

MARCH, 1941

RESEARCH BULLETIN 327

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

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Market Organization and Costs in the St. Louis Wholesale Fruit and Vegetable Market

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(Publication Authorized March 11, 1941)



COLUMBIA, MISSOURI

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Market Organization and Costs in the St. Louis Wholesale Fruit and Vegetable Market

H. M. HAAG AND L. H. SCHWEITER*

INTRODUCTION

The St. Louis fruit and vegetable market is not only an important outlet for Missouri fruits and vegetables but also handles a large volume of these products from Illinois and other states. Its organization and efficiency, therefore, is of considerable concern to Missouri and to the rest of the nation. In addition, it has been stated that the fruit and vegetable markets have failed to keep pace with developments in other fields of marketing and are outmoded and inefficient. If such be true, studies of organization and costs should point out means of improving these markets, which might be put in effect. Thus, when 35 firms handling about 80 per cent of the business in the St. Louis Market requested that such a study be made of their market, it was deemed desirable to comply with this request. The request was made to the United States Department of Agriculture which asked the Missouri Agricultural Experiment Station to participate also in the study. As a result, this Station made this study of organization and costs in the market and the Department of Agriculture made a study of the possibilities and advantages of reorganizing or relocating the market the results of which are to appear later in a publication of that organization.

Objectives

The objectives of this study were to describe the organization and facilities of the market, to determine insofar as possible its sources of supply and its sales outlets, to ascertain the costs of handling fruits and vegetables through the market, and to disclose the relationships existing between costs and various factors influencing such costs. From such information, it was expected that practical recommendations for the improvement of the market might be developed.

*The writers are indebted to Mr. W. T. Calhoun of the U. S. Department of Agriculture, Prof. O. R. Johnson of the Missouri Agricultural Experiment Station, and Dr. L. J. Norton of the Illinois Agricultural Experiment Station who gave valuable assistance in outlining the project. Special credit also is due Mr. Calhoun for his assistance in collecting the data and reviewing the manuscript.



Fig. 1.—St. Louis wholesale fruit and vegetable market. This shows Third Street north of Delmar Boulevard, along which most of the produce business is located. (Courtesy of U. S. Department of Agriculture).

Sources and Reliability of Data

Members of the 35 firms requesting the study pledged their fullest cooperation in providing information for the study and, in addition, firms whose members did not sign the request cooperated willingly. Estimates and replies to questions, therefore, are undoubtedly more reliable than they would have been if obtained under less favorable circumstances.

The data for the part of the study describing the market were obtained directly from the operators on the market by means of a survey schedule completed for each firm on the market. The figures for the cost analysis and studies of margins were taken from the accounting records of representative firms in the Third Street Market. Records for this purpose were obtained from the books of 19 firms. Information on truck and rail receipts was obtained from the Agricultural Marketing Service, U. S. Department of Agriculture.

IMPORTANCE OF ST. LOUIS AS A MARKET

The city of St. Louis is an important market for fruits and vegetables. In 1940, it was the eighth largest city in the United States with a population of 813,748 within its corporate limits.¹ In addition, more than 500,000 persons live outside the city but within the metropolitan area surrounding St. Louis. Thus, more than 1,300,000 persons living in or near St. Louis now receive their daily supply of fresh fruits and vegetables from the wholesale fruit and vegetable markets of that city. In addition, persons living in towns and cities included within the trade territory of St. Louis consume about 10 per cent of the total volume of fruits and vegetables received in the St. Louis Market.²

To supply the more than 1,300,000 persons residing in the metropolitan area and in the trade territory of St. Louis, more than 61 carloads of fresh fruits and vegetables were unloaded each day in 1939. Thus, the total for the year was 24,142 carlots and carlot equivalents, including 1,865 carlots of bananas.³

¹Bureau of Census, U. S. Department of Commerce. *Sixteenth Census of the United States, Preliminary Population of Urban Places having 10,000 Inhabitants or More, 1940.*

²William C. Crow, *Wholesale Markets for Fruits and Vegetables in 40 Cities*, February, 1938.

³*Unloads of Fruits and Vegetables at St. Louis, Missouri*, Annual Report, 1939, (Mimeographed). Agricultural Marketing Service, United States Department of Agriculture. Although included here, the figure for truck receipts is far from complete and may be no more than one-half of the actual truck receipts. For this reason, the importance of commodities produced in nearby areas and hauled by truck is understated in Table 1 and that of products hauled almost entirely by rail such as citrus fruits is overstated.

Kinds of Produce Received

More than fifty different kinds of fruits and vegetables (exclusive of bananas) are unloaded in wholesale quantities in St. Louis each year. This includes both truck and rail receipts. During the five years, 1935-39, potatoes were the most important of these commodities, accounting for more than 24 per cent of the total, (Table 1). Oranges were second in importance with

TABLE 1. CARLOT UNLOADS OF FRUITS AND VEGETABLES, BY COMMODITIES, ST. LOUIS, 5-YEAR AVERAGE, 1935-39*

Commodity	Number of Carlots Unloaded	Per Cent of Total
Potatoes	5,501	24.2
Oranges	1,809	8.0
Lettuce	1,527	6.7
Apples	1,336	5.9
Cabbage	1,292	5.7
Onions	977	4.3
Tomatoes	968	4.3
Watermelons	826	3.6
Mixed Vegetables	802	3.4
Grapefruit	775	3.3
Celery	629	2.7
Peaches	505	2.2
Cantaloups	476	2.1
Lemons	459	2.0
Grapes	446	2.0
Cauliflower	428	1.9
Strawberries	397	1.7
Sweet Potatoes	380	1.7
Beans	379	1.7
Carrots	361	1.6
Spinach	352	1.5
Horseradish	222	1.0
Mixed Citrus	216	1.0
Corn	200	.9
Cucumbers	181	.8
Turnips and Rutabagas	160	.7
Pears	135	.6
Peas	124	.5
Pineapples	116	.5
Honey-dews (melons)	77	.3
Tangerines	67	.3
Peppers	63	.3
Beets	60	.3
Plums and Prunes	57	.3
Cranberries	54	.3
Rhubarb	53	.2
Asparagus	41	.2
Mixed Deciduous Fruit	39	.2
Eggplant	38	.2
Radishes	37	.2
Cherries	25	.1
Others	130	.6
Total	22,720	100.0

*Adapted from reports of the Agricultural Marketing Service. Includes figure for unloads from trucks although not complete, as well as railroads. Truck loads were converted to carlot-equivalents.

eight per cent and lettuce, third with almost seven per cent. Apples and cabbage follow with approximately six per cent each.

Sources of Supplies

St. Louis receives fruits and vegetables from nearly every state in the Union and from six foreign countries. Complete information on sources is not available because the origin of truck receipts is not recorded. It is possible, therefore, to show only the origin of supplies received by rail, which, of course, does not indicate the full importance of the nearby states. Of the rail unloads of fruits and vegetables at St. Louis in 1939, more than 29 per cent originated in California, (Table 2). This

TABLE 2. CARLOT UNLOADS OF FRUITS AND VEGETABLES IN ST. LOUIS, BY STATES, 1939*

State	Number of Carlots Unloaded	Per Cent of Total
California	5,152	29.4
Texas	2,443	13.9
Idaho	1,553	8.9
Florida	1,535	8.8
Minnesota	946	5.4
Washington	736	4.2
Colorado	624	3.6
North Dakota	579	3.3
Nebraska	550	3.1
Louisiana	472	2.7
New York	439	2.5
Arizona	424	2.4
Alabama	388	2.2
Wisconsin	269	1.5
Mississippi	252	1.4
Arkansas	200	1.1
Iowa	179	1.0
Georgia	111	.6
Oregon	94	.5
Michigan	85	.5
Illinois	75	.4
Missouri	65	.4
Wyoming	59	.3
Utah	57	.3
Oklahoma	52	.3
Massachusetts	43	.2
Ohio	32	.2
Virginia	29	.2
Pennsylvania	21	.1
South Carolina	15	.1
West Virginia	12	.1
Maryland	10	.1
Kansas	9	.1
Others**	26	.2
Total	17,536	100.0

*Adapted from reports of the Agricultural Marketing Service

**Tennessee, Indiana, New Jersey, New Mexico, South Dakota, Nevada, North Carolina, Kentucky, and Maine.

was twice as many as in any other state. Unloads from Texas were second with nearly 14 per cent and shipments from Idaho and Florida were responsible for almost nine per cent each. Thus, 61 per cent of the total rail unloads was accounted for by these four states, and the remaining 39 per cent originated in 40 other states.

Most of the motor truck receipts are from nearby areas in Missouri and Illinois but produce is also received from states which are quite distant. In 1939, truck loads of produce were received from Arkansas, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Ohio, Oklahoma, Tennessee, and Texas.

Importance as Diversion Point

St. Louis is an important market from the standpoint of shippers, due not only to the large market provided by the population of St. Louis and its environs but also to its position as an outstanding diversion point. At all times there is a large number of cars on track, and trucks approaching St. Louis which may be diverted to other markets if conditions appear favorable enough to justify the additional expense, and if the condition of the produce is such that it can be transported the additional distance. If conditions appear favorable on the St. Louis market, the products may, of course, be sold there. That this situation has made St. Louis a low-priced market because of constant heavy supplies of most products was noted by Thomsen⁴ and is frequently mentioned by St. Louis dealers. In addition to being a low-priced market, St. Louis has a reputation among the produce trade of being a low-quality market.

DESCRIPTION OF THE MARKET

The wholesale fruit and vegetable market in St. Louis is located in an area extending for a distance of five blocks along Third Street from Delmar Boulevard to O'Fallon Street, and two blocks along Fourth Street from Delmar Boulevard to Third Street, (Figure 2). Not all the 82 fruit and vegetable stores are located within this area, a few being on nearby streets. Neither is the area described completely occupied by fruit and vegetable stores. The most numerous of other businesses are cafes which operate for the convenience of the fruit and vegetable trade and the poultry commission firms which are interspersed throughout the area. In addition, the dry

⁴Thomsen, F. L., *The Cooperative Marketing of Fruits and Vegetables on the St. Louis Market*, Mo. Agr. Exp. Sta. Bul. 277.

THIRD STREET FRUIT AND VEGETABLE MARKET

ST. LOUIS, MISSOURI, APRIL 1, 1940

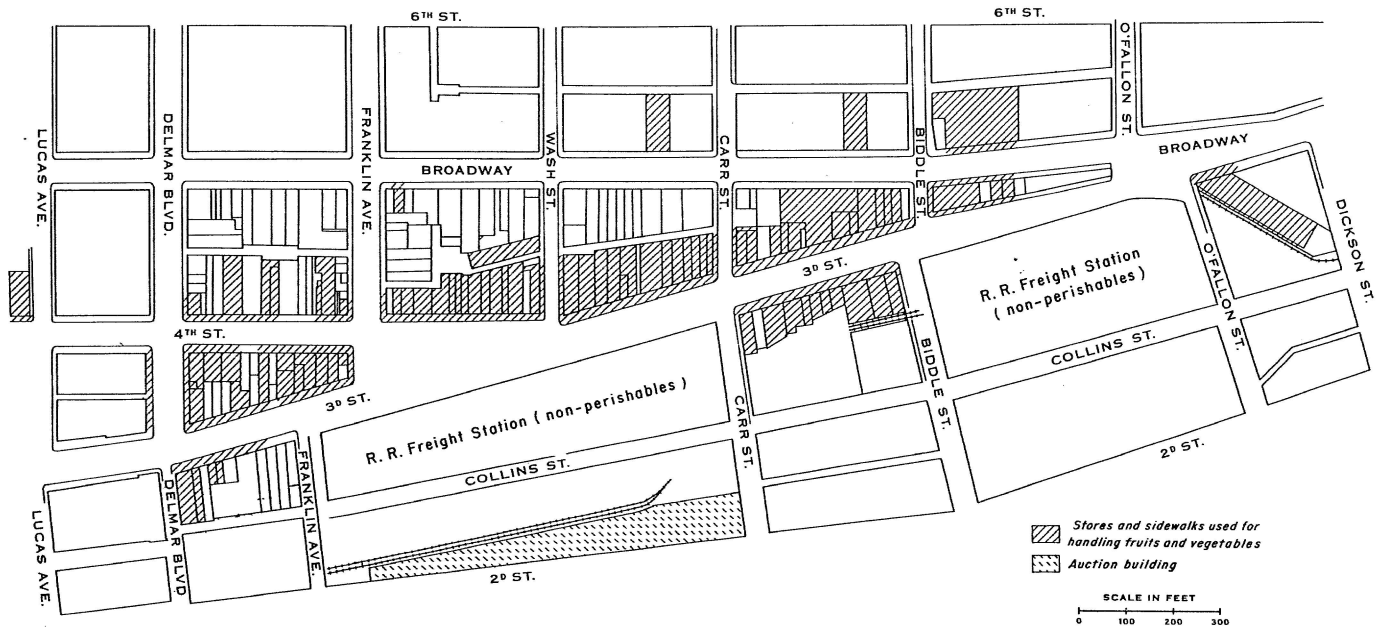


Fig. 2.—Location of properties used for handling fruits and vegetables. (Courtesy of U. S. Department of Agriculture).

freight sheds of several railroads are located along the east side of Third Street in this area.

Ownership and Amount of Space Available

In the Third Street Market area, 82 stores were used for fruits and vegetables in June, 1940. In addition, there were four banana basements owned separately from the other stores on the market, three of which were under fruit and vegetable stores. The stores on the market were predominately tenant-operated because 74.5, or 91 per cent, of the 82 stores were operated by tenants.^a Thirty-five of the tenants did not have written leases for their stores but occupied and paid rent for them on a month-to-month basis. In addition to these, 20 firms either leased on a yearly basis or their leases expired within a year. Thus, only 19 firms had leases on their stores for more than one year and the most of these were of relatively short duration. Only four firms in June, 1940, had leases not expiring prior to 1946, and no lease extended beyond 1950.

In general, the stores were long and narrow. The frontages ranged from 12 feet to 50 feet and averaged about 30 feet. Depths varied from 25 feet to 130 feet and averaged nearly 80 feet. The average size of the first floors of the stores then was about 2,400 square feet. The long, narrow stores were not very satisfactory for their small width limited the parking space available in front of each store for loading and unloading. Usually these long, narrow stores were dark and not properly suited for the display of produce. Because of this, as well as custom, the sidewalks were used as salesrooms. The small amount of sidewalk and other suitable display space made it necessary for produce to be piled high and rearranged often, adding to the cost of handling as well as to deterioration of products. Produce usually was without refrigeration except in those few cases when ice from refrigerator cars was piled on top of the containers. The few stores having coolers placed some of the products left unsold at the end of the day under refrigeration. In the other stores, the usual practice was to leave products on the walk from one day to the next, or, in some instances, to return the more perishable ones to the refrigerator car, each of which increased the costs of operation and losses from spoilage.

^aThe "one-half" store was due to the fact that one operator rented one-half of his store and owned one-half of it.

Use of Available Space

The character of the fruit and vegetable industry is such that it is impracticable to use upper stories for the storage of produce. On the Third Street Market, second stories were being rented by 63 firms in June, 1940, but only 40, or less than one-half of the 82 produce firms, actually used second floors. Furthermore, these second stories were not used extensively for most of them served as "catch alls" for empty crates, boxes, and barrels. Even the 17 firms which actually used second stories for such purposes as tomato ripening and repacking, and the storage of dry produce such as onions, potatoes, and apples did not utilize the space fully. According to estimates of the operators on the market the use of second floors in the entire market area has averaged only about 22 per cent of capacity in recent years.

Third floors were being utilized to a lesser extent than second floors. Although 20 of the buildings in which fruit and vegetable stores were located had third stories, only 17 of these were actually rented by produce firms. Of these only six were used for any purpose. Two firms occasionally placed produce on the third floor, and the other four used this space for storage of empty crates and boxes.

Additional Space

In spite of the fact that many firms in the Market did not utilize all space available, 21 firms or one-fourth of the total, rented additional storage, warehousing, or garage space. Cold storage space was rented by eight firms. Another eight firms rented additional common storage space, and the remaining five rented space for miscellaneous purposes. It was noted that two of the firms renting additional storage space did not use the upper stories of the buildings in which their stores were located. A total of \$588 per month was being paid by the 21 firms at the time of the survey for additional space used in the handling of produce. In addition to the storage, warehousing, and garage space mentioned above, sidewalk space, other than that directly in front of their stores, was rented by 17 firms. Total rentals of \$221 per month were being paid for this sidewalk space, usually adjoining the store of the renter.

Elevators

Elevator facilities in the market were limited. Only 38 of the 82 stores had elevators, and 9 of these had been condemned

by city authorities and were not usable. Many of the remaining 29 elevators were antiquated, hand-operated types, not suitable for heavy loads, and therefore were not being used extensively. Hence, less than one-third of the stores on the Third Street Market had reasonably satisfactory elevator facilities.

Cold Storage Facilities

The situation with regard to cold storage facilities was even worse. Only 18 stores had cold storage facilities. Since eight of these were being used as banana-ripening rooms, only ten, or 12 per cent, of the firms had cold storage facilities for produce other than bananas. One of these ten rooms was not in use. Although they did not have coolers, many firms had basement rooms in which ice from refrigerator cars was placed to prevent too rapid deterioration of products stored there.

That adequate cold storage facilities are needed by the handlers of the more perishable fruits and vegetables cannot be questioned. The fact that at least eight firms were renting cold storage facilities outside the market is convincing evidence of this need. In addition, many dealers not having cold storage facilities, expressed a desire for such, and remarked that coolers would prevent much of the deterioration in perishables that is now unavoidable. If this loss could be prevented, the value of produce should be increased accordingly.

Other Facilities

Slightly more than one-half of the 82 firms had outlets at the rear of their stores through which produce was moved. Many of these, however, opened into one of three alleys located in the principal market blocks. Each of these alleys was only 15 feet wide and hence too narrow for extensive use.

In spite of the difficulties involved, each dealer whose store had a rear opening into an alley, stated that occasionally produce was loaded and unloaded through it. It is highly probable, however, that not more than eight firms in the entire market area made extensive use of rear entrances. Only two of these had spacious loading docks at truck-bed height. It might safely be concluded, then, that the Third Street Market was decidedly lacking in loading facilities, an important need arising from the rapid growth of truck transportation.

Seven of the 82 stores had facilities for washing fruits and vegetables such as celery, potatoes, and apples. These are rarely used because of the transfer of this service from the wholesale market to the shipping point.

METHODS OF TRANSPORTATION USED

Although such would have been desirable, an analysis of the relative importance of trucks and railroads in delivering fruits and vegetables to the St. Louis market had to be omitted because the data on truck receipts were not considered sufficiently complete for this purpose. According to general information gained as a result of the study, about one-third of total receipts are now being received by truck and the proportion has been growing steadily in recent years. In the late summer months, considerably more than one-half of the unloads come in by truck.

MOVEMENT THROUGH THE MARKET

As is true of most markets, the methods of handling used and the classes of middlemen operating in the St. Louis market are quite numerous. In some studies of large fruit and vegetable markets, a distinction between wholesale receivers and jobbers has been made, but in this smaller market, such a differentiation was impossible, because nearly all firms obtaining physical possession of the produce made large numbers of small sales to retailers. Also, few St. Louis handlers have become as specialized in the handling of certain classes of commodities as have wholesalers in the larger fruit and vegetable markets. Thus, there are few, if any, firms in the St. Louis market doing a strictly wholesale business and most are performing a combination of wholesale and jobbing services.⁶

Fruits and vegetables arrive in St. Louis by truck and rail. If received by truck, the delivery is made to the store-door of the middlemen but if by rail, the car is switched to one of the many team tracks near the market, unless the consignee is one of the four firms having sidings direct to their stores. Depending largely upon the railroad over which the car arrived, the delivery may be to a team track just opposite the market or to one as far away as 1½ miles. In each instance, drayage is involved in moving produce to the market. The

⁶In the St. Louis Market, the members of the trade classify firms into three groups, "jobbers", "wholesalers", and "retailers". The retail service firms, whose operations are described more fully in this section are called "retailers", the firms which buy in truck and less-than-carload lots and sell to retailers are termed "wholesalers", and the firms buying in carloads or comparable lots and selling in less-than-carlots are designated "jobbers". Thus, the terms "wholesaler" and "jobber" on the St. Louis market are interchanged as far as their use on most markets is concerned. To avoid confusion, the term "jobber" has not been used in later sections dealing with margins and costs, and the term "wholesaler" is used to designate all handlers doing either wholesale or jobbing business.

greater proportion of the rail receipts are hauled to the store and unloaded there for sale, but large quantities are sold while still in the car and hauled direct from car to the buyer, either by the seller or buyer. Such buyers usually are other middlemen in the market. A still further method is to leave trucks loaded with produce and to deliver from these trucks as sales are made "on the street", thereby reducing the amount of handling required. In addition to produce received from outside the market by truck and rail, nearly every firm in the market buys some of its requirements from other middlemen. Such purchases may either be picked up by the buyer or delivered by the seller. It is also quite common for two or more dealers in the market to "split" cars, each taking an agreed-upon share of the contents.

Handlers of citrus fruits and certain other western fruits must obtain their supplies of these commodities from the "auction" located near the market or from some handler who buys there. Auction purchases must be hauled by the buyer and are commonly unloaded and sold at the purchaser's store.

The greatest proportion of the fruits and vegetables unloaded at the stores are sold to buyers outside the market which are mostly retailers. Some of these sales are delivered by the seller but a far greater proportion is picked up by the buyer. Other sales are made to other handlers in the market.

About 70 of the 82 stores operating in the St. Louis market are of the wholesaler-jobber type whose operations were outlined above, and the remainder are a distinctly different type of firm known as "retail service firms" or "retailers". The differentiating features of these latter firms are their sales by telephone and their delivery systems. Besides sales made by usual methods, these firms make other sales each afternoon for delivery the next morning by telephoning a regular list of retailer-patrons. Sales to each customer are "made up" during the early morning hours and then loaded on a fleet of trucks so as to permit each driver to follow a certain definite delivery route in his territory. Under this system the driver is usually responsible for collections. To fill their requirements, these retail service firms buy some commodities in carlots and truckloads from outside the market and "split" some cars with other dealers, but most of their needs are bought from wholesalers "on the street".

Wholesalers and jobbers may either buy products outright, handle them on commission, or enter a joint-account arrange-

ment with the shipper. Handling on commission seems to be the most common type of business arrangement on the St. Louis market. Retail service firms generally buy their requirements outright.

Besides the dealers already mentioned, several brokers also operate on the St. Louis market. Brokers perform a needed service for nearby producers by locating carlot buyers for spinach, apples and other home-grown products.

WHOLESALE MARGINS AND COSTS OF HANDLING

In addition to the physical description of the market, this study also is concerned with margins taken on the products handled and costs of doing business. For this latter purpose, records were obtained from 13 wholesaler-jobbers and six retail service firms operating on the Third Street Market. In reality, both groups might have been classified as jobbers because each did considerable business with retailers but the firms classified as wholesalers did considerable business "on the street" and made sales in larger units to those outside the street. The firms classified as retail service firms provided a buying and delivery service for a number of regular customers among retailers. For brevity, the "wholesaler-jobbers" will be designated as "wholesalers" and the retail service firms as such throughout the following discussion. Records were obtained from two other firms but were not used because these firms were not engaged chiefly in wholesaling, jobbing or retail service activities.

Margins and Costs per Dollar of Sales

Among the 13 wholesale firms from which complete records of income and expense were obtained, sales varied from \$137,000 to more than \$1,000,000 per firm. The average was \$474,000. On these sales, margins averaged \$37,210, or less than 7.9 cents per dollar of sales, (Table 3). Margins varied from 5.0 to 11.3 cents per dollar of sales. Since the sales value of fruits and vegetables sold on commission and joint account arrangements as well as those actually bought outright and resold is included, gross margins as stated above includes commissions on consignment sales and returns from joint-account sales as well as the margins realized on produce bought outright.

Expenses of the 13 wholesalers averaged \$36,127 per firm or more than 7.6 cents per dollar of sales. Thus, the net gains amounted to \$1,083 per firm or nearly one-fourth cent per dollar

of sales. All costs, including salaries of proprietors and managers, and interest on the capital invested in the business, were included in expenses.

TABLE 3. MARGINS, EXPENSES AND NET GAINS PER \$100 OF SALES, 13 WHOLE-SALERS, ST. LOUIS, 1939

Item	Amount per Firm	Amount per \$100 of Sales
Sales	\$473,560	\$100.00
Cost of Goods Sold	436,350	92.14
Gross Margin	37,210	7.86
Expense	36,127	7.63
Net Gain*	\$ 1,083	\$.23

*The term "net gain" as used here is the amount left after salaries of officers and interest on investment as well as other expenses have been deducted. Thus, it is possible for net gain to be small, or even losses to appear, because salaries were unreasonably high or because interest charges were based on inflated values of property used in the business. Information presented later indicates that neither is true in this instance and that the net gain shown is representative of conditions in the market.

Margins and Costs per Package

An attempt was made to determine the number of packages handled by each firm but data for four firms were not considered satisfactory. Hence, margins and costs per package are available for only nine firms. In these firms, sales amounted to more than \$455,000 per firm. The sales value of produce in these nine firms averaged \$1.60 per package and the margin taken, 12.8 cents per package, (Table 4). Expenses amounted to slightly more than 12 cents, leaving an average net gain of eight-tenths of one cent per package. Since data for these nine firms will be used interchangeable with those of the entire thirteen throughout the study, it is significant to note that margins and costs per dollar of sales for the nine firms were not greatly different from those of the thirteen.

TABLE 4. MARGINS, EXPENSES AND NET GAINS PER 100 PACKAGES, 9 WHOLE-SALERS, ST. LOUIS, 1939

Item	Amount per Firm	Amount per \$100 of Sales	Amount per 100 Packages
Sales	\$455,883	\$100.00	\$159.99
Cost of Goods Sold	419,279	91.97	147.14
Gross Margin	36,604	8.03	12.85
Expense	34,268	7.52	12.03
Net Gain	\$ 2,336	\$.51	\$.82

Relation of Margins and Costs to Sales

Not all firms had net gains for 1939. Among the 13 wholesalers, results ranged from a loss of more than three cents per dollar of sales for one firm to a gain of more than two cents for two firms. Eight firms had losses and five had gains. The financial results for 1939 were closely associated with size of firm. The average financial return of the four largest firms was a gain of \$5,309 per firm or nearly two-thirds of a cent per dollar of sales, while that of the other nine firms was a loss of about one-fourth cent per dollar of sales, (Table 5).

Since a large sales volume may result from a large number of packages handled, a high value per package, or both, it was desirable to determine the effect of each of these influences on margins and costs. This was possible even with the small number of firms because there was little, if any, association between number of packages handled and average sales price per package.

TABLE 5. RELATION OF MARGINS, EXPENSES AND NET GAINS TO SALES PER FIRM, 13 WHOLESALERS, ST. LOUIS, 1939

Item	Sales in thousands of dollars		
	Less than 300	300-600	600 or more
Number of firms	4	5	4
Amounts per firm			
Sales	\$204,134	\$410,794	\$821,443
Cost of goods sold	185,025	378,445	760,056
Margin	19,109	32,349	61,387
Expense	19,498	33,471	56,078
Net Gain	\$ -389	\$ -1,122	\$ 5,309
Amounts per \$100 of sales			
Margin	\$9.36	\$7.87	\$7.47
Expense	9.55	8.15	6.83
Net Gain	\$ -.19*	\$ -.28*	\$.64

*Minus indicates net loss.

Effect of Number of Packages Handled.—Firms handling more than 250,000 packages in 1939, had both lower margins and lower costs than firms handling fewer packages. As a result, the average net gain in firms with large physical volumes of business was slightly lower than in the smaller firms. Margins in the large firms from the standpoint of number of packages were 1.4 cents per package, or one cent per dollar of sales, less than in the smaller firms, (Table 6). The most plausible explanation of this higher margin taken by the smaller firms is that they must take higher margins to stay in business

because their costs per package for handling produce are higher.⁷

TABLE 6. RELATION OF MARGINS, EXPENSES AND NET GAINS TO NUMBER OF PACKAGES HANDLED, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Thousands of packages handled	
	Less than 250	250 or more
Number of firms	5	4
Sales per firm	\$285,725	\$668,582
Packages per firm	181,097	414,750
Amounts per 100 packages		
Sales	\$157.77	\$161.20
Cost of goods sold	144.03	148.84
Margin	13.74	12.36
Expense	12.77	11.62
Net Gain	\$.97	\$.74
Amounts per \$100 of sales		
Margin	\$8.71	\$7.67
Expense	8.09	7.21
Net Gain	\$.62	\$.46

Effect of Average Price of Packages Handled.—On the other hand, differences between firms in average value of packages had a significant influence on margins and costs. In the five firms handling low-priced packages, such as home-grown produce, the average margin was only 9.8 cents per package compared with 17.1 cents in firms with high-priced packages, (Table 7). Differences in costs were not nearly so great, hence

TABLE 7. RELATION OF MARGINS, EXPENSES AND NET GAINS TO AVERAGE SALES PRICE OF PACKAGES HANDLED, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Average Sales Price per Package	
	Less than \$1.60	\$1.60 or more
Number of firms	5	4
Sales per firm	\$393,526	\$533,830
Packages per firm	298,409	268,110
Amounts per 100 packages		
Sales	\$131.87	\$199.11
Cost of goods sold	122.06	182.04
Margin	9.81	17.07
Expense	10.08	14.73
Net Gain	\$ -.27*	\$ 2.34
Amounts per \$100 of sales		
Margin	\$7.44	\$8.57
Expense	7.65	7.40
Net Gain	\$ -.21*	\$1.17

*Minus indicates net loss.

It should be pointed out, however, that the smaller firms may be performing more or better services in handling the produce and therefore are able to obtain higher prices for similar units of product which would justify the higher charge. Another plausible explanation is that producers generally prefer to do business with small firms because business relationships are usually more personal and, therefore, are willing to pay the small extra cost of this preferred service.

firms handling low-priced packages lost one-fourth cent per package whereas those handling high-valued packages gained 2.3 cents per package after costs were met. When expressed as amounts per dollar of sales, margins in the firms handling high-priced packages were higher and costs were slightly lower than for the handlers of low-priced packages.

Items of Expense

On the books of the 13 firms, expenses were recorded according to certain accounting classifications, such as salaries and wages, rent, insurance, taxes, and interest. As thus reported, expenses averaged \$36,215 per firm, which was 7.65 cents per dollar of sales, (Table 8). Of this expense, salaries amounted to nearly 4.5 cents per dollar of sales and were 58 per cent of total costs. Payroll taxes for old age benefits and unemployment insurance, rent, telephone and telegraph, bad debts, cash costs of truck operations, drayage and interest were other important items of expense.

TABLE 8. EXPENSES AS ITEMIZED ON BOOKS OF 13 WHOLESALERS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per Cent of Total	Expense per \$100 of Sales
Salaries and wages			
Employees	\$12,589	34.7	\$2.66
Officers	8,470	23.4	1.79
Payroll tax	1,237	3.4	.26
Compensation Insurance	168	0.5	.03
Total	22,464	62.0	4.74
Rent	2,479	6.8	.52
Hired Drayage	2,207	6.1	.47
Telephone and Telegraph	1,987	5.5	.42
Bad Debts	1,271	3.5	.27
Truck Expense	1,095	3.0	.23
Interest	748	2.0	.16
Office Supplies, Postage and Printing	539	1.5	.12
Depreciation	478	1.3	.10
Insurance	426	1.2	.09
Lights, Power and Fuel	372	1.0	.08
Taxes	321	0.9	.07
Advertising	306	0.8	.06
Dues and Subscriptions	242	0.7	.05
Travel	183	0.5	.04
Legal and Accounting	167	0.5	.03
Bank Exchange	136	0.4	.03
Repairs	129	0.4	.03
Donations	59	0.2	.01
Unclassified	606	1.7	.13
Total	\$36,215	100.0	\$7.65

Classification.—Although the above classification of expense does point out some important influences on costs, a classification by important functions or services performed by these middlemen is desirable for purposes of analysis. In this study costs have been classified as selling, general, drayage, credit and special handling. Selling expenses include those costs which are directly related to buying, handling and selling, such as salaries of buyers and salesmen, wages of porters, costs of maintaining the salesroom and equipment, telephone, telegraph and advertising. General expenses included costs of supervision and management, record keeping and other items not directly chargeable to other services. Truck drivers' wages and costs of operating trucks including depreciation, taxes and insurance, as well as cash drayage costs are included in drayage expense. Bad debts, interest on receivables and salaries of persons handling credit accounts make up the credit expense. Such costs as resulted from extensive repacking and ripening processes were classified as special handling rather than ordinary costs so as to make costs of firms providing such services more nearly comparable with the others. Ripening and repacking of tomatoes, ripening of bananas, sorting and packing of horseradish and peddling were the more common cases of special handling.

Allocation of Certain Items.—It was necessary to allocate certain items of expense among several of the above classifications. For example, salaries of persons recording accounts receivable as well as general records were distributed between credit and general expense. Depreciation on truck was drayage expense, that on salesroom and equipment was selling expense and that on office space and equipment was general expense. Other items of expense were distributed on the basis of estimates by the management of each firm as to the amount to be allocated to each function.

Salaries and Wages.—In order that salaries and wages might be allocated to these various services, the salary or wage of each officer and employe, the number of weeks of employment, and the average number of hours worked each week by each person were tabulated from the firms' records. In the case of officers and salesmen, records of hours worked per week usually were not available and in such cases, estimates were substituted. In addition, an estimate of the time spent per week by each person on each type of job was obtained from the manager or some other responsible officer or employe. From this information,

salaries and wages were distributed among the five classes of services or functions used in this study.

Interest.—To make costs for all firms more nearly comparable, interest at 5 per cent per year on the capital necessary for each firm's fruit and vegetable business was considered a cost of doing business. This amounted to \$1,514 per firm or \$766 more than the amount of interest actually paid in 1939 by the 13 firms. Interest charges for use of capital, therefore, amounted to 32 cents per \$100 of sales. Charges for interest by classes of assets and the allocation of each charge are shown in table 9.

TABLE 9. INTEREST EXPENSE, BY CLASSES OF ASSETS IN WHICH CAPITAL WAS INVESTED, 13 WHOLESALERS, ST. LOUIS, 1939

Class of Asset	Amount of Capital	Interest at 5 Per Cent	Allocation
Cash	\$3,915	\$ 196	General
Accounts and Notes Receivable	18,262	913	Credit
Inventory	6,446	322	Selling
Truck	927	46	Drayage
Other Fixed Assets	738	37	Selling
Total	\$30,288	\$1,514	

Bonuses and Other Items.—An adjustment in the expense for salaries and wages also was made to eliminate bonuses and cash gifts to officers and employes because these can not be regarded as normal costs of doing business. Bonuses averaged \$700 per firm.

A few other minor adjustments were made in expenses as reported on the books of the 13 firms to make the costs reported in this study more nearly represent those of the year, 1939. For example, some taxes and insurance for 1938 and 1940 appeared as expenses for 1939 in the records of these firms.

Classes of Expense

After the above-mentioned changes were made, expenses of the firms averaged \$36,127 or 7.63 cents per dollar of sales. Expenses of normal services after labor expense for special handling was deducted amounted to \$34,445 or 7.3 cents per dollar of sales, (Table 10). Of the total expense, selling was most important, being nearly one-half. It cost, on the average, 3.6 cents to buy, handle and sell a dollar's worth of fruits and vegetables in 1939. Another 1.6 cents was required for recordkeeping and

management and two-thirds of a cent to provide credit to buyers and, in some instances, advances to shippers. In addition, 1.4 cents were spent for such hauling as done by these firms to get their produce from the car to the store and from the store to the buyer. This was not the entire cost of hauling because some incoming produce was delivered to stores by sellers, some was picked up by buyers, and some did not even go through the stores, being delivered direct to buyers from cars or trucks or picked up by buyers at the cars. One-third of a cent was spent for special handling.

TABLE 10. TOTAL EXPENSE, BY CLASSES, 13 WHOLESALERS, ST. LOUIS, 1939

Class of Expense	Average Expense per Firm	Class as Per Cent of Total	Expense per \$100 of Sales
Selling	\$17,179	47.5	\$3.62
General	7,382	20.4	1.56
Drayage	6,720	18.6	1.42
Credit	3,164	8.8	.67
Special Handling	1,682	4.7	.36
Total	\$36,127	100.0	\$7.63

Selling Expense.—More than two-thirds of selling expense was salaries and wages, which alone accounted for 2.5 cents per dollar of sales, (Table 11). This item included not only salaries of salesmen and porters' wages but also the proportion of officers' salaries chargeable to buying and selling and the cost of payroll taxes and insurance for old age benefits, unemployment insurance, and workmen's compensation insurance. More than 50 per cent of the cost of sales personnel was that of officers' salaries, 30 per cent was for salesmen and nearly 20 per cent for porters. For purposes of this study, owners of owner-operated firms and partners in partnerships as well as

TABLE 11. SELLING EXPENSES, BY ITEMS, 13 WHOLESALERS, ST. LOUIS, 1939

Item of Expense	Average Expense per Firm	Item as Per Cent of Total	Expense per \$100 of Sales
Salaries and Wages:			
Officers	\$ 5,995	34.9	\$1.27
Salesmen	3,574	20.8	.75
Porters	2,290	13.3	.48
Total	11,859	69.0	2.50
Salesroom and Equipment	2,705	15.7	.57
Telephone and Telegraph	1,987	11.6	.42
Interest on Inventories	322	1.9	.07
Advertising	306	1.8	.06
Total	\$17,179	100.0	\$3.62

officers in corporations are included as officers and the term "porter" is used to designate a houseman who performs the manual job of handling packages.

Expense for the salesroom and such sales equipment as scales and handtrucks, was nearly 16 per cent of total selling costs. Telephone and telegraph charges accounted for about 12 per cent. Other items were relatively unimportant.

General Expense.—General expense included the costs of recordkeeping other than that for credit accounts, expenditures for management or supervision of the businesses and some items of expense which could not be allocated to other classes of expense with a reasonable degree of accuracy. Of the general expense for 1939, nearly 60 per cent was for salaries and wages; 11 per cent, for office supplies and expense; and 7 per cent, for office space and equipment, (Table 12). Thus, more than 75 per cent of general costs was for administration and recordkeeping.

TABLE 12. GENERAL EXPENSE, BY ITEMS, 13 WHOLESALERS, ST. LOUIS, 1939

Item of Expense	Average Expense per Firm	Item as Per Cent of Total	Expense per \$100 of Sales
Salaries and Wages:			
Officers	\$1,930	26.1	\$.41
Employes	2,314	31.4	.49
Total	4,244	57.5	.90
Office Supplies and Expense	842	11.4	.18
Office Space and Equipment	541	7.3	.11
Subscriptions, Dues and Donations	301	4.1	.06
Taxes	255	3.4	.05
Insurance	214	2.9	.05
Interest on Working Capital	196	2.7	.04
Travel Expense	183	2.5	.04
Unclassified Expense	606	8.2	.13
Total	\$7,382	100.0	\$1.56

Credit Expense.—Credit expense included those costs involved in the handling of accounts and notes receivable arising from sales on credit and advances to shippers of fruits and vegetables. This averaged more than \$3,000 per firm in 1939. Bad debts amounted to \$1,271 per firm, or more than one-fourth of a cent per dollar of sales, and were 40 per cent of total credit expense, (Table 13). Salaries and wages of officers and employes chargeable to the credit business and interest on the capital invested or tied-up in accounts and notes, each, accounted for about 30 per cent of credit costs.

TABLE 13. CREDIT EXPENSE, BY ITEMS, 13 WHOLESALERS, ST. LOUIS, 1939

Item of Expense	Average Expense per Firm	Item as Per Cent of Total	Expense per \$100 of Sales
Bad Debts	\$1,271	40.2	\$.27
Salaries and wages	980	31.0	.21
Interest	913	28.8	.19
Total	\$3,164	100.0	\$.67

Drayage.—Transportation of fruits and vegetables within St. Louis cost \$6,721 per firm in 1939. Some firms did this hauling entirely with their own trucks, others depended solely on hired draymen but many used hired draymen only to supplement their own trucks when receipts were unusually heavy. Of total costs, truck expense, including chauffeurs' wages, was two-thirds and hired drayage, one-third, (Table 14). Chauffeurs' wages amounted to more than 60 per cent of total truck expense.

TABLE 14. DRAYAGE EXPENSE, BY ITEMS, 13 WHOLESALERS, ST. LOUIS, 1939

Item of Expense	Average Expense per Firm	Item as Per Cent of Total	Expense per \$100 of Sales
Chauffeurs' Wages	\$2,799	41.7	\$.59
Other Truck Expense	1,715	25.5	.36
Total Truck Expense	\$4,514	67.2	.95
Hired Drayage	2,207	32.8	.47
Total	\$6,721	100.0	\$1.42

Costs per Package.—For the nine firms from which records of number of packages were obtained, the total cost of doing business in 1939 was 12 cents per package. The distribution of costs by classes of expense was very similar to that given for the 13 firms because selling expense accounted for nearly 50 per cent of expenses; general expense and drayage, each, 20 per cent; credit, 10 per cent; and special handling, 2 per cent, (Table 15). Expense per dollar of sales in these nine firms also was quite similar to that for the entire 13 firms. Thus, the nine firms probably give about the same representation of the St. Louis wholesale fruit and vegetable business as that given by the 13 firms. Of the total costs of 12 cents per package, selling expense amounted to 5.7 cents per package; general and drayage, 2.5 cents, each; credit costs, more than one cent; and special handling, one-fourth of a cent.

TABLE 15. EXPENSE PER PACKAGE, BY CLASSES OF EXPENSE, 9 WHOLESALERS, ST. LOUIS, 1939

Class of Expense	Average Expense Per Firm	Class as Per Cent of Total	Expense per \$100 of Sales	Expense per 100 Packages
Selling	\$16,227	47.4	\$3.56	\$5.70
General	6,987	20.3	1.53	2.45
Drayage	6,995	20.4	1.54	2.46
Credit	3,314	9.7	.73	1.16
Special Handling	745	2.2	.16	.26
Total	\$34,268	100.0	\$7.52	\$12.03

Variations in Total Expense

Among the 13 firms studied, costs varied from 6.0 to 11.7 cents per dollar of sales. Costs per package ranged from 8.2 to 16.8 cents among the firms providing data on packages. The purpose of this section is to determine the relationship between total costs per unit of sale and such influences as total sales, number of packages, and average cost per package.

Sales Volume and Total Expense.—Total costs per firm rise as sales increase but not as rapidly as sales; hence, firms with large volumes of sales have lower costs per dollar of sales than those with smaller sales, (Table 16). This situation results from the fact that overhead, or relatively fixed, expenses are a substantial part of the total costs of doing business. Also, firms with large sales generally have a wider opportunity for using labor and equipment more efficiently than small firms. Among the 13 firms studied, sales volume apparently had little effect on drayage or credit expense, because policies of management and other influences may be more important in determining these expenses than the volume of business. Selling and general expenses per dollar of sales, however, averaged nearly 40 per cent less in firms with large sales volumes than in ones with small volumes. Costs of buying, handling and selling declined from 5.3 cents per dollar of sales in the smallest firms to 3.2 cents in the ones with largest sales, and general expenses dropped from 2.1 to 1.4 cents as sales increased, (Table 16). This gave the four large firms, from the standpoint of sales, an advantage of 2.8 cents per dollar of sales over the four small ones in selling and administrative expenses. As a result of these relationships, selling and administrative expenses were only two-thirds of total expenses in the firms with highest sales volumes, compared with three-fourths of total costs in those with smallest sales.

Although expense per dollar of sales declined as sales volume increased, costs per package increased appreciably. Among the nine firms having data on number of packages, the four firms with \$400,000 or more of sales had expenses of only 6.8 cents per dollar of sales but this amounted to 12.5 cents per package, whereas the five firms with less sales had costs of 9.0 cents per dollar of sales which was only 11.4 cents per package. This increase in expense per package as sales volume increased was due entirely to higher drayage and special handling costs because other classes of expense per package declined as sales increased. The higher cost in large firms was due, then to the fact that the large firms were rendering more services in the form of drayage and special handling which more than offset their greater efficiency in performing the normal services.

TABLE 16. RELATION OF EXPENSE TO SALES VOLUME PER FIRM, 13 WHOLESALERS, 1939

Item	Sales in thousands of dollars		
	Less than 300	300 to 600	600 or more
Number of firms	4	5	4
Sales per firm	\$204,134	\$410,794	\$821,443
Expense per firm			
Selling	\$10,713	\$15,361	\$25,918
General	4,235	6,882	11,156
Drayage	2,750	4,951	12,901
Credit	1,313	4,418	3,447
Special Handling	487	1,859	2,655
Total	\$19,498	\$33,471	\$56,077
Expense per \$100 of Sales			
Selling	\$5.25	\$3.74	\$3.16
General	2.07	1.68	1.36
Drayage	1.35	1.20	1.57
Credit	.64	1.08	.42
Special handling	.24	.45	.32
Total	\$9.55	\$8.15	\$6.83
Class of expense as per cent of total			
Selling	55.0	45.9	46.2
General	21.7	20.5	19.9
Drayage	14.1	14.8	23.0
Credit	6.7	13.2	6.2
Special handling	2.5	5.6	4.7
Total	100.0	100.0	100.0

Number of Packages and Total Expense.—The sales volume of a firm is affected both by the number of packages handled and by the average price per package. Thus, it is desirable to know to what extent each of these two influences affects costs. The number of packages handled apparently has some effect on costs, because total expense averaged 1.1 cents per

package less in the four firms handling 250,000 or more packages than in those five handling fewer packages, (Table 17). Since average price per package was about the same in each group, this difference in number of packages handled resulted in a difference in costs per dollar of sales between the two groups of nearly one cent in favor of the four firms handling the most packages.

Differences in total expenses, however, do not show the full effect of the larger number of packages handled by the four firms because these firms did more hauling and had more expense for special handling than the smaller firms. Drayage and special handling expense were largest, therefore, in firms handling the most packages. If these two costs are excluded, other costs total only 8.5 cents per package in the firms handling the larger number of packages, compared with 10.8 cents in the firms handling fewer packages.

TABLE 17. RELATION OF TOTAL EXPENSE TO NUMBER OF PACKAGES HANDLED PER FIRM, 9 WHOLESALERS, ST. LOUIS, 1939

Items	Thousands of Packages per Firm	
	Less than 250	250 or more
Number of firms	5	4
Packages per firm	181,097	414,750
Sales per firm	\$285,724	\$668,582
Sales price per package	\$1.58	\$1.61
Expense per 100 packages		
Selling	\$6.49	\$5.26
General	2.73	2.30
Drayage	1.84	2.79
Credit	1.56	.95
Special handling	.15	.32
Total	\$12.77	\$11.62
Expense per \$100 of sales		
Selling	\$4.12	\$3.26
General	1.73	1.43
Drayage	1.16	1.73
Credit	.99	.59
Special handling	.09	.20
Total	\$8.09	\$7.21

Average Price per Package and Total Expense.—There is a persistent impression among wholesalers in the St. Louis market that the average price received for produce is low compared with that of other markets and that this makes for high costs per dollar of sales because the cost per package of handling high-priced produce is not much different from that for low-priced goods. This study did not embrace a comparison of prices in the St. Louis market with those of other markets but it does

point out differences in costs per package among firms as the average prices received per package varied.

With the small number of firms under study, it is not always possible to prevent some influence such as size of firm from obscuring the effects of some other influence. In this case, however, the four firms with highest sales value per package, \$1.60 or more, handled only slightly fewer packages than the five firms with lowest average sales prices per package, (Table 18). Thus, it was possible to determine reasonably well the effect of value of package on costs per package and per dollar of sales.

Total expense per package averaged highest in the four firms handling high-priced packages, being 14.7 cents per package compared with 10.1 cents in the five firms with low-priced packages, (Table 18). All classes of expense per package increased substantially as the sales value per package increased. It should be noted that firms handling high-value packages spent large amounts per package for drayage, credit and special handling.

The higher costs per package in firms handling high-priced packages were more than offset by the higher sales price per package. Thus, costs per dollar of sales in the firms handling high-priced packages averaged slightly less than costs in firms selling low-priced produce, (Table 18).

In interpreting the information presented above, it should be remembered that these are not comparative costs for equal amounts of service because it was not possible to measure the

TABLE 18. RELATION OF TOTAL EXPENSE TO AVERAGE SALES PRICES OF PACKAGES, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Average Sales price per package	
	Less than \$1.60	\$1.60 or more
Number of firms	5	4
Sales per firm	\$393,526	\$533,830
Packages per firm	298,409	268,110
Sales price per package	\$1.32	\$1.99
Expense per 100 packages		
Selling	\$5.09	\$6.54
General	2.04	3.02
Drayage	2.00	3.09
Credit	.91	1.51
Special handling	.04	.56
Total	\$10.08	\$14.72
Expense per \$100 of sales		
Selling	3.86	3.29
General	1.55	1.52
Drayage	1.51	1.55
Credit	.69	.76
Special handling	.04	.28
Total	\$7.65	\$7.40

amount of service performed by each group. In fact, it seems certain that firms handling high-value produce were providing more, and, probably better, services in handling produce than those handling cheaper packages. Such a conclusion seems logical when it is pointed out that margins and commissions are based almost entirely on sales values rather than physical units and that handling costs of 10 cents per package amount to only 5 per cent of the value of a \$2.00 package but are 20 per cent of a 50-cent package. Handlers of low-priced packages undoubtedly have had to reduce the quantity and quality of their services to the barest minimum in order to maintain their costs of operation within a reasonable percentage of the value of produce handled.

Salaries and Wages

The preceding analysis has disclosed some important relationships between costs and certain attributes of the firms operating in the St. Louis market but further detailed study of classes of expense is necessary to point out causes of these relationships. Since selling and general expenses were made up of a number of items of costs, an analysis of certain important and more homogeneous items of cost within these classes proved enlightening. The most important item was salaries and wages which accounted for nearly two-thirds of total selling and general expenses.

Distribution of Hours and Pay.—Before studying the salaries and wages of sales and administrative personnel, it seemed desirable to show the complete labor and management situation for the nine firms considered somewhat comparable as far as type of business was concerned. These firms employed 111 officers and employes, exclusive of extra laborers, during the year. Because many of the relatively permanent employes did not work the entire 52 weeks of the year, employment given by the nine firms amounted to only 84.3 man-equivalents, that is, the equivalent of full employment for 84.3 workers. The 89 employes were given the equivalent of full employment for 62.7 workers, (Table 19). These 111 persons worked 240,421 hours and received \$175,821 as remuneration for their services in 1939. Of the total time, 28 per cent was that of officers; and 72 per cent, that of employes. The total hours worked by each of the four important classes of employes were quite similar, since each group provided from 15.7 to 18.6 per cent of total hours worked. Of the total remuneration, more than 40 per cent

was received by the 22 officers. Salesmen received 16 per cent; chauffeurs, 14 per cent; and each of the other two important groups of employes, porters and office workers, 13 per cent. A person whose job is to handle packages of fruits and vegetables in loading and unloading trucks and in stacking the packages on the sidewalk or in the store is classified as a porter in the St. Louis market.

TABLE 19. NUMBER EMPLOYED, WAGES AND HOURS, 9 WHOLESALERS, ST. LOUIS, 1939

Class of Worker	Number Employed	Man-Equivalents	Hours Employed		Wages and Salaries	
			Amount	Per Cent	Amount	Per Cent
Chauffeurs	19	14.5	37,812	15.7	\$24,439	13.9
Porters	31	16.5	42,242	17.6	22,626	12.9
Office Employes	21	17.2	40,722	16.9	23,168	13.2
Salesmen	18	14.5	44,621	18.6	28,439	16.2
Extra	*	*	7,724	3.2	3,606	2.0
Total						
Employes	89	62.7	173,121	72.0	\$102,278	58.2
Officers	22	21.6	67,300	28.0	73,543	41.8
Total	111	84.3	240,421	100.0	\$175,821	100.0

*Not determined

Weeks and Hours of Employment.—In 1939, therefore, it took the equivalent of full-time employment of 9.4 persons per firm to provide the selling, handling and administrative personnel for these nine firms. The average employment of officers was 51 weeks; that of employes, 37 weeks; and the average for both groups was 40 weeks, (Table 20). The average length of work week in the nine firms was 60 hours for officers and 51 hours for employes, making an average of 53 hours for both. Among employes, the work week for salesmen averaged 59 hours; for chauffeurs and porters, about 50 hours; and for office workers, 46 hours. The basic work week in 1939 was 44 hours from January 1 to October 14 and 42 hours from October 15 to December 31. An overtime wage of one and one-half times the basic wage was paid for all hours above 44 and 42 per week, respectively. In 1939, 13.7 per cent of the hours worked by chauffeurs, 14.8 per cent of porters' hours and 7.4 per cent of office employes' time were classified as overtime in the nine firms.

Wages Per Hour and Per Week.—The average hourly wage of employes, including overtime, ranged from 53.6 cents for porters to 64.6 cents for chauffeurs and averaged 59.7 cents. (Table 20). The salaries of officers averaged \$1.09 per hour. The aver-

age wage for officers and employes, then, was 74 cents per hour. Weekly wages of employes ranged from \$25.97 for office workers to \$37.82 for salesmen and averaged \$30.28. Officers' salaries averaged \$65.43 per week.

TABLE 20. AVERAGE NUMBER OF WORKERS, HOURS PER WEEK, AND COST PER HOUR, 9 WHOLESALERS, ST. LOUIS, 1939

Class of Worker	Man-equiv- alents per Firm	Weeks per Man	Hours per Week	Overtime as per cent of Total Hours	Cost per Hour, Cents	Cost per Week
Chauffeurs	1.6	39.8	50.0	13.7	64.6	\$32.33
Porters	1.9	27.7	49.2	14.8	53.6	26.34
Office Employes	1.9	42.5	45.7	7.4	56.9	25.97
Salesmen	1.6	41.8	59.3	*	63.7	37.82
Total						
Employes	7.0	36.6	50.8	*	59.7	30.28
Officers	2.4	51.1	59.9	*	109.3	65.43
Total	9.4	39.5	53.1	*	74.0	\$39.29

*Not determined

Costs Per Package Handled.—The following analysis is now confined to salaries and wages paid officers and employes for as much of their time as was devoted to sales and administrative work. The cost per package for such salaries and wages, which varied from 3.2 to 7.9 cents per package among the nine firms, depended upon two influences, which were the rate of pay per hour and the number of packages handled per hour of services of officers and employes.⁸ Due to the small number of firms, it is not possible to show the net effect of increased number of packages per hour on the expense per package for salaries and wages because the average rate of pay increased as packages per hour increased. Thus, higher rates of pay in the firms handling a large number of packages per hour tended to offset some of the decline in costs which resulted from the increased hourly handlings. Despite this tendency, the four firms handling most packages per hour spent only 4.6 cents per package for selling and administrative salaries and wages compared with 6.3 cents per package spent for these classes of personnel in the five firms handling fewer packages per hour, a difference of nearly 1.7 cents per package, (Table 21). Of this difference,

⁸Packages per hour was obtained by dividing total packages handled by the number of hours devoted to selling and administration by officers and employes. The total number of hours of officers and employes both for selling administration was used so as to eliminate any differences which might have resulted merely from the allocation of time between selling and administration.

nearly 1.1 cents per package occurred in selling salaries and wages and the remaining 0.6 cent in administrative salaries. The number of packages per hour of selling and administrative labor was 18.1 for the four firms handling most packages per hour compared with 11.7 packages per hour in the five firms handling fewest packages per hour. Expenses for selling and administrative salaries and wages also were lower per dollar of sales in the four firms handling most packages per hour, averaging only 3.2 cents per dollar of sales, or one-fourth of a cent less than in the five firms handling fewest packages per hour.

TABLE 21. RELATION OF EXPENSE FOR SALARIES AND WAGES FOR SELLING AND ADMINISTRATION TO PACKAGES HANDLED PER HOUR OF LABOR
9 WHOLESALERS, ST. LOUIS, 1939

Item	Packages per hour of labor		
	Less than 15	15 or more	All
Number of firms	5	4	9
Sales per firm	\$399,481	\$526,386	\$445,883
Packages	219,895	366,253	284,943
Sales price per package	\$1.82	\$1.44	\$1.60
Hours of work per firm	18,764	20,225	19,413
Packages per hour	11.7	18.1	15.2
Salaries and wages per firm	\$13,822	\$16,946	\$15,211
Salaries and wages per \$100 of sales			
Selling	\$2.51	\$2.43	\$2.47
Administration	.95	.79	.87
Total	\$3.46	\$3.22	\$3.34
Salaries and wages per 100 packages			
Selling	\$4.56	\$3.49	\$3.95
Administration	1.73	1.14	1.39
Total	\$6.29	\$4.63	\$5.34
Salaries and wages per hour, cents			
Officers	110.2	123.1	115.9
Salesmen	53.2	76.1	65.7
Porters	54.6	57.3	55.8
Office workers	56.8	62.7	59.2
Average	73.7	83.8	78.4
Officers' time and salaries as per cent of total:			
Hours	34.0	31.0	32.6
Salaries and wages	50.9	45.5	48.2

Effect of Sales Volume on Salaries and Wages.—The large firms, as measured by the dollar volume of sales, handled more packages per hour than the small firms. Costs per package for salaries and wages, however, did not display a strong tendency to decline as size increased because wages and salaries per

hour of labor also increased. In fact, the expense for selling and administrative personnel in the large firms averaged 5.2 cents per package, only four-tenths of a cent less than in the small firms because wage and salary rates averaged considerably higher in the large firms and offset part of the effect of the larger number of packages handled per hour, (Table 22). Wages per hour for all classes of employes as well as officers were higher in the large firms than in the ones having small sales volumes.

On the other hand, salaries and wages per dollar of sales declined directly as the volume of sales increased because much of the increase in sales volume was due to an increase in average sales value of packages handled. Although expenses of large firms for sales and administrative personnel were about the same as those for small firms, the higher sales value per package caused labor and management costs to be only 2.8 cents per dollar of sales in firms having the largest sales compared with 4.4 cents in the firms with smaller sales, (Table 22).

This effect of sales volume on salaries and wages resulted from the combined effect of number of packages handled and average price per package. The extent to which each of the influences is responsible for differences in outlays for salaries and wages is of considerable importance as far as the operations of produce firms are concerned.

TABLE 22. RELATION OF EXPENSE FOR SALARIES AND WAGES FOR SELLING AND ADMINISTRATION TO SALES PER FIRM, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Sales volume per firm	
	Less than \$400,000	\$400,000 or more
Number of firms	5	4
Sales per firm	\$271,059	\$686,914
Packages per firm	213,652	374,057
Sales price per package	\$1.27	\$1.84
Hours per firm	16,542	23,002
Packages per hour	12.9	16.3
Salaries and wages		
Per firm	\$12,025	\$19,292
Per 100 packages	\$ 5.63	\$ 5.16
Per \$100 of sales	\$ 4.44	\$ 2.81
Salaries and wages per hour, cents		
Officers	102.1	149.0
Salesmen	59.4	71.8
Porters	53.7	57.8
Office workers	48.5	63.7
Average	72.7	83.9
Officers' time and salaries as per cent of total:		
Time	37.5	28.2
Salaries	52.7	50.1

Effect of Number of Packages on Salaries and Wages.—

Costs per package and per dollar of sales declined as the number of packages handled increased. Firms handling less than 250,000 packages in 1939 paid 6.4 cents per package and 4.0 cents per dollar of sales in salaries and wages to sales and administrative personnel, (Table 23). These costs were 1.6 cents per package and 1.0 cent per dollar of sales more than costs in firms handling more than 250,000 packages. The number of packages handled by these latter firms averaged 414,750 compared with 181,096 for those handling fewest packages.

This sharp decline in unit-costs as the number of packages increased resulted from a substantial increase in packages handled per hour with relatively small increases in wages per hour. In firms selling more than 250,000 packages in 1939, 17.0 packages were handled per hour compared with 11.8 packages by firms selling fewer packages, (Table 23). Wages per hour increased from 75 to 81 cents as the average number of packages handled increased from 181,000 to nearly 415,000.

TABLE 23. RELATION OF EXPENSE FOR SALARIES AND WAGES FOR SELLING AND ADMINISTRATION TO PACKAGES PER FIRM, 9 WHOLE-SALERS, ST. LOUIS, 1939

Item	Thousands of Packages per firm	
	Less than 250	250 or more
Number of Firms	5	4
Hours per firm	15,404	24,425
Packages per hour	11.8	17.0
Salaries and wages for selling and administration:		
Per firm	\$11,535	\$19,805
Per 100 packages	\$6.37	\$4.78
Per \$100 of sales	\$4.04	\$2.96
Salaries and wages per hour, cents		
Officers	111.0	121.8
Salesmen	51.0	74.9
Porters	51.4	59.3
Office workers	47.0	64.9
Average	74.9	81.1
Officers' time and salaries as per cent of total:		
Time	40.4	26.4
Salaries and wages	59.9	39.7

Effect of Average Price Per Package on Salaries and Wages.

—As pointed out earlier, costs per package tended to be higher among firms handling high-priced produce than among those handling cheaper packages. A large part of this tendency for total costs to increase as sales value per package increased was due to an increase in outlays per package for salaries and

wages. Salaries and wages averaged 6.3 cents per package in firms handling high-priced packages and only 4.7 cents in those with low-priced packages. Although the limited number of firms does not provide conclusive evidence, it appears that the increase in salaries and wages per package resulted both from higher wage and salary rates per hour and from fewer packages handled per hour. Salaries and wages averaged 85.7 cents per hour in firms handling high-priced packages compared with 72.4 cents in those handling low-priced produce and the number of packages handled per hour averaged 15.5 and 13.7, respectively, (Table 24). Differences in wage rates, then, were more important as a cause of differences in costs between the two groups than number of packages handled per hour.

It is likely that these differences in rates of pay resulted largely from differences in the abilities of these firms to pay high salaries and wages. This seems reasonable when it is revealed that the 6.3 cents per package for salaries and wages in the firms handling high-priced produce amounted to only 3.2 cents per dollar of sales whereas the 4.7 cents per package for the handlers of low-priced goods was 3.5 cents per dollar of sales. Because commissions or margins usually are established as percentages of sales prices, the handler of high-priced produce is in much better position than the handler of low-priced products to pay relatively high salaries and wages per hour and still make a profit from operations.

TABLE 24 RELATION OF EXPENSE FOR SALARIES AND WAGES FOR SELLING AND ADMINISTRATION TO AVERAGE SALES PRICE OF PACKAGES, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Sales price per package	
	Less than \$1.60	\$1.60 or more
Number of firms	5	4
Hours per firm	19,248	19,620
Packages per hour	15.5	13.7
Salaries and wages		
Per firm	\$13,927	\$16,815
Per 100 packages	4.67	6.27
Per \$100 of Sales	3.54	3.15
Salaries and wages per hour, cents		
Officers	103.0	133.4
Salesmen	59.8	72.2
Porters	56.5	54.9
Office workers	51.6	66.6
Average	72.4	85.7
Officers' time and salaries as per cent of total:		
Time	34.1	30.8
Salaries	48.6	47.9

Effect of Weekly Sales on Salaries and Wages.—Further information on the relative effects on salaries and wages of the number of packages handled and of average sales value of packages was available from weekly data obtained from one firm in the market. These data covered the period from March 4, 1939 to April 27, 1940, during which there were 53 full weeks, after weeks containing holidays were eliminated. Thus, this larger number of cases permitted an analysis of the effects of number of packages on salaries and wages during weeks when the average sales price of packages was similar, and the effects of average sales prices during weeks when the number of packages was similar. Since tables showing results of the complete analysis are complex and difficult to understand, simpler tables showing representative parts of the more complete study are presented here. Hence, the effect of number of packages per week is shown only for the 24 weeks in which average weekly sales prices were from \$1.20 to \$1.60 per package, and the effect of sales prices is restricted to the 18 weeks in which sales ranged between 3,000 and 4,000 packages per week.

The study of individual firms disclosed a strong tendency for salaries and wages per unit of sale to decline as the number of packages handled increased. This was substantiated by the weekly data. When the average sales price of produce was held within a narrow range, weekly salaries and wages per package and per dollar of sales declined from more than 50 per cent above average to more than 25 per cent below average as the average number of packages handled increased from 2,500 to 6,000 per week, (Table 25). Thus, costs per unit handled

TABLE 25. RELATION OF SALARIES AND WAGES TO NUMBER OF PACKAGES HANDLED PER WEEK, 24 WEEKS IN WHICH SALES PRICES AVERAGED FROM \$1.20 TO \$1.60 PER PACKAGE, ONE WHOLESALER, 1939-40.

Item	Thousands of Packages Handled per Week				
	Less than 3	3-4	4-5	5 or more	All
Number of weeks	2	10	7	5	24
Number of packages per week	2,507	3,401	4,343	6,041	4,151
Sales price per package	\$1.43	\$1.34	\$1.38	\$1.47	\$1.40
Packages per hour*	63.7	85.1	102.5	136.3	100.0
Salaries and wages					
Per hour*	98.9	98.9	100.7	101.1	100.0
Per 100' packages*	155.3	116.4	98.3	74.1	100.0
Per \$100 of sales*	152.0	121.0	99.5	70.4	100.0

*In these cases, actual figures for each group are shown as percentages of the average for all groups in order not to disclose confidential information on costs and efficiency.

in weeks of smallest sales were twice as much as in weeks of largest sales. This variation in costs resulted from differences in number of packages handled per hour, while wages per hour remained relatively the same.

Within this one firm, salaries and wages per package were not affected significantly by changes in weekly average sales prices when the number of packages remained relatively similar. Salaries and wages per dollar of sales, however, declined as the sales price increased. In the two weeks when sales prices averaged \$1.07 per package, salaries and wages per dollar of sales were 33.8 per cent above average, compared with 20.2 per cent below average in the 6 weeks when sales prices averaged \$1.75 per package, (Table 26). Salaries and wages per package, packages per hour and rate of pay per hour did not change appreciably as the average sales price increased; therefore, the change in expense per dollar of sales was due entirely to differences in average sales prices of packages.

The relationships pointed out above are of considerable importance to handlers of fruits and vegetables. The fact that it costs about the same for salaries and wages to handle a low-priced package as it does to handle a more expensive one means that firms must handle large quantities of low-priced produce per hour in order to maintain reasonable costs per dollar of sales. Thus, large quantities of home-grown produce must be rushed through the market in order to hold down costs per dollar of sales whereas higher-priced shipped-in fruits and vegetables may be handled more slowly and costs still be kept low in relation to sales.

TABLE 26. RELATION OF SALARIES AND WAGES TO AVERAGE WEEKLY SALES PRICE PER PACKAGE, 18 WEEKS IN WHICH SALES WERE BETWEEN 3,000 AND 4,000 PACKAGES, ONE WHOLESALER, 1939-40

Item	Average Sales Price in Cents per Package			
	80-120	120-160	160 or more	All
Number of weeks	2	10	6	18
Sales price per package	\$1.07	\$1.34	\$1.75	\$1.46
Number of packages per week	3,407	3,401	3,714	3,506
Packages per hour*	101.7	97.4	103.7	100.0
Salaries and wages				
Per hour*	100.2	100.4	99.5	100.0
Per 100 packages*	98.3	103.1	95.8	100.0
Per \$100 of sales*	133.8	111.9	79.8	100.0

*In these cases, actual figures for each sales price group are shown as percentages of the average for the three sales price groups in order not to disclose confidential information on costs and efficiency.

Officers' Hours and Salaries.—In this discussion, the term "officer" has been used to designate the operator of a private firm and partners in a partnership as well as officers of a corporation. It was noted earlier that these officers contributed about one-fourth of the total hours of work in the nine firms, but the allocation of that time and of officers' salaries among jobs is also of interest. Such a distribution reveals that officers are more commonly salesmen than executives. Of the 67,300 hours worked by officers of the nine firms in 1939, nearly two-thirds was spent as salesmen and buyers and only one-fifth, including time devoted to credit matters, was devoted to administration, (Table 27). More than 8 per cent of these hours was spent in performing duties of housemen or porters.

The distribution of salaries is somewhat similar except that a larger percentage of salaries than hours was allocated to management. This resulted from the fact that the higher-salaried officers spent a larger proportion of their time on supervision than did the lower-salaried officers. This fact also is revealed by salaries for various jobs, which averaged \$1.44 per hour for administrative work, \$1.08 per hour for selling, 82 cents per hour for time devoted to credit, and only 69 cents per hour for services as a porter, (Table 27).

TABLE 27. DISTRIBUTION OF HOURS AND SALARIES OF OFFICERS, 9 WHOLESALERS, 1939

Type of Work	Hours of work		Salaries		Salary per Hour, cents
	Amount	Per cent	Amount	Per cent	
Salesman	44,550	66.2	\$48,189	65.5	108.2
Porter	5,616	8.3	3,900	5.3	69.4
Manager	12,428	18.5	17,848	24.3	143.6
Credit man	1,898	2.8	1,550	2.1	81.7
Other	2,808	4.2	2,056	2.8	73.1
All	67,300	100.0	\$73,543	100.0	109.3

Effect of Officers' Salaries on Total Costs.—Another question about salaries and wages which often is raised by producers is the effect of the higher scale of officers' salaries on costs. This may be answered by pointing out that in the nine firms costs would have been reduced three-fourths of a cent per dollar of sales or 1.2 cents per package if officers salaries had averaged no higher than those of salesmen. This would have been a reduction of 10 per cent in total costs. It should be pointed out, however, that the jobs usually performed by officers are ones which are not intrusted to lower-salaried sales-

men. Officers do most of the buying for their firms and the more difficult sales assignments, jobs which require wide experience. It appears doubtful, therefore, whether total salaries and wages would average greatly, if any, lower if the officers were replaced by employes having no financial interest in the firms.

Rents

Another important item in selling and general expense was the cost of building and sidewalk space used by the firms for displaying and storing produce and for offices. Because few firms owned the space occupied, this expense consisted almost entirely of rent. For the nine wholesalers whose records included the number of packages handled, rents ranged from \$735 to \$3,950 and averaged \$2,518 per firm in 1939. Since these firms were using 3,111 square feet of first floor and sidewalk space^a per firm, rentals amounted to 81 cents per square foot of such space. An average of 92 packages were handled per square foot of first floor and sidewalk space, hence, rents averaged 88 cents per 100 packages and 55 cents per \$100 of sales in 1939. Two limitations of these data should be noted. In the first place, it was not possible to determine the number of packages actually moving through the store, so rents per package are stated in terms of all packages handled. Secondly, stores had access to more space than indicated because they used parts of the street in front of their stores, in addition to sidewalks, to display produce at times of heavy receipts as well as space on other floors for other purposes. Even with these limitations, the data are considered sufficiently representative to permit the comparisons of costs which follow.

Variations in Cost of Space.—Expense for rent varied from 60 cents to \$1.31 per 100 packages among the nine firms. Such variations may result from differences in cost per unit of space used which varied from 49 cents to \$1.17 per square foot of first floor and sidewalk space, from differences in the efficiency with which space was used, or both. Among firms, efficiency of use varied from 62 to 151 packages per square foot of floor and sidewalk space.

Further analysis disclosed that rents paid by the five firms handling less than 250,000 packages in 1939 amounted to \$1.05 per 100 packages and 66 cents per \$100 of sales compared with

^aSidewalk space was included because most firms use sidewalks more intensively than they use building space. Store space averaged 2,439 square feet per firm, or 78 per cent of the total space; and sidewalk space amounted to 672 square feet, or 22 per cent.

costs of 79 cents per 100 packages and 49 cents per \$100 of sales in firms handling more than 250,000 packages, (Table 28). These differences occurred because the large firms handled 102 packages per square foot of space and the small ones handled only 78. Both were paying the same rental per square foot for first floor and sidewalk space.

Firms handling high-priced packages handled fewer packages per square foot of floor space than those handling low-priced produce which caused the former to have higher expense per package for rent. Rent per dollar of sales was approximately the same in each group, however, because the higher sales price of packages offset the higher costs per package for the four firms handling high-priced packages.

TABLE 28. RELATION OF RENT EXPENSE TO NUMBER OF PACKAGES HANDLED, 9 WHOLESALERS, 1939

Item	Thousands of Packages Handled		
	Less than 250	250 or more	All
Number of firms	5	4	9
Space per firm, square feet*	2,331	4,085	3,111
Packages per square foot*	78	102	92
Annual Rentals			
Per firm	\$1,901	\$3,289	\$2,518
Per square foot, cents*	81.5	80.5	80.9
Per 100 packages, cents	105.0	79.3	88.4
Per \$100 of sales, cents	66.5	49.2	55.2

*Refers to amount of first floor and sidewalk space.

Market-wide Rentals.—Rentals being paid in June, 1940 by the market-wide group of 82 stores engaged primarily in wholesaling and jobbing fruits and vegetables and the 29 firms performing services associated with the market were obtained. These rentals, which totaled about \$190,000 per year, included estimated rentals for properties owned by operators and rents for additional sidewalk and other space used.

In June, 1940, the 82 stores were paying rents which varied from \$540 to \$6,000 per year and averaged \$2,002. About one-sixth of the stores paid annual rentals in excess of \$3,600 and one-fifth paid less than \$1,200, (Table 29).

Rents rose as the size of the store increased but not proportionately because rentals per square foot of first floor space were higher for the small stores than for the larger ones, (Table 30). The area of the first floors of the stores averaged 2,399

TABLE 29. DISTRIBUTION OF STORES BY ANNUAL RENTALS BEING PAID, 82 STORES, ST. LOUIS, JUNE, 1940

Annual Rental	Average Rental	Number of Stores	Per cent of Stores
Less than \$1,200	\$ 771	17	20.7
\$1,200 - 1,800	1,459	27	32.9
1,800 - 2,400	2,010	14	17.1
2,400 - 3,600	2,628	10	12.2
3,600 or more	4,086	14	17.1
All	2,002	82	100.0

square feet and rents amounted to 84 cents per square foot. The average rental per unit of first floor space for all firms, then, was lower than that for the nine firms previously mentioned, which averaged \$1.03 per square foot when sidewalk space was not included with first floor space.

TABLE 30. RELATION OF RENTALS TO SIZE OF STORE, 81 STORES, ST. LOUIS, JUNE, 1940

Area of First Floor Space, Square Feet*	Area per Store in Square Feet*	Number of Stores	Per cent of Stores	Average Annual Rental	Rent per Square Foot
Less than 1,000	760	10	12.3	\$ 843	\$1.11
1,000 - 1,500	1,207	18	22.2	1,647	1.36
1,500 - 2,000	1,719	15	18.5	1,792	1.04
2,000 - 2,500	2,205	17	21.1	1,888	.86
2,500 - 4,000	3,276	11	13.6	2,455	.75
4,000 or more	6,573	10	12.3	3,966	.60
All	2,399	81**	100.0	2,021	.84

*Does not include sidewalk space.

**One store omitted because it rented sidewalk space only.

Credit Expense

Among the 13 firms, credit costs varied from 38 cents to \$1.76 per \$100 of credit sales. In the produce business, as in other lines of merchandizing, credit costs seem to depend more on the average length of time that sales remain uncollected than on any other influence. Two important items of cost, bad debts and interest on capital invested in receivables, are directly related to the average age of credit. This period is influenced not only by the effectiveness of collection practices but equally by the degree of care exercised in extending credit. The speed with which accounting and other credit tasks are performed and the wage level of employes performing these tasks would also affect credit expense but these are relatively less important than the quality of work done as evidenced by the relative amounts of uncollected receivables. The "number of days of

credit sales outstanding"¹⁰ provides a fairly good indicator of the effectiveness of collection practices among firms. Likewise, the percentage of sales on credit gives some indication of credit policy, particularly as to liberality.

Age of Credit and Credit Expense.—Credit costs varied directly with the age of credit outstanding. Although the average was less than 17 days, the average period credit was outstanding varied among firms from 7 to 36 days. In the five firms with 15 days or more of credit sales outstanding, the average period was 25 days and credit costs averaged 93 cents per \$100 of credit sales. On the other hand, credit costs in the eight firms with less than 15 days of credit sales outstanding averaged only 72 cents per \$100 of credit sales, (Table 31).

Among the items of expense, bad debts and interest per dollar of credit sales increased as the relative amount of credit outstanding became greater. The greatest increase was in interest on capital tied-up in receivables. The slight decline in salaries and wages probably has no significance.

TABLE 31. RELATION OF CREDIT EXPENSE TO DAYS OF CREDIT SALES OUTSTANDING, 13 WHOLESALERS, ST. LOUIS, 1939

Item	Days of credit sales outstanding		
	Less than 15	15 or more	All
Number of firms	8	5	13
Sales per firm	\$476,176	\$469,375	\$473,560
Credit sales per firm	\$415,116	\$368,122	\$397,042
Percentage of sales on credit	87.2	78.4	83.8
Receivables per firm	\$ 13,642	\$ 25,657	\$ 18,263
Days of credit sales outstanding	12.0	25.4	16.8
Credit expense per firm	\$ 3,009	\$ 3,412	\$ 3,164
Credit expense per \$100 of credit sales, cents			
Salaries	25.4	23.3	24.7
Bad debts	30.6	34.5	32.0
Interest	16.4	34.8	23.0
Total	72.4	92.6	79.7

Number of Packages Handled and Credit Expense.—The size of a firm as indicated by the number of packages handled had more effect on credit costs than any other influence studied. For example, credit expense was only 95 cents per 100 packages and 64 cents per \$100 of credit sales in firms handling 250,000 or more packages, compared with \$1.56 per 100 packages and \$1.26 per \$100 of credit sales in firms handling less than 250,000 packages in 1939, (Table 32). All items of credit expense declined

¹⁰Obtained by dividing the average monthly amounts of notes and accounts receivable by the average daily credit sales for the period under study. Thus, this figure states the average number of days that receivables are outstanding before collection.

as the size of firms increased but the greatest decline was in bad debts.

Although the large firms made a larger percentage of sales on credit than small firms, the proportion of credit sales outstanding was larger in the small firms. The differences in the average term of credit outstanding between the two groups of firms, however, was not great enough to explain the differences in credit costs. A plausible explanation of the differences is that large firms probably employ officers and employes with better training and experience in handling and collecting credit accounts. Large firms also may be more careful in their selection of customers to whom credit is extended.

TABLE 32. RELATION OF CREDIT EXPENSE TO NUMBER OF PACKAGES HANDLED, 9 WHOLESALEERS, ST. LOUIS, 1939

Item	Thousands of packages per firm	
	Less than 250	250 or more
Number of firms	5	4
Credit sales per firm	\$224,478	\$612,154
Percentage of sales on credit	78.6	91.6
Receivables per firm	\$11,156	\$23,613
Days of credit sales outstanding	18.1	14.1
Credit expense per firm	\$2,818	\$3,935
Credit expense per 100 packages, cents	155.6	94.9
Credit expense per \$100 of credit sales, cents		
Salaries	34.2	17.5
Bad debts	66.5	27.5
Interest	24.8	19.3
Total	125.5	64.3

Average Price of Packages and Credit Expense.—The average sale price of produce handled by the firms apparently had little effect on credit and collection practices. No appreciable difference between firms with high-priced packages and those with low-priced ones in the proportion of sales on credit or in the average age of receivables outstanding was revealed by the study. Likewise there existed little difference in credit expense per \$100 of credit sales between the two groups of firms. Credit expense per package, however, was substantially higher in the firms handling high-priced packages than in those with low-priced packages.

Drayage Expense

Among the nine firms providing information on packages, drayage expense varied from 1.4 to 4.5 cents per package handled. In this study, costs are related to the total number of

packages handled because information on the number of packages actually hauled and the average distance packages were hauled by each firm was not available. For this reason, differences in costs per package for drayage as used here should be considered as indicative of differences in the amount of hauling provided rather than differences in efficiency in hauling.

As the number of packages handled per firm increased, drayage costs per package handled and per dollar of sales also increased. The five firms handling less than 250,000 packages spent 1.8 cents per package handled for hauling compared with 2.8 cents for the four wholesalers handling more than 250,000 packages, (Table 33). Thus, large firms evidently do substantially more hauling than small firms." Of the produce handled through the stores, large firms haul most of this from the team tracks to their stores whereas smaller firms obtain a substantial percentage "on the street", much of which is delivered by the seller. Also large firms deliver a larger percentage of sales than do small firms. Firms handling a large number of packages depend extensively on hired drayage whereas smaller firms depend almost entirely on their own trucks for whatever hauling was done.

TABLE 33. RELATION OF DRAYAGE EXPENSE TO NUMBER OF PACKAGES HANDLED PER FIRM, 9 WHOLESALERS, ST. LOUIS, 1939

Item	Thousands of Packages per Firm		
	Less than 250	250 or more	All
Number of firms	5	4	9
Chauffeurs' hours per firm	2,533	6,079	4,109
Drayage expense:			
Per firm	\$3,327	\$11,579	\$6,994
Per 100 packages handled	\$1.84	\$ 2.79	\$2.46
Drayage Expense per \$100 of Sales, cents			
Chauffeurs' wages	57.7	58.8	58.4
Other Truck Expense	53.5	29.2	37.7
Total Truck Expense	111.2	88.0	96.1
Hired Drayage	5.2	85.2	57.3
Total Drayage	116.4	173.2	153.4
Truck Expense in cents per hour of chauffeurs' labor			
Chauffeurs' wages	65.0	64.6	64.8
Other Truck expense	60.5	32.2	41.8
Total	125.5	96.8	106.6

Differences in drayage expense also was associated with differences in the average value of packages handled. Firms

"The higher costs per package in large firms could have resulted from less efficient use of trucks rather than more hauling but such, apparently, was not true because other information indicates that the large firms were using their own trucks more effectively than small firms.

handling high-priced packages spent more per package handled for drayage but this expense per dollar of sales was no larger than for firms handling low-priced produce.

It may be concluded, then, that firms having a large volume of sales are doing more hauling than those with smaller sales, regardless of whether the larger sales resulted from a larger number of packages or from a higher value per package. In each case, firms with largest sales hired others to do a larger proportion of their hauling than firms with smaller sales.

MARGINS AND COSTS OF RETAIL SERVICE FIRMS

Information on margins and costs were obtained from six "retail service" firms. In the St. Louis markets, these are known as "retailers" because they sell and deliver fruits and vegetables in relatively small lots to retailers. Sales of these six firms in 1939 averaged \$555,000, which was \$80,000 larger than the average sales of the 13 wholesalers studied. Margins averaged \$68,855 per firm which was 12.4 cents per dollar of sales, (Table 34).

Costs amounted to slightly more than 12.6 cents per dollar of sales and, therefore, these firms had an average loss of \$1,296 per firm which was nearly one-fourth of a cent per dollar of sales. Among firms, three had net gains and three had net losses for 1939.

TABLE 34. SALES, MARGIN, EXPENSE AND NET LOSS, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item	Amount per Firm	Amount per \$100 of Sales
Sales	\$555,255	\$100.00
Cost of goods sold	486,400	87.60
Margin	68,855	12.40
Expense	70,151	12.63
Net Loss	\$ 1,296	\$.23

Expenses

As they appeared in the records of the six firms for 1939, expenses amounted to more than \$70,000 per firm but some of the expenses included in these records were not for 1939 and others were items which in most firms had been included as part of the cost of goods sold. After these minor adjustments had been made and before interest charges on the capital in-

vested in the businesses had been added, expenses for 1939 averaged \$68,062 per firm and 12.3 cents per dollar of sales. As classified on the accounting records, the most important item of expense was salaries and wages of employes which accounted for more than one-half of total expense, (Table 35). Salaries of officers amounted to nearly one-sixth of total expense and were next in importance. After payroll taxes and insurance were added, the total cost of salaries and wages was nearly three-fourths of the total operating expenses. Other relatively important costs were rent, truck expense, telephone and telegraph, and depreciation.

TABLE 35. EXPENSES AS ITEMIZED ON BOOKS OF 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per cent of Total	Expense per \$100 of Sales
Salaries and wages			
Employes	\$36,982	54.3	\$6.66
Officers	11,072	16.3	1.99
Payroll tax	1,664	2.4	.30
Compensation insurance	450	.7	.08
Total	50,168	73.7	9.03
Rent	4,686	6.9	.84
Truck expense	3,828	5.6	.69
Telephone and telegraph	1,523	2.2	.28
Depreciation	1,304	1.9	.24
Office supplies, postage and printing	859	1.3	.16
Insurance	845	1.2	.15
Light, power and fuel	782	1.1	.14
Bad debts	613	.9	.11
Taxes	606	.9	.11
Advertising	516	.8	.09
Dues and subscriptions	279	.4	.05
Repairs	274	.4	.05
Interest paid	174	.3	.03
Travel	173	.3	.03
Bank exchange	108	.2	.02
Legal and accounting	101	.1	.02
Hired drayage	100	.1	.02
Donations	44	.1	.01
Other, including unclassified	1,079	1.6	.19
Total	\$68,062	100.0	12.26

For purposes of this study, a charge for the use of capital was added to the other items of expense described above in order to make the costs of the six firms more nearly comparable. This charge was equivalent to five per cent of the value of assets necessary to the fruit and vegetable business and amount-

ed to \$2,263 per firm." Interest paid in 1939 was then replaced by this more complete interest expense, which made a net addition of \$2,089 per firm to expenses. Expenses per firm then totaled \$70,151 which was \$12.63 per \$100 of sales.

Distribution of Expenses.—Nearly one-half of the total expenses of the six retail service firms was selling costs, one-fifth was general expense and nearly one-fourth was drayage, (Table 36). Expense for selling amounted to more than 6 cents per dollar of sales, drayage was 3 cents and general expense averaged 2½ cents.

TABLE 36. TOTAL EXPENSES, BY CLASSES OF EXPENSE, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Class of Expense	Average Expense per Firm	Class as Per Cent of Total	Expense per \$100 of Sales
Selling	\$34,276	48.9	\$ 6.17
General	14,126	20.1	2.54
Drayage	16,745	23.9	3.02
Credit	3,327	4.7	.60
Special handling	1,677	2.4	.30
Total	\$70,151	100.0	\$12.63

Expenses of retail service firms per dollar of sales were more than 60 per cent larger than those of wholesalers, (Table 38). Service firms spent considerably more than wholesalers for selling, drayage and overhead but had lower credit and special handling expenses. The distribution of expenses of service firms was not greatly different from that of wholesalers. Selling and general expenses were about the same percentages of total costs for each type of dealer. For retail service firms, drayage was relatively more important whereas credit and special handling expenses were relatively smaller.

TABLE 37. COMPARISON OF EXPENSES, 13 WHOLESALE AND 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Class of Expense	Class as per cent of Total		Expense per \$100 of Sales	
	Wholesalers	Service Firms	Wholesalers	Service Firms
Selling	47.5	48.9	\$3.62	\$ 6.17
General	20.4	20.1	1.56	2.54
Drayage	18.6	23.9	1.42	3.02
Credit	8.8	4.7	.67	.60
Special Handling	4.7	2.4	.36	.30
Total	100.0	100.0	\$7.63	\$12.63

"Some firms engaged in other activities besides the handling of fruits and vegetables and some of their assets were used for those other purposes. For that reason, interest charges were based on assets used in the produce business and not total assets.

Selling Expenses.—Salaries and wages made up more than three-fourths of selling expenses of retail service firms and were 4.7 cents per dollar of sales, (Table 38). Salesmen's salaries were nearly one-half of the cost of sales personnel. Officers' salaries for time spent in buying and selling also were relatively important. Expense for the salesroom and equipment used in selling amounted to more than \$5,400 per firm and was nearly one-sixth of selling expense. Telephone and telegraph bills averaged more than \$125 per month.

TABLE 38. SELLING EXPENSES, BY ITEMS, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per cent of Total	Expense per \$100 of Sales
Salaries and wages			
Officers	\$ 5,506	16.1	\$.99
Salesmen	12,933	37.7	2.33
Porters	7,895	23.0	1.42
Total	\$26,334	76.8	4.74
Salesroom and equipment	5,407	15.8	.97
Telephone and telegraph	1,523	4.4	.28
Advertising	516	1.5	.09
Interest on inventories	496	1.5	.09
Total	\$34,276	100.0	6.17

General Expenses.—Although a large number of items were included in general expense, salaries and wages amounted to more than two-thirds of this total, (Table 39). Officers' salaries for time spent in supervision were nearly 60 per cent of the expense for administrative personnel, and salaries of office employes made up the remainder.

TABLE 39. GENERAL EXPENSES, BY ITEMS, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per cent of Total	Expense per \$100 of Sales
Salaries and wages			
Officers	\$ 5,838	41.3	\$ 1.05
Employes	3,944	27.9	.71
Total	\$ 9,782	69.2	1.76
Office supplies and expense	1,072	7.6	.19
Office space and equipment	601	4.2	.11
Taxes	433	3.1	.08
Insurance	409	2.9	.07
Interest on working capital	339	2.4	.06
Subscriptions, dues and donations	310	2.2	.06
Travel	123	0.9	.02
Unclassified	1,057	7.5	.19
Total	\$14,126	100.0	2.54

Credit Expense.—Nearly one-half of the expense incurred as a result of extending credit to shippers and retailers was salaries of officers and employes who spend time in making, recording and collecting credit accounts, (Table 40). Interest on capital invested in receivables was one-third of total credit costs and bad debts less than one-fifth. These retail service firms had much smaller losses from bad accounts than normally would be expected.

In 1939, credit sales of these six firms amounted to \$432,718 per firm which was 78 per cent of total sales. This percentage was lower than that for the 13 wholesale firms which made 84 per cent of sales on credit. The average amount of accounts and notes receivable outstanding during the year was \$18,526 per firm.²³ This was the equivalent of 15.6 days of credit sales, which indicates that the average age of the receivables outstanding was a little more than two weeks. Credit expense should be related to credit sales rather than total sales and on this basis amounted to nearly 77 cents per \$100 of credit sales.

TABLE 40. CREDIT EXPENSE, BY ITEMS, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per Cent of Total	Expense per \$100 of Sales (Cents)	Expense per \$100 of Credit Sales (Cents)
Salaries	\$1,545	46.5	27.8	35.7
Interest	1,139	34.2	20.6	26.3
Bad debts	613	18.4	11.0	14.2
Other	30	.9	0.5	0.7
Total	\$3,327	100.0	59.9	76.9

Drayage.—The six retail service firms depended upon their own trucks for nearly all of the hauling done by them because hired drayage amounted to only \$100 per firm. Thus, drayage costs consisted almost entirely of wages of truck drivers and costs of operating and maintaining trucks. These averaged \$16,645 per firm and 3 cents per dollar of sales, (Table 41). Of this total, wages were nearly two-thirds and other truck expense, about one-third.

According to the labor records of the six firms, the amount of time for which chauffeurs or truck drivers received pay in 1939 averaged 17,653 hours per firm. Thus, the average wage was 61.6 cents per hour. Assuming that trucks were used a

²³This average is the average of the 12 monthly average amounts, which were obtained by averaging amounts outstanding at the beginning and end of each month in 1939.

similar number of hours in 1939, truck expense other than chauffeurs' wages averaged 32.6 cents per hour and total truck expense, including wages, amounted to 94.2 cents per hour.

TABLE 41. DRAYAGE EXPENSE, BY ITEMS, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Item of Expense	Expense per Firm	Per Cent of Total	Expense per \$100 of Sales
Chauffeurs' wages	\$10,880	65.0	\$1.96
Other truck expense	5,765	34.4	1.04
Total truck expense	16,645	99.4	3.00
Hired drayage	100	0.6	.02
Total	\$16,745	100.0	3.02

Salaries and Wages

In each class of expense discussed so far, salaries and wages have been the most important item. A further analysis of this expense, then, seemed desirable. The total amount paid by the six retail service firms for services of officers and employes in 1939 amounted to \$50,168 per firm, (Table 42). Of this amount, salaries of officers was nearly one-fourth and remuneration of employes slightly more than three-fourths. Salesmen received one-fourth of total salaries and wages; chauffeurs, more than one-fifth; and porters or housemen, nearly one-sixth. The total for salaries includes workmen's compensation insurance and taxes for old age benefits and unemployment insurance which are additional costs of labor to employers.

These salaries and wages were in payment for 70,949 hours of labor and management per firm. Of this total number of hours, chauffeurs, porters and salesmen accounted for nearly 70 per cent. Time devoted to the businesses by officers amounted to 11 per cent of the total number of hours. Wages of employes varied from 28.6 cents per hour for watchmen to 78.4 cents per hour for salesmen, (Table 42). Salaries of officers were equivalent to nearly \$1.50 per hour for the time devoted to these fruit and vegetable businesses.

In these six retail service firms, officers spent a larger portion of their time on supervision and management than did officers of wholesale firms. Of the total time devoted to the produce business, officers of service firms spent about 44 per cent on buying and selling, 52 per cent on administration and 4 per cent on credit management. The distribution of salaries among these classes of service was similar to that for hours of service.

TABLE 42. HOURS AND COST OF SERVICES OF OFFICERS AND EMPLOYEES, 6 RETAIL SERVICE FIRMS, ST. LOUIS, 1939

Class of Worker	Hours per firm		Cost per firm		Cost per Hour (Cents)
	Amount	Per Cent	Amount	Per Cent	
Chauffeurs	17,653	24.9	\$10,880	21.7	61.6
Porters	15,342	21.6	7,895	15.7	51.5
Clerical	8,522	12.0	4,869	9.7	57.1
Salesmen	16,440	23.2	12,883	25.7	78.4
Extra laborers	4,001	5.6	1,677	3.3	41.9
Watchmen	1,226	1.7	351	0.7	28.6
Total Employes	63,184	89.0	\$38,555	76.8	61.0
Officers	7,765	11.0	11,613	23.2	149.5
All	70,949	100.0	\$50,168	100.0	70.7

SUMMARY

The St. Louis wholesale fruit and vegetable market serves the St. Louis Metropolitan area with a population of more than 1,300,000 and a wide trade territory surrounding the area.

In June, 1940, 82 firms were operating stores in this market. About 70 of the 82 dealers in the market were classified as wholesalers although they were performing services usually characteristic of jobbers in larger markets. The others were classified as retail service stores because they made sales by telephone to retailers and had regular delivery routes to serve these customers.

The facilities in the St. Louis market are far from modern. Stores are long, narrow and poorly lighted, so that sidewalks are used extensively for display of produce. Few stores have cold storage rooms for perishables. Space for loading and unloading trucks is limited and few stores have docks at truck-bed height.

Records on margins and costs were obtained from 13 wholesalers. Their sales amounted to \$474,000 per firm on which margins averaged 7.9 cents per dollar of sales. Costs averaged more than 7.6 cents per dollar of sales. Margins and costs per dollar of sales declined as firms became larger.

Nine wholesalers provided satisfactory information on number of packages handled. The average number was 285,000 in 1939. In these firms, the average sales price of packages was \$1.60. Margins averaged 12.8 cents and costs, 12 cents per package. Costs and margins per package declined as the number of packages handled increased. Firms handling high-priced packages had higher margins and costs per package than firms handling low-priced packages.

Items of expense were classified into 5 groups, namely: selling, general, credit, drayage and special handling. Selling

expense which included the direct costs of buying, handling and selling fruits and vegetables was nearly one-half of the total.

Salaries and wages accounted for most of the selling and administrative expenses. The nine firms providing information on packages provided full employment for more than 84 persons in 1939. Total salary and wage payments were in excess of \$175,000. The average work week was 51 hours for employes and 60 hours for officers. The average wage was 60 cents per hour for employes and \$1.09 per hour for officers.

Expense per package for sales and administrative personnel depends on the rate of pay and the efficiency with which labor and management is used. Firms with large volumes of sales in 1939 handled more packages per hour of labor than smaller firms but also had higher wage and salary scales.

Officers were more often salesmen than supervisors because nearly two-thirds of their time was spent in buying and selling. Only one-fifth was spent on administrative matters.

For the nine wholesalers, rent of stores averaged \$2,518 per year. This amounted to 81 cents per square foot of first floor and sidewalk space and 88 cents per 100 packages handled. Large firms used space more effectively than small firms. The average annual rental for the entire 82 firms in the market was \$2002. Rentals per square foot declined as the size of floor space per store increased.

The 13 firms made about 84 per cent of their sales on credit and had about 17 days of credit sales outstanding in 1939. Credit expense averaged 80 cents per \$100 of credit sales. This expense was relatively less in firms handling a large number of packages than in those handling a small number.

Large firms provided more drayage service than small firms and, therefore, spent relatively more for drayage.

A study of margins and costs in six retail service firms revealed margins of 12.4 cents and costs of 12.6 cents per dollar of sales. Thus margins and costs were about 60 per cent larger than those for wholesalers. Drayage was a relatively larger item of cost for retail service firms than for wholesalers. Sales of the six service firms amounted to \$555,000 per firm in 1939.

Retail service firms made about 78 per cent of their sales on credit in 1939 and had 16 days of credit sales outstanding. Credit expense averaged 77 cents per \$100 of credit sales, almost the same as for wholesalers.