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Manufacturer Allowances and Retailer Pass-Through Rates in a Competitive Environment

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Abstract

A commonly held belief has grocery and mass merchandise retailers gaining power relative to the upstream consumer package goods manufacturers. One of the major justifications for this belief is that manufacturers are now giving retailers more side payments such as trade allowances, slotting allowances, etc. However, a number of researchers have shown that these concessions have not translated into increased profit for the retailer relative to the manufacturer.

This paper explores, via an analytic model, why one might see retailers getting concessions from the manufacturer without being able to translate them into high profits. We do this by representing the interaction between the channel members as a one-period profit maximizing game where manufacturers decide on how large a side payment (i.e., a concession) to give to each retailer and retailers decide on how much of this side payment to use to promote the manufacturer's product.

At the heart of our model is a demand function for each product offering (i.e., a specific brand sold by a specific retailer). This demand function is linear in own and other's prices, but based on empirical evidence is assumed to be non-linear in the effects of merchandising activities (e.g., short term price discounts, better shelf space, advertising, etc.). Specifically, merchandising effects are modeled with a square root function that also acknowledges most short-term promotional effects result in brand or store switching versus increase category volume.

The model is composed of six parameters. These are the inherent popularity of the brand at a particular outlet, own

price sensitivity, cross (but within the store) price sensitivity, customer's sensitivity to within store promotion activities, customer's sensitivity to between store promotional activities, and the degree to which promotional activities yield incremental product category sales. We use our underlying demand formulation to find the equilibrium solution to the full information, Stackelberg leader game for different store and brand loyalty environments as captured by our six parameters. These parameters are chosen based on empirical evidence to span possible market conditions that each channel member might have.

Our findings and modeling efforts should be of interest to analytic channel modelers and scholars interested in the mass merchandising and grocery store industries. For a theoretical point of view we build upon the Case 4 model of Lee and Staelin (1997) to allow for promotional activities. From a substantive point of view we show that manufacturers will freely give retailers side payments even though they know these retailers will pocket a substantial portion of this concession. Moreover, we identify conditions within our model that lead to larger allowances, lower pass through rates, and lower retail profits; outcomes that are compatible with recent industry trends. In addition, we highlight the difference in effect on profits, prices, etc. of changes in consumers sensitivity to inter-store differences in storewide merchandising activities. One of the more counter-intuitive results of these analyses is that it is in the manufacturer's best interest to help retailers increase their spatial monopoly by decreasing consumers' tendency to cross-store shop because of merchandising activities.

(Channel Management; Trade Promotions; Nash Equilibrium)