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Advertising and American Food Consumption Patterns

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It's no secret that brand advertising usually increases sales for that particular brand. But, ERS research indicates that sales for all brands in a particular product class may increase when manufacturers of any of the products advertise. Breakfast cereals are a good example. ERS data suggest that when any cereal manufacturer advertises, sales for all cereal brands may increase—probably at the expense of less advertised breakfast foods.

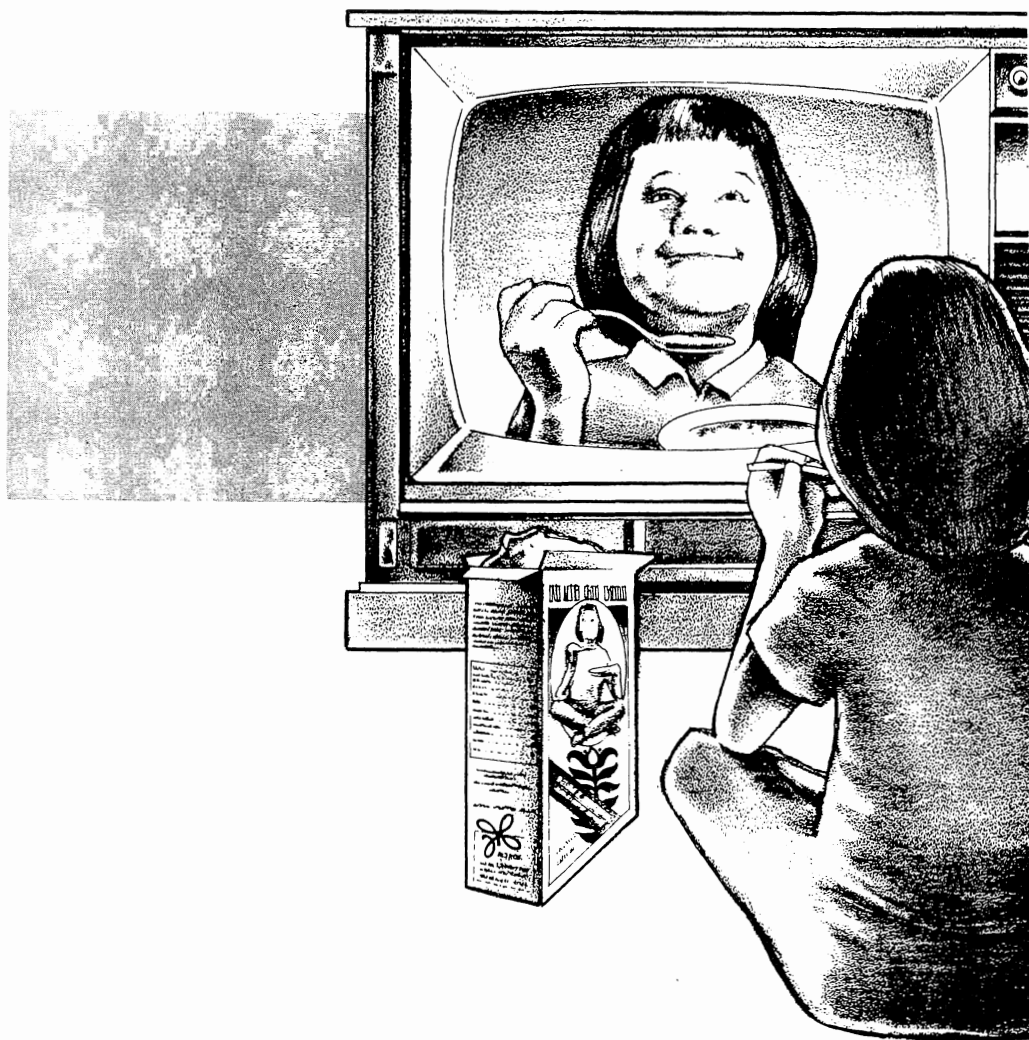
In the long run, advertising also has a cumulative impact on consumer purchases. Product classes that are heavily advertised by brand manufacturers generally get a bigger share of the consumer dollar than less heavily promoted product classes. But, ERS data indicate that advertising may only cause a shift among the kinds of foods Americans eat—almost never has it caused the total amount of foods eaten to increase.

Advertising and promotion have two main impacts on consumers. They increase consumer food costs by about 4 cents for every dollar spent. Of greater potential significance, however, is advertising's influence on food consumption patterns.

Within budget constraints, consumers must first decide how to allocate their incomes between food and nonfood expenditures; then, between food at-home and food away-from-home; then, among the types of foods (dairy products versus meats versus produce, and so on); and finally, among the brands of specific foods. Thus, advertising and promotion can have three distinct effects on food consumption patterns: the specific brands of food, the types of food, and the total amount of food purchased.

However, there is considerable skepticism among economists that brand advertising can affect purchases of the overall group of broad classes of closely substitutable products—called the “primary demand.”

One writer with few doubts on this subject is John Kenneth Galbraith, who said, “If advertising affects the distribution of demand between sellers of a particular product, it must also be supposed that it affects the distribution as between products.” On the other hand, a recent review of the literature on advertising concludes that the rela-



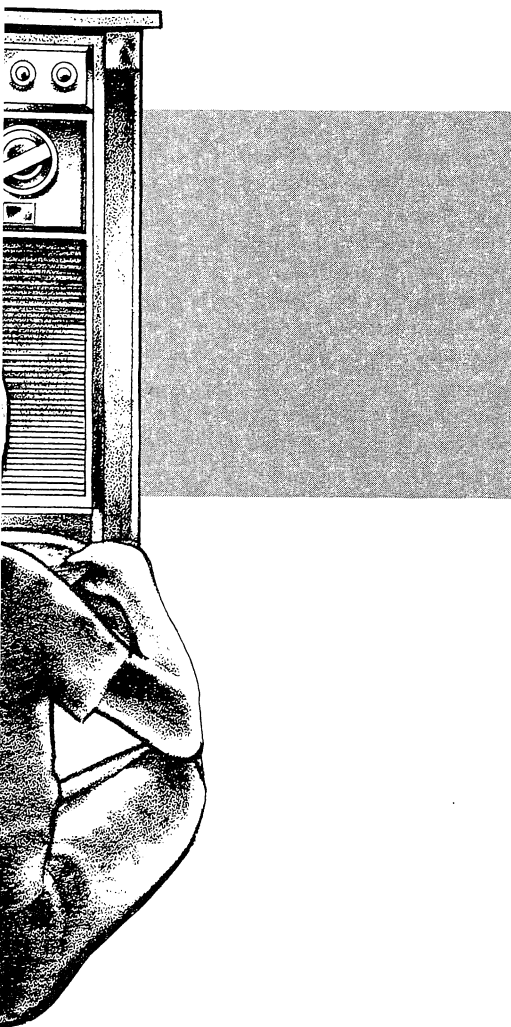
tionship between advertising can do little to counteract the decline of a market, but it probably accelerates market growth only in the presence of other growth-inducing features.

The impact of promotion on food purchases is significant because it can influence what products grocers will stock on their shelves, what products manufacturers will process, and finally, what commodities farmers will produce. It is significant that while there are four distinct groups—farmers, manufacturers, retailers, and consumers—composing the food production-distribution system, almost all food advertising and promotion is generated by food manufacturers and retailers. And, manufacturers account for two-thirds of the sales promotion aimed at the at-home foods market.

Perspective

Nearly all food industry advertising and promotion is intended to influence consumers to make choices of what to buy or where to shop. There is virtually no advertising designed to increase total food consumption, or influence consumer choices between food and nonfood items. Moreover, there is very little advertising that promotes broad classes of food such as dairy, meat, and produce. This type of promotion, called generic or commodity advertising, is designed to influence consumer choice among food products, but it accounts for less than 1 percent of total food advertising and promotion expenditures.

Although most food advertising promotes a particular brand, such advertising may increase purchase of *all brands* in the same product class. Partly, this occurs by longrun substitution of these aggressively advertised products for classes whose brands are individually and collectively little advertised (thus lowering consumers' awareness of their existence). Extensive and continued



advertising of one brand in such a product class could motivate consumers to try other brands as well to find the one that best satisfies their preferences. Consumer preferences among classes of foods (such as apples versus oranges) can be altered in the same way by generic advertising especially over quite long periods of time. At times, some companies have attempted to use advertising to improve their brands' sales by calling attention to the product and its uses without mentioning their own brand (examples are, General Foods coffee and Campbell soup). Therefore, in this article, collective brand advertising will be used as a proxy for generic and total food advertising.

Brand Demand

The effectiveness of brand advertising in either maintaining or increasing a brand's market share is a long-recognized industry tenet. It was substantiated by a 1976 study of 197 brands in 16 product classes marketed in eight Western European countries. Products included coffee, soft drinks, yogurt,

cigarettes, apples, and confectionery goods, as well as a few nongrocery items. It showed that brand advertising has a positive and statistically significant effect on both current and future brand sales. This study concluded that when media advertising was increased by 10 percent, sales, on the average, increased by 2.9 percent. Similar U.S. studies were published for beer and cigarettes. Many food companies commission internal reports on demand for their brands. The scarcity of published studies is related to the difficulty researchers face in obtaining proprietary market-share data for several time periods.

According to ERS estimates, advertising accounted for about 4 percent of the at-home expenditures for food in the 1970's. Without advertising up to near industry average advertising-to-sales ratios, food manufacturing firms are rarely able to maintain market shares of branded, packaged products. According to industry data, the leading national advertisers in nearly every food processing industry are those which have the largest share of the market. This is true despite the fact that leading firms often have the advantage of advertising less in proportion to their share of sales simply because they are better known than lower ranking firms.

Primary Demand: Types of Food Consumed

A USDA study of manufacturers' shipments in 71 food product categories shows that advertising and promotion not only influences brand preference, but also enhances consumption of entire categories of foods. Between 1967 and 1977, the portion of total shipments accounted for by some food product groups changed sharply. For example, bottled and canned drinks rose from about 4.8 percent of foods shipped in 1967 to about 6 percent in 1977. These changes may be due to price adjustments, relative shifts in the sociodemographic composition of the population, shifting consumer preferences, and the "intensity" of advertising and promotion expenditures. This last concept, which relates the percentage of sales

spent in advertising a product, is a measure of promotional aggressiveness.

A comparison of the advertising to sales (A/S) ratio to changes in the relative market share of food shipments reveals:

- Food industries with higher brand A/S ratios either tended to maintain or to increase their shares of the total value of the food market. The converse appeared to be true for foods whose A/S ratios were below the average.

- The food industries with the highest A/S ratio also tended to be those with the most highly processed and highly packaged foods.

- The average A/S ratio for all 71 product classes was 1.2 percent, but 20 foods had ratios at least twice as high as the average. These ranged from breakfast cereals (over 10 percent), bottled liquors (almost 9 percent), and soup mixes (about 7 percent) to sweeteners (2.4 percent). Of these 20 industries, 17 gained or maintained market shares. The ratios for bottled liquors and ready-to-mix desserts dropped. For all 20 foods, the share of shipments rose from 18.9 percent to 21.1 percent.

- For nine foods, the A/S ratio was less than double the average but above 1.2 percent. Eight of the nine foods in this category showed an increase in market shares.

- Of the 18 categories of food in the third lowest A/S ratio category, half showed a drop in share of the total food market.

- The 24 foods having the lowest A/S ratio (0 to 0.6 percent) are largely unprocessed foods. The Census of Manufacturers data showed that for about 16 of these 24 foods, the share of total food shipments dropped.

This type of analysis can establish an association, but not whether advertising causes growth or vice versa. Changes in the consumption of a particular product are influenced not only by advertising and other kinds of consumer information, but also by such factors as changes in relative prices and the income, race, family size, and tastes of the households that purchase the products. Advertising may influence tastes or activate dormant desires. In either case, it will likely influence the price that consumers are willing to pay. The question of the direction

Table 1. Portion of Sales Revenue Allocated to Advertising by Food Product

Product category	Advertising to sales ratio	1977 portion of total shipments Percent	1967 portion of total shipments
Twenty foods for which the advertising/sales ratio is more than double the average for all foods			
Breakfast cereals	10.10	1.29	1.15
Bottled Liquors	8.82	1.19	1.70
Soup mixes	6.94	.16	.12
Dog and cat food	6.41	1.90	1.12
Ready to mix desserts	6.31	.29	.35
Meat sauces	5.41	.18	.16
Mayonnaise	5.02	.91	.60
Other flavorings	4.96	.76	.66
Wines, brandy etc.	4.59	.95	.67
Cake mixes	4.55	1.04	1.04
Other food preparations	3.59	1.51	1.32
Tea	3.45	.43	.41
Frozen baked goods & dinners	3.30	1.41	1.09
Canned beer and ale	3.01	4.64	4.68
Catsup	2.89	.95	.82
Macaroni, spaghetti, noodles	2.83	.53	.40
Concentrated coffee	2.62	.97	.59
Margarine	2.75	.75	.73
Soups and other canned specialties	2.46	1.07	.89
Sweetners and syrups	2.43	.21	.22
TOTAL		21.14	18.85
Nine foods for which the advertising/sales ratio is above average			
Potato chips	1.95	1.26	1.03
Crackers and pretzels	1.87	.81	.79
Bottled and canned drinks	1.76	5.96	4.83
Confectionery products	1.70	4.37	3.95
Canned vegetables juices	1.59	.18	.17
Flavored milks and yogurts	1.26	.60	.46
Frozen vegetables	1.22	1.26	.93
Canned hominy	1.21	.10	.08
Cookies and ice cream cones	1.21	1.10	1.33
TOTAL		15.64	13.68

of causality is even more difficult because this method cannot determine if changes in consumption are due to changes in advertising, or if high industry growth rates induce manufacturers to increase their advertising of these products.

Total Food Consumption

Food advertising and promotion appears to have had little discernible impact in increasing the total quantity of food consumed by Americans from the mid 1950's to the late 1970's.

When adjusted for price increases and population changes, the U.S. Department of Commerce data indicated that between

the 1965-67 and 1975-77 periods, national real spending for food *at-home* rose less than 0.5 percent annually. Some of this change reflected higher volume, but some may also have reflected changes in the product mix. The USDA disappearance data for food at- and away-from-home also shows less than a 0.5 percent positive yearly growth rate. By contrast, the Nationwide Food Consumption Survey shows about a 1.25-percent yearly decline (see box).

USDA research has identified the following factors that may affect changes in national per person consumption of all foods:

- household income;
- family size and age distribution;

- prices of foods relative to all other consumer budget items;
- advertising of food relative to all other consumer budget items;
- race or ethnic composition;
- nutrition attitudes; and
- changes in wasted portions.

Some of the 0.5-percent increase in yearly per person food consumption may have been due to food stamps, housing, medical payments, and other welfare subsidies that redistributed income to needy consumers for the purchase of more food. An ERS study comparing food expenditure patterns for income groups showed that between the early 1960's and the mid-1970's, the lowest

Table 1. Portion of Sales Revenue Allocated to Advertising by Food Product

Product category	Advertising to sales ratio	1977 portion of total shipments	1967 portion of total shipments
		Percent	
Eighteen Foods for which the advertising/sales ratio is below average			
Roasted coffee	1.11	2.58	2.22
Rolls	1.07	1.16	.98
White bread	1.02	2.45	3.52
Canned cured seafood	1.02	.72	.67
Canned baby food	1.02	.28	.39
Cooking and salad oils	.95	2.22	2.12
Milled rice	.92	.81	.88
Canned meats	.87	.88	1.37
Dried fruits and vegetables	.86	.63	.55
Sweet yeast goods	.87	1.54	2.10
Pickles	.86	.39	.42
Cottage cheese	.77	.38	.35
Canned dry beans	.76	.39	.39
Flavoring extracts	.72	.31	.33
Canned milk	.68	.67	.76
Baking powder	.61	.11	.13
Processed sausages	.64	3.28	3.69
Canned fruit juices	.60	.86	.66
TOTAL		19.46	21.75

Twenty-four foods which have the lowest advertising sales ratio

Frozen juices	.59	6.81	6.77
Natural cheese	.59	1.91	1.33
Ice cream and ices	.57	1.56	2.07
Frozen packaged fish	.55	1.40	.85
Canned nuts	.50	.90	1.31
Canned vegetables	.41	1.16	1.54
Turkeys	.32	.65	.81
Corn mill products	.27	.29	.42
Young chickens	.23	2.70	2.77
Wheat mill products	.22	.32	.33
Butter	.15	.78	1.34
Processed cheese	.12	1.77	.90
Ducks and small game	.10	.04	.03
Wheat flour	.09	1.54	2.53
Processed fish	.07	2.64	3.26
Lard	.02	.15	.29
Packaged fluid milk	.02	5.15	7.24
Vinegar	.02	.08	.09
Bird feed	.01	.19	.17
Beef	0	9.88	12.01
Veal	0	.22	.49
Lamb	0	.23	.50
Pork	0	3.96	4.53
Packaged fish	0	.32	.11
TOTAL		43.69	45.72

Data Sources

Three data sets—the Nationwide Food Consumption Survey (NFCS), USDA disappearance data, and manufacturers' shipments from the 1958, 1967, and 1977 Censuses of Manufacturers—can be used to analyze changes in the mix of food products bought by U.S. households. None is perfect for studying “primary demand,” but the most appropriate and comprehensive of the three is the Census of Manufacturers data, although it omits some “fresh,” unprocessed items that account for about 10 percent of household food expenditures. The Census encompasses foodservice items, but the NFCS is only for food consumed in the home. The Census is based on annual shipment records of over 25,000 factories, while the NFCS involves a household diary-recall procedure. Both current dollar and deflated shipments were related to advertising expenditures. The USDA disappearance data do not have the detailed breakdown by degree of processing that is necessary to examine the impact of advertising or changes in the composition of demand for food.

Advertising expenditure data were compiled into class totals from annual brand advertising expenditures published by Leading National Advertisers. While this source includes only six mass media, previous ERS analyses suggest that the leading advertisers in these media are also the leading issuers of coupons, incentive promotions, and local newspaper advertising. Thus, omitting some forms of advertising probably does not affect ranking foods by their relative advertising amounts. ■

income group significantly increased its share of total food expenditures. For other income groups, however, changes in income have had little discernible impact on increasing food expenditures. Changes in family size, age distribution, or race by themselves would have led to slight declines in food expenditures.

American per capita food consumption is one of the highest in the world, and, other than for low-income consumers, income increases should not increase total quantity of food consumed at home. Due to changes in the “quality” of foods or in the mix of foods purchased, real expenditures on food increased slightly, but much less than the increase in disposable personal income.

Despite an increase in promotional effort, and other causal factors which could have led to increased food consumption, there was little growth during this period. Advertising may have increased demand for foods and beverages over what it would have been in the absence of advertising, but the ratio of food-to-nonfood advertising (about 30 percent) was virtually constant during this period. Thus, any impact of advertising on aggregate food consumption could well have been offset by countervailing advertising on nonfood products. ■

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Table 2. Indicators of Changes in Food Consumption, 1965-67 Period Versus 1975-77 Period

Indicators of consumption	1965-67	1975-77	Change
			Percent
Per capita food at home expenditures adjusted for price increases (Commerce Dept.) (100 = 1972)	\$451.2	\$471.7	4.5
		Index	
Index of per capita food consumption	99	103	4.0
Nationwide household food consumption survey, adjusted to 1966 prices, food at-home weekly	\$26.56	\$21.93	- 18
Food away-from-home	\$6.24	\$7.28	16.6