotional periods was similar across conditions.

Results

On average, under no promotion, the store sells 8 wine stoppers during a 30-day period (the length of time that each tactic was ran). During the same frequency Hi-Lo promotion period, the store sold 14 wine stoppers at \$19.95, during the same depth Hi-Lo promotion period the store sold 13 wine stoppers (10 at \$17.45 and 3 at \$24.95), and during the SDD promotion period

¹¹ It should be noted that the same depth Hi-Lo was offered for 2/3 of the time as the price was \$17.45 for 2 days and on the third day it was at the regular price (\$24.95) in order to maintain the same average price across all three conditions (\$19.95).

the store sold 24 wine stoppers (14 at \$17.45, 6 at \$19.95, and 4 at \$22.45). The product costs the store \$12.475 and has a 100% profit margin. Compared to when no promotion is offered, same frequency Hi-Lo increased sales by 75%, same depth Hi-Lo increased sales by 63%, and SDD increased sales by 200%. Importantly, the increase in sales associated with SDD relative to same frequency and same depth Hi-Lo is statistically significant ($t_{58} = 2.18, p < .05; d = .57$ and $t_{58} = 2.41, p < .05; d = .63$, respectively). Thus, H1 is supported. In addition to the sales results, compared to when no promotion tactic was offered, same frequency Hi-Lo led to a 5% increase in profit, same depth Hi-Lo led to a 12% decrease in profit, and SDD led to a 55% increase in profit. Thus, SDD performs better than the more established Hi-Lo pricing tactic. In the next study, using available scanner panel data, we provide anecdotal evidence that SDD can be an effective pricing tactic even in grocery store settings.

STUDY 4: DOMINICK'S FINER FOODS DATA

A final test for SDD was performed by examining the Dominick's Finer Foods datasets that have been widely used in marketing (Mace and Neslin 2004). These datasets include weekly sales volume, price, and profit data at the SKU level from several product categories (e.g., soft drinks, cereal, analgesics, beer) across 399 weeks (1989-1997) from Dominick's stores in the Chicago metropolitan area. We begin by examining colas which represent 34 SKUs from the soft drink category. In order to avoid aggregation of the data which could lead to erroneous conclusions about the pricing tactic of each store, we focus our analysis in the most popular store.

In examining the dataset, it was interesting to see that in some (though rare) occasions, the store manager was using an SDD pricing tactic.¹² For example, looking at the prices for 2-Lt. Caffeine Pepsi, we observe 14 occasions where the price was brought back to the regular level in two or more steps. For the six-pack of Pepsi 12 oz. cans we observe 12 occasions of SDD. These represent approximately 14% of the weeks. In each of these occasions no major holiday was included in any of the weeks for SDD or Hi-Lo pricing.

The next step was to find those patterns that would allow us to compare the revenues of the store when utilizing SDD as opposed to Hi-Lo pricing patterns. For example, for 2 Lt. Caffeine Pepsi there was only one such case where the patterns were comparable (both patterns start from the same regular price (\$1.59), lower the price to the same level (\$1.09), and eventually bring it back to the regular level). It should be noted that we were unable to control for other important variables (e.g., depth and frequency of sales prior to the examined period). For this reason, the results presented here are not meant to provide a definitive test of the two tactics. Instead, these results are meant to demonstrate an occasion where SDD was evidenced in the marketplace and to provide a rough assessment of its effectiveness.

In this occasion, the price of Diet Pepsi increased from its low point of \$1.09 in 2 intermediate steps (\$1.29, \$1.49). This trend of price increases was compared with prices from a couple of weeks later when the price of Diet Pepsi increased from its low point of \$1.09 directly to \$1.59. The average purchase price across the Hi-Lo promotion period was \$1.42 and across the SDD promotion period the average purchase price was \$1.41. Consistent with prior results, consumption of soft drinks has been found to be positively related to atmospheric temperature

¹² It should be noted, however, that it is not clear from observing the data that the store policy is to use steadily decreasing discounting. We are not able to deduce whether this pricing pattern is due to a conscious choice by the store manager or due to other factors (e.g., trade deals).

(Bello and Al-Hammad 2006; Hays 2006). In order to make the comparisons as accurate and fair as possible we contacted the National Oceanic & Atmospheric Association (NOAA) and obtained daily temperature data for the time period and location involved in these tests. As SDD actually occurred in late April and Hi-Lo occurred in the middle of May, the average temperature was higher during the Hi-Lo promotion compared to the SDD promotion (69° F vs. 53° F, $p < .01$). Thus, the actual test is a conservative estimate of the effectiveness of SDD. The revenue generated from SDD during the four-week period was \$14,846.80 and from Hi-Lo was \$12,471.00. This represents a 19.1% increase in revenue and a 25% increase in profit by using SDD over Hi-Lo. Another example was for a six-pack of Pepsi 12-oz. cans. The price started at \$2.79 and dropped to \$1.99. The SDD series brought the price back up to \$2.79 with one intermediate step (\$2.33) while the Hi-Lo practice brought the price back to \$2.79 directly. The revenue generated from SDD was \$303.08 and from Hi-Lo was \$149.76. This represents a 102% increase in revenue by using SDD over Hi-Lo during the three-week period. In addition, SDD generated 43% more profit than Hi-Lo. There were no significant differences in temperature between the two tactics. Thus, it is interesting to note that we were able to find examples of SDD pricing and it appeared to be very effective. Keeping in mind the limitations mentioned above, this is consistent with the results from the experimental studies and field study presented here.

In order to get a more reliable measure of the effectiveness of the different tactics, we examined all occurrences of the same pricing tactic throughout the available dataset. We observed two¹³ more occasions of Hi-Lo with the same previously described constraints (same regular price, same low price, return to the same regular price, and no prices above or below

¹³ It should be noted that the regular price and the low price of soft drinks changed several times during the span of the seven years included in the dataset. While the Hi-Lo tactic was used several times, the changes in the band of price points limited the number of testable occasions.

those extremes for a few weeks before the focal period of the tactic). In comparing the SDD promotion period with the average Hi-Lo promotion period (average of four promotion periods of the same Hi-Lo pattern), the revenue generated from SDD was 29% higher than the revenue generated from average Hi-Lo. In addition, SDD generated 44% higher profit than average Hi-Lo. Finally, the average temperature was higher during the average Hi-Lo promotion compared to the SDD promotion (57° F vs. 53° F, $p < .05$) making these tests conservative.

In order to assess whether this evidence of SDD was only a single-store phenomenon or if there were other stores employing SDD pricing, we assessed the same four SKU's for the next three largest stores in the soft drink category. We found that each of these stores was also practicing SDD at some limited level (approximately 10% of the time) with similar results. We also investigated data from other categories (analgesics, beer, canned soup, cereal and crackers) for the largest store (in terms of sales volume) in each category. For those categories with a few instances (e.g., canned soup, cereal, and crackers), SDD yielded a significant increase in profit over Hi-Lo (SunBelt Berry Basic cereal, 80% increase). These results indicate that the SDD pricing tactic may not be category specific. Instead, it appears that there is some use of this tactic within grocery store chains, across stores, and across product categories and it appears to be effective.

DISCUSSION

Summary of Results

In this research, we set out to determine whether retailers might find SDD to be an effective tactic because of its impact on consumers' purchase likelihood based on higher future price expectations and increased anticipated inaction regret. In order to empirically assess the effectiveness of SDD, four studies were conducted. The results from these studies indicate that

SDD may prove to be an effective alternative to both Hi-Lo pricing and EDLP. The initial lab experiment found SDD to yield higher revenue than both Hi-Lo pricing and EDLP. It also provided support for the proposed framework where SDD leads to higher future price expectations and anticipated inaction regret which lead to higher likelihood to buy. In fact, it appears that the “steadily decreasing” part of the discount is fundamental in providing consumers with a signal for higher future prices which encourages them to buy now. Then, study 2 showed that SDD leads to higher willingness to pay than Hi-Lo pricing even when we control the number of promotions. Thus, a frequency-of-promotions explanation was ruled out (Alba et al. 1999). Study 2 also provided participants with multiple past price points as well as allowed a simultaneous comparison between the Hi-Lo and SDD tactics. In addition, no deleterious effects on store or brand image were observed across both lab experiments. Next, the field study showed that SDD yields higher revenue than Hi-Lo pricing. Finally, an examination of grocery store scanner panel data revealed that SDD may be a more profitable tactic than Hi-Lo pricing. The overall results confirm our prediction and indicate that SDD generates greater revenue than Hi-Lo pricing.

In addition, study 2 tested participants’ likelihood to visit a store based on its pricing tactic. Findings from this study show that the SDD tactic generated a higher likelihood of visiting the store than Hi-Lo pricing. Thus, SDD may benefit the retailer with greater revenues as well as increased store traffic. Since store traffic was constant in the field experiment (study 3) and was assumed to be constant in study 1, the results represent a conservative estimate of SDD’s effectiveness over Hi-Lo pricing. Finally, study 4 provides some anecdotal illustration from the field regarding grocery products using a pricing tactic that resembles SDD and showing it to be profitable.

Managerial Implications

The practices of Hi-Lo pricing and EDLP are ubiquitous in today's retail landscape. Managers often discount a product for a period of time and then return its price to its original level all at once (Hi-Lo pricing). For example, managers might regularly charge \$999 for a television, put it on sale for \$799 for a week and then raise its price back to \$999 after a week. Alternately, some retail managers choose to employ an EDLP tactic and price the television at \$919 every week. Our research supports the use of a new tactic labeled steadily decreasing discounting where the television described above is discounted to \$799 and then instead of being brought back to its original price all at once, the retailer offers at least one additional sale such as \$899 before returning its price to \$999. Higher future price expectations and greater anticipation of inaction regret appear to be the underlying mechanisms leading to the effectiveness of the SDD tactic.

The steadily decreasing discounting tactic is especially relevant given the current economic downturn. Many marketers have been reducing prices in an effort to encourage consumers to buy. How these marketers return the prices back to their original level as the economic landscape improves can have a great impact on their bottom line. The research presented here suggests that managers should highly consider bringing the prices of their products back up to their original levels in steps instead of all at once to take advantage of higher future price expectations and greater anticipated inaction regret.

Limitations and Future Research Directions

The current research, however, has a few limitations. First, future research could evaluate the effectiveness of SDD in choice sets involving multiple brands in order to examine its effect on brand switching (Zeelenberg and van Putten 2005). Second, while the results from the field

study are encouraging, we should note that the study included only one product category and was conducted in one store for a period of 30 weeks. Third, studying the longer-term impact of SDD on store image and brand image when using less known or store branded products is also warranted. Fourth, we only tested our theoretical rationale in the first study. More evidence regarding the underlying mechanisms of future price expectations and anticipated inaction regret is warranted. Fifth, although we assessed price uncertainty in study 2, our measure captured participant's level of certainty (i.e., confidence) with their price estimates and not the level of certainty regarding the store's future prices from each of the pricing tactics.

Future research is also warranted to determine whether SDD can be effective for grocery store products, for products purchased frequently, for products with low price and profit margin, or for products varying in their level of necessity. The examination of the Dominick's scanner panel data provides some initial evidence that SDD may prove to be effective for grocery store products.

Prior research by Alba et al. (1999) has demonstrated that for dichotomous price distributions, promotions with greater depth result in lower price estimates than promotions offered more frequently but at lower depths. Moreover, their results indicate that for non-dichotomous price distributions, greater frequency of promotions resulted in lower price estimates than deeper depth. However, in the research presented here, we do not directly compare different depths and frequency of promotions for dichotomous or non-dichotomous distributions. Instead, we compare Hi-Lo pricing which has a dichotomous price distribution versus SDD which has a non-dichotomous price distribution. Importantly, due to the nature of the SDD tactic, its price distribution cannot be dichotomous. Future researchers are encouraged to examine the condition when Hi-Lo pricing is non-dichotomous to compare it to SDD. Based

on Alba et al. (1999) SDD may be preferred in this instance as it has more frequent promotions which lead to lower price estimates.

Lalwani and Monroe (2005) replicated and extended Alba et al.'s (1999) results and suggested that it is not only the dichotomous versus non-dichotomous nature of the price distribution that impacts the effects of depth and frequency but also the salience of depth and frequency. Future researchers are encouraged to examine the relative effectiveness of Hi-Lo pricing versus SDD when the depth of the discount is larger (e.g., reduced to \$299 from \$499 instead of to \$349 as in our first two studies). Lalwani and Monroe's (2005) results suggest that the magnitude of promotions should be more salient for a higher-priced product, such as the PDA used in studies 1 and 2, and should result in a depth effect favoring Hi-Lo pricing. However, with this larger depth of discount, the marketer has the ability to offer additional discounts before returning the product to its regular price. These additional discounts should enhance the frequency effect and favor the SDD tactic. Future research needs to disentangle these competing effects. An evaluation of the depth of the discounts and the number of steps may uncover additional boundary conditions associated with the effectiveness of SDD versus Hi-Lo pricing.

Moreover, future researchers need to consider the role of consumer stockpiling behavior on the relative effectiveness of Hi-Lo pricing versus SDD. Mela, Jedidi, and Bowman (1998) have shown that consumers wait for deep discounts and Ailawadi et al. (2007) suggest that consumer stockpiling does not necessarily hurt sales. We should note here that in study 3, no consumer purchased more than one wine stopper. Future researchers are encouraged to explore these stockpiling-related issues regarding the relative effectiveness of the Hi-Lo and SDD pricing tactics.

In addition, the current research was restricted to steadily decreasing discounts. Future research is needed to explore the effectiveness of using random or uneven decreasing discounts before returning the product to its original price. Our initial attempt to investigate random discounting patterns in study 1 seems to suggest that they may be less effective than SDD and not significantly different than Hi-Lo. Future research also needs to consider the impact of perceptions of deal frequency and perceptions of average deal price when determining the relative effectiveness of SDD versus Hi-Lo pricing (Krishna and Johar 1996). In particular, Krishna and Johar (1996) found that the greater the perception of deal frequency and the greater the perceived average deal price, the greater the willingness to pay. The importance of these two factors on the relative effectiveness of SDD versus Hi-Lo pricing warrants additional research. Research related to the impacts of the depth of the discount, the duration of the discount, the number of steps in SDD, and the duration of each step is also warranted. Future research could also assess the effectiveness of the SDD strategy for categories where capacity management (e.g., services) or inventory management (e.g., perishables) is critical. Research might also be conducted to evaluate the relative impact that Hi-Lo pricing and SDD have on the speed with which products are sold as we studied volume in the current research.

From a theoretical perspective, the current research focused on the roles of future price expectations and anticipated inaction regret in predicting purchase likelihood. Both of these constructs are forward-looking in nature. Future researchers are encouraged to evaluate the roles of experienced regret (Inman and Zeelenberg 2002; Tsiros and Mittal 2000) and past prices serving as historical reference prices (Briesch et al. 1997) as additional predictors of purchase likelihood. In particular, it is possible that experienced regret (from missing a prior larger sale) may influence consumer behavior by reducing purchase likelihood (Tsiros 2009). We expect that

experienced regret will be lower on average under SDD than under Hi-Lo, especially as the number of steps in returning the price to the original level increase as the difference between the two consecutive promotions decreases.

Future researchers might also consider the role that past prices serving as external reference prices have on the relative effectiveness of SDD versus Hi-Lo pricing. For example, for a particular set of prices like those displayed in Table 1, a reference price could be calculated by exponentially smoothing a brand's own shelf prices on previous purchase occasions (Kalyanaram and Little 1994; Lattin and Bucklin 1989). This reference pricing model was found to be most predictive by Briesch et al. (1997). This brand-specific reference pricing model could be used to determine the break-even smoothing constant (representing the degree to which past prices are incorporated into current reference price estimates) where SDD and Hi-Lo pricing are equally effective. This type of research might uncover boundary conditions associated with when Hi-Lo is preferred versus when SDD is more effective assuming that consumers employ past prices to form their reference price estimates. Finally, another potential boundary condition might be consumer expectations for the product price to increase above the regular price. As mentioned earlier, one assumption that we have made in building our conceptual framework and in testing it was that there are well-known and advertised regular prices that are steady and consumers do not expect future prices to exceed those levels. If this assumption does not hold, it is possible for SDD not to enjoy any benefit over Hi-Lo and in fact the rapid and large price increment may serve as a strong signal for potential price spikes which may lead to higher purchase behavior. We should note here that in both studies 1 and 2 participants did not forecast the price of the PDA to go above its regular price (\$499).

In conclusion, we believe that SDD may be an effective pricing tactic for sellers to employ. Evidence from the lab and from the field seems to corroborate this assessment. We have presented and empirically validated a conceptual framework that provides the theoretical underpinnings for SDD's effectiveness as well as provided some potential boundary conditions that might limit its application and success. We encourage future researchers to further investigate the effectiveness of SDD as well as variations of it in diverse settings.

DO NOT PRINT

REFERENCES

- Ailawadi, Kusum L., Karen Gedenk, Christian Lutzky, and Scott A. Neslin (2007), "Decomposition of the Sales Impact of Promotion-Induced Stockpiling," *Journal of Marketing Research*, 450-67.
- Alba, Joseph W., Carl F. Mela, Terence A. Shimp, and Joel E. Urbany (1999), "The Effect of Discount Frequency and Depth on Consumer Price Judgments," *Journal of Consumer Research*, 26 (2), 99-114.
- Ariely, Dan (1998), "Combining Experiences over Time: The Effects of Duration, Intensity Changes and On-line Measurements on Retrospective Pain Evaluations," *Journal of Behavioral Decision Making*, 11 (March), 19-45.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-82.
- Bello, L. L. and N. Al-Hammad (2006), "Pattern of Fluid Consumption in a Sample of Saudi Arabian Adolescents Aged 12-13 Years," *International Journal of Pediatric Dentistry*, 16 (3), 168-73.
- Blattberg, Robert C., Richard Briesch, and Edward J. Fox (1995), "How Promotions Work," *Marketing Science*, 14 (3), G122-G132.
- Briesch, Richard A., Lakshman Krishnamurthi, Tridib Mazumdar, and S.P. Raj (1997), "A Comparative Analysis of Reference Price Models," *Journal of Consumer Research*, 24 (2), 202-14.
- Buyukkurt, B. Kemal (1986), "Integration of Serially Sampled Price Information: Modeling and Some Findings," *Journal of Consumer Research*, 13 (3), 357-73.
- DelVecchio, Devon, H. Shanker Krishnan, and Daniel C. Smith (2007), "Cents or Percent? The Effects of Promotion Framing on Price Expectations and Choice," *Journal of Marketing*, 71 (July), 158-70.
- Desiraju, Romareo and Steven M. Shugan (1999), "Strategic Service Pricing and Yield Management," *Journal of Marketing*, 63 (1), 44-56.
- Dickson, Peter R. and Alan G. Sawyer (1990), "The Price Knowledge and Search of Supermarket Shoppers," *Journal of Marketing*, 54 (3), 42-53.
- Grewal, Dhruv, R. Krishnan, Julie Baker, and Norm Borin (1998), "The Effect of Store Name, Brand Name, and Price Discounts on Consumers' Evaluations and Purchase Intentions," *Journal of Retailing*, 74 (3), 331-52.

- , Howard Marmorstein, and Arun Sharma (1996), "Communicating Price Information Through Semantic Cues: The Moderating Effects of Situation and Discount Size," *Journal of Consumer Research*, 23 (2), 148-55.
- Hays, Constance L. (2006), "Coke Tests Vending Units that can Hike Prices in Hot Weather," *New York Times*.
- Helson, Harry (1964), *Adaptation-Level Theory*. New York: Harper & Row.
- Hsee, Christopher K., Robert P. Abelson, and Peter Salovey (1991), "The Relative Weighting of Position and Velocity in Satisfaction," *Psychological Science*, 2 (June), 263-66.
- Inman, J. Jeffrey, James S. Dyer, and Jianmin Jia (1997), "A Generalized Utility Model of Disappointment and Regret Effects on Post-Choice Valuation," *Marketing Science*, 16 (2), 97-111.
- and Marcel Zeelenberg (2002), "Regret in Repeat Purchase versus Switching Decisions: The Attenuating Role of Decision Justifiability," *Journal of Consumer Research*, 29 (1), 116-28.
- Jacobson, Robert and Carl Obermiller (1990), "The Formation of Expected Future Price: A Reference Price for Forward-Looking Consumers," *Journal of Consumer Research*, 16 (4), 420-31.
- Janiszewski, Chris and Donald R. Lichtenstein (1999), "A Range Theory Account of Price Perception," *Journal of Consumer Research*, 25 (March), 353-68.
- Kalwani, Manohar U. and Chi Kin Yim (1992), "Consumer Price and Promotion Expectations: An Experimental Study," *Journal of Marketing Research*, 29 (3), 90-100.
- Kalyanaram, Gurusurthy and John D. C. Little (1994), "An Empirical Analysis of Latitude of Price Acceptance in Consumer Packaged Goods," *Journal of Consumer Research*, 21 (3), 408-18.
- Kopalle, Praveen K., Carl F. Mela, and Lawrence Marsh (1999), "The Dynamic Effect of Discounting on Sales: Empirical Analysis and Normative Pricing Implications," *Marketing Science*, 18 (3), 317-32.
- Krishna, Aradhna (1991), "Effect of Dealing Patterns on Consumer Perceptions of Deal Frequency and Willingness to Pay," *Journal of Marketing Research*, 28 (4), 441-51.
- (1994), "The Impact of Dealing Patterns on Purchase Behavior," *Marketing Science*, 13 (4), 351-73.

- and Gita Venkataramani Johar (1996), "Consumer Perceptions of Deals: The Biasing Effects of Varying Deal Prices," *Journal of Experimental Psychology: Applied*, 2 (3), 187-206.
- Lalwani, Ashok K. and Kent B. Monroe (2005), "A Reexamination of Frequency-Depth Effects in Consumer Price Judgments," *Journal of Consumer Research*, 32(3), 480-85.
- Lattin, James M. and Randolph E. Bucklin (1989), "Reference Effects of Price and Promotion on Brand Choice," *Journal of Marketing Research*, 26 (3), 299-310.
- Le Boutillier, John, Susanna Shore Le Boutillier, and Scott A. Neslin (1994), "A Replication and Extension of the Dickson and Sawyer Price-Awareness Study," *Marketing Letters*, 5 (1), 31-42.
- Mace, Sandrine and Scott A. Neslin (2004), "The Determinants of Pre- and Postpromotion Dips in Sales of Frequently Purchased Goods," *Journal of Marketing Research*, 41 (3), 339-50.
- Mazumdar, Tridib, S. P. Raj, and Indrajit Sinha (2005), "Reference Price Research: Review and Propositions," *Journal of Marketing*, 69 (October), 84-102.
- Mela, Carl F., Sunil Gupta, and Donald R. Lehmann (1997), "The Long-Term Impact of Promotion and Advertising on Consumer Brand Choice," *Journal of Marketing Research*, 34 (2), 248-61.
- , Kamel Jedidi, and Douglas Bowman (1998), "The Long-Term Impact of Promotions on Consumer Stockpiling Behavior," *Journal of Marketing Research*, 35 (May), 250-62.
- Meyer, Robert J. and Joao Assuncao (1990), "The Optimality of Consumer Stockpiling Strategies," *Marketing Science*, 9 (1), 18-41.
- Monroe, Kent B. (2003), *Pricing: Making Profitable Decisions 3rd edition*. New York: McGraw Hill/Irwin.
- and R. Krishnan (1985), "The Effect of Price on Subjective Product Evaluations," in Jacob Jacoby and Jerry Olson, eds., *Perceived Quality: How Consumers View Stores and Merchandise*. Lexington, MA: Lexington Books.
- Pauwels, Koen, Dominique M. Hanssens, and S. Siddarth (2002), "The Long-Term Effects of Price Promotions on Category Incidence, Brand Choice, and Purchase Quantity," *Journal of Marketing Research*, 39 (4), 421-39.
- Sevdalis, Nick, Nigel Harvey, and Michelle Yip (2006), "Regret Triggers Inaction Inertia – But Which Regret and How?" *The British Psychological Society*, 45(4), 839-53.
- Simonson, Itamar (1992), "The Influence of Anticipating Regret and Responsibility on Purchase Decisions," *Journal of Consumer Research*, 19 (1), 105-18.

- Slonim, Robert and Ellen Garbarino (1999), "The Effect of Price History on Demand as Mediated by Perceived Price Expensiveness," *Journal of Business Research*, 45 (1), 1-14.
- Sobel, Michael E. (1982), "Asymptotic Intervals for Indirect Effects in Structural Equations Models," in *Sociological Methodology*, S. Leinhardt, ed. San Francisco: CA, Jossey-Bass.
- Sun, Baohong, Scott A. Neslin, and Kannan Srinivasan (2003), "Measuring the Impact of Promotions on Brand Switching When Consumers are Forward Looking," *Journal of Marketing Research*, 40 (November), 389-405.
- Taylor, Kimberly A. (1997), "A Regret Theory Approach to Assessing Consumer Satisfaction," *Marketing Letters*, 8 (2), 229-38.
- Tsiros, Michael (2009), "Releasing the Regret Lock: Consumer Response to New Alternative after a Sale" *Journal of Consumer Research*, 35 (April), 1039-59.
- and Vikas Mittal (2000), "Regret: A Model of Its Antecedents and Consequences in Consumer Decision Making," *Journal of Consumer Research*, 26 (4), 401-17.
- Tykcocinski, Orit E. and Thane S. Pittman (1998), "The Consequences of Doing Nothing: Inaction Inertia as Avoidance of Anticipated Counterfactual Regret," *Journal of Personality and Social Psychology*, 75 (3), 607-16.
- and ----- (2001), "Product Aversion Following a Missed Opportunity: Price Contrast or Avoidance of Anticipated Regret?," *Basic and Applied Social Psychology*, 23 (3), 149-56.
- , -----, and Erin E. Tuttle (1995), "Inaction Inertia: Foregoing Future Benefits as a Result of an Initial Failure to Act," *Journal of Personality and Social Psychology*, 68 (5), 793-803.
- Vanhuele, Marc and Xavier Dreze (2002), "Measuring the Price Knowledge Shoppers Bring to the Store," *Journal of Marketing*, 66 (October), 72-85.
- Winer, Russell (1985), "A Price Vector Model of Demand for Consumer Durables: Preliminary Developments," *Marketing Science*, 4 (Winter), 74-90.
- Zeelenberg, Marcel and Rik Pieters (1999), "Comparing Service Delivery to What Might Have Been: Behavioral Responses to Regret and Disappointment," *Journal of Services Research*, 2 (August), 86-97.
- and Marijke van Putten (2005), "The Dark Side of Discounts: An Inaction Inertia Perspective on the Post-Promotion Dip," *Psychology & Marketing*, 22(8), 611-22.

TABLE 1
STUDY 1 EXPERIMENTAL CONDITIONS

<i>Period</i>	<i>Hi-Lo Pricing</i>			<i>SDD Pricing</i>		
	<i>Regular Price</i>	<i>Past Price</i>	<i>Current Price</i>	<i>Regular Price</i>	<i>Past Price</i>	<i>Current Price</i>
Week 1:	\$499	\$499	\$349	\$499	\$499	\$349
Week 2:	\$499	\$349	\$349	\$499	\$349	\$379
Week 3:	\$499	\$349	\$349	\$499	\$379	\$409
Week 4:	\$499	\$349	\$499	\$499	\$409	\$439
Week 5:	\$499	\$499	\$499	\$499	\$439	\$469
Week 6:	\$499	\$499	\$499	\$499	\$469	\$499
Week 7:	\$499	\$499	\$499	\$499	\$499	\$499
Average:	\$499	\$435	\$435	\$499	\$435	\$435

DO NOT PRINT

TABLE 2

STUDY 1 RESULTS

<i>Pricing Tactic Condition</i>	<i>Expected Future Price</i>	<i>Anticipated Regret</i>	<i>Percentage Likely To Buy</i>	<i>Potential Revenue Per Person Per Week</i>	<i>Total Revenue</i>
Hi-Lo	\$415.89	2.52			
\$499, \$499, \$349	\$387.33	3.50	76%	\$349 * .76 = \$265.24	
\$499, \$349, \$349	\$365.56	3.01	67%	\$349 * .67 = \$233.83	
\$499, \$349, \$349	\$370.55	3.10	68%	\$349 * .68 = \$237.32	
\$499, \$349, \$499	\$407.62	1.78	10%	\$499 * .10 = \$ 49.90	\$ 990.88
\$499, \$499, \$499	\$462.56	2.12	14%	\$499 * .14 = \$ 69.86	
\$499, \$499, \$499	\$462.09	2.10	14%	\$499 * .14 = \$ 69.86	
\$499, \$499, \$499	\$455.55	2.06	13%	\$499 * .13 = \$ 64.87	
SDD	\$430.14	3.32			
\$499, \$499, \$349	\$382.54	3.52	74%	\$349 * .74 = \$258.26	
\$499, \$349, \$379	\$402.18	4.37	62%	\$379 * .62 = \$234.98	
\$499, \$379, \$409	\$411.83	3.78	50%	\$409 * .50 = \$204.50	
\$499, \$409, \$439	\$442.40	3.54	30%	\$439 * .30 = \$131.70	\$1,076.73
\$499, \$439, \$469	\$451.05	3.21	24%	\$469 * .24 = \$112.56	
\$499, \$469, \$499	\$461.67	2.70	13%	\$499 * .13 = \$ 64.87	
\$499, \$499, \$499	\$459.33	2.09	14%	\$499 * .14 = \$ 69.86	
Random discounting	\$419.51	2.79			
\$499, \$499, \$349	\$383.61	3.47	75%	\$349 * .75 = \$261.75	
\$499, \$349, \$439	\$449.88	3.60	30%	\$439 * .30 = \$131.70	
\$499, \$439, \$409	\$390.44	2.91	38%	\$409 * .38 = \$155.42	
\$499, \$409, \$469	\$475.08	2.68	21%	\$469 * .21 = \$ 98.49	\$983.15
\$499, \$469, \$379	\$371.11	3.09	57%	\$379 * .57 = \$216.03	
\$499, \$379, \$499	\$412.68	1.79	11%	\$499 * .11 = \$ 54.89	
\$499, \$499, \$499	\$453.76	2.02	13%	\$499 * .13 = \$ 64.87	

TABLE 3

STUDY 2 EXPERIMENTAL CONDITIONS

<i>Period</i>	<i>Conditions</i>						
	<i>A(Hi-Lo)</i>	<i>A'(Hi-Lo')</i>	<i>B(SDD)</i>	<i>AB(Hi-Lo & SDD)</i>		<i>A'B(Hi-Lo' & SDD)</i>	
				<i>A(Hi-Lo)</i>	<i>B(SDD)</i>	<i>A'(Hi-Lo')</i>	<i>B(SDD)</i>
Week 1	V ^a	V	V	V	V	V	V
Week 2	V	V	V	V	V	V	V
Week 3	V	X	V	V	V	X	V
Week 4	V	V	V	V	V	V	V
Week 5	V	V	V	V	V	V	V
Week 6	W	X	W	W	W	X	W
Week 7	V	V	X	V	X	V	X
Week 8	V	V	Y	V	Y	V	Y
Week 9	W	X	V	W	V	X	V
Week 10	V	V	V	V	V	V	V
Week 11	V	V	V	V	V	V	V
Week 12	V	X	V	V	V	X	V
Week 13	V	V	V	V	V	V	V
Week 14	W	V	V	W	V	V	V
Week 15	V	X	W	V	W	X	W
Week 16	V	V	X	V	X	V	X
Week 17	W	V	Y	W	Y	V	Y
Week 18	V	V	V	V	V	V	V
Week 19	V	X	V	V	V	X	V
Week 20	V	V	V	V	V	V	V
<i>Average</i>	<i>Z</i>	<i>Z</i>	<i>Z</i>	<i>Z</i>	<i>Z</i>	<i>Z</i>	<i>Z</i>

^a V: \$499, W: \$349, X: \$399, Y: \$449, Z: \$469

TABLE 4
STUDY 2 RESULTS

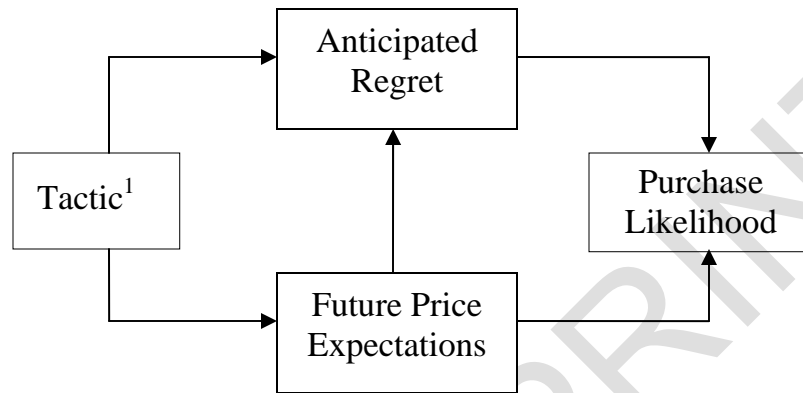
<i>Measures</i>	<i>Conditions</i>						
	<i>A(Hi-Lo)</i>	<i>A'(Hi-Lo')</i>	<i>B(SDD)</i>	<i>AB(Hi-Lo & SDD)</i>		<i>A'B(Hi-Lo' & SDD)</i>	
	<i>A(Hi-Lo)</i>	<i>B(SDD)</i>	<i>A'(Hi-Lo')</i>	<i>B(SDD)</i>	<i>A'(Hi-Lo')</i>	<i>B(SDD)</i>	
Willingness to pay	\$385.25	\$392.76	\$435.63 ^{a,b}	\$393.95	\$393.95	\$371.29	\$371.29
Likelihood to visit store	3.86	3.88	4.61 ^{a,b}	4.13	5.07 ^a	4.05	5.10 ^b
Store image	4.27	4.47	4.62	4.94	4.92	4.99	4.92
Brand image	5.39	5.60	5.53	--- ^c	--- ^c	--- ^c	--- ^c

a – Indicates significant differences ($p < .05$) between conditions B and A within the same row.

b – Indicates significant differences ($p < .05$) between conditions B and A' within the same row.

c – Brand image measures were not included in the AB and A'B conditions as participants were exposed to both pricing tactics and their relative impact on brand image is confounded.

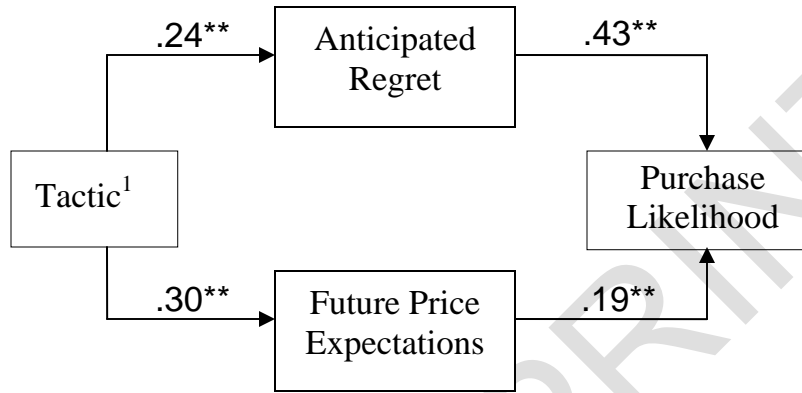
FIGURE 1
CONCEPTUAL FRAMEWORK



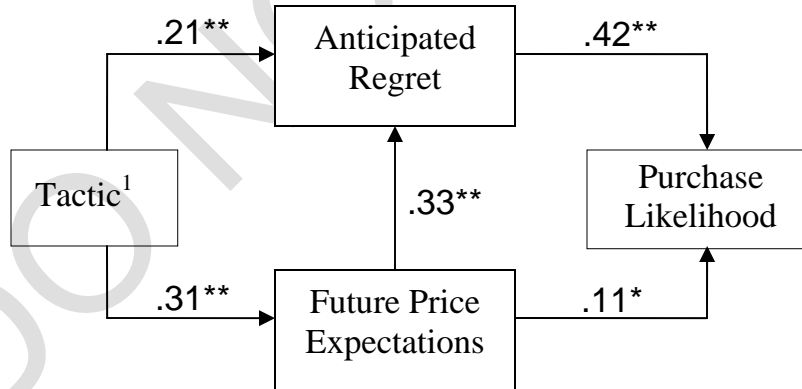
¹Tactic: Hi-Lo = 1, SDD = 2

FIGURE 2
STUDY 1 PATH ANALYSES

Panel A



Panel B



¹Tactic: Hi-Lo = 1, SDD = 2

* p < .05

** p < .01

APPENDIX

STUDY 1 SCENARIO EXAMPLE: WEEK 3 OF SDD (\$499, \$379, \$409)

Page 1 contained:

Recently you realized that you were having trouble keeping track of your schedule and decided to purchase a PDA.

You find a store where you like one of the PDAs available. It has the features that you desire to better keep track of your schedule. A week ago, the store had advertised a *one-week sale* and the PDA that normally sells for \$499 was offered at \$379. At that time, you were not looking to buy one but you remember the sale. On page two of this packet is the store's advertisement for the PDA.

Please take a couple of minutes to look at the PDA in the ad on page two before continuing.

Page 2 contained:

Regularly \$499
Today \$379

HP iPAQ 4155 PDA



- The pacesetter iPAQ PDA showcasing Microsoft® Pocket PC Software 2003
- 3.5" TFT transfective color display for easy viewing, both indoors and outdoors
- 400MHz Intel® Xscale processor
- iPAQ File Store protects critical data in non-volatile storage
- Integrated Bluetooth, MP3 Stereo
- 64 MB of RAM for applications, files, music and more

Last Sunday while out shopping you stopped by the store and saw that the store was selling the product at \$409. On page three of this packet is the store's advertisement for the PDA.

Please take a couple of minutes to look at the PDA in the ad on page three before continuing.

Page 3 contained:

**Regularly \$499
Today \$409**

HP iPAQ 4155 PDA



- The pacesetter iPAQ PDA showcasing Microsoft® Pocket PC Software 2003
- 3.5" TFT transfective color display for easy viewing, both indoors and outdoors
- 400MHz Intel® Xscale processor
- iPAQ File Store protects critical data in non-volatile storage
- Integrated Bluetooth, MP3 Stereo
- 64 MB of RAM for applications, files, music and more

At this time you realize that you have to make a decision to either purchase the PDA at the new price or wait for another sale or visit another store.

DO NOT PRINT

STUDY 1 MEASURES

Purchase likelihood at a given price

I am _____ the PDA for \$409?

____ likely to buy

____ neither likely or unlikely to buy

____ unlikely to buy

Thought listing

In the space below, please describe your thoughts that led to this decision.

Future price expectations

What is your best estimate of what the price of the PDA will be 1 week from now? \$ _____

Anticipated inaction regret

	<i>Strongly Agree</i>					<i>Strongly Disagree</i>	
1) If I don't buy the PDA now, I will regret it later	7	6	5	4	3	2	1

Store image

	<i>Strongly Agree</i>					<i>Strongly Disagree</i>	
1) My image of the store is positive	7	6	5	4	3	2	1
2) The store carries high quality merchandise	7	6	5	4	3	2	1

Brand image

	<i>Strongly Agree</i>					<i>Strongly Disagree</i>	
1) My image of the HP IPAQ is positive	7	6	5	4	3	2	1
2) This HP IPAQ appears to be of quality	7	6	5	4	3	2	1

STUDY 2 ADDITIONAL MEASURES

Willingness to pay

If you were to buy this HP iPAQ, what is the highest price you would pay? \$ _____

Likelihood to visit store

	<i>Very Likely</i>							<i>Very Unlikely</i>
How likely are you to visit Store A?	7	6	5	4	3	2	1	
How likely are you to visit Store B?	7	6	5	4	3	2	1	

Future price expectation

What was the most likely price during the week after you went away? \$ _____

Uncertainty of price expectation

How certain are you about your price estimate? _____ % (include a number from 0 to 100)

DO NOT PRINT

STUDY 3 STIMULI

SDD



Chef's Special:

THREE BIG DAYS TO SAVE!

All Glass Wine Stoppers

Regular price \$24.95

Buy it on March 13th for \$17.45

Buy it on March 14th for \$19.95

Buy it on March 15th for \$22.45

Hi-Lo (same frequency)



Chef's Special:

THREE BIG DAYS TO SAVE!

All Glass Wine Stoppers

Regular price \$24.95

Buy it on March 20th for \$19.95

Buy it on March 21st for \$19.95

Buy it on March 22nd for \$19.95