

Changing Food Consumption Patterns: Their Effect on the U.S. Food System, 1972-92

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Americans are changing the way they eat and the foods they buy. New lifestyles, shifting demographics, and growing concerns about nutrition and health contribute to these changes. In response to American consumers, the food system may be shifting from volume production for general consumer markets to marketing and production for specialized markets.

These changes have not influenced all parts of the food system equally, according to ERS researchers who examined how changes in food demand affect the food system's output in different sectors for 1972-92. Within the food system, real output grew during 1972-92 for the processed food sectors and eating and drinking places (table 1). The poultry and egg processing sector showed the largest percentage growth, 269 percent (from \$6,472 million in 1972 to \$23,865 million in 1992), followed by confectionery, bakery, and macaroni, 85 percent (from \$23,252 million to \$43,118 million). Output for the meat packing sector grew the least, 11 percent (from \$56,340 million to

\$62,440 million) over the period and refined sugar sector output declined 26 percent (from \$8,010 million in 1972 to \$5,909 million in 1992).

Overall, the total real output of processed food sectors rose 40 percent (from \$243 billion in 1972 to \$342 billion). The nonfood processing sectors in the food system grew strongly. Output in transportation rose 82 percent from \$182 billion in 1972 to \$332 billion in 1992. Output for wholesale and retail trade grew 86 percent, from \$496 billion to \$926 billion. Output for the eating and drinking sector grew 83 percent, from \$114 billion to \$210 billion.

Consumers Demand More Processing

Production to meet the growth in domestic food demand grew more than the total growth for outputs in the processed food sectors (table 1). Outputs of beverages and flavorings, and miscellaneous food due to expanding domestic food demand grew more than the output for the total system from 1972 to 1992. The fact that domestic food demand-related output increased more than the total output change suggests that increased imports, such as wine, coffee, etc., or substituting

other ingredients for flavorings helped meet domestic food demand.

For refined sugar, related output for domestic food demand increased while total output decreased. The positive effect of direct growth in consumable products in the sugar sector was offset by a decline in demand for refined sugar as ingredients in other products. Much of this decrease resulted from the

About the Data

ERS analysts used an input-output (I/O) demand-based procedure to estimate the supporting output needed from industrial sectors to produce the food consumed by domestic consumers. They divided the U.S. food system into 13 I/O sectors (tables 1 and 2). The domestic food demand components were the four U.S. National Income and Product accounts (NIPA) food consumption categories: (1) food for off-premises consumption, (2) purchased meals and beverages, (3) food furnished for employees, and (4) food produced and consumed on farms.

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increased use of the competing sweetener, high fructose corn syrup (HFCS). While increased food demand was important to food processing, for transportation, and for wholesale and retail trade, it accounted for only a small proportion of the total output increases from 1972 to 1992. Not surprisingly, increased food demand accounted for most of the increased output for eating and drinking places.

We can understand the effects of food demand better by looking at how different types of demand affect different sectors in the food system. While the off-premises food consumption category is the largest and thus the source of most of the output changes, expenditures for purchased meals and beverages grew faster and the mix of food products consumed changed within food consumption categories.

Changes in consumer demand since 1972 have come both from an increase in the number of consumers and from consumers' changing needs and tastes. Per capita disposable personal income grew 37.5 percent from \$10,414 in 1972 to \$14,341 in 1992 (in 1987 dollars). Besides consumers being more numerous and more affluent, Americans lead faster-paced lifestyles and they no longer have a lot of time for preparing meals. Accordingly, the demand for consumer-ready processed food grew and likely will grow faster than the demand for traditional food cooked in the home. The more highly processed food sectors such as miscellaneous food processing; canning, freezing, and dehydrating; and confectionery, bakery, and macaroni grew more than those sectors producing less highly processed food, meat processing, dairy processing, etc., and

faster than the processed food average (41 percent) (table 1).

Furthermore, consumers dined out more both as household incomes grew and as the number of dual-income households increased; eating and drinking places output grew 83 percent. From 1972 to 1992, Americans spent more on purchased meals and beverages, from \$120 billion to \$188 billion (in 1987 dollars, up 57 percent). As a result, demand for processed food also increased, particularly for red meat, dairy, and sugar (table 2, column 2). In the past, consumers did more meal preparation themselves and the food products they purchased at grocery stores were less processed. Now, Americans count on the food industry to play a larger role in meal preparation. The proportion of women ages 25 to 50 who are in the work force has climbed steadily during the past two decades to

Table 1
Output Changes Due to Domestic Food Demand Expansion

Sector	Food output		Output change	Percent change	Output change due to food demand	
	1972	1992			Output	Percent
	Million 1987 dollars			Percent	Million 1987 dollars	Percent
Red meat processing	56,340	62,440	6,100	10.8	5,611	92.0
Poultry and egg processing	6,472	23,865	17,393	268.7	14,187	81.6
Dairy plants	34,848	42,120	7,272	20.9	5,002	68.8
Canning, freezing, and dehydrated	27,152	40,449	13,297	49.0	10,818	81.4
Grain milling, excluding prepared feeds	14,391	25,134	10,743	74.7	9,756	90.8
Refined sugar	8,010	5,909	-2,101	-26.2	288	-13.7
Fats and oil mills	11,920	16,886	4,966	41.7	3,215	64.7
Confectionery, bakery, and macaroni	23,252	43,118	19,866	85.4	16,582	83.5
Beverage and flavorings	44,330	57,688	13,358	30.1	26,501	198.4
Miscellaneous food processing	16,656	24,662	8,006	48.1	8,729	109.0
Total processed food	243,371	342,271	98,900	40.6	100,689	101.8
Transportation	182,336	331,767	149,431	82.0	-1,592	-1.1
Wholesale and retail trade	496,441	925,738	429,297	86.5	62,371	14.5
Eating and drinking	114,369	209,522	95,153	83.2	94,162	99.0
Total food system	1,036,517	1,809,298	772,781	74.6	255,630	33.1

about 75 percent, sharply boosting the number of single-individual and dual-income households. Both types of households probably spend less time preparing meals than do traditional single-earner families. As a result, today's consumers spend less time in the kitchen and are increasingly shopping for conveniently prepared food products that fit faster-paced lifestyles. Besides these demographic and cultural trends, many U.S. domestic markets for food and fiber products are mature and future domestic food demand may grow mainly with U.S. population growth.

While production for domestic food demands dominated the food processing sectors of the food system from 1972 to 1992, growth in food demand has been less important to the wholesale and retail trade and transportation sectors. Changes in food system uses of transportation services since 1972 has meant

that the growth in food demand has actually lowered the need for transportation output from 1972 to 1992. In 1972, a dollar of consumer expenditures for food included a larger share of transportation services than a dollar spent in 1992. Increased domestic food demand accounted for 14 percent of wholesale and retail trade output and for nearly all of the growth in eating and drinking place output from 1972 to 1992.

These demand changes have significantly influenced the food system. For 8 of the 13 food system sectors, food purchased for off-premises consumption was the most influential of the 4 components of domestic food demand expansion used here (table 2). Purchased meals and beverages significantly influenced the other five sectors.

In a general view of the system, eating and drinking places could be seen as a type of processing sector. From this perspective, purchased

meals and beverages stimulate demand for eating and drinking places and the less highly processed food—meat, milk, and sugar. In fact, the growth in the demand for purchased meals and beverages demand accounted for the largest share of output growth for meat products, dairy plants, and refined sugar, and also for eating and drinking places (table 2).

As Americans become more discriminating buyers, they have shifted from traditional to more consumer-ready foods. Americans have also become increasingly concerned about the health and nutritional content of food. The food industry has tried to adapt to these changing demands by shortening the path from farm to consumer with a more tightly integrated market structure and industrialization. Firms in the food system have changed from a "here is what we produce" to "here is what consumers want" perspective. ■

Table 2
Sources of Domestic Food Demand Expansion, 1972-92

Sector	Change in:				Total
	Off-premise consumption	Purchased meals and beverages	Food furnished to employees	Farm foods	
<i>Million 1987 dollars</i>					
Red meat processing	1,022.7	4,858.7	285.1	-555.9	5,611.0
Poultry and egg processing	12,423.2	1,500.3	276.6	-11.5	14,187.0
Dairy plants	179.5	4,536.4	286.4	-.6	5,002.0
Canning, freezing, and dehydrated	7,604.3	2,930.7	283.0	-.3	10,818.0
Grain milling, excluding prepared feeds	8,785.2	819.4	155.8	-4.3	9,756.0
Refined sugar	-227.8	492.1	25.8	-1.8	288.0
Fats and oil mills	2,306.5	811.3	124.4	-27.5	3,215.0
Confectionery, bakery, and macaroni	12,473.8	3,801.4	307.0	-.2	16,582.0
Beverage and flavorings	21,230.8	5,212.8	57.9	-.9	26,501.0
Miscellaneous food processing	7,518.6	1,190.6	17.0	-1.5	8,729.0
Total processed food	73,316.8	26,153.7	1,824.0	-605.7	100,689.0
Transportation	-5,821.2	4,173.6	119.2	-63.2	-1,591.6
Wholesale and retail trade	53,316.8	8,687.5	464.9	-98.1	62,371.1
Eating and drinking	558.1	93,596.2	10.8	-3.3	94,161.8
Total food system	121,370.5	132,611.0	2,418.9	-770.3	255,630.3