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Price-matching Refund Policies as Signals of Store Price Image

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Working Paper
Report No. 99-128
1999

MSI

The author thanks David Aaker, Tulin Erdem, Nicholas Lurie, Therese Louie, Priya Raghurir, and the seminar participants at the University of California, Los Angeles, for their helpful comments and suggestions. The author also thanks Kashi Hernandez, Wayne Ma, Gloria Sheh, and Helen Wong for their assistance in collecting the data. Financial support for this research was provided by generous grants from the Marketing Science Institute and the Committee on Research, University of California, Berkeley.

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Retailers frequently advertise that they will not be undersold, and often promote price-matching refund policies, in which they offer to meet competitors' prices. Although common in the marketplace, these policies have received little attention from marketing researchers, and existing discussions offer inconsistent views. The economics literature suggests that price-matching policies reduce price competition and lead to high store prices because such policies reduce stores' incentives to lower prices unilaterally. In contrast, the trade press associates price-matching refunds with intense price competition and relatively low store prices.

How consumers interpret and respond to price-matching policies has important implications for retailer strategies and for public policy. Do consumers view price-matching policies as a signal of low, or high, store prices? Or do consumers view such policies as a retail tactic to convince them of low prices, with the result that they have no effect on store price image?

In this study, author Srivastava investigates these questions in four experiments. Overall, evidence found that consumers tend to associate price-matching refund policies with low, rather than high, store prices. Specifically:

- ❑ In one experiment most subjects perceived the store with the price-matching policy to have lower prices and were more likely to choose the store with the refund policy.
- ❑ In another experiment, subjects perceived mall prices to be lower when the stores in the mall offered price-matching refund policies.
- ❑ Subjects appeared to believe that because price-matching refunds are enforceable, the monetary cost that a retailer stands to incur by making a false low price claim will deter high-priced retailers from offering such policies.
- ❑ Finally, the results of another experiment suggest that price-matching refunds affect perceptions of store prices even when store prices can be inferred from more compelling price-related cues.

Together, the results suggest that retailers can use price-matching refund policies to signal their price image to consumers. In particular, consumers associate price-matching policies with relatively low store prices—even when all stores offer refunds. Further research might address the competitive implications of price-

matching policies. In addition, because of the possibility that consumers may overestimate the mechanisms that serve to discipline errant firms, it is important to address the public policy implications of price-matching policies.

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Contents

Introduction	3
Conceptual Background	5
Price-matching Refunds as Signals of High Store Prices	5
Price-matching Refunds as Signals of Low Store Prices.....	6
Price-matching Refunds Do Not Affect Perceptions of Store Prices?.....	6
Study 1A	9
Method	9
Results and Discussion	10
Study 1B	11
Overview	11
Method	11
Results.....	12
Discussion	13
Study 2.....	15
Theory and Hypotheses.....	15
Method	17
Results.....	18
Discussion	21
Study 3.....	23
Overview	23
Hypotheses.....	23
Method	24
Results and Discussion	26
General Discussion.....	29
Notes.....	33
References.....	35
Tables	
Table 1. Study 1B: Measures of Mall Choice and Perceptions of Relative Mall Prices and Likelihood of Store with Lower Prices.....	12
Table 2. Study 2: Results of Multivariate and Univariate Analysis of Variance	19

Table 3. Study 2: Means and Standard Deviations of Consumer Perceptions of Enforceability, Cost, Believability, Store Prices, and Willingness to Claim Refunds	19
Table 4. Study 3: Means and Standard Deviations of Consumer Price Perceptions and Confidence Ratings	26

Introduction

Retailers frequently advertise that they will not be undersold. Often these advertisements are accompanied by a price-matching (or beating) offer that typically takes the form of a refund. The examples below, taken from a newspaper of a major metropolitan city, illustrate the type of price-matching refund policies that are commonly found in the marketplace.

We promise to refund the difference if you find that you could have bought the same product cheaper locally at the time of purchase and call within 90 days.

Our price-matching policy guarantees you the lowest price. In the unlikely event that you find an identical item that you purchased here for a lower price at another store, we will gladly refund the difference.

Such pricing policies have the characteristic that consumers have to incur a “hassle cost” (e.g., engage in more price search, etc.) in order to claim the refund (Hviid and Shaffer 1999).¹ Price-matching refund policies are common in both industrial and consumer markets. In industrial markets, such pricing policies are manifested in “meet the competition” clauses in trade agreements. This policy provides an assurance to the buyer that should he or she be offered a lower price, the original seller will match that price, thus protecting the buyer from overpaying. In consumer markets, retailers, including electronic and appliance stores, grocery stores, and major department stores, frequently offer price-matching policies.

While price-matching policies are common in the marketplace, such pricing practices have received relatively little attention in the marketing literature. Further, the relatively scant discussions of price-matching refunds that exist in the academic literature and the trade press provide two contrasting viewpoints. The studies on price-matching refunds in the economics literature suggest that these policies are associated with relatively high store prices and in fact help firms in colluding implicitly (e.g., Salop 1986). In contrast, the trade press associates price-matching refunds with relatively low store prices. Given these opposing viewpoints, it is of particular interest from a theoretical as well as a practical perspective to determine whether consumers view price-matching policies as signals of relatively high or low store prices. Or, perhaps, price-matching refunds are viewed as just another retail ploy and thus do not influence store price image. The manner in which consumers interpret and respond to price-matching policies clearly has implications not only for designing effective retail strategies but also for public policy.

The primary purpose of this paper is to examine price-matching refund policies from a consumer perspective. Four studies examine the effect of price-matching policies on consumer perceptions of store prices. The first two studies (Study 1A and Study 1B) explore whether price-matching policies affect consumer perceptions of store prices. In particular, the question is whether consumers associate

price-matching policies with relatively high or low store prices. Study 1A examines the effect of a price-matching policy on consumer perceptions of store prices when a store unilaterally offers a refund. Extending Study 1A, Study 1B examines the effect of price-matching policies when *all* stores offer refunds. The design allows us to compare a scenario when a store unilaterally offers a price-matching policy relative to when all stores offer refunds. Studies 1A and 1B show that consumers associate price-matching policies with lower than average store prices. This finding prompted us to examine the underlying reasons for the effects, as well as their robustness, in two additional studies. In Study 2, a theoretical framework based on signaling theory in information economics is developed and tested to examine the underlying reasons for the effect of price-matching policies on consumer perceptions of store prices and to differentiate such policies from more general low price claims. Finally, Study 3 examines whether price-matching policies influence store price perceptions even when alternate sources of information (cues) that are commonly used to infer store prices are available to consumers. In particular, Study 3 examines the extent to which price-matching policies are used as heuristics to infer overall store prices.

Conceptual Background

Price-matching Refunds as Signals of High Store Prices

The economics literature suggests that stores that offer price-matching policies have high prices. The rationale is that price-matching policies reduce firms' incentives to lower prices unilaterally and thus reduce price competition by circumventing the price wars problem (Salop 1986). Following Salop (1986), this research suggests that firms may offer price-matching policies to not only deter other firms from unilaterally lowering their prices but also as a means of raising prices (Belton 1987; Cooper 1986; Kalai and Satterthwaite 1986). Consider two similar retailers, A and B, competing in prices, and suppose the break-even price for both is \$100. In the absence of price-matching refunds, competition would lead to break-even (or marginal cost) pricing and zero profits. However, if retailer A wishes to charge \$120, it could do this by offering a price-matching refund. Png and Hirshleifer (1987) point out that while consumers with high search costs (i.e., ill informed) pay \$120, consumers with low search costs (i.e., well-informed) will claim the refund and effectively pay \$100. Retailer B thus has little incentive to lower its price since consumers can obtain the lower price from retailer A because of its price-matching policy. This illustration shows that the average market price is higher in the presence of a price-matching policy and the store that offers the refund has higher prices. In fact, Salop (1986) shows that retailer B's best strategy is to raise its price to \$120 and offer a price-matching policy as well. This suggests that when all stores offer a price-matching policy, store prices are higher relative to when no store offers a refund.

The notion of price-matching policies as a device to reduce price competition has gained acceptance in the managerial literature (e.g., Brandenburger and Nalebuff 1995) and has even led to calls of antitrust action against firms offering such policies (Edlin 1997). Further, in an empirical study of data from grocery stores, Hess and Gerstner (1991) provide support for the idea that price-matching refunds reduce price competition and lead to higher store prices.

To the extent that consumers possess the cognitive schema for the collusive mechanism of price-matching policies, their perceptions of store prices should be higher in the presence of a price-matching policy relative to its absence. It is, however, unlikely that most consumers possess the cognitive schema for the economic rationale. Notwithstanding, to the extent that price-matching policies are actually associated with relatively high prices in the marketplace, consumers may have come to recognize (learn) this association over time. Further, the presence of a price-matching policy may also activate consumers' "schemer schema" or their intuitive theories for why a retailer would offer a price-matching policy (see Friestad and Wright 1994; Wright 1985). This could lead to the belief that high priced retailers offer price-matching policies in order to persuade consumers of their low prices. Moreover, consumers may believe that high priced retailers offer price-matching policies because they count on the fact that most consumers will not take the trou-

ble to claim the refund. These rationales suggest that consumers may associate price-matching refund policies with higher than average store prices.

Price-matching Refunds as Signals of Low Store Prices

In contrast to the economics-based explanation, the trade press postulates that retailers with low prices offer price-matching policies. Retailers who have a cost advantage, or are trying to build market share, may use such refund policies to convince consumers of their low prices. This may be particularly true for retailers that carry the same branded products (of similar quality) and thus compete primarily on the basis of price. Accordingly, price-matching policy announcements by firms have been heralded as price wars by the press. For instance, a headline in the *Times* (London edition; September 5, 1996, p. 1) read, “Tesco Launches a New Price War,” when Tesco, a British company, announced its decision to introduce a price-matching policy (cited in Hviid and Shaffer 1999). This implies that the store that offers a price-matching policy is perceived to have low prices and price-matching announcements could potentially induce other stores to lower their prices as well.

Consistent with the trade press view, consumers may also believe that retailers offer price-matching refund policies because they have low prices. In fact, the presence of a price-matching policy may suggest that the retailer is confident enough of its low prices that it can afford to offer such a policy.

Further, the recent theoretical literature (e.g., Corts 1996; Jain and Srivastava 1998) suggests that the collusive effect of price-matching policies does not hold when factors such as store differentiation are considered. These studies identify conditions where price-matching policies may lead to increased price competition and stores offering such policies have low prices. Accordingly, consumers could potentially associate price-matching policies with lower than average store prices.

Price-Matching Refunds Do Not Affect Perceptions of Store Prices?

A third possibility is that price-matching refunds do not affect consumer perceptions of store prices. One reason is that consumers’ “schemer schema” may suggest that price-matching policies are retail tactics to convince consumers that the store has low prices even though the actual prices are average. To the extent consumers believe that price-matching policies are retail tactics to convince them of low prices, the presence of such policies may have no effect on perceptions of store prices. The rationale, based on Friestad and Wright’s (1994) persuasion knowledge model, is that the extent to which consumers believe that a marketer is trying to “persuade” them, they may engage in defensive mechanisms that serve to limit the effectiveness of the persuasion attempt.

The effectiveness of price-matching policies may also depend on the extent to which consumers believe that they can find identical products at different retailers. It is often difficult to claim a price-matching refund because of branded variants (see Bergen, Dutta, and Shugan 1996). For some product categories (e.g., some electronics and mattresses), it is virtually impossible to find two retailers carrying the same exact model because retailers have manufacturers put different model

numbers on identical products.² The extent to which consumers are aware of such practices is likely to affect their perceptions of price-matching policies.

Price-matching refunds may also be perceived as *only* reducing the financial risk associated with a purchase without affecting price image. Given the increase in the frequency of sales and price promotions in the marketplace, there is a risk that consumers may purchase a product only to find it being sold for a lower price elsewhere. In such a situation, a price-matching policy may encourage consumers to purchase the product without engaging in more price search. Thus, consumers do not have to delay consumption and the refund policy provides redress if, in the near future, the same product is found for a lower price either at the same store or at a different store.

In sum, the presence of price-matching policies may potentially influence consumer perceptions of overall store prices in one of three ways. If price-matching policies indeed affect store price image, of primary interest is to examine whether consumers associate such policies with relatively high or low store prices. Formally, these competing (and exhaustive) hypotheses, which are explored in studies 1A and 1B, are provided as a guide to the ensuing studies.

- H_{1a}: Consumer perceptions of overall store prices will be higher when a store offers a price-matching refund policy relative to when it does not.
- H_{1b}: Consumer perceptions of overall store prices will be lower when a store offers a price-matching refund policy relative to when it does not.
- H_{1c}: Consumer perceptions of overall store prices will remain unchanged regardless of whether a store offers a price-matching refund policy or not.

Study 1A

Method

Design and Subjects

In a hypothetical purchase scenario, subjects shopping for a new videocassette recorder (VCR) had to compare two stores. A VCR was chosen as the test product because student subjects are familiar with this product (82 percent of the subjects had purchased a VCR in the last four years) and the prices for VCRs vary considerably in the marketplace. Subjects were presented with the following descriptions of two electronic and appliance stores, A and B:

Store A is an electronic and appliance store which has been in business for a few years. Store A offers an extensive selection of electronic merchandise. The store includes listening stations where you can sample different components. The store is part of a shopping complex. While the shopping complex has adequate parking, it can get quite crowded during the weekends.

Store B is an electronic and appliance store which has been in business for a long time. Store B offers an extensive selection of electronic merchandise. It has a special acoustics room where one can test audio components. It also sells new and used CDs and tapes. It is located in the downtown area which due to renovations has become an active place during the weekends.

Given that the store descriptions were presented together, the descriptions were varied on certain dimensions to make the task meaningful for the subjects. To ensure that the stores were perceived as equally attractive, the descriptions were pretested with 40 undergraduate subjects.³

There were three experimental conditions including the control condition. Sixty-eight undergraduate seniors, randomly assigned to one of the three conditions, participated in the study. In condition A, store A offered a price-matching refund; in condition B, store B offered a price-matching refund; and in condition C (control), neither store offered a price-matching refund. In conditions A and B, the following statement was added to the store description.

Store A (B) has a price-matching policy which states: "If you buy a product at our store and see the same product at a lower price elsewhere within 90 days, we will gladly refund the difference."

Since the control condition served as a baseline, any difference between the control condition and each of the two treatment conditions could be attributed to the presence of the price-matching policy.

The experimental task required the subjects to read the descriptions of the two stores and then complete a questionnaire. The entire task was completed in about 15 minutes.

Dependent Measures

Two dependent measures were collected. Perceptions of relative store prices were measured by asking subjects, "Relative to Store A, the overall prices at Store B are:" (1 = Definitely higher than A; 7 = Definitely lower than A) and "Which store is most likely to have lower prices?"

Results and Discussion

The results clearly show that the presence of a price-matching policy influenced subjects' perceptions of relative store prices. In condition A, where store A offered the refund, subjects perceived store B's prices to be higher relative to the control condition (Means = 3.04 versus 3.77; $F(1, 65) = 3.72, p < .06$).⁴ Similarly, in condition B where store B offered the refund, subjects perceived store B's prices to be lower relative to the control condition (Means = 4.91 versus 3.77; $F(1, 65) = 6.66, p < .01$).

Consistent with the earlier measure, subjects' choice of the store most likely to offer lower prices also varied significantly ($\chi^2 = 6.24, p < .01$). In the control condition, 54.6 percent (12/22) of the subjects chose store A. This shows, in addition to the pretest, that the differences in store descriptions did not favor either store significantly. In condition A, where store A offered the refund, store A's choice proportion rose to 78.3 percent (18/23) ($z = 12.03, p < .01$); whereas in condition B where store B offered the refund, store A's choice proportion declined to 17.4 percent (4/23) ($z = 18.19, p < .01$). Overall, these results indicate that while 80.43 percent of the subjects perceived the store with the refund as most likely to have lower prices, 19.57 percent of the subjects perceived the store without the refund to have lower prices.

Study 1A clearly demonstrates that the majority of the subjects perceived the store with the price-matching policy to have lower prices relative to the store without the refund. However, it should be noted that in this study, the effect of price-matching policy on consumer perceptions of store prices was examined when only one of the two stores offered the refund. Relative to the unilateral situation examined in Study 1A, a strict interpretation of the results from the economics literature suggests that stores have relatively high prices when all stores offer price-matching policies. It is therefore important to examine the robustness of the effects of price-matching policies on consumer price perceptions when all stores offer a price-matching policy as opposed to a unilateral price-matching policy. A second issue with Study 1A concerns the use of undergraduate subjects. Undergraduate students are relatively inexperienced shoppers and may be more susceptible to price-related tactics such as price-matching refund policies. There is thus a need to explore the generalizability of the findings of Study 1A beyond the undergraduate population. Study 1B was designed to address these issues.

Study 1B

Overview

Study 1B was designed to allow a comparison of the scenario in which all stores offer a refund to the scenario in which only one store offers a price-matching policy. In addition, rather than using undergraduate students, subjects for this study were recruited at a major airport.

To examine the effect of price-matching policies when all stores offer a refund, consider a choice between two shopping malls, A and B. Consider further that two stores, X and Y, in shopping mall A offer to match prices whereas two other stores, J and K, in shopping mall B do not offer a price-matching policy. This represents the scenario where all stores (in a shopping mall) offer a price-matching refund. Consider another scenario where only store X in shopping mall A offers a price-matching policy while in shopping mall B neither of the two stores offer a refund. This scenario represents the situation where only one store unilaterally offers a refund. To the extent consumers associate price-matching policies with reduced price competition and higher than average prices, mall B should be preferred to mall A in both scenarios. Further, mall B (A) should be perceived to have lower (higher) prices. In contrast, to the extent consumers associate price-matching policies with increased price competition and lower than average prices, mall A should be preferred to mall B, and mall A (B) should be perceived to have lower (higher) prices. On the other hand, if price-matching policies have no impact on consumer perceptions of prices, the two shopping malls should be equally preferred.

Method

Stimuli and Subjects

Subjects were asked to imagine that they were about to go on a vacation and needed to purchase a good-quality camera. Subjects were provided with a brief description of two shopping malls located in two different towns that were equidistant from where they lived. Shopping mall A, located in town A, was described as having two camera stores, X and Y, that carry brand-name cameras and other photographic equipment. Similarly, shopping mall B, located in town B, was described as having two camera stores, J and K, that carry brand-name cameras and other photographic equipment. Subjects were explicitly told that they had the time to visit only one mall before their departure.

Two conditions were created by altering the description of shopping mall A. In one condition, it was mentioned that both camera stores, X and Y, offered a price-matching policy. In the other condition, it was mentioned that store X offered a price-matching policy. The price-matching policy statement was the same as Study 1A. One hundred and sixty-one subjects, ranging in age from 22 to 54, were recruited at a major airport and were randomly assigned to one of the two conditions.

Dependent Measures

Four main dependent measures were collected. Subjects were first asked to make a choice between the two malls, “Given that you have the time to visit only one shopping mall, which mall would you visit?” Perceptions of relative mall prices were then measured by a seven-point scale: “In your opinion, camera prices are likely to be:” (1 = Lower at Mall A; 4 = About the same; 7 = Lower at Mall B). Finally, perceptions of relative store prices at the two malls were measured by “Which of the two stores in Shopping Mall A (B) is likely to have overall lower prices?” Subjects responded to these two measures by choosing one of three options: (1) Store X (J), (2) Store Y (K), and (3) Equally likely at stores X and Y (J and K).

Results

Table 1 displays the results of Study 1B. As Table 1 shows, the mall choice data clearly suggest that subjects preferred mall A to mall B in both conditions. When both stores X and Y offered the refund in mall A, 95 percent (76/80) of the subjects chose mall A ($z = 11.38$, $p < .01$). Similarly, when only store X offered the refund, 85.19 percent (69/81) of the subjects chose mall A ($z = 8.90$, $p < .01$). There was no significant difference across the two conditions. These data clearly suggest that most subjects associate price-matching policies with increased price competition and lower than average prices, regardless of whether the price-matching policy was offered by all stores or by only one store.

Table 1. Study 1B: Measures of Mall Choice and Perceptions of Relative Mall Prices and Likelihood of Store with Lower Prices

Condition	Only one store offers a refund	Both stores offer a refund
Mall choice	85.19 (69/81) ¹	95 (76/80)
Perceptions of relative mall prices	0.93 (1.36) ²	0.85 (1.22)
Likelihood of store with lower prices in mall A		
Store X	87.65 (71/81)	31.25 (25/80)
Store Y	7.41 (6/81)	13.75 (11/80)
Equally likely	4.94 (4/81)	55.00 (44/80)
Likelihood of store with lower prices in mall B		
Store J	24.69 (20/81)	28.75 (23/80)
Store K	18.52 (15/81)	16.25 (13/80)
Equally likely	56.79 (46/81)	55.00 (44/80)

¹ The numbers represent the percentage of subjects that chose mall A.

² The numbers represent the mean difference from midpoint and the numbers in parentheses represent standard deviations.

In order to analyze perceptions of relative mall prices, a new variable was created by subtracting 4 (the scale’s midpoint) from the observed score. As such, positive

values imply lower (higher) perceived prices at mall A (B) and negative values imply lower (higher) perceived prices at mall B (A). Values not significantly different from zero would imply no difference in the perceptions of prices across malls A and B. Consistent with the choice measure, Table 1 shows that perceptions of relative mall prices were positive and significantly different from zero in both conditions (Mean difference = .85, $t(79) = 6.22$, $p < .0001$, when both stores offered a refund; Mean difference = .93, $t(80) = 6.14$, $p < .0001$, when only one store offered a refund). These findings provide additional support for the finding that most consumers associate price-matching policies with relatively low prices as opposed to high prices.

Analysis of the perceptions of relative store prices shows that when both stores in mall A offered a refund, a majority of the subjects perceived stores X and Y to be equally likely to have lower prices (31.25 percent chose store X, 13.75 percent chose store Y, and 55 percent chose stores X and Y equally likely to have lower prices; $\chi^2 = 20.58$, $p < .001$). However, in the condition where only X offered the refund, Table 1 shows that the majority of the subjects perceived store X to be the most likely to have lower prices (87.65 percent chose store X, 7.41 percent chose store Y, and 4.94 percent chose stores X and Y equally likely to have lower prices; $\chi^2 = 107.63$, $p < .001$). As expected, Table 1 also shows that a majority of the subjects perceived stores J and K to be equally likely to have lower prices in shopping mall B. Corroborating the findings of Study 1A, Study 1B clearly shows that the store that offers a unilateral price-matching policy is perceived to have lower prices.

Discussion

Together, studies 1A and 1B strongly suggest that consumers associate price-matching policies with increased price competition and relatively low prices. While Study 1A examined the effect of price-matching policy when only one store offers a refund, Study 1B shows that consumers associate such policies with relatively low prices even when all stores offer a refund. Further, the effect of price-matching policies on consumer perceptions of prices was robust across the student as well as the general population. These findings demonstrate the compelling nature of price-matching policies in affecting consumer perceptions of store prices.

Although studies 1A and 1B address the question of how price-matching policies affect consumer perceptions of store prices, they also raise some questions. First, although the price-matching statement used in studies 1A and 1B did not *explicitly* claim low prices, the question is whether the findings are specific to such policies or could have been obtained even with a general low price claim. Second, a price-matching policy only ensures that a consumer can obtain the lowest price that he or she can find elsewhere. It does not guarantee the consumer that the stores offering the refund policy post the lowest (or lower than average) price. In other words, the underlying reasons why consumers associate price-matching policies with lower prices are not clear. Third, consumer perceptions of the difficulty of finding identical brands/models at different stores may influence how they perceive and react to price-matching refund policies. Using the results of studies 1A and 1B as a starting point, the next study was designed to address these issues.

Study 2

Theory and Hypotheses

In order to differentiate a price-matching policy from a general low price claim and to understand why price-matching policies are associated with relatively low prices, the theoretical framework adopted here draws on signaling theory in information economics (e.g., Spence 1973). Information economics ideas have been extensively used in various marketing domains including branding (e.g., Wernerfelt 1988), warranties (e.g., Boulding and Kirmani 1993), and advertising (e.g., Kirmani 1990). In this study, the information economics framework is used to examine price-matching policies from a consumer perspective. According to the signaling perspective in information economics, most firms are unlikely to make false claims (e.g., about product quality) because they stand to lose their reputation (or brand equity) and their future profits (Erdem and Swait 1998). Said differently, most claims will most often be true because market mechanisms serve to discipline firms who make untruthful claims (Ippolito 1990). It has therefore been argued that consumers should rationally believe firms' claims about unobservable product quality because false claims would harm the firm (e.g., Rao, Qu, and Ruekert 1999; Wernerfelt 1988). To the extent that this argument holds for experience attributes (e.g., product quality), the market disciplinary mechanisms are likely to be stronger for claims about search attributes (e.g., price) because they are easier to evaluate and verify (Nelson 1970).

Consider a retailer who makes a general low price claim such as “We have low prices to save you money” and a retailer who makes the same claim along with a price-matching refund offer. Given that consumers can evaluate and verify price information relatively easily, if the retailer's low price claim turns out to be false, consumers can punish the retailer in both cases (Wernerfelt 1988). The rationale is that consumers can exert market power and punish the retailer by not only withholding repeat purchases but also engaging in negative word-of-mouth or calling for regulatory action (Ford, Smith, and Swasy 1990; Rao, Qu, and Ruekert 1999). Because consumer punishment would lead to monetarily unattractive outcomes for the retailer, it is likely that the low price claims are at least somewhat truthful. The monetary cost that a retailer stands to incur in the future thus serves as a “bond” that the retailer offers and the higher the bond the more believable the retailer's claim (Ippolito 1990).

The negative outcome due to consumer punishment is likely to be more severe for the retailer that makes the low price claim along with an offer to match prices because its claim can be enforced. If a lower price is found elsewhere, consumers can take action relatively quickly by enforcing the price-matching offer, thereby incurring a monetary cost to the retailer. Consequently, consumer perceptions of the bond (or monetary costs) that the retailer stands to forfeit by making a false low price claim will be higher when the claim is accompanied by an offer to match prices. Because the strength of the bond directly affects the believability of the

claim, it follows that a low price claim along with a price-matching policy is likely to be perceived as more believable than a general low price claim. These arguments suggest that consumer perceptions of store prices are likely to be lower when the low price claim is accompanied by a price-matching refund policy.

In summary, the argument is that a low price claim along with a price-matching policy is enforceable while a low price claim by itself is not. Since enforcement of price-matching policies is monetarily detrimental to retailers, the bond associated with an offer to match prices is relatively high. Because of the high bond, consumers perceive that retailers with relatively high prices are less likely to offer such policies. Rather, such policies are more likely to be offered by retailers with relatively low prices. In other words, consumers perceive that the high cost of offering a price-matching refund will deter high priced retailers from offering such policies. Based on the discussion above, it is hypothesized:

H₂: Relative to a low price claim, a low price claim along with a price-matching refund policy will have:

- a. higher perceptions of enforceability.
- b. higher perceptions of cost.
- c. higher perceptions of believability.
- d. lower perceptions of overall store prices.

H₃: The differential effect of the low price claims on perceptions of overall store prices will be mediated by the perceived enforceability of the claims.

The logic underlying the signaling perspective in information economics is that to the extent a retailer makes a false low price claim and offers to match prices, it may forfeit its bond because consumers can enforce the refund and force the retailer to incur monetary costs. The monetary cost that the retailer stands to incur provides a deterrent against making false claims. Consumers who believe in this logic will perceive a retailer's prices to be lower than average when the low price claim is accompanied by an offer to match prices. While the ability to enforce a low price claim may be enough to drive the market mechanisms that serve to discipline erring retailers, it is likely that perceptions of the strength of the mechanism will also affect the effectiveness of price-matching policies.

Taking this logic one step further, we argue that to the extent consumers vary in their propensity or willingness to claim a refund if they find a lower price elsewhere, it should have an effect on their perceptions of the cost that the retailer stands to incur as well as perceptions of store prices. In other words, consumers' willingness to enforce a price-matching policy is perhaps a more important determinant of the cost that an erring retailer stands to incur because willingness to enforce directly affects the intensity of the disciplinary mechanisms. It thus follows that the higher the consumers' willingness to claim refunds if a lower price is found elsewhere, the higher will be their perceptions of the cost that a retailer

stands to incur. Further, because the cost of making a false low price claim increases with store prices, the higher the consumers' willingness to claim refunds, the lower should be their perceptions of store prices. More formally,

- H₄: The higher the consumers' willingness to enforce a price-matching refund policy, the lower the perceptions of overall store prices.
- H₅: The effect of consumers' willingness to enforce a price-matching refund policy on consumer perceptions of overall store prices will be mediated by the perceptions of the cost that the retailer stands to incur.

Method

Subjects and Design

One hundred and sixty-three subjects, ranging in age from 20 to 66, were recruited at a major airport to participate in the study. The mean age of the subjects was about 43 and 64 percent were males. Subjects, randomly assigned to three experimental conditions, were asked to imagine a purchase scenario in which they were shopping for a new digital video disc (DVD) player. They were provided with a description of an electronic and appliance store—Milo Electronics—and were asked to provide their impressions of the store. The three experimental conditions were created by adding one of the following statements to the store description:

- PL (Price-matching, with explicit low price claim): We have low prices to save you money. Our pricing policy states, "If you buy a product at our store and find the same product for a lower price elsewhere within 90 days, we will gladly refund the difference."
- P (Price-matching, without explicit low price claim): We have a pricing policy that states, "If you buy a product at our store and find the same product for a lower price elsewhere within 90 days, we will gladly refund the difference."
- L (General low price claim): We have low prices to save you money.

Note that the two price-matching policy conditions differ in whether the low price claim is explicit (PL) or not (P). To the extent the results show that PL and P conditions are similar, it would suggest that a price-matching policy is perceived to be an implicit low price claim by consumers.

After reading the purchase scenario and the store description, subjects completed a questionnaire that included the dependent measures and selected covariates. The entire task was completed in 10-15 minutes.

Dependent Measures

Perceived Enforceability of Price Claim. Two seven-point Likert scales were averaged to measure perceived enforceability of the price claim (correlation = .77). The items were: "Milo's price claim can be enforced by consumers" and "Consumers

can enforce Milo's low price claim if its prices are actually high" (1 = Strongly disagree; 7 = Strongly agree).

Perceived Cost of Price Claim. An average of three seven-point items measured subjects' perceptions of the cost that Milo would incur if its prices were actually high (Cronbach's alpha = .81). They were asked: "Milo is likely to incur substantial monetary costs if its prices are actually high," "Consumers can force Milo to incur substantial monetary costs if its prices are actually high" (1 = Strongly disagree; 7 = Strongly agree), and "If Milo has high prices, the monetary costs that it will have to bear are:" (1 = Very low; 7 = Very high).

Perceived Believability of Price Claim. An average of two seven-point items was used to measure the perceived believability of the price claims (correlation = .78). Subjects were asked: "Milo's low price claim is believable" (1 = Strongly disagree; 7 = Strongly agree); and "Milo's low price claim is:" (1 = Not at all believable; 7 = Very believable).⁵

Store Price Perceptions. Subjects' perceptions of overall store prices were measured by four seven-point items. The four items were "(Before taking a refund), the overall prices at Milo are most likely to be:" (1 = Lower than average; 7 = Higher than average); "Relative to other electronic stores, the prices at Milo are most likely to be:" (1 = Low; 7 = High); "(Before taking a refund), my expectations about the overall prices at Milo are:" (1 = Very high; 7 = Very low); and "Milo's prices are likely to be lower than average" (1 = Strongly disagree; 7 = Strongly agree). The four items (the third and fourth items were reverse-scored) were averaged to construct a measure of store price perception (Cronbach's alpha = .87).

Willingness to Claim a Refund. Three seven-point scales were averaged to measure consumers' willingness to claim a refund (Cronbach's alpha = .80). Subjects were asked, "It is very likely that I will claim a refund from Milo if I later find the DVD for a lower price elsewhere," "Most people will claim a refund if they find a product that they bought earlier for a lower price at another store" (1 = Strongly disagree; 7 = Strongly agree), and "The likelihood of my claiming a refund if I find a lower price at another store is:" (1 = Very low; 7 = Very high). These scales were present only in the PL and P conditions. There was no difference between one's own willingness versus others' willingness to claim refunds.

Perceived Difficulty of Finding Identical Models. The perceived difficulty of finding identical items at different stores was measured by averaging two seven-point Likert scales (correlation = .67). Subjects were asked, "A brand and model sold at one store can be easily found in other stores" and "Even for the same brand, it is hard to find identical models at different stores." The objective was to examine whether this affects perceptions of price-matching policies.

Results

Perceived difficulty of finding identical models did not have a main effect in any analysis and neither did it figure in any significant interaction. It was thus dropped from the analysis reported here.

Hypotheses 2 and 3

In evaluating hypotheses 2 and 3, the analysis included PL and L conditions only.⁶ Table 2 summarizes the multivariate and univariate analysis of variance results while Table 3 displays the means of the dependent measures in the three conditions. The multivariate analysis of variance test of Hypothesis 2 shows that the four dependent measures were significantly different across the PL and L conditions (Wilk's lambda = .67; $F(4, 103) = 12.88, p < .0001$). The univariate tests were consistent with the multivariate analysis. Consistent with H_{2a} , the mean enforceability ratings were significantly higher in the PL condition relative to the L condition (Means = 5.32 and 3.33; $F(1, 106) = 46.88, p < .0001$). This finding is consistent with the notion that a low price claim with a price-matching offer is more likely to be perceived as more enforceable than just a low price claim.

Table 2. Study 2: Results of the Multivariate and Univariate Analysis of Variance

Dependent Variables	Wilk's Lambda	F-value
Multivariate Analysis of Variance		
L, P, and PL conditions	.62	10.48
L and PL conditions	.67	12.88
P and PL conditions	.92	1.71*
Univariate Analysis of Variance		
Perceived enforceability	—	46.88 / 1.77*
Perceived cost	—	7.00 / .16*
Perceived believability	—	15.88 / 1.63*
Store price perceptions	—	12.23 / 2.44*
Willingness to claim refunds	—	— / .19*

* Denotes values that were not significant. In univariate analysis of variance, the first F-value is for the analysis that includes L and PL conditions and the second F-value is for the analysis that includes P and PL conditions.

Table 3. Study 2: Means and Standard Deviations of Consumer Perceptions of Enforceability, Cost, Believability, Store Prices, and Willingness to Claim Refunds

Condition	Low price (L)	Price-matching (P)	Price-matching (PL)
Perceived enforceability	3.33 (1.85)	5.40 (1.26)	5.32 (1.09)
Perceived cost	3.67 (1.51)	4.58 (1.59)	4.59 (1.27)
Perceived believability	3.88 (1.03)	5.01 (1.13)	4.74 (1.15)
Store price perceptions	4.20 (.95)	3.57 (1.31)	3.28 (1.36)
Willingness to claim refunds	—	5.10 (1.43)	4.99 (1.29)

Note: The numbers in parentheses represent standard deviations.

Tables 2 and 3 also show that the perceived cost of making a price claim varied significantly across the PL and L conditions. As hypothesized in H_{2b}, perceptions of the cost that an erring retailer would stand to incur were significantly higher in the PL condition relative to the L condition (Means = 4.59 and 3.67; $F(1, 106) = 7.00, p < .009$). Also as predicted in H_{2c}, perceptions of believability of the price claim were significantly higher in the PL condition relative to the L condition (Means = 4.74 and 3.88; $F(1, 106) = 15.88, p < .0001$).

Consistent with H_{2d}, analysis showed that perceptions of store prices varied significantly across the two low price claim conditions. In particular, perceptions of stores prices were significantly lower in the PL versus the L condition (Means = 3.28 and 4.20; $F(1, 106) = 12.23, p < .0007$). These results, providing strong overall support for H₂, suggest that consumers perceive that the high cost of offering a price-matching refund would deter high priced retailers from offering such policies. Importantly, these results highlight the difference between a general low price claim and a low price claim that is accompanied by a price-matching policy.

To test H₃, Baron and Kenny's (1986) procedure was used to test whether perceived enforceability mediates the effect of price claims on perceptions of store prices. As mentioned earlier, the two price claims had a significant effect on perceptions of store prices ($F(1, 106) = 12.23, p < .0007$) and perceived enforceability ($F(1, 106) = 46.88, p < .0001$). When perceived enforceability was added to the model along with price claims, price claims was not significant ($F(1, 106) = 2.82, n.s.$), and perceived enforceability was significant ($F(1, 106) = 4.48, p < .03$). This suggests that perceived enforceability completely mediates the effect of price-matching policy on perceptions of store prices.

Given that the theoretical framework suggests that perceptions of cost and believability also vary with enforceability, it is expected that perceived cost and perceived believability would also mediate the effect of price claims on perceptions of store prices. Note that price claims also had a significant effect on perceived cost ($F(1, 106) = 7.00, p < .009$) and perceptions of believability ($F(1, 106) = 15.88, p < .0001$). When both perceived cost and perceived believability were added to the model, the effect of price claims on price perceptions was no longer significant ($F(1, 106) = 2.08, n.s.$) but both perceived cost ($F(1, 106) = 4.30, p < .04$) and perceived believability ($F(1, 106) = 21.50, p < .0001$) were significant. The analysis shows that perceptions of cost and believability together completely mediate the effect of price claims on perceptions of store prices.

Hypotheses 4 and 5

In evaluating hypotheses 4 and 5, the analysis included PL and P conditions only. Tables 2 and 3 show that neither the multivariate nor the univariate analysis of variance shows a significant difference on any of the dependent measures across the two conditions. Hypothesis 4 suggests that the higher the consumers' willingness to claim a refund the lower their perceptions of store prices. Consistent with the hypothesis, a regression showed that willingness to claim a refund had a significant negative effect on perceptions of store prices ($\beta = -.21, t = -2.25, p < .02$). Hypothesis 5 predicted that the effect of consumers' willingness to claim refunds on perceptions of store

prices will be mediated by perceptions of cost. The regressions of consumers' willingness to claim refunds with price perceptions ($\beta = -.21$, $t = -2.25$, $p < .02$) as well as perceived cost with price perceptions ($\beta = -.27$, $t = -3.01$, $p < .002$) were both significant and in the expected direction. When price perceptions was regressed on consumers' willingness to claim refunds and perceived cost, consumers' willingness to claim refunds was no longer significant ($\beta = -.12$, $t = -1.23$, n.s.) and perceived cost was significant ($\beta = -.23$, $t = -2.44$, $p < .01$). This analysis suggests that perceived cost completely mediated the effects of consumers' willingness to claim refunds on their perceptions of store prices.

Discussion

Study 2 supports and extends the results of studies 1A and 1B. It provides further evidence that price-matching policies are associated with relatively low store prices. More importantly, Study 2 develops and experimentally tests hypotheses based on the signaling perspective in information economics. This theoretical perspective not only provides an understanding of why consumers associate price-matching policies with lower than average store prices but also suggests that price-matching policies are distinct from a general low price claim on several dimensions. In particular, subjects perceived a price-matching policy (with or without an explicit low price claim) to be more effective than a low price claim in affecting perceptions of store prices. In fact, a price-matching refund policy without an explicit low price claim is also perceived to be an implicit low price claim.

Consumers appear to believe the logic that because price-matching policies are enforceable, the monetary cost that a retailer stands to incur by making a false low price claim will deter high priced retailers from offering such policies. Such policies are therefore more likely to be offered by stores with relatively low prices. The monetary cost that a retailer stands to incur constitutes a bond that the retailer offers and the higher the bond the more believable the retailer's claim. Because consumers perceive the bond that a retailer stands to forfeit is higher when it offers to match prices relative to making a low price claim, a price-matching policy is perceived to be more believable. Accordingly, the results show that the effect of price claims on store price perceptions was mediated by perceptions of enforceability (as well as by perceptions of cost and believability).

The findings further suggest that consumers' perceptions of store prices are negatively related to their willingness to claim refunds. Although price-matching policies can be enforced by consumers, the consumers' willingness to enforce such policies is a more direct determinant of the cost that a higher than average (or even average priced) retailer may have to incur. Note that this cost increases with store prices. The results support the notion that because the cost that a retailer stands to incur increases with consumers' willingness to claim refunds, the higher the willingness to claim refunds, the lower the perceptions of store prices. Overall, these results suggest that consumers believe that they can (and will) exert market power and thereby intensify the disciplinary mechanisms required to deter retailers from making false claims (either explicitly or implicitly).

The studies thus far have shown that price-matching policies have a strong influence on consumer perceptions of store prices. However, in all the studies the refund policy was the only cue available on which store prices could be inferred. A limitation of such an experimental environment is that subjects may naturally relate a price-matching policy to overall store prices. Subjects may have thus used the presence of a price-matching policy as a heuristic to infer store prices. It is therefore important to assess the pervasiveness of the effect of price-matching policy when alternate sources of information that affect perceptions of store prices are available to consumers. Study 3 is thus an attempt to establish boundary conditions on the influence of price-matching policies.

Study 3

Overview

It is simplistic to assume that a price-matching policy will be the sole determinant of store price image. Rather, it is natural for consumers to have expectations about the price levels at different stores. These price expectations may be based on past experience (Cox and Cox 1990) or may be based on cues that are independent of the actual prices (e.g., advertising, store location, and service) (e.g., Brown and Oxenfeldt 1972; Buyukkurt 1986). Previous research has shown that cues such as service level and in-store atmospherics strongly influence consumer price expectations (e.g., Alba et al. 1994; Brown and Oxenfeldt 1972). The central issue, therefore, is whether price-matching policies influence price perceptions even in conditions where consumers can infer store prices from other cues. In other words, is the effect of price-matching policies contingent on whether alternate cues are available to consumers?

In this study, consumer expectations about store prices were manipulated by providing information about ownership, service level, and in-store decor. These cues were chosen because they affect consumer perceptions of the operating cost structure of the store that in turn affects their perceptions of store prices. In other words, these cues provide a compelling underlying reason on the basis of which consumers make inferences about overall store prices. For example, a store that is family owned and provides a high level of service is perceived to have higher operating costs and therefore higher prices relative to a store that is part of a national chain and provides little or no service. A number of prior studies have used these cues successfully to manipulate store price expectations (e.g., Alba et al. 1994).

Hypotheses

Previous research suggests that the effect of some signals, such as the effect of coupon value on price inferences (Raghubir 1998) and restrictions on deal evaluations (Inman, Peter, and Raghubir 1997), diminish or even disappear when other cues are available. Thus, to the extent a price-matching policy is used as a heuristic to infer store prices, it should influence perceptions of store prices when consumers do not have any other price-related information. However, if consumers can infer store prices based on other more convincing cues, their reliance on price-matching policy to judge store prices should diminish or even disappear.

On the other hand, a significant effect in the presence of other cues will suggest that price-matching policies are not mere heuristics. Rather, they have a pervasive influence on price image. The extensive literature on consumer product judgments in the presence of multiple cues suggests that the effect of cues depends on the “newness” of the information each cue provides (e.g., Dodds, Monroe, and Grewal 1991). It has been shown that a cue will have a greater influence when it provides new information, in the presence of other cues, relative to when it provides redundant information. In other words, a cue will have an effect when it is diagnostic.

The literature on how consumers integrate different pieces of information into an overall global evaluation (e.g., Anderson 1965) also sheds some light on this issue. This literature suggests that averaging is a common means of combining information to arrive at an overall judgment (e.g., Troutman and Shanteau 1976). Of interest here is the manner in which a price-matching refund and alternate cues are combined into an overall judgment of store prices. Both literatures suggest that a cue will have greater influence when alternate cues are either absent or inconsistent relative to when they are consistent. Consider the case when the cues-based price expectations are high. These cues lead consumers to believe that the store prices are high. In contrast, the presence of a price-matching policy suggests that the store prices are low. Given that the cues and price-matching policy lead to inconsistent inferences, an averaging rule would predict that perceptions of store prices should be lower in the presence of cues and price-matching policy than in the presence of cues only. Similarly, consider a new entrant (or unknown store) in the marketplace. Since the store is new and unknown, consumers will rely on the price-matching policy to infer overall store prices. Thus, perceptions of overall prices of a new and/or unknown store will be lower when the store offers a price-matching policy.

However, when the cues are indicative of low store prices, the presence of a price-matching policy leads to inferences that are consistent with the cues. Since the cues-based price perceptions are already low, the presence of a price-matching policy does not provide diagnostic information and will have a relatively small effect on price perceptions.

H₆: The effect of a price-matching refund policy on consumer perceptions of overall store prices will be contingent on the availability and consistency of alternative cues. In particular, a price-matching refund policy will have a greater effect in lowering price perceptions when there are (a) no cues, or (b) the cues-based price expectations are high, (c) but the influence will be smaller when the cues-based price expectations are low.

Method

Design and Subjects

A hypothetical purchase scenario was used in which subjects were shopping for a television set. Subjects were required to read a description of an electronic and appliance store and then complete a questionnaire that collected information on the dependent measures and selected covariates.

As mentioned earlier, price expectations were induced by manipulating cues such as ownership, service level, and in-store decor. The descriptions for the high, low, and no (average) price expectation conditions respectively are as follows:

High: Electronic Mart is an electronic and appliance store which is family owned and operated. It is the only store that the family owns and has been in business for a long time. It is located in the mall and thus parking is not a problem. The store's personnel are friendly and are always there when you need them. Services like in-home installation

and carry-out service is provided. Most shoppers consider the store neat and tidy. A friend of yours who had recently visited the store had indicated that Electronic Mart has a good selection.

Low: Electronic Mart is an electronic and appliance store which is part of a chain organization that owns a large number of electronic stores. It is one of the largest stores in town. It is located in the mall and thus parking is not a problem. There is nothing fancy about the interior decoration or lighting of the store. A friend of yours who had recently visited the store had indicated that Electronic Mart has a good selection.

None: Electronic Mart is a new electronic and appliance store which has recently opened in town. It is located in the mall and thus parking is not a problem. The “Grand Opening” banner is still being displayed in front of the store. A friend of yours who had recently visited the store had indicated that Electronic Mart has a good selection.

These descriptions were adapted from Buyukkurt (1986). More recently, Alba et al. (1994) used similar descriptions to manipulate price expectations. Given that price expectations will be affected by both cues and the price-matching policy, the effectiveness of the cues-based price expectation was examined in a pretest with 60 undergraduate subjects. Each subject was randomly assigned to one of the three conditions, high (H), low (L), and none (N), and asked to provide their impressions of the overall store prices. The data showed that subjects perceived store prices to be the highest in the high condition, intermediate in the none condition, and the lowest in the low condition (Means = 5.03, 4.32, and 3.07 respectively; $F(2, 57) = 20.44, p < .0001$). The pretest thus confirmed that these descriptions created the intended price expectations. The three store descriptions served as the control conditions and the corresponding treatment conditions were created by adding the following statement to each of the three store descriptions.

Electronic Mart has a price-matching refund policy which states that: “If you buy a product at Electronic Mart and see the same product on sale for a lower price, we will gladly refund the difference.”

For ease of discussion, we label the three control conditions HC, LC, and NC while the corresponding treatment conditions are labeled HT, LT, and NT, respectively.

Ninety-two subjects were recruited at a major airport to participate in this study. Subjects ranged in age from 24 to 49 and 54 percent were males. Each subject was randomly assigned to one of the six conditions. The number of subjects in each condition ranged from 15 to 17.

Dependent Measures

Store Price Perceptions. Perception of overall store prices was measured by averaging three seven-point items (Cronbach's alpha = .83). The three items were “My overall expectations about the prices at Electronic Mart are:” (1 = Not at all expensive; 7 =

Very expensive); “I expect the prices at Electronic Mart to be:” (1 = Low; 7 = High); and “Compared to other electronic stores, the prices at Electronic Mart are most likely to be:” (1 = Much lower than average; 7 = Much higher than average).

Confidence of Finding Low Prices. Subjects’ confidence of finding low prices at the store was measured by taking the average of two seven-point items (correlation = .86). Subjects were asked, “How certain are you that Electronic Mart has low prices?” (1 = Very certain; 7 = Not at all certain); and “I am quite confident that Electronic Mart’s prices are one of the lowest” (1 = Strongly agree; 7 = Strongly disagree).

Results and Discussion

Table 4 shows the mean price perceptions and confidence of finding low prices in each of the six conditions.⁷ An analysis of the data as a 3 (cues-based price expectation: high, low, and none) x 2 (price-matching policy: present and absent) ANOVA shows a significant interaction between cues-based expectation and price-matching policy ($F(2, 86) = 3.58, p < .03$). This suggests that the cues-based price expectations moderated the effect of price-matching policies.

Table 4. Study 3: Means and Standard Deviations of Consumer Price Perceptions and Confidence Ratings

Price-matching Refund	Absent	Present
<i>Cues-based Price Expectations</i>		
Low		
Price perceptions	3.12 (1.10)	3.05 (0.99)
Confidence of finding low prices	3.75 (1.35)	3.53 (1.53)
None		
Price perceptions	4.56 (1.08)	3.37 (0.72)
Confidence of finding low prices	5.53 (1.37)	3.53 (1.60)
High		
Price perceptions	5.15 (0.73)	4.07 (1.11)
Confidence of finding low prices	5.53 (1.16)	4.44 (1.18)

Note: Lower numbers denote lower price perceptions and higher confidence in finding low prices. The numbers in parentheses represent standard deviations.

Consistent with H_{6a} , the presence of a price-matching policy lowered price perceptions in the NT versus the NC condition (Means = 3.37 and 4.56; $F(1, 86) = 13.10, p < .0005$). This suggests that even a new store without any reputation can credibly convey its low price image by offering to match prices. Table 4 shows that subjects’ price perceptions were also significantly lower in the HT condition relative to the HC condition (Means = 4.07 and 5.15; $F(1, 86) = 8.23, p < .005$). This suggests that price-matching policies are effective in lowering price perceptions even in situations where other cues are indicative of high prices. H_{6c} predicted that the presence of a price-matching policy will have a smaller but significant effect on

price perceptions. However, price perceptions did not vary significantly across the LT and LC conditions (Means = 3.05 and 3.12; $F(1, 86) = .01$, n.s.). Nonetheless, the results provide support for the contention that the effect of a price-matching policy will be greater in the absence of other cues and when the cues provide inconsistent information.

Study 3, in addition to the earlier studies, shows that price-matching policies significantly affect perceptions of store prices. More importantly, Study 3 demonstrates that refund policies affect price image even when the store prices can be inferred from other more compelling cues (effect size: $\omega^2 = .26$ for cues and $\omega^2 = .11$ for price-matching policy). This finding attests to the pervasiveness of the effect of price-matching policies and suggests that they are not used by consumers as mere heuristics when alternative sources of information are absent.

Consistent with the literature on multiple cues, a significant effect of price-matching policy was observed when subjects' cues-based expectations were either high or none (average) but not when their expectations were low. This indicates that price-matching policies were diagnostic of store prices when the cues-based price expectations were either high or none. But when the expectations were low to begin with, price-matching refunds provided consistent information that was not diagnostic of store prices.

General Discussion

The primary purpose of this research was to examine how consumers interpret and react to price-matching refund policies. Given the contrasting views of price-matching policies in the academic literature and the trade press, as well as the increase in sales and price promotions in the marketplace, it is important from a theoretical, managerial, and public policy perspective to understand how consumers interpret such pricing policies. Taken together, the findings from the four studies, robust across different experimental tasks and subjects, clearly demonstrate that price-matching policies strongly influence consumer perceptions of store prices. In particular, consumers associate price-matching policies with relatively low store prices as opposed to high store prices even when all stores offered refunds.

Note that these results do not imply that the view postulated in the trade press regarding price-matching policies is valid or that the economic viewpoint is invalid. Although one may argue that consumers learn associations and therefore consumer perceptions reflect marketplace reality, the validity of the opposing perspective is an empirical question that depends on whether stores that offer price-matching policies *actually* have higher than average prices or lower than average prices. The results of this paper, however, directly attest to the malleable nature of consumer price perceptions.

Importantly, this paper uses ideas from signaling theory in information economics to study price-matching refund policies from a consumer perspective. The results of Study 2 suggest that the low price claim implied by a price-matching refund offer is credible because such policies are enforceable at a monetary cost to the retailer. Note that while the monetary cost provides a bond, this bond is forfeited only in the future if the retailer's claim is untruthful. Because of its susceptibility to incur future monetary costs, a price-matching refund policy appears to be a credible way for retailers to signal their price image. It is however a non-dissipative signal because it does not involve any "money-burning" activities upfront although firms stand to incur costs (or lose profits) in the future (Rao, Qu, and Ruckert 1999).

The results also suggest that consumers appear to believe that they can exert market power by enforcing a price-matching refund policy when they discover a lower price elsewhere. This is best manifested in the result that consumers' willingness to claim refunds has a direct impact on their perceptions of the cost that the retailer will incur. This, in turn, affects their perceptions of the likelihood that a high priced retailer will offer a price-matching refund. Accordingly, the results showed perceptions of store prices decreased as consumers' willingness to claim refunds increased. While the underlying logic for why consumers associate price-matching refund policies with relatively low prices is compelling, it is possible that consumers overestimate their willingness to claim refunds or do not actually follow up on their convictions. Thus, the market mechanisms thought to discipline erring

retailers may not fully be operational in the marketplace. It is also possible that consumers may perceive store prices to be low in the presence of a refund even though actual facts may belie such perceptions (at least in the short run). The potential of misleading consumers by offering price-matching policies suggests that, if stores offering price-matching policies actually have high prices, attempts to draw the attention of regulatory agencies towards such pricing policies are justified (cf. Blair and Landon 1981). In contrast, if stores actually offer lower than average prices, then consumers may be better off by believing that price-matching policies are associated with low prices. It is thus important from a public policy and a theoretical perspective to empirically determine whether stores offering price-matching policies actually have relatively high or low prices. A related issue, worthy of future research, is the effect of such pricing policies on price search behavior.

This paper also attempted to establish boundary conditions on the influence of price-matching policies on perceptions of store prices. The results of Study 3 show that such pricing policies are not used as heuristics to infer store prices when consumers do not have any price-related information. In fact, price-matching policies influenced consumer perceptions of prices even when store prices could be inferred from other more compelling cues. Although the alternate cues were chosen to induce strong price expectations, we found that despite the cues-based price expectations and high level of confidence with these expectations, price-matching policies had a significant impact on price perceptions.

From a managerial perspective, retailers presumably offer price-matching policies to signal their price image to consumers. If so, these findings indicate that consumers interpret and respond to price-matching policies as intended. In fact, the pervasiveness of the effect suggests that retailers who have an unfavorable price image may be able to use such policies to alter this image. It should however be recognized that although price-matching policies are useful signals of store price image, there exist other ways of signaling price image, such as advertising a subset of prices (cf. Simester 1995). An important topic for future research is the relative efficiency of these different signaling instruments. It may be more efficient for retailers to offer and advertise price-matching policies than to advertise specific low prices. The rationale is that a price-matching refund policy generally includes all the merchandise in a store while advertised prices generally include only a few select items. A price-matching refund policy thus constitutes an “umbrella pricing” strategy which is indicative of the overall price level of a store. Moreover, consumers may be more skeptical of advertised prices due to “loss leader” advertising because of the belief that although the advertised products may be low priced, the non-advertised products may be high priced. This line of inquiry should be pursued in future research.

While it has been argued that price-matching policies can be used to signal price image, it should be noted that price-matching policies are offered by different retailers, including retailers with a high price image (e.g., Nordstrom’s). It is therefore important to distinguish between stores that actively advertise their price-matching policies and stores that passively offer such a policy. Stores that advertise their price-matching refund policies perhaps use it as an offensive tactic in an

attempt to influence price perceptions while stores that merely offer such policies may use it primarily as a defensive tactic. The competitive implications of price-matching policies are also worthy of further investigation.

In summary, this research examined how price-matching policies influence price image and store choice. While the research suffers from several limitations such as artificial setting, simple stimulus, use of student subjects in two of the four studies, etc., this paper explores a relevant and important topic that has not received much attention in the literature. It is clear that much work remains to be done and there are ample opportunities for researchers to pursue this topic from different perspectives. Nonetheless, this research points to the importance of store price image, particularly in undifferentiated markets, and highlights the malleability of consumer price perceptions and how price-related strategies can influence these perceptions. From a theoretical perspective, this research examines how consumers interpret and react to price-matching refunds; from an applied perspective, this work ascertains the effectiveness of such policies as a retail strategy in influencing store price image and store choice.

Notes

1. Some firms have taken the “hassle” out of price-matching refunds by hiring an outside agency to monitor competitor prices and refund the difference if a lower price is found elsewhere (*Fortune*, July 7, 1997).
2. A considerable number of products are common across different retailers. Montgomery Ward has begun displaying a chart that shows the different model numbers under which identical products are sold in the market.
3. When asked to make a choice between stores A and B, 52.5 percent ($n = 21$) chose Store A, suggesting that A and B were equally likely to be chosen. The pretest subjects also rated stores A and B on a 7-point scale (1 = Not at all attractive; 7 = Very attractive). The analysis shows that the ratings were not significantly different from each other (Means = 3.92 and 4.04 for A and B respectively; n.s.). The pretest data indicate that although the descriptions varied on some dimensions, subjects perceived stores A and B to be equally attractive.
4. The results reported here are all two-tailed tests.
5. In condition P, the two measures were “Milo’s price claim is believable” and “Milo’s price-matching claim is.”
6. The overall patterns of results do not change even when the analysis is conducted by aggregating conditions PL and P. Note that the believability measures were different for condition P.
7. Since subjects’ confidence of finding low prices followed the same pattern as their price perceptions, for the sake of brevity, we do not discuss the results of this measure.

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