Consumer Responses to Simultaneous Changes in Price and Quantity: Do Direction and Magnitude Matter?

Harmen Oppewal, Monash University, Australia
Jun Yao, Monash University, Australia
Yongfu He, Monash University, Australia

This research studies how consumers perceive retail price and package quantity changes when both change in the same direction simultaneously. Three experimental studies provide convergent evidence that regardless of the magnitude of changes, consumers prefer simultaneous decreases over simultaneous increases. This effect is moderated by the presence of unit prices.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1015023/volumes/v41/NA-41

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
Consumer Responses to Simultaneous Changes in Price and Quantity: Do Direction and Magnitude Matter?
Jun Yao, Monash University, Australia
Harmen Oppewal, Monash University, Australia
Yongfu He, Monash University, Australia

EXTENDED ABSTRACT

Consumers are generally sensitive and averse to price increases but in order to maintain profitability, it may be unavoidable for a firm to increase prices of its products, for example due to inflation or increasing costs. When required to increase prices, marketers of packaged groceries generally rely on either of two tactics: (1) they raise the retail price without altering the package size; or (2) they reduce the package size without changing the retail price (Gourville and Koehler 2004, Kachersky 2011). Both tactics essentially result in a higher effective price, or unit price, of a product.

Now imagine a situation where the price and size of a product vary simultaneously and in the same direction, that is, the price increases but the volume also increases, or the price decreases but the volume also decreases. In such a situation, would volume changes mitigate against price changes in their effects on consumer price attitudes? Even more, consider if the magnitude of the price movement differs from the magnitude of the size movement. In such a situation the change in unit price may be in an opposite direction to the change in retail price. For example, retail price decreases of 10% combined with size decreases of 15% would result in an increase in unit price of \(\frac{(1-10\%)}{(1-15\%)} - 1\), is 6%; conversely a retail price increase of 10% combined with a volume increase of 15% results in a unit price decrease of 1- \(\frac{(1+10\%)}{(1+15\%)}\), is 4%. Would consumers be able to cognitively detect and interpret the differences in changes in price and volume, and consequently, would they respond negatively (positively) to such a situation where the ‘effective price change’ of a product is in contrast to its \textit{prima facie} price change?

By answering these questions, we identify a condition in retail pricing, which we term “Simultaneous changes in Price and Quantity” (SPQ), that has not been addressed in the literature yet. Drawing on anchoring and adjustment theory, we predict that consumers respond to simultaneous decreases in price and quantity (D-SPQ) more positively than to simultaneous increases in price and quantity (I-SPQ), regardless of the magnitude of changes that reflect corresponding change in effective price (i.e., unit cost).

SPQ situations create a relatively complex judgment and decision environment, where consumers are most likely to encounter difficulties in calculating the effective change in unit cost. In such an instance consumers are inclined to use heuristics, such as anchoring, to simplify their decision making. Since price (as economic loss) is more salient than quantity when consumers evaluate a purchase, price is more susceptible to the anchoring effect.

Such a bias is consistent with another research stream into denominator neglect, which suggests that numerators may outweigh corresponding denominators in judgment and decision making by individuals (Raghubir and Srivastava 2002). For packaged groceries, consumers can derive the value-for-money (VFM) of a purchase by calculating the ratio of retail price over quantity of units product obtained (Lichtenstein, Ridgway, and Netemeyer 1993), and it is normal for consumers to compare the VFM or unit prices (if explicitly presented) of alternatives, rather than counting on the ratio of quantity over price.

In addition, compared to retail prices, unit prices provide a more accurate measure of the “real cost” of packages and should be preferred as a cue in price cognition. However, consumers have been found unable to accurately calculate unit prices in retail contexts (Friedman 1972), consequently their behaviours are influenced by the presence of unit price. The explicit presence of unit price information therefore is expected to eliminate the bias caused by insensitivity to quantity than price and unveils the effective change in VFM.

Two experimental studies (Study 1 and Study 2) concerning a shopping comparison task over two time periods provide convergent evidence that regardless of the magnitude of change, there is an effect of the direction of change on consumer price attitudes. Consumers generally prefer situations where product packages become smaller in size and correspondingly lower in price, over those where product packages become larger in size, with corresponding increases in price. Therefore there is a bias towards the retail price, regardless of the directional consistency between retail price change and unit price change. In Study 1 we also observe a mediation effect of simultaneous changes through perceptions of value-for-money and expensiveness on attitudes.

In Study 2 we find these effects are moderated by the presence of unit price information. Specifically, the effect of simultaneous changes on attitudes does not persist when unit price is made available, because consumers tend to rely on unit price changes to make their judgements. Such empirical evidence rules out the alternative explanation that consumers are more concerned with total payment amounts, and thus look at retail prices only, or prefer smaller sizes to avoid waste. In study 3, we demonstrate another manifestation of the proposed effect by showing that unit prices framed as “$ per 100 ml” lead to a less competitive store price image than unit prices framed as “$ per liter” do. It provides evidence that insensitivity to quantity change relative to price change can be initiated not only by numeric anchoring but also by semantic anchoring.

REFERENCES


