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Understanding the Dynamics of Produce Markets

Consumption and Consolidation Grow

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Understanding the Dynamics of Produce Markets: Consumption and Consolidation Grow. By Phil R. Kaufman, Charles R. Handy, Edward W. McLaughlin, Kristen Park, and Geoffrey M. Green, Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin No. 758.

Abstract

Mergers, acquisitions, and internal growth among grocery retailers, largely since 1996, have increased the share of grocery store sales accounted for by the largest 4, 8, and 20 food retailers nationwide. Similar consolidation is occurring among food wholesalers. At the same time, new packaged and branded produce items are gaining acceptance with consumers and vying for shelf space in the supermarket produce department. Growers, shippers, and their trade associations fear the possibility of fewer buyers for their products, particularly if new marketing and trade practices such as volume incentive rebates and slotting fees become widespread. This report uses data from the Censuses of Wholesale Trade and Retail Trade and industry sources to examine changes in produce markets and market channels from 1987 to 1997 in the United States. It is the first in a series of reports that will examine competitive behavior in the produce industry.

Keywords: produce, market channels, fresh fruit and vegetables, consumption, foodstores, foodservice, food-at-home, food-away-from-home, wholesalers, supermarkets, consolidation.

Note: Use of brand or firm names in this publication does not imply endorsement by the U.S. Department of Agriculture.

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Preface

This is the first in a series of reports assessing the changing nature of produce markets and market channels and their implications for competitive behavior. Such an assessment requires an objective understanding of the increasingly complex relationships among buyers and sellers along the marketing chain. The Economic Research Service is working with industry experts to undertake descriptive and analytical research studies and will publish a series of reports over the coming year.

This project has three major objectives.

- Develop a comprehensive overview of the produce industry, including consumption and retail sales trends, markets and market channels, and the changing structure of produce buyers.
- Identify and characterize the types of trade practices used in the produce industry, including trade allowances, services provided by suppliers, forward contracting, and marketing strategies.
- Empirically analyze supplier-to-retail price margin behavior to investigate the presence of market power.

This report addresses the first of the three major objectives. The remaining objectives will be addressed in subsequent ERS reports. The latter reports will focus on trade practices for selected commodities using firm-level data. Taken together, these reports will inform industry participants, researchers, and policymakers about the forces affecting competition and change in the produce industry.

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Summary

Mergers, acquisitions, and internal growth among grocery retailers, largely since 1996, have increased the share of grocery store sales accounted for by the top 4, 8, and 20 food retailers nationwide. Similar consolidation is occurring among food wholesalers. At the same time, new packaged and branded produce items are gaining acceptance with consumers and vying for shelf space in the supermarket produce department. These are among several dynamic forces that are affecting change in produce markets and market channels.

Consolidation and structural change is taking place over a wide range of agricultural and food industries and has implications for both producers and consumers. This report uses data from the Censuses of Wholesale Trade and Retail Trade and industry sources to focus on changes in produce markets from 1987 to 1997 in the United States.

Technological innovations, changes in consumer preferences, and globalization of the produce industry have affected the volume of sales, price, and quality of many fresh fruits and vegetables. Electronic commerce and vertically integrated computer networks have allowed grower-shippers and retailers to improve communications in marketing produce, saving on inventory control and reducing shrinkage. Atmosphere-controlled cargo and remote monitoring systems have extended the shelf life and quality of perishable products. As a result, the supermarket produce department has made way for year-round varieties, pre-cut produce, and more packaged and branded items. These changes are likely to have profound effects on the way the produce industry is organized and the way it conducts business.

Per capita consumption of fresh produce increased 12 percent during 1987-97. Consumers, responding in part to increased health concerns, are demanding year-round supplies of fresh produce such as grapes and strawberries. Rising incomes and time demands have spurred consumer acceptance of fresh-cut, quick-to-prepare products. And a growing share of consumer expenditures for fresh produce is occurring in foodservice outlets rather than in traditional foodstores.

Traditional retailers are responding by expanding the size of their produce departments. The average produce department in today's supermarket carries 335 produce items, almost twice the number carried 10 years ago. The proportion of sales accounted for by prepackaged salads has doubled. Fresh-cut produce is growing rapidly and the number of nationally branded products (including bananas) is expanding.

Most produce today still moves from grower-shippers through merchant wholesalers to retail outlets (food stores and foodservice establishments). But, between 1987 and 1997, the share of produce moving through merchant wholesalers, including wholesale produce markets, declined while the share of shipments to large self-distributing grocery retailers increased. Merchant wholesalers have survived by becoming larger, performing more functions and consumer services, and handling a larger array of specialty produce items.

As food retailers consolidate and expand to take advantage of economies of size, more firms are introducing supply chain management practices such as firmwide purchasing and the use of information technologies to provide for continuous inventory replenishment and individual store oversight. These practices may lower marketing and distribution costs of produce as well.

Industry consolidation, the introduction of new technologies, changing consumption patterns, and new marketing and trade practices are important dynamic forces that are likely to continue to shape produce markets and market channels in the future.

Glossary

Aggregate concentration. The share of sales in a sector (food retailing, for example) that is controlled by the largest firms.

Broker. Agent in the marketing chain who negotiates contracts between buyers (retailers) and sellers (shippers) without taking title to the merchandise or physically handling inventory.

Buying office/Headquarters. Central offices where a company's buying decisions are made.

Chain. A food retailer or foodservice operator owning 10 or more stores or outlets.

Convenience store. A small foodstore (usually 1,000 to 3,200 square feet) selling a limited variety of food and nonfood products, typically open extended hours.

Cooperative advertising. Joint advertising by the retailer and shipper directed toward the consumer. Retailers advertise the shipper's products periodically in exchange for a cash payment or discount.

Cost of sales. The total amount of money paid by retailers or wholesalers for goods that were sold to customers during a specified period. Cost of sales is sometimes called cost of goods sold.

Cross-docking facility. A physical distribution facility that provides for the transfer of single-load shipments from suppliers to mixed-load shipments for delivery to retail stores. An open platform is used in place of a warehouse, eliminating storage and labor costs.

Direct buying. Purchasing from a shipper or manufacturer directly rather than from a wholesaler or other middle-marketing agent.

Distribution center. Wholesale facility (warehouse) of a chain store company or general-line wholesaler.

Distribution channel. Route in the marketing system that goods follow from grower-shipper to consumer.

Distributor. See *Merchant wholesaler*.

Foodstore. A retail outlet with at least 50 percent of sales in food products intended for off-premise consumption. Foodstores include supermarkets, superettes, grocery stores, and delicatessens, and specialized foodstores such as produce markets and bakeries.

General-line foodservice wholesaler. A wholesaler serving foodservice establishments such as restaurants, hospitals, schools, and hotels, and handling products specifically for foodservice use.

General-line grocery wholesaler. A wholesaler who procures grocery products, both food and nonfood, for distribution to retailers that lack their own warehousing and store delivery services.

Green grocer. A foodstore having fresh fruit and vegetable sales accounting for 50 percent or more of total sales

Grocery store. A foodstore that sells a variety of food products, including fresh meat, produce, packaged and canned foods, frozen foods, and nonfood products.

Gross margin. The profit gained from the difference between the cost of merchandise bought from a supplier and the price for which it is sold to the customer. Also referred to as gross profit.

Grower-Shipper. Fresh fruit and vegetable firms that grow, pack, and ship produce, or pack and ship produce for other growers.

Independent. Independently owned retail store, or small chain company consisting of 9 or fewer stores.

Jobber. An independent, small to medium-size wholesaler, that provides various services to retail stores, including warehousing, delivery, pricing, order-taking, stocking retail shelves, and handling returns.

Merchandise performance agreement. Allowances (product discounts) given by shippers to retailers or wholesalers based on some extra activity such as placing their products in special displays or locations.

Merchant wholesaler. Firms engaged in the purchase, assembly, transportation, storage, and distribution of food and nonfood products for sale to other wholesalers, retailers and foodservice firms.

Minimum order requirement. A minimum quantity of goods (set by the supplier) that the retailer or wholesaler must order at one time in order to qualify for a price or discount privilege.

Net profit. The ultimate profit or gain that results after overhead and operating costs are subtracted from the gross profit. It is commonly expressed as a percentage of total sales.

Off-invoice allowance. A predetermined allowance that is deducted from a bill when specified conditions are met, such as advertising or promotional participation.

Repacker. A specialized produce wholesaler who ripens and packs or repacks bulk produce according to specific needs of buyers.

Specialized produce wholesalers. Merchant wholesalers who buy and sell fresh fruit and vegetables on their own account. Produce accounts for over 50 percent of sales.

Stockkeeping unit (SKU). A unit of measurement of items in a warehouse or store. SKU numbers are assigned to unique products according to characteristics such as brand, type, size, color, or origin, for example. The average supermarket carried about 400 unique items (SKU's) in the produce department in 1997.

Supercenter. A large general merchandise store that also includes a self-contained supermarket within it. Supercenters are typically 100,000 to 200,000 square feet in size. Grocery food and nonfood items account for about 40 percent of total sales.

Supermarket. A full-line, full-service grocery store that occupies at least 6,000 square feet and annually sells \$2 million or more worth of products.

Warehouse club. A hybrid wholesale-retail establishment selling food, grocery, appliances, hardware, office supplies, and similar products to consumers and small-business members.

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Introduction

The produce marketing industry underwent considerable change from 1987 to 1997, the most recent retail census year. Changes in the distribution of produce from the farmgate to consumer are a direct outcome of both the demand for produce by consumers and the nature of transactions and coordination between produce buyers and sellers. Prior to 1987, buyers and sellers were more fragmented; most sales were between produce suppliers and grocery and specialized produce wholesalers. In the decade since 1987, large, self-distributing food retailers have accounted for an increasing share of fresh fruit and vegetable sales by grower-shippers, bypassing produce wholesalers.

The nature of produce transactions was changing as well. In 1993, a third of all produce buyers used some form of contractual agreement (McLaughlin and Perosio, 1994). Other emerging methods of coordination between buyers and sellers include the formation of strategic alliances, new market and trade practices, and the sharing of sales data to support retail store displays and promotions.

These changes coincide with a number of new developments in produce marketing, such as

- the growth of value-added and consumer-branded products,
- the increasing array of produce varieties,
- consolidation of food wholesalers and retailers,
- the expansion of the foodservice sector, and
- and the greater role of imports.

Industry Sales and Consumption Trends

Consumption of fresh fruits and vegetables increased by over 12 percent from 1987 to 1997. Several factors account for this. First, Federal agencies, the private sector, and voluntary organizations stepped up efforts to improve the nutritional health of Americans through informed food choices. For example, to reduce the risk of cancer, the Food Guide Pyramid advises 5-9 daily servings of fruits and vegetables. The Produce for Better Health Foundation's 5-A-Day program has raised consumer awareness of produce's benefits (Kennedy et al.). Improved quality, increased variety, and year-round availability via world trade have also boosted consumption of fresh fruits and vegetables.

Americans consumed 133.2 pounds of fresh fruit, per capita, in 1997, up from 121.6 pounds in 1987 (table 1). Leading consumption in both years were bananas, apples, and watermelons. Per capita consumption of fresh vegetables jumped even more, from 162.4 pounds in 1987 to 185.6 pounds in 1997. Potatoes, lettuce, and tomatoes led in 1987, while in 1997, onions replaced tomatoes.

Table 1—U.S. per capita consumption of fresh fruits and vegetables, 1987 and 1997

Item	1987	1997	1987-97
	<i>Pounds</i>		<i>Percent increase</i>
Fresh fruits	121.6	133.2	9.5
Fresh vegetables	162.4	185.6	14.3
Total fresh fruits and vegetables	284.0	318.8	12.3

Source: USDA, *Fruit and Tree Nuts Situation and Outlook Yearbook, 1999* and *Vegetables and Specialties Situation and Outlook Yearbook, 1999*.

As fresh consumption has increased, the product mix has changed. With the introduction of fresh-cut carrots, per capita consumption of fresh-market carrots increased from 8.3 pounds in 1987 to 14.4 pounds in 1997 (USDA, 1999d). Traditional varieties of some commodities have lost market share to specialty varieties. For example, per capita consumption of iceberg lettuce fell by 1.4 pounds between 1987 and 1997, while romaine and leaf lettuces grew by 3.6 pounds.

A second factor in produce consumption is the growing importance of convenience. Packaged salads and fresh-cut vegetables/fruits are occupying more shelf space as consumers strive to reduce meal preparation time (*Progressive Grocer*, 1998). Restaurants, fast-food outlets, and institutional foodservice operators are seeking to reduce labor costs by buying more prepared, trimmed, and cut produce that is ready to use.

Locally grown items and exotic produce have made inroads since the late 1980's. Rising incomes have enabled consumers to purchase higher quality and greater variety. Foodservice and restaurants introduce consumers to even more new produce varieties and methods of preparation. For many consumers, meals eaten out provide their first exposure to new flavors later found in retail produce departments. In response, the supermarket produce department carried nearly twice as many items in 1997 as 10 years earlier (Litwak, 1988 and 1998).

Trends in Supermarket Produce Departments, 1987 and 1997

U.S. consumers purchased \$30.9 billion of produce through supermarkets and supercenter stores in 1997. Supermarkets captured 88 percent of retail produce sales, supercenters 10 percent, and other retail stores (convenience stores, etc.) 2 percent. Even though supermarkets handle the bulk of retail produce sales, other retail formats such as convenience stores and mass merchandisers are adding food and grocery items, including produce. A variety of specialized foodstores, natural and health food stores, and farmers' markets also sell fresh fruits and vegetables.

The supercenter format, a mass-merchandise store with a self-contained supermarket, has grown in importance since its introduction in 1988. By 1997, produce sold in supercenters accounted for estimated sales of \$700 million. Because the supercenter pro-

duce department is similar in size, product variety, and marketing practices to supermarket produce departments, we combined the two store formats for reporting purposes.

In 1997, a total of 24,102 U.S. supermarkets generated \$308 billion in sales. Produce contributed 9.7 percent to that total (McLaughlin et al., 1998). Because of its importance to retail sales, the supermarket produce department is an appropriate model for understanding key trends and developments in the produce industry. Supermarket buyers must stay abreast of changing trade practices, promotions, and technological advances. These, in turn, are reflected in many produce department operations, such as merchandising, product assortment, and consumer promotions.

Supermarket and Supercenter Produce Sales

Produce department sales accounted for 8.8 percent of total supermarket sales in 1987 (Litwak, 1988). By 1997, the produce department share of supermarket and supercenter sales had grown to 9.5 percent (McLaughlin et al., 1998). (This sample of retailers includes the produce sales of supercenter stores as a percentage of supermarket-related food and nonfood sales, in order to be compatible with supermarkets.)

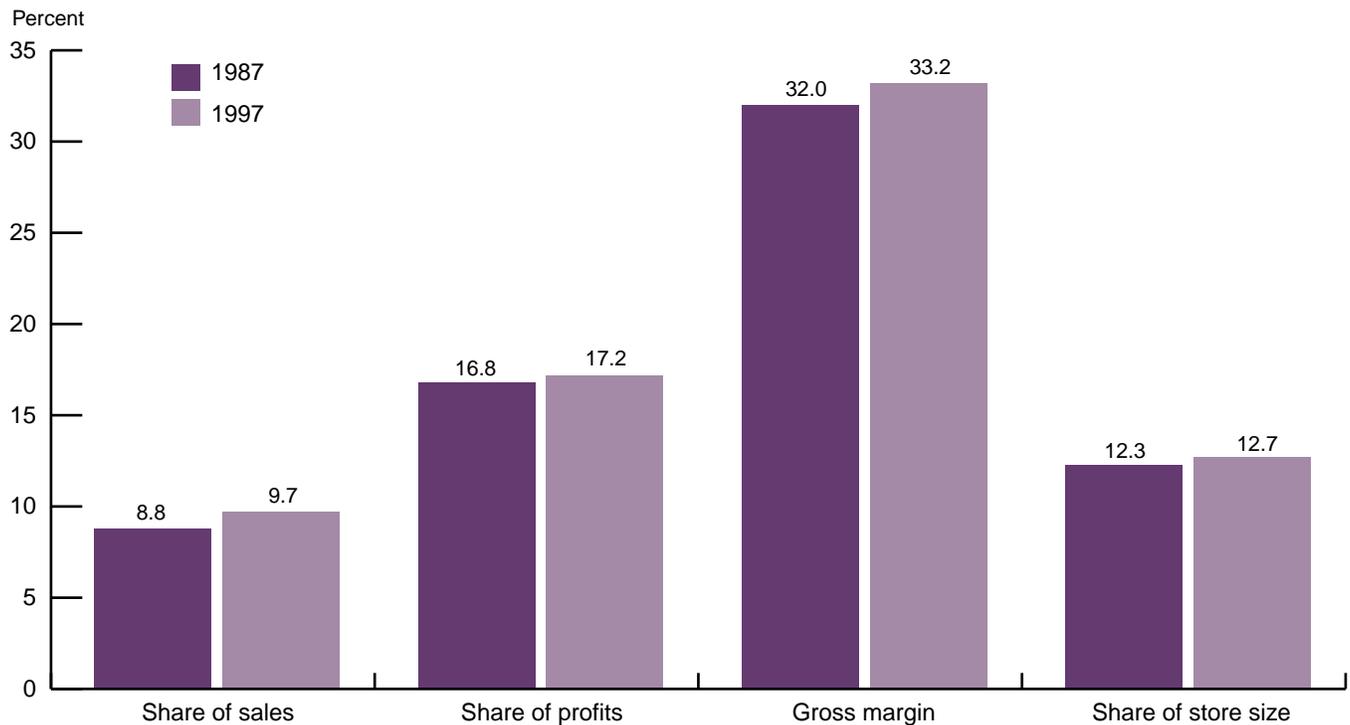
The number of supercenter stores has risen dramatically since their introduction in 1988. Underscoring the importance of fresh fruits and vegetables to supermarket and supercenter performance, the produce department accounts for a disproportionately greater share of overall profits, relative to its share of sales. In 1987, the department's share of profits was 16.8 percent—nearly twice its share of sales—and grew to 17.2 percent in 1997 (fig. 1).

Supermarkets are able to set a gross margin that adequately covers produce department expenses, though reports of gross margin vary somewhat. A survey of retail produce executives showed average gross margin, as percentage of sales, at 33.2 percent in 1997 (McLaughlin et al., 1998) (fig. 1). Produce gross margins are higher than the overall store margin, which averaged 26 percent in 1997 (FMI, 1998), but comparable to other perishable products such as fresh meat, seafood, and deli/prepared foods. Perishable food margins must account for greater costs due to high spoilage and waste (shrinkage) as well as the higher

Figure 1.

Performance of supermarket and supercenter produce departments

All measures of produce performance increased by 1997



Source: Census of Wholesale Trade, 1987 and 1997

labor costs associated with product preparation and more costly refrigerated display cases.

During the 1980's and 1990's, the produce department's size (square feet of floor area) has expanded at a slightly greater rate than that of the overall store. Between 1987 and 1997, the produce department increased from 4,817 to 5,140 square feet in floor area, an increase of 6.7 percent (Litwak, 1988 and 1998). Litwak also reported, in *Supermarket Business*, that the produce department covered 12.3 percent of the store, on average, in 1987; by 1997, the share had increased to 12.7 percent (fig. 1). This growth took place even as supermarkets were becoming larger to accommodate additional departments such as service meat and seafood, prepared foods, and deli items.

The number of stockkeeping units (SKU's) sold in the produce department in 1987 was 173; by 1997, it was 335 (Litwak, 1988 and 1998). This jump in variety was primarily to meet consumers' demands for added convenience, healthy diets, and gourmet and ethnic items. Despite its catering to convenience, the department actually increased the proportion of fresh versus nonfresh items it stocked. Fresh items accounted for

88.5 percent of total produce department SKU's in 1997, versus 83.8 percent in 1993.

Several new produce items—packaged salads, organic items, expanded ethnic foods, additions to branded produce, and newly packaged staples—have emerged since the 1980's to bring a new look to the produce department. Though many of these items had no reported sales in 1987, by 1997 demand had increased sufficiently that supermarket firms kept tabs. Packaged salads, for instance, constituted 9.7 percent of total department sales (McLaughlin et al., 1998). Organic fruits and vegetables, once considered suitable only for small-scale food cooperatives or specialty markets, accounted for 1.7 percent of produce department sales in 1997 (table 2).

Nationally branded produce reached 19 percent of department sales in 1997, compared with 7 percent of sales in 1987. Much of the increase in national brand sales is likely due to the introduction of new packaged and fresh-cut products, in contrast to earlier commodity branding such as Dole and Chiquita bananas and Sunkist oranges. Well-known brand names in canned and frozen vegetables have entered the fresh arena

Table 2—Produce department products

Product	1987	1997
	<i>Percent of produce sales</i>	
Packaged salads	--	9.7 ²
Organic	--	1.7 ²
Fresh-cut	--	5.2 ³
Nationally branded	7.2	18.9 ³
Private label	--	6.4 ³
Packaged, bagged, and tray-wrapped	35.0 ¹	26.2 ³

-- = No reported sales in 1987.

¹ Litwak (1988).

² McLaughlin et al. (1998).

³ Food Marketing Institute (1998).

with varying success. Dole, for instance, has become a market leader in packaged salads because the packaging allows for more consistent quality and sizes.

Shipper and packer labels such as Grimmway carrots or Andy Boy lettuce, though not generally recognized as consumer brands, are promoted to trade buyers.

Changing Produce Distribution and Market Channels

Because produce spoils quickly, the produce wholesaling system has evolved in order to move product

quickly and efficiently from the major production areas to the retail markets. A number of different, often competing industries form the produce distribution system that procures, packs, ships, warehouses, facilitates transactions between buyers and sellers, and distributes to local retailers and foodservice outlets.

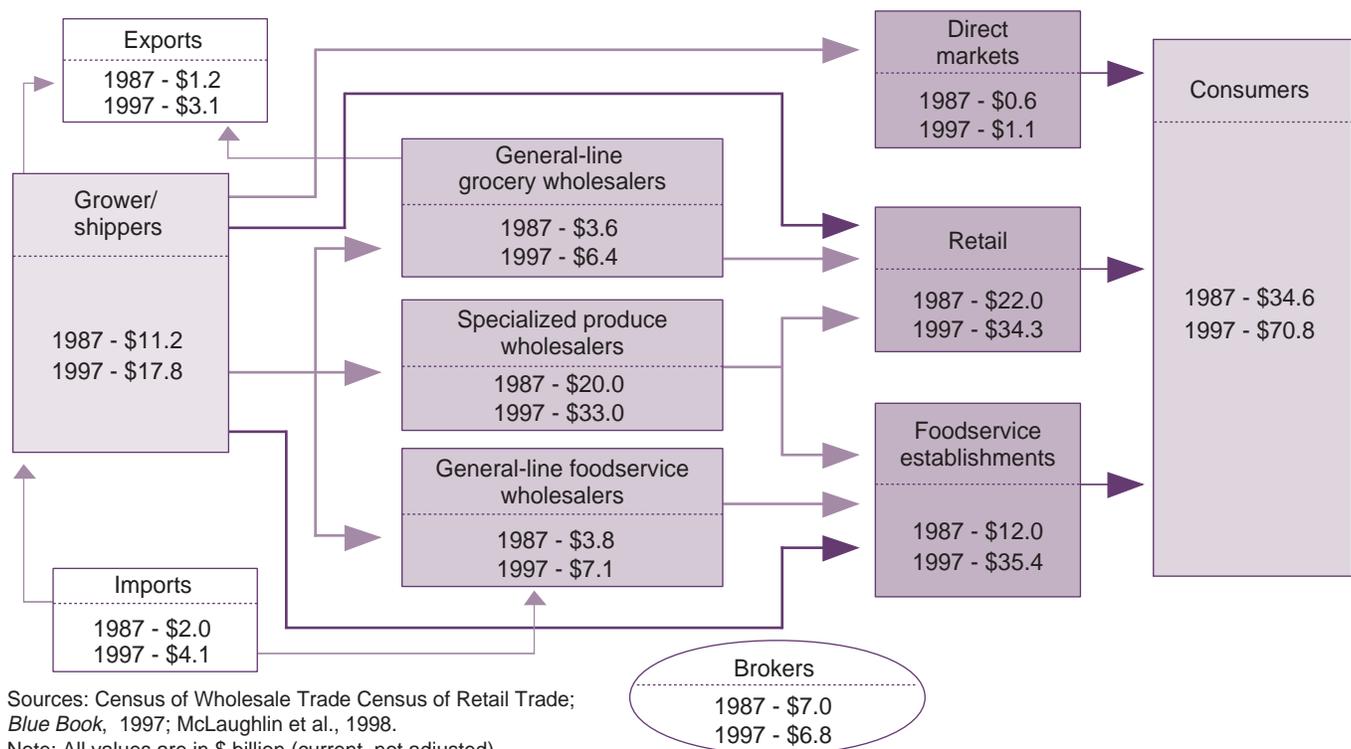
Figure 2 illustrates produce markets, the channels of distribution, and their sales at each stage of the vertical marketing system in 1987 and 1997, for the major industries: grower-shippers, wholesalers, retail stores, and foodservice operators. In addition, produce moved through export and import channels, through direct markets (which include farmstands, farmers' markets, and mail-order sales), and through intermediate brokers. Not all fresh fruits and vegetables move through each successive vertical sector, however. For example, some imported fruits and vegetables are shipped directly to wholesalers, bypassing U.S. grower-shippers altogether.

Grower-Shippers

After being harvested, fresh produce is handled and packed either by a shipper or by the grower. For instance, bulk lettuce is often washed and packaged in the field. Grapes are pre-cooled and shipped.

Figure 2.

Fresh fruit and vegetable marketing channels 1987 and 1997



Potatoes are stored, packed, shipped, and often repacked near the point of harvest. To estimate the value of fresh fruits and vegetables at the production level, these handling and packing costs are added to growing costs to derive the total value of fresh produce before it is shipped to market. Because the production of fresh produce is highly integrated with the harvesting, packing, and shipping systems, production values are estimated using the shipping point, or f.o.b. (free-on-board), values.

The value of U.S. production of fresh fruits and vegetables by grower-shippers reached \$16.8 billion in 1997, up from \$10.7 billion in 1987, a 57-percent increase (table 3). Fresh fruit production rose from \$6.0 billion to \$7.1 billion, while fresh vegetables jumped from \$4.7 billion to \$9.7 billion.

To arrive at the total value of grower-shipper shipments (sales) to the U.S. domestic food marketing system, we must account for imports and exports. Imports of fresh fruits and vegetables equaled \$4.1 billion in 1997, a 105-percent increase over 1987's total of \$2.0 billion (fig. 2). Both grower-shippers (\$2.6 billion) and merchant wholesalers (\$1.5 billion) took delivery of 1997's produce imports.

Exports by both grower-shippers (\$1.6 billion) and merchant wholesalers reached \$3.1 billion in 1997, up 158 percent over 1987. Thus, the net value of produce imports minus exports in 1997 by grower-shippers is \$1.0 billion, which, when added to domestic production of \$16.8 billion, gives total shipments to the U.S. distribution system of \$17.8 billion. One decade earlier, the total value of produce entering the U.S. distribution system from grower-shippers was \$11.2 billion.

Although shipments of both fruits and vegetables increased between 1987 and 1997, vegetable shipments jumped 102 percent, versus 19 percent for fruits. The top three vegetables shipped for fresh use were lettuce, tomatoes, and potatoes (USDA, 1999d). These accounted for 52.9 percent of total shipments in 1987, but for only 33.4 percent in 1997. This is partially due to the reporting of more vegetable items beginning in 1997.

Among fresh fruit shipments, those with the highest value in 1987 and 1997 were apples, oranges, and strawberries (USDA, 1999b). The leading fruits accounted for 48.4 percent of shipments in 1987 and 51.8 percent in 1997.

Grower-shippers serve a number of domestic produce customers, including wholesalers, self-distributing retailers, foodservice firms, and direct markets. The share of fresh vegetable purchases by wholesalers was estimated to vary from 35 to 55 percent in 1994, by retailers 20 to 40 percent, and by foodservice establishments 25 to 45 percent (Powers, 1994).

Direct Markets

Some fresh produce sales occur directly between the producer and consumer. Farm stands and stores, pick-your-own operations, roadside stands, farmers' markets, and mail-order sales are used by growers to market their produce. Farmers markets' have become increasingly important as a direct market for growers. According to USDA's Agricultural Marketing Service, the number of farmers' markets grew from about 100 in 1974 to 1,755 in 1994, and to 2,812 in 1998.

Table 3—Value of production and grower-shipper sales, 1987 and 1997

Product	1987				1997			
	Value of production ¹	Grower-shipper imports ²	Grower-shipper exports ²	Domestic sales	Value of production ¹	Grower-shipper imports ²	Grower-shipper exports ²	Domestic sales
	<i>\$ billion (current, not adjusted)</i>							
Fresh fruits	6.0	0.6	0.3	6.3	7.1	1.5	1.1	7.5
Fresh vegetables	4.7	0.3	0.1	4.9	9.7	1.1	0.5	10.3
Fresh fruits and vegetables	10.7	0.9	0.4	11.2	16.8	2.6	1.6	17.8

¹ Value of shipments of domestic production only based on fob prices.

² Estimates of total imports and exports to grower-shippers and wholesalers derived from *Blue Book*, *Red Book* and McLaughlin et al., 1998.

Sources: USDA, *Agricultural Prices*, various years; USDA, *Citrus Fruits, Final Estimates*, various years; USDA, *Foreign Agricultural Trade of the United States, Calendar Year Supplement*, various years; USDA, *Noncitrus Fruits, Final Estimates*, various years; USDA, *Vegetables and Specialties Situation and Outlook Yearbook*, 1999.

Direct sales benefit many smaller grower-shippers near population centers. These direct sales are usually on a cash basis and are therefore extremely difficult to estimate. Still, based on survey data (McLaughlin and Perosio, 1994), estimated sales through direct marketing channels reached \$1.1 billion in 1997, compared with \$0.6 billion in 1987 (fig. 2).

Wholesalers

Wholesalers buy produce from grower-shippers and importers. Some smaller wholesalers, such as jobbers, often buy produce from larger wholesalers. Most wholesalers are merchant wholesalers who take title to the product, which they handle. Brokers do not take ownership of the product but rather mediate on behalf of either a grower-shipper or a buyer of produce.

Wholesalers sold \$34.5 billion of produce in 1987; merchant wholesalers sold \$27.4 billion and brokers negotiated \$7.0 billion in sales (table 4, fig. 2). In 1997, sales reached an estimated \$53.3 billion, an increase of 64.7 percent. Merchant wholesalers increased sales by 69.5 percent over 1987, while broker sales dipped 1.6 percent.

General-line grocery wholesalers procure grocery products, both food and nonfood, for retailers that lack their own warehousing and store delivery services. For example, Supervalu (Eden Prairie, MN), the largest general-line grocery wholesaler in the United States, sells a complete line of products to 4,400 retail foodstores. These retailers are often individual store retailers or smaller retail chains that are too small to own and operate produce buying offices, warehouses,

and trucking fleets. General-line grocery wholesalers shipped \$6.4 billion worth of produce in 1997, up from \$3.6 billion in 1987.

In 1997, produce sales averaged 5 percent of total general-line grocery wholesaler sales. A number of these wholesalers also own and operate retail stores. In 1999, Supervalu owned 431 stores representing \$5 billion in retail sales and approximately 22 percent of the company's total sales (Hoover's Online, 1999).

General-line foodservice wholesalers serve restaurants, hospitals, schools, and hotels, and handle products specifically for foodservice use. Some of the largest foodservice wholesalers, like Sysco and Alliant, carry a broad range of products including paper supplies and equipment. Still, Sysco reports that produce accounts for 6 percent of its total sales. For all general-line foodservice wholesalers, produce sales reached \$7.1 billion in 1997 (fig. 3).

Specialized produce wholesalers are classified by the Census of Wholesale Trade as establishments primarily engaged in the wholesale distribution of fresh fruits and vegetables. These wholesalers procure and deliver to retail stores, foodservice operators, and repackers, who buy in bulk and pack or repack produce for resale to other retailers and wholesalers. For example, Standard Produce (Houston, TX) purchases and receives produce from growers and shippers and then sells to a number of retail and foodservice accounts. Standard now has division offices and warehouses in urban centers throughout the South and Southwest.

Specialized produce wholesalers also include truckers and jobbers who purchase produce from the large wholesalers to sell and distribute to smaller retailers and foodservice operators such as produce stores, specialty markets, small grocery stores, and restaurants that may not require a general-line wholesaler. Specialized produce wholesalers continue to supply the majority of produce to both retail stores and foodservice firms, accounting for \$33.0 billion in produce sales in 1997.

Brokers serve either buyers or sellers of produce by locating supplies and negotiating their sale. Brokers may negotiate sales between importers and grower-shippers or between grower-shippers and retailers or foodservice buyers. Although brokers still figure in

Table 4—Produce sales by wholesaler type, 1987 and 1997

Wholesaler type	1987	1997
	<i>\$ billion</i>	
All wholesale establishments selling fresh fruits and vegetables ¹	34.5	53.3 ²
Merchant wholesalers (total)	27.4	46.5 ²
General-line grocery ³	3.6	6.4
General-line foodservice ³	3.8	7.1
Specialized produce ³	20.0	33.0
Brokers	7.0	6.8 ²

¹ Numbers may not add to totals due to rounding error.

² Cornell estimates.

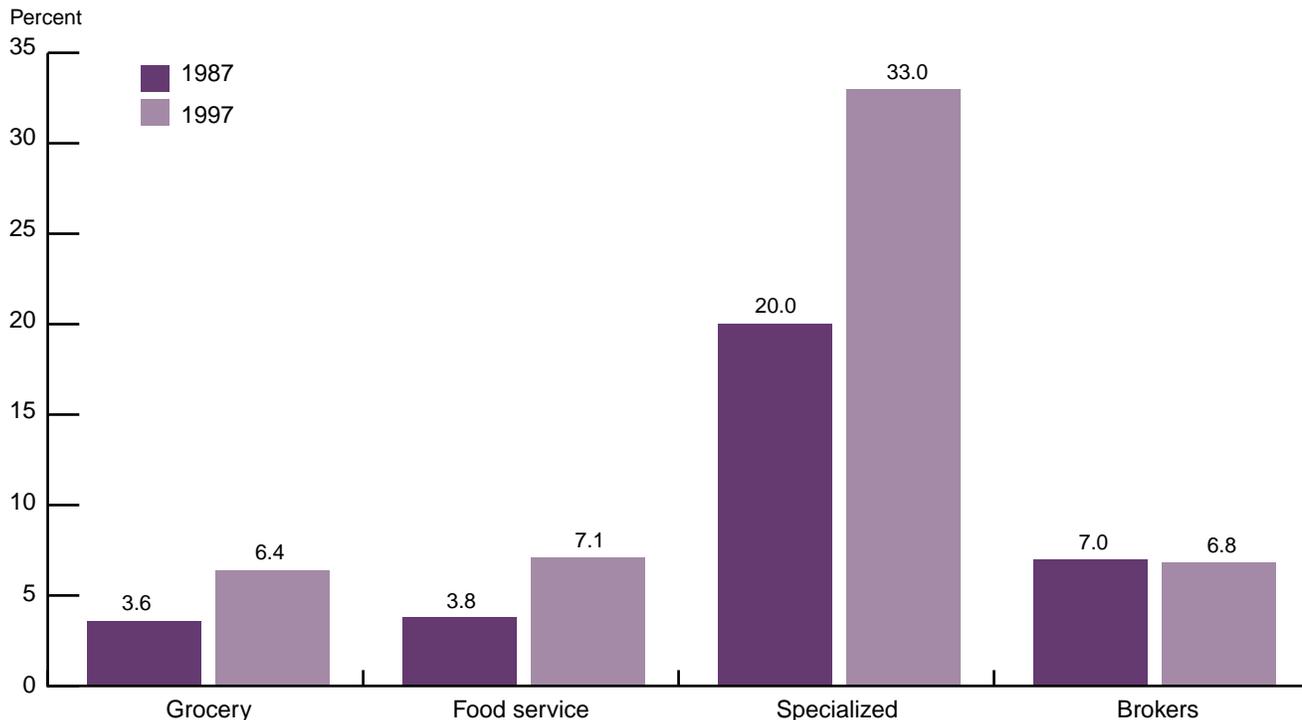
³ ERS estimates.

Source: Compiled from U.S. Census Bureau, various years.

Figure 3.

Wholesalers' sales by wholesaler type, 1987 and 1997

Specialized produce wholesalers have the largest share



Source: Census of Wholesale Trade, 1987 and 1997

the produce market channels, their numbers have dropped as has their share of sales.

Wholesalers' Customers

Wholesalers serve a variety of produce customers. However, as produce markets and market channels have evolved, the relative importance of those customers has changed in the decade since 1987. For example, while foodservice customers and exporters gained in importance, the share of sales to other wholesalers and retailers declined (fig. 4).

In 1987, 38.1 percent of all wholesaler produce sales went to retail stores. By 1997, this share had declined to 34.6 percent, reflecting the ascendance of large supermarket firms that buy produce directly from grower-shippers. Retail store executives have predicted that, by 2004, 51 percent of produce would be direct from grower-shippers (McLaughlin et al., 1999).

Conversely, the proportion of wholesaler sales to restaurant and institutional customers jumped from 8.4 percent in 1987 to 21.2 percent in 1997. The share going to the export market also increased, from 4.1 percent to 5.6 percent. A proportionate dip in share of

sales to other wholesalers (from 46.5 percent to 33.0 percent) reflects the decline in the relative market share of small produce wholesalers, who tend to purchase produce from larger wholesalers rather than direct from grower-shippers.

The increase in export and import activity has provided additional marketing opportunities for the wholesaler. It is still difficult for chains to source produce overseas, so imports and exports enter and exit the system at the grower-shipper and wholesaler level. According to some of the larger wholesalers, imports account for about a third of their inventory at any one point in time (McLaughlin et al., 1997).

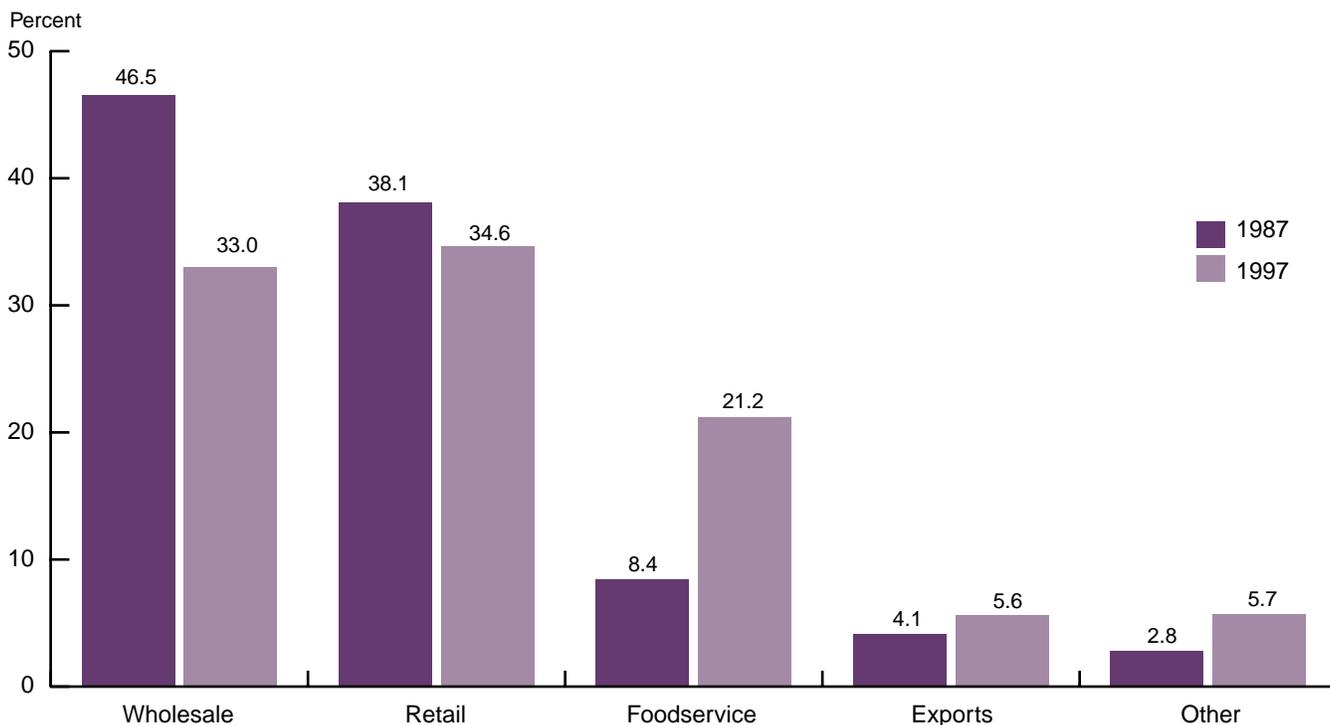
The continued growth in nontraditional produce such as organic, ethnic/gourmet, and specialty items has also been a boon to wholesalers. These high-margin products are difficult for supermarket chains to buy directly from grower-shippers as individual chains do not have the volume to purchase or organize trailer loads of these products.

The other significant opportunity for some wholesalers is the increased foodservice trade. Foodservice operators require frequent and small deliveries of produce

Figure 4.

Wholesaler sales by customer type

Sales to wholesalers and retailers declined in 1997



Source: Census of Wholesale Trade, 1987 and 1997

due to its perishability. Therefore, specialized produce wholesalers are often better able to provide this service than general-line wholesalers.

Retail Stores

Produce sales through retail stores reached \$34.3 billion in 1997, compared with \$22.0 billion in 1987 (fig. 2). Foodstores accounted for 96.2 percent of all retail produce sales in 1997, while other retail stores—including supercenters and warehouse club stores—made up the remaining 3.8 percent (table 5). *The Census of Retail Trade* reports on grocery stores—including supermarkets, other general-line grocery stores, convenience stores, and delicatessens—that make up the bulk of retail produce sales. Specialized foodstores include produce markets, butcher shops, bakeries, dairies, and health food stores. Despite their greater number, these specialized foodstores accounted for only \$1.8 billion or 5.3 percent of retail produce sales in 1997.

In 1987, when warehouse clubs like Sam’s were just emerging, they carried little produce or other perishable food, instead discounting bulk, dry groceries. Nor had

the mass merchandise retailers like Wal-Mart built their supercenter formats. Supermarkets and other general-line grocery stores dominated food sales and sold 91.8 percent of all produce sold through retail outlets (table 5). Remaining sales were through convenience stores (0.9 percent), specialized produce stores (6.8 percent), and “other” foodstores (0.5 percent).

By 1997, however, warehouse clubs had introduced more perishables, including produce, to their mix of products. Warehouse club stores sold 1.7 percent of retail produce, while supercenters accounted for another 2.0 percent. Although foodstore sales of produce grew as well, sales growth through the nontraditional channels outpaced that of traditional foodstores, increasing their proportion of sales to 3.8 percent. These nontraditional outlets have become the fastest growing retail segment in produce, as the number of new warehouse club and supercenter stores continues to rise.

Foodservice

Foodservice establishments—from fast food to fine dining to college cafeterias—generated produce sales

Table 5—Produce sales from retail stores, 1987 and 1997

Type	1987	1997	1987	1997 ¹
	\$ billion		Percent of total produce sales	
Foodstores	22.0	33.0	100.0	96.2
Grocery stores	20.4	31.3	92.7	91.3
Supermarkets ²	19.6	30.2	89.1	88.0
Other general-line grocery stores ²	0.6	0.8	2.7	2.3
Convenience stores ³	0.2	0.3	0.9	0.9
Specialized produce stores	1.5	1.7	6.8	5.0
Other specialized foodstores	0.1	0.1	0.5	0.3
Other retail stores	—	1.3	—	3.8
Warehouse clubs ²	—	0.6	—	1.7
Supercenters ²	—	0.7	—	2.0
Total produce sales ⁴	22.0	34.3	100.0	100.0

— = less than \$25 million in (or 0.1 percent of) sales.

¹ Estimated by applying CPI for fresh produce to 1992 census figures.

² Estimated using percentage shares from Cornell University; company annual reports; *Progressive Grocer*, April 1987 and 1997; ERS, *Food Marketing Review*, 1994-95.

³ Based on special tabulation by U.S. Census Bureau.

⁴ Numbers may not add to totals due to rounding error.

of \$35.4 billion in 1997 (fig. 2). Because of the tremendous diversity of foodservice operations, averages are deceptive. But with ever more food consumed away from home, it is necessary to understand the importance of produce sales through this channel.

Consumers' busy lifestyles, more women in the workforce, and rising household incomes have resulted in less spent on preparing food at home and more spent on food away from home. In 1997, U.S. consumers spent \$321.4 billion on food consumed away from home, 61.6 percent above the \$198.9 billion spent in 1987 (USDA, 1999c).

When produce is purchased from foodservice, it is almost always purchased as part of a complete meal, with individual items cut, primped, and prepared. In addition, typical margins in foodservice are much higher than in foodstores, due to the larger services component of the meal.

Placing a value on that portion of the meal or dish derived from produce is therefore extremely difficult. R. Brian How (1988) estimated foodservice sales of fresh fruits and vegetables in 1987 to be \$12.0 billion, with an initial value of \$4.6 billion for cost of produce. McLaughlin and others (1997) reported that 11 percent of the total cost of food purchased by the restaurant industry was for produce. Applying this percentage to total foodservice sales in 1997 results in produce sales of \$35.4 billion. The wholesale value of this produce,

by How's formula, is \$10.6 billion, an increase of 130 percent since 1987.

Consumer Sales

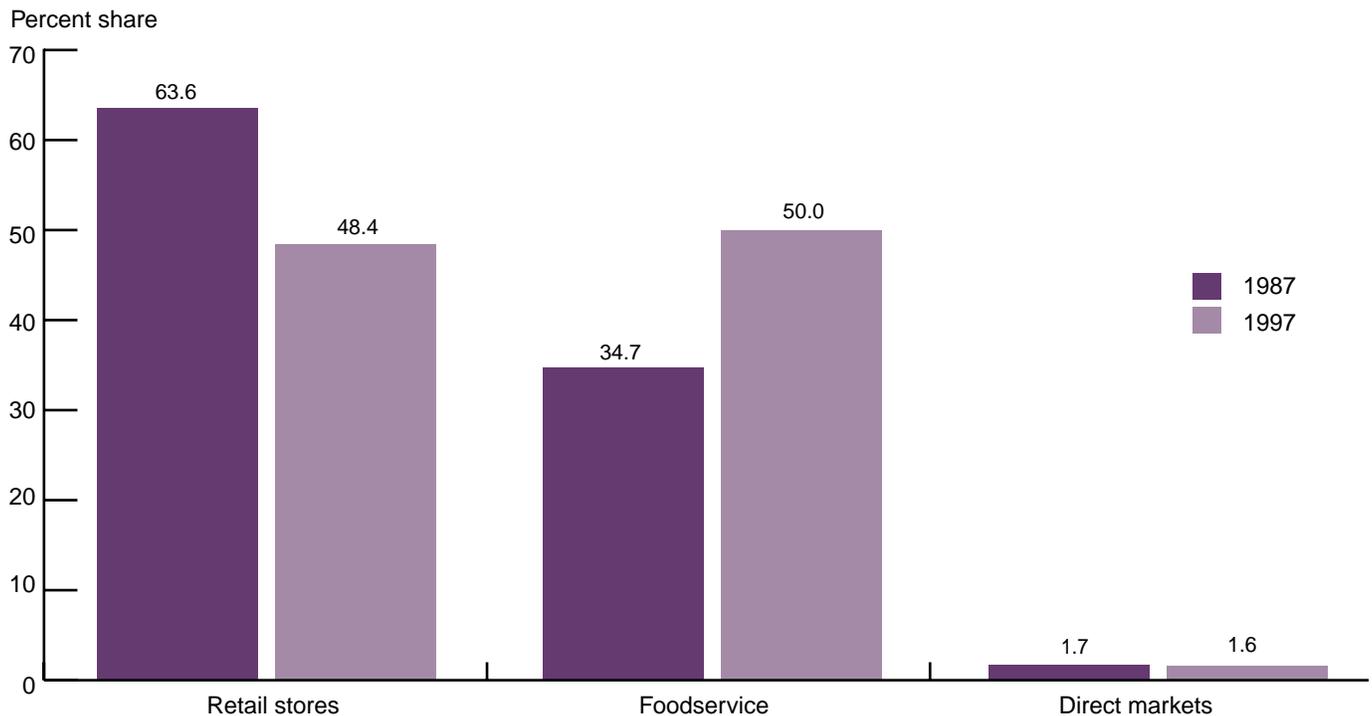
All told, produce sales to consumers through retail stores, foodservice, and direct markets reached \$70.8 billion in 1997, up from \$34.6 billion in 1987 (fig. 2). Retail stores' share of total produce sales to consumers has fallen dramatically, from 63.6 percent in 1987 to 48.4 percent in 1997 (fig. 5). The foodservice share, meanwhile, rose from 34.7 percent to 50.0 percent. The share of consumer sales through grower-direct markets remained nearly constant at 1.6 percent.

Changing Structure of Produce Buyers—Food Retailing and Wholesaling

Since 1987, mergers and acquisitions among food retailers and wholesalers have contributed to the rising share of sales accounted for by the largest 4, 8, and 20 firms. As the leading retailers and wholesalers have grown, they have become more important as produce buyers. As such, has their increased buying power affected prices paid by consumers or those received by grower-shippers? Are market and trade practices likely to change as a result of wholesaler and retailer consolidation? And what forces are motivating firms to undertake large mergers and acquisitions? Although

Figure 5.

Consumer produce sales share, by major segment: 1987 and 1997
Foodservice had the largest share of produce sales to consumers in 1997



Source: Census of Wholesale Trade, 1987 and 1997

definitive answers are not currently available, we will discuss the extent of structural change and its likely impacts on produce suppliers and consumers. A subsequent report will make use of data collected from produce suppliers, wholesalers, and retailers to better assess the impacts of structural change.

Consolidation in Food Retailing

From 1987 to 1998, the largest four food retailers' share of grocery store sales rose from 17.1 percent to 26.8 percent (fig. 6). The 8 largest retailers' share increased from 26.0 percent to 37.3 percent, while the 20 largest retailers' share reached 48.2 percent of total grocery store sales in 1998, compared with 36.5 percent in 1987. Most of these gains occurred after 1996, when a number of consolidations among the 20 largest retailers were initiated.

But because food retailers compete within smaller geographic areas, such as cities and towns, national sales shares are less meaningful than for food processing, whose largest firms typically serve national markets. Nevertheless, changes in national shares of the largest 4, 8, and 20 food retailers indicate the net effect of

internal growth, firm consolidation, and divestitures among the largest food retailers.

Recent Mergers and Acquisitions in Grocery Retailing

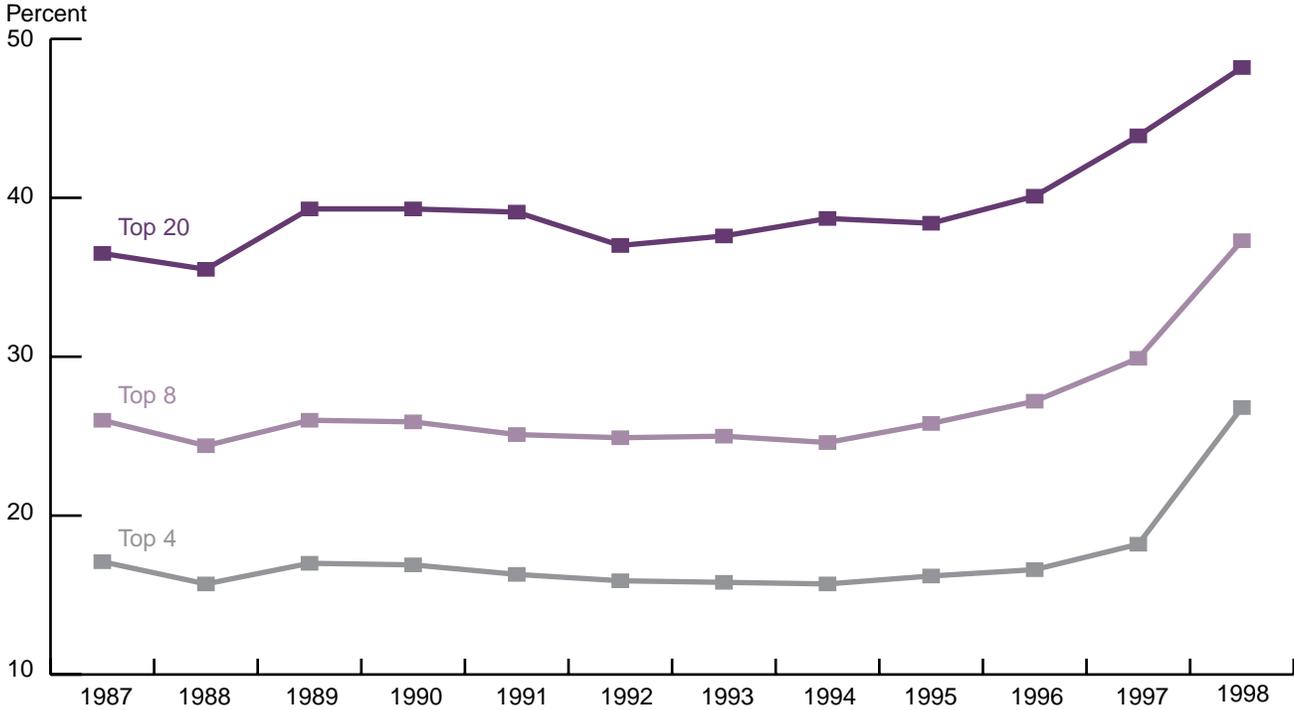
Consolidation in food retailing has increased significantly since 1996 (table 6). Successive acquisitions by Yucaipa/Fred Meyer in the Pacific region, by Ahold in the Northeast, and by Safeway in multiple regions have rapidly increased their size and contributed to higher national concentration levels.

Food retailers announced two mergers in 1998 involving the largest ever combined sales. Kroger, the largest retailer with sales of \$26 billion in 1997, merged with Yucaipa/Fred Meyer to form a multiregional supermarket operator with \$43 billion in combined sales. By 1999, the combined firm operated 2,575 supermarkets in 31 States, with convenience stores in an additional 6 States. Also in 1998, fourth-ranked Albertson's initiated its merger with second-ranked American Stores, resulting in 1999 combined sales of \$34 billion, from 1,652 supermarkets in 38 States.

Figure 6.

Grocery store sales of the largest 4, 8, and 20 food retailers, 1987-98

The largest 20 firms captured 48 percent of total grocery store sales in 1998



Source: Census of Wholesale Trade, 1987 and 1997

As a result of these mergers and acquisitions, the largest food retailers such as Kroger and Safeway have maintained their ranking while growing considerably in size. Other retailers, including Albertson’s and Ahold, USA (operator of six supermarket chains), have moved up in ranking through consolidation (table 7).

What’s Motivating Consolidation?

Food retailers seek growth through consolidation for many reasons. Low inflation rates in the general economy have limited the ability of retailers to raise grocery prices and margins. Over 1987-97, inflation-adjusted grocery store sales fell 0.3 percent annually. Despite rising incomes, consumer expenditures for food at home continue to fall. Over 1987-97, the share of disposable income devoted to food at home fell from 7.4 percent to 6.6 percent. Meanwhile, consumers bought more prepared foods and meals away from home, indicating a preference for more leisure time. Of total spending for all food, almost 45 percent went to the foodservice sector in 1997, compared with 43.9 percent in 1987 and 38.2 percent in 1977. The growth in foodservice spending would have been

greater had sales of similar prepared foods sold in foodstores been included.

Discount mass-merchandisers (Wal-Mart, K-mart, and Target) and warehouse club stores (Costco, Sam’s (a division of Wal-Mart), and BJ’s) are additional sources of competition for food retailers. They increased their retail food sales by almost 75 percent since 1992, to reach \$65 billion in 1997. Over the same period, food sales by traditional retailers grew 15 percent, to \$308.8 billion.

Stable food prices, slowing growth in at-home food spending, the increasing share of the food dollar spent in restaurants and other foodservice outlets, and the growth of food sales by nontraditional retailers have heightened competition among grocery retailers. As a result, larger food retailers have opted to merge, citing cost savings and efficiency gains.

Supply Chain Management Practices

Food retailers often cite the potential for lower operating, procurement, marketing, and distribution costs as motivating mergers and acquisitions (*Wall Street*

Table 6—Recent mergers and acquisitions in grocery retailing

Acquiring and acquired retailer	Number of stores acquired	Sales of acquired stores \$ million
Pacific:		
Safeway - Vons, 1997	325	5,400
Yucaipa - Fred Meyer, 1997	101	3,124
Quality Foods Centers-Hughes, 1997	57	1,250
Yucaipa - Smiths Food & Drug, 1997	150	3,000
Yucaipa - Quality Foods Centers, 1997	203	1,200
Albertson's - Lucky (American Stores), 1998	448	8,295 ¹
Midwestern:		
Giant Eagle - Riser Foods, 1997	56	4,000 ²
Lund's - Byerly's, 1997	11	65
Albertson's - Jewel/Osco (American Stores), 1998	610	3,166 ¹
Northeastern:		
Ahold - Stop & Shop, 1996	189	4,400
Ahold - Giant Food, Inc., 1998	176	4,200
Albertson's - Acme (American Stores), 1998	183	3,388 ¹
Food Lion - Hannaford, 1999	150	3,400
Southeastern:		
Food Lion - Kash & Karry (Florida), 1997	100	1,000
Jitney Jungle - Delchamps, 1997	118	1,300
Kohlberg & Co. - Schwegmann's, 1997	26	115
Inter-regional:		
Safeway - Dominicks, 1998	112	2,300
Kroger - Yucaipa/Fred Meyer, 1998	800	15,000
Safeway - Randalls, 1999	116	2,500

¹ Total sales of American Stores (Lucky, Jewel-Osco, and Acme); includes sales of 773 drugstores.

² Includes wholesale sales to 586 independent grocery retailers. Sources: Company annual reports, *Wall Street Journal* (various issues), *Supermarket News* (various issues), and *Food Institute Weekly Digest* (various issues).

Journal, The Packer, company press releases). Taken together, coordinated actions that attempt to realize efficiency gains through procurement and distribution constitute supply chain management practices.

To lower operating costs, retailers are centralizing management and control at headquarters. New information technologies—such as companywide satellite and internet communication systems, and store check-out scanner data—enable centralization of many management activities that previously fell to store-level managers. Timely and detailed information at headquarters also allows for effective control of operations over wide geographic areas.

Table 7—Twenty largest food retailer sales, 1999¹

Rank/Retailer	Number of grocery stores	U.S. grocery store sales ² \$ billion
1. Kroger Co./Fred Meyer	2,200	43.1
2. Albertson's/American Stores	1,796	34.0
3. Safeway/Vons/Randall's	1,435	29.0
4. Ahold U.S.A.	1,294	23.4
5. Wal-Mart Supercenters ³	721	15.7
6. Winn-Dixie Stores	1,178	13.9
7. Food Lion/Hannaford Bros.	1,359	13.6
8. Publix Super Markets	587	12.1
9. A & P	908	10.5
10. Meijer Inc.	117	8.6
11. H.E. Butt Grocery Co.	257	6.9
12. Supervalu	345	5.1
13. Shaw's Supermarkets	179	4.2
14. Giant Eagle	200	4.0
15. Hy-Vee	247	3.2
16. Penn Traffic Co.	241	2.8
17. Raley's	121	2.5
18. Wegmans Food Markets	57	2.4
19. Aldi	475	2.4
20. Grand Union	221	2.3

¹ Post-merger estimated sales.

² Includes supermarket, convenience store, and other grocery store sales.

³ Sales exclude nongrocery store items.

Sources: Company annual reports, *Wall Street Journal* (various issues), *Supermarket News* (various issues), and *Food Institute Weekly Digest* (various issues).

Retailers have also cited greater efficiencies in the procurement of retail products, including produce (*Wall Street Journal, The Packer*, and company press releases). By purchasing more volume from suppliers and distributors, retailers hope to lower the per-unit cost of goods by negotiating lower wholesale prices. In return, retailers are able to offer exclusive procurement agreements such as partnering, long-term agreements, and other strategic alliances that can benefit suppliers and distributors. Retailers gain a more reliable source of supply, and over time can work to develop a higher quality and more uniform product.

Retailers have also cited reduced marketing and selling costs as a result of strategic alliances with designated suppliers. Suppliers and distributors are being asked to help retailers with the design and provision of category management, instore promotion and point-of-purchase materials, sales event planning and advertising, and special packaging. Retailers may also provide detailed sales data to suppliers and distributors in order to better evaluate promotions, seasonal differences, price responses, and other characteristics of

consumer demand. By working closely with their suppliers and distributors, retailers can reduce marketing costs while improving the effectiveness of store-level marketing activities.

Consolidating retailers have also cited potential cost savings through streamlining of product distribution functions (*Wall Street Journal*, *The Packer*, company press releases). Large retailers typically are self-distributing; they perform wholesaling activities such as purchasing goods from suppliers, arranging for shipment to distribution warehouses, and replenishing store-level inventory. Supply chain management practices such as continuous inventory replenishment, the use of cross-docking facilities, direct store delivery by suppliers, and selective use of specialty wholesalers can reduce the need for large distribution centers and their associated costs. The number of distribution centers can be reduced, while remaining warehouses can be used more intensively.

Consolidation in Food Wholesaling

Consolidation is also occurring rapidly among merchant food wholesalers—especially among the general-line grocery wholesalers primarily serving foodstores and supermarkets, and the general-line foodservice wholesalers primarily serving restaurants and institutional customers such as schools and hospitals.

Acquisitions and mergers continue to reshuffle the ranks of the leading companies.

Supervalu is the largest grocery wholesaler, with 1999 sales of \$22 billion and serving some 4,400 stores from over 34 distribution centers (table 8). In addition to serving independents and smaller chains, Supervalu owns and operates 431 corporate stores. In 1992, Supervalu acquired Wetterau, then the third largest wholesaler, for \$1.1 billion. Supervalu's other acquisitions include Sweet Life Foods in 1994, 58 retail foodstores in 1998, and, in 1999, Richfood Holdings. Richfood—upon purchase the sixth largest wholesaler with sales of \$3.2 billion—had been active in acquiring other wholesalers and retailers. It more than doubled its sales from 1994 to 1999 by internal growth and by acquiring the supermarket chains Farm Fresh, Inc., and Shoppers Food Warehouse.

Fleming Cos., the largest wholesaler until 1996, acquired Scrivner in 1994 for \$6 billion. Fleming's sales peaked at that time at \$19.3 billion, and have since declined to \$15.1 billion. Fleming has 34 distribution centers, and is reducing its buying centers from 57 to 14. It serves over 5,500 grocery stores, and owns 279 corporate foodstores.

C & S Wholesale has become the third largest wholesaler by aggressively seeking to serve medium to large

Table 8—Largest U.S. general-line grocery wholesalers, 1999

General-line wholesaler	Stores owned	Stores served	U.S. sales \$ billion
1. Supervalu/Richfood	431	4,400	22.0
2. Fleming	279	5,542	15.1
3. C & S Wholesale	0	630	6.1
4. Wakefern Food Corp.	22	195	5.2
5. Nash Finch Co.	108	1,832	4.1
6. Associated Wholesale Grocers	37	903	3.2
7. Certified Grocers of Calif./United Grocers	0	3,410	3.1
8. Roundy's	19	765	2.6
9. Spartan Stores	44	420	2.6
10. Smart & Final	216	216	1.7
11. Grocers Supply Co.	4	1,425	1.7
12. Alex Lee Inc.	97	NA	1.5
13. Purity Wholesale Grocers	0	NA	1.4
14. White Rose Foods	0	325	1.3
15. Associated Grocers, Inc.	0	300	1.1
16. Merchants Distributors, Inc.	0	350	1.0
17. Associated Food Stores	19	na	0.9
18. Holiday Companies	0	295	0.85
19. Associated Wholesalers, Inc.	10	450	0.81
20. Affiliated Foods (NE)/(KS)	0	870	0.75

Source: Company annual reports.

chains such as Grand Union. Nash Finch has been actively acquiring both retail stores and several regional wholesalers: Military Distributors of Virginia in 1995, Super Food Services and T.J. Morris in 1996, and United-A.G. Cooperative in 1997. And in 1999, two large west coast firms—Certified Grocers of California (sales of \$1.8 billion) and United Grocers (Oregon, \$1.2 billion)—merged to form the seventh largest grocery wholesaler.

Foodservice Wholesalers

Foodservice wholesalers completed 26 mergers and acquisitions in 1997. Still, the foodservice distribution industry remains relatively fragmented, with the top 50 firms accounting for 28.1 percent of total industry sales in 1997. The top 10 wholesalers accounted for 25.3 percent of the \$147 billion in total industry sales in 1998, while the top 4 firms had a 21-percent share.

Sysco Corporation is by far the largest foodservice wholesaler, with sales of \$16.2 billion in 1998, up from \$14.8 billion in 1997 (table 9). While Sysco distributes a full line of food and nonfood products, fresh produce has accounted for 6 percent of its sales over

Table 9—Largest general-line foodservice wholesalers, 1998

Firms	Sales \$ billion
1. Sysco Corp.	16.2
2. Alliant Foodservice, Inc. (formerly Kraft Foodservice)	6.1
3. U.S. Foodservice (formerly JP Foodservice, Inc.)	5.8
4. PYA/Monarch, Inc.	2.7
5. Gordon Food Service, Inc.	1.8
6. Performance Food Group	1.6
7. Food Services of America	1.1
8. Shamrock Foods Co.	0.8
9. Reinhart Food Service	0.6
10. Ben E. Keith Foods	0.4
11. Maines Paper & Food Service	0.4
12. U Company	0.3
13. Clark Foodservice, Inc.	0.3
14. Quality Foods, Inc.	0.3
15. Metropolitan Provisions	0.3
16. Mutual Distributors, Inc.	0.3
17. Conco Food Service	0.3
18. Henry Lee Co.	0.2
19. Institutional Distributors	0.2
20. Labatt Food Service	0.2

Source: *Institutional Distribution*, March 1999, and company annual reports

1997-99. Thus, in 1998 alone, fresh produce accounted for nearly \$1 billion worth of Sysco's sales. Alliant Foodservice, formerly known as Kraft Foodservice, acquired five foodservice distributors during 1997-98. Its sales increased \$900 million in 1998 to \$6.1 billion. In 1995, the third largest wholesaler (Rykoff-Sexton) merged with the fourth largest wholesaler (U.S. Foodservice) under the U.S. Foodservice name.

Impact on Consumers

Although recent mergers and acquisitions of large retailers have increased national concentration, the extent to which they occur in the same geographic region has been limited. As a result, their impact on local market competition—cities and towns—has varied considerably.

Following merger guidelines and other criteria, antitrust agencies (either Federal Trade Commission or Department of Justice) have required divestiture of stores in overlapping markets that would otherwise have the effect of raising market concentration or reducing competition. The FTC consent agreement for the Albertson's - American Stores merger required the divestiture of 104 Albertson's supermarkets and 40 American Stores supermarkets operating in 57 cities and towns common to both retailers. The sale of these stores provided new opportunities for smaller competitors to enter markets that they otherwise would not have attempted. The divestiture included 31 stores sold to a food wholesaler in southern California that intends to transfer ownership to independent operators, subject to FTC approval.

In contrast, the merger of Kroger and Yucaipa/Fred Meyer resulted in very few divestitures, due to the minimal number of overlapping local markets involved. Similar standards and requirements were imposed by the FTC to preserve levels of competition for those stores in cities and towns common to both retailers.

Food prices are not likely to rise as a result of the recent consolidations among retailers, all else equal, provided that antitrust agencies remain vigilant against local market power and elevated concentration levels. In fact, resulting cost efficiencies may ultimately benefit consumers.

In the 1980's, new store formats were introduced to address the needs of specific consumer segments.

Warehouse stores served economy-minded shoppers, while organic and natural foods supermarkets targeted less price-conscious but health-oriented consumers. Mass-merchandise retailers expanded their array of grocery products, which begat the supercenter store—a supermarket within a larger general merchandise store. Warehouse club stores also expanded their grocery and perishable food offerings.

To address the needs of time-pressured shoppers, retailers introduced salad bars and prepared foods. The produce department now features year-round varieties, pre-cut produce, and more packaged and branded products offering higher quality. And with the advent of the Internet in the mid-1990's, home shopping has been introduced by many food retailers and third-party service providers.

These developments show food retailers as responsive to changing consumer tastes and preferences, despite the often higher costs associated with greater variety, additional services, and new store formats. These trends and conditions will likely persist, and motivate grocery retailers to offset the higher costs of serving more sophisticated consumers by seeking efficiency gains.

Impact on Produce Suppliers

Supply chain management practices enable consolidating firms to reap cost savings in store operations, procurement of retail goods, marketing activities, and product distribution. These new approaches are likely to cause profound changes among produce suppliers, especially since very large and consolidating retailers account for a sizeable share of sales by produce grower-shippers.

Although the economic effect of the recent mergers on produce has not yet been determined, some fear that competition will be eroded. Grower-shippers may face fewer but larger buyers of their produce as consolidated food retailers reduce the number of buying offices and combine orders into larger volumes. Produce suppliers have also cited new marketing and trade promotion practices, such as slotting allowances and fees, as evidence that produce buyers may enjoy an unfair advantage in bargaining with suppliers.

Produce suppliers will be challenged to meet the needs of food wholesalers and retailers that adopt supply chain management practices. Many smaller

grower-shippers may form joint ventures, cooperatives, or other alliances to better serve large retailers. Other produce suppliers may seek niche markets for a limited range of produce offerings—such as specialty fruits and vegetables or organically grown products—in order to meet the procurement needs of all sizes of retailers.

Conclusions

Consumers more than doubled their purchases of fresh fruits and vegetables between 1987 and 1997, responding to increased evidence of their importance to better health and nutrition. Promotion campaigns, such as USDA's Food Guide Pyramid and the 5-A-Day For Better Health program, improved produce quality, increased variety, and year-round availability have also boosted consumption of fresh fruits and vegetables. Consumption of fresh fruits and vegetables increased by 12.3 percent over 1987-97, to reach 319 pounds per capita.

Technology has improved efficiencies in storage and handling of produce. New and more varied products reflect the growing importance of convenience, as consumers strive to reduce at-home time spent in meal preparation. Packaged salads and pre-cut fruits and vegetables are occupying more shelf space as they continue to gain acceptance by consumers. Restaurants, fast-food outlets, and institutional food-service operators are seeking to reduce labor costs by buying prepared, trimmed, and cut produce that is ready to use.

Consumer choice in supermarket produce has expanded as well. The number of stockkeeping units (individual produce items) increased by 94 percent between 1987 and 1997—reflecting consumers' demand for convenience, changing tastes, and increasing ethnic diversity.

As a result of these developments, produce markets and market channels have evolved. Grower-shippers have increased both exports and imports of produce. Shipments to merchant wholesalers have declined as shipments to self-distributing retailers have increased. Merchant wholesalers are supplying foodservice customers and exporters more, other wholesalers and retailers less. This decline in retailers' share of wholesalers' produce sales reflects, in part, the increasing importance of large supermarket firms that buy pro-

duce directly from grower-shippers. Although traditional foodstore retailers—including supermarkets, convenience stores, and specialized foodstores—remained the most important outlet for retail produce sales, the importance of mass-merchandise stores' produce sales, primarily through supercenters and warehouse club stores, is growing.

The rising share of food spending devoted to prepared food boosted foodservice sales 61.6 percent between 1987 and 1997. As a result, foodservice produce sales (\$35.4 billion) eclipsed retail store sales (\$34.3 billion) in 1997. Over the decade, the share of produce sales by retail stores declined—from 64 percent to 48 percent. Meanwhile, foodservice establishments accounted for 50 percent of the total in 1997, compared with 35 percent in 1987. Total produce sales to consumers—\$70.8 billion in 1997—included \$1.1 billion in grower-direct sales.

While consumer demand for produce shifts and grows, wholesalers and retailers are consolidating and restructuring in response. The potential for new technology to extend economies of size to increasingly larger firms has likely contributed to recent large mergers and acquisitions. These new entities have become increasingly important produce buyers as a result. Concurrently, new marketing and trade practices—such as electronic data interchange and allowances for retail shelf space—have developed between buyers and sellers, and have raised concerns about fair competition and practices within produce markets.

To address these fairness concerns, more detailed information is needed. The number and size distribution of produce grower-shippers would allow for an assessment of their structure relative to that of wholesalers/retail buyers. Also needed are data to determine the relative importance of grower-shipper customers, such as the share of shipments to self-distributing chains relative to grocery wholesalers. At the firm level, information about the degree of specialization could indicate the structure of grower-shippers by commodity type.

The growing share of produce bought by foodservice establishments (since 1987) has impacts on wholesalers and grower-shippers alike. Although the foodservice industry is highly fragmented overall, a few fast-food, multi-establishment firms are likely to benefit from the same large-volume purchasing as many grocery food wholesalers and retailers.

The use and prevalence of various fees, allowances, and incentives by produce buyers and sellers need to be documented and assessed. To what extent are they pro- or anti-competitive? Does their use vary depending on the disparities in size between buyers and sellers, indicating the potential for market power? Also, do these market and trade practices vary by class of produce buyer, such as grocery wholesaler or foodservice firm? Given differences in the characteristics of produce commodities (storability, frequency of harvest, branding, or value-added processing), how do trade practices vary? It is also important to learn whether fees, allowances, and incentives bear some relationship to actual costs incurred—for example, by a retailer that incurs stocking costs and/or assumes some sales risk in order to offer a product. Or rather, do such payments represent additional profits without any necessary commitment to the supplier?

This report depicts the structural changes that occurred over 1987-97. The effects of those structural changes on producers and consumers are the subject of a subsequent report on marketing and trade practices, which will use firm-level data collected from produce market participants. These findings about the impacts of structural change on produce suppliers and consumers will inform industry participants, researchers, and policymakers.

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