Effect of Price-Discount Distribution in Multi-Unit Price Promotions on Sales Value and retailers’ revenue: Evidence from Multi-Unit Auctions

Faical Akaichi¹, Rodolfo M. Nayga, Jr.², and José M. Gil³

(1) Scottish Agricultural College (SAC);
(2) University of Arkansas;
(3) CREDA-UPC-IRTA

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1. Introduction

Sales promotions have become a fundamental strategy typically employed as part of a marketing mix. Consequently, they have become a significant part of promotional budgets over the years. For example, sales promotions have been estimated to represent 74% of the marketing budgets of US packaged goods manufacturers (Cox Direct, 1998).

Although there is a large number of studies that have evaluated the effect of brand promotions, store promotion and coupons, very few studies have examined the effect of multi-unit price promotions which involve selling more than one product for one price (e.g., “buy 5 units for $5, you save $2”) on sales.

Multi-unit price promotions can be beneficial to marketers for two major reasons: 1) for retailers and manufacturers, it might be preferable to guarantee sales today than probabilistic future sales; 2) due to increasing time constraints, many consumers are becoming increasingly concerned about optimizing shopping efficiency by purchasing multiple units of products to save several trips to the store.

In contrast to previous studies, we examine the sensitiveness of sales to the distribution across units of the amount of price discount in multi-unit price promotions. We compared the effect of three types of price-discount distribution on consumers’ willingness to pay (WTP), sales value and retailers’ revenues: (1) the quantity of price discount is distributed equally among units; (2) the quantity of price discount is concentrated on the last purchased unit (e.g. “buy 2 units and pay only for 1”); and (3) the amount of price discount is increasing in the number of units (i.e. the price discount on the second purchased unit is higher than price discount on the first unit and so on).

2. Experimental design

Sample: 120 subjects were randomly drawn from a list of people who are responsible for food shopping in their household. Each participant received 15€ as participation fees. Participants were then randomly assigned to four treatments. Sessions were conducted in groups of 10 subjects so each treatment consisted of three sessions.

Treatments: In the first three treatments participants were offered different price-discount distributions (see figures below). For robustness check, we provided the subjects of the fourth treatment the three types of price promotion at the same time.

Value-elicitation method: In our study, we conducted a non-hypothetical multi-unit Vickrey auction, we auctioned six units of a new product in two rounds. In the first round participants report their WTP for each auctioned unit. We then provided participants the price-promotion information and then asked them to again reveal their WTP for each of the six units. From the participants’ WTP before and after price discount promotion, we determine the quantity that can be sold, the value of sales before and after promotion, and retailers’ revenues.

3. Results

4. Conclusion

- The distribution of price discount in price promotions does matter.
- Increasing the amount of price discount with the number of units increases consumers’ WTP, sales value and retailers’ revenues.
- The uniform price discount promotion has the potential to motivate consumers to buy more units of the same product but its effect on WTP, sales value, and retailers’ revenues is generally lower than the increasing price discount strategy.
- The multi-unit price promotion (e.g. buy six and pay five for six-pack products) that applies all the amount of price discount on the last unit provided only a weak effect on WTP sales value.
- A good topic for future research is the assessment of the effect of different amounts of an increasing price discount across units on consumers’ WTP.