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Number 490

Structure and Performance of Grocery Products Brokers

Thomas H. Stafford
Gerald E. Grinnell

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Sodium: Why the Concern?

STRUCTURE AND PERFORMANCE OF GROCERY PRODUCTS BROKERS, by Thomas H. Stafford and Gerald E. Grinnell. National Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 490.

ABSTRACT

The grocery products brokerage industry is generally competitive. Concentration is low in segments of the industry that primarily sell in local markets and high for brokers who sell nationally. Entry into the industry is not restricted and other types of wholesalers account for a large share of sales in the more concentrated industry segments. Brokers have been losing business to manufacturers' sales offices, and this trend could continue. Operating expenses and commission rates, which are highly correlated, vary with the type of products handled and establishment size. Large operations have the lowest rates, on average.

Key words: Brokers, Food brokers, Grocery products, Wholesalers, Wholesale trade, Economies of size

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- Profits of grocery products brokers averaged 0.3 percent of sales in 1972 (more recent data are not available). Medium-size operations were the most profitable.
- Existing market forces appear to be sufficient to maintain adequate competitive pressures in the industry. Grocery products brokers may continue to lose business to manufacturers' sales offices as manufacturers grow larger, making it feasible to establish their own field sales operations.

Structure and Performance of Grocery Products Brokers

Thomas H. Stafford

Gerald E. Grinnell *

INTRODUCTION

This report focuses on the structure and performance of the grocery products brokerage industry and provides the first comprehensive analysis of this segment of the food wholesaling industry. The study is based on a special tabulation of data from the 1972 Census of Wholesale Trade (not available until 1979) which the Bureau of the Census prepared for the U.S. Department of Agriculture. In addition, 1977 census data released in 1980 and 1981 have been incorporated. These data fill a major information gap in understanding the U.S. food marketing system, particularly the role of brokers in the system. Since the structure of the food wholesaling industry changes slowly, this report will provide benchmark information for those interested in the structure and performance of food wholesaling for the next decade or more.

The food marketing system includes a large number of firms that interact in a complex network of food and information flows. Farm product assemblers purchase raw agricultural products for resale to food manufacturers, other wholesalers, and retailers. Manufacturers change the form of products and sell their output to wholesalers and retailers. Manufacturers may employ a field sales force, retain brokers, or sell directly from their plants or headquarters offices. Some manufacturers sell to independent merchant wholesalers who are granted exclusive sales rights in specified market areas. A large number of other merchant wholesalers who do not represent particular manufacturers buy and sell a variety of products designed to meet the needs of a particular type of customer.

Wholesalers usually are classified as (1) merchants, (2) manufacturers' sales branches and offices, or (3) brokers.

A merchant takes title to products and usually has storage facilities. Merchants are classified as general line if they

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handle a wide variety of products, or specialty if they handle only one or a few types of foods such as frozen foods, meats, dairy products, confectionery products, or canned/bottled foods.

Manufacturers' sales branches and offices are the field sales forces of manufacturers and may or may not physically handle products. A sales branch has storage area, but a sales office does not.

A broker sells on the account of others for a commission and usually does not store or physically handle products.

For some purposes, it is also useful to distinguish among wholesalers who specialize in selling to a particular type of customer such as manufacturers, other wholesalers, grocery stores, food service establishments, and foreign accounts.

The United States has about 38,000 food wholesaling establishments that service over three-quarters of a million retail food outlets, including both commercial and noncommercial food service operations. A little over 29,000 food wholesaling establishments are classified as merchants, and about 4,100 are manufacturers' sales branches and offices. More than 4,500 food wholesalers are classified as merchandise agents and brokers, 2,400 of whom specialize in the sale of perishable foods such as meat, produce, frozen foods, dairy, and confectionery products. The remainder primarily sell less perishable food products and are known as grocery products brokers.

THE ROLE OF GROCERY PRODUCTS BROKERS

Grocery products brokers are the local sales agents for many grocery products manufacturers. The Bureau of the Census defines merchandise agents and brokers as "establishments whose operators are in business for themselves and are primarily engaged in selling or buying goods for others." ^{1/} In 1972, there were no grocery products purchasing agents; thus, merchandise agents and brokers will be referred to simply as brokers. Each broker performs sales functions and provides related services for a number of different manufacturers, or principals. According to the National Association of Food Brokers:

His business is soliciting buyers (wholesalers, chains, supermarkets, industrial users, etc.) and assisting in negotiation of sellers' (canners, processors, packers, manufacturers, etc.) sales of food and grocery products to buyers in his trade area (a) in the name of the seller, (b) for the account of the seller, (c) subject to the control of the seller, and (d) for compensation in the form of commissions or brokerage based on sales results paid to him by the sellers, exclusively. ^{2/}

^{1/} U.S. Department of Commerce, Bureau of the Census, 1977 Census of Wholesale Trade, Geographic Area Series, United States, (WC77-A-52), June 1980, p. A-9.

^{2/} National Food Brokers Association, History Defines the Food Broker, Washington, D.C., (undated), p. 5.

For many manufacturers, the cost of a full-time salesperson in each local market is prohibitive. Likewise, the travel cost for a sales force to cover many markets could be too much to justify the expenses. Essentially, many manufacturers need trained, part-time salespersons in many local markets--in other words, a network of brokers. By having several noncompeting manufacturers share a broker, each manufacturer is able to hire a trained, motivated sales staff without the problems associated with hiring, training, motivating, and maintaining employees in each market.

Padberg elaborated on the role of food brokers who sell processed food:

The food broker is the overseer of manufacturer distribution in his locality. For example, a food broker in St. Louis makes sales calls on all the distribution centers in his region. At these sales calls he represents the interests of an average of 23 manufacturers or principals whose products he is assigned. The food broker also handles such special matters as offering new products and coordinating special promotional activities for the products of his principals. In support of these selling activities the food broker may also manage an inventory of consigned products in a local public warehouse. He is also responsible for following through when orders of merchandise, either from the local warehouse or directly from the manufacturer, are late, damaged, out-of-grade, or in any other way unsatisfactory. 3/

Even large manufacturers that can justify hiring their own sales staff in most markets may use brokers in others. They may also use brokers for their sales strictly because they want the motivation and flexibility provided by brokers that may be hard to obtain with their own employees. Also, some large manufacturers that have their own large sales force may use brokers for some of their products to avoid overburdening their sales force or to check on their own sales efficiency. The food brokerage industry has adapted to the various needs of different types of sellers in the marketplace.

DATA SOURCES

The Bureau of the Census is the only known organization that regularly collects economic data on all the different types of food wholesalers. The Bureau obtained information on each establishment that reported a payroll, and published a series of reports (summarized in Census of Wholesale Trade, 1972, Volume I: Summary and Subject Statistics and Volume II: Area Statistics). The U.S. Department of Agriculture arranged for the Bureau to prepare a special tabulation of the 1972 data to examine the industry more closely. The special tabulation of the 1972 data and published 1977 census data form the basis of this study.

3/ Daniel I. Padberg, Today's Food Broker: Vital Link in the Distribution Cycle, New York: Chain Store Publishing Corp., 1971, p. 5.

Three general qualifications are needed to interpret the data from the special census tabulation. First, only establishments that operated the entire 12 months of 1972 were included; therefore, tabulation totals do not correspond to those in the Bureau of the Census' published reports. Second, some Census questions were not answered by all respondents even though a question pertained to them. Wherever possible, the data have been adjusted to remove the effects of nonreporting. Third, establishments that do not primarily sell food products were excluded from the special tabulation. These establishments accounted for about 2 percent of all brokers' food sales in 1972.

INDUSTRY CLASSIFICATIONS

The Bureau of the Census assigns each establishment a classification code based on the Standard Industrial Classification (SIC) system. 4/

Food Brokers

Brokers who specialize in food are classified into one of the following four-digit industries based on sales of commodity lines: 5/

- SIC 5142--Frozen food
- SIC 5143--Dairy products
- SIC 5144--Poultry and poultry products
- SIC 5145--Confectionery
- SIC 5146--Fish and seafoods
- SIC 5147--Meats and meat products
- SIC 5148--Fresh fruits and vegetables
- SIC 5149--Groceries and related products, not elsewhere classified

The Bureau of the Census further separates SIC 5149 establishments into the following five-digit categories: 6/

- 51492--Coffee, tea, and spices
- 51493--Bread and other baked goods
- 51499--Canned and other packaged goods

In the special tabulation, 51499 establishments were sorted into two additional groups: 7/

- 514991--Canned goods 8/
- 514992--Other packaged goods

4/ Executive Office to the President, Office of Management and Budget, Standard Industrial Classification Manual, 1972.

5/ Establishments usually designate their own 5-digit classification on the census questionnaires. If not, the Bureau assigns a code based on their reported commodity line sales or, if necessary, on their classification in the most recent quinquennial census.

6/ Wholesalers who primarily handle food and beverage basic materials (1972 SIC of 51995) were included in this industry as SIC 51498 in the 1977 census.

7/ This classification was made on the basis of establishments' commodity-line sales and excludes those that did not report commodity line sales.

8/ The Bureau of the Census classified these establishments in the five-digit category 51497 in the 1977 census.

Grocery Products Brokers

Brokers who primarily sell groceries and related products not elsewhere classified (SIC 5149) and food and beverage basic materials (SIC 51995) are the grocery products brokers referred to in this report. These firms primarily sell differentiated, branded, manufactured grocery products. Many maintain a staff to provide merchandising and display services to grocery stores. Most of the other food brokers (SIC 5142-5148), who generally sell a more perishable, less differentiated type of product, match up commodity buyers and sellers; that is, they primarily facilitate exchange of product ownership. Grocery products brokers are usually concerned with promoting sales of products to consumers and developing displays and promotional techniques in retail outlets.

Grocery products brokers (SIC 5149) sell such manufactured products as coffee, tea, and spices (SIC 51492); bakery products (SIC 51493); soft drinks, bottled mineral or spring water, cooking oils, canned dairy products, canned fruits and vegetables, pickles, preserves, jellies, sauces, honey, and other canned and bottled foods (SIC 514991); and all other packaged foods including pretzels, rice, sandwiches, refined sugar, yeast, beverage concentrates, breakfast cereals, cake mixes, chocolate, dried fruits and vegetables, flour, oleomargarine, dry dairy products, and other dry packaged foods (SIC 514992). The food and beverage basic materials category (1972 SIC 51995) includes establishments that specialize in the sale of malt, malt extract, sausage casings, fruit peel, brewers yeast, chocolate coatings, hop extract, brown rice, beverage base, and so forth. (Establishments not classified as grocery products brokers may also sell grocery products, but these products would not constitute their major lines.)

A grocery products broker may specialize in either one or a few product lines or handle a wide variety of the products specified. For example, a coffee, tea, and spices broker may only sell imported green coffee beans, while a broker that represents a large diversified food manufacturer may sell most of that manufacturer's products. Most brokers do not maintain product inventories or even handle the products they sell. On the other hand, a few have truck routes and exclusive rights to sell one particular product (such as soft drinks or bakery goods) on a commission basis.

SIZE OF INDUSTRY

The size of an industry can be described by the number of establishments, their sales, and the number of their employees.

Establishments

The number of food wholesaling establishments declined about 12 percent from 1958 to 1977, to about 38,000 (table 1). ^{9/} Nearly 70 percent of these establishments were specialty merchants, 7 percent were general-line merchants, and the remaining 23 percent were divided between brokers (12 percent) and manufacturers' sales branches and offices (11 percent).

^{9/} Establishment refers to a single physical location at which business is conducted. It should be distinguished from the term firm which refers to a business organization consisting of one or more establishments under common ownership or control.

Table 1--Establishments, sales, and employment of food wholesalers,
by type of operation, census years 1958-77

Item	1958	1963	1967	1972	1977	1958	1963	1967	1972	1977
	-----Number-----					-----Percent-----				
Establishments:										
General-line merchants	2,253	2,530	2,543	2,818	2,744	5.3	5.9	6.3	7.2	7.2
Specialty merchants	32,272	31,307	28,777	27,579	26,523	75.2	73.5	71.9	70.4	69.9
Manufacturers' sales branches and offices	3,826	4,245	4,295	4,054	4,157	8.9	10.0	10.7	10.4	11.0
Agents and brokers	4,559	4,505	4,440	4,686	4,536	10.6	10.6	11.1	12.0	11.9
Total	42,910	42,587	40,055	39,137	37,960	100.0	100.0	100.0	100.0	100.0
	-----Million dollars-----									
Sales:										
General-line merchants	8,428	11,723	15,548	21,573	35,896	16.9	19.2	20.9	19.7	19.6
Specialty merchants	20,021	23,012	27,911	43,684	75,671	40.3	37.7	37.5	39.8	41.4
Manufacturers' sales branches and offices	10,505	12,416	15,052	21,777	41,629	21.1	20.4	20.2	19.8	22.8
Agents and brokers	10,800	13,839	15,947	22,742	29,709	21.7	22.7	21.4	20.7	16.2
Total	49,754	60,990	74,458	109,776	182,905	100.0	100.0	100.0	100.0	100.0
	-----Number-----									
Employees:										
General-line merchants	71,282	83,377	92,779	101,281	110,230	14.8	16.4	17.3	17.3	18.3
Specialty merchants	287,188	295,644	305,268	340,138	341,909	59.7	58.1	57.1	58.1	56.9
Manufacturers' sales branches and offices	91,424	93,342	97,774	102,248	106,757	19.0	18.3	18.3	17.5	17.7
Agents and brokers	31,112	36,535	39,011	41,617	43,024	6.5	7.2	7.3	7.1	7.1
Total	481,006	508,898	534,832	585,284	601,920	100.0	100.0	100.0	100.0	100.0

Sources: U.S. Bureau of the Census, U.S. Census of Business, 1958, Wholesale Trade, United States Summary, BC58-WA1, U.S. Gov't. Print. Off., 1961; U.S. Bureau of the Census, Census of Business, 1963, Wholesale Trade: United States Summary, BC63-WA1, U.S. Gov't. Print. Off., 1965; U.S. Bureau of the Census, Census of Business, 1967, Vol. III, Wholesale Trade--Subject Reports, U.S. Gov't. Print. Off., 1971; U.S. Bureau of the Census, Census of Wholesale Trade, 1972, Area Series, United States, WC72-A-52, U.S. Gov't. Print. Off., 1975; and U.S. Bureau of the Census, 1977 Census of Wholesale Trade, Geographic Area Series, United States, WC77-A-52, U.S. Gov't. Print. Off., 1980.

The number of wholesale establishments that specialized in grocery products also declined between 1958 and 1977, but only by about 1 percent to 14,032 (table 2). The number of brokers who specialize in grocery products declined from over 17 percent of all grocery products wholesalers in 1958 to only 15 percent in 1977.

Sales

Sales of all types of food wholesalers increased nearly 270 percent since 1958 to \$183 billion in 1977. Sales of wholesalers who specialize in grocery products increased slightly faster--282 percent. Brokers who specialized in grocery products increased their sales by a comparatively smaller 190 percent to \$18.3 billion.

Until 1972, grocery products brokers reported more sales than did manufacturers' sales branches and offices. This changed between 1972 and 1977 when brokers' share of the grocery products industry sales dropped from nearly 24 percent to about 19 percent, while manufacturers' branches and offices' share rose from about 20 to 25 percent. The continued growth and consolidation of food manufacturers appears to have enabled more of them to sell their own products instead of using brokers. Brokers may continue to become less of a factor in food wholesaling, since the trend toward larger manufacturers does not appear to be slowing.

Most grocery products brokers specialize in canned/bottled and other packaged goods (86 percent of all grocery products broker establishments with sales of \$16.8 billion in 1977). In 1977, only 75 establishments (3.5 percent of all grocery products brokers) with sales of \$784 million (4.2 percent of the total) specialized in sales of coffee, tea, or spices, and only 119 establishments with sales of \$251 million (1.4 percent of the total) specialized in bakery products (table 3).

Employees

By 1977, more than 600,000 employees worked for food wholesalers, an increase of 25 percent from 1958. Employment by wholesalers who specialized in grocery products grew even faster--48 percent from 1958 to 1977. Employment by brokers grew the fastest--up over 76 percent in 19 years to 24,460 employees in 1977. This compares with an increase of only 36 percent for manufacturers' sales branches and offices.

STRUCTURE OF INDUSTRY

The structure of an industry can be characterized in several ways, including establishment and firm size, national and local concentration, diversification, and customers served. Such characteristics help to explain the performance of the industry and changes that may occur. Additional facets of industry structure are provided by a discussion of legal form of organization, credit sales, inventories, and commodity-line sales.

Establishment and Firm Size

Grocery products brokerage establishments had average sales of \$8.6 million in 1977, employed an average of 11.4 people, and had an average annual payroll of \$159,840. Coffee, tea, and spices brokerage establishments were largest in terms of sales, with annual sales of \$10.5 million, 6.2 employees, and an annual payroll of \$87,173. Brokerage establishments specializing in bakery products were smallest, with average annual sales of \$2.1 million, 5.4 employees, and an annual payroll of \$60,403 (table 4).

Table 2—Establishments, sales, and employment of grocery products wholesalers,
by type of operation, census years 1958-77

Item	1958	1963	1967	1972	1977	1958	1963	1967	1972	1977
	<u>Number</u>					<u>Percent</u>				
Establishments:										
Merchants	9,646	9,745	9,112	9,611	9,409	67.8	67.6	66.8	68.4	67.0
Manufacturers' sales branches and offices	2,139	2,332	2,348	2,231	2,480	15.0	16.2	17.2	15.9	17.7
Agents and brokers	2,447	2,329	2,174	2,211	2,143	17.2	16.2	16.0	15.7	15.3
Total	14,232	14,406	13,634	14,053	14,032	100.0	100.0	100.0	100.0	100.0
	<u>Million dollars</u>									
Sales:										
Merchants	13,314	17,161	21,736	32,806	55,598	51.5	54.6	55.0	56.5	56.4
Manufacturers' sales branches and offices	6,148	6,148	8,677	11,622	24,698	23.8	19.5	21.9	20.0	25.0
Agents and brokers	6,376	8,149	9,123	13,618	18,344	24.7	25.9	23.1	23.5	18.6
Total	25,838	31,458	39,536	58,046	98,640	100.0	100.0	100.0	100.0	100.0
	<u>Number</u>									
Employees:										
Merchants	124,987	138,693	151,469	173,204	186,089	67.9	68.0	68.5	70.0	68.4
Manufacturers' sales branches and offices	45,327	47,333	51,335	53,027	61,512	24.6	23.2	23.2	21.4	22.6
Agents and brokers	13,887	18,010	18,266	21,380	24,460	7.5	8.8	8.3	8.6	9.0
Total	184,201	204,036	221,070	247,611	272,061	100.0	100.0	100.0	100.0	100.0

Sources: Same as table 1 and special tabulations by the Bureau of the Census.

Table 3--Establishments, sales, payroll, and employment of grocery products brokers, 1977

Kind of brokers	Establishments	Annual sales	Annual payroll	Employees ^{1/}
	Number	---1,000 dollars---		Number
Coffee, tea, and spices	75	784,450	6,538	465
Bakery products	119	250,676	7,188	640
Canned goods	495	4,183,133	79,107	5,477
Other packaged goods	1,358	12,577,579	240,810	17,267
Food and beverage basic materials	96	548,581	8,894	611
Total	2,143	18,344,419	342,537	24,460

^{1/} Employees on the payroll for the week which included March 12.

Source: U.S. Department of Commerce, 1977 Census of Wholesale Trade, Geographic Area Series, United States, WC77-A-52, Bureau of the Census, 1980.

Table 4--Sales, payroll, and employment per establishment, grocery products brokers, 1972 and 1977

Kind of brokers	Annual sales		Annual payroll		Employees	
	1972	1977	1972	1977	1972	1977
	--1,000 dollars--		--Dollars--		--Number--	
Coffee, tea, and spices	3,775	10,459	56,822	87,173	5.4	6.2
Bakery products	2,186	2,107	43,404	60,403	5.4	5.4
Canned goods	5,620	8,451	99,389	159,812	9.2	11.1
Other packaged goods	6,759	9,262	125,256	177,327	12.1	12.7
Food and beverage basic materials	20,228	5,714	123,369	92,646	11.1	6.4
All grocery products brokers	6,196	8,560	97,632	159,840	9.6	11.4

Source: Table 3 and special tabulations by the Bureau of the Census.

In 1972, the relative size of the various specialties was slightly different (tables 4 and 5). This difference may be due to rapid price increases in products such as coffee, and a much less rapid increase in products such as canned goods. There also may have been a slight definition change that shifted some establishments from food and beverage basic materials to other packaged goods.

Most grocery products brokerage firms are relatively small and operate only one establishment. Therefore, an analysis of sales per firm would closely parallel the discussion above on sales per establishment.

National Concentration

Concentration levels in an industry may indicate how difficult it is for new firms to enter a market and whether existing firms possess and use market power. Most grocery products brokers sell in relatively small geographic areas. For this reason, measures of industry concentration, such as concentration ratios or Herfindahl indexes, at the national level indicate firm size rather than market dominance or power, and would be expected to be relatively low. ^{10/}

All Grocery Products Brokers (Excluding Food and Beverage Basic Materials Brokers)

The Nation's four largest firms reported sales of nearly \$200 million per firm in 1972. Together, they operated 26 establishments and accounted for 6.9 percent of all grocery products brokers' sales. The remaining firms reported average annual sales per firm of \$5.7 million in 1972. The fifth through eighth largest firms operated just four establishments and accounted for 4.5 percent of sales. The 9th through 50th largest firms operated 121 establishments and accounted for 19 percent of sales (table 6). Comparable concentration data for a more recent period are not available.

Coffee, Tea, and Spices Brokers

These brokers had relatively high national concentration ratios in 1972. Operating only four establishments, the four largest firms accounted for 41.1 percent of the sales of all coffee, tea, and spices brokers. The reason for this high ratio is that a few very large firms sell imported green coffee beans to processors/roasters or to merchants who resell to processors. ^{11/} This makes these coffee brokers unlike most other grocery products brokers. The coffee, tea, and spices brokers category also includes firms that specialize in the sale of coffee, tea, and spices in consumer-size packages to retailers, government agencies, commissaries, food-service establishments, and others for final consumption. These firms apparently are smaller than most green coffee bean brokers.

^{10/} Concentration ratio is the percentage market share accounted for by a specified number of largest firms. The Herfindahl index is defined as the sum of the squared market shares of all firms in a market. The four-firm partial Herfindahl index is the sum of the squared market shares of the four largest firms in the market.

^{11/} Four companies account for about 40 percent of all coffee imports (Comptroller General of the United States, Coffee: Production and Marketing Systems, Report to the Congress, Oct. 28, 1977). Further, the four-firm partial Herfindahl index of 0.04576, calculated in the Census Bureau's special tabulation, indicates that the four largest firms are of similar size, with the largest firm controlling between 11.5 and 15.5 percent of the market.

Table 5--Distribution and size of establishments by grocery products specialty, 1972

Item	All establishments	Establishments with annual sales of--				
		Less than \$500,000	\$500,000-\$1,999,000	\$2,000,000-\$4,999,000	\$5,000,000-\$9,999,000	\$10,000,000 and over
		<u>Percent</u>				
Establishments:						
All grocery products brokers	100.0	16.4	28.9	25.1	15.4	14.2
Coffee, tea, and spices	100.0	12.3	52.1	19.2	6.8	9.6
Bakery products	100.0	38.5	33.6	18.3	6.7	2.9
Canned goods	100.0	8.5	28.5	30.6	16.2	16.2
Other packaged goods	100.0	9.5	22.8	27.0	20.9	19.8
Food and beverage basic materials	100.0	17.5	43.7	19.4	11.6	7.8
		<u>1,000 dollars</u>				
Sales per establishment:						
All grocery products brokers	6,196	239	1,188	<u>1/</u>	<u>1/</u>	<u>1/</u>
Coffee, tea, and spices	3,775	231	1,184	2,931	6,664	22,023
Bakery products	2,186	213	1,014	3,185	6,367	26,061
Canned goods	5,620	246	1,224	3,167	7,022	19,369
Other packaged goods	6,759	230	1,228	3,302	6,944	20,802
Food and beverage basic materials	20,228	267	1,168	<u>1/</u>	6,554	<u>1/</u>
		<u>Number</u>				
Employees per establishment:						
All grocery products brokers	9.6	1.6	3.3	<u>1/</u>	<u>1/</u>	<u>1/</u>
Coffee, tea, and spices	5.4	1.4	4.2	3.9	12.0	15.0
Bakery products	5.4	2.0	3.9	5.1	14.6	47.3
Canned goods	9.2	1.5	3.4	6.7	11.5	25.7
Other packaged goods	12.1	1.8	3.2	6.8	13.0	33.4
Food and beverage basic materials	11.1	1.4	2.9	<u>1/</u>	14.3	<u>1/</u>

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

Table 6--National concentration of firms, establishments, and sales, by kind of broker, 1972 ^{1/}

Kind of broker and firm rank	Firms	Establishments	Sales
		<u>Percent</u>	
Grocery products other than food and beverage materials:			
4 largest	0.2	1.2	6.9
5th-8th largest	.2	.2	4.5
9th-50th largest	2.2	5.8	19.0
All others	97.4	92.8	69.6
Coffee, tea, and spices:			
4 largest	5.5	5.5	41.1
5th-8th largest	5.5	5.5	18.2
9th-50th largest	57.5	57.5	36.4
All others	31.5	31.5	4.3
Bakery products:			
4 largest	3.9	3.8	38.1
5th-8th largest	3.9	4.8	11.3
9th-50th largest	40.8	40.4	43.2
All others	51.4	51.0	7.4
Canned goods:			
4 largest	.8	4.0	15.7
5th-8th largest	.8	.9	5.6
9th-50th largest	8.7	10.4	27.1
All others	89.6	84.7	51.6
Other packaged goods:			
4 largest	.6	1.3	8.5
5th-8th largest	.6	1.5	6.4
9th-50th largest	6.5	11.4	26.1
All others	92.3	85.8	59.0
Food and beverage basic materials:			
4 largest	4.0	5.8	<u>2/</u>
5th-8th largest	4.0	3.9	<u>2/</u>
9th-50th largest	41.5	40.8	<u>2/</u>
All others	50.5	49.5	1.8

^{1/} Concentration refers to the share of an industry held by the leading firms.

^{2/} Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Sources: Special tabulations by the Bureau of the Census and U.S. Department of Commerce, 1972 Census of Wholesale Trade, Subject Series, Establishment and Firm Size, WC72-S-1, Bureau of the Census, 1975.

Only 73 brokerage establishments primarily sold coffee, tea, and spices in 1972. This small number suggests that large quantities of these products are sold by other types of wholesalers. The Census data confirm that 42 percent of brokers' sales of coffee, tea, and spices are made by brokers in other product specialties. Further, all brokers together only accounted for 9 percent of the total wholesale sales of coffee, tea, and spices. Manufacturers' sales branches and offices accounted for 29 percent of the total wholesale sales of these products. Although concentration is fairly high for this brokerage specialty, leading firms probably have little market power because of the major alternative channels of distribution.

Bakery Products Brokers

These brokers were also relatively highly concentrated. The four largest firms averaged only \$21.6 million in annual sales per firm in 1972, but together accounted for 38.1 percent of the total sales of all brokers who specialized in bakery products. The data indicate that the leading firm alone accounted for 16 percent or more of the total. 12/

As was true with coffee, tea, and spices, a large amount of bakery products was sold by brokers who did not specialize in bakery items. Total sales of the bakery specialists accounted for only 20 percent of the total sales of all brokers who reported some sales of bakery products, suggesting that concentration ratios calculated by using only those firms that specialize in bakery products probably overstate the degree of concentration in the sale of such products.

Canned Goods Brokers

These brokers were the fourth most concentrated of the five types of brokers in the grocery products industry. Annual sales of the four largest firms averaged \$117 million per firm in 1972. Together, these firms operated 21 establishments which accounted for 15.7 percent of the total sales of all brokers who specialized in canned goods. 13/ This is a relatively high level of national concentration in light of the local market scope of most such firms. The remaining firms are quite small; the fifth through eighth largest firms together accounted for only 5.6 percent of sales.

Other Packaged Goods Brokers

These brokers were among the least concentrated of the five types of grocery products brokers. The four largest firms were large (average sales per firm equaled \$102.5 million) in 1972, but accounted for only 8.5 percent of the total sales of all brokers who specialized in other packaged goods. The fifth through eighth largest firms accounted for 6.4 percent of the total. Although

12/ The leading firm must have a market share of at least 15.75 percent (which equals more than 40 percent of the total four-firm concentration ratio) to obtain a four-firm partial Herfindahl index of 0.05185, a four-firm concentration ratio of 38.1 percent, and an eight-firm concentration ratio of 49.4 percent.

13/ Analysis of the four-firm partial Herfindahl index (0.00862) and the four-firm and fifth-through-eighth firm concentration ratios (15.7 percent and 5.6 percent, respectively) indicates that the leading firm accounts for at least 6.4 percent of total sales.

these values are low, they may be overstated because more than one-third of other packaged goods are sold by brokers who do not specialize in these products. On the other hand, this industry segment includes a heterogeneous group of products, so concentration could be higher for a specific narrowly defined product category.

**Food and Beverage
Basic Materials
Brokers**

With only 101 firms classified in this category in 1972, the Bureau of the Census was unable to disclose a significant amount of data regarding concentration. Available data indicate that the leading firm accounted for at least 86 percent of the total sales of all these brokers and that the top 50 firms controlled 98.2 percent of the sales of these brokers in 1972. This is, by far, the most concentrated of the industry segments comprising the total grocery products brokerage industry. However, the top four firms classified as food and beverage basic materials brokers may have had as little as one-third of their sales in food and beverage basic materials. Thus, although the exact degree of product specialization is not known, concentration in this product specialty may not be quite as high as these numbers indicate.

In summary, national concentration ratios for grocery products brokers tend to be relatively low in product specialties that are primarily sold in local markets and relatively high for those products that are sold in a national market, such as green coffee and hops and other basic materials. However, in these industries, the market power of the leading firms is limited because many brokers who do not specialize in these products also handle them.

Local Concentration Concentration in local geographic areas gives a clearer picture of potential market power since most grocery products brokers sell in local areas. Market shares of grocery products brokers are affected by the size of the firms they represent. Since any one broker could potentially lose a large account to another firm, a high market share may not reflect real market power of the broker.

Data on local market concentration in 14 grocery marketing areas (GMA's) and six States are available only from the special tabulation of the 1972 census of wholesale trade. ^{14/} Concentration ratios were calculated only for establishments that reported commodity-line sales. Data for the local markets are for all firms reporting commodity-line sales whether or not they specialized in that particular commodity line. Exclusion of establishments that did not report commodity line sales causes the estimates of concentration to be slightly understated. For example, 30 of the 146 establishments operated by the Nation's 50 largest grocery products brokers other than food and beverage basic materials did not report commodity line sales. As a result, nonreporters caused the 50-firm concentration ratio to be 31.1 percent rather than 31.5 percent. Similarly, the four-firm concentration ratio for commodity-line reporters was 6.8 percent compared to 7.1 percent for the four largest firms including nonreporters.

^{14/} GMA's are combinations of Standard Metropolitan Statistical Areas (SMSA's). See appendix A for SMSA's in each GMA.

These comparisons cannot be made for the local markets. However, the comparisons using national data suggest that local concentration ratios will be biased downward, though the degree of bias is not severe. For purposes of this study, all establishments that reported sales of a particular type of product (such as coffee, tea, and spices) were included in that kind of business category regardless of their primary specialization. Concentration ratios and Herfindahl index values were then calculated based on the total sales of the establishments and also on the basis of their sales of products in the particular product specialty. This procedure permits including firms that may be major sellers of products in the industry (product specialty) even though they may be classified, because of more sales, in another food industry.

The 1972 unweighted average four-firm concentration ratio for brokers who sold grocery products, based upon establishments' total sales, was 34 percent in the six selected States (New York, Pennsylvania, Florida, Illinois, Texas, and California). ^{15/} The comparable value in the 14 GMA's was 46.6 percent and ranged from about 29 percent in Philadelphia to about 75 percent in New York City (table 7). ^{16/} Herfindahl index values indicate that, in general, GMA's are not dominated by individual large firms; that is, the four leading firms are about the same size. The New York City GMA, however, appears to be the exception, with one very large firm accounting for over 70 percent of the sales of these brokers.

A product specialization ratio was calculated to show the relative importance of grocery products to the four leading firms selling them. This ratio shows that grocery products accounted for only 24 percent of the four leading firms' sales in Milwaukee and over 94 percent of the four leading firms' total sales in Cincinnati. On average, grocery products accounted for slightly more than 61 percent of the total sales of the four largest brokers that handled these products in the 13 GMA's in 1972 for which data were available (table 7).

The local concentration of firms that sold grocery products other than food and beverage basic materials is similar to the concentration of all grocery products brokers, with the exception of the New York City GMA and the New York State markets (table 8). The four-firm concentration ratio in the New York City GMA was only 23.2 percent, and in New York State, 20.7 percent.

Coffee, Tea, and Spices Brokers

These brokers appear to be a fairly concentrated segment of the grocery products industry, even in local areas. On average, the four largest firms that specialized in these products accounted for 89 percent of the total sales of all such brokers in GMA's (table 9). The four-firm concentration ratio was 100 percent in Cincinnati, Miami, Milwaukee, and Washington, D.C. However,

^{15/} The average four-firm concentration ratio based on these firms' sales of grocery products was 29.5 percent.

^{16/} The average ratio based on the firms' sales of grocery products (rather than total sales) was estimated to be 42.3 percent.

Table 7--Total number of firms, sales concentration and product specialization ratios, and Herfindahl indexes for the four largest brokerage firms that sold grocery products, selected areas, 1972

Area	:	:	Four largest firms that reported sales of grocery products					
	:	:						
	: All	:	:Product :					
	:firms	:	:Concentration ratio:special-:Herfindahl index					
:	:	:	Total: Product		:	ization:Total	:	Product
:	:	:	sales: specialty		:	ratio	:	sales :specialty
	:	<u>:Number</u>	<u>-----Percent-----</u>			<u>-----Index-----</u>		
Grocery marketing area: <u>1/</u> :								
Boston	:	42	41.2	41.9	66.3	0.05853	0.04925	
Cincinnati	:	22	54.0	58.9	94.4	.08924	.11230	
Chicago	:	68	29.6	26.2	63.5	.02258	.02054	
Cleveland	:	32	43.1	<u>2/</u> 41.8	74.3	.04682	.05393	
Detroit	:	37	38.8	37.4	59.3	.03965	.03525	
Houston	:	20	52.4	49.3	62.7	.07885	.06459	
Los Angeles	:	49	45.0	35.4	43.5	.05514	.05167	
Miami	:	22	58.1	61.1	82.1	.09706	.10657	
Milwaukee	:	17	63.1	25.6	24.2	.10550	.02910	
New York City	:	121	<u>2/</u> 74.8	<u>2/</u> 79.7	<u>3/</u>	.48175	.19601	
Philadelphia	:	47	28.5	<u>2/</u> 29.0	65.2	.02049	.02595	
San Francisco	:	78	39.1	26.7	38.7	.05171	.03016	
Seattle	:	26	50.5	55.5	76.4	.08135	.09379	
Washington, D.C.	:	39	33.5	<u>2/</u> 23.1	46.5	.02858	.01645	
Average (unweighted)	:	44	<u>2/</u> 46.6	<u>2/</u> 42.3	<u>2/</u> 61.3	.08980	.06325	
State:								
New York	:	194	<u>2/</u> 68.3	<u>2/</u> 68.3	<u>3/</u>	.38421	.14404	
Pennsylvania	:	87	21.7	24.5	69.5	.01202	.01503	
Illinois	:	85	27.2	24.4	63.7	.01898	.01764	
Florida	:	68	33.8	<u>2/</u> 26.3	55.3	.03466	.02133	
Texas	:	90	20.9	21.1	70.1	.01104	.01166	
California	:	129	31.9	12.6	21.9	.02768	.00604	
Average (unweighted)	:	109	<u>2/</u> 34.0	<u>2/</u> 29.5	<u>2/</u> 56.1	.08143	.03596	

1/ Grocery marketing areas (GMA's) are combinations of Standard Metropolitan Statistical Areas (SMSA). See appendix A for SMSA's that comprise each GMA.

2/ The Bureau of the Census withheld data to avoid disclosure of individual operations. A value was estimated based on the Herfindahl index. See appendix B for estimating procedures.

3/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations, and no estimate was made by the authors.

Source: Special tabulations by the Bureau of the Census.

Table 8--Total number of firms, sales concentration and product specialization ratios, and Herfindahl indexes for the four largest brokerage firms that sold grocery products other than food and beverage basic materials, selected areas, 1972

Area	: Four largest firms that reported sales of		: grocery products		: Product :		: Herfindahl index	
	: All	: Product :	: Concentration ratio:	: specialization:	: Total : Product	: Total : Product	: sales : specialty	: ratio : sales : specialty
	: Number	: Percent	: Percent	: Percent	: Index	: Index	: Index	: Index
Grocery marketing area: 1/:								
Boston	: 42	41.2	2/ 41.9	66.3	0.05853	0.04943		
Cincinnati	: 22	54.0	2/ 61.7	94.4	.08924	.11723		
Chicago	: 63	30.3	25.8	59.1	.02361	.02155		
Cleveland	: 30	2/ 44.3	49.8	72.8	.05426	.06336		
Detroit	: 37	38.8	2/ 37.5	59.0	.03965	.03533		
Houston	: 20	52.4	2/ 47.6	60.5	.07885	.06153		
Los Angeles	: 46	45.3	2/ 41.3	43.5	.05574	.05269		
Miami	: 20	2/ 62.8	61.6	75.3	.10923	.11119		
Milwaukee	: 23	51.2	2/ 30.7	24.2	.06836	.04758		
New York City	: 113	23.2	21.3	67.1	.01450	.01192		
Philadelphia	: 45	28.6	26.6	54.3	.02065	.02065		
San Francisco	: 76	2/ 43.4	25.8	36.3	.05232	.02688		
Seattle	: 26	50.5	2/ 55.5	71.3	.08135	.09518		
Washington, D.C.	: 38	2/ 33.5	26.4	46.5	.03016	.01922		
Average (unweighted)	: 43	2/ 42.8	2/ 39.5	59.3	.05546	.05241		
State								
New York	: 184	20.7	19.5	64.6	.01115	.01140		
Pennsylvania	: 81	21.7	22.1	60.2	.01209	.01285		
Illinois	: 80	27.7	23.8	58.9	.01976	.01820		
Florida	: 65	34.3	2/ 25.7	51.9	.03825	.02047		
Texas	: 90	20.9	21.3	68.2	.01104	.01199		
California	: 124	32.1	12.8	63.6	.02799	.00627		
Average (unweighted)	: 104	26.2	2/ 20.9	61.2	.02005	.01353		

1/ See table 7, footnote 1/.

2/ See table 7, footnote 2/.

Source: Special tabulations by the Bureau of the Census.

Table 9--Total number of firms, sales concentration and product specialization ratios, and Herfindahl indexes for the four largest brokerage firms that sold coffee, tea, and spices, selected areas, 1972

Area	Four largest firms selling coffee, tea, and spices					
	:Product:					
	:All:Concentration ratio:special-:Herfindahl index					
	:firms	:Total	:Product	:ization	:Total	:Product
		:sales	:specialty	:ratio	:sales	:specialty
	:Number	-----Percent-----		-----Index-----		
Grocery marketing area: <u>1/</u> :						
Boston	: 7	94.8	65.2	10.3	0.37321	0.33515
Cincinnati	: 4	100.0	100.0	4.0	.32682	.27894
Chicago	: 11	85.0	<u>2/</u>	<u>2/</u>	.23233	<u>2/</u>
Cleveland	: 7	89.2	75.9	7.5	.25753	.28944
Detroit	: 6	<u>3/</u> 89.1	<u>2/</u>	<u>2/</u>	.20409	<u>2/</u>
Houston	: 5	98.0	<u>2/</u>	<u>2/</u>	.42762	<u>2/</u>
Los Angeles	: 14	77.6	47.8	1.8	.19001	.11277
Miami	: 3	100.0	100.0	1.9	.59411	.75444
Milwaukee	: 3	100.0	100.0	<u>2/</u>	.56497	<u>2/</u>
New York City	: 33	53.7	55.9	73.6	.07539	.09530
Philadelphia	: 11	74.1	60.1	3.6	.15164	.18006
San Francisco	: 12	86.2	<u>2/</u>	<u>2/</u>	.38330	<u>2/</u>
Seattle	: 6	<u>3/</u> 95.0	<u>2/</u>	<u>2/</u>	.30336	<u>2/</u>
Washington, D.C.	: 4	100.0	100.0	<u>2/</u>	.27774	<u>2/</u>
Average (unweighted)	: 9	<u>3/</u> 88.8	<u>2/</u>	<u>2/</u>	.31158	<u>2/</u>
State:						
New York	: 55	32.9	<u>2/</u>	<u>2/</u>	.02775	<u>2/</u>
Pennsylvania	: 16	59.7	59.1	3.6	.09856	.17367
Illinois	: 14	76.5	57.0	1.4	.18831	.15800
Florida	: 10	79.2	<u>2/</u>	<u>2/</u>	.21547	<u>2/</u>
Texas	: 21	48.8	<u>2/</u>	<u>2/</u>	.06751	<u>2/</u>
California	: 25	63.7	<u>2/</u>	<u>2/</u>	.13244	<u>2/</u>
Average (unweighted)	: 24	60.1	<u>2/</u>	<u>2/</u>	.12167	<u>2/</u>

1/ See table 7, footnote 1/.

2/ See table 7, footnote 3/.

3/ See table 7, footnote 2/.

Source: Special tabulations by the Bureau of the Census.

since all food brokers together accounted for only 9 percent of total wholesale sales of these products, the high levels of concentration may not necessarily reflect high degrees of market power by the four firms in the 14 GMA's studied.

Canned Goods Brokers

These specialists accounted for about 65 percent of all brokers' total sales of canned goods. On average, the four largest brokers that sold canned goods in the 14 GMA's accounted for 54 percent of the total sales of canned-goods brokers in those areas (table 10). After adjusting for differences in specialization, the four leading firms accounted for 43 percent of the total sales of canned goods by all brokers in the GMA's. Considering the large number by different kinds of food products that are canned or bottled, this appears to be a relatively high degree of concentration. The four leading brokers apparently handled the accounts of large diversified food manufacturers. The brokers' concentration probably reflects the manufacturers' concentration levels, suggesting that those brokers who secure the accounts for major food manufacturers are assured a prominent position in their local markets.

Bakery Products and Other Packaged Goods Brokers

Local market concentration of these brokers will not be reported. Bakery products brokers provided insufficient commodity-line sales data needed to calculate reliable concentration ratios. Other packaged goods brokers handle a heterogeneous mix of products which frequently are handled by other kinds of food brokers. Therefore, the local concentration data are not meaningful.

Food and Beverage Basic Materials Brokers

This segment of the industry has high concentration ratios in local areas because few brokers sell these products (table 11). Many food and beverage basic materials are sold in a national rather than a local market. The New York City area deserves special attention because it accounts for over 85 percent of the total U.S. sales of these brokerage companies. The largest firm in New York had 1972 sales of nearly \$2 billion, accounting for over 97 percent of the total sales of the 10 firms in the market. Nevertheless, sales of food and beverage basic materials represented only about one-third of the total sales of this large firm.

Factors Affecting Concentration

Local market concentration may be influenced as much by the concentration of the manufacturers who use brokers in a particular area as by the independent strength of the brokers themselves. In general, local concentration is not relatively high, and in areas where it is, other types of food brokers or food wholesalers are available who can sell any particular grocery product.

However, a broker usually will not sell substitutable products of competing manufacturers because this would create a conflict of interest and violate business ethics. Unless there are many brokers in a particular area, a manufacturer may have difficulty finding an experienced broker to handle its products. The concentration data reported here is insufficient to determine whether this might be a problem in the 14 GMA's. One complicating factor is that a particular GMA may not be large enough to support many brokers even though the 14 GMA's are the largest metropolitan areas in the Nation.

Table 10--Total number of firms, sales concentration and product specialization ratios, and Herfindahl indexes for the four largest brokerage firms that sold canned goods, selected areas, 1972

Area	:	Four largest firms selling canned goods				
		:	All	:Product :		
				:	Concentration ratio:	special-:Herfindahl index
			firms	Total :	Product :	ization:Total :
				sales :	specialty :	ratio :sales :
						specialty
			Number	Percent		Index
Grocery marketing area: 1/:						
Boston	:	23	57.0	53.4	40.3	0.11196
Cincinnati	:	11	82.1	84.7	67.1	.18399
Chicago	:	40	39.1	28.6	37.8	.03954
Cleveland	:	24	49.4	2/	2/	.06449
Detroit	:	26	43.0	30.2	26.3	.04885
Houston	:	19	3/ 54.8	31.6	20.0	.08337
Los Angeles	:	34	48.4	30.8	20.8	.06689
Miami	:	16	63.0	2/	2/	.12403
Milwaukee	:	17	62.9	2/	2/	.10222
New York City	:	39	46.0	34.1	45.6	.06097
Philadelphia	:	35	31.1	2/	2/	.02437
San Francisco	:	48	31.0	2/	2/	.02496
Seattle	:	22	53.8	64.5	54.1	.09239
Washington, D.C.	:	29	37.3	31.5	40.3	.03546
Average (unweighted)	:	27	3/ 53.8	3/ 43.3	3/ 39.1	.07596
State:						
New York	:	93	28.0	27.1	41.8	.02388
Pennsylvania	:	82	35.1	15.9	17.8	.01397
Illinois	:	70	22.0	2/	2/	.03166
Florida	:	54	35.1	26.4	37.9	.04968
Texas	:	53	39.1	25.8	25.8	.01251
California	:	62	23.4	18.8	30.2	.03434
Average (unweighted)	:	69	30.5	22.8	30.7	.02767

1/ See table 7, footnote 1/.

2/ See table 7, footnote 3/.

3/ See table 7, footnote 2/.

Source: Special tabulations by the Bureau of the Census.

Table 11--Total number of firms, sales concentration and product specialization ratios, and Herfindahl indexes for the four largest brokerage firms that sold food and beverage basic materials, selected areas, 1972

Area	Four largest firms selling food and beverage basic materials					
	All firms	:Product : Concentration ratio:special-:Herfindahl index				
		: Total : Product : ization :Total : Product				
		: sales : specialty : ratio :sales :specialty				
	: :Number	-----Percent-----		-----Index-----		
Grocery marketing area: 1/:	:					
Boston	: 3	100.0	100.0	2/	0.55343	2/
Cincinnati	: 3	100.0	100.0	2/	.42133	2/
Chicago	: 8	90.0	83.4	0.407	.45284	0.19557
Cleveland	: 5	3/ 96.0	2/	2/	.32145	2/
Detroit	: 2	100.0	100.0	2/	.62382	2/
Houston	: 1	100.0	100.0	2/	1.00000	2/
Los Angeles	: 4	100.0	2/	2/	.43382	2/
Miami	: 2	100.0	100.0	2/	.95716	2/
Milwaukee	: 1	100.0	100.0	2/	1.00000	2/
New York City	: 10	3/ 97.7	2/	2/	.95383	2/
Philadelphia	: 3	100.0	100.0	2/	.90679	2/
San Francisco	: 12	83.1	2/	2/	.27859	2/
Seattle	: 3	100.0	100.0	2/	.47524	2/
Washington, D.C.	: 3	100.0	100.0	2/	.35515	2/
Average (unweighted)	: 4	3/ 97.6	2/	2/	.62382	2/
State:	:					
New York	: 15	3/ 96.7	2/	2/	.93544	2/
Pennsylvania	: 7	96.6	89.7	.257	.34886	.60718
Illinois	: 11	81.6	70.8	.345	.37461	.18418
Florida	: 7	85.8	2/	2/	.25615	2/
Texas	: 11	84.8	21.3	.918	.21182	.01199
California	: 16	79.6	53.5	.071	.25594	.02146
Average (unweighted)	: 11	3/ 87.5	2/	2/	.39714	2/

1/ See table 7, footnote 1/.

2/ See table 7, footnote 3/.

3/ See table 7, footnote 2/.

Source: Special tabulations by the Bureau of the Census.

Diversification

Diversification, an important element of an industry's structure, is commonplace in the U.S. economy. It potentially affects the ability of new firms to enter markets, influences competitive behavior, and provides a degree of stability to firms that operate in volatile markets. Multi-establishment diversification is not, however, one of the most important characteristics of the grocery products brokerage industry--in fact, most firms operate only one establishment. Nearly 84 percent of the establishments and 85 percent of the sales of the Nation's grocery products brokers were in their principal industry classification in 1972 (table 12). The remaining business was distributed over a wide variety of enterprises, although much (6.6 percent of the sales and 6.3 percent of the establishments) was in food-related activities.

The Nation's 73 coffee, tea, and spices brokers were, however, fairly diversified. Only 34 percent of their establishments were coffee, tea, and spices brokerage operations and these establishments only accounted for 32 percent of their total sales in 1972. Nearly 49 percent of their sales were by 11 establishments that were classified as grocery products wholesalers other than coffee, tea, and spices brokers. In addition, they operated five general-line grocery wholesale establishments, two other food wholesale establishments, and three nonfood wholesale establishments. One firm operated 111 retail stores.

Bakery products brokers were not diversified in 1972; 103 firms operated 104 establishments, all bakery products brokerage operations.

Canned and other packaged goods establishments accounted for 88 percent of the establishments and 91 percent of the sales of the 1,647 firms that operated canned and other packaged goods brokerages in 1972. The remaining establishments and sales of these firms were distributed among a variety of wholesaling, retailing, manufacturing, and other activities.

The 101 firms that operated 103 food and beverage basic materials brokerage establishments also operated 24 establishments in other kinds of business, including 11 in industries other than food. The establishments not in the food industry accounted for about 30 percent of the firms' total sales.

Customers Served

Food wholesalers sell to several different types of customers including grocery stores, restaurants, institutions, commissaries, other wholesalers, industrial users, individual consumers, and export customers. Each type of customer represents a distinctly different food distribution channel which calls for different services and sales techniques. In turn, a broker's operating expenses may be influenced by the proportion of its sales to the different customer classes. The distinction among the classes is such that it is not unusual for a particular broker to limit or emphasize sales to one or a few customer classes.

Over 80 percent of the grocery products brokers reported sales by class of customer in the 1972 census of wholesale trade. Sales

Table 12--Diversification of grocery products brokers, 1972

Kind of business <u>1/</u>	: Establishments : Sales	
	: Percent	
Grocery products brokerage	83.7	84.4
Other grocery products wholesaling	1.6	3.0
General-line grocery wholesaling	1.0	.6
Other food wholesaling	1.9	1.2
Other wholesaling	1.3	1.1
Food manufacturing	.9	1.7
Food retailing	.6	.1
Other retailing	5.1	.5
Food wholesaling central administrative offices and auxiliaries	.3	NA
Other central administrative offices and auxiliaries	.6	NA
All other kinds of business	3.0	7.4
Total	100.0	100.0

NA = Not applicable.

1/ Kinds of business are based on Standard Industrial Classification system.

Source: Special tabulations by the Bureau of the Census.

of these respondents accounted for about 87 percent of the total sales of all grocery products brokers (table 13). 17/

The Bureau of the Census changed its customer classes in the 1977 census, eliminating food service as a separate category. Firms

17/ The reporting rate varied with establishment size. For example, only 65 percent of the establishments with annual sales of less than \$500,000 reported sales by class of customer, whereas almost 91 percent of the establishments with sales of \$10 million and over reported such information. Data were expanded to adjust for nonreporters because averages calculated using unadjusted data would be biased toward the average of those establishments that had the highest response rate. For each establishment and firm size group, the number to be expanded (sales, number of establishments, number of firms) was multiplied by the reciprocal of the reporting rate of sales, number of establishments, or number of firms (as appropriate).

Table 13--Reporting rates for class of customer information, grocery products brokers, 1972

Kind of business	All establish- ments	Establishments with annual sales of--					Four largest firms	5th-8th largest firms	9th-50th largest firms	All other firms
		Less than: \$500,000	\$500,000- \$1,999,000	\$2,000,000- \$4,999,000	\$5,000,000 and over					
<u>Percent</u>										
Establishments reporting customer classes:										
Grocery products	80.1	64.8	75.4	85.2	88.7	NA	NA	NA	NA	
Food and beverage basic materials	69.9	66.7	64.4	85.0	70.0	83.3	75.0	78.6	60.8	
All other grocery products	80.6	64.7	76.3	85.2	89.3	84.0	75.0	90.0	79.9	
Coffee, tea, and spices	80.8	66.7	78.9	92.9	83.3	75.0	100.0	88.1	65.2	
Bakery products	63.5	72.5	57.1	63.2	50.0	25.0	80.0	57.1	69.8	
Canned and other packaged goods	81.5	63.6	77.4	85.8	90.1	NA	NA	NA	NA	
Canned goods	97.4	93.3	94.4	98.8	98.8	100.0	100.0	98.2	97.1	
Other packaged goods	97.8	94.1	98.2	97.9	93.3	88.9	100.0	100.0	97.6	
Sales of brokers reporting customer classes:										
Grocery products	1/	66.0	76.8	1/	1/	NA	NA	NA	NA	
Food and beverage basic materials	1/	66.4	69.5	1/	1/	1/	1/	1/	1/	
All other grocery products	86.6	66.0	77.3	1/	1/	69.8	74.4	92.1	87.7	
Coffee, tea, and spices	88.3	67.3	84.7	1/	1/	1/	1/	1/	63.7	
Bakery products	42.4	70.0	54.3	60.9	38.0	1/	1/	57.2	67.0	
Canned and other packaged goods	87.5	65.4	78.1	1/	1/	NA	NA	NA	NA	
Canned goods	98.1	96.0	95.6	1/	1/	100.0	100.0	1/	1/	
Other packaged goods	98.6	94.7	98.3	98.1	98.7	1/	1/	1/	1/	

1/ The Bureau of the Census withheld this information because of confidentiality.

NA = Not available. Data for all grocery products brokers were obtained by adding the data for food and beverage basic materials brokers and other grocery products brokers; likewise, data for canned and other packaged goods brokers were obtained by subtracting the data for bakery products and coffee, tea, and spices brokers from the data for all other grocery products brokers; thus, firm size data are not meaningful for these two groups.

Source: Special tabulations by the Bureau of the Census.

were expected to report these sales to one or more of the remaining customer classes. Therefore, it is not meaningful to compare data between the years.

**All Grocery
Products Brokers
(Excluding Food
and Beverage Basic
Materials)**

About 52 percent of the grocery products brokerage establishments other than food and beverage basic materials brokers reported making sales to retailers. These sales represented 60 percent of their total sales and 32 percent of the total sales of all grocery products brokers (table 14). Almost three-fourths of the establishments reported making sales to wholesalers. Such sales accounted for 62 percent of the total sales of these reporting brokers and nearly one-half of the total sales of all grocery products brokers (table 14).

Less than one-third of the establishments reported sales to any other class of customer. Approximately 30 percent of the establishments made sales to food processors, 29 percent to the foodservice trade, 12 percent to government agencies, and 2 percent to the export market. Of those that sold to food processors, 28 percent of their sales were to food processors. Of those selling to the foodservice industry, slightly more than 11 percent of their sales were to foodservice establishments (25 percent of the sales of the smaller establishments). Among grocery products brokers that sold to Federal, State, or local governments, more than 26 percent of their sales were to governmental bodies. The brokers most specialized by customer class were those that sold to export markets--more than 61 percent of their sales were exported.

**Coffee, Tea, and
Spices Brokers**

Almost one-fourth of the coffee, tea, and spices brokers sold to retailers. Over 54 percent reported making sales to wholesalers, 37 percent to food processors, 25 percent to the foodservice industry, 12 percent to government agencies, and almost 14 percent to export markets (table 15). The importance of these outlets varies with the size of the broker. Overall, less than 5 percent of the coffee, tea, and spices brokers' sales were to retailers. However, those establishments (24 percent) that reported selling to retailers, made nearly 40 percent of their sales to retailers. About 43 percent of the coffee, tea, and spices brokers' sales were to wholesalers, and another 43 percent were to processors. Although less than 3 percent of the sales of coffee, tea, and spices brokers were to the foodservice industry, this industry is fairly important to about one-fourth of the brokers who made 44 percent of their sales to foodservice establishments. Likewise, government agencies accounted for nearly 63 percent of the sales of a few brokers (12 percent), but, overall, accounted for less than 3 percent of all sales by coffee, tea, and spices brokers. The export market for these brokers is small.

**Bakery Products
Brokers**

Retailers were an important class of customer for bakery products brokers; 64 percent reported making 85 percent of their sales to retailers (table 15). Slightly more than 30 percent reported making sales to wholesalers who accounted for 80 percent of their sales and 21 percent of the sales of all bakery products brokers. Only 15 percent of the bakery products brokers reported making any sales to food processors. However, this class of customer accounted for nearly 97 percent of their sales. None of the bakery products brokers reported any export sales, and only 7.6 percent sold

Table 14--Percentage of grocery products brokerage establishments other than food and beverage basic materials reporting, and sales to selected customer classes, by establishment size, 1972

Item	:	Establishments with annual sales of--					
		All	Less than: \$500,000	\$500,000-\$2,000,000	\$2,000,000-\$5,000,000	\$5,000,000-\$10,000,000	and over
		establishments	\$500,000	\$1,999,000	\$4,999,000	\$9,999,000	
							Percent
Establishments reporting sales to:	:						
Retailers	:	52.2	54.0	48.2	50.1	57.2	55.8
Wholesalers	:	73.4	58.7	67.3	76.0	82.2	81.6
Food processors	:	29.6	21.6	29.5	28.4	33.0	34.8
Food service	:	28.8	31.9	22.1	24.9	33.7	38.2
Government agencies	:	12.0	7.5	10.8	11.0	14.9	16.1
Export	:	2.3	2.3	2.5	2.1	1.4	3.0
Share of grocery products brokers sales to:	:						
Retailers	:	32.1	33.6	28.0	31.3	33.0	32.3
Wholesalers	:	49.4	45.7	46.9	53.2	51.3	48.1
Food processors	:	8.6	11.3	11.7	9.1	7.6	8.5
Food service	:	3.7	6.9	5.4	3.1	4.2	3.5
Government agencies	:	3.3	.5	5.6	2.2	3.2	3.4
Export	:	2.2	.4	1.2	.4	.4	3.3
Sales to selected class of customer as percentage of total sales of those establishments reporting sales to:	:						
Retailers	:	60.0	63.9	58.1	61.2	57.7	60.6
Wholesalers	:	62.1	72.2	70.2	69.8	62.3	59.6
Food processors	:	28.0	49.5	40.7	31.9	22.6	27.9
Food service	:	11.2	24.7	24.1	12.2	12.2	9.9
Government agencies	:	26.4	6.7	49.3	20.0	21.6	27.9
Export	:	61.1	28.9	45.8	18.1	25.0	70.7

Source: Special tabulations by the Bureau of the Census.

Table 15--Percentage of grocery products brokerage establishments reporting and sales to selected customer classes, by kind of broker, 1972

Item	Kind of grocery products broker					
	All except food and beverage basic materials	Coffee, tea, and spices	Bakery products	Canned goods	Other packaged goods	Food and beverage basic materials
	Percent					
Establishments reporting sales to:						
Retailers	52.2	23.7	63.6	50.2	54.8	36.1
Wholesalers	73.4	54.2	30.3	83.9	72.5	50.0
Food processors	29.6	37.3	15.2	27.3	33.4	37.5
Food service	28.8	25.4	30.3	26.9	32.5	6.9
Governmental agencies	12.0	11.9	7.6	10.7	15.8	4.2
Export	2.3	13.6	0	1.9	2.1	12.5
Share of grocery products brokers' sales to:						
Retailers	32.1	4.7	55.7	29.8	33.8	1/
Wholesalers	49.4	43.4	20.9	60.8	44.3	1/
Food processors	8.6	42.8	15.9	3.3	11.4	1/
Food service	3.7	2.4	7.1	5.1	3.3	1/
Governmental agencies	3.3	2.6	.2	.7	5.0	1/
Export	2.2	2.6	0	.1	1.0	1/
Other	.7	1.5	.2	.2	1.2	1/
Sales to selected class of customer as percentage of total sales of those establishments reporting sales to:						
Retailers	60.0	39.8	84.8	58.7	56.9	1/
Wholesalers	62.1	60.2	80.3	68.7	55.5	1/
Food processors	28.0	70.2	96.7	11.0	32.9	1/
Food service	11.2	44.3	28.4	14.1	9.3	1/
Governmental agencies	26.4	62.7	1.1	5.8	35.1	1/
Export	61.1	1.8	0	5.2	47.2	1/

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

to government agencies. About 30 percent reported sales to the foodservice industry.

Canned Goods Brokers

Wholesalers were the most important class of customer for canned goods brokers--84 percent of the establishments made about 61 percent of their sales to wholesalers. Retailers also were an important class of customer, accounting for almost 59 percent of the sales of those brokers that reported making any sales to retailers and about 30 percent of the total sales of all canned goods brokers. The remaining customer classes accounted for less than 10 percent of total sales of canned goods brokers (table 15).

Other Packaged Goods Brokers

These brokers are rather diversified in product specialties and in their sales by class of customer (table 15). Forty-four percent of their sales are to wholesalers, 34 percent to retailers, and 11 percent to food processors. Few establishments (2.1 percent) reported export sales but those that did reported that export sales accounted for nearly half of their total sales.

Food and Beverage Basic Materials Brokers

Food and beverage basic materials brokers' customers were slightly different from the average. The percentage of food and beverage basic materials brokerage establishments that sold to various classes of customers was as follows: 36 percent to retailers, 50 percent to wholesalers, 38 percent to food processors, 7 percent to food service, 4 percent to government agencies, and 13 percent to export.

Legal Form of Organization

About 71 percent of the grocery products brokers were corporations in 1972 and 77 percent in 1977. As expected, this form of legal organization was directly related to establishment and firm size (table 16). Only 42 percent of the small brokers were incorporated in 1972, while almost 91 percent of the grocery products establishments with over \$10 million in annual sales were incorporated. The Nation's eight largest grocery products brokers were incorporated, and 93 percent of the 9th through 50th largest firms were corporations in 1972. Inconsistent with the average for all grocery products brokers, only one-half of the bakery products brokers and only one-quarter of the small operations were incorporated.

Credit Sales

Only 20 percent of the grocery products brokerage establishments reported credit sales in 1972, but they made 84 percent of their sales on credit (table 17). Coffee, tea, and spices brokers differed from the other grocery products brokers in that over 41 percent of them made credit sales, and these sales accounted for 96 percent of their business.

Inventories

Most food brokers do not physically handle the products they sell, and therefore generally do not have inventories. ^{18/} Some brokers may consider their product samples to be large enough to report as inventory, and some brokers also sell merchandise on their own account and carry inventories to support this activity. The special tabulation of 1972 census data revealed that almost 15 percent of all grocery products brokers had inventories in excess of \$1,000

^{18/} Commission merchants (who receive goods on consignment) are an important exception. About 9 percent of grocery products brokers are commission merchants.

Table 16—Percentage of establishments that were incorporated, by establishment size, and four largest firms, 1972

Kind of broker	All establishments	Establishments with annual sales of--						Four largest firms
		Less than \$500,000	\$500,000-\$1,999,000	\$2,000,000-\$4,999,000	\$5,000,000-\$9,999,000	\$10,000,000 and over		
		Percent						
Grocery products	71.3	41.8	65.1	75.8	89.3	90.7	NA	
Food and beverage basic materials	65.0	50.0	60.0	75.0	75.0	87.5	83.3	
All other grocery products	71.7	41.3	65.6	75.8	89.8	90.8	100.0	
Coffee, tea, and spices	67.1	44.4	65.8	71.4	80.0	85.7	75.0	
Bakery products	50.0	25.0	54.3	78.9	71.4	100.0	100.0	
Canned and other packaged goods	73.1	43.6	66.3	75.8	90.4	90.8	NA	
Canned goods	72.8	44.4	61.6	73.5	90.7	88.4	100.0	
Other packaged goods	74.9	36.8	67.1	73.2	89.2	89.4	55.6	

NA = Not available.

Source: Special tabulations by the Bureau of the Census.

Table 17--Percentage of establishments with credit sales,
and credit sales' share of their total sales, 1972

Kind of broker	Share of	
	establishments	Credit sales
	with credit sales	as percentage
	of total sales	of total sales
	Percent	
All grocery products brokers:	20.5	<u>1/</u>
Food and beverage basic materials	25.2	<u>1/</u>
All other grocery products:	20.3	84.1
Coffee, tea, and spices :	41.1	96.4
Bakery products :	22.1	53.9
Canned goods :	23.4	72.8
Other packaged goods :	21.7	89.0

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

each (table 18). Yearend inventories equaled about 0.3 percent of grocery products brokers' sales in 1972 and 0.1 percent of their sales in 1977.

Small establishments and coffee, tea, and spices brokers were most likely to have inventories. More than one-half of the large coffee, tea, and spices brokers (annual sales of \$10 million or more) had inventories in 1972.

Commodity Line Sales

The Bureau of the Census asks wholesalers to report detailed information about their sales of different kinds of products. Two-thirds of all grocery products brokers reported sales by commodity line in the 1972 census. Commodity-line sales of those that reported such information are assumed to be representative of nonreporters as well. However, reporting rates are included in table 19 so that the reader can judge the reliability of the data. Bias could occur if there are systematic differences in commodity lines handled between reporters and nonreporters. Since commodity-specialization and reporting rates are most likely to vary with establishment size, they can be compared to get some idea whether this may be a problem.

Grocery products brokers reported sales in every major food group listed by the Bureau of the Census. Food accounted for over 89 percent of their total sales in 1972 (table 20) and 91 percent of their total sales in 1977 (table 21). Commodity-line sales did not vary much between establishments that specialized in sales to different classes of customer in 1972.

Table 18--Percentage of establishments with yearend inventory, by establishment size, 1972

Kind of broker	All establishments	Establishments with annual sales of--				
		Less than \$500,000	\$500,000- \$1,999,000	\$2,000,000- \$4,999,000	\$5,000,000- \$9,999,000	\$10,000,000 and over
		<u>Percent</u>				
All grocery products brokers	14.8	25.9	14.3	10.9	11.3	13.6
Food and beverage basic materials	20.4	16.7	15.6	30.0	25.0	25.0
All other grocery products	14.5	26.4	14.2	10.1	10.8	13.3
Coffee, tea, and spices	32.9	33.3	34.2	28.6	0	57.1
Bakery products	21.2	30.0	14.3	15.8	14.3	33.3
Canned and other packaged goods	13.4	25.7	12.7	9.4	10.9	12.0
Canned goods	7.2	13.3	6.0	3.1	7.0	14.0
Other packaged goods	9.1	25.0	10.4	4.1	9.7	7.0

Source: Special tabulations by the Bureau of the Census.

Table 19--Percentage of establishments reporting commodity-line sales, by establishment size, 1972

Kind of broker	All establishments	Establishments with annual sales of--				
		Less than \$500,000	\$500,000- \$1,999,000	\$2,000,000- \$4,999,000	\$5,000,000- \$9,999,000	\$10,000,000 and over
		<u>Percent</u>				
Grocery products	66.4	42.1	61.6	74.1	76.7	79.8
Food and beverage basic materials	51.5	50.0	33.3	75.0	58.3	87.5
Other grocery products	67.2	41.6	63.8	74.1	77.1	79.6
Coffee, tea, and spices	71.2	22.2	76.3	92.9	60.0	71.4
Bakery products	54.8	55.0	54.3	57.9	57.1	33.3
Canned and other packaged goods	67.8	40.4	63.5	74.2	78.1	80.3

Source: Special tabulations by the Bureau of the Census.

Table 21--Percentage of grocery products brokers reporting, and sales by commodity line, 1977

Commodity line	Establishments	Sales
	Percent	
Frozen foods	48.5	11.5
Dairy products	21.4	1.4
Poultry and poultry products	6.2	.2
Confectionery	40.0	3.5
Fish and seafood (not canned or frozen)	4.8	.2
Meat and meat products	9.8	.8
Fresh fruits and vegetables	4.6	.2
Coffee, green and roasted	15.3	4.2
Tea	14.9	.9
Spices	18.8	1.2
Bread and other baked goods	20.4	1.3
Canned foods	71.1	31.3
Food and beverage basic materials	13.6	3.2
Other grocery specialties	77.9	31.6
Other commodities	NA	8.6

NA = Not available.

Source: U.S Department of Commerce, 1977 Census of Wholesale Trade, Commodity Line Sales, United States, WC77-L, Bureau of the Census, 1981.

The 50 largest coffee, tea, and spices brokers (data were not available for all 73 firms) reported that 82 percent of their 1972 sales were in coffee, tea, and spices with the remainder distributed among several other food products.

Bakery products brokers were more specialized, with over 96 percent of their 1972 sales in bakery products (based on a very low reporting rate--see table 19). A few bakery products brokers also sold confectionery products and canned and bottled foods.

Canned goods brokers reported that over 77 percent of their sales in 1972 were in canned and bottled foods. They also reported some sales in every food category, with food adding up to over 98 percent of their total 1972 sales.

Other packaged goods brokers reported diversified sales. Products within their specialty (breakfast foods, sugar, margarine, shortenings, pet foods, dried and dehydrated fruits and vegetables, soft

drinks, and flour) accounted for only 28 percent of their total 1972 sales. In part, the number is low because the category includes establishments that have no product specialty. Other important products handled by these brokers included canned and bottled foods (19 percent of 1972 sales), other foods (17 percent of 1972 sales), frozen foods (11 percent of 1972 sales), and nonfoods (10 to 12 percent of 1972 sales).

ECONOMIC PERFORMANCE OF INDUSTRY

Performance of an industry is judged on the basis of the efficiency with which firms meet consumer demand. This requires that firms use the right mix of inputs and appropriate technology and that they be responsive to changing technology and consumer demands. Economists normally evaluate operating costs; markups, gross margins, or commission rates; profits; prices; and progressiveness in evaluating economic performance. Data limitations usually restrict the scope of such analyses. Some information is available for brokers on each of these variables except prices and progressiveness, but the most information is available on operating costs.

Operating Expenses

Firms seek to minimize costs to raise their profits (or minimize losses). From society's viewpoint, reduced costs enable us to consume more given our limited resources. This section examines total operating expenses, payroll costs, and bad debt losses for each type of grocery products broker and shows how costs are related to establishment and firm size.

Total Operating Expenses

Operating expenses recorded by the Bureau of the Census include payroll as well as other overhead expenses of the establishments and the pro rata share of any general office expenses, but do not include the cost of merchandise for sale or income or excise taxes. Withdrawals by owners of unincorporated businesses are not included.

The average grocery products broker reported annual operating expenses of \$293,657 in 1977, or 3.4 percent of sales, little changed from 1972. ^{19/} Operating expenses in 1972 averaged 6.4 percent of sales for establishments with annual sales of less than \$2 million in 1972. Grocery products brokerage establishments other than food and beverage basic materials brokers with 1972 sales of \$10 million or more had operating expenses that equaled only 2.4 percent of sales (table 22). Class of customer affected operating expenses. After adjusting for differences in establishment size, grocery products brokers with sales to retailers reported higher expenses per dollar sales than did those with sales to any other class of customer.

Among the kinds of grocery products brokers, other packaged goods brokers reported the highest average operating expenses per dollar of sales in 1972 (3.4 percent), followed by coffee, tea, and spices brokers (2.9 percent), canned goods brokers (2.8 percent), bakery products brokers (2.6 percent), and food and beverage basic materials brokers (1.3 percent). By 1977, bakery products brokers' expenses had risen to 6.3 percent of sales, followed by

^{19/} These 1972 published operating expense data (reported as commission rates) are higher than data from the special tabulation (table 22). See data sources section for explanation.

Table 22--Operating expenses of grocery products brokers as a percentage of sales, by customer classes, 1972

Class of customer	Establishments with annual sales of --				
	All establishments	Less than \$500,000	\$500,000-\$1,999,000	\$2,000,000-\$9,999,000	\$10,000,000 and over
			Percent		
All grocery products brokers:	2.7	8.8	6.2	<u>1/</u>	<u>1/</u>
Food and beverage basic materials brokers	1.3	10.2	4.5	<u>1/</u>	<u>1/</u>
Other grocery products brokers	3.0	8.7	6.3	3.2	2.4
Other grocery products brokers with:					
Sales to retailers 30 percent or more	3.3	10.9	9.6	3.2	2.7
sales to retailers	3.8	13.9	14.4	3.5	3.1
Sales to wholesalers 30 percent or more sales:	2.9	7.2	7.5	3.0	2.3
to wholesalers	2.8	8.0	3.4	3.1	2.5
Sales to food processors:	2.5	7.5	3.0	2.9	2.1
Sales to food service	2.9	9.8	3.6	3.5	2.5
Sales to government agencies	2.9	14.5	4.2	2.8	2.7
Export sales	1.8	12.4	5.4	3.2	1.2
30 percent or more sales:					
to food service, government agencies, and:					
export combined	3.1	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

canned goods and other packaged goods brokers (3.5 percent), food and beverage basic materials (3.1 percent) and coffee, tea, and spices brokers (1.7 percent).

Payroll Costs

Payroll includes all forms of compensation such as salaries, wages, commissions, bonuses, vacation allowances, sick leave pay, and the value of payments in kind (such as free meals and lodging) paid during the year to all employees. Employers' contributions to fringe benefits are not included. Amounts paid to officers and executives of corporations are included, but profit and other compensation of proprietors or partners of unincorporated businesses are not. Payroll is reported before deductions for social security, income tax, insurance, union dues, and so forth.

All Grocery Products Brokers--Grocery products brokers paid \$217 million in payroll in 1972 and \$343 million in 1977, about 1.6 percent and 1.9 percent of sales, respectively. Payroll accounted for 54 percent of total operating expenses each year. Payroll per employee equaled about \$10,000 in 1972 and \$14,000 in 1977.

Establishment and firm size strongly influenced payroll expenses in 1972 (table 23). Small establishments (less than \$500,000 in 1972 annual sales) spent an average of 3.6 percent of sales for payroll while the largest establishments (annual sales of \$10 million and over) spent only 1.6 percent. The 347 smallest establishments paid only \$5,471 per employee, whereas the 294 largest establishments paid about \$11,122 annually per person. These numbers indicate that the largest establishments have higher sales per person which enables them to pay higher wage rates, and still have lower payroll costs per dollar sales. Salespersons employed by large firms may be more productive or serve different kinds of customers who require different services--the data do not distinguish between the two factors.

Payroll costs per dollar of sales and per employee would be expected to be higher than average for brokers who sell to retailers because these brokers assist in preparing and maintaining sales displays in the stores. In 1972, payroll costs averaged 1.8 percent of sales for all grocery products brokers other than food and beverage basic materials brokers. For those who specialized in sales to retailers, the average was 2.1 percent. ^{20/} This factor does not explain the payroll differences between large and small establishments since only 28 percent of the small establishments specialized in sales to retailers, while 43 percent of the large establishments were so specialized.

Among those who specialized in sales to retailers, small establishments reported that 5.2 percent of their sales went for payroll, as against 2 percent of the sales of large establishments (fig. 1). Payroll per employee averaged \$6,307 for small establishments and \$11,893 for large establishments. Size advantages also were observed for those brokers that specialized in sales to wholesalers--payroll costs per dollar sales ranged from 3.1 percent for the small establishments to 1.6 percent for large establishments.

Coffee, Tea, and Spices Brokers--The Nation's coffee, tea, and spices brokers reported relatively low payroll expenses--1.5 percent of sales in 1972 and 0.8 percent in 1977. Payroll equaled 52 percent of their total operating expenses in 1972 and dropped to 48 percent in 1977. Payroll per employee rose from \$10,582 in 1972 to \$14,060 in 1977--about equal to the average for all grocery products brokers. The sharp drop in payroll expenses as a percentage of sales is attributed to sharply higher coffee prices.

^{20/} An establishment was considered to be specialized if 30 percent or more of its sales were to a particular class of customer. An establishment could specialize in more than one customer class.

Table 23--Annual payroll as a percentage of sales and per employee, by kind of broker and establishment size, 1972

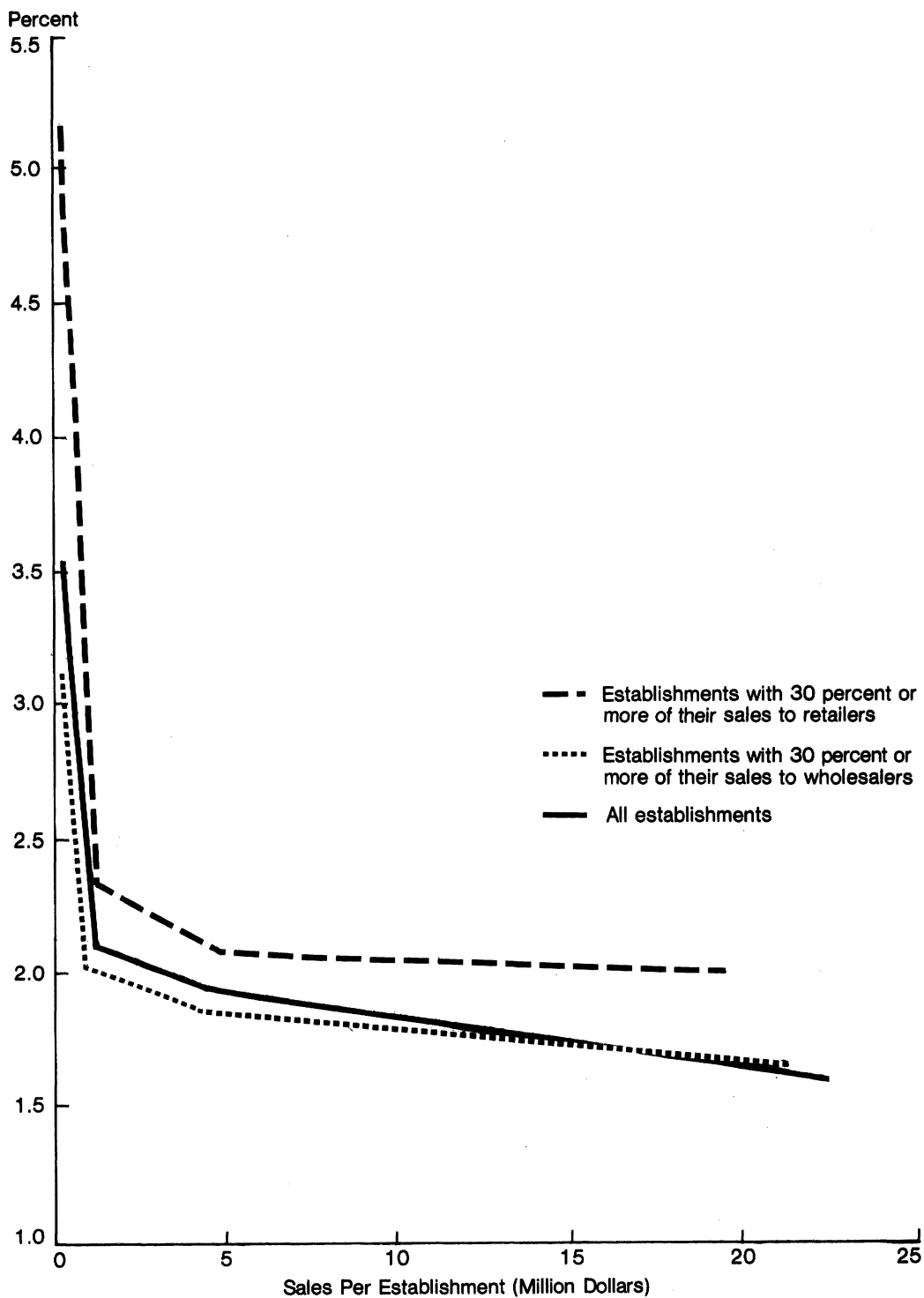
Kind of broker	All establishment:	Less than \$500,000:	Establishments with annual sales of--			
			\$500,000-\$1,999,000:	\$2,000,000-\$4,999,000:	\$5,000,000-\$9,999,000:	\$10,000,000 and over
			<u>Percent</u>			
Payroll as percentage of sales:						
All grocery products	1.6	3.6	2.2	1/	1/	1/
Food and beverage basic materials	.6	3.7	2.2	1/	1.9	1/
All other grocery products	1.8	3.6	2.2	1/	1/	1.6
Coffee, tea, and spices	1.5	3.8	3.0	1.4	2.0	1.0
Bakery products	2.0	3.7	2.7	1.9	1.7	1.7
Canned goods	1.8	4.6	2.0	2.0	1.9	1.6
Other packaged goods	1.9	4.6	2.1	1.9	1.9	1.8
			<u>Dollars</u>			
Payroll per employee:						
All grocery products	10,136	5,471	7,773	1/	1/	1/
Food and beverage basic materials	11,127	6,846	8,700	1/	8,744	1/
All other grocery products	10,137	5,402	7,711	1/	1/	11,122
Coffee, tea, and spices	10,582	6,000	8,306	10,944	11,117	14,124
Bakery products	8,104	3,938	7,081	11,784	7,578	9,296
Canned goods	10,857	7,471	7,387	9,502	11,608	12,083
Other packaged goods	10,391	5,869	8,317	9,343	10,326	11,050

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

Figure 1

Payroll as a Percentage of Sales Per Establishment, Grocery Products Brokers Except Food, and Beverage Basic Materials Specialists, 1972



Establishment and firm size strongly influenced the payroll expenses of coffee, tea, and spices brokers in 1972 (table 23). Small establishments had the highest payroll per dollar sales and lowest payroll per employee. The four largest firms paid only 0.9 percent of their sales to employees, or \$14,882 per person, compared with \$9,523 per person or 2.3 percent of sales for the 9th through 50th largest firms, and \$6,902 per employee, or 2.4 percent of sales for the 23 smallest firms. These differences are largely associated with differences in sales by class of customer. The larger establishments sold more bulk green coffee to wholesalers and food processors (many sales are made by telephone which reduces payroll costs per dollar of sales). The smaller establishments sold more roasted coffee, tea, and spices in retail packages to retailers and foodservice outlets, which require personal sales visits and relatively high payroll costs.

However, economies of size were substantial even for those coffee, tea, and spices brokers that specialized by selling to a particular class of customer. For example, among the establishments that made 30 percent or more of their sales to food processors, the six smallest establishments paid 4.8 percent of their sales for payroll, whereas the six largest establishments paid only 0.8 percent of their sales.

Bakery Products Brokers--Annual payroll for bakery products brokers equaled 2 percent of their sales in 1972 and 2.9 percent in 1977--considerably higher than average for all grocery products brokers. Sales per employee were below average at \$8,100 per year in 1972 and \$11,200 in 1977.

Establishments with over \$5 million in annual sales had lower expenses than did smaller bakery establishments (table 23). Medium-size establishments (those with annual sales of \$2 million to \$4.9 million) reported the highest payroll per employee in 1972. The relationship between firm size and payroll for bakery products brokers was slightly different than for all grocery products brokers--the four largest bakery products brokers had low, but not the lowest, payroll costs per dollar of sales (table 24).

Canned Goods Brokers--Payroll costs of canned goods brokers in 1972 averaged 1.8 percent of sales and 64 percent of operating expenses. Payroll per employee was \$10,857 in 1972. In 1977, payroll averaged 1.9 percent of sales, 54 percent of operating expenses, and \$14,443 per employee. Small establishments paid 4.6 percent of their sales in payroll in 1972 while large establishments paid only 1.6 percent of sales (table 23).

Other Packaged Goods--Other packaged goods brokers' payroll expenses also were similar to those of all grocery products brokers, averaging 1.9 percent of sales, 55 percent of total expenses, and \$13,950 per employee in 1977 (see table 25 for differences by class of customer in 1972).

Payroll Cost Summary--Payroll costs only averaged 1.9 percent of the sale value of goods sold by grocery products brokers. How-

Table 24--Bakery products brokers' payroll as a percentage of sales and per employee, and sales per establishment, by firm size, 1972

Firm size	Annual payroll--		
	Sales		Sales
	As percentage of sales	Per employee	
	Percent	Dollars	1,000 dollars
4 largest	1.7	8,459	21,642
5th-8th largest	1.6	8,479	5,122
9th-20th largest	2.0	10,921	4,003
21st-50th largest	1.9	10,168	1,676
All others	4.2	4,667	317

Source: Special tabulations by the Bureau of the Census.

ever, as in other service industries, payroll is an important cost, accounting for 54 percent of the total operating expenses of all grocery products brokers in 1977.

Substantial economies of establishment and firm size exist with respect to payroll expenses. Establishments with sales of \$10 million and over in 1972 enjoyed a 27-percent unit labor cost advantage over those with sales of \$500,000 to \$2 million and a 56-percent advantage over those with annual sales of less than \$500,000. This advantage has been great enough that the average number of employees per establishment doubled from 5.7 in 1958 to 11.4 in 1977 (table 26).

Large operators, on average, pay much higher payroll expenses per employee. Establishments with annual sales of \$10 million or more paid more than twice as much per employee as did those with annual sales of less than \$500,000. This may be attributed to one or more of the following factors: (1) more of them may be incorporated so that owners are paid a salary rather than out of profits, (2) they may hire more full-time employees, or (3) their workers may be more efficient in terms of sales per labor-hour. The data show that larger operations are more likely to be incorporated (see table 16).

It is not possible with available data to address questions about the extent of part-time workers or about labor-hours. However, as a substitute for sales per labor-hour, sales per employee can be compared among different types of brokers. For example, sales per employee in 1972 were highest for grocery products brokers who primarily sold to foodservice establishments, government

Table 25--Payroll as a percentage of sales and per employee, canned and other packaged goods brokers with specialized sales to retailers and wholesalers, by establishment size, 1972

Item	All establishments	Establishments with annual sales of--				
		Less than \$500,000	\$500,000- 1,999,000	\$2,000,000- 4,999,000	\$5,000,000- 9,999,000	\$10,000,000 and over
		<u>Percent</u>				
Payroll as a percentage of sales:						
Canned goods brokers with 30 percent or more of their sales to:						
Retailers	2.0	6.6	2.0	2.4	1.9	1.9
Wholesalers	1.6	3.3	2.0	1.8	1.9	1.4
Other packaged goods brokers with 30 percent or more of their sales to:						
Retailers	2.1	3.6	2.2	2.3	2.1	2.1
Wholesalers	1.9	5.3	2.1	1.8	1.9	1.9
		<u>Dollars</u>				
Payroll per employee:						
Canned goods brokers with 30 percent or more of their sales to:						
Retailers	11,496	9,143	7,362	10,834	11,320	12,516
Wholesalers	10,833	6,686	7,527	9,048	11,888	12,172
Other packaged goods brokers with 30 percent or more of their sales to:						
Retailers	10,564	5,043	7,250	8,945	9,466	11,766
Wholesalers	10,073	6,042	7,451	8,649	10,941	10,448

Source: Special tabulations by the Bureau of the Census.

Table 26--Establishment size of grocery products brokers,
census years 1958-77

Establishment size	Year				
	1958	1963	1967	1972 1/	1977
	<u>Percent of establishments</u>				
Number of employees:					
50 or more	0.9	0.9	1.5	2.3	3.9
20 to 49	4.0	5.8	6.6	8.3	11.8
8 to 19	16.3	19.3	24.9	26.1	NA
4 to 7	24.4	27.3	23.5	22.6	NA
0 to 3	54.4	46.7	43.6	40.6	NA
	<u>Percent of sales</u>				
50 or more	11.1	7.0	12.9	17.2	26.8
20 to 49	13.6	22.0	21.1	25.4	28.4
8 to 19	31.1	29.3	32.5	34.7	NA
4 to 7	21.0	23.7	20.0	13.7	NA
0 to 3	23.2	17.9	13.5	8.9	NA
	<u>Number</u>				
Employees per establishment	5.7	7.7	8.4	9.7	11.4

NA = Not available.

1/ Does not include brokers that specialized in food and beverage basic materials in 1972, except for employees per establishment.

Sources: U.S. Bureau of the Census, U.S. Census of Business, 1958, Wholesale Trade, BC58-WS1, Sales Size and Employment Size, U.S. Gov't. Print. Off., 1961; U.S. Bureau of the Census, Census of Business, 1963, Wholesale Trade--Summary Statistics, Vol. IV, Part 1, U.S. Gov't. Print. Off., 1966; U.S. Bureau of the Census, Census of Business, 1967, Volume III, Wholesale Trade--Subject Reports, U.S. Gov't. Print. Off., 1971; U.S. Bureau of the Census, Census of Wholesale Trade, 1972, Subject Series, Establishment Size and Firm Size, WC72-S-1, U.S. Gov't. Print. Off., 1975; and U.S. Bureau of the Census, 1977 Census of Wholesale Trade, Subject Series, Establishment and Firm Size, WC77-S-1, U.S. Gov't. Print. Off., 1980.

agencies, and for export (\$727,000 per employee), and lowest for brokers who primarily sold to retailers (\$520,000). Brokers that specialized in sales to wholesalers placed between them (\$590,000). Since a larger proportion of the largest brokers primarily sold to wholesalers (53 percent of the establishments with annual sales of \$10 million or over versus 47 percent of the establishments with annual sales under \$500,000), only a small part of the difference in payroll costs per dollar of sales among different size brokers probably is due to differences in customers served rather than differences in size.

On average, payroll per employee of grocery products brokers is 37 percent higher than in other service industries and 13 percent higher than in all grocery wholesaling industries. Those who work for the larger brokers earn more. After adjusting for differences in establishment size, pay per employee does not vary much between the brokers that specialize their sales to a certain class of customer or between establishments that handle particular commodity lines.

Bad Debt Losses

Only about 3 percent of the grocery products brokerage establishments reported any bad debt losses in 1972 and these losses amounted to only one-tenth of 1 percent of their sales. Coffee, tea, and spices brokers, which made the most credit sales, also had slightly higher than average bad debt losses--8.2 percent of the establishments reported losses which equaled 0.3 percent of their sales. Other brokers in the grocery products group had a very low incidence of bad debt losses.

Commission Income

The major source of revenue for agents and brokers is commission income. Some also sell products on their own account and some may receive partial payment in kind. Commission rates indicate the price that brokers charge for their services. The Bureau of the Census does not publish commission income or commission sales data, and therefore does not edit responses to questions on this subject. As a result, some errors exist in the data tabulated for this report. The assumption was made that the errors affect both commission income and commission sales in the same manner, so that commission rates (commission income as a percentage of commission sales) are reasonably accurate.

Data in the special tabulation obtained from the Census show that the average grocery products brokerage establishment received \$183,600 in commission income in 1972. The average commission rate was 3.1 percent. Commissions paid to brokers normally are negotiated between individual brokers and principals. In some situations the rate is on an ad valorem basis, others are based on the number of physical units sold, and still others may use a flat fee for specific tasks performed. Because all three methods are used, the average commission as a percentage of sales could be quite different today than it was in 1972.

The largest firms and establishments reported the lowest commission rates, and conversely the smallest brokers reported the highest commission rates (table 27). Rates also varied by kind of broker, with food and beverage basic materials brokers having

Table 27--Commission rates of grocery products brokers, by establishment and firm size, 1972

Size	Kind of grocery products broker						
	All	All except food and beverages basic materials	Coffee, tea, and spices	Bakery products	Canned goods	packaged goods	Food and beverage basic materials
All establishments	3.1	3.2	2.8	<u>1/</u> 3.8	3.2	3.2	1.6
Establishment size (annual sales):							
Less than \$500,000	6.4	6.7	7.3	9.8	5.5	6.4	3.6
\$500,000 to \$1,999,000	<u>2/</u>	3.9	5.1	5.9	3.4	3.3	<u>2/</u>
\$2,000,000 to \$4,999,000	<u>2/</u>	3.9	3.1	<u>1/</u> 5.7	3.8	3.9	<u>2/</u>
\$5,000,000 to \$9,999,000	<u>2/</u>	3.4	3.7	4.4	3.4	3.3	<u>2/</u>
\$10,000,000 and over	<u>2/</u>	2.9	1.7	2.9	2.9	3.0	<u>2/</u>
Firm size:							
4 largest	NA	1.7	1.5	3.0	1.8	2.9	<u>2/</u>
5th to 8th largest	NA	2.2	2.0	4.9	3.2	2.4	<u>2/</u>
9th to 20th largest	NA	<u>2/</u>	3.8	<u>2/</u>	3.7	3.2	<u>2/</u>
21st to 50th largest	NA	<u>2/</u>	4.9	<u>2/</u>	3.3	3.3	<u>2/</u>
All others	NA	3.5	4.5	<u>2/</u>	3.4	3.4	<u>2/</u>

NA = Not available.

1/ Estimated; data withheld by the Bureau of the Census.

2/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

the lowest rates and bakery products brokers having the highest rates. For all grocery products brokers with 30 percent or more of their sales to retailers, the brokerage rate was 3.7 percent--slightly higher than the overall average. Brokers that specialized their sales to wholesalers had a commission rate of 3.1 percent--the same as the overall average.

Profits

Profits represent return on invested funds and, in the case of food brokers, usually include partial payment for personal services provided to the business. Profits data are not collected and published by the Bureau of the Census. However, because most brokers operate solely on a commission basis, it is possible to estimate their operating profits by subtracting operating expenses as a percentage of sales from the commission rate.

Sales on own account may cause profit rates reported here to be understated for two reasons. First, commission rates may understate total revenue per dollar of sales because gross margins for sales on own account are probably higher than commission rates to compensate for higher costs and risks associated with ownership of products. Second, total operating expenses may be higher than required to produce the commission income since sales on own account usually involve storage and physical handling of goods. Since small brokers generally handle a relatively larger portion of their sales on their own account than do large brokers, it is likely that their profits are understated more than those of larger operations. However, small brokers also are more likely to understate their operating expenses because less of their owners' compensation is paid as salaries. This latter factor, which is important among all grocery products brokers, causes profits to be overstated. Data are not available to determine the relative importance of the two factors. Since they have opposing effects, if magnitudes are approximately equal, they would have no net effect on the data reported here. It is the authors' judgment that the profits of small firms may be slightly understated relative to large firms.

The overall operating profit for grocery products brokers averaged only 0.3 percent of sales in 1972. This average obscures the variation among size categories and kinds of business (table 28). Medium-size establishments, in general, were the most profitable. Canned goods brokers appear to be the most profitable among the grocery products specialties with other packaged goods brokers being the least profitable.

Productivity

Productivity is a potential determinant of cost, commission rate, and profit differences among food brokers. Furthermore, if a particular size of operation is inherently more efficient, it may be expected to displace others over time.

One way to analyze productivity is to compare actual operations with productivity standards developed for a hypothetical operation that is assumed to operate as efficiently as possible given existing technology. This procedure generally is not feasible because detailed economic engineering studies are required. As a result, comparisons are made among existing

Table 28--Profit rates of grocery products brokers, by establishment and firm size, 1972

Size	Kind of grocery products brokers						
	All	:All except: : food and : beverages : : basic : : materials :	Coffee, tea, and species	Bakery products	Canned: goods	packaged: goods	: Other : : Food and : beverage basic : materials
				Percent			
All establishments	0.3	0.3	-0.1	<u>1/</u>	0.4	-0.2	0.3
Establishment size (annual sales):							
Less than \$500,000	-2.2	-2.0	1.5	2.0	-6.0	-5.6	-6.6
\$500,000 to \$1,999,000	<u>1/</u>	-2.4	-1.8	3.1	<u>2/</u>	-9.7	<u>1/</u>
\$2,000,000 to \$4,999,000	<u>1/</u>	<u>1/</u>	- .1	<u>1/</u>	.4	.6	<u>1/</u>
\$5,000,000 to \$9,999,000	<u>1/</u>	<u>1/</u>	1.9	1.5	.5	.1	<u>1/</u>
\$10,000,000 and over	<u>1/</u>	.5	.2	1.7	.4	.2	<u>1/</u>
Firm size:							
4 largest	<u>1/</u>	.1	- .4	1.9	.1	- .3	<u>1/</u>
5th to 8th largest	<u>1/</u>	1.4	.2	1.6	.3	.3	<u>1/</u>
9th to 20th largest	<u>1/</u>	<u>1/</u>	1.2	<u>1/</u>	1.2	.7	<u>1/</u>
21st to 50th largest	<u>1/</u>	<u>1/</u>	.2	<u>1/</u>	.3	.3	<u>1/</u>
All others	<u>1/</u>	.1	-6.2	<u>1/</u>	.4	- .5	<u>1/</u>

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

2/ Less than 0.1 percent.

Source: Special tabulations by the Bureau of the Census.

operations without attempting to determine the degree of inefficiency of the most efficient operations. 21/ Because of data limitations, most productivity measures are restricted to the relationship between output and the labor input. This either omits productivity of nonlabor inputs or attributes all differences to labor.

Data are available for three measures of productivity for grocery products brokers: sales per employee, payroll per dollar of sales, and operating expenses per dollar of sales. 22/ The latter two measures will not be repeated here except to note that large establishments and firms tend to have greater productivity based upon these criteria.

Differences in sales per employee measure more than productivity differences. Sales reflect differences in product assortment and prices and may not fully reflect differences in the amount of broker services. The number of employees does not account for differences in the number of part-time employees and unpaid owners.

The average grocery products broker reported 1977 sales per employee of \$750,000, with considerable variation between different kinds of grocery products brokers (table 29). Coffee, tea, and spices brokers reported the highest average, probably attributed in large part to: (1) the relatively high value per pound of the products they sell, and (2) the importance of import brokers who conduct a relatively large proportion of their business by phone. Other brokers who sell products in consumer-size packages make a relatively large share of their sales through personal visits to a large number of establishments. Most bakery products brokers fit in the latter category. They tend to be relatively small, and have high operating expenses per dollar of sales and low sales per employee. Some small bakery products brokers may be route salespersons who sell on a commission basis. Size breakouts are not available for 1977, but in 1972 the data show that, in general, small establishments and firms had sharply lower sales per employee than did large firms and establishments (table 30). In the case of bakery products and other packaged goods brokers, however, intermediate-size operations reported the highest sales per employee in 1972.

21/ This kind of comparison is a potentially significant source of error. For example, a study recently conducted for USDA indicates that in dry grocery warehouses the difference between actual and potential productivity of nonsupervisory labor could be as great as 50 percent (Grinnell, Gerald and Lawrence Friedman, Productivity Potential in Dry Grocery Warehouses, Agricultural Economic Report No. 484, Economic Research Service, USDA, March 1982).

22/ Ideally, physical units of output should be related to physical units of input. Physical quantities usually are not available. Even when they are, one must decide what is the optimum unit of measure in operations that produce a heterogeneous mix of products and services. Sales are a convenient common denominator.

Table 29--Sales per employee, and payroll and operating expenses as a percentage of sales, by kind of broker, 1977

Kind of broker	Expenses as a percentage of sales		
	Sales per employee	Payroll	Total operating expenses
	Dollars	Percent	
All grocery products	749,976	1.9	3.4
Food and beverage basic materials	897,841	1.6	3.1
Other grocery products	746,188	1.9	3.4
Coffee, tea, and spices	1,686,989	.8	1.7
Bakery products	391,681	2.9	6.3
Canned goods	763,764	1.9	3.5
Other packaged goods	728,417	1.9	3.5

Source: U.S. Dept. of Commerce, 1977 Census of Wholesale Trade, Geographic Area Series, United States, WC77-A-52, Bureau of the Census, June 1980.

CONCLUSIONS

Since 1958, grocery products brokers' share of establishments and sales has been declining, but their share of employees relative to other grocery products wholesalers has increased slightly. At the same time, manufacturers' sales branches and offices have increased their relative share of establishments and sales. These data suggest that more manufacturers may be choosing to handle their own sales activities rather than having brokers do it. An exception may be where sales activities are especially labor intensive.

Relatively little capital is needed to start a brokerage firm since most do not have inventories or any extremely expensive equipment. In fact, grocery products brokers had yearend inventories averaging less than \$12,000 per establishment or only 0.1 percent of their sales in 1977. Only 7 and 9 percent of canned goods and other packaged goods brokers, respectively, had inventories at the end of 1972. However, 21 percent of bakery products brokers, and 33 percent of coffee, tea, and spices brokers reported having inventories. The former is attributed to route salespeople who sell bakery products on a commission basis. The latter probably reflects that importers of coffee, tea, and spices are responsible for product storage in public warehouses.

Individuals with experience in a brokerage office or a manufacturer's sales office can probably learn most of what is needed to start their own brokerage firms. In addition, manufacturers and trade associations are available to help brokers with specific aspects of their operations. These factors help assure that there will be a number of small brokerage firms in any given metropolitan area. At the same time, large firms have existed for many

Table 30---Sales per employee, by establishment and firm size, 1972

Size	Kind of grocery products broker						
	: All except food:	:	:	:	: Other :	: Food and	
	: All : and beverages :	Coffee, tea, :	Bakery :	Canned:	packaged:	beverage basic	
	: :basic materials:	and spices :	products:	goods :	goods :	materials	
	:	:	:	:	:	:	
	Thousand dollars						
	:	:	:	:	:	:	:
All establishments	: 647	577	703	408	614	561	1,824
Establishment size (annual sales):	:	:	:	:	:	:	:
Less than \$500,000	: 153	152	160	107	163	128	185
\$500,000 to \$1,999,000	: 355	352	281	261	365	389	404
\$2,000,000 to \$4,999,000:	<u>1/</u>	<u>1/</u>	760	624	474	488	<u>1/</u>
\$5,000,000 to \$9,999,000:	<u>1/</u>	<u>1/</u>	555	437	611	532	<u>457</u>
\$10,000,000 and over	: <u>1/</u>	697	1,468	551	754	622	<u>1/</u>
	:	:	:	:	:	:	:
Firm size:	:	:	:	:	:	:	:
4 largest	: NA	1,086	1,666	503	972	433	<u>1/</u>
5th to 8th largest	: NA	648	1,194	534	664	1,279	<u>1/</u>
9th to 20th largest	: NA	680	651	540	624	655	<u>1/</u>
21st to 50th largest	: NA	658	299	529	640	611	<u>1/</u>
All others	: NA	527	292	110	540	526	<u>334</u>
	:	:	:	:	:	:	:

NA = Not available.

1/ Data were withheld by the Bureau of the Census to avoid disclosure of individual operations.

Source: Special tabulations by the Bureau of the Census.

years. Any broker that obtains the account of large food manufacturers is likely to be relatively large by standards appropriate for this industry. In 1977, less than 20 percent of all grocery products brokers employed more than 20 employees, and only 15 establishments had 100 or more employees.

The four largest grocery products brokers, excluding food and beverage basic materials brokers in the United States, accounted for about 7 percent, and the 50 largest, 30 percent of the sales of all grocery products brokers in 1972. Concentration varied among the product specialties. The four leading food and beverage basic materials brokers accounted for 86 percent of these specialists' sales and the four leading coffee, tea, and spices brokers reported 41 percent of sales in their specialty. Canned goods and other packaged goods brokers were relatively unconcentrated--the four leading firms accounted for 16 and 9 percent of the total sales of their specialties, respectively.

Concentration levels were higher in local areas. On average, the four leading brokerage firms that sold grocery products accounted for 47 percent of the sales of all grocery products brokers in 14 grocery marketing areas studied. The four-firm concentration ratio averaged 98 percent for brokers that sold food and beverage basic materials, 89 percent for those selling coffee, tea, and spices, and 54 percent for those selling canned goods.

Grocery products brokers generally are undiversified--most operated only one establishment. Coffee, tea, and spices brokers are an exception. Other grocery wholesale establishments accounted for nearly 50 percent of their total sales and other diversified activities accounted for an additional 16 percent in 1972.

Grocery products brokers in 1972 made 32 percent of their sales to retailers and 46 percent to wholesalers. The remaining 22 percent of sales was distributed among food processors, foodservice establishments, government agencies, export and others types of customers. This distribution was about the same for all sizes of brokers. Canned goods brokers made relatively fewer sales to retailers (30 percent) and food processors (3 percent) and more sales to wholesalers (61 percent).

Other packaged goods brokers reported less sales to wholesalers (44 percent versus 49 percent) and more sales to food processors (11 percent versus 9 percent) than the average for all grocery products brokers. Coffee, tea, and spices brokers included several firms that specialized in sales to food processors. As a result, this customer class accounted for 43 percent of the total sales of these product specialists. Only 5 percent of their sales were to retailers and 43 percent were to wholesalers.

Bakery products brokers made a large share of their sales to retailers (56 percent) and food processors (16 percent) relative to the distribution for the other grocery product specialists. These higher sales were offset by relatively fewer sales to wholesalers (21 percent).

Grocery products brokers were relatively specialized in the commodity lines they sold in 1972. All but 24 percent of their sales were in products that comprise the industry's area of specialization. Among the product specialties, approximately 80 percent of coffee, tea, and spices brokers' sales were in these products, 96 percent of bakery products brokers' sales were in bakery products, and 77 percent of canned good brokers' sales were in canned and bottled goods.

Per unit total operating expenses of grocery products brokers averaged 3.4 percent of their sales in 1977 and varied inversely with establishment and firm size. In 1972, operating expenses as a percentage of sales for small establishments (less than \$2 million in annual sales) were three times the average for large establishments (1972 annual sales of \$10 million or more). Brokers who primarily sold to retailers reported higher expense rates than those who sold to other classes of customer. In 1977, coffee, tea, and spices brokers, on average, reported the lowest operating expenses as a percentage of sales (1.7 percent), followed by canned goods and other packaged goods brokers (3.5 percent), and bakery products brokers (6.3 percent).

Payroll expenses averaged 1.9 percent of sales and represented about 54 percent of total expenses in 1977. Large brokers enjoyed a 27-percent unit labor cost advantage over brokers with 1972 annual sales of \$500,000 to \$2 million and a 56-percent advantage over small brokers (1972 sales of less than \$500,000).

Employees of grocery products brokers receive relatively high earnings. The average payroll per employee in 1977 was \$14,000, which is 37 percent higher than in other service industries and 11 percent higher than the average for all grocery wholesaling. Payroll per employee was twice as high for large grocery products brokers as for small operations in 1972.

Nonpayroll expenses averaged 1.2 percent of sales for all grocery products brokers in 1972 and 1.9 percent in 1977. The average in 1972 was 5.1 percent for small establishments (1972 annual sales of less than \$500,000) and 0.8 percent for very large establishments (annual sales of \$10 million or more). Thus, larger operations enjoyed substantial economies in the use of both labor and nonlabor inputs.

Commission rates of grocery products brokers averaged 3.1 percent in 1972. The average for small establishments was 6.7 percent compared to 2.9 percent for large operations. Commission rates were highest for bakery products brokers (3.8 percent), followed by canned and other packaged goods brokers (3.2 percent), coffee, tea, and spices brokers (2.8 percent), and food and beverage basic materials brokers (1.6 percent).

Profits data for grocery products brokers are not readily available. Estimates based upon information from the special 1972 Census tabulation indicated that profits of grocery products brokers averaged 0.3 percent of sales. Losses were reported, on average, for establishments with annual sales of less than \$2

million. Profits of establishments with annual sales of \$10 million and over averaged 0.5 percent of sales. Medium-size operations tended to be the most profitable. Canned goods brokers were the most profitable type of grocery products broker while packaged goods and food and beverage basic materials brokers were the least profitable.

Evaluation of the performance of the industry is difficult because small firms frequently do not maintain good records and because business and personal affairs of the owners are intertwined. The lack of significant barriers to entry and the possibility that manufacturers can operate their own sales establishments or use other wholesale outlets appear to effectively limit brokers' discretion in setting high commission rates. As a result, rates appear closely related to the costs of doing business, and profits tend to be relatively low in relation to sales. With these low profit rates, it appears that profits per se are not the principal motivating factor for grocery products brokers. Rather, they apparently seek to earn a good return on their own and their employees' labor. As a result, payroll per employee is relatively high. It is likely that owners pay themselves a salary that compares favorably with those of their best salespeople.

The traditional structure and performance measures analyzed in this study suggest that the industry on the whole is reasonably competitive and that market forces are sufficient to maintain adequate competitive pressure. This does not suggest, however, that some problem areas may not exist. For instance, in some product specialties, concentration is quite high. A thorough analysis of the implications of these few instances, though, is beyond the scope of this report.

APPENDIX A--GROCERY
MARKETING AREAS

Grocery Marketing
Area (GMA)

Standard Metropolitan Statistical
Area (SMSA)

Boston	Boston, MA; Lawrence-Haverhill, MA-NH; Lowell, MA-NH; Brockton, MA
Cincinnati	Cincinnati, OH-KY-IN; Hamilton-Middletown, OH
Chicago	Chicago, IL; Gary-Hammond-East Chicago, IN
Cleveland	Cleveland, OH; Akron, OH; Lorain-Elyria, OH; Canton, OH, Youngstown-Warren, OH
Detroit	Detroit, MI; Ann Arbor, MI
Houston	Houston, TX; Galveston-Texas City, TX
Los Angeles	Los Angeles-Long Beach, CA; Anaheim-Santa Ana-Garden Grove, CA; Riverside-San Bernardino-Ontario, CA; Oxnard-Simi Valley-Ventura, CA
Miami	Miami, FL; Fort Lauderdale-Hollywood, FL; West Palm Beach-Boca Raton, FL
Milwaukee	Milwaukee, WI; Racine, WI; Madison, WI; Appleton-Oshkosh, WI; Green Bay, WI
New York	New York, NY-NJ; Nassau-Suffolk, NY; Newark, NJ; Jersey City, NJ; New Brunswick-Perth Amboy-Sayreville, NJ; Paterson-Clifton-Passaic, NJ; Long Branch-Asbury Park, NJ; Stamford, CT; Norwalk, CT
Philadelphia	Philadelphia, PA-NJ; Wilmington, DE-NJ-MD; Trenton, NJ; Lancaster, PA; Reading, PA; Allentown-Bethlehem-Easton, PA-NJ; Atlantic City, NJ; Vineland- Millville-Bridgeton, NJ
San Francisco	San Francisco-Oakland, CA; San Jose, CA; Vallejo-Fairfield-Napa, CA; Santa Rosa, CA; Santa Cruz, CA
Seattle	Seattle-Everett, WA; Tacoma, WA
Washington, D.C.	Washington, DC-MD-VA; Baltimore, MD; Harrisburg, PA; York, PA

APPENDIX B--METHOD
OF ESTIMATING FOUR-
FIRM CONCENTRATION
RATIOS

The Bureau of the Census withheld concentration ratio data when it would reveal information about individual operations. However, using partial Herfindahl index values and fifth-through-eighth firm marginal concentration ratios, four-firm concentration ratios for GMA's and States were estimated. The procedure included three steps: First, determining the maximum possible value of the concentration ratio; second, determining the minimum possible value of the concentration ratio; and third, using information from those GMA's and States where the four-firm concentration ratio is known to estimate where the true value lies within the minimum-maximum range. Minimum-maximum ranges were calculated both on the basis of firms' total sales and on the basis of sales of products in their primary area of specialization.

The largest possible value of the four-firm concentration ratio that can occur for a given value of the four-firm partial Herfindahl index equals the smaller of the values obtained from the following calculations: (1) calculating the four-firm concentration ratio based upon the four-firm partial Herfindahl index, assuming the four firms are of equal size (mathematically, this equals two times the square root of the four-firm partial Herfindahl index), and (2) determining the minimum possible fifth-through-eighth firm marginal concentration ratio (mathematically, this equals the square root of the fifth-through-eighth firm partial Herfindahl index) and subtracting from the eight-firm concentration ratio.

The smallest possible value of the four-firm concentration ratio that can occur for a given value of the four-firm partial Herfindahl index equals the larger value obtained from the following calculations: (1) calculating the four-firm concentration ratio based upon the four-firm partial Herfindahl index, assuming that three of the firms have market shares equal to zero (mathematically, this equals the square root of the four-firm partial Herfindahl index), and (2) determining the maximum possible fifth-through-eighth firm partial concentration ratio (based on the fifth-through-eighth firm partial Herfindahl index) and subtracting from the eight-firm concentration ratio.

Minimum-maximum four-firm concentration ratio ranges were calculated for all grocery products brokers in all GMA's and States. These values were compared to the extremes of the range in those areas where the actual concentration ratio was known. On average, actual concentration ratios based upon firms' total sales equaled 95 percent of maximum possible values. Actual concentration ratios calculated on the basis of firms' sales of products in their primary area of specialization averaged 90 percent of the maximum possible values. These percentages were used to estimate four-firm concentration ratios for the remaining GMA's and States.

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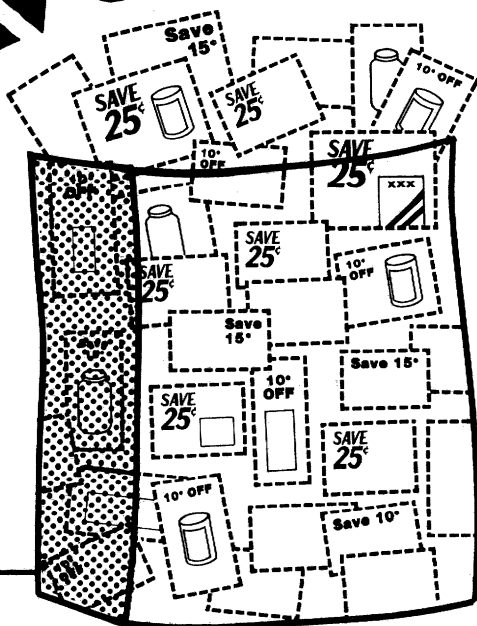
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