Point-of-Sale Nutrition Information and the Demand for Ready-to-Eat Cereals

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INTRODUCTION

Food manufacturers communicate with consumers about products’ nutritional characteristics and promote sales using packaging information such as claims, statements, logos, and nutrition symbols (i.e., Front-of-Pack labeling such as Nutrition Keys). Recently, more food retailers have also been adding nutrition information to shelf tags in stores. Guiding Stars®, developed by Hannaford in September 2006, is one of more prominent programs.

DATA AND MODEL

Data

-- Guiding Stars ratings at Universal Product Code level – monthly data from Hannaford
-- Sales, prices, promotion, competing retailers – weekly supermarket scanner data from Nielsen (data prior to April 2008 were not available)

Rotterdam Demand Model

\[
\ln q_i = \alpha_0 + \beta_1 \ln p_i + \beta_2 \ln D_i + \beta_3 \ln \pi_{ij} + \beta_4 \ln s_i + \beta_5 \ln s_j + \epsilon_i
\]

where \( p, q = \) price, units sold, \( \pi = \) promotional activity, \( s_1, s_2 = \) seasonal variables

-- \( \alpha \) would be positive if the program had a positive impact on the demand for product \( I \), assuming the impacts were gradual

-- 8 product categories: 4 (0, 1, 2, 3 stars) for products sold in Hannaford, 4 for products sold in competing retailers

RESULTS

-- All trend estimates are small and not statistically significant
-- Own price elasticities were higher for competitors than for Hannaford
-- Expenditure elasticity was higher for competitors than for Hannaford
-- Promotion were more effective for 3-star products at competitors than at Hannaford

CONCLUSIONS

-- During the study period, the Guiding Stars program did not appear to have discernible impacts on sales of ready-to-eat cereals, either by shifting market shares from competitors to Hannaford or by shifting sales from lower rated products to higher rated products
-- These results show less noticeable impacts from those found in Sutherlands et al.
-- More research is being planned to obtain more useful results by:
  (1) expanding the time horizon to years prior to the launch of the program
  (2) using alternative methodology such as propensity score matching

OBJECTIVE

To explore the effectiveness of the Guiding Stars program by examining sales of ready-to-eat cereals:
-- between 4/26/2008 and 4/17/2010 (approximately 1.5 years after program introduction)
-- in Hannaford’s stores and in other retailers in the same trading area
-- considering price, promotion, and competitors

Sutherlands et al. (2010), the only published evaluation:
-- sales during October of 2006, 2007 and 2008
-- did not consider price, promotion, or competition effects
-- reported sales of products of 1+ stars increased more than sales of other products in October 2007, but not in October 2006

FINDINGS

Trends in Sales Units (RED – “no star or unrated,” GREEN – “1 star,” PURPLE – “2 stars,” BLUE – “3 stars”)

Average Units of Cereals Sold Per Week (Units were rescaled to mask real sales data)