

Coupon Value: A Signal for Price?

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Abstract

In this paper we argue that consumers use the value of a coupon as a source of information to estimate regular price level. Study 1 demonstrates that the higher the percentage discount on a coupon (20% vs. 10%), the higher the estimated regular price. Study 2 demonstrates the same effect for cents off coupons using a cross-section of 152 coupons with values ranging from 15¢ to \$2. Brands offering higher value coupons are estimated to be higher priced. Both studies also show that the mere presence of a price promotion leads to higher price expectations. We then demonstrate that the use of coupon value as a source of information in making judgments of regular price is contingent on whether consumers have alternate sources of information available to them while making price judgments. Studies 3-5 examine how the presence of alternate brand or context-related price cues moderates this effect. Study 3 demonstrates that when consumers know past prices, the higher the coupon value, the lower the price expectation; but this is not so when consumers are not aware of past prices. Study 4 shows the same pattern of results using different operationalizations of alternate price information: prices of non-promoted lines of the same brand, and brand name. Finally, Study 5 demonstrates that the use of coupon value as a signal for price is inversely related to the availability and diagnosticity of competitive prices for making a price decision. The results are discussed in terms of the informational effects of price promotions. Managerial implications for the communication of coupon related promotions for new product introductions are discussed.

Coupon Value: A Signal for Price?

Coupons account for around a quarter of consumer packaged goods marketing dollars (Petersen 1991). A large number of coupon-related promotions are by well-known brands. A large percentage of coupon promotions which do not fall into this category are for new product introductions. Couple that with the fact that, typically, consumers are not well aware of actual prices (Dickson and Sawyer 1990; Krishna, Currim and Shoemaker 1991), and there are numerous situations where well known brands offer coupons to consumers not aware of price.

The main implication of this paper is that marketers of new brands or of well-known brands where consumers are unaware of actual prices need to be cautious about offering high coupon values unless they can include some price related information in their promotional communications. Offering high value coupons in these conditions may not only be economically less profitable for them, but may in fact be counterproductive.

Presumably, the reason manufacturers offer high coupon values is to increase the economic incentive to purchase a brand in the short-term. If you see a \$1.00 coupon for a brand you expect to pay \$4.00 for, one could then argue that you would be more likely to redeem it than you would a 50¢ coupon. Not surprisingly, there is evidence that coupons with higher values are more likely to be redeemed than those with low values (Bawa and Shoemaker 1987; Irons, Little and Klein 1983; Shoemaker and Tibrewala 1985). However, even if higher coupon values positively impact sales, *do they do so to their maximum potential?* If consumers infer that higher coupon values imply that the product has a higher price, then this perception of high price may make them less likely to clip a coupon, and purchase the brand than if they had not made such an inference, even given the high economic value of the coupon. Note that coupons with higher values may be more effective than those with lower values, without their being effective up to their maximum potential if consumers expect brands offering higher coupon values to have a higher regular price.

Price expectations serve as an important frame of reference, being used by consumers in evaluating price information prior to purchase (Jacobson and Obermiller 1990, Krishna 1992,

Lattin and Bucklin 1989, Mayhew and Winer 1992, Winer 1986). We now argue that couponing may not positively affect trial to their maximum potential and may even adversely affect trial by increasing price expectations. In short, if price promotions increase price expectations, then consumers may be less likely to try a product in the first place. For example, if you expect that the ticket price of an entertainment show is in the \$50 region, you may be less likely to enquire about the show than if you inferred the price to be in the region of \$20. Similarly, if you expect that the price of a new breakfast cereal advertised in the coupon supplement of the Sunday New York Times is \$5-\$6, you may be less likely to clip the coupon than if you inferred that it was in the \$3-\$4 region. Therefore, if price promotions lead to high price expectations, they could have a less positive effect on trial sales than if they did not lead to high expectations.

In this paper, we study the effect of coupon value on price expectations under various conditions. We argue and demonstrate that (i) the value of a coupon is used as a signal for price - brands offering higher valued coupons are perceived to be higher priced (Studies 1 and 2); and (ii) the presence of alternate sources of price information moderates this effect. Alternate sources examined are past prices (Study 3), prices of non-discounted product lines offered by the same company and brand name (Study 4), and competitors' prices (Study 5); and (iii) the use of coupon value as a source of information is inversely related to the diagnosticity of alternate sources of information (Study 5). These studies are described below and are followed by theoretical implications for the informational effects of price promotions and managerial implications for designing and advertising price promotions for new product introductions.

STUDY 1

Hypotheses

Price promotions offer an economic incentive to purchase a brand. The effect of coupon value on redemption has predominantly been demonstrated to be positive. For example, Della Bitta et al. (1981) found that the greater the discount, the greater the perceived offer value, the less

the intent to search and the greater the interest in the brand. Shoemaker and Tibrewala (1985) found that an increase in face value of a coupon had a direct effect on redemption rates and Bawa and Shoemaker (1987) found higher coupon redemption rates for coupons with medium or high (vs. low) face values (see also Shimp and Kavas 1984). Similarly, Irons, Little, and Klein (1983) analyzed cross-sectional data from 60 coupon experiments conducted over a 3 year period. They found incremental sales to be positively related to coupon face value. These findings suggest that the higher the coupon value, the higher the incentive to purchase. However, seemingly contradictory findings have been reported by Krishna and Shoemaker (1992; Chevalier 1975). Krishna and Shoemaker found that higher coupon face values did not advance category purchase timing any more than did lower face values. They also did not increase the number of units purchased, or the size of the package purchased.

Is the value of the coupon, apart from being an economic incentive, also a source of information which consumers use to make price judgments? If so, then consumers may expect brands with higher prices to be able to afford higher discounts to consumers (e.g., Murphy and Medin 1985). This is because, while consumers may believe that a manufacturer is offering a promotion to increase sales, they may also believe that the promotion will erode the manufacturer's profit margins. If it does, then they would expect a manufacturer to offer a discount up to the point that it remains profitable for them. Given this, consumers may infer that only brands which have a higher price and, therefore, probably a higher margin, can offer a deep discount. Apart from product cost considerations, customers may also believe that higher priced brands offer higher discounts because such brands have a greater incentive to encourage brand switching. Reversing this logic, a higher coupon value should lead them to expect that the brand is priced higher. Based on this reasoning, we test the following hypothesis:

H1: The higher the coupon value, the higher the price expectation.

Taking the logic further, to the extent the manufacturer is able to offer a discount at all, the mere presence of a discounted offer, such as a coupon, may lead consumers to expect a higher

price level. In other words:

H2: Brands offering a coupon promotion are perceived to have a higher price than those not offering a coupon promotion.

Method

Subjects were one hundred and seventy four undergraduate students enrolled in an introductory marketing course at a Hong Kong business school who completed the task during a scheduled class for partial course credit. Subjects were asked to imagine the following scenario:

They were visiting Sydney on work for a few days and had half a day free for sightseeing. They went to Avis, the car-rental company in town to hire a car and pick up some brochures. While at AVIS they received a coupon booklet with a number of options for places they could visit.

Two coupons from the booklet were then presented: one for Australiana Park, and the other for Taronga Zoo (see Exhibit 1). The coupon was shown as two parts: one with a description of the attraction, and the other the cents-off coupon. Coupon value was manipulated at two levels: 10% and 20%. The two tourist locations (Australiana Park and Taronga Zoo) served as a replicate factor and were counterbalanced with coupon value using a 2 x 2 latin-square. Therefore, depending on the condition they were assigned to, if the coupon for Taronga Zoo offered a 10% discount, the coupon for Australiana Park offered a 20% discount, and vice versa. A third group, the control "no coupon" group was shown the same information about the tourist locations (i.e., the left hand side of the coupon), but was not shown the coupon.

- Insert Exhibit 1 around here -

The stimuli closely corresponded to an existing promotion which was being run in Sydney by Avis in July 1995. Avis was distributing a coupon booklet with 21 coupons targeted to the tourist. Seven of these advertised percentage discounts off fare. Australiana Park and Taronga Zoo were chosen as they were most closely matched in terms of actual price per ticket: A\$14.95 for Australiana Park and A\$14.50 for Taronga Zoo. In actual fact, both locations offered a 20% discount. Neither mentioned the actual price of the tickets. The original stimuli were used for the 20% condition. The stimuli for the 10% condition were professionally created in a photographic

studio by changing the discount percentage on the coupon from 20% to 10%. Coupons were presented in full color in an attempt to maintain a high degree of realism. They were projected on a large screen using visualizer technology. Subjects were asked to examine the coupon information. They were then asked to estimate the price of the two tourist locations in Australian dollars (the exchange rate was provided). They were also asked to rate how confident they were that their price estimates were accurate using a seven point scale anchored at 1 = "Not at all Confident," and 7 = "Very Confident". Finally, subjects were actively encouraged to guess the purpose of the research in the guise of a competition. After ensuring that no subject had correctly guessed the hypothesis, they were debriefed and excused. The procedure took around 15 minutes.

Results and Discussion

H1: Coupon Value. We expected that price estimates would be higher when the coupon discount was 20% versus 10%. This was the pattern of results observed. Across both locations, subjects estimated a higher price (Mean = A\$22.29) when a 20% discount was offered, as compared to when a 10% discount was offered (Mean = A\$20.39, $F(1,112) = 4.92, p < .03$)¹. The same pattern was observed for both the tourist locations (Australiana Park = A\$25.58 vs. A\$20.52; and Taronga Zoo = A\$20.56 vs. A\$19.17). Both these estimates are substantially higher than the actual ticket prices for the two locations (Australiana Park = A\$14.50; and Taronga Zoo = A\$14.95). There was no difference in subjects' confidence levels across conditions. In sum, H1, which stated that higher coupon values lead to estimates of higher price, was supported¹.

H2: Presence of Coupon. We expected that price estimates would be higher when a coupon was offered versus when it was not. We grouped the two conditions where a discount was offered and compared price perceptions in this new group with those in the control, no coupon group. Across both locations, the subjects' estimated price was greater (Mean = A\$ 21.33) when a discount was offered compared to when it was not (Mean = A\$ 17.95, $F(1,172) = 4.14, p < .04$). This was true for both the locations (Australiana Park = A\$22.98 vs. A\$20.64; and Taronga Zoo = A\$19.70 vs. A\$15.26). Again, subjects' confidence levels did not vary by experimental condition.

Further, while the price estimates were closer to the actual prices in the no coupon condition, prices were still overestimated. Therefore, Hypothesis 2, which argued that presence of a discount would lead to higher price estimates, was also supported.

In this study, we found that subjects estimated prices to be higher when discounts were higher. This is consistent with our theory that people use the presence of a coupon offer and its value as a source of information to make price judgments. Coupon value was operationalized as a percentage discount. This leads to the question of whether the phenomena is restricted to promotions which are communicated in *percentage off* terms, or whether it is a more generalizable phenomena, occurring even when consumers are not aware of the discount in percentage terms? In the next study, we test the generalizability of hypotheses 1 and 2.

STUDY 2

Price promotions in general, and coupons in particular, can be differentially framed as percentage off offers, cents off offers, buy one, get one ... offers, two for \$__ offers, etc.. Framing discounts in percentage terms or amount terms has been shown to affect deal evaluations (e.g., Darke and Freedman 1993; Das 1992; Inman, Peter, and Raghurir 1995). While the percentage off offers specify the discount rate, the cents off offers specify the discount amount. Accordingly, the information content of these offers varies depends on the manner in which the coupon promotion is framed. Specifically, given that:

$$\text{DISCOUNT RATE} = \text{DISCOUNT AMOUNT} / \text{REGULAR PRICE} \quad (1)$$

and a situation where consumers do not have prior price information, but have access to only one piece of information -- the discount amount, they need to "fill in" the discount rate to compute their expectation of regular price.

There is some evidence that people have prior expectations about the range of discount percentages that are offered by brands. Della Bitta et al. (1981) found that if the discount was very large, it was not assimilated in judgments of regular price because it was seen as exceptional.

This is akin to the concept of price acceptability (e.g., Lichtenstein, Bloch and Black 1988). Lichtenstein et al. (1988) define price acceptability to be " ... a judgment of price based on a comparison of the price cue to a range of acceptable prices stored in memory." Analogously, we suggest that people may have a similar notion regarding discount rates. Given discount amount, discount rates can be filled in from consumers' preconceptions to derive price, or:

$$\text{PERCEIVED REGULAR PRICE} = \text{DISCOUNT AMOUNT} / \text{EXPECTED DISCOUNT RATE} \quad (2)$$

where discount amount is provided by the coupon offer, and discount rate is based on people's preconceptions of the range of discounts being offered.

Equation 2 implies that the higher the discount amount, given a norm or range for discount percentages, the higher the price perception (earlier proposed as hypothesis 1). In other words, when consumers are exposed to a *cents off* coupon, if they assume that the discount percentage is in a certain range, they can compute price. If they do this, the higher the coupon value, the higher will be their price expectation. Note that we do not expect consumers to be making such calculations in their heads, but just that we expect consumers to behave *as though* they had made this calculation. Therefore, in this study we wish to test Hypothesis 1, that higher coupon value is associated with higher price perceptions in the context of cents off coupons where consumers are not aware of the actual discount percentage. We are also able to test hypothesis 2 which stated that the presence of a coupon leads to higher perceptions of price.

Method

Subjects were six employees of a Hong Kong business school ranging in age from 21 to 26 years. Four were enrolled in the MBA program and were working part-time as teaching/research assistants for the Marketing department, and two had completed graduate degrees and were employed full time by the department. Five were female and one was male.

One hundred and fifty four free standing coupon inserts from the Sunday New York Times of May 7, 1995 were collected (see Exhibit 2). This is the most common method of distributing coupons, with over three-quarters of coupons being distributed using this vehicle in 1988

(Blattberg and Neslin, 1990, pg. 267). Each coupon insert includes an advertisement for the product along with one or more cents off coupons. Subjects were run individually in the presence of the experimenter. The cover story used was that some of the "ads" were going to be used as stimuli for a marketing experiment, and the price estimation was to help the experimenter decide which coupons would be used. Each subject was requested to estimate the price of each of the 154 brands advertised in US dollars. They were asked to be as accurate as they could and take into account all that they knew about the brand and the product category. They were encouraged to make estimates for all the brands advertised, even if this meant that they needed to make an "educated guess" for those they were not familiar with. If they were not at all sure of the price, then they were asked to move to the next ad. Subjects made from 90% to 100% of the required estimates. The task took approximately 2 hours.

- Insert Exhibit 2 around here -

There were two conditions: coupon-present and coupon-absent, operationalized between subjects. While subjects in the coupon-present condition were handed the booklet with the 154 coupons as is, for subjects in the coupon-absent condition, the coupons on every page were masked to ensure that the value of the coupon could not be seen. The coupon-absent condition was intended not only to serve as a control condition to test H2, but also to serve as a baseline against which to test H1. If higher coupon values are associated with higher prices because higher priced brands, in fact, offer higher discounts, then the coupon-absent condition should be able to capture that relationship. That is, if higher priced brands offer higher discounts, there should be a positive relationship between price estimates and coupon value in the coupon-absent condition, even though subjects in this condition *do not see* the coupon while they are making their price judgment. This serves as a baseline against which we can compare the extent to which coupon value provides information affecting price estimates.

Actual coupon value was manipulated within subjects (irrespective of whether subjects had

been exposed to the coupon information or not), utilizing the cross-sectional variation in coupon face value. The breakdown of coupons by value is given in Table 1. Over 95% of all coupons were less than or equal to US \$2.00, with the most common denominations being 0.35¢ (21%), followed by \$1.00 (19% each), and 0.25¢ and 0.50¢ (13.6% each). These four denominations accounted for 2/3rds of all coupons in the booklet.

Insert Table 1 around here.

Results and Discussion

H1: Coupon value. We expected that price estimates would be higher for brands with a higher coupon face value. To test this hypothesis, we used regression analysis. Price estimates were regressed against coupon value individually for each subject, on aggregate across condition, and for all subjects as a whole. Aggregate regression incorporated dummy variables for the subject factor, and the condition factor. To eliminate the effect of extreme values, we ran these regressions for all price estimates for coupons with a value less than or equal to US \$2.00 (ignoring one coupon for US\$10.00 and another for US\$39.95)².

We expected that at an aggregate level, price would be affected by the value of the coupon in the coupon-present condition. If the relationship was also present in the condition where subjects were not exposed to the coupon, this would suggest that part of the relationship could be explained by the fact that higher priced brands de facto were expected to offer higher coupon values. In such a scenario, H1 would only be supported by demonstrating that the relationship between perceived price and coupon value was statistically weaker in the condition where coupon information was not available. In other words, we expected the actual presence of a coupon to moderate the effect of coupon value on perceived price.

To start, we ran an aggregate regression model across subjects and coupon values. The dependent variable was price estimates. Independent variables were coupon value, condition (coupon vs. no coupon), and a dummy variable to capture the interaction between the presence of

the coupon and the value of the coupon. Individual dummy variables were assigned to account for the subject factor. The regression was significant ($F(7,892) = 26.30, p < .0001$), and explained 16.5% of the variation in price estimates. Further, the effect of coupon value was significant and in the expected direction ($B = 1.91, t = 5.79, p < .0001$). Also, as expected, the interaction term was significant ($B = 1.53, t = 3.32, p < .0009$). Further, the dummy variables, incorporating subject variability, were significant, suggesting that there was variation across subjects.

To explore the interaction between the presence of coupon information and coupon value, we ran separate regressions for the two conditions. We expected that coupons would be a stronger predictor of price estimates in the coupon-present condition than in the coupon-absent condition. This would suggest that the value of the coupon is informative of the price of the brand. The results support this hypothesis. In the coupon-present condition, the regression of coupon values against price estimates was significant ($F(1,453) = 168.57, p < .0001$) and accounted for as much as 27% of the variation in price estimates. Further, the sign of the coupon value variable was in the expected direction ($B = 3.45, t = 12.98, p < .0001$). On the other hand, in the coupon-absent condition, while the regression was significant ($F(1,443) = 24.57, p < .0001$), variation in actual coupon values only accounted for 5% of the total variation. The unstandardized beta coefficient was positive and significant suggesting that part of our results can be accounted for the fact that higher priced brands do offer higher coupons ($B = 1.91, t = 4.96, p < .0001$). However, as predicted by H2, the difference in the beta estimates was significant ($t = 1.925, p < .05$ by one-tailed test of differences; see Cohen and Cohen 1983, pg. 56).

As some dummy variables accounting for the subject factor remained significant, we ran individual regressions for each subject in each condition. These analyses regressed coupon value (irrespective of whether the subject had been exposed to the coupon or not) on price estimates. The results of these regressions as well as those of the aggregate regressions are summarized in Table 2. The regressions were significant for 5 out of the 6 subjects and were not significant for one subject in the coupon-absent condition.

Insert Table 2 around here.

It appears that subjects used the value of the coupon while making their price estimates. The higher the coupon value, the higher their estimate of price. Further, it appears from the unstandardized beta coefficients which ranged from a low of 2.59 to a high of 4.56 in the coupon present condition, that the implicit price discount assumed by subjects while making their judgments is of the order of 30% on average, and more generally lies in the 20% - 40% latitude³. As the intercepts of the regression are non-zero, these numbers need to be interpreted with caution. Therefore, as in Study 1, H1 was supported.

H2: Presence of Coupon. We also expected that price estimates would be higher when a coupon was offered versus when it was not. Given the small sample size per condition, we rewrote the data resulting in a total of 900 data points, 445 across three subjects in the coupon-absent condition, and 455 in the coupon-present condition. The mean price across subjects and coupons was subjected to a one-way ANOVA using presence of coupon as a between subjects factor. This analysis revealed that, on average, price was estimated to be higher when the coupon was present (Mean = US\$3.78) as compared to when it was absent (Mean = US\$3.06, $F(1,898) = 16.60$, $p < .0001$). Therefore, as in Study 1, Hypothesis 2, which argued that presence of a discount would lead to higher price estimates, was supported.

We successfully replicated the results of Study 1 using different stimuli and procedures. The data support the argument that consumers use coupon value to make price judgments. Arguably, one of the reasons why coupon information was used to estimate price was that the context made it highly accessible. Other sources of information which subjects might have used would need to have been retrieved from memory and should, therefore, have been less accessible. In short, in studies 1 and 2, subjects did not have alternate sources of price information. The next three studies systematically investigate how the use of coupon value information in making price judgments is moderated by the presence of alternate sources of information.

STUDY 3

Hypotheses

In study 3, we explore whether the presence of prior price information moderates the effect of coupon value on price expectations. If consumers do not have any price related information other than coupon value then, given an expectation of average discount rates, they would assume that higher coupon values signify higher product prices. Therefore, consumers would use coupon value to signal price. On the other hand, if consumers know prices beforehand, they have access to two sources of price information while forming a price judgment -- the historical regular price and the value of the current promotional discount. A simple way of combining these two sources of information would be to average across them, weighting each source with its perceived diagnosticity (or relevance) to the task at hand. In other words, given that both sources of information are equally accessible, their use should be a function of their perceived diagnosticity (Feldman and Lynch 1988). As past prices are more diagnostic of actual regular prices than coupon values, they should receive a greater weight. Accordingly, we hypothesize:

H3: The presence of prior price information moderates the effect of coupon value on price perceptions, such that when consumers do not know past prices, the higher the coupon value, the higher the price expectation, but this is not necessarily so when consumers know past prices.

We also wished to assess whether the effect of coupon value on price expectations would translate into intent to try an advertised product. If consumers know past prices, then higher coupon values carry little information about regular price, and only have an economic value. Therefore, higher coupon values should lead to higher trial intent for consumers with past price information. On the other hand, when consumers do not know past prices, while higher coupon values represent higher economic savings, they also suggest that the base price from which these economic benefits accrue are higher. In short, the information effect of higher coupon values on regular price may offset the economic value of the coupon. In this condition, higher coupon values may not be associated with higher intent. Specifically, we hypothesize:

H4: The presence of prior price information moderates the effect of coupon value on the intent to try a new product such that when consumers know past prices, the higher the coupon value, the higher the intent, but this is not so when consumers do not know past prices.

Method

Subjects were fifty-seven undergraduate students enrolled in an introductory marketing class at a large U.S. business school who completed the task during a regularly scheduled class for partial course credit. A 2 (coupon value manipulated in US dollars: 50¢ vs. \$1.00) x 2 (past price information: present vs. absent) between-subjects design was employed. Subjects were given a vignette where they were asked to imagine that they had received a coupon for a half-gallon package of a new brand of ice-cream. The amount of the coupon was manipulated at 50¢ or \$1.00. These two values were chosen because any computations based on these would be relatively easy, and also because they are commonly used denominations (see Table 1). Subjects were informed that on their last visit to the supermarket they had noticed the brand but either not noticed the price, or noticed that the price was marked at \$3.99. This manipulated presence of past price information. Ice-cream was chosen as the product category as it is commonly promoted, readily available in supermarkets, and is likely to be consumed by a student population. Subjects then completed the dependent measures prior to being collectively debriefed. Price judgments were measured by asking subjects to give the "regular price" of the ice-cream using an open-ended question. Additionally, subjects rated their intent to try the ice-cream on a seven point semantic differential scale, anchored at "Definitely (NOT) try the ice-cream."

Results and Discussion

The results are graphically presented in Figures 1a and 1b.

Insert Figures 1a and 1b about here.

H3: Price Judgments. As expected, a 2 x 2 ANOVA revealed an interaction effect between coupon value and presence of past price information ($F(1,53) = 3.518, p < .033$), while

neither main effect was significant (p 's > .25). An analysis of the means reveals that subjects who did not know past prices estimated a higher price when the coupon was of a higher value (Mean = \$4.45 vs. \$3.70, $F(1,29) = 3.61$, $p < .034$), replicating H1. However, this was not so when they knew past prices (Means = \$3.66 vs. \$3.90 in the \$1.00 and the 50¢ coupon conditions respectively, $p > .25$). Therefore, H3 was supported.

H4: Intent to try. Again, a 2 x 2 ANOVA revealed an interaction effect between coupon value and presence of past price information ($F(1,53) = 4.872$, $p < .03$), while both main effects were non-significant (p 's > .25). The interaction was of the type expected. When subjects did not know past prices, they rated themselves less likely to try the product when presented with a \$1.00 coupon value than a 0.50¢ coupon (Means = 3.20 vs. 4.19). The opposite pattern was observed when they knew past prices, with higher intent to try in the \$1.00 coupon condition than in the 50¢ coupon condition (Means = 4.64 vs. 3.83). Therefore, H4 was supported.

In this study, we identified the presence of past price information as a moderator of the extent to which coupon value is used as a signal for price (H1). Further, we demonstrated that the effect of coupon value on intent to try a new product was contingent on the presence of prior price information and that, when consumers did not have prior price information, higher coupon values depressed intent to try the product. Past price information is one source of information which consumers can use while making price judgments. In the next study, we examine two other factors moderating the use of coupon value as a signal for price.

STUDY 4

Hypotheses

Study 4 investigates whether the moderating effect of the presence of alternate sources of price information on the use of coupon value as a signal for price generalizes to sources of price information beyond past prices. That is, is it something specifically about knowledge of past prices which led to our results in Study 3, or does the construct generalize to other alternate

sources of price information? This is an important question as, while managers cannot control whether or not their target consumers have information about past prices of their brand, they can provide alternate sources of price information as tested in this study. In this regard, we look at the effect of information regarding the price of the company's other products and its brand name.

Prices of other company products. In Study 3, past prices of the brand offering a coupon could have been used by consumers to make price judgments. In this study, we look at whether similar effects obtain when consumers know prices of other product offerings of the same brand. Normatively speaking, if price and coupon value are unrelated, a knowledge of prices of other company products should be more diagnostic of the price of the product on which a coupon is offered than coupon value, leading to the reduced use of coupon value as a signal for price when such information is available. Accordingly, we extend H3 and hypothesize:

H5: The availability of prices of other company products moderates the effect of coupon value on price perceptions, such that when consumers do not know these prices, the higher the coupon value, the higher the price expectation, but this is not so when consumers know prices of other company products.

Brand Name. The better consumers perceive a brand name, the higher they expect it to be priced (e.g., Biswas and Sherrell 1993). However, to the extent that brand name is a source of price information much like coupon value, the availability of price related information should moderate the use of brand name information. Therefore, we hypothesize:

**H6: a. Consumers perceive brands with a better name to be higher priced.
b. The availability of prices of other company products moderates this effect, such that when consumers do not know these prices, better brand names are perceived to be higher priced but this is not necessarily so when consumers know prices of other company products.**

Brand name and coupon value are both sources of information which consumers use to make price judgments in the absence of alternate price related information. We propose that they work interactively. This is because, apart from brand name exerting a direct effect on price expectations (H6a), particularly in the absence of alternate sources of information (H6b), it also serves to reinforce or weaken the signal value of the coupon. The strength of the coupon value

signal should be stronger when the brand has a good name than when it does not, and the strength of the brand name signal should be stronger when coupon values are high. In these two cases the brand name and coupon value signals are complementary and reinforce each other. Accordingly:

- H7: Brand name and coupon value will interact to determine price expectations, such that price expectations will be highest when a brand with a good name offers a high coupon value than either when**
- a) a brand with a good name offers a low coupon value, or**
 - b) a brand with a poor name offers a high coupon value.**

Method

Subjects were one hundred and thirty six students drawn from the same subject pool as study 3 (no overlap in subjects between the two studies was permitted). Subjects completed the experimental task for partial course credit during a regularly scheduled class session.

A 2 (coupon value: US\$2 or US\$4) x 2 (price information on company's brands: present or absent) x 2 (brand name: good/ bad) between-subjects design was employed. Subjects were informed that there was an entertainment show being advertised in the city. The show was described as being either very well known or not well known to manipulate brand name. Further, they were told that there was a joint promotion being offered along with the city's public transport department. The promotion was a \$2.00 or \$4.00 discount per ticket if a token ten-pak wrapper was presented⁴. There was a "maximum of 4 tickets per ten-pak" restriction. A further restriction on the promotion was that it was "not available for ringside seats." We manipulated presence of alternate price information by either providing the price of these seats in brackets -- "(\$30)", or not⁵. Note that this manipulation serves to place an upper limit on price estimates. Subjects then completed the dependent measures. It is also a subtler way of manipulating presence of alternate price information than used in the previous studies. Subjects were asked to estimate the price of the *least* expensive seat and the *most* expensive on which the discount was available.

Results and Discussion

The two estimates of price were analyzed using a repeated measures 2 (coupon value) x 2 (brand name) x 2 (price information) analysis of variance procedure. Individual ANOVAs on the

two price estimates showed a similar pattern of results. These were followed by contrasts to test the specific directional hypotheses. We were looking for the brand name main effect (H6a) and three two-way interactions: coupon value by price information (H5), brand name by price information (H6), and brand name by coupon value (H7). The means of dependent variables by condition are presented in Table 3.

-- Insert Table 3 around here --

H5: Moderating effect of price information on effect of coupon value. Presence of price information exerted a main effect ($F(1,128) = 19.90, p < .01$), such that consumers estimated lower prices when they had information regarding the prices of the company's product. This information possibly served to "cap" the price they could estimate in this condition. Consistent with this reasoning, the effect was seen for estimates of maximum price where the mean maximum price in the no information condition is higher than the "\$30" cap used for the information present condition (Means = \$36.58 vs. \$22.78, $F(1,128) = 24.33, p < .01$). Interestingly, however, the same pattern is evident in estimates of minimum price (Means = \$15.88 vs. \$12.73 for price information absent and present respectively, $F(1,128) = 5.16, p < .03$).

However, this main effect was qualified by the hypothesized price information by coupon value interaction ($F(1,128) = 3.78, p < .05$). All means were in the expected direction. In the absence of price information, coupon value exerted a marginally significant effect on estimates of minimum price (Means = \$14.37 vs. \$17.36, $t(75) = 1.63, p < .10$), but the effect was not significant when price information was available (Means = \$13.36 vs. \$11.92, n.s.). Stronger results were observed for estimates of maximum price in the absence of price information (Means = \$32.24 vs. \$40.82, $t(75) = 2.14, p < .01$), but did not in the presence of such information (Means = \$23.64 vs. \$21.69, n.s.). Therefore, the results are consistent with H5.

H6a: Main effect of brand name on price expectations. As expected, the analysis revealed a significant main effect of brand name ($F(1,128) = 4.15, p < .044$). This was true for both

measures: the minimum price estimated was greater when the brand was described as being well-known versus not (Means = \$15.79 vs. \$13.24, $F(1,128) = 3.45$, $p < .05$), as was the maximum price (Means = \$33.69 vs. \$27.50, $F(1,128) = 4.65$, $p < .05$). Therefore, H6a was supported.

H6b: Moderating effect of price information on effect of brand name. Further, as hypothesized by H6b, brand name interacted with the presence of price information ($F(1,128) = 2.49$, $p < .06$). All means were in the expected direction. In the absence of price information, brand name exerted a significant effect on estimates of minimum price (Means = \$13.76 vs. \$17.95, $t(75) = 2.28$, $p < .01$), but the effect was not significant when price information was available (Means = \$12.57 vs. \$12.90, n.s.). A similar pattern was observed for the estimates of maximum price: brand name affected price estimates in the absence of price information (Means = \$31.61 vs. \$41.44, $t(75) = 2.45$, $p < .01$), but did not in the presence of such information (Means = \$22.30 vs. \$23.28, n.s.). Therefore, H6 received support.

H7: Interactive effects of brand name and coupon value. Hypothesis 7 stated that price estimates would be higher when brands with a good name offered a high coupon value than when they offered a low coupon value, or when brands with a poor name offered a high coupon value. This was the general pattern observed. For estimates of minimum price, the interaction between these two factors is significant at $p < .08$ ($F(1,128) = 2.10$): price is estimated at \$17.35 in the good brand name-high coupon value condition, higher than when coupon value is lower (Mean = \$14.24, $t(66) = 1.59$, $p < .10$) and when brand name is poor (Mean = 12.81, $t(63) = 2.33$, $p < .01$). For estimates of maximum price, the results are stronger. Mean price estimate in the good brand name-high coupon value condition (\$37.56) is higher than price estimates when the coupon value was \$2 (Mean = \$29.82, $t(66) = 1.81$, $p < .05$), and when the brand was described as not being well-known (Mean = \$28.35, $t(63) = 2.16$, $p < .01$). Therefore, H7 received partial support.

In this study, we generalized our proposition that the use of a source of price-related information -- coupon value or brand name -- is dependent on the availability of alternate sources of price information, where price information was operationalized as the availability of prices of

another non-promoted product of the same brand (the ring-side seat). We also showed that these two sources of information themselves interact to affect price judgments -- reinforcing each other when they are consistent.

Studies 3 and 4 presume that consumers use an alternate source of price information in preference to coupon value due to its higher perceived diagnosticity. In the next and last study, we directly explore how alternate price information may itself be used differentially depending on how diagnostic it is perceived to be for a price judgment

STUDY 5

Studies 1-4 provide evidence that coupon value is used to signal price. In this study, we examine the extreme case where the value of the coupon equals the price of the brand: viz., a "buy 1, get 1 free" offer. We expect that the presence of such an offer will lead to higher price estimates than the absence of such an offer as predicted by H2. Therefore, we wish to establish the generalizability of the effect earlier demonstrated using coupons with a "% off" frame (Study 1) and a "cents off" frame (Study 2) to coupons using a "buy 1, get 1 ..." frame. This is important, as it has been demonstrated that deal framing affects perceptions of deal value (Das 1992).

Further, studies 3 and 4 demonstrated that the use of coupon value as a price signal is inversely related to the availability of alternate sources of price information. In this study, we examine the effect of knowledge of competitors' price levels on price estimates. Competitors' prices are another source of alternate price information available to consumers. We test whether the presence of a coupon affects price perceptions differentially depending on the competitive context. Finally, we extend our theory further by examining whether the use of a source of information is inversely related to the diagnosticity of alternate source of information.

Hypothesis

Feldman and Lynch (1988) argue that the use of a source of information is a function of the availability and diagnosticity of alternate sources of information (see also Menon, Raghubir,

and Schwarz 1995). Availability of alternate sources of price information was manipulated by presence or absence of alternate price cues in studies 3 and 4. In this study, we manipulate the diagnosticity of the alternate price cue. The price cue used is information about competitors' prices. The greater the range of competitors' prices for the same promotional discount, the less diagnostic of price the promotional discount should be. This is because a higher range of prices for a given discount weakens the correlation between the discount value and price. If consumers have access to an alternate source of information, they should use it to the extent that it is diagnostic of the task at hand. Accordingly, we hypothesize:

- H8: The presence of a coupon interacts with the availability and diagnosticity of competitor price related information, such that:**
- a) Presence of a coupon is used as a signal for price to a lower extent when information about competitors' prices is present versus when it is absent.**
 - b) When information about competitors' prices is available, presence of a coupon is used as a signal for price to a lower extent when competitive information is diagnostic of price versus when it is not.**

Note that H8a is an extension of H3 and H5 using a different operationalization of alternate price information.

Method

Subjects were two-hundred and eighty-eight undergraduate students drawn from the same subject pool as Study 1. Due to the similarity in procedures in the two studies, and that subjects in study 1 had been debriefed, we ensured that there was no overlap in the samples between the two studies. Subjects completed the task during a regularly scheduled class for partial course credit.

A 2 (coupon: present/ absent) x 2 (actual price: A\$5/ A\$7) x 3 (alternate price information: diagnostic, not diagnostic, and absent) mixed design was employed. The first factor, manipulating the presence of a coupon, was within subjects, as was the second, while the nature of alternate price information was manipulated between subjects.

As in Study 1, subjects were asked to imagine that they had gone to Sydney for a

conference and had half a day free to sightsee, during which they visited the Avis car-rental company and were presented with a coupon booklet. Except for subjects in the "alternate price information not available" condition, subjects were then shown three coupons which were designed to manipulate the diagnosticity of alternate price information. All coupons utilized a "buy one, get one free" offer. The coupons used to manipulate the diagnosticity of the promotional offer mentioned the actual value of the coupon and varied in the range of these prices. All coupons were actual coupons drawn from the Avis booklet described in Study 1.

Diagnosticity of competitive information as a cue for inferring price was manipulated by varying the range of competitors' coupon values (and hence actual prices). Specifically, in the "diagnostic condition" these coupons were for the Sydney Tower (value: A\$6); the Australian Reptile Park (Value: A\$8); and The Rocks Walking Tour (Value: A\$9). In the "not diagnostic condition," we replaced coupons for the Australian Reptile Park and the Rocks Walking Tour with coupons for the Old Sydney Town (Value: A\$13.90). and Gledswood Homestead (Value: A\$50). Due to their lower variation, the competitors' coupon values of A\$6, A\$8, and A\$9 should be perceived to be more diagnostic of the value of the coupon (and therefore the price of the ticket), than should competitors' coupon values of A\$6, A\$13.90, and A\$50. Further, the A\$6 - A\$9 range is, in fact, more diagnostic of the A\$7 museum prices than of the A\$5 museum prices. No coupons were shown in the condition where alternate price information was not available.

The four experimental coupons used were for the Australian Museum and the Powerhouse Museum, both of which have an A\$5.00 entry fee, and the National Maritime Museum and the Earth Exchange -- both priced at A\$7.00. All four of these coupons, in fact, utilized a "Buy one, get one free" offer. Further, except for the Earth Exchange, the other three did not mention their actual price -- only the promotional offer. Presence of coupon was manipulated by showing the picture of the museum either with or without its accompanying coupon for both price levels. This was counterbalanced across subjects such that while some subjects saw a coupon for the Australian Museum, others saw it for the Powerhouse museum; and while some saw it for the National

Maritime Museum, others saw it for the Earth Exchange.

The dependent measure used was the estimated price of a ticket in Australian dollars. Subjects were given the exchange rate. Subjects completed this for each of the four experimental stimuli. They were then debriefed. The procedure took around 15 minutes.

Results and Discussion

The means by experimental cell are presented in Table 4.

Insert Table 4 about here.

A 2 (coupon: present/ absent) x 2 (actual price: A\$5/ A\$7) x 3 (competitor information: diagnostic, not diagnostic, and absent) repeated measures analysis of variance on the four price estimates across the three information conditions yielded a main effect of competitor information ($F(2,285) = 28.19, p < .0001$), a main effect of presence of coupon ($F(1,285) = 36.61, p < .0001$), and an interaction between these two factors ($F(2,285) = 11.48, p < .0001$). Further, while the main effect of actual price was not significant, competitor information significantly interacted with this factor ($F(2,285) = 3.85, p < .022$). Below, we describe the analysis to test H8a and H8b.

H8a: Presence of information regarding competitors' prices. To test this hypothesis, we combined the two diagnosticity conditions into an information present condition and reran a 2 (coupon) x 2 (actual price) x 2 (competition information) repeated measures analysis. We expected an interaction effect between the presence of the coupon and the availability of competitor information. This was the pattern of results observed ($F(1,286) = 19.45, p < .0001$). Further, there was a main effect of the presence of coupon ($F(1,286) = 43.37, p < .0001$). The effect of the actual price factor was marginally significant ($F(1,286) = 3.48, p < .07$), and was also qualified by the presence of competitor information ($F(1,286) = 7.70, p < .006$).

The coupon by information interaction was investigated by conducting individual analyses for the two information conditions. This analysis showed that, in both conditions, the presence of the coupon led to estimates of higher prices, but the effect was stronger when competitor

information was absent. When competitor information was absent, museums offering a coupon were perceived to be priced higher than those not offering a promotional offer for both price levels (Means: A\$16.03 vs. A\$14.52, and A\$24.68 vs. A\$12.32, for the two A\$5 and A\$7 museums respectively, $F(1,61) = 20.39, p < .0001$), while the main effect of actual price level was also significant ($F(1,61) = 8.85, p < .004$). In the competitor information present condition, the effect of coupon remained significant ($F(1,225) = 7.24, p < .008$), and interacted with actual price level ($F(1,225) = 5.72, p < .02$). The main effect of actual price was not significant. The pattern of the means is in the expected direction. For the A\$5 museums, when information regarding competitors was absent, the coupon led to a higher price estimate than when it was present (Means = A\$16.03 vs. A\$14.51), but this was not true when information regarding competitors' prices was available (Means = A\$16.32 vs. A\$16.03). For the A\$7 museums, the difference in prices when a coupon was offered versus not offered was greater in the no competitor information condition (Means = A\$24.68 vs. A\$12.32) than in the competitor information present condition (Means = A\$16.78 vs. A\$14.31). Therefore, as hypothesized by H8a, presence of a coupon led to higher price expectations, but this effect was stronger when the competitive information was absent.

H8b: Diagnosticity of information regarding competitors' prices. This hypothesis was tested by comparing the difference in prices when coupons were present/ absent for the two price levels in the two competitor information present conditions which differed on the dimension of diagnosticity. This 2 x 2 x 2 repeated measures analysis revealed the desired interaction between diagnosticity and presence of coupon ($F(1,224) = 4.45, p < .04$), while the main effects of diagnosticity ($F(1,224) = 56.34, p < .0001$) and coupon presence ($F(1,224) = 7.75, p < .006$) were also significant. The main and interaction effects of actual price were not significant.

Individual 2 x 2 analyses of the four price estimates in the two diagnosticity conditions revealed that, when information regarding competitors was not diagnostic, the effect of presence of coupon was significant ($F(1,108) = 7.23, p < .008$), but this became non-significant when information regarding competitors' prices was diagnostic ($F(1,116) = .53, p = .47$). This suggests

that, as expected, in the latter condition the presence of a coupon was not used as a source of information to make price judgments.

In sum, H8b, which argued that the use of a coupon as a source of information to make price judgments would be inversely related to the diagnosticity of competitors' prices in making such a judgment, was supported.

In this study, we generalized the finding that people use the presence of a coupon to make price judgments to the case of "buy one, get one free" coupons, where the value of the coupon is equal to the price of the product. We also generalized the finding that the use of coupon information as a source of information to make price judgments is inversely related to the availability of alternate sources of price information by studying the use of coupon information in the presence and absence of information regarding competitors' prices. We also found that prices were overestimated, mirroring the pattern of studies 1 and 4. Since, in the home country of the subjects there are four major museums with admission priced at approximately US \$3.20 (or A\$ 4.2), which is slightly lower than the actual prices of the museums for which we elicited price estimates, this cannot explain this overestimation. Finally, we extended our theory regarding the conditions under which coupons are used as a source of information by demonstrating that their use is inversely related to the diagnosticity of alternate sources of information, as has been suggested by Feldman and Lynch (1988).

General Discussion

In this paper, we found evidence consistent with our hypothesis that coupon presence and coupon value signal brand price. We identified two moderators of this effect -- the presence of alternate price information and the diagnosticity of such information. We demonstrated that people perceived price to be higher when a coupon was present compared to when it was not (Studies 1, 2, and 5) and, when coupons were present, higher coupon values were associated with higher price estimates for both percentage off and cents off coupons (Studies 1 and 2). Further, this effect was

only found when consumers did not have other price information in the form of past prices (Study 3) or prices of non-promoted lines of the same brand (Study 4). The effect was stronger when brands were described as being well known (Study 4), weakened when competitors' prices were available and not diagnostic, and disappeared completely when competitors' prices were diagnostic of brand price (Study 5). Below, we discuss some plausible managerial implications of our findings and address the theoretical contributions of this work.

Managerial Implications

The majority of the stimuli used in this article were actual coupon promotions being run in different countries. Studies 1, 2, and 5 used actual coupons which were in distribution in the U.S. and in Australia. Further, the situation described in study 4 was modelled on an actual promotion being run in New York at the time the data was collected. This underlines the need for managers to note that the manner in which a coupon is communicated, as well as the coupon value itself, may lead to unintended effects on their target customers.

A strong implication of this paper is that manufacturers need to be very cautious about offering deep discounts (e.g., over the 25-30% level based on the tentative evidence provided in Study 2) unless they can include some price related information in their promotional advertising. Offering deep discounts in these conditions is not only economically less profitable for them, but may in fact be counterproductive, leading to high price expectations and lower trial intent than shallower discounts. Understanding the effect of coupons on perceptions of regular price provides managers with a simple and cost-effective way to minimize deleterious effects: *when possible, provide information regarding prices along with a promotional offer*. Based on the conditions we studied, this is particularly required when deep discounts are offered on well known brands to consumers who are not aware of actual prices.

There are numerous instances when consumers are not aware of actual product prices, such as new product introductions, introduction of an existing product to a new segment, or tourist situations. This may also be true for many products or services which are not very frequently

purchased, such as consumer durables, or purchased on an irregular basis, such as entertainment. Even for frequently purchased products, research has shown that consumers are typically not well aware of actual prices. Dickson and Sawyer (1990) surveyed over 800 supermarket shoppers seconds after they had made a purchase. Less than half were aware of having purchased on promotion. Of those aware, more than half could not estimate the amount of the reduction, and when they were willing to voice an estimate there was a tendency for consumers to understate both the amount of the price reduction as well as the price paid. Given this, it may not be overstatement to say that the condition of well known brands offering discounts to consumers who are not aware of exact price may be more the norm than the exception, underlining the generalizability of the scenarios reported in this paper.

Further, if the discount being offered is outside a typical range for the consumers for that category, then coupons are more likely to lead to price overestimation than when they are within the range, as argued in Study 2. In fact, in study 3, we demonstrated that higher coupon values were only successful in increasing purchase intent when consumers were aware of past prices, and not when they made the higher price inference. Additionally, given that brand name is itself used as a cue for price, high coupon values on a well-known brand will enhance the direction of the price inference drawn from the coupon promotion. The need to provide price related information is underlined by the fact that, in all scenarios where we had an external criterion check for actual price (studies 1, 4, and 5), price estimates were higher than actual price without exception -- even when people had access to alternate sources of information. The presence of a coupon and its value magnified this effect.

We examined three ways of providing price information. In the first and fifth studies, coupons were provided by the manufacturer and would have been redeemed by the manufacturer. Therefore, managers had complete control over price enabling them to state final retail price of the entry ticket to the tourist locations. Only a handful of them did. In a scenario where managers are able to control the final retail price, the results of this research would suggest that information

regarding the final price should be provided along with discount information.

In the manufacturer distributed coupons for frequently purchased products examined in study 2, it is more difficult to specify final retail price as these products are sold through a multi-level channel to which the manufacturer cannot dictate prices. Even in this scenario however, "manufacturer suggested retail prices" (MSRPs) may serve the same purpose: providing consumers' with an alternate source of price information to limit the price inference they draw from the value of the coupon. Irrespective of the fact that MSRPs are typically higher than actual retail prices for most brands, providing MSRPs as a reference may still serve a useful purpose if consumers are aware that actual retail price is most likely to be lower than the MSRP.

Theoretical Implications

The Effect of Price Promotions on Price Expectations: We demonstrate that consumers use coupon values while making price judgments. They also use other cues, such as past prices. As, past price history needs to be retrieved from memory and may be subject to retrieval biases (Menon 1993, Menon, Raghurir and Schwarz 1995), the use of the highly contextually salient coupon information may predominate. Price expectations can also affect price recall, such that when people err in recalling price, they err in the direction of their price expectations (Helgeson and Beatty 1987). Therefore, the effect of coupon value on price perceptions may persist into future purchase encounters, even after consumers have actually purchased the promoted brand.

Given the importance of price expectations, a common concern regarding repeated price promotions has been that they may lower price expectations, which could in turn affect repeat purchase behavior and reduce the effectiveness of a future promotion (Kalwani et al. 1990; Kalwani and Yim 1992; Lattin and Bucklin 1989). While increasing repeat purchase is one common sales promotional objective, another common objective is inducing trial. While price promotions can adversely impact repeat purchase through their effect on lowered price expectations leading to reference effects, they may reduce likelihood of trial through their effect on increasing price expectations. A number of researchers have argued that price promotions can lower price

expectations and lead to a negative effect on sales. For example, Winer (1986) modelled expected future price as a function of past prices, and demonstrated that the lower the reference price, the lower the probability of purchase. Similar approaches have been used by Lattin and Bucklin (1989), Kalwani et al. (1990), Krishna (1992), Jacobson and Obermiller (1990), and Mayhew and Winer (1992) who found that the lower the past prices (almost entirely due to historical promotional activity), the lower the price expectations and, accordingly, the lower the purchase-probability during a non-sale period. In an experimental study directly measuring price expectations, Kalwani and Yim (1992) hypothesized that the price a consumer expects to pay decreases as the observed discount is deeper. In a laboratory experiment, they exposed subjects to prices for 10 "weeks" and then asked them to estimate what the price in the 11th week would be, based on the prices over the last 10 weeks. They found that the deeper and more frequent the discount, the lower the expected price. Further, they found that when this expected price was lower than the "actual" price in the 11th week, subjects were less likely to purchase that brand. Thus, deeper discounts were demonstrated to lower price expectations and adversely affect choice. Kalwani and Yim (1992) conclude "... Evaluations of the trade-off between the short term sales gain from a price promotion and the adverse effect on future sales because of consumers forming price and promotion expectations requires knowledge of how price promotions affect the formation of consumers' expectations under different market conditions," (p. 99) and encourage further research directly measuring the price expectation construct. This paper is one step in that direction. We demonstrate that offering coupons to consumers to encourage trial (low-price awareness scenario) may lead to higher price expectations which may depress trial intent, while Kalwani and Yim's (1992) results suggest that offering coupons to consumers to encourage repeat purchase leads to a lowering of expected price, and can, therefore, depress repeat purchase likelihoods.

Reference Price Effects: This paper suggests another reason why the inclusion of an external reference price may be beneficial to sales. The effect of providing a "reference price," which is a source of price information, on deal evaluations has been well studied (e.g., Berkowitz

and Walton 1980; Blair and Landon 1981; Della Bitta, Monroe, and McGinnis 1981; Nystrom, Tamsons, and Thams 1975; Mayhew and Winer 1992). This stream of research has found that, when a reference price is provided, consumers' perceive that the deal is better (but see Liefeld and Heslop 1985 for an exception). For example, Berkowitz and Walton (1980) conducted a field experiment to assess the impact of a variety of semantic cues on the "perceived savings," "perceived worth," "value for the money," "price acceptability" and "willingness to buy" a variety of consumer products. They found that the larger the discount level between the comparison and actual price, the more favorable were corresponding deal evaluations. Blair and Landon (1981), Della Bitta et al. (1981) and Nystrom et al. (1975) all found that presentation of a reference price increased perceived savings for a price promotion. Nystrom et al. (1975) also found that the actual promotional price was judged more favorably when a reference price was provided. It is possible that one of the routes through which the provision of a reference price had a positive effect on sales was by curtailing the inference of a high price.

Price Promotions: A Source of Information: Sales promotions undoubtedly provide an *economic* incentive for consumers to purchase a brand. This paper explored whether they may serve a secondary function -- an *informational* aspect. We studied the effects of coupons on regular price perceptions. We showed how the informational value of a coupon moderated its economic value. Our results suggest that the face value of a coupon, and the manner in which it is communicated, can enhance or diminish the perception of the economic incentive it provides the consumer (see also Inman et al. 1995).

Accessibility and Diagnosticity of Information: This paper provides further support for the accessibility-diagnosticity theory proposed by Feldman and Lynch (1988), in a different domain than for which it was developed. While the accessibility construct is well-defined in terms of availability, or recency and frequency of activation, diagnosticity remains a more amorphous concept. At a general level, it is the perceived reliability or relevance of a source of information for a judgment at hand. In this study, we used variation from a given mean to operationalize diagnosticity

Study Limitations and Areas for Future Research

In this research, we examined one specific promotional instrument: coupons. While theoretically one may argue that the effects demonstrated for coupons translate to other promotional discounts such as end of season sales, this remains to be empirically demonstrated in future research. We argue that people carry around an "expected range" of discounts in memory (possibly learned through prior experience), then use this range to arrive at an estimate of the perceived regular price. The paper takes a step in examining this question. Future research could examine whether people use a mean of the expected discount % range, the maximum or the minimum, and whether there are context effects that drive what is used. Further, while we were interested in assessing the information value of the face value of a coupon, future research might explore the affective value of deep discounts through their effect on the "smart-shopper" feeling (Shimp and Kavas 1984, Schindler 1992). Researchers interested in price expectations research could investigate related questions such as how the price of a product *category* is affected by prices of related product categories, and factors affecting the choice of these categories.

In this paper we did not control for individual differences in involvement with product categories, or prior information about the product category. In fact, in studies 1, 2, and 5, we deliberately used stimuli of promotional materials from another country to be able to isolate the pure informational effects of a coupon, uncluttered by prior information. Future research could explore the moderating role of product category involvement and expertise on the extent to which consumers use coupon value to estimate price. Such research might also help elucidate why we found a consistent overestimation of price across studies.

We also did not systematically investigate the steps the consumer goes through from the time s/he is exposed to the coupon to after the final purchase. Conceivably, these include making a price inference, clipping the coupon, and then purchasing a brand. We argued that consumers are more likely to clip a coupon if they do not make an unfavorable price inference. However, this leads to an equally interesting question: Are customers who do clip the coupon and carry it to

the store more likely to actually purchase the brand when they have an initial high price expectation (due to a feeling of perceived "gain"), than are those who did not have this initial high price expectation. In other words, while the effect of coupon value on prior price expectations should lead to lowered sales due to less clipping of coupons, does the effect reverse in the store? This is an area for future research.

It would be interesting to extend the results documented here to the area of brand and deal evaluations. If coupon values affect price perceptions, then through this route can they also affect constructs such as perceived quality, which price has been shown to signal? Would discount level and presence of alternate information also affect brand evaluations in the *same* direction as price expectations, as would be predicted by the price-quality literature (e.g., Rao and Monroe 1989), or would they do so in the *opposite* direction, as predicted by the effect of promotions on quality inferences (e.g., Dodson, Tybout, Sternthal 1978; Raghurir and Corfman 1994)? Understanding these questions would help identify the effects of coupon value and presence of alternate sources of information on purchase intent.

Endnotes

1. A repeated measures analysis of the two price estimates using the experimental cell as a between subjects factor was also conducted. This revealed the required interaction effect between $(F(1,112) = 7.08, p < .009)$.
2. This was done to be conservative. The results are even stronger with the inclusion of these extreme values.
3. We also ran a regression at a higher level of aggregation for the coupon present condition. We aggregated coupons by value and estimated the mean price across subjects and coupons. This exercise resulted in 18 data points. These mean prices across subjects and coupons were then regressed on coupon value, both including coupons of US\$1.50 and above, and excluding these. The overall regressions are significant at $p < .05$ (R^2 s = .50 and .54 respectively, β s = 3.45 and 3.16 respectively), and consistent with the individual subject and coupon level analyses.
4. The city's transport system requires one token per journey. These can be purchased individually or in "ten-paks." There is no discount offered on purchase of a ten-pak, but the transport authority has been encouraging commuters to purchase tokens in this bulk packing to cut down lines at subway stations, and reduce traffic at the token counters.
5. This experiment was modelled on an actual promotion being run at the time the experiment was conducted. The discount offered was US\$4 with a ten-pak, and it was restricted to a maximum of 4 seats per ten-pak offer. Some of the advertisements for the show along with the subway offer mentioned the price of the ringside seats, which were US\$30, while others did not when they included the restriction on the offer. The show was the "Barnum and Bailey" circus. The transport authority often has such joint promotions during the summer with various entertainment shows, and the form of the promotional offers are typically the same.

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Table 1
Breakdown of Coupons by Value: Study 2 Stimuli

Coupon Value (in cents)	Number of coupons	Percent of total
8.75 ¹	1	0.65
15.00	2	1.30
17.50	1	0.65
20.00	9	5.84
22.50 ²	1	0.65
25.00	21	13.64
27.50 ³	1	0.65
30.00	15	9.74
35.00	32	20.78
40.00	7	4.55
45.00	1	0.65
50.00	21	13.64
55.00	3	1.95
60.00	1	0.65
75.00	3	1.95
100.00	29	18.83
150.00	1	0.65
200.00	3	1.95
1000 and >	2	1.30
Total	154	100

1: This coupon offered 35 cents off for purchase of four.

2: This coupon offered 45 cents off for purchase of two.

3: This coupon offered 55 cents off for purchase of two.

Table 2
Regression Results - Study 2

Model: Price Estimate = $\alpha + B$ (Coupon Value) + ϵ

	R ²	Overall Model		Unstandardized Beta Coefficient			Constant	
		d.f.	F	B	Implied Discount Rate (1/β)	t	α	t
Coupon present	0.270	1,453	168.57	3.45	28.99	12.98	199	11.99
Subject 1	0.168	1,150	31.49	2.59	38.61	5.61	190	6.55
Subject 2	0.190	1,150	36.38	3.19	31.35	6.04	247	7.45
Subject 3	0.558	1,149	190.60	4.56	21.93	13.81	163	7.83
Coupon Absent	0.050	1,443	24.57	1.91	52.36	4.96	207	8.64
Subject 4	0.032	1,150	6.06	2.26	44.25	2.46	151	2.63
Subject 5*	0.010	1,139	2.39	0.61	163.93	1.54	298	12.25
Subject 6	0.151	1,150	27.98	2.67	37.45	5.29	182	5.75
Aggregate	0.165	7,892	26.29	1.91	52.35	5.79	169	6.48

Notes:

1. All F and t values are significant at $p < .01$, except for subject 5 marked "*".
2. The "Aggregate" regression includes four dummy variables for the subject factor. Three of these were significant at $p < .01$.

TABLE 3
The Effect of Coupon Value, Presence of Price Information, and
Brand Name on Price Expectations: Study 4

Means by Dependent Measure by Condition	Brand is Not Well Known				Brand is Well Known			
	Price Information Absent		Price Information Present		Price Information Absent		Price Information Present	
	\$2 ¹	\$4	\$2	\$4	\$2	\$4	\$2	\$4
Minimum Price (US\$)	\$13.84	\$13.68	\$13.33	\$11.42	\$14.89	\$20.85	\$13.40	\$12.36
Maximum Price (US\$)	\$29.95	\$33.26	\$23.44	\$20.58	\$34.53	\$48.00	\$23.87	\$22.64
n	19	19	18	12	19	20	15	20

¹: Coupon Value (either US\$2 or US\$4).

Table 4
The Effect of Availability and Diagnosticity of Competitors Prices
on the Use of Coupon Information as a Signal for Price

Mean Estimated Price in Australian dollars by condition	Competitors' Prices Absent	Competitors' Prices Present	
		Not Diagnostic	Diagnostic
A\$5 Museums			
Coupon ¹	A\$16.03	A\$23.09	A\$10.01
No Coupon	A\$14.51	A\$22.72	A\$9.80
A\$7 Museums			
Coupon	A\$24.68	A\$24.68	A\$9.40
No Coupon	A\$12.32	A\$20.10	A\$8.92
Sample Size	62	109	117

¹: "Buy 1, Get 1 Free" coupon offer.

Figure 1a
The Interactive Effect of Past Price Information
and Coupon Value on Price Expectations: Study 3

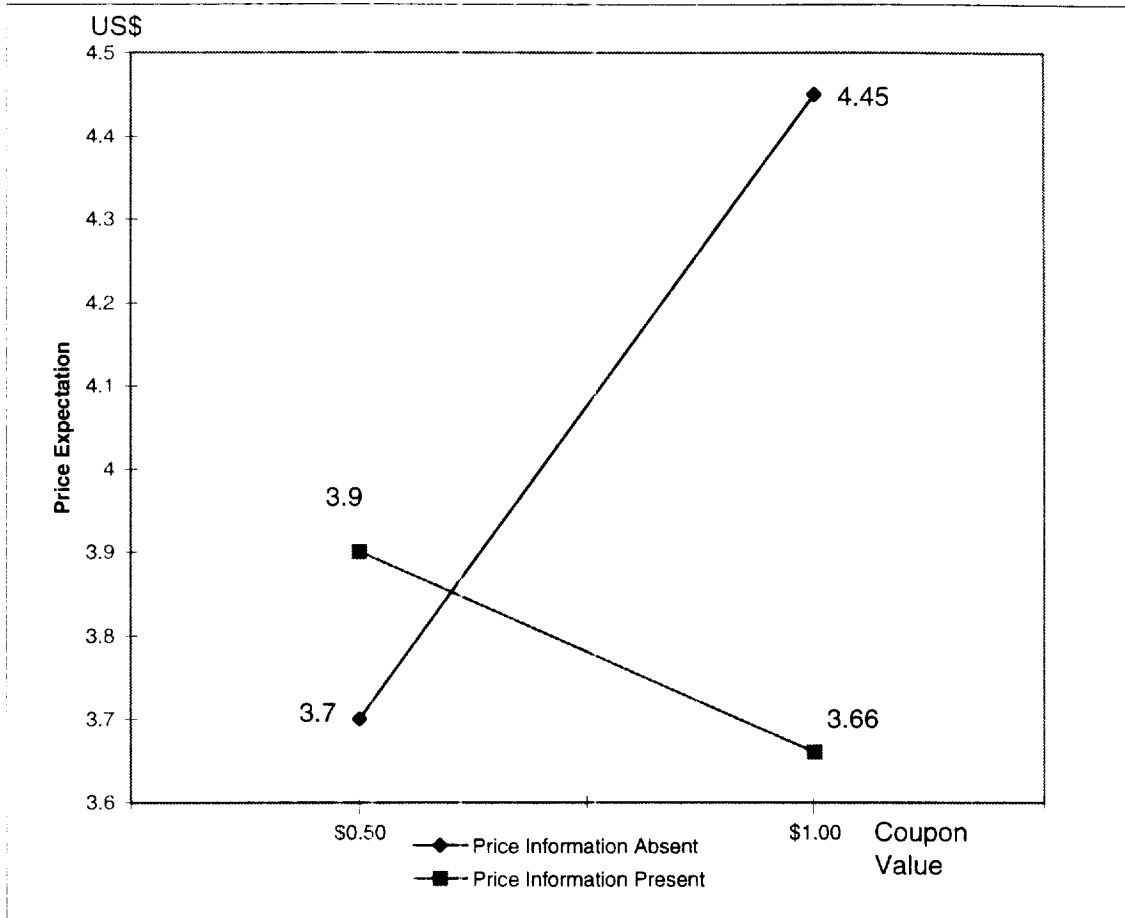
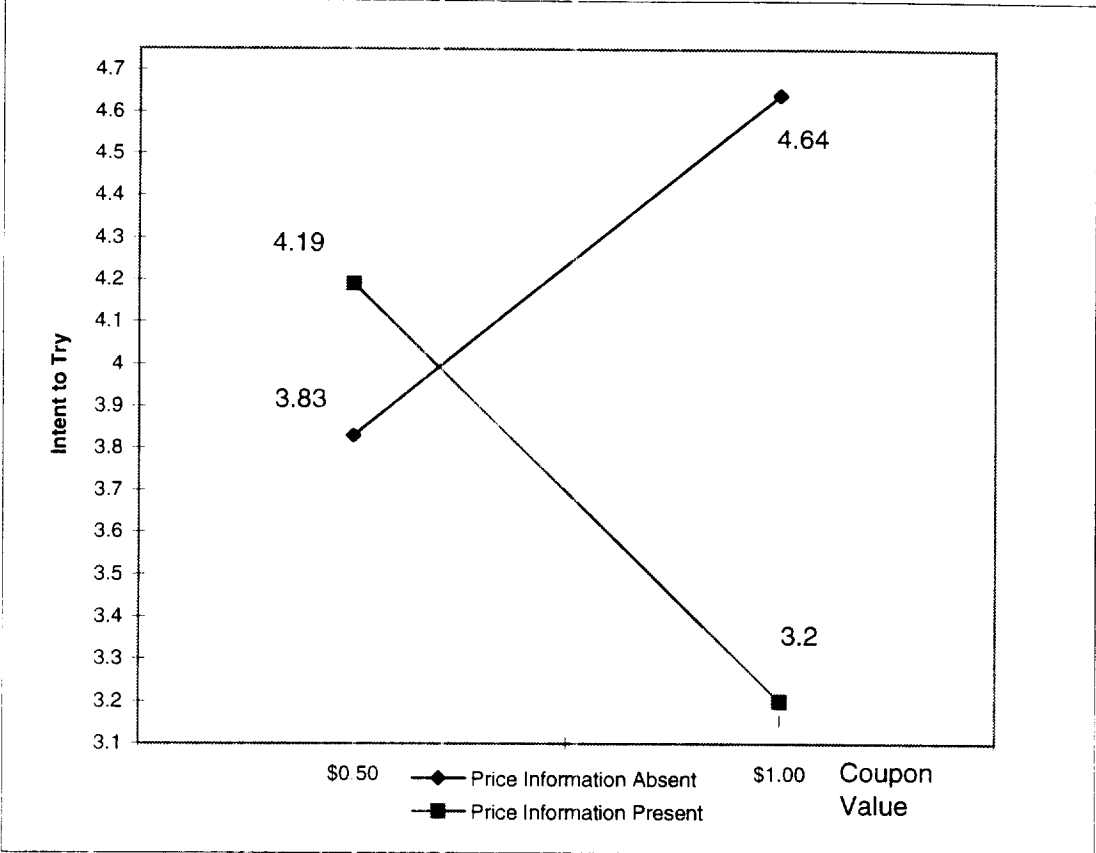
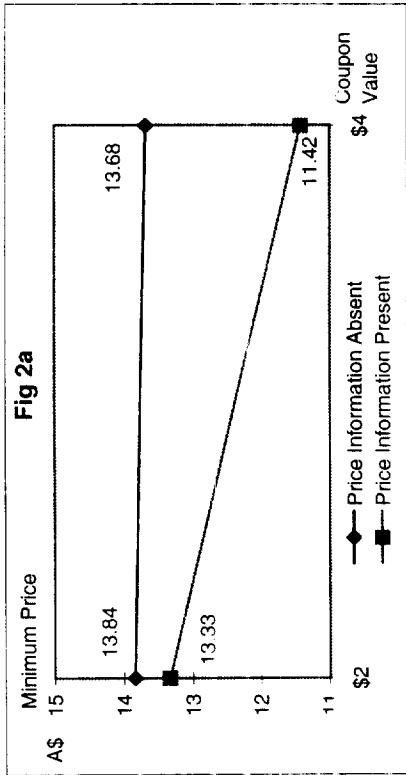


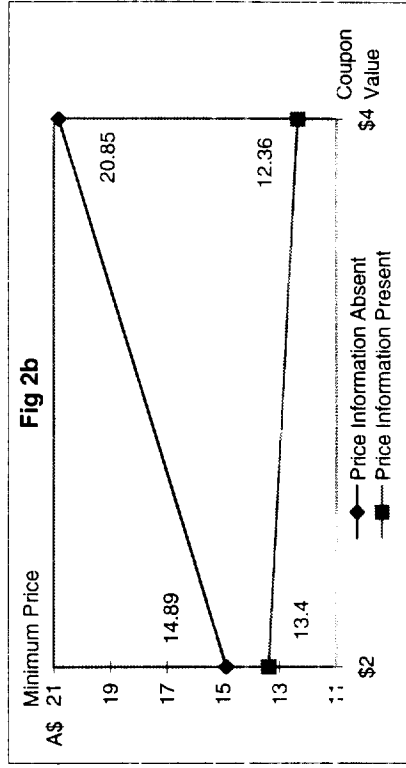
Figure 1b
The Interactive Effect of Past Price Information
and Coupon Value on Trial Intent: Study 3



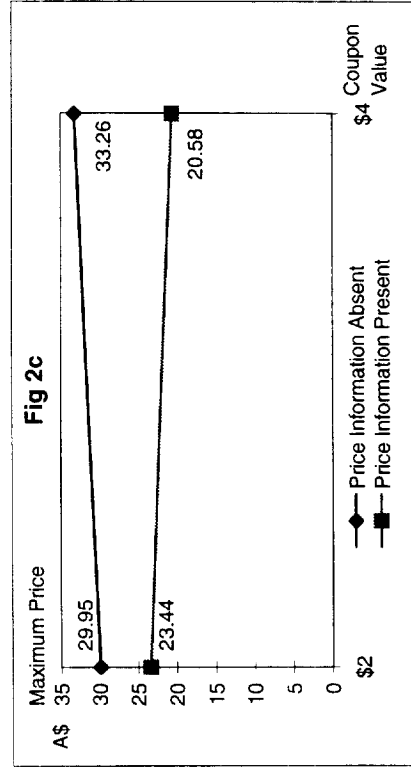
Figures 2a-2d: The Interactive Effects of Alternative Price Information & Coupon Value on Price Expectations: Study 4



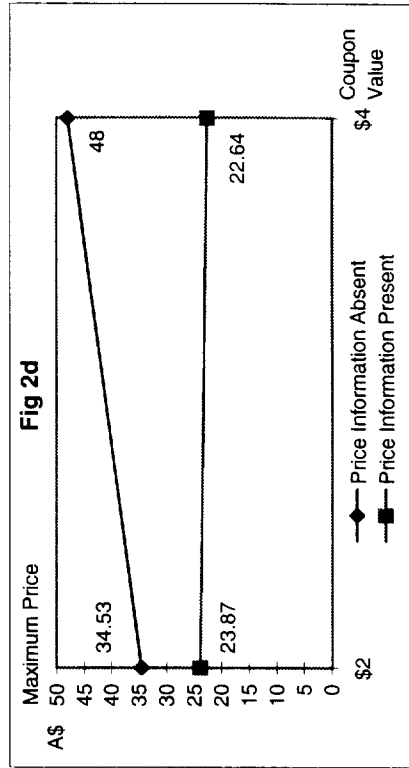
Brand: Not Well Known



Brand: Well Known



Brand: Not Well Known



Brand: Well Known

Exhibit 1

TARONGA ZOO - SYDNEY



VALUE 20% DISCOUNT

This voucher entitles the bearer to a 20% Discount per person off zoo admission.



Valid when voucher is presented directly at Taronga Zoo.

AVIS

3

We try harder.

AUSTRALIANA PARK



VALUE 10% DISCOUNT

This voucher entitles the bearer to a 10% Discount off admission to Australiana Park.

SYDNEY'S PREMIER
ALL WEATHER ATTRACTION

AVIS

20

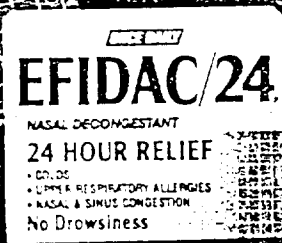
We try harder.

NEW 24 Hour Allergy Relief

The Only One
Available Without
A Prescription



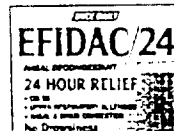
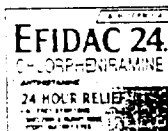
Also Available
Original
Non-Drowsy
Allergy and
Sinus
Decongestant
Formula



SAVE \$1.00

ON 12-TABLET VALUE SIZE
OR 6-TABLET SIZE

EFIDAC 24



JUST ONE TABLET = ONE DAY OF RELIEF

To receive future promotional mailings please complete (optional)

NAME _____

ADDRESS _____ APT. _____

CITY _____

STATE _____ ZIP _____

RETAILER: Return or terms stated by coupon upon purchase of product. ANY OTHER USE CONSTITUTES FRAUD. For reimbursement information call 1-800-368-5655. Failure to provide required information may void this coupon. Void where prohibited. Offer good only in the 50 United States. Cash value .001¢. One-time use only. Limit one coupon per purchase. © 1995 Ciba-Geigy, Inc., All rights reserved. NJ 07055

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Saran Wrap

THE BEST FOOD PROTECTION FREEZER TO MICROWAVE



The Best Food Protection Freezer to Microwave.

Handi-Wrap

Easy to Handle from Start to Finish

Easy to Handle from Start to Finish.

MANUFACTURER COUPON EXPIRES 6/31/95

Save 35¢ on any size Saran Wrap®



OPTIONAL: To receive future Promotional Mailings please complete

NAME _____ FIRST _____ MIDDLE _____ LAST _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

CONSUMER: This coupon is not redeemable for cash. It is good only on Saran Wrap products. It is not valid on other brands. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase.

RETAILER: This coupon is not redeemable for cash. It is good only on Saran Wrap products. It is not valid on other brands. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase.

LIMIT ONE COUPON PER PURCHASE. REDEEMABLE ONLY IN U.S.A. © 1995 The Dow Chemical Company

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5 25700 01035 2

MANUFACTURER COUPON EXPIRES 6/31/95

Save \$1.00 off TWO of any size Handi-Wrap®



OPTIONAL: To receive future Promotional Mailings please complete

NAME _____ FIRST _____ MIDDLE _____ LAST _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

CONSUMER: This coupon is not redeemable for cash. It is good only on Handi-Wrap products. It is not valid on other brands. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase.

RETAILER: This coupon is not redeemable for cash. It is good only on Handi-Wrap products. It is not valid on other brands. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase. It is not valid on products that are not in the store at the time of purchase.

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