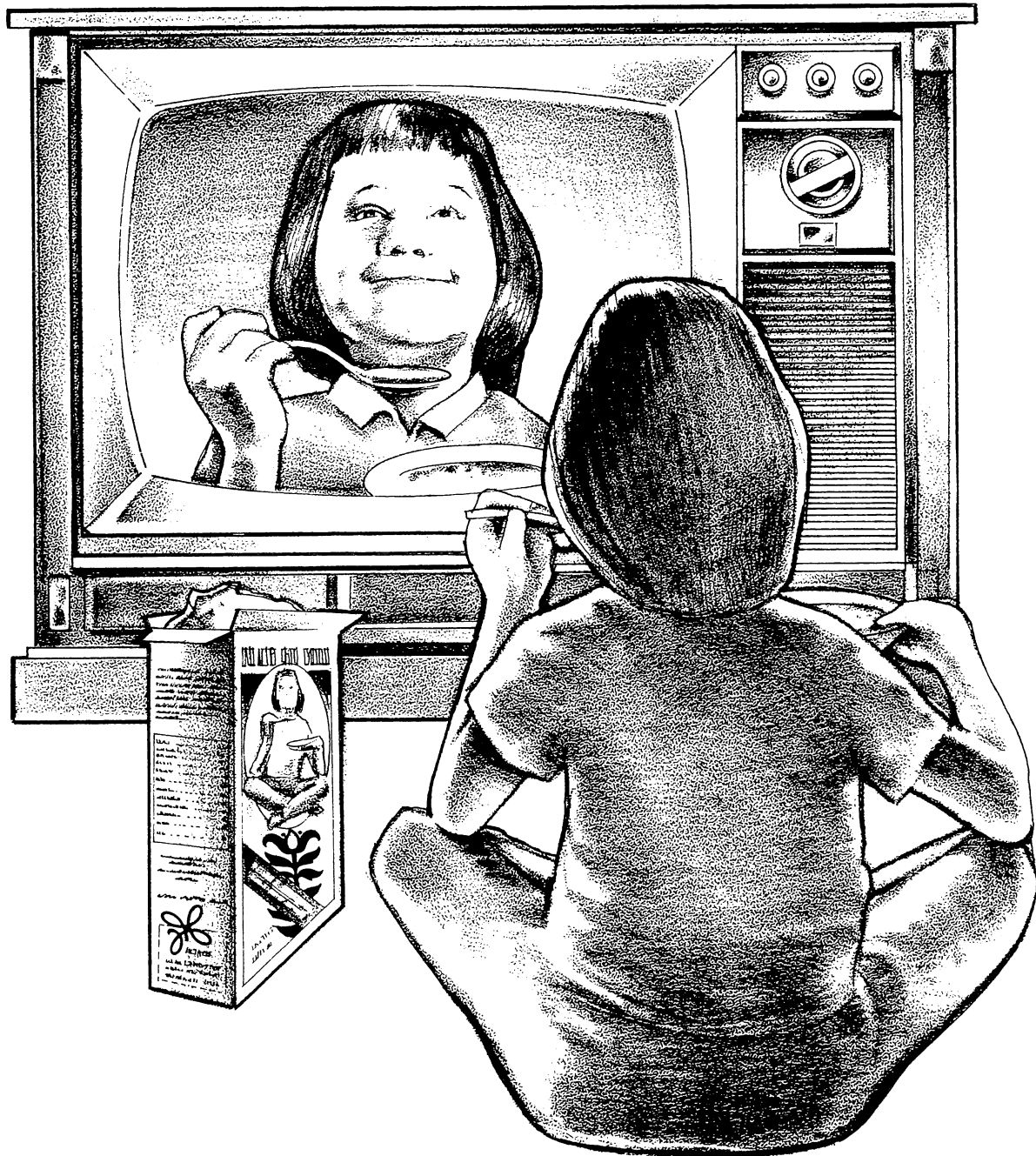


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How Does Advertising Affect Food Sales?

How Does Advertising Affect Food Sales?

As might be expected, advertising's impact on food sales is significant. It affects the specific brands of foods consumers buy, the types of food, and the total amounts of food purchased.

These food consumption patterns and how advertising affects them were examined by ERS researchers in a recent study. The results: while advertising may cause a shift in the foods Americans eat, almost never has it

caused the total amount of foods eaten to increase.

Researchers also detailed the impacts of brand advertising, determined which foods are most heavily and least heavily promoted, and analyzed the cumulative impacts of all advertising and promotion. The article, "Advertising and American Food Consumption Patterns" begins on page 2.

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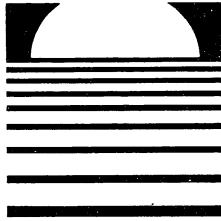
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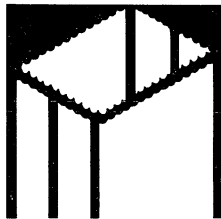
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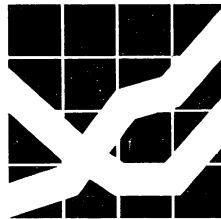
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Advertising and American Food Consumption Patterns

Anthony E. Gallo and John M. Connor
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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.

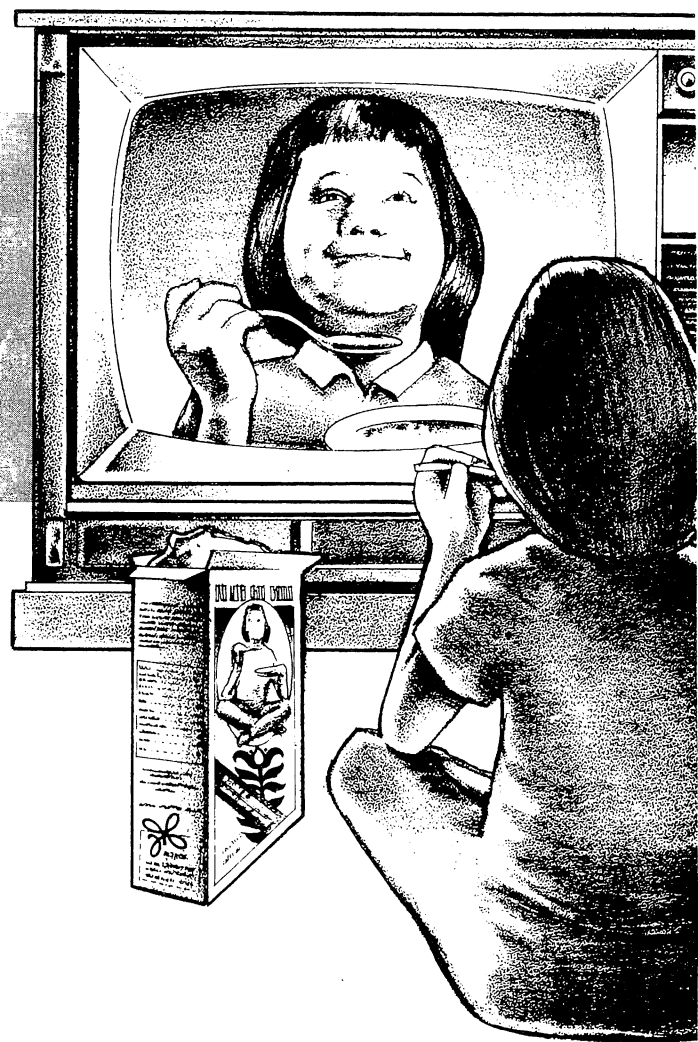
Within budget constraints, consumers must first decide how to allocate their incomes between food and nonfood expenditures; then, between food at-home and food away-from-home; then, among the types of foods (dairy products versus meats versus produce, and so on); and finally, among the brands of specific 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	1967 portion of total shipments
		Percent	
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
Sweeteners 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

The Nutritional Status of the Elderly

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Elderly Americans comprise a rapidly expanding segment of the population. The number of Americans age 60 or older has grown from about 5 million in 1900 to approximately 35.6 million in 1980 (see table 1). The proportion of Americans in this age group has also increased, from 6.4 to 15.8 percent of the population during the same time period. And, by 2010, close to 20 percent of the population will be over 60 years of age. Currently, elderly Americans comprise about 23 percent of the voting public; thus, legislators and other policy-makers are likely to consider the concerns of these voters.

One of the primary problems of the elderly is their poor nutritional status. Nutritionally inadequate diets can contribute to or



Table 1. Total Population in the Older Ages and Increases by Decade: 1900 to 2020¹

Year	60 years and over		65 years and over		75 years and over		85 years and over	
	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade	Number (Thousands)	Percent increase in preceding decade
Estimates								
1900	4,901	NA	3,099	NA	899	NA	122 ²	NA
1910	6,274	28.0	3,986	28.6	1,170	30.1	167 ²	36.9
1920	7,952	26.7	4,929	23.7	1,449	23.8	210 ²	25.7
1930	10,484	31.8	6,705	36.0	1,945	34.2	272 ²	29.5
1940	13,822	31.8	9,031	34.7	2,664	37.0	370	36.0
1950	18,500	33.8	12,397	37.3	3,904	46.5	590	59.5
1960	23,828	28.8	16,675	34.5	5,621	44.0	940	59.3
1970	28,751	20.7	20,085	20.4	7,598	35.2	1,432	52.3
1980	35,626	23.9	26,846	33.7	9,965	31.2	2,239	56.3
Projections³								
1990	39,127	9.8	28,933	7.8	11,402	14.4	2,487	11.1
2000	40,589	3.7	30,600	5.8	13,521	18.6	3,217	29.4
2010	48,012	18.3	33,239	8.6	13,893	2.7	3,841	19.4
2020	60,664	26.4	42,791	28.7	15,381	10.7	3,826	-0.4

Source: Census of Population, 1930, Population, Vol. II, *General Report*; and *Current Population Reports*, Series P-25, Nos. 311, 514, 601, 614, and 704. Bureau of Census Series P-23, No. 59, May 1976, and PC 80-S1-1, May 1981.

NA = Not applicable.

¹Estimates and projections as of July 1. Total resident population of the 48 States and

District of Columbia (excluding Alaska and Hawaii) for 1900 to 1930. Estimates for 1940 and later years refer to the total population of the 50 States and District of Columbia and include Armed Forces overseas.

²Estimates for 1900-30 as of April 1.

³Base date of projection is July 1, 1977.

exacerbate chronic and acute diseases, hasten the development of degenerative diseases associated with aging, and delay recovery from illnesses. A number of studies have indicated that many older Americans may have diets that do not provide the level of nutrients needed to maintain a healthy body.

The 1971 Health and Nutrition Examination Survey (HANES), conducted under the auspices of the U.S. Department of Health, Education, and Welfare (HEW), found that about 56 percent of the Americans age 60 and older had diets inadequate in one or more nutrients. The most frequent deficits were iron, vitamin A, ascorbic acid, and calcium. Subsequent smaller scale surveys have found similar deficiencies in the elderly, although none has found as large a proportion as did the HANES study.

Most of these studies define an adequate, nutritious diet as one fulfilling the Recommended Dietary Allowances (RDAs) issued by the National Academy of Sciences. However, there are problems inherent in using RDAs. The levels of nutrient intake described in the RDAs are designed to maintain adequate nutritional status for healthy members of the U.S. population. Unusual nutrient needs for special conditions, such as metabolic disorders or continued use of pharmaceutical preparations, are not covered by RDAs. Similarly, margins of safety that are built into the RDA standards do not cover modifications for any additional requirements caused by diseases. Many diseases have profound impacts on an individual's nutrient requirements—diseases to which many elderly succumb. Therefore, the RDAs may have more limited use in evaluating diets of the aged than of other segments of the population.

The extent to which dietary, personal, and environmental factors influence the nutritional status of the aged is only partially understood. However, considering all the factors thought to influence the nutritional status of the elderly, chronic diseases and

the financial burdens imposed by limited income are among the most important.

Chronic Diseases

Chronic and acute diseases can have a wide range of negative effects on the nutritional status of the aged. There are diseases which can affect digestion, absorption, and utilization of nutrients (for example, circulatory and musculoskeletal problems), those which interfere with nutrient intake (for example, oral problems, including poor dentition), and those which increase the excretion of specific nutrients (examples are diabetes and infections). People 65 years of age and older more often suffer from chronic diseases such as heart disorders, arthritis, bone diseases, and diseases that affect the respiratory and digestive systems. Statistics show that approximately 80 percent of the elderly, as compared with 40 percent of those younger than 65 years of age, have one or more chronic diseases. The prevalence of some of these diseases is shown in table 2.

The HANES study indicated that the incidence of these diseases is not confined to one sex, race, or other demographic stratum. For example, the rate of hypertension in females is nearly twice that in males,

while the rate of hypertension in whites is less than twice that of other races; coronary heart disease is similar across educational strata, but more prevalent in elderly males than females and more prevalent among whites than other races.

Drugs often have a favorable effect on nutritional status by limiting the disease process, enhancing appetite, and correcting underlying metabolic defects. However, there are also examples of adverse drug/diet interrelationships. For example, antibiotic therapy can produce vitamin deficiency; chronic use or abuse of medications can produce gastrointestinal abnormalities which affect nutritional status; prolonged use of laxatives can result in altered absorption of certain vitamins, diarrhea, weight loss, and fatigue.

Poverty and the Aged

Poverty may be one of the most important environmental determinants of inadequate nutrition among the elderly. Poverty alone cannot precipitate a nutritional deficiency, but may affect the ability to obtain an adequate diet and may also reduce the ability to obtain the health care needed to diagnose, treat, and manage chronic diseases linked to nutrition. Poverty statistics

Table 2. Prevalence of Selected Chronic Conditions in Total U.S. Population and Persons 65 Years and Older

Chronic condition	Number of persons in total pop. (per 1000)	Number of persons 65 and older (per 1000)
Heart conditions	50.4	198.7
Cerebrovascular disease	7.5	48.2
Arthritis	92.9	380.3
Emphysema	6.6	31.7
Upper gastro-intestinal disorder	13.1	37.7

Source: Department of Health, Education, and Welfare. Vital and Health Statistics Series 10-94, 1972; Series 10-92, 1969; Series 10-84, 1970; Series 10-83, 1968.

for Americans age 60 and older by sex are summarized in table 3. Almost 16 percent of those over 65 had incomes below the Bureau of Census Poverty Index in 1980. The poverty rate for the elderly was higher for females than it was for males, and higher among Blacks than among other racial groups.

Many senior citizens live on incomes that are fixed while retail food prices continue to increase. As a result, households headed by senior citizens spend about 22 percent of their income for food compared with about 17 percent for other households.

In response to some of the problems discussed public assistance programs have been developed to help ease the food in-

come burden for many elderly as well as to enhance their nutritional status.

Food Stamp Program

USDA's Food Stamp Program (FSP) was intended to supplement food expenditures of low-income households to improve their ability to purchase nutritionally adequate diets. Traditionally, households headed by the elderly participated in the FSP proportionately less than other households. The Food Stamp Act of 1977 made several major revisions to FSP, one of the most far reaching was the elimination of the purchase requirement, referred to as "EPR." Before EPR, all participants were required to make a cash payment for their food

stamps. The amount of food stamps they received was equal in value to their cash payment, plus an additional amount known as the "bonus." After EPR, participants received the bonus only, with no cash transaction. Several studies suggested that inability to pay the purchase requirement may have been a major reason why many eligible households headed by the elderly did not participate. Since EPR took effect in January 1979, participation by households headed by an elderly person increased approximately 32 percent from February 1978 to April 1979. In contrast, the number of nonelderly households increased by about 14 percent over the same period of time. Currently, nearly 25 percent of all food stamp households have at least one person who is elderly; about 10 percent of all food stamp participants are age 60 or older.

Other special provisions also contributed to the increase in number of elderly participants. Mail certification and issuance services are now available. A provision has been made for the allowance of higher medical and shelter deductions when determining size of bonus. Special contracts have been made with selected restaurants to offer meals at low or reduced prices to elderly FSP participants, and to accept food stamps for meals. USDA also allows approved nonprofit meal services to accept food stamps as payment for meals served to elderly; some of these institutions are also eligible to receive USDA donated food. In 1980, there were 2,638 nonprofit communal dining services and 1,472 nonprofit meal delivery services accepting food stamps throughout the country. These nonprofit meal services are not funded by the U.S. Department of Health and Human Services (HHS).

Has the FSP enhanced the nutritional status of participants? The answer is not entirely clear cut. There are studies that have shown a marked nutritional improvement among FSP participants in comparison with nonrecipients with similar socioeconomic characteristics. Other investigations have shown little, if any, relationship between nutrient intake and food stamp participation. It might be added that these studies did not focus specifically on elderly par-

Table 3. Persons 60 Years and Older with Incomes Below Poverty By Sex, Ethnic Origin, and Rate of Poverty, (1980 Estimates)

	Number	Poverty rate
	Thousands	Percent
Total		
60-64 years	1058	10.4
65 years and over	3871	15.7
Male		
60-64 years	367	7.8
65 years and over	1102	10.9
Female		
60-64 years	691	12.6
65 years and over	2769	19.0
White		
60-64 years	768	8.4
65 years and over	3042	13.6
Black		
60-64 years	270	30.9
65 years and over	783	38.1
Spanish origin		
60-64 years	66	19.4
65 years and over	179	30.8

Source: Bureau of Census, *Money Income and Poverty Status of Families and Persons in the United States: 1980* (Advance Data for the March 1981 Census Population Survey Series P-60, No. 127).

ticipants. A recent USDA study, however, working with a limited data base, did look specifically at the effects of a number of variables (including food stamp participation) on nutrient consumption of the elderly. It found that the FSP had a positive effect on the intake of selected nutrients.

National Nutrition Program for the Elderly

In 1973, Congress appropriated nearly \$100 million to establish the first Federal nutrition intervention program specifically for the Nation's aged population—the Nutrition Program for the Elderly—which, in turn, was a title amendment to the Older Americans Act of 1965. The program is operated by the Administration on Aging of HHS. The program's legislative mandate called for the development of a nationwide network of community-based meal service for the elderly in addition to the group feeding programs already existing. Expenditures were expected to exceed \$500 million by the end of 1981.

About 165 million meals were served in fiscal year 1980; about 31 million (20 percent) were home delivered. Twenty-six percent of the meals were served to minority participants, and 64 percent of the meals were served to persons below the poverty threshold. Participants may contribute money, but they are not required to pay for their meals.

Under special provision of the Older Americans Act, USDA provides cash or commodities to the HHS program, based on the number of meals served. When the reimbursement program began in fiscal year 1976, the per meals reimbursement rate was 15 cents. In fiscal year 1980 the rate was 43 cents, which generated \$57 million in cash and \$14 million in foods; the unit value of the reimbursement rate is adjusted annually for increases in the cost of living.

Several small-scale evaluations of the congregate meal phase of this program have indicated that the average nutrient intake of those who had eaten a meal at the nutrition site on the day of the study was greater than

for those who had not attended. First-wave findings from what is to be a nationwide, long-term evaluation of this program, indicate more positive effects on dietary intake for participants than for nonparticipants (those who never participated in the program). These differences in nutrient intake, however, are more evident on days when the participants eat at the sites, and they don't appear to "carry over" to other days when participants don't eat at these sites. This nutrition program has been extended through fiscal year 1984.

In summary, two large-scale Federal programs—the Food Stamp Program and the National Nutritional Program for the Elderly—in conjunction with nonfederal charitable institutions, have sought to enhance the nutritional status of elderly Americans. Both Federal programs have been successful in reaching more elderly persons in recent years. Although evaluations of the Federal programs' effectiveness have not been totally unambiguous, it generally appears that these programs have led to nutritional improvement among the aged.

In view of budgetary constraints being imposed on Federal agencies, it is difficult to anticipate what changes, if any, might be made to Federal Government intervention efforts to enhance the elderly's nutritional status. At the time of this writing, however, USDA was planning demonstration feeding projects for low-income elderly. The purpose of this program is to examine various food packages and delivery systems for providing supplemental foods to this population segment, especially those low-income elderly who are incapacitated through sickness and transportation problems. These demonstration projects would be tied into existing USDA commodity supplemental feeding program sites which serve low-income pregnant women and small children. Emphasis was to be placed on use of voluntary private and local resources for food package delivery. ■

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Sodium: What's the Government Doing?

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The growing concern with sodium and its relationship to hypertension has prompted the Government and private industry to initiate programs intended to decrease the sodium content of processed foods, to encourage sodium labeling on food products, and to educate consumers about sodium in the diet.

One program—voluntary sodium content labeling of processed foods—has become fairly widespread over the past couple of years. In an effort to encourage meat and poultry processors to label the sodium content of their products, USDA has greatly relaxed the testing required to verify such label statements of the products under its jurisdiction. Processors are no longer required to test each lot of meat or poultry products that bear a sodium content declaration. But processors are still responsible for assuring the accuracy of the sodium content of their products. A USDA approved quality control program is not required where an adequate sodium content data base already exists or where accurate calculations of sodium content can be made from product formulations. For other products that do not fall into these categories, a partial quality control program will be required to verify the accuracy of any sodium labeling value. Such a quality control may consist of formulation control with some laboratory analysis, only laboratory analysis of finished products, or some combination of the two.

USDA's Food Safety and Inspection Service (FSIS) permits use of the labeling claims "low sodium" and "no salt added" as well as comparative sodium content claims. The "low sodium" claim is allowed on foods containing less than 35 mg. of sodium per 100 grams of the food. The "no salt added" claim is allowed on products that might be expected to contain salt, but which do not contain salt and whose ingredients do not contain a significant amount of salt. FSIS also allows the use of comparative sodium labeling claims when the sodium content of the food is at least 25

percent lower than that of the food to which it is being compared. The use of any of these claims requires along with it a declaration in milligrams of the product's sodium content.

Further response by USDA to the current sodium concern includes educational efforts as well as various research projects. To inform the public about the dangers of excessive sodium consumption and to offer alternative foods and seasonings, USDA and FDA have issued a new publication, *Sodium—Think About It*. It's free and can be obtained by writing to the Consumer Information Center, Department EE, Pueblo, Colorado, 81009.

FSIS has begun monitoring the sodium content of several meat and poultry products. Continual testing will be done for the first year to gather baseline data. Thereafter, testing will be sporadic to assess trends in sodium content of products. FSIS has selected a variety of popular products that have a relatively high salt or sodium content—some from the beef, pork, and poultry categories as well as products in which the salt serves various different functions such as preservation, flavor enhancement, emulsification, thickening, and binding. These include pumped hams that have been injected with a curing solution luncheon meat, bacon, bologna, frozen pizza, canned spaghetti with meat, fresh pork sausage, canned soups with meat, and frozen pot pies.

USDA's Agricultural Research Service (ARS) is conducting research on reducing sodium in processed foods. This includes a literature review that will identify gaps in current knowledge and clinical research that will analyze the way sodium affects meat proteins, spoilage microorganisms, and fat emulsification. Scientists will consider food safety, acceptable food properties, and processing aspects.

In 1981, FDA began a program to inform the public about the relationship between sodium and hypertension, and to seek ways to reduce the amount of sodium consumed by the public. The program encourages the food industry to add less sodium to processed foods, to market more foods that are lower in sodium, and to voluntarily label

sodium content. During the past year, representatives of the food industry have indicated to FDA that one-third to one-half of all the processed foods regulated by FDA will have sodium labeling by December 1982. When the program began in April 1981, 13 percent of these foods were sodium labeled. Only 7.5 percent were labeled a few years ago. Several of the Nation's largest food manufacturers have made commitments to label all or almost all of their products. And many companies are seeking ways to reduce the sodium in their products. Companies that will be labeling all or most of their products with sodium content in the near future include: General Foods, Del Monte, Procter and Gamble, General Mills and Frito Lay.

Currently, FDA does not have the authority to require sodium labeling on all products. That authority would require the passage of legislation by Congress. However, FDA recently published proposed sodium labeling regulations in the *Federal Register*. This proposal would require that a declaration of sodium content appear on the label of any product under its jurisdiction that bears nutrient information. FDA can impose this requirement because nutrient labeling is voluntary in most cases. Nutrient labeling is mandatory when nutrients are added to a product or a nutritional claim is made about the product. FDA estimated in 1978, that 44 percent of the dollar volume of packaged, processed products under its jurisdiction carried nutrient labeling. (This figure excludes meat products, milk products, bread, and all private label brands.) FDA would allow declaration of sodium content without requiring a complete nutrient listing.

Regulations currently in effect require a label declaration of the sodium content of food only when a claim is made regarding the usefulness of the food in regulating sodium or salt intake. The new proposal defines several descriptive phrases that may be used in conjunction with a label declaration

Coupons: Part II

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in milligrams of the amount of sodium contained in the product. The term "low sodium" may be applied to products containing 35 mg. or less of sodium per serving; "moderately low sodium" to products containing 140 mg. or less per serving; and "sodium free" or "salt free" to products containing 5 mg. or less of sodium per serving. The term "reduced sodium" may be applied only to those products which, through special processing, have achieved at least a 75 percent reduction in sodium content when compared to the traditional food. A comparative sodium content claim may not be made unless a product's sodium content is at least 10 percent less than that of the appropriate foods with which it has been compared and those foods must be identified.

The proposal also sets guidelines for the use of such terms as "without added salt," "unsalted" and "no salt added." None of these terms would be required on any food but their use would be allowed only in accordance with the definitions and guidelines set forth in the proposal.

Education is another goal of the FDA project. FDA is using television, radio and written materials to convey sodium information to the public. FDA has coordinated its efforts with USDA and the National Heart, Lung and Blood Institute. The Food Marketing Institute and the Salt Institute, two trade associations, have produced brochures on sodium. A wide spectrum of other organizations are discussing educational programs with FDA.

And finally, FDA has set in motion studies to evaluate changes in the total sodium content of the American diet and to determine how much of the food supply has sodium labeling. FDA will be monitoring 1500-1700 branded processed foods. Half of these consist of those products representing the largest dollar volume in a wide range of product classes. The other half are randomly selected from the same product classes. Much label information is collected on these products, including whether sodium content is declared. Through this system of monitoring, FDA officials hope to determine how well the voluntary system of sodium labeling is working and whether further action is needed. ■

Coupons are the smallest but most rapidly growing form of direct consumer advertising and promotion for food. (See Coupons: Part I—NFR-18, Spring 1982.) However, while coupons offer cash discounts to consumers, they also affect retailers, manufacturers, and farmers.

Nearly all of the Nation's grocery stores—about a quarter of a million—redeem coupons. Most couponed products are either highly processed foods or a variety of non-food items generally sold in grocery stores. Almost all coupons are for national brand labels. And, although only about one food

Table 1. Market Concentration and Couponing Intensity Ratios for Food Products

Item	Share of market contracted by four leading manufacturers ¹	Couponing intensity ratio (by value) ²
	Percent	
Beverages:		
Soft drinks	86.9	0.38
Coffee, tea, cocoa	70.6	5.78
Milk, butter, cheese	28.5 (national) 57.6 (local)	.28
Meat, fish, poultry, eggs:		
Fresh	32.4	.03
Processed	29.3	.09
Fruits and vegetables:		
Fresh	20.0	.08
Processed	38.6	.64
Cereal and bakery products:		
Bread and rolls	33.5 (national)	.88
Cookies, crackers, chips, snacks	56.2	.88
Breakfast cereal	84.0	8.07
Flour and flour mixes	47.4	9.11
Rice, pasta	39.2	1.50
Sugar and sweets:		
Sugar, syrup, jelly	58.6	1.20
Ice cream, candy, dessert	45.6 (national) 57.3 (local)	.88
Soups, baby and prepared food		
	59.4	3.68
Seasonings and dressings:		
Seasonings and spices	60.5	.90
Oils and salad dressings	51.2	1.52

¹Derived from 1972 Census of Manufactures weighted average of 4-digit SIC industries.

²Correlation coefficient (without fresh fruit and vegetables):

national (n = 16).

Correlation coefficient (with fresh fruit and vegetables):

local (n = 16)

national (n = 17)

local (n = 17).

manufacturer out of 25 issues coupons, these firms account for the bulk of processed food sales.

Today, couponing is a significant trend in food advertising. For manufacturers, coupons can help introduce new products and retain established brand loyalty. More importantly, however, coupons can assure that manufacturer's price reductions are passed on to consumers.

For retailers, coupons can build store volume, but reimbursement for handling costs and "double couponing" costs have become important issues in recent years. Coupons can also dilute retailers' control of shelf space. Insofar as coupons are used mostly to promote food with a relatively low ratio of farm value-to-retail price, coupons probably have only a slight effect on the demand for agricultural commodities.

Manufacturers' Use of Coupons

Coupons can be an effective marketing

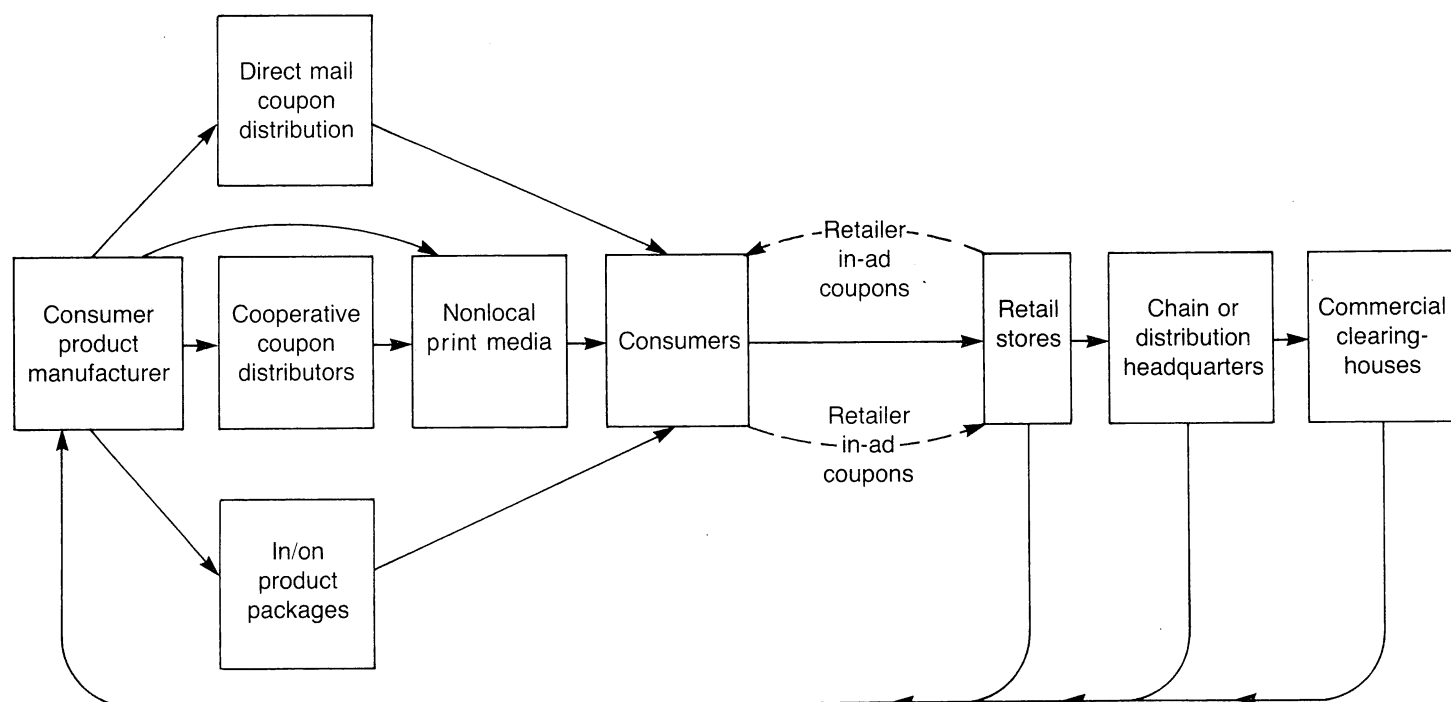
tool to develop new business and expand existing business. In short, coupons can influence consumers to purchase new products. Manufacturers also use them to maintain brand loyalty, thus, preserving their market shares. And, manufacturers can effectively coordinate coupons with electronic (TV and radio) and printed advertising. All this is called "pull" advertising—which is aimed at enticing the consumer to buy specific products.

At the same time, manufacturers use "push" promotion to acquire space on retailers' grocery shelves. "Pull" advertising (of which coupons are a part) forces retailers to stock particular products ("push" promotion) because of consumer demand for the products. To make carrying their products even more attractive to retailers, manufacturers usually combine media advertising and coupons with special price-packs that reduce the retailers cost for the advertised product.

Coupons are probably more effective than price-packs in passing discounts to consumers. This is because manufacturers have no way of ensuring that retailers will actually sell their products at a price in line with the discounted wholesale price. Couponing may be more effective in lowering prices to consumers, since the price reduction in the form of a coupon can be placed directly in the consumer's hand. Because of coupons, however, retailers can offer consumers a special lower-than-usual price even without the incentive of price-packs, without disturbing their established price and margin patterns.

Coupons can also be an effective tool for retailers in differentiating between price sensitive and nonprice sensitive consumers. Price sensitive consumers are those who are more inclined to purchase a lower priced store brand. Sales revenue can be increased by offering lower prices to price sensitive consumers through coupons, while not

Figure 1. Coupon Distribution System



reducing the product's regular price to other consumers.

Firm Size

Because coupons are especially well suited for products that are branded, easily distinguishable, and storable—items generally manufactured by large food firms—coupons are usually issued by large firms. In fact, results of numerous economic studies indicate that advertising done by large food firms is out of proportion to their sizes. Food manufacturing is a relatively concentrated industrial sector where large firms are dominant.

Four-firm market concentration—or the share of sales by the largest four firms—is an indirect measure of the presence of large firms leading an industry. Couponing intensity is positively and significantly related to concentration. And, ERS data indicate that there is a tendency for leading firms to be heavier coupon issuers than other firms.

But, small firms also find couponing beneficial. While larger manufacturers may use couponing as part of a multimedia advertising campaign, small firms often view coupons as the only promotional tool at their disposal, particularly for new product introductions. A series of interviews conducted by ERS researchers with small food processors indicated that small manufacturers considered coupons critical to the successful introduction of new products in the marketplace. Couponing is much less expensive than advertising on TV and radio. Many of the manufacturers interviewed saw printed advertisements that contained coupons as their most effective way of reaching consumers.

Small manufacturers are often at a disadvantage compared with both large manufacturers and large retailers in promoting products. They frequently sell their products through brokers or other third parties rather than maintain an extensive sales office themselves. Because of this, small manufacturers tend to lose direct contact with their sales representatives—the retailers—who come in direct contact with consumers.

Coupons are, therefore, a cost-effective

mechanism for smaller manufacturers. Their smaller advertising budgets force them to rely more heavily on retail trade promotions rather than on direct consumers advertising. Several small regional manufacturers indicated that they could not compete in the brand grocery market without couponing, since they could not afford to use electronic media to advertise.

Industry studies have found that coupons

have their greatest impact when they are tied to a complete marketing plan including retail trade promotions, print advertising, and television advertising. While the absence of coordinated marketing plans make coupon programs less effective, smaller manufacturers reported that the disadvantages from not having access to extensive television advertising were not substantial enough for them to abandon couponing.

Table 2. ERS Survey of Double Couponing In Selected U.S. Cities, 4 Selected Weeks, 1980

City	Proportion of stores offering double couponing during week of:			
	April 13-19	July 6-12	August 10-16	September 7-13
	Ratio			
New York	3/10	3/10	6/10	5/8
Syracuse	3/7	5/7	6/7	4/6
Washington	2/4	2/4	2/4	2/4
Buffalo	0	3/4	2/4	2/4
Rochester	0	3/5	3/4	3/5
Kansas City	0	3/5	4/5	0
Bridgeport	0	3/5	4/5	1/5
Albany	0	0	1/6	1/6
Baltimore	5/5	0		
Newark	4/5	0		
Philadelphia	4/6	1/6	1/6	1/6
Providence	3/4	0	0	0
Jacksonville	1/6	1/5	0	0
Cincinnati	1/5	0	1/5	0
Des Moines	1/4	1/5	0	0
Indianapolis	2/5	0	0	0
Minneapolis	1/4	1/5	0	0
San Antonio	0	1/4	0	0
Youngstown	0	1/3	0	0
Los Angeles	0	1/10	2/10	1/10
Portland	0	1/6	0	0
Salt Lake City	0	2/5	1/5	0
Boston	0	0	1/9	0
Norfolk	0	0	1/8	1/7
Pittsburgh	0	0	1/5	1/5
Charlotte	0	0	1/5	0
Columbus	0	0	1/4	0
Omaha	0	0	1/4	0

¹One store offered triple couponing.

Misredemption and Fraud

The actual cost on the face of the coupon, handling fees, and special manufacturer-to-retailer price-packs are only part of the total costs of coupon use. Misredemption and fraud comprise other less attractive costs. Fraud and misredemption can develop from any number of sources—retailers, clearinghouses, professional thief rings, newspaper dealers, retail checkout clerks, or mail carriers. Redemptions in nonexistent retail outlets are another problem.

Coupon fraud and misredemption are considered by industry to be relatively widespread, but ERS research has not been able to verify an estimate of coupon fraud. One industry study found that between one-tenth and one-fifth of the value of redeemed coupons was obtained illegally. While the average price reduction for coupon is 23.5

cents, fraud can substantially reduce it. As an example, if a fifth of the coupons are redeemed fraudulently, then the cost per coupon would add another 4 cents to the total cost of administration and reduce the average value of a price reduction to 5.6 cents.

Retailers' Use of Coupons

Coupons offer two major advantages to retailers: building volume for the couponed items, and drawing traffic into stores. But in recent years, some retailers have expressed concerns about coupon influence on the operational aspects of food retailing. One issue is the "double couponing" strategy adopted by some retailers. To offer even further incentives for consumers, these retailers double the face value of the coupons used. But, they must pay the additional cost themselves.

Shelf space is another concern for retailers. Couponing weakens their control of the use of shelf space and control over making new product selection decisions. And, coupons can have the impact of providing greater price competition for retailer house brands.

Double Couponing. Some retailers have used double couponing to draw traffic into the store, build volume, and possibly increase store loyalty. While this can be successful, retailers must pick up the extra costs of doubling the redemption value. Prices of noncouponed items may be increased to offset the double couponing cost if the retailer cannot afford to absorb it or offset it by reductions in other promotion expenses.

Double, even triple, couponing has been rather widespread and sporadic, sometimes resulting in "coupon wars." At least one

Table 3. Coupon Handling Costs, 1979

Function	Company A		Company B		Company C		Average	
	Cents per coupon	Percentage of total	Cents per coupon	Percentage of total	Cents per coupon	Percentage of coupon	Cents per coupon	Percentage of coupon
	Cents	Percent	Cents	Percent	Cents	Percent	Cents	Percent
Checkout bagger	2.41	31	2.00	22	1.25	23	1.89	26
Coupon processing at the store	3.31	43	4.81	53	1.70	32	3.27	45
Clearinghouse	.76	10	.76	8	.94	18	.82	11
Finance charges	.61	8	.79	8	.96	13	.70	9
Store couponing	.20	2	.27	3	.23	4	.23	3
Supplies and unacceptable coupons	.28	3	.31	3	.41	7	.33	4
Total	7.57	100	8.96	100	5.22	100	7.25	100
Dollars								
Effective hourly wage rates	14.55	—	14.19	—	7.34	—	—	—
Number								
Weekly coupons redeemed per store	1,165	—	672	1,078	—	—	—	—
Weighted average time in seconds per coupon	5.27	—	5.12	—	5.10	—	—	—

— = Not applicable.

Source: Food Marketing Institute

retailer in 25 of the 50 cities surveyed by ERS researchers during a 4-week period in 1980 was using the double couponing strategy. Two or more retailers were using double couponing in eight cities during the same period (see table 2).

Shelf Space Control. Coupons play an important role in retailers' control of shelf space. With more than a possible 50,000 edible items in national grocery distribution (which includes store brands and about 6,000 new items introduced each year) the ability to command shelf space is critical for the successful manufacturer. Manufacturers must compete with each other and with store brands for limited shelf space and the prime placements—eye level and on displays at the end of the aisles. Retailers with small stores and limited shelf space must determine the best-selling products to display. Manufacturers influence retailers' choices because of coupons, particularly those for new products. When retailers agree to redeem coupons, they must stock the couponed products or risk alienating customers. This is especially important when the couponed product is part of a coordinated introductory media campaign.

House Brands. Coupons allow manufacturers' branded products to compete more effectively with house brands which, for the same product, are priced about 20 percent less than most national brands. When manufacturers lower their price to consumers by decreasing wholesale prices charged to retailers, retailers can simultaneously lower their private label prices to compete with couponed products. But, this is often not practical. Since coupon distribution can be sporadic with redemption periods lasting many months, it is difficult for retailers to keep their prices for private label products consistently below brand prices that are adjusted by coupons.

Coupons, especially the type found inside product packaging or printed on the packaging itself (called in/on pack-type coupons) can lower consumer prices without disturbing the existing wholesale brand/private label pricing structure.

Handling Costs. Production, distribution, and handling costs for coupons in 1978 amounted to 70 percent of the face value of coupons redeemed, with handling costs accounting for nearly 40 percent of face value. Most coupons are redeemed at retail checkouts. Estimates vary as to how much it costs retailers to handle manufacturers' coupons. But, estimates range from 4 cents per coupon by Grocery Manufacturers Association (GMA) to 11 cents per coupon by Giant Foods, a large supermarket chain in the Washington, D.C., area. Manufacturers pay handling fees which were recently raised by clearinghouses to 7 cents from 5 cents each.

The Food Marketing Institute estimated the cost of coupon handling in 1979 from

three different sample stores (see table 3). Costs ranged from slightly over 5 cents to about 9 cents per coupon. Approximately 25 percent of this is due to extra time—about 5 seconds—spent by the checker and the bagger in accepting the coupon. Coupon processing at the store, which includes packaging, sorting, and transferring to the store level and headquarters, accounted for another 45 percent.

About 10 percent of coupon costs were paid to clearinghouses—which act as agents for retailers in dealing with manufacturers. Almost the same amount goes toward finance charges accrued between the time coupons are redeemed at the store and clearinghouse reimbursement. Store occupancy, supplies, and unacceptable coupons accounted for about another 7 percent of coupon costs.

How Coupons Affect Farmers

Coupons are primarily issued for highly processed and branded items rather than less processed, perishable products. Coupons, as with other forms of advertising, may be most effective when used for products that can be readily distinguished from each other rather than for more homogenous products such as farm commodities.

Some farm organization cooperatives, however, are expanding couponing to include their own commodities. One example is a recent coupon campaign for Florida orange juice.

Those products with the highest farm value compared with retail value—fresh meats, poultry, eggs, dairy products, and fresh produce—are the least couponed food items. By contrast, those items having the lowest domestic farm value—breakfast cereals, flour and flour mix products, soups, baby, and prepared foods—are the most highly couponed. Coffee, which accounted for over a fifth of the value of coupons, is not domestically produced. The use of coupons as a marketing strategy to promote foods with a relatively low farm value probably has had little effect on the price paid and demand for farm products. ■

Table 4. Value of Coupons Redeemed Compared With Farm Value As A Percentage of Retail Value

Item	Percentage of total value of coupons redeemed	Farm value as a percentage of retail value of produced food
	Percent	
Coffee, tea, cocoa	21.4	0 ¹
Soups, baby and prepared food	17.3	20
Breakfast cereal	11.3	15
Flour and flour mixes	8.2	15
Total	58.2	—
Milk, butter, cheese	3.3	52
Fresh fruits and vegetables	.5	28
Fresh meat, poultry, fish, and eggs	.8	54
Total	4.6	—

— = Not applicable.

¹Farm value of imported products not included.

Source: ERS survey and Market Basket Statistics, USDA.

Beef Grade Alternatives

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This year, the U.S. Grade Standards for Carcass Beef and Slaughter Cattle, commonly called beef grade standards, may be substantially revised for the ninth time since they were adopted in 1927. Proposals from cattlemen, packers, retailers, and consumers seek major, and sometimes conflicting, revisions to the present standards, last amended in 1976.

Grade standards must be adjusted from time to time to accommodate new technologies for raising cattle, new techniques for evaluating beef quality, changing economic conditions, and shifting consumer tastes and preferences.

Right now, USDA's Agricultural Marketing Service (AMS) is sorting out the comments from public hearings that addressed possible changes for the beef grade standards. The purpose of the hearings, held in five cities in February, was to receive the most information possible on alternatives that had been proposed earlier:

- a continuation of the present grade standards;
- adoption of the National Cattleman's Association (NCA) petition;
- adoption of the Community Nutrition Institute (CNI) petition;
- addition of the new "Select" grade to the present standards; and
- adoption of the USDA alternative.

Although the alternative proposals are quite different, proponents agree that some kind of change is needed to alleviate some of the serious problems facing the entire beef marketing system. Beef producers have been, on the average, operating at a loss in recent years, and are looking for ways to cut production costs. Consumers are dissatisfied both with beef prices and quality, and they want leaner and less expensive meat. Restaurateurs and purveyors specializing in sales of high-quality beef are dissatisfied with quality. Retailers are attempting to satisfy changing consumer preferences by carrying both federally graded beef and their own house grades of beef. And, packers are demanding increased effi-

ciency in the grading process in order to reduce their costs.

Grading—What Is It?

In agriculture, sorting commodities and products into lots by similar qualitative and physical characteristics is known as grading. The criteria used to judge the grade of an item are called standards. (Grading is strictly for quality and yield determination. Meat inspection, another USDA function, determines the safety of meat for consumption.)

Quality factors important to beef, such as flavor, tenderness, and juiciness cannot be measured directly. Instead, Federal graders use standards for the degree of marbling or intramuscular specks of fat in the meat, muscle firmness, and maturity or age at the time of slaughter—characteristics known to affect tenderness and juiciness. Slaughter cattle and their meat carcasses are graded for two conditions—quality of the lean meat and yield. Grades of slaughter cattle are based on the carcass grades.

There are eight quality grade designations: Prime, Choice, Good, Standard, Utility, Commercial, Cutter, and Canner. The first four are restricted to young cattle such as steers and heifers, generally less than 3½ years of age, that are fed large quantities of grain and raised strictly for meat. The Commercial grade is reserved for beef from older cattle. The Utility grades may include cattle of any age. Meat of these grades is used for making processed meat products in which fresh or table cut meat quality characteristics are not as important.

Maturity or age is divided into five groups with letter designations A through E. A maturity is for animals of approximately 30 months of age or younger. It includes most of the grain fed beef raised today. B maturity is for cattle about 30 to 42 months of age. The C, D, and E maturity classes are for older cattle that comprise a relatively small part of the beef supply and are largely animals removed from breeding and dairy- ing herds for poor performance reasons.

The palatability of beef diminishes with the age of the animal. However, increased marbling of the meat partially compensates for this characteristic. For each quality grade designation, the standards require in-

creased degrees of marbling as age increases beyond the A maturity. Ten degrees of marbling are specified for each grade and age level. The relationship between A and B maturity beef, grade designation, and marbling is shown in figure 1.

The other grading consideration is the yield of boneless retail cuts expected from the major wholesale cuts of a carcass. There are five yield grade designations applicable to all beef carcasses. They are numbered 1 through 5 with 1 being the highest yielding and 5 the lowest. The yield grade is determined by considering the adjusted fat cover at the twelfth rib (external fat), the percentage of kidney, pelvic, and heart fat, area of the ribeye muscle at the twelfth rib, and hot carcass weight. Currently, all carcasses officially graded for quality must be yield graded also. (Bull carcasses, however, are graded only for yield.)

Grading is voluntary and is offered by USDA for a fee under the Agricultural Marketing Act of 1946. Because of the voluntary feature, not all beef is graded. In 1980, 56 percent of the commercial beef supply and 75 percent of the cattle raised specifically for meat were federally graded. The annual cost of grading the estimated 12.1 billion pounds was \$13.8 million. Most of the beef was graded Choice (89 percent), followed by Prime (5.9 percent), and Good (4.3 percent). However, less than 20 percent of the beef that would grade Good and Standard was officially graded, whereas most carcasses that would grade Choice and Prime were assigned a grade (see figure 2).

One reason that some producers and packers are hesitant to have all their beef graded is the stigma that is attached to beef graded other than Prime or Choice. Another reason is that some carcasses do not yield a high percentage of retail cuts and must be trimmed or discounted in price regardless of the quality grade designation.

Why Change Grade Standards

Grade standard revisions are usually triggered by four factors:

- Advancements in production techniques

change quality and yield characteristics. Since World War II, production and feeding practices have changed dramatically. Cattle once were raised to slaughter weight on grass and pasture over long periods of time. Now they are brought to feedlots, fed large amounts of grain for 4 to 6 months, and are ready for slaughter at a much younger age. Controlled breeding can alter yield and quality characteristics, and new exotic breeds that are much larger in size and more efficient to raise are being introduced into U.S. herds.

- New techniques for evaluating quality are being developed. Some experts contend that beef now requires even less marbling for an acceptable level of palatability. And other techniques are being explored to improve efficiency of methods used to determine yield grades.

- New processing methods have been developed that can make the less marbled carcasses more desirable in palatability. The methods include pinning or needling cuts of meat, electric stimulation of carcasses, and injection of enzymes that tenderize.

- Consumers can lose confidence in the grading system. Consumers have been informed for years that Prime is superior to Choice, Choice is superior to Good, and so on. As a result, some of the traditional grade names such as Good and Standard imply inferior quality. However, many people are now personally concerned about their nutrition and health, and want leaner meat which is equal in quality to the "lower" grades of Good and Standard. These changes in expressed consumer tastes and preferences warrant comparable changes in the grade standards to encourage production of meat with the preferred characteristics. Changes in grade name may also be needed to replace those that have long implied inferior quality and what some people regard as misperceptions about quality.

Figure 1: Comparison of Marbling Requirements, Maturity and Quality Grades for Four Alternatives

Degrees of Marbling ²	Alternatives ¹							
	Present		: USDA Proposal		: NCA ³		: New Grade	
	Maturity ⁴							
	A	B	A	B	A	B	A	B
Moderately Abundant								
Slightly Abundant	Prime		Prime		Prime		Prime	
Moderate							Choice	
Modest	Choice				Choice			
Small			Choice				Select	
Slight	Good					2		
Traces			Good		2			
Practically Devoid	Standard		Utility		Good		Standard	

¹Community Nutrition Institute's Proposal is not included because it entails only a change in nomenclature. USDA Good would change to USDA Choice Light and USDA Standard would change to USDA Lean.

²There are 9 degrees of marbling with 8 illustrated here.

³Carcasses grade choice if the fat is 0.3 or more inches thick opposite the ribeye muscle of the 12th rib, and the fat color is no more than slightly yellow.

⁴"A" maturity cattle are under 30 months of age, "B" maturity range from 30 to 42 months of age. Marbling requirements for older animals are not illustrated here.

The Alternatives

Five alternatives for changing the beef quality grade standards have been discussed by various groups. These include the following:

1. *Continue present standards.* Current standards were revised in 1976 to reduce marbling amounts for grade designations and require yield grading for all beef that is quality graded. Conformity, as a grade determinant (see figure 1), was eliminated.

The reduction in marbling was expected to reduce cattle feeding times and cut production costs. But, there is little evidence that has occurred, or that today's beef

cattle are leaner than those graded under the previous standards.

A comparison of two periods—1976 through 1980 and 1970 through 1975—showed that a slightly smaller percentage of commercial beef supply was graded in the more recent period—55.9 to 57.6 percent. However, the grade determination distribution has changed. More beef was Choice, 86 percent in 1976-80, compared with an average of 80 percent in the 1970-75 period. The percentage of beef in the other grades con-

tinued to decline from those recorded in 1976. Prime was down to 5.9 percent from 9.9 percent, Good was 4.3 compared with 6.4 percent, and other grades were down to 0.8 percent compared with 4.1 percent.

Since grading is voluntary, a simple comparison of the grade distribution of the officially graded carcasses grossly misrepresents the grade distribution of all beef carcasses. USDA data indicate that most beef that would grade Prime or Choice is officially graded. But 80 percent or more of the beef that would be designated other grades is not federally graded. Thus, there appears to be a relatively large supply of lean but ungraded beef in the market already. This ungraded beef might be equivalent to 15 to 20 percent of the total commercial beef supply—a quantity which may or may not be adequate for today's lean beef market needs.

The 1976 grade revisions apparently widened the price differentials between yield grades. The price difference between yield grade 3 beef and yield grade 4 is about three times greater than it was in 1976. Eleven percent of the carcasses graded in 1980 were in the lowest categories, resulting in packers having to bear the expense of trimming and disposing of large quantities of low value fat.

2. National Cattleman's Association (NCA) proposal. The objective of the NCA alternative is to cut the cost of feeding slaughter cattle to market weight. NCA contends that the last 15 to 30 days of feeding grain are not cost effective. These expensive few weeks of feeding add mostly extra fat that doesn't result in a corresponding improvement in palatability and is only trimmed off and sold for a few cents a pound. Without the additional fattening, carcasses would be leaner, have greater consumer appeal, and presumably enable beef to compete more effectively against less expensive pork and poultry.

The NCA alternative would reduce the marbling requirements for all the grades in the A and B maturity range (figure 1), and eliminate the Standard grade designation completely. NCA recognizes that this proposal, to encourage production of leaner beef, could result in greater eating quality

variability because carcass beef from either the confinement-reared, grain-fed cattle or open-range, grass-fed cattle could be graded Choice. Since beef raised primarily on grass or hay is not considered to be as palatable as beef from grain-finished cattle, NCA has proposed additional standards to separate the carcasses into different quality grades. For carcasses to grade Choice, they would have to satisfy characteristics commonly associated with grain-fed cattle. These are a minimum thickness of external fat cover and a color of fat ranging from white to slightly yellow.

NCA contends that their proposal won't diminish eating quality and, therefore, the demand for beef. USDA palatability data suggest otherwise. Table 1 shows that the marbling revision would lower eating quality for the better grades and significantly lower palatability for the Choice and Good grades. Purveyors would find an even smaller supply of the high-quality beef they want. Packers indicate that the criteria for segregating grain- and grass-fed cattle between the Choice and Good grades are too subjective and would lead to too many grading errors.

However, producers would reduce their total feed and direct production costs if they shorten the time for raising grain-fed cattle to conform with the proposed Choice grade standards. It is estimated that a reduction of 15 to 30 days in the final grow-out period for 70 percent of the beef cattle raised in 1980 (roughly 17.5 million animals) would have cut costs between \$250 and \$750 million, or 1.3 to 3.8 percent. But, reducing the feeding time is likely to reduce both the slaughter weight and quantity of meat per carcass. When these factors are considered, the spreading of lower total production costs over fewer pounds might slightly increase the average per-pound cost.

Even if producers reduce unit production costs, a lower cost does not automatically translate into lower retail beef prices. A

reduction in beef cattle feeding time could translate into a lower total beef supply and cause beef prices to increase in the short run. Pork and poultry prices might also rise a little because consumers would respond by switching their meat expenditures to pork and chicken. And, the spread between beef and other meat prices might increase. Thus, this proposal might not improve the competitive stance of beef producers unless consumers prefer leaner beef and will buy more beef at the same or higher prices.

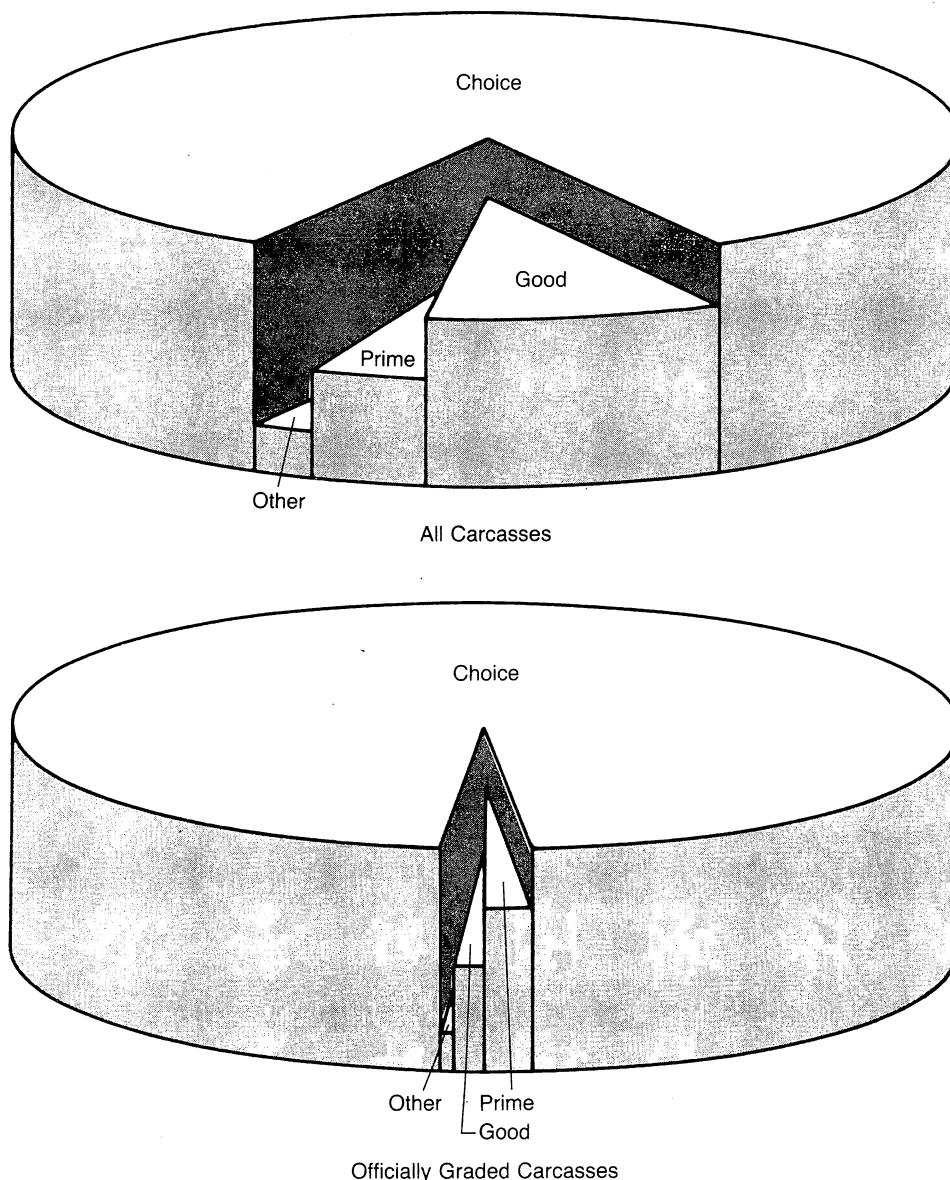
The biggest uncertainty, of course, is how consumers would react to the quality grade changes. If consumers detect a loss in eating quality, they might buy less beef and more pork and poultry, which are already less expensive than beef. In turn, retailers might abandon the revised Federal grade standards and contract directly with producers for beef produced to their quality and yield grade specifications. This would tend to further reduce reliance upon open markets for sale of beef animals and carcasses. It would also maintain the size of the retail beef market, and promote more competition at the retail level through greater use of retailer grade designations. The revision might also encourage wider use of new tenderization techniques of beef to preserve eating quality, along with the wider use of store grades to indicate quality.

3. Community Nutrition Institute (CNI) proposal. CNI has the simplest alternative—two changes in grade names. The present Good grade would be called Choice Light to denote that it has less fat and calories than regular Choice. The present Standard grade would be renamed Lean.

Consumers should be able to relate their preferences for lean beef with the new grade names and be assured that they meet Federal standards. This might increase consumer confidence in beef quality grades and provide stimulus for increased purchases of the federally graded lean beef, since there are currently no national standards for store brand lean beef.

The CNI option could have several other impacts. A greater percentage of the carcasses might need to be federally graded, since most of those that would satisfy the

Figure 2: Current Distribution of Quality Grades for All Grain-Fed and Officially Graded Beef Carcasses



new grades are currently not graded. And, the supply of cattle needed to meet demand for these new grades, especially the new Lean, might have to be increased by reducing the feeding time for some lots of cattle that would normally be raised longer to reach Choice. This would tend to reduce feeding costs, but not on the scale of the NCA option. The greater use of tenderization techniques might be necessary to enhance palatability of the beef in the new grades (see table 1).

This alternative could have a pronounced effect on price differentials between grades and eventually the percentage distribution by grade. If the supply of lean beef proves to be inadequate, the price of lean slaughter cattle should be bid up closer to that for the Choice grade. Once the price relationship makes it more profitable for cattlemen to produce the lean grades, more cattle should be sold at a younger age; thus, fewer would grade Choice. As consumers become more accustomed to these new grades, beef producers might be more responsive to changes in consumer preferences of beef.

4. Select or New Grade proposal. This alternative changes the present Good and lower one-third of the Choice grade to a new, leaner grade called Select or some other appropriate name (figure 1).

Palatability might be slightly improved for Choice grade (table 1) and the new Select grade might have a slightly higher palatability score than the present Good grade.

The alternative would alter the quality distribution of carcasses unless an adjustment is made in the duration of the feeding period. If no change is made, the total supply of carcasses that grade Choice would be reduced by about 30 percent. Carcasses that qualify for the new Select grade would be equivalent to slightly over 40 percent of the total supply.

Such a change in distribution of grade

designations might result in too small a supply of Choice and too large a supply of the new grade. Thus, producers might respond by actually feeding cattle longer to restore the traditional relationship of 70 to 75 percent of the supply satisfying the standards for Prime and Choice. This would tend to increase production costs and to slightly improve quality.

5. *USDA alternative.* The USDA alternative incorporates some recommendations from the several other proposals, along with findings of a recent beef palatability test which gave further insight concerning present and proposed quality grade standards (see table 1). These results reinforced the option that marbling can be reduced without a loss in quality for the A maturity grain-fed beef cattle.

USDA proposes to reduce marbling requirements for Prime, Choice, and Good slaughter cattle carcasses of A maturity; eliminate the Standard grade by dividing it

between Good and Utility; and increase marbling requirements for B maturity (see figure 1).

The changes would increase the supply of leaner beef, reduce feeding times and direct production costs slightly, and eliminate the grading problems that the NCA alternative might cause by segregating grass and grain-fed slaughter animals. In addition, the proposal would increase the supply of Prime beef slightly at the expense of Choice, and result in no significant change in the supply of Good or leaner beef if producers continue to feed cattle primarily for the Choice grade.

From a marketing standpoint, retailers should continue to have a large supply of lean beef. Since no standard or grade name is proposed for lean beef, the retail trade can continue to merchandise this quality beef as local market conditions warrant. If retailers want to achieve uniform tenderness for their lean beef, greater application of tenderizing techniques may be needed for the leaner beef.

On the negative side, consumers might object to the lack of a standard and common name for leaner beef. More seriously, the new Good grade will probably be significantly less palatable. These problems could discourage consumers about lean beef quality and reduce beef demand. However, the ultimate effect will depend upon how successful the industry is in merchandising the leaner beef.

The purveyors may also take exception to this proposal on the grounds that the quality of Prime won't be improved. Since the USDA alternative does not change the mandatory requirement of yield grading when a carcass is quality graded, or alter the yield grading procedures, packers will have to wait until USDA presents a new yield grading proposal that offers packers the techniques they want implemented.

Following a review of comments on these alternatives and any new ones submitted to USDA, a decision will be made on what, if any, revisions should be made. ■

Table 1. Sensory Panel Ratings for Overall Satisfaction by USDA Grade Alternatives

Quality Grade *	Sensory Panel Rating ¹			
	Present Standard	NCA alternative	New Grade alternative	USDA alternative
	(mean)			
Prime	6.02	5.97	6.02	5.97
Choice	5.71	5.56 ⁴	5.77	5.61 ⁴
Good	5.32 ⁵	4.69 ⁴	—	5.10
Select ²	—	—	5.46	—
Standard	4.64 ⁶	—	4.60	—
Utility	3.99	4.00	4.00	4.11
Commercial ³	4.93	4.93	4.93	4.93
Cutter ³	3.39	3.39	3.39	3.39
Canner ³	2.84	2.84	2.84	2.84

Source: 46 Federal Register 63055

¹Based on a scale of 1 through 8, 8 = extremely desirable in overall palatability, 1 = extremely undesirable in overall palatability. Panelists sampled 4 steaks.

²New grade.

³Grade designations for more mature slaughter cattle are not proposed for a change in grade standards.

⁴Significantly different ($P < .05$) from current grade with the same name.

⁵Score is same for CNI Choice Light grade designation.

⁶Score is same for CNI Lean grade designation.

Toward Revitalizing Inner-City Food Retailing

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Fewer large supermarkets per capita remain in inner city areas—low-income neighborhoods of the city—than in the suburbs, so shoppers may find convenient access only to small independent stores with a limited variety of food by type, brand, and size, and at higher prices than at chain-store supermarkets. With more than a third of the Nation's 29 million poor people living in inner cities, access to supermarkets has been a serious problem for many households, particularly for those residing in the country's oldest and largest cities.

Moreover, the problem seems to be increasing. From 1969 to 1980, the number of impoverished persons living in metropolitan areas rose 37.7 percent, from about 13 million to about 18 million, based on Bureau of the Census data. (The poverty threshold income in 1980, as established by the Office of Management and Budget, was \$8,414 for a nonfarm family of four.) This trend meant that 62 percent of the poor were located in urban areas in 1980, compared with 44 percent in 1959 (table 1). While some live elsewhere in metropolitan areas, the poor are concentrated in inner cities.

Food store service takes on special importance in these inner-city areas. When food expenditures account for 40 or more percent of a household's income, the retail service and quality of products draw particular importance. The Bureau of Labor Statistics (BLS) reported that in 1976, an urban family of four with a total annual income of \$9,588 typically spent 38 percent of its disposable income for food. At lower income levels, families spend an even higher proportion for food.

Sensitivity regarding services and product quality is heightened when households have few, if any, alternative stores in which to shop. Although conditions vary widely around the Nation, the poor in general have a greater transportation problem in order to food shop than the well to do. The poor, because of lower rates of car ownership per capita, must rely on various kinds of car pools or use of public transportation. Such arrangements are less convenient and more time consuming than shopping indepen-

dently. The access problem appears most severe in the Nation's oldest and largest cities.

Inner-City Food Retailing Problem

Given these conditions, existing grocery store service in inner-city areas often falls far short of the suburban model. A 1975 study of eight cities showed that inner-city areas had substantially fewer supermarkets and less square footage of store space relative to population than did neighboring nonpoverty areas (see table 2). For example, poor areas in the eight cities had an average of 32.7 percent fewer supermarkets, the difference ranging from 58.1 percent fewer in Newark, N.J., to 0.5 percent fewer in Birmingham, Ala.

The study also found that proportionately more inner-city supermarkets were independents. The same eight cities averaged 18.8 percent fewer chain stores in inner-city areas than in nonpoverty areas, ranging from 3.8 to 51.8 percent fewer. Since retail operating expenses were generally higher in poverty areas (table 3), and independents who operate only in the inner city must cover their expenses for those businesses, the price of food was probably higher as well.

Chain operators, in contrast, can charge lower and more uniform prices throughout

their system. Economies of size enable them to sell at lower prices than independents, and chains have the option of using revenues from more profitable operations to subsidize the higher cost and often less profitable inner-city stores.

Supermarkets left the inner cities largely because of poor financial performance. The 1975 study showed profit as a percentage of sales in the inner-city supermarkets was less than half of that earned in nonpoverty areas. A key explanatory factor found in this study was lower sales volume per store, which results in such fixed costs as depreciation and taxes being spread over fewer sales dollars and makes these expenses a higher percentage of sales. Sales per store averaged 13 percent lower in inner-city areas. The probable explanation is a combination of factors:

- Limited buying power of lower income shoppers results in smaller dollar expenditures for food. In addition, low income shoppers tend to purchase more lower priced items.
- The elderly, who frequently comprise a larger proportion of the population in these areas, need less food than younger and more physically active consumers.
- Many inner-city residents, when transportation is available, travel to suburban areas to do their food shopping.

Table 1. Changes in the Number of Persons Living in Poverty, By Area of Residence: 1959, 1969, and 1980

Area	1959		1969		1980	
	Thousand people	Percent	Thousand people	Percent	Thousand people	Percent
U.S. total	38,776	100.0	24,147	100.00	29,272	100.0
Metro area	17,019	43.9	13,084	54.2	18,021	61.6
Central cities	10,437	26.9	7,993	33.1	10,644	36.4
Nonmetro area	21,747	56.1	11,063	45.8	11,251	38.4

Source: U.S. Department of Commerce, Bureau of the Census, *Money, Income, and Poverty Status of Families and Persons in the United States, 1980*, Series P. 60, No. 127.

U.S. Department of Commerce, Bureau of the Census, *Current Population Reports, Consumer Income Characteristics of the Population Below the Poverty Level, 1976*, Series P. 60, No. 115, Table 4.

While these factors cut into store income, other inner-city conditions force operating expenses up and profits down. Excessive customer, employee, and vendor pilferage—almost double that of nonpoverty area stores—contributes to lower profits and/or higher prices.

Overall, grocery stores in poverty areas

had higher operating expenses as a percent of sales in all categories compared with stores in nonpoverty areas (table 3). Labor, security, cash shortage, and bad check expenses accounted for 60 percent of the difference in total operating expenses. Fewer experienced and, therefore, productive employees raised labor costs.

Some productivity problems may also result from inner-city stores being older in design and less efficient for service. The high rate of crime in the inner city accounts for the inordinately high expense for security, cash shortages, and bad checks.

The eight-city survey also found that poverty area supermarkets had higher costs for real estate taxes, insurance, repairs and maintenance, and depreciation. The range was from 13 percent more for real estate costs to 145 percent more for security. Thus, the high cost of operating a business in an inner city appears to be attributable to three well known problems: lower sales, a high crime rate, and high labor costs.

Given these drawbacks, chains have been reluctant to operate supermarkets in inner cities, locating them instead in more affluent areas which promise more favorable returns. This leaves many inner-city neighborhoods with smaller independent grocery stores.

These small neighborhood stores offer a more limited product selection, especially for perishables such as meat and fresh vegetables. Moreover, they must charge 5 to 10 percent more to offset higher wholesale prices and low sales volumes that keep average fixed operating costs high.

Alternative Remedies

The end result of all these factors is that many inner-city residents must struggle to obtain an adequate diet with meager incomes. Consideration of ways to provide adequate grocery store facilities in low income areas of large cities has resulted in the following suggestions:

- *Provide incentives for new investments by established retailers.* Economic incentives such as tax abatements, special tax credits, and assistance in land acquisition and site preparation would reduce investment and fixed costs. Increased public safety would reduce operating costs for security and insurance.

By reducing operating costs, these measures enhance the possibilities for earning a reasonable profit. Urban renewal authorities could provide some of the incentives. One drawback is that competitors in the same market area might object to the

Table 2. Number of Supermarkets and Square Feet of Selling Area Per Person in Poverty and Nonpoverty Areas: Eight U.S. Cities, 1975

City and type of area	Supermarkets per 10,000 persons	Selling area per capita	Chain supermarkets as proportion of total supermarkets	
			Square feet of sales area	Number of stores
	Number	Square Feet	Percent	
Birmingham				
Poverty area	2.07	2.46	34	40
Nonpoverty area	2.08	2.89	54	45
Boston				
Poverty area	.89	.88	60	51
Nonpoverty area	1.41	1.74	67	58
Chicago				
Poverty area	.92	.95	62	51
Nonpoverty area	1.56	1.88	64	53
Detroit				
Poverty area	.85	1.01	66	59
Nonpoverty area	1.23	1.80	84	74
Los Angeles				
Poverty area	1.15	1.42	35	28
Nonpoverty area	1.56	2.15	49	42
Newark				
Poverty area	.52	.44	35	27
Nonpoverty area	1.24	2.11	55	56
St. Louis				
Poverty area	1.25	.89	54	37
Nonpoverty area	1.70	2.55	56	42
San Antonio				
Poverty area	.98	1.51	55	49
Nonpoverty area	1.68	3.52	76	77

Source: Marion, Donald R., *Supermarkets In the City*, University of Massachusetts, Publication No. SP-102, 1978.

favorable treatment, and seek to block such a program.

- *Encourage minority businesses to expand food retailing operations.* Minorities comprise a large segment of the urban poor, and in some instances have exhibited hostility toward businesses owned by outsiders. This may be a factor in the high inventory losses and security costs for those food merchants. An alternative that might provide some relief is to encourage respected, local minority people to open food stores. However, outside capital would be needed to open or purchase these operations and finding qualified, prospective operators might prove difficult.

- *Establish consumer cooperatives.* Conventional stores in inner cities can be cooperatively owned and operated by consumers or neighborhood groups. Consumer cooperative food stores, such as the New Haven Food Co-op, in Connecticut, have been successful in some locations. Cooperative ownership by consumers or local groups offers several advantages, including possible lower costs for labor (voluntary in some cases), reduced inventory loss, and security costs. Co-ops also provide an array of goods and services specific to members' needs, and any profits are reinvested or distributed to members. The co-op form of business is managerially difficult, however, and success is heavily dependent on the managerial skills of members.

- *Encourage joint ventures among established retailing firms and community groups.* Under such arrangements, the risks inherent in inner-city business are shared. The community group finances the construction or acquisition of the facility, and the retailing firm operates it. If a new facility is built, this also provides an opportunity to reduce costs through efficient design. A retailer can limit investment primarily to inventory, but must find a viable neighborhood organization for a partner.

- *Establish "state stores."* Where venture capital is lacking, the local or State government could finance the building of a

food store and lease it to an established retailer in an arrangement similar to joint-venture operations. While this concept has not been tested in food retailing, retailers might find the option attractive on a short-term lease (3-5 years) basis.

- *Establish Government commissaries.* The traditional military model could be applied to a civilian setting. Although it represents a radical departure from the free enterprise business model, it could prove to be a high volume operation, depending

Table 3. Financial Performance of Supermarkets in Poverty and Nonpoverty Areas: 161 Supermarkets, Eight Cities, 1975

Performance factor	Nonpoverty area supermarkets	Poverty area supermarkets	
	Weighted Average ¹	Weighted Average ¹	As a percentage of nonpoverty area stores
		Dollars	Percent
Total annual sales (\$1,000)	\$4,768	\$4,140	86.8
		Percent	
Inventory shrinkage (grocery department)	0.79	1.50	189.8
		Dollars	
Gross margin—total store	\$20.54	\$20.71	100.8
Expenses			
Labor	10.52	11.26	107.0
Supplies	.80	.91	113.8
Rent	1.07	1.12	104.7
Real estate tax	.23	.30	130.4
Advertising and promotion	1.40	1.55	113.6
Insurance	.17	.29	170.6
Repair and maintenance	.37	.54	145.9
Depreciation	.41	.54	131.7
Utilities	.78	.85	109.0
Securities, cash shortage and bad checks	.16	.45	281.3
Other expenses	3.59	3.70	103.1
Total Operating Expense	19.09	20.80	109.0
Other Income	1.52	1.45	95.4
Net Profit (before taxes)	2.38	1.02	42.9

¹Expressed as a percentage of total store sales, except for total annual sales and inventory shrinkage (grocery department).

Source: Marion, Donald R., *Supermarkets In the City*, University of Massachusetts, Publication No. SP-102, p. 19.

upon how well it is administered. If the purchasing operations could be integrated with food buying operations for schools, hospitals, and other institutions operated by the local or State government, such mass purchasing with centralized warehousing could result in cost savings not available to independent store operators.

Proposals for such an operation would probably encounter widespread opposition from the business community and citizens who wouldn't gain similar benefits. However, it would ensure that adequate food supplies were available, and at competitive, though subsidized, prices.

- *Operate food retailing as a public utility.* No part of the U.S. food industry has ever been operated as a regulated public utility where prices and services offered are determined by a public body. A firm might be granted an exclusive franchise to serve a low-income area, perhaps giving up control over prices and services in exchange for protection from competition.

Exactly what cost savings would be achieved and passed on to residents of the area through lower prices are difficult to predict. It would be one way, although a radical one, to ensure that food would be available if other alternatives fail. But, a workable system would be extremely complex to develop and difficult to administer.

- *Create inner-city, super-convenience stores.* Specially designed for the inner city, this store would be larger than the typical convenience store, but smaller than most supermarkets. It could be operated with a smaller volume of sales than most supermarkets. As a result, several might be located in an area that would support only one supermarket, providing for improved accessibility to shoppers.

Being smaller and with reduced product assortments, some common problems of inner-city supermarkets, such as pilferage, low labor productivity, and high rent, could be reduced. Major drawbacks would be limited product offerings, and higher prices than those of conventional supermarkets.

In spite of its limitations, this concept is currently being tested in some markets.

- *Start mobile stores.* These stores on wheels have been used experimentally, primarily to serve communities of older shoppers. While this possibility offers ease of access, it is not a likely general solution because of extremely limited product selection, high operating costs, and probable security problems.

Some other alternatives could help improve food distribution in inner cities, without depending upon an expansion of the distribution system:

- *Improve consumer assistance.* To offset the higher food costs in inner city areas, needy consumers could be provided with special assistance, such as special food stamps or income supplements. However, it would be difficult to determine which areas have deficient food retailing service and to restrict benefits to those areas.

- *Provide transportation for shoppers.* In a number of cities, inner-city shoppers have been transported by bus to supermarkets outside the area. Most commonly, transportation was provided either from Government grants or by a supermarket firm. While such a program can be implemented easily and quickly, it restricts the shopper's choice of stores, would probably be costly to operate, and takes business away from the inner-city neighborhood that already suffers from insufficient business.

- *Set up a telephone order-warehouse delivery system.* When food is delivered directly to a consumer's home from a food warehouse, a retail store isn't needed. Orders are usually placed by telephone from an order book supplied by the distributor.

This system would undoubtedly encounter some unique problems in the inner city, such as security of delivery trucks and personnel, shopper adaptation, and acceptance. It seems unlikely that this system could be expected to serve inner-city shoppers, except on an experimental basis, until it became established with shoppers in other areas.

The problems involved in providing inner-city residents with adequate food store ser-

vice in terms of accessibility, selection, quality, and price are numerous and difficult. The welfare of many people is affected by such service, however, creating a sense of urgency about the search for solutions. ■

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1982 Food Price Update

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Retail food prices this year are expected to average 5 to 6 percent higher than last year's prices. This would be below 1981's price increase of 7.9 percent, and would continue a slowdown of annual food price increases that began in 1980. Also, 1982 could be the fourth consecutive year that food prices rise less than nonfood prices.

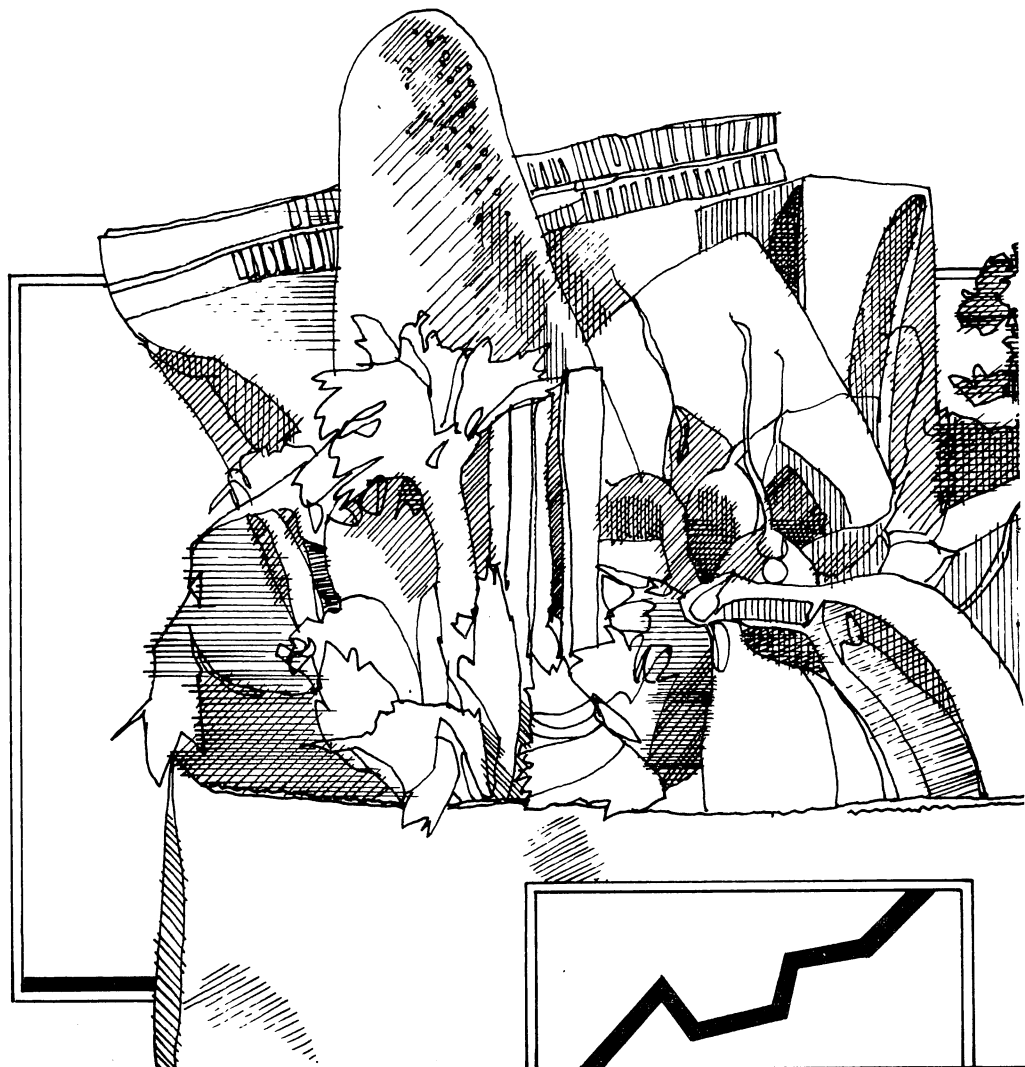
As in 1981, higher food marketing costs will be the major contributor to the food price increase. However, because of the recession and the lower general inflation rate, marketing costs may rise less than they have in recent years. The farm-to-retail price spread, expected to increase 6 to 7 percent above the 1981 spread, may cause about two-thirds of the retail food price increase. The farm value of foods is expected to be up 2 to 4 percent, contributing about one-sixth of the food price rise. The balance of the food price increase will reflect an expected 4- to 6-percent increase in retail prices for imported foods and fish.

Quarterly Pattern

Food prices in the first quarter rose at a 7.3 percent annual rate. This was the largest increase since the first quarter of last year, primarily reflecting weather-related reductions in meat, fruit, and vegetable supplies. Severe weather in January interfered with hog and broiler marketings, pushing retail pork and chicken prices higher early in the year. Retail fruit and vegetable prices moved up sharply as well, in part caused by a freeze in Florida. Also, insect damage to the lettuce crop in California pushed up retail lettuce prices.

Food prices in the second quarter slowed some, rising at a 4.8 percent annual rate. Prices for most vegetables were down from the high levels of the first quarter as supplies recovered from the temporary weather-related shortages. Potato prices, however, rose seasonally as cold storage supplies were reduced. Meat prices rose significantly in the second quarter, primarily reflecting lower pork supplies.

In the third quarter, the food CPI may



accelerate some, reflecting stronger demand for food following the July 1 tax cuts and the recent increase in Social Security payments. This will be especially important for meats and food eaten away-from-home, whose demand is typically more responsive to changes in consumer incomes than is the demand for most other foods.

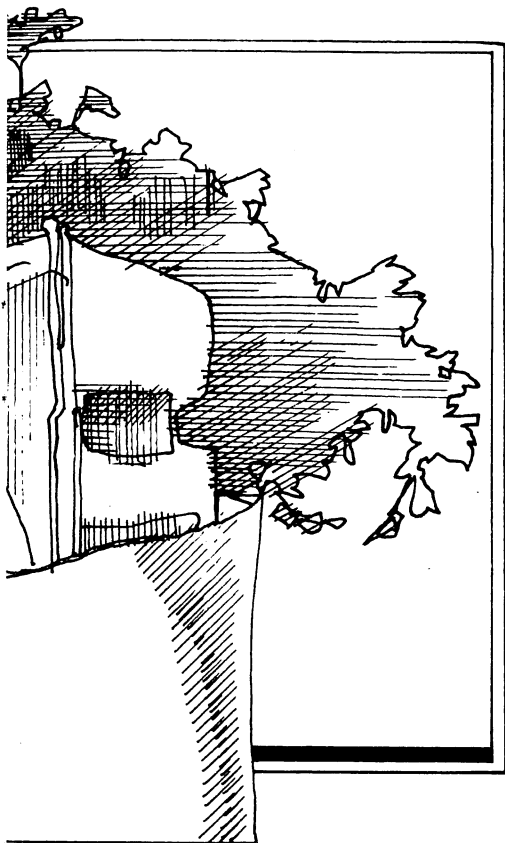
Supplies of some foods will decline. In particular, pork supplies will be sharply lower in the third quarter due to planned production cutbacks. Consequently, retail pork prices are likely to rise substantially over the summer. Also, as lower pork supplies and higher pork prices cause consumer demand to shift from pork to other meats, beef and poultry prices may average above second-quarter levels, as well.

Seasonal production increases will further reduce vegetable prices in the third quarter. However, fruit prices will be rising over the summer as citrus harvest slows and apple stocks are reduced. Also, cold April weather in the Southeast combined with

crop damage from bad weather in California could limit seasonal increases in non-citrus production, thereby putting additional upward pressure on retail fruit prices this summer.

Prices for sugar and foods containing sugar will be rising faster in the third quarter, largely due to the impacts of the sugar import restrictions. Fats and oils prices may also begin to increase faster in the third quarter. This is mainly due to increased demand for vegetable oils, a result of diminished lard supplies caused by pork production cutbacks.

Retail prices for most other foods will continue to rise moderately due to small increases in marketing costs. Notably, dairy product prices are likely to show little movement in the summer as production remains large and the price support level remains at last year's level.



Food price movements in the fall and into 1983 will depend importantly on the timing and sustainability of the expected economic recovery, and on related increases in consumer incomes and food demand. However, seasonal increases in supplies of many foods will dampen fourth quarter food price rises.

Food Industry Labor Costs

A major factor limiting marketing cost increases this year is labor costs in the food industry, which are expected to rise less than in recent years. Significantly, the minimum wage did not increase this year and a lower general inflation rate will reduce cost-of-living wage adjustments. Also, many food industry labor markets are weak, partly because the recession has caused greater worker concern about job security.

Wage increases negotiated in some new

labor contracts this year are smaller, partly because of concessions made by some unions in order to protect jobs. In particular, this has occurred in the meatpacking industry. In settlements with five major companies, meatpacking workers agreed to contracts that essentially freeze wages and eliminate cost-of-living adjustments until the fall of 1984. In exchange, management gave the workers assurances that no meatpacking plants would be closed through the middle of 1983. Also, the contracts provide for a lump-sum payment to each worker equal to the additional amount that would have been paid in wages during 1982 if cost-of-living clauses were operative. Furthermore, the payment of these lump-sum amounts will be deferred until 1983.

The weakness in the economy and in labor markets also has moderated increases in trucking costs in the food industry this year. This is due, in part, to an agreement by Teamsters truck drivers to wage and benefit concessions which limit pay increases to annual cost-of-living adjustments. Under the previous contract, semiannual adjustments were made. Also, instead of adding all of these adjustments to wages, some cost-of-living increases may be used by employers to cover rising costs of employee benefits. Wages will otherwise be unchanged, since the contract does not provide for automatic deferred wage increases common in previous agreements.

Farm Act Affects Retail Dairy and Sugar Prices

The Agriculture and Food Act of 1981 will have little or no impact on retail food prices this year. Most agricultural products affected are either not used for food, such as cotton and tobacco; are used only indirectly, such as livestock feed; or although used directly, their value accounts for only a small part of the retail price, such as wheat and rice. However, provisions regarding dairy products and sugar will affect retail food prices in 1982, holding down dairy price increases but exerting upward pressure on retail sugar prices.

For dairy products, the price support level is now required to be adjusted annually instead of twice a year. Also, the minimum

price support is no longer strictly tied to parity. Under conditions that are linked to parity—based on projected program expenditures or quantities exceeding specified levels—support is set at 70 or 75 percent of parity, down from the minimum 80 percent of parity set under the previous legislation. As a result, unless further dairy legislation is enacted, the dairy price support will likely stay at last year's \$13.10 per hundredweight until October 1, with only a small upward adjustment expected at that time.

Additionally, milk production has continued to be high. This reflects lower grain prices this year, which have reduced feeding costs, and continued low meat-animal prices, which have discouraged net dairy herd reduction. Consequently, retail prices for dairy products are expected to show only small gains through 1982, with an annual rise of 2 to 3 percent. This would be the smallest increase since at least 1977, and could be the lowest since 1972.

In contrast, the price support program for sugar will increase retail prices for sugar and foods that contain sugar. Because the price support level for U.S. raw sugar exceeds world market prices by more than the cost of transporting foreign sugar to the United States, duties and fees on imported sugar have been increased, and a quota system for sugar imports has been imposed to protect the domestic sugar price support program.

These import restrictions had limited impacts on retail prices through midyear because much sugar was imported prior to the imposition of the restrictions, and because high fructose corn syrup can be substituted for sugar in many uses. Also, lower priced sugar from Thailand continued to be available for import in the first quarter of the year. Under the Generalized System of Preferences—where the United States gives duty-free treatment to some developing countries—this sugar was not affected by the higher duties until April 1. However, retail prices for sugar and sweets will likely rise faster in the second half of the year after the less costly stocks are used up. ■

Food Spending and Income

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As of press time, revisions in the national income and product accounts for the years 1977 through 1981 were released. Disposable personal income for these years was raised and personal consumption expenditures for food were lowered. The revisions will appear in the next issue of the *National Food Review*.

Personal consumption expenditures (PCE) for food reached almost \$350 billion (at a seasonally adjusted annual rate or SAAR) during the second quarter of 1982, about 7 percent higher than the second quarter of 1981. About 5 percent of this increase reflected food price inflation, and 2 percent was due to an apparent growth in volume.

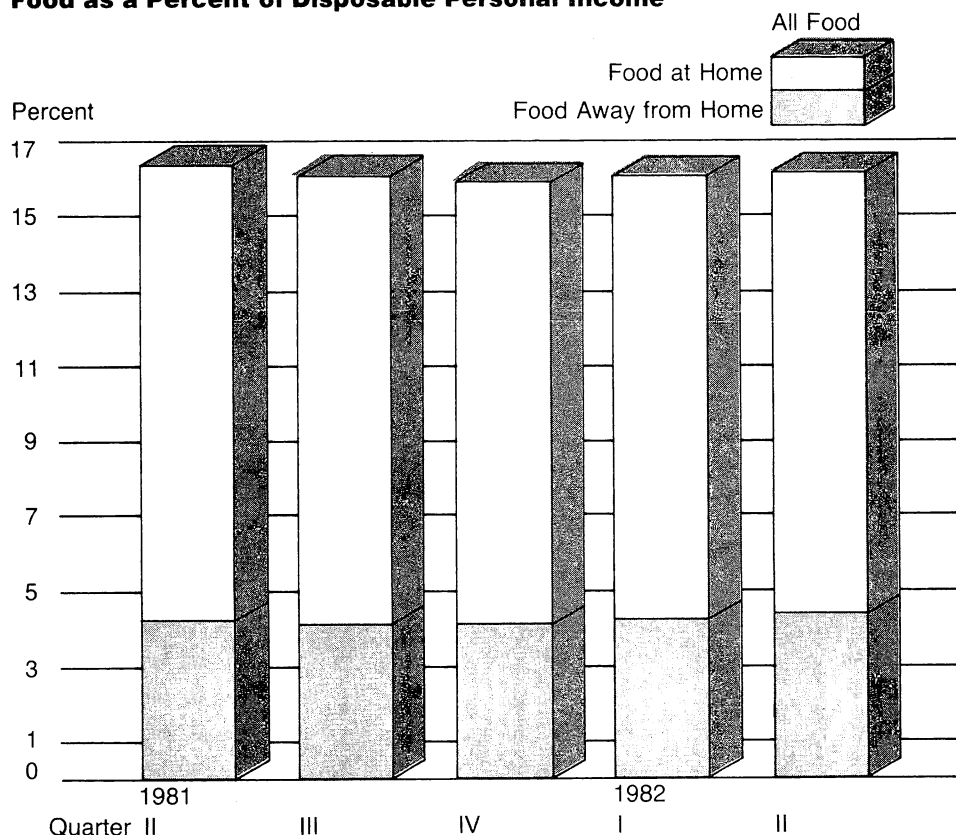
Sharply higher volume in the Nation's eating places was responsible for much of this growth. This is in contrast with past periods of economic recession when consumers generally shifted food purchases from eating places to grocery stores.

The unemployment rate continued to increase to nearly one of the highest in 4 decades. In May 1982, the unemployment rate reached 9.5 percent, up from 7.5 percent a year earlier. However, disposable personal income (take-home pay or DPI) also continued to rise, reaching \$2,152 billion, up almost 8 percent from the second quarter of 1981. It was 2 percent more even after adjusting for inflation.

As a result, PCE for eating away-from-home, which had been sluggish during most of 1981, rose at a brisk pace during the first half of 1982. By the second quarter, PCE for food away-from-home rose to almost \$94 billion (SAAR), more than 9.5 percent above the second quarter of 1981. Even after adjusting for price increases, there was nearly a 4-percent growth rate.

Expenditures for food in the Nation's grocery stores were about \$255 billion (SAAR), about 6 percent higher than the second quarter of 1981, and 2 percent higher after adjustment for inflation. The second-quarter increase followed a rather sluggish performance during the first

Food as a Percent of Disposable Personal Income



Food Expenditures and Disposable Personal Income

Type	1980				1981	
	Quarters				I	II
	I	II	III	IV	I	II
Food at-home	237.0	240.6	245.3	248.8	249.8	254.7
Food away-from-home	85.8	85.5	86.2	87.0	91.0	93.7
All food	322.8	326.1	331.5	335.8	340.8	348.4
Disposable Personal Income (DPI)	1,958.7	1,996.5	2,060.0	2,101.4	2,117.1	2,151.9

quarter. Because of the relatively strong performance of restaurant expenditures, the ratio of grocery store food expenditures to away-from-home food expenditures fell significantly.

Because disposable personal income (DPI) rose at a more rapid pace than food

expenditures, the portion of DPI spent for food fell from 16.3 percent during the second quarter of 1981 to 16.1 percent in 1982. Food at-home accounted for all of the drop, falling from 12 percent to 11.7 percent. Food away-from-home rose to 4.3 percent as a portion of DPI. ■

Domestic Food Programs

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Recently enacted legislation has significantly reduced the scope of the Food Stamp Program and the child nutrition programs. The Omnibus Reconciliation Act of 1981 (Public Law 97-35) and title XIII of the Agriculture and Food Act of 1981 (Public Law 97-98, also known as the Food Stamp and Commodity Distribution Amendments of 1981) mandate tighter eligibility criteria, lower reimbursement rates, and increased efforts to reduce fraud and abuse. These reductions will probably help slow future growth rates in the food assistance programs.

Family Feeding Programs

Preliminary data show that participation in the Food Stamp Program (FSP) declined from an average of 22.1 million persons in the fourth quarter of 1980 to 21.9 million in the fourth quarter of 1981, likely reflecting the tightened eligibility standards.

Under the Omnibus Reconciliation Act, eligibility in the FSP is limited to households with gross incomes at or below 130 percent of the poverty guidelines set by the Office of Management and Budget (OMB). Previously, households with net incomes at or below the OMB poverty guidelines were eligible.

Net income for an eligible household is determined by subtracting the standard deduction, dependent care, and shelter deductions from gross income which meant that more households actually were eligible under the old rules. Households with elderly or disabled members will continue to be allowed the previous deductions plus a medical deduction in determining eligibility.

The gross monthly income limit for food stamp eligibility for July 1, 1982 through June 30, 1983 is \$1,008 for a family of four, about 10 percent higher than the previous income limit of \$916. Similarly, the net monthly income limit is now \$775, up from \$705. Income limits are slightly higher in Hawaii and Alaska. Maximum income for participation in the FSP is adjusted annually to reflect changes in the cost of living.

Food stamp benefits equal the cost of the Thrifty Food Plan (TFP) for the household's size minus 30 percent of the household's net monthly income. The TFP speci-

fies quantities of foods from 15 food groups that households might use to provide economical and nutritious meals and snacks for household members. Monthly food stamp benefits per person for the last quarter of 1981 were up 16.4 percent from a year earlier—\$39.59 in 1981 and \$34.02 in 1980.

The increase appears to be related to several factors. First, in early 1981, food stamp households received an 11.5-percent increase in benefits to compensate for higher food costs. Second, average benefits per person rose because tightened eligibility standards eliminated many households that had previously received relatively small food stamp benefits. Finally, unemployment rates jumped from 7.5 percent in the fourth quarter of 1980 to 8.4 percent in the same period of 1981. As workers who participated in the FSP became unemployed, their households qualified for higher food stamp benefits.

Approximately \$2.6 billion in coupons were issued under the FSP in the fourth quarter of 1981—up 15.1 percent from the same period in 1980. For the entire year, food stamp benefits cost \$11 billion, up from \$9 billion in 1980.

The Federal Government finances the entire cost of food stamp benefits. Benefit costs have increased at an annual rate of 6.5 percent (adjusted for inflation) since 1974, when the program became available nationwide. Several program changes have been proposed by the Administration to slow the rate of growth in food stamp benefits. The proposed changes would:

- eliminate the minimum \$10 monthly food stamp benefit currently available to one- and two-person households;
- increase the benefit reduction rate from 30 to 35 percent of net income;
- count energy assistance payments as income when determining net household income; and
- eliminate the 18-percent earned income deduction.

Other FSP costs include printing coupons, transporting coupons to authorized State agencies, processing, and the destroying of redeemed coupons by Federal Reserve Banks. In addition, the cost for work registration conducted by the U.S. Depart-

ment of Labor and State employment offices is paid for by the Federal Government, as well as the cost of research projects authorized by law. In total, these costs were about \$108 million in fiscal 1981.

The States and the Federal Government share the cost of FSP administration on a 50-50 basis. In FY 81, it was about \$510 million each. Administrative costs include all costs associated with certification of nonpublic assistance households, issuance of food coupons, quality control procedures, and fair hearing efforts. To control these costs, the Administration has proposed that, in 1983, States will be liable for errors that exceed 3 percent and will have to reimburse the Federal Government. Also, the proposal eliminates the fiscal incentive system in which States that reduce error rates below specified levels can qualify for increased Federal cost-sharing.

Participation in the Special Supplemental Food Program for Women, Infants, and Children (WIC) reached an average of 2 million persons in the fourth quarter of 1981, compared with about 2.2 million persons in the same period of 1980. The number of children participating declined by 13.2 percent, the largest decline among the three groups of participants.

Food and administrative costs for WIC totaled \$226 million during the October-December quarter of 1981. Average monthly benefits per person rose 6.5 percent over the previous year to \$29.58 during this period.

Several studies of the program indicate that WIC has helped reduce infant mortality, incidence of low birth weight, and incidence of subnormal infant development. One study by the Harvard School of Public Health showed that for every \$1 spent on prenatal care in the WIC program, an estimated \$3 is saved in health care costs. In recognition of WIC's contribution to the health of its participants, the Administration has proposed a block grant that combines WIC and the Maternal and Child Health Program, currently administered by the Department of Health and Human Services.

The cost of commodities distributed under the food distribution programs—the Needy Family Program, the Commodity Supplemental Food Program, and the Nu-

trition Program for the Elderly—rose 32.5 percent, from \$15.1 million in the fourth quarter of 1980 to \$20 million in the fourth quarter of 1981. In addition, \$21.2 million in cash (in lieu of commodities) were distributed to State Agencies on Aging for use in providing meals to participants in the Nutrition Program for the Elderly (see Winter 1982 *NFR* for a description of this program).

Under the Older Americans Act of 1965, as amended in 1977, States can receive cash payments in lieu of USDA-donated commodities for operating their nutrition programs for the elderly. A total of 30 State agencies received their meal assistance in all-cash payments in fiscal 1981, 3 received only donated commodities, and 23 received a combination of commodities and cash.

In fiscal 1981, States received 47.25 cents in cash, commodities, or both for each meal served to elderly persons and their spouses. A total of 187.9 million meals were served during this period; approximately 155.3 million of these meals were reimbursed by USDA. The reimbursement rate for each meal served from October 1, 1981, through September of this year is 51.5 cents.

Congress appropriated \$480,000 for two USDA demonstration food projects to examine various food packages and systems for providing supplemental foods to the low-income elderly. Direct distribution of food to the homes of the elderly using voluntary private and local resources will be tried in at least one of the sites. These projects, authorized by the Food Stamp and

Commodity Distribution Amendments of 1981, will operate from existing commodity supplemental feeding program sites in Detroit, Mich. and Des Moines, Iowa.

Nutrition Assistance Grant

The FSP in Puerto Rico was converted to a nutrition assistance grant program on July 1, 1982. Puerto Rico provides cash benefits rather than food stamps under this program. Otherwise, the program operates similarly to the FSP. Eligibility for participation in the grant program is based on an income and asset test.

The Omnibus Reconciliation Act of 1981 provides up to \$825 million annually through fiscal 1984 for the federally funded nutrition assistance grant program, but in

Federal Cost of USDA Food Programs, Calendar Years

Program	1978	1979	1980	1981	1980								1981			
					1	2	3	4	1	2	3	4 ¹				
					Million Dollars											
Food Stamps																
Total Issued	8347	7111	9001	10956	2224	2258	2263	2256	2852	2812	2696	2596				
Bonus Stamps	5261	7108	9001	10956	2224	2258	2263	2256	2852	2812	2696	2596				
Food Distribution²																
Needy Families	13.7	22.2	23.5	33.2	4.7	5.9	6.9	5.9	12.2	6.3	6.1	8.7				
Schools ³	577	720	967	790	301	219	155	292	328	160	116	186				
Other ⁴	64	85	115	105	27	32	28	29	29	25	25	22				
Child Nutrition⁵																
School Lunch	1877	2101	2392	2278	749	560	308	775	775	567	271	665				
School Breakfast	191	243	308	323	91	73	42	102	105	81	42	95				
Special Food ⁶	246	288	338	400	53	77	138	70	76	97	154	73				
Special Milk	139	146	137	74	48	37	19	34	34	26	8	5				
WIC⁷	422	569	783	881	175	192	183	233	232	209	214	226				
Total⁸	8790	11283	14066	15938	3672	3454	3143	3797	4444	3986	3533	3876				

¹Preliminary.

²Cost of food delivered to State distribution centers.

³Includes child care centers and camps participating in the Child Care and Summer Food Service Programs.

⁴Includes Supplemental Food, Nutrition Program for the Elderly, and donations to charitable institutions.

⁵Money donated for local purchase of food. Excludes nonfood assistance.

⁶Divided into Child Care Food Program and Summer Food Service Program in fiscal 1976.

⁷Special Supplemental Food Program for Women, Infants, and Children. Includes food and administrative costs.

⁸Excludes those food stamps paid for by the recipient. May not add due to rounding.

Source: Computed from monthly data supplied by the Food and Nutrition Service.

fiscal 1981 food stamp benefits in Puerto Rico were \$879.1 million.

Under the program, the Thrifty Food Plan (TFP) in Puerto Rico is reduced by 7 percent. Thus, households with no net income receive cash benefits equal to 93 percent rather than 100 percent of the Puerto Rico TFP. For households with income, benefits are equal to the cost of the reduced TFP minus 30 percent of the household's net income. Net income is gross income minus 20 percent of earned income, \$40 standard deduction, \$40 maximum excess shelter or child care deduction, and \$100 maximum medical deduction for elderly or disabled persons. No benefits under \$10 per month are paid. If benefits exceed appropriated funds, all benefits will be reduced to bring benefits into balance with existing funds.

Federal funds provide 100 percent of the food assistance benefits and 50 percent of the related administrative costs. A small proportion of the benefits may be used to finance projects that are likely to improve agriculture, food production, or food distribution such as developing food cooperatives or local markets or implementing innovative farming techniques.

Child Nutrition Programs

Participation in the National School Lunch Program (NSLP) averaged 23.4 million children in the last quarter of 1981, a decline of 12.1 percent from the same period in 1980. Reduced Federal subsidies led to schools charging higher prices for lunches, usually up 15 to 25 cents. The maximum charge for a reduced-price lunch doubled, increasing from 20 cents to 40 cents.

Declining school enrollments throughout the Nation are also a major factor affecting school lunch participation. Between the fall of 1980-81 and fall of 1981-82, enrollment in kindergarten through the twelfth grade declined by 1.8 percent, from 46 million students to 45.2 million.

Other factors that may have contributed to decreased participation in the NSLP include stricter eligibility criteria for free and reduced-price meals. Additional documentation of household income was required on applications, as well as mandatory report-

ing of social security numbers of all adult household members.

Also, provisions effective October 1, 1981, limited participation in the child nutrition programs by private schools to those with average annual tuition of \$1,500 or less per child. USDA estimates that 1,000 public schools and 500 private schools have dropped out of the NSLP since the new program changes became effective.

The decline in participation in the NSLP varied depending on the type of lunch served. For example, the number of reduced-price lunches served during the fourth quarter of 1981 declined by 18.3 percent from the year before. The number of paid and free lunches fell by 16.2 percent and 9.3 percent, respectively.

Free and reduced-price lunches represented 49.6 percent of the lunches served in the fourth quarter of 1981. In contrast, free and reduced-price lunches represented 48 percent of the lunches served in the same period in 1980. Cash payments for NSLP totaled \$665.2 million in the fourth quarter of 1981, a 14.2-percent decline from the same 3-month period in 1980.

In addition to cash, schools receive commodities through USDA's commodity distribution programs. Three major pieces of legislation—Section 32 of the Agricultural Act of 1935, Section 416 of the Agricultural Act of 1949, and Section 6 of the National School Lunch Act of 1946—provide the basis for commodity assistance to the child nutrition programs (see summer 1981 *NFR*).

Activities initiated under Section 32, as amended, are designed to expand agricultural exports, increase domestic agricultural consumption, and reestablish farmers' purchasing power. By law, 30 percent of customs receipts collected during the previous year are appropriated annually for use by the Secretary of Agriculture in achieving the objectives of Section 32.

Section 32 receipts have increased from about \$1 billion in fiscal 1975 to about \$2.3 billion in fiscal 1981. USDA's Food and Nutrition Service (FNS) used approximately \$345.7 million of Section 32 funds in

fiscal 1981 to purchase perishable, nonbasic commodities such as fruits, vegetables, meats, and poultry products. In recent years, when USDA has run short of funds to support the Nutrition Program for the Elderly, the Needy Family Program, and the Commodity Supplemental Food Program, Section 32 funds have been used until a supplemental request could be approved.

A USDA committee is evaluating the use of Section 32 funds and alternative sources for funding school feeding programs and other food assistance programs that receive commodity assistance.

Participation in the School Breakfast Program declined by 11.8 percent from the fourth quarter of 1980 to the fourth quarter of 1981, mostly from program changes. Federal cash expenditures for the School Breakfast Program in the fourth quarter of 1981 amounted to \$94.6 million, down from \$101.9 million. A total of 175.2 million breakfasts were served during that period; of these, 83.8 percent or 146.9 million were free. About 5 percent of all breakfasts were served at a reduced price. Under the Omnibus Reconciliation Act, the maximum charge for a reduced-price breakfast was raised from 20 cents to 30 cents. In addition, the reimbursement rate for a reduced-price breakfast was lowered from 46.75 to 28.5 cents and for a full price breakfast from 16.25 to 8.25 cents. To help offset the cost of providing meals, USDA reimburses States based on the type and number of meals served.

The most dramatic decrease in program participation and cost occurred in the Special Milk Program, where approximately 503 million half pints of milk were served to schools and child-care institutions in the October-December quarter of 1980, in contrast to 72.6 million in the 1981 period.

Federal cash expenditures for the Special Milk Program declined by 83.8 percent between the fourth quarter of 1980 and the fourth quarter of 1981. The Omnibus Reconciliation Act of 1981 limits participation in the Special Milk Program to schools that do not participate in a meal service program authorized under the National School Lunch Act or the Child Nutrition Act of 1966. ■

Sodium Labeling

Labeling the sodium content in foods is currently voluntary and many food manufacturers comply. However, some legislators contend stronger legislation is needed that would make mandatory labeling possible. Two sodium labeling bills have been introduced in Congress, and at least two others have been drafted.

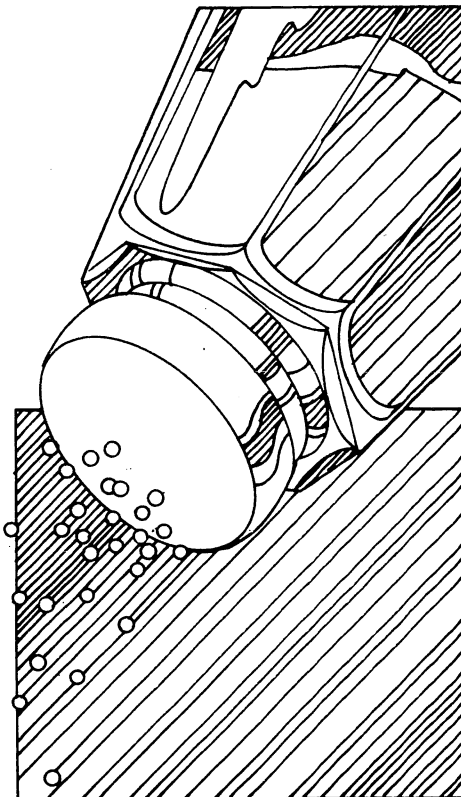
In June 1981, H.R. 4031, a bill that would require sodium and potassium labeling on most processed food products (but includes a small business exemption) was introduced. This bill proposed amendments to the Federal Food, Drug, and Cosmetic Act "to require that certain foods intended for human consumption be labeled to show the amounts of sodium and potassium they contain." Specifically, sodium and potassium levels in excess of 35 milligrams per serving in packaged foods would have to be listed on the label.

If such a labeling requirement is considered to be an unreasonable burden or to be impractical by the Secretary of Health and Human Services (HHS), the manufacturer, packer, or processor may display the required sodium and potassium information "by a notice placed in close proximity to the place of display or sale of such food." The Secretary may also make exemptions from the labeling requirement for foods "produced by a manufacturer or processor whose annual volume of total sales is less than \$500,000."

H.R. 4031 would authorize the Secretary to enact the regulations needed to implement the bill's labeling requirements. Further, it specifies that such regulations be both cost effective and responsive to the needs of the public.

A second bill, H.R. 5160, was introduced in December 1981. It has received the support of the food industry and would make it unlikely that mandatory sodium labeling would ever come about unless the current voluntary programs are unsuccessful.

Specifically, this bill mandates a program by which the HHS Secretary would consult with and encourage food manufacturers and processors to voluntarily label the



amount of sodium in their products. HHS would also provide technical assistance to these manufacturers and processors to provide sodium labeling.

The legislation would require the Secretary to establish policies minimizing technical compliance problems resulting from labeling efforts. The Bill also requires reports to Congress as to the extent of industry cooperation, descriptions of the actions taken under the program, and recommendations of the Secretary for further action.

Finally, H.R. 5160 authorizes the Secretary to take further administrative action permitted by the Federal Food, Drug, and Cosmetic Act if these voluntary efforts are not judged adequate to inform the public.

Two alternative sodium labeling bills have been drafted but have not actually been introduced in Congress. As of this writing, consideration of any sodium labeling Bill has been postponed due, at least in part, to a lack of consensus by legislators.—
Kathleen Reidy (202) 447-7321 ■

Amendments to the Federal Inspection Acts

The Federal laws that regulate inspection of processed red meat, poultry, and egg products may be revised this year. If enacted, the legislation that was introduced in Congress this spring will permit a reduction in the frequency of inspection for some processed products.

The benefit will be the chance for better use of resources by the two USDA agencies that are responsible for administering the programs—Food Safety and Inspection Service (FSIS) and Agricultural Marketing Service (AMS)—which could save about \$2 million and \$1.5 million, respectively, in fiscal year 1983. The major savings would result from a reduction in the number of Federal inspectors needed for the programs.

The bills, S. 2348 and H.R. 6062, both contain amendments to the Federal Meat Inspection Act, Poultry Products Inspection Act, and Egg Products Inspection Act. Only processed food products made wholly or in part from the carcasses of cattle, sheep, hogs, goats, and poultry would be affected. These products range from large sections of the carcass to retail cuts of steaks, chops, and chicken breasts, and more processed products such as sausage and frankfurters. The bills would not alter the continuous before and after slaughter inspection of these animals. Products that contain very small amounts of meat or poultry, or those that are not normally considered to be meat or poultry products by consumers, are not under USDA jurisdiction.

Meat and Poultry Products

Currently, under mandatory requirements, about 6,800 meat and poultry manufacturing plants are federally inspected daily. Typically, an inspector visits four or five plants per day to ensure sanitary and wholesome conditions, to check that products contain the amount of ingredients called for in their formulations, and to see that product labels listing net weight, ingredients, and so on are accurate.

The new bills would allow some manufacturing plants—those which already meet strict Government standards—to be inspected less than daily, perhaps once or twice per week at the discretion of the

Secretary of Agriculture. The Secretary would determine the manner and frequency of inspection for individual meat and poultry product processing plants based on:

- the nature and frequency of the plant's processing operations;
- the reliability of a plant's monitoring system;
- the plant's history of compliance with inspection requirements; and
- other factors the Secretary deems appropriate.

Labels of products manufactured in plants exempted from daily inspection would read "Prepared in a USDA inspected establishment."

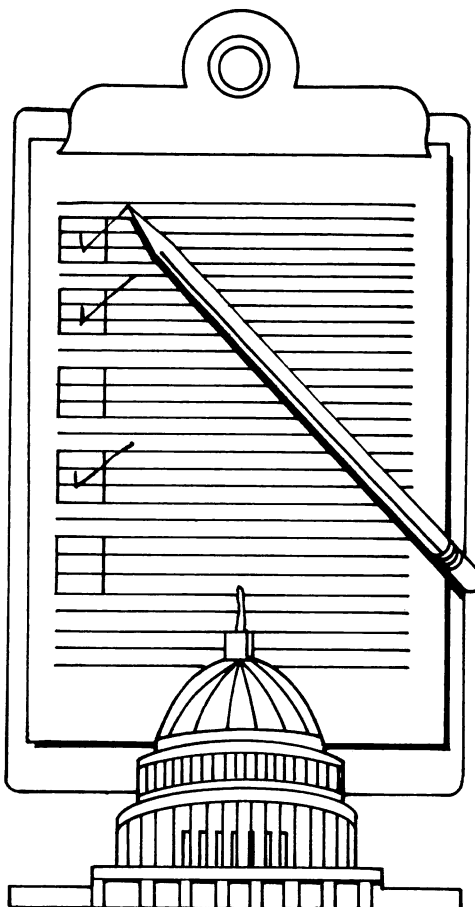
Plants that already have a federally approved total quality control program (currently there are 70) would be likely candidates for the initial phases of reduced Federal inspection. This voluntary program was developed by FSIS in 1980 and requires the plant to meet requirements at critical control points: temperature and time the meat and poultry are cooked, sanitation, and verification of moisture and fat content of the final product.

Plants wishing to participate must submit their total quality control system proposal to FSIS for approval. If approved, FSIS inspectors then periodically monitor and test product samples to ensure that Federal standards are being met.

Federal Savings and Exemptions

In the year following its introduction, the proposed legislation is expected to trim \$2 million from program costs of \$82.2 million for federal inspection of meat and poultry processing plants. The entire meat and poultry inspection costs for 1982, including slaughter inspection, are about \$308.2 million. FSIS estimates about \$26 million in savings by 1989. The legislation would allow USDA to reduce the number of inspectors by about 5.5 percent per year from the current number of 2,300 inspectors.

Once the program is in full operation, inspectors could be reassigned from processing plants to slaughtering operations where there is a greater need for agency resources. "This reshuffling would result in a more efficient use of inspectors, yet significant



dollar savings might not show up until the program is fully implemented," according to Wayne Batwin of the FSIS Office of Policy and Program Planning.

The meat and poultry inspection acts exempt a few specific categories of processors: farmers who process meat and poultry for their own consumption; butchers, retailers, and restaurants who custom slaughter or prepare products for direct sale to final consumers; meat processors with yearly sales of less than \$28,000; poultry processors who prepare their products according to recognized religious dietary laws; and processors who slaughter less than 20,000 poultry per year for small specialized markets. The bills would not effect the status of exempted processors.

The proposed legislation does not address State inspection programs per se, although the State programs must meet the same requirements as their Federal counterparts.

Last year, about 3.5 percent of manufactured meat and poultry products were in-

spected by State officials in 27 States with such programs. The amount is small because only federally inspected meat and poultry products can be shipped across State lines.

Shell Eggs and Egg Products

The Egg Products Inspection Act would also be amended under the proposed legislation. Inspectors would no longer have to continuously oversee blending, pasteurizing, drying, and labeling of liquid, frozen, and dried egg products. (Close to 1 billion pounds of these products were inspected last year.) The degree of inspection of these processing steps would be determined by the Secretary of Agriculture based on the four criteria listed in the amendments to the meat, poultry, and egg product inspection acts. Inspectors would, however, continuously inspect the breaking of eggs in the 115 official egg processing plants. Continuous inspection means that an inspector is in the plant during each processing shift while the plant breaks and blends eggs. The inspector ensures that every egg is broken individually and checked by a qualified plant employee to guarantee that wholesome eggs are used.

The bills would also reduce the number of inspections of shell egg packing operations. The 4,360 plants that pack eggs for consumer use are currently inspected once every quarter to ensure that cracked and dirty eggs are sent to USDA-inspected egg product plants and that leaking and contaminated eggs are rendered unusable as human food. The bills would only require one yearly inspection.

The Agricultural Marketing Service has estimated that the provisions of the bills would lower program costs from \$8.2 million to \$6.7 million. Approximately \$900,000 of the \$1.5 million savings would result from reducing inspections of egg packers from quarterly to once a year. The remainder of the savings would result from eliminating continuous inspection coverage of certain egg product processing operations such as pasteurizing, drying, and packing.—Rosanna L. Mentzer (202) 447-8487 ■

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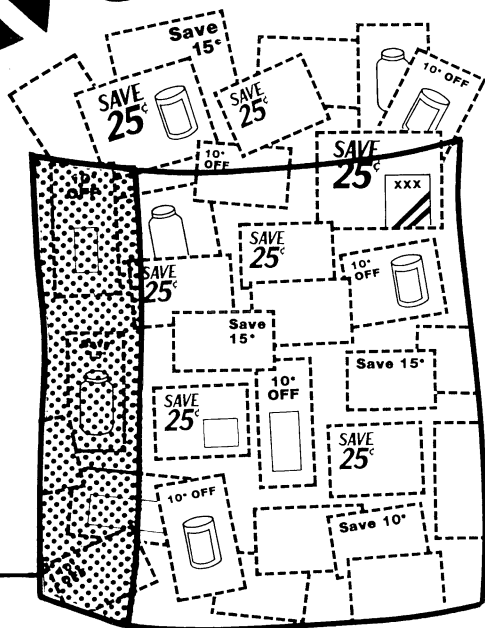
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