Marketing Charges for ORANGES Sold in Pittsburgh and Cleveland

1949-50 SEASON

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PREFACE

Price instability has long characterized the market for citrus fruits. The citrus industry has recognized the need for minimizing abrupt changes in price. Grower and shipper organizations have made progress in developing quality standards, and regulated distribution of their product through marketing agreements. Improvements have been made in packing, handling, and sales promotion. In addition, continuous research in the physical sciences has improved the quality of citrus fruits and led to the development of important processed products. Despite the efforts of these groups, abrupt price fluctuations, both within seasons and interseasonally, continue to occur.

The Bureau of Agricultural Economics began reporting prices on fresh oranges in 1919. These data indicate the relative inflexibility of marketing charges during short periods of time. During most of the last 33 years prices received by orange growers fluctuated sharply from year to year, while changes in marketing charges were gradual. This indicates that sharp changes in returns to growers are largely the result of retail-price fluctuations rather than changes in the marketing charges. In the long run, however, marketing charges for oranges do not remain fixed but vary considerably in response to changes in wage rates and other elements of cost.

Because of the adverse effects of an unstable market on growers' returns, the United States Department of Agriculture was requested to examine the marketing process and to recommend improvements in handling and distribution when possible. Several studies relating to specific aspects of costs and efficiencies in marketing oranges are now in progress. When completed, these studies should be of considerable help in solving some of the basic problems in marketing. The study on which this report was based covered only a part of the over-all problem. It included a survey of the marketing channels for oranges sold in two large cities and a detailed analysis of the factors associated with the variations in retail margins.

CONTENTS

	Page
Introduction	1
Summary	3
Pittsburgh	6
Marketing charges	6
Grower's share	6
Shipping-point services	6
Transportation	6
Brokerage	8
Wholesaling	8
Retailing	9
Factors affecting retail price	10
State of origin, variety, and seasonal pattern	10
Size of fruit	15
Retail store group	16
Cleveland	24
Marketing charges	24
Grower's share	24
Shipping-point services	24
Transportation	24
Brokerage	26
Wholesaling	26
Retailing	26
Factors affecting retail price	27
State of origin, variety, and seasonal pattern	27
Size of fruit	29
Retail store group	31
Appendix	38
Scope and method of data collection	38

Assistance in developing procedures for obtaining the information in this bulletin was provided by members of the National League of Wholesale Fresh Fruit and Vegetable Distributors, United Fresh Fruit and Vegetable Association, and National Association of Food Chains, and by the cooperating retailers and wholesalers in Cleveland. Representatives of the Market News Service and other divisions of the Fruit and Vegetable Branch, Production and Marketing Administration, also assisted.

This study was made under authority of the Agricultural Marketing Act of 1946 (RMA, Title II). The data for Cleveland were collected under contract by the Market Research Corporation of America.

MARKETING CHARGES FOR ORANGES SOLD IN PITTSBURGH AND CLEVELAND

By Dehard B. Johnson, Agricultural Economist

INTRODUCTION

Pittsburgh and Cleveland are important markets for both California and Florida oranges. The prevailing prices, quantities sold, and varieties available during any given period in these cities depend in part upon seasonal factors, the condition of the crop, and market conditions in general. An introductory discussion of the general pattern of marketing oranges will, therefore, be helpful in analyzing the market for oranges in these two cities.

Both Navel and Valencia oranges are produced in California. Navel oranges usually become available in November and reach a seasonal peak in March with the season ending in June. 1/ The season for Valencias extends from April through November, with peak production occurring in early fall. During the 1949-50 season, total production of California oranges included 38 percent Navel and 62 percent Valencia oranges.

Several commercial varieties of oranges are grown in Florida. Early and midseason varieties are marketed from October through March. The Pineapple orange is the most important of the midseason varieties. Valencia oranges, which constituted about 43 percent of the crop in 1949-50, are available from February through June. During January, February, and March small quantities of Temple oranges are marketed. These are a specialty fruit and bring a substantial premium in price. They are not included in this report.

Data for this study were collected in Pittsburgh from December 1949 through June 1950. As this period includes most of the California Navel orange season and only the first part of the California Valencia orange season, the analysis pertains chiefly to the market for Navel oranges. In the case of Florida oranges, the Pineapple variety was marketed during December through March, while sales of Valencias predominated from April through June. Thus, the analysis of the market for Florida oranges pertains to the bulk of the Pineapple season, followed by the Valencia season, and includes significant quantities of unclassified varieties during the winter months.

In Cleveland the data were collected from February through June. This period includes a large part of the California Navel season and the first part of the Valencia season. Florida oranges marketed during this period include the last of the Pineapple orange crop followed by substantially all of the Valencias. Included also are some unclassified oranges.

1/ Seasonal marketing periods for the various varieties of oranges can only be approximated. Weather conditions largely determine when the crop will reach maturity and the length of the marketing period.

Oranges sold in the sample stores in Pittsburgh consisted of 49 percent California fruit and 51 percent Florida fruit, classified as in table 1. In Cleveland the sample stores sold 39 percent California oranges and 61 percent Florida oranges (table 1).

Table 1. - Distribution of sales of oranges in sample stores, by varieties, Pittsburgh, December 1949-June 1950, and Cleveland, February-June 1950

Variety and State of origin	Pittsburgh	Cleveland
	Percent	Percent
California		
Navel	73	87
Valencia	5	11
Unclassified	22	2
Florida		
Pineapple	29	23
Valencia	30	75
Unclassified	41	2

The unclassified California oranges consisted of either Navels or Valencias, which could not be accurately classified when the data were gathered. The unclassified group of Florida oranges, however, contains both those that were not positively identified and, especially during the earlier months of the season, miscellaneous varieties of oranges that did not occur in large enough quantities to warrant separation into individual groups.

California oranges are generally sold in 1 2/5 bushel boxes having a net weight of 77 pounds. Most Florida oranges are sold in 1 3/5 bushel boxes having a net weight of 90 pounds. Where boxes of oranges are referred to in the text of this report, these sizes apply.

Most oranges are sold in retail stores in one of three ways -- by the pound, prepackaged in 5- or 8-pound net bags, or by the dozen. Practically all sales in Pittsburgh and Cleveland were by the dozen. However, some prepackaged fruit was sold in both cities (table 2). Oranges sold in bags were not included in the analysis that follows because such sales did not occur in significant quantities.

Table 2. - Oranges sold in prepackaged net bags, as a percentage of all sales, Pittsburgh and Cleveland, season 1949

State of origin	Pittsburgh	Cleveland
	Percent	Percent
California	0.2	0.0
Florida	.9	3.2

SUMMARY

Oranges sold in Pittsburgh and Cleveland during the winter and spring of 1949-50 brought growers a price (at the packing-house door) that was substantially higher than the average for all oranges they sold during this period.

Dates of retail sales included in the study were from December through June for Pittsburgh, and February through June for Cleveland. Because the data cover a different time period in each city exact comparisons between cities cannot be made.

Prices received by growers during these periods for oranges delivered at packing house were: $2.99 a box (36.0 percent of the retail price) for California oranges sold in Pittsburgh; $3.24 a box (37.5 percent of the retail price) for California oranges sold in Cleveland; $2.69 a box (37.1 percent of the retail price) for Florida oranges sold in Pittsburgh; and $3.13 a box (40.3 percent of the retail price) for Florida oranges sold in Cleveland.

Services performed at the shipping point averaged $1.16 a box for the California oranges and $1.03 for the Florida oranges. In each instance this was about 14 percent of the retail price in Pittsburgh, and a little more than 13 percent of the retail price in Cleveland.

Transportation charges for California oranges averaged $1.64 a box (19.7 percent of the retail price) to Pittsburgh and $1.63 a box (18.9 percent of the retail price) to Cleveland. For Florida oranges, transportation cost $1.11 a box (15.3 percent of the retail price) to Pittsburgh and $1.31 a box (16.9 percent of the retail price) to Cleveland.

Of the lots of fruit traced back to point of shipment, brokerage was charged on 22 percent of the California oranges and 45 percent of the Florida oranges sold in Pittsburgh, and 22 percent of the California oranges and 35 percent of the Florida oranges sold in Cleveland. For the lots upon

which brokerage was charged it averaged $0.10 per box for California oranges and $0.07 per box for Florida oranges in Pittsburgh, and $0.09 per box for California oranges and $0.02 per box for Florida oranges in Cleveland.

The margin covering wholesale distribution averaged $0.57 a box (6.9 percent of the retail price) for California oranges sold in Pittsburgh and $0.60 a box (again 6.9 percent of the retail price) for California oranges sold in Cleveland. Wholesaling also cost $0.60 a box (8.3 percent of the retail price) for Florida oranges sold in Pittsburgh and $0.50 a box (6.4 percent of the retail price) for Florida oranges sold in Cleveland.

Retail margins averaged $1.93 a box (23.3 percent of the retail price) for California oranges sold in Pittsburgh and $2.01 a box (23.2 percent of the retail price) for California oranges sold in Cleveland. For Florida oranges, the retail margins were $1.77 a box (24.4 percent of the retail price) in Pittsburgh and $1.79 a box (23.1 percent of the retail price) in Cleveland.

The total retail sales value averaged $8.30 for California oranges sold in Pittsburgh; $8.65 for California oranges sold in Cleveland; $7.25 for Florida oranges sold in Pittsburgh; and $7.76 for Florida oranges sold in Cleveland. These estimates of retail sales values are based on the quantity of oranges in a box leaving the grower's hands that actually reach the consumer after those that spoiled enroute have been taken out. The actual retail price of a box of oranges with those that spoiled enroute replaced by good ones would be slightly higher.

Under the conditions of this study, California oranges sold for more than those from Florida. There seem to be several reasons for these differences, some of which can only be guessed. From February through June, most of the Florida oranges sold in Pittsburgh and Cleveland were Valencias, while most of the California oranges (which sold at a higher price) were Navels. Not enough of the California Valencia crop was sold during this period to make a direct comparison.

The data already cited show that the California growers got more for their oranges than the Florida growers; the services that were performed at the shipping point cost more in California than in Florida; transportation to Pittsburgh and Cleveland (as would be expected) cost more from California than from Florida but there was virtually no difference in the cost from California to Cleveland or to Pittsburgh while the cost from Florida was much higher to Cleveland than to Pittsburgh, the latter being due to the nature of the rail rate structure. The ranking of wholesale margins, from highest to lowest, was California oranges in Cleveland and Florida oranges in Pittsburgh (the same); California oranges in Pittsburgh; Florida oranges in Cleveland.

Part, but not all, of the apparent higher price for oranges in Cleveland than in Pittsburgh is due to the fact that the price of oranges rose during the time of the study and the averages for Pittsburgh included December and January when prices were lower than from February through June. Moreover, the sales in December and January included a large share of the Florida Pineapple orange crop, which generally sells at a lower price than Florida Valencias.

Practically all oranges were sold by the dozen in Pittsburgh and Cleveland and, of course, there were substantial differences in reported prices among large, medium, and small fruit. In order to make realistic comparisons among prices of various sized oranges it was necessary to convert prices per dozen to prices per pound. This was done for both California and Florida oranges based on the average number of oranges per pound sold in each size group. In both Pittsburgh and Cleveland, medium-sized oranges sold at retail for the highest price per pound; small oranges were next; and large oranges were the cheapest, per pound.

In both Pittsburgh and Cleveland, group I stores handled a higher percentage of large oranges. 2/ No particular sizes predominated in the other store groups. Both retail prices and margins were lowest in group I stores for all except Florida oranges sold in Pittsburgh, where group II stores had the lowest average margin and group III stores the lowest average price. In general, the smaller stores (groups III and IV) took a larger margin on both California and Florida oranges. They did not, however, charge a consistently higher price.

2/ All retail stores were divided into four groups, according to their method of buying oranges. Group I stores buy in carload lots. Group II stores buy (in less than carload lots) directly from initial receivers. Group III stores buy both from initial receivers and secondary handlers, but pick up their purchases in their own trucks. Group IV stores buy oranges delivered-at-store from service wholesalers or trucker-jobbers.

PITTSBURGH

The following analysis of marketing oranges in Pittsburgh was based on data collected in 30 sample stores from December 1949 through June 1950. Data covering 463 lots of fruit were traced back to point of shipment.

Marketing Charges

Grower's share. - Oranges sold in Pittsburgh brought an average return to growers of $2.99 for a 77-pound box of California fruit and $2.69 for a 90-pound box of Florida fruit delivered at the packing-house door. These prices represent a return of 36.0 percent of the consumer's dollar for California oranges and 37.1 percent for Florida oranges (fig. 1).

According to the average prices reported for the 1949-50 season, California growers received $2.44 a box for all oranges sold in fresh form, contrasted with a return of $2.99 a box for oranges sold in Pittsburgh. Similarly, Florida orange growers received an average of $2.54 a box for all oranges sold fresh compared with a return of $2.69 a box for sales in Pittsburgh. 3/

Shipping-point services. - The cost of shipping-point services averaged $1.16 a box for the 1949-50 season in California for a margin of 14.0 percent of the consumer's dollar in Pittsburgh. In Florida, the cost of these services averaged $1.03 a box, resulting in a margin of 14.2 percent of the price paid by consumers.

Shipping-point services include advertising, inspection, and selling as well as the actual packing operation. California oranges are practically all marketed through large grower-owned associations, which perform all necessary functions and prorate the costs to the individual members. In Florida a large number of both independent growers and associated groups handle the marketing functions. In addition, the Florida Citrus Commission maintains quality controls and conducts an advertising campaign, the cost of which is borne by a tax on each box of fruit shipped.

Transportation. - Transportation charges for moving oranges from California to Pittsburgh averaged $1.64 a box. This represents a margin of 19.7 percent of the consumer's dollar spent for California oranges. Charges for transporting oranges from Florida to Pittsburgh averaged $1.11 a box for a margin of 15.3 percent of the consumer's dollar. Cost of transportation includes freight, protective services, and Federal tax. A break-down of the transportation charges is given in table 3. The lots of California oranges traced back to shipping point were all shipped by rail. Florida oranges moved by both truck and rail.

3/ Average prices received by growers and shipping-point costs for the 1949-50 season were calculated from information contained in: Statistical Information on the Citrus Industry, California Fruit Growers Exchange, Los Angeles, Calif., May 1951; and the Annual Fruit and Vegetable Report, Florida State Marketing Bureau, Jacksonville, Fla., October 1951.

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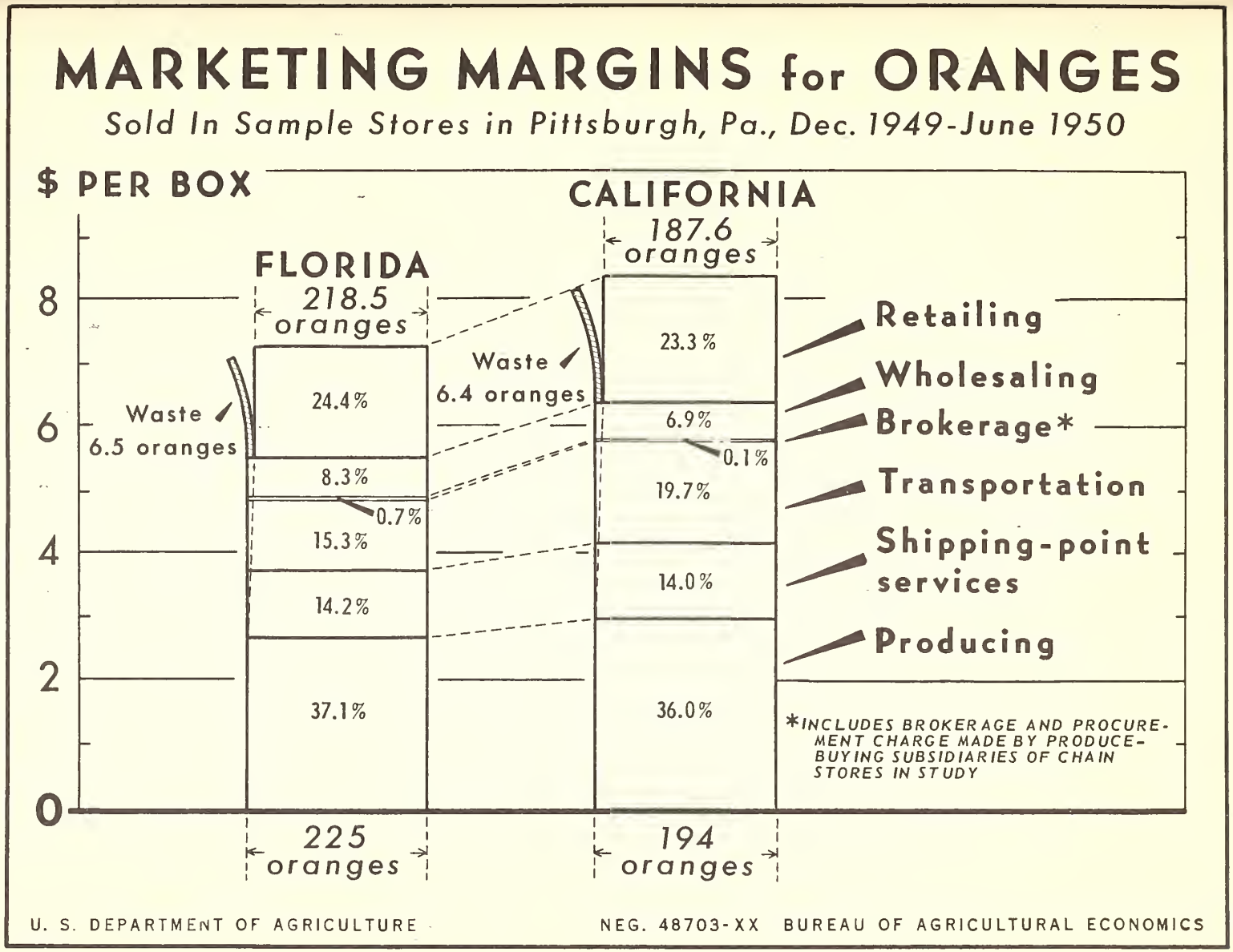

Figure 1.

Table 3. - The components of the total transportation cost for oranges shipped from f.o.b. points in Florida and California to Pittsburgh, December 1949-January 1950. 1/

Item	Average charge per box			
	California		Florida	
	Actual	Percentage of total	Actual	Percentage of total
	Dollars	Percent	Dollars	Percent
Freight	1.49	91	1.06	95
Heat or ice	.10	6	.02	2
Federal tax	.05	3	.03	3
Total	1.64	100	1.11	100

1/ Based on 463 lots traced back to shipping point.

Brokerage. - Brokerage charges averaged $0.01 a box on California oranges for a margin of 0.1 percent of the consumer's dollar. Average brokerage was $0.05 a box on Florida oranges, representing a margin of 0.7 percent of retail.

Terminal market brokers may or may not enter into the sales transaction. For this reason only a limited number of brokerage charges appeared in the sample. Of the 251 lots of Florida oranges traced back to shipping point, brokerage was charged on 114 lots. The average charge for the 114 lots was $0.10 a box. Of the 212 lots of California oranges traced back to shipping point, brokerage was charged on only 47 lots. Average brokerage for the 47 lots was $0.07 a box.

Wholesaling. - Oranges sold in Pittsburgh were distributed in several ways. Some fruit was sold by carlot receivers directly to the retail stores. In other cases it passed through from two to four wholesale distributors before reaching the retail stores. Of the lots of oranges traced back to shipping point, 53 percent of the California oranges and 25 percent of the Florida oranges passed through the Pittsburgh fruit auction market.

The 212 sample lots of California oranges traced back to shipping point were distributed as follows: 54 lots were sold directly to the retail stores by initial receivers, 140 lots were sold to the retail stores by a secondary handler who bought them from the initial carlot receiver, and 18 lots were distributed to the retail stores through a second and a third handler in addition to the initial receiver.

On those lots bought directly from initial receivers the average wholesale margin was $0.54 a box. Most of these lots represented chain-store purchases and the costs are "book costs" rather than actual marketing costs. On lots that were distributed through more than one wholesaler, the initial receiver took $0.13 and the secondary distributors $0.46 a box. The average total wholesale margin for the California oranges traced back to shipping point was $0.57 a box, or 6.9 percent of the retail selling price.

The 251 sample lots of Florida oranges traced back to shipping point were wholesaled as follows: 95 lots were sold directly to retail stores by initial carlot receivers; 146 lots passed through two wholesalers; 8 lots were handled by three wholesale distributors; and 2 lots were handled by four wholesale distributors.

When oranges were sold directly to the retail stores, the initial receivers took an average margin of $0.48 a box. For those lots that passed through more than one distributor, an average margin of $0.30 a box was taken by the initial receiver and $0.38 a box by the secondary handlers. The average total wholesale margin for all Florida oranges traced back to shipping point was $0.60 a box, or 8.3 percent of the retail selling price.

Retailing. - Charges for retailing California oranges in Pittsburgh averaged $1.93 a box. This was a margin of 23.3 percent of the retail selling price. Retailing charges for Florida oranges in Pittsburgh averaged $1.77 a box, or 24.4 percent of the retail selling price.

Marketing fresh produce items usually involves some waste. This loss is relatively small in the case of fresh oranges. Average waste for the sample stores in Pittsburgh was 3.32 percent of sales for California oranges and 2.88 percent of sales for Florida oranges. This means that, on the average, a retailer was able to sell about 194 oranges of every 200 oranges that he bought. In this report, the cost per dozen to the retail store for all oranges has been adjusted upward by an amount sufficient to allow for the average waste.

Retail margins by variety are shown in table 4 for both California and Florida oranges. The margin indicated for Valencia oranges, most of which were sold in June, applies to only about 5 percent of all California oranges. California Navel and Florida Pineapple and Valencia oranges, which accounted for the bulk of the sales during the period studied, all returned a similar percentage margin. Actual dollar margins, however, were slightly higher for California fruit because of the higher price level.

Table 4. - Average retail margins for oranges marketed in Pittsburgh sample stores, by variety and State of origin, December 1949-June 1950.

State of origin	Margin as a percentage of retail		
	Navel	Pineapple	Valencia
	Percent	Percent	Percent
California	22.9	---	26.8
Florida	---	24.0	23.7

Factors Affecting Retail Price

State of origin, variety, and seasonal pattern. - As the period of the study - December through June - included only a part of the annual marketing period, seasonal availability of the various types of oranges dictated the limits within which a choice of variety could be made. For this reason sales of different varieties of both California and Florida oranges in Pittsburgh closely followed the usual seasonal pattern.

In December, 13,414 dozen oranges were sold in the sample stores, but in January only 10,649 dozen were sold. After increasing only slightly in February, peak sales were reached in March, when 14,645 dozen were sold. Sales held through April at about the March level then dropped sharply to 11,607 dozen in June. In the 7 months during which data from the sample stores were collected, 42,720 dozen California oranges were sold compared to 45,327 dozen Florida oranges. 4/

The average price for both California and Florida oranges continued upward with only slight variations through the entire period. California oranges brought an average return of 53.2 cents a dozen, ranging from a low of 45.6 cents in December to a high of 59.2 cents in May. The average return for Florida oranges was 39.8 cents a dozen, ranging from a low of 28.6 cents in December to a high of 49.1 cents in June. Volume of sales and average prices by months for both California and Florida oranges are shown in figure 2.

From December 1949 through June 1950, three major varieties of oranges were available on the Pittsburgh market. Florida Pineapple oranges were available from December through March, and Florida Valencias appeared in quantity from March through June. California Navel oranges were available

4/ None of the prices or sales volumes discussed in this report include the small percentage of oranges sold prepackaged in net bags, or of Florida Temple oranges.

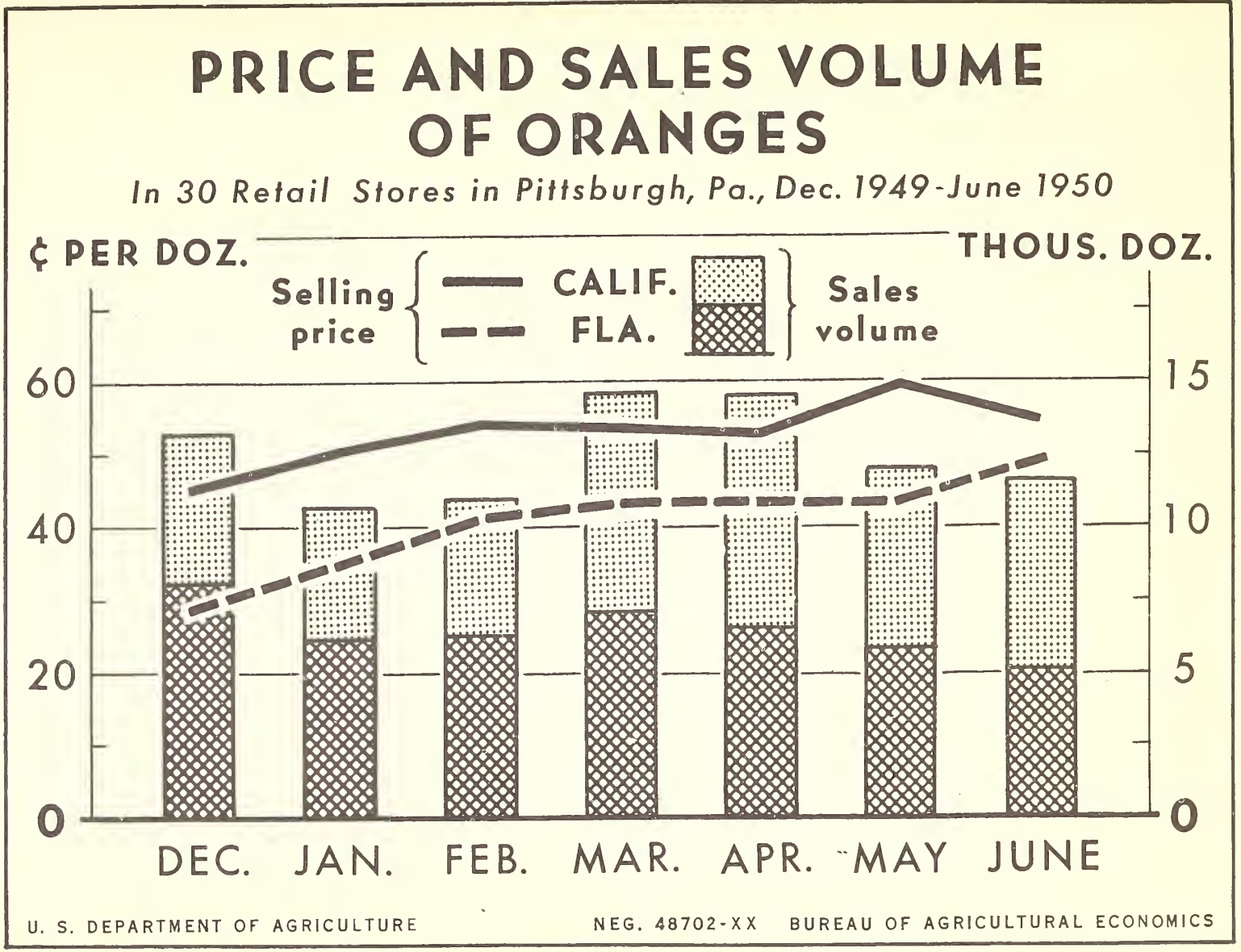
PRICE AND SALES VOLUME OF ORANGES
In 30 Retail Stores in Pittsburgh, Pa., Dec. 1949-June 1950
¢ PER DOZ.
THOUS. DOZ.
Selling price
CALIF.
FLA.
Sales volume
60
40
20
0
15
10
5
0
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Figure 2.

during the entire period. Figure 3 indicates the relative prices among these three varieties. Prices of Pineapple and Valencia oranges from Florida cannot be compared on the basis of these data because they are not marketed concurrently. During the period of the study, California Navels sold at an average premium of $0.13 a dozen over both Florida varieties. Prices for all oranges showed an upward trend during the 7 months.

California oranges sold in Pittsburgh from December through June were predominantly Navels. In December, approximately 3,646 dozen Navel oranges were reported sold in the sample stores. Sales dropped slightly in January, then continued to rise sharply until a seasonal peak was reached in April, with sales of Navel oranges totaling 6,772 dozen for the month. As the season came to a close, sales dropped rapidly to 4,646 dozen in May and 2,915 dozen in June. No significant quantities of California Valencia oranges appeared until June, when 1,619 dozen were sold in the sample stores. The sales-volume figures mentioned above indicate the relative importance of the two varieties in the period studied. Thus, except for June, sales of California oranges consisted almost entirely of Navels.

The trend of retail prices for California Navel oranges was upward throughout the period studied. Prices of these oranges, which averaged 46.0 cents a dozen in December, increased to 53.5 cents a dozen in February, then dropped off slightly in March and April before continuing to a high of 58.7 cents a dozen in June. California Valencia oranges, which are marketed during the summer and fall, were first reported in substantial quantity in June at an average retail price of 46.4 cents a dozen.

Sales of Florida oranges in the Pittsburgh sample stores from December through June included 13,279 dozen Pineapple oranges and 13,397 dozen Valencias. Ninety-eight percent of the Pineapple oranges were sold from December through March and 91 percent of the Valencia oranges were sold from March through June. Unclassified winter varieties predominated in the market in December, slightly exceeding sales of Pineapple oranges in that month. After December, however, unclassified fruit assumed only minor importance. Sales of Pineapple oranges, which were consistently high in midwinter, dropped to insignificant amounts in April as the season came to a close. Valencias were available in small quantities during December, January, and February, The market was divided equally between the two varieties in March, while practically all oranges sold during April, May, and June were Valencias.

Dominating the trend in prices of all Florida oranges, prices for Pineapple oranges continued upward from December through April. Prices rose steadily from 27.8 cents a dozen in December to 42.5 cents in March. During the Valencia marketing period, prices also increased although not so rapidly as during the earlier Pineapple-orange season. Prices for Valencias increased from 42.5 cents a dozen in March to 49.9 cents in June.

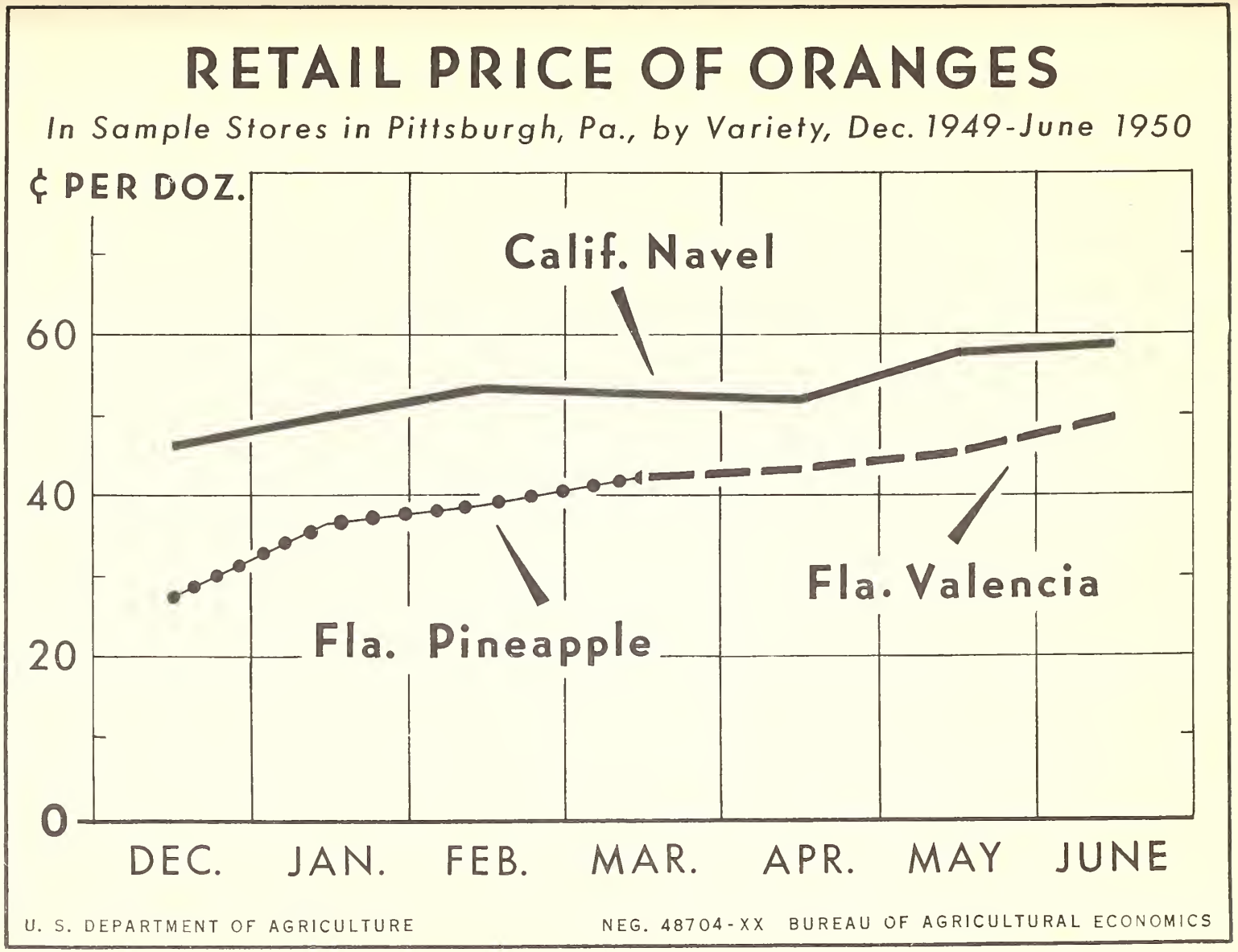
RETAIL PRICE OF ORANGES
In Sample Stores in Pittsburgh, Pa., by Variety, Dec. 1949-June 1950
¢ PER DOZ.
60
40
20
0
Calif. Navel
Fla. Valencia
Fla. Pineapple
DEC.
JAN.
FEB.
MAR.
APR.
MAY
JUNE
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Figure 3.

Table 5. - Distribution of California and Florida oranges by store groups and by size, Pittsburgh, December 1949-June 1950

Store group and size of orange	Dec.	Jan.	Feb.	March	April	May	June	Dec.-June
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
CALIFORNIA								
Group I								
Large	58	64	51	93	59	67	53	67
Medium	42	36	49	7	41	33	47	33
Small	--	--	--	--	--	--	--	--
Group II								
Large	11	7	18	9	23	37	39	22
Medium	76	91	79	88	73	58	46	72
Small	13	2	3	3	4	5	15	6
Group III								
Large	38	50	19	26	35	34	27	32
Medium	54	42	72	56	38	61	53	53
Small	8	8	9	18	27	5	20	15
Group IV								
Large	29	60	44	52	52	55	42	49
Medium	42	38	49	32	26	28	33	34
Small	29	2	7	16	22	17	25	17
All stores								
Large	40	49	30	48	40	46	36	42
Medium	52	48	65	43	45	49	47	49
Small	8	3	5	9	15	5	17	9
FLORIDA								
Group I								
Large	14	38	--	--	36	90	83	40
Medium	41	37	81	91	62	10	17	47
Small	45	25	19	9	2	--	--	13
Group II								
Large	--	7	--	6	5	--	4	3
Medium	46	46	67	52	71	78	95	64
Small	54	47	33	42	24	22	1	33
Group III								
Large	4	5	6	1	8	12	6	6
Medium	38	34	31	38	42	42	50	39
Small	58	61	63	61	50	46	44	55
Group IV								
Large	--	2	--	--	4	--	11	2
Medium	72	64	71	71	47	72	55	66
Small	28	34	29	29	49	28	34	32
All stores								
Large	4	10	2	2	14	25	27	11
Medium	46	42	56	54	54	48	56	51
Small	50	48	42	44	32	27	17	38

Size of fruit. - Preliminary examination of the field data used in this study indicated that the many individual sizes of oranges sold in Pittsburgh would need to be divided into a few usable groups before any analysis was attempted. Therefore, all oranges were divided into three size categories -- large, medium, and small. Although grouping individual sizes to any extent precludes highly detailed analysis of size relationships, the method used was considered appropriate for purposes of this report.

California oranges sold in Pittsburgh averaged 194 oranges per 77-pound box for the 7 months while Florida oranges averaged 225 per 90-pound box. Therefore, oranges from both California and Florida sold in Pittsburgh sample stores averaged about the same in size. About half the oranges from both California and Florida were medium-sized.

Comparison of the sizes of oranges available in each month of the period studied revealed that Florida oranges were a good deal larger during the later months. In December 50 percent of the Florida oranges were small and only 4 percent were large (table 5). Sales of small oranges then declined regularly, amounting to only 17 percent in June compared to the sales of large fruit which amounted to 27 percent. Sizes of California oranges did not change noticeably in the 7 months.

In order to make valid comparisons among prices of large, medium, and small oranges, it was necessary to express them in common terms. Therefore, based on the average-sized orange in each size group, prices per dozen were converted to prices per pound. With quantities expressed in pounds, it was possible to observe more accurately the price relationships among the three sizes of fruit. Table 6 shows prices per dozen and per pound for the three sizes of oranges by State of origin.

Table 6. - Retail price per dozen and per pound for California and Florida oranges, by size, Pittsburgh, average December 1949-June 1950.

State of origin and size of orange	Price per	
	Dozen	Pound
	Cents	Cents
California		
Large	64.7	9.3
Medium	52.1	11.5
Small	33.1	10.3
Florida		
Large	54.5	7.4
Medium	43.0	8.3
Small	31.3	7.7

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Factors such as preference for oranges of a particular size, price per dozen, seasonal availability of various sizes, promotional activities, and others affect the price that household consumers will pay for oranges. A pattern is apparent in retail prices of both California and Florida oranges. In both cases, when measured in pounds, medium-sized fruit brought the highest prices, small fruit second, and large fruit the lowest.

Retail store group. - In this section a description of the price pattern is given for each of four different groups of retail stores. 5/ The retail selling price, cost price, and margin for oranges sold in each group of stores are given in table 7. These prices are listed for each month and are divided between fruit from California and Florida. In examining this table, the prices per dozen cannot be compared among store groups or months because the four groups of stores did not carry fruit of the same size, and the size of fruit handled by any one group of stores varied during the season. Margins expressed as percentages of retail are the only comparable terms when prices are expressed in dozens of varying sizes. For purposes of analysis, it was necessary to convert the prices to a per-pound basis. However, they are shown on a per-dozen basis in table 7 as a matter of interest since the actual sales were made by the dozen.

Two-thirds of the California oranges handled by group I stores were large and one-third medium-sized during the 7 months (table 5). In the case of Florida oranges, 40 percent were large, 47 percent medium, and 13 percent small. Group I stores handled a high percentage of large Florida oranges late in the season when they became available in greater quantities. Thus, the stores in group I tended to handle the largest fruit available throughout the period studied. No particular pattern of sizes was handled by the other store groups. All were included, with the medium-sized oranges predominating.

In general, all groups of stores handled whatever variety of orange was available each month. The only notable exception occurred in June, when group I stores continued to handle California Navels in preference to California Valencias, which had recently become available in substantial quantities.

As previously noted, sales of oranges in Pittsburgh were about evenly divided between fruit from California and Florida. Sales of California oranges in group I stores exceeded sales of Florida oranges in each month except June, when they fell to the lowest volume of the 7 months. Sales of Florida oranges predominated in group II stores, except in March and April, when sales of California oranges were slightly higher. In group III stores the sales volume of Florida oranges was highest until March. After that it was exceeded by sales of California oranges. A similar pattern of sales occurred in group IV stores. The relative volume of sales of California and Florida oranges for each group of stores is given in table 8.

5/ See footnote 2/, page 5.

Table 7. - Oranges: Quantity sold, retail price, cost and gross margin per dozen, by store groups and by months, Pittsburgh, December 1949-June 1950

CALIFORNIA

Month and store group	Sales		Price per dozen			Gross margin as a percentage of retail price
	Quantity	Percentage of total	Retail	Cost	Gross margin	
	Pounds	Percent	Cents	Cents	Cents	Percent
December						
Group I	11,545	42	46.32	40.32	6.00	13.0
Group II	5,226	19	44.28	33.84	10.44	23.6
Group III	8,101	29	46.92	32.76	14.16	30.2
Group IV	2,633	10	42.60	32.16	10.44	24.5
All stores	27,505		45.60	35.76	9.84	21.6
January						
Group I	8,664	36	48.36	42.96	5.40	11.2
Group II	4,033	17	50.88	39.48	11.40	22.4
Group III	8,650	35	49.44	35.28	14.16	28.6
Group IV	3,035	12	57.00	42.72	14.28	25.1
All stores	24,382		50.28	39.48	10.80	21.5
February						
Group I	5,633	23	59.40	51.24	8.16	13.7
Group II	4,360	18	62.40	48.24	14.16	22.7
Group III	10,969	46	46.56	35.16	11.40	24.5
Group IV	3,078	13	62.88	46.92	15.96	25.4
All stores	24,040		54.12	42.48	11.64	21.5
March						
Group I	13,569	34	60.24	52.32	7.92	13.1
Group II	8,258	21	50.52	40.08	10.44	20.7
Group III	13,809	34	50.64	38.28	12.36	24.4
Group IV	4,609	11	56.28	42.96	13.32	23.7
All stores	40,245		53.88	42.96	10.92	20.3
April						
Group I	8,994	22	61.08	50.40	10.68	17.5
Group II	9,030	23	51.36	41.16	10.20	19.9
Group III	17,023	42	49.68	35.16	14.52	29.2
Group IV	5,157	13	54.00	42.12	11.88	22.0
All stores	40,204		52.80	40.32	12.48	23.6
May						
Group I	7,800	23	65.40	53.16	12.24	18.7
Group II	7,129	21	56.64	45.24	11.40	20.1
Group III	13,984	42	57.00	41.28	15.72	27.6
Group IV	4,488	14	60.24	44.64	15.60	25.9
All stores	33,401		59.16	45.12	14.04	23.7

(Continued)

Table 7. - Oranges: Quantity sold, retail price, cost and gross margin per dozen, by store groups and by months, Pittsburgh, December 1949-June 1950 - Continued

Month and store group	Sales		Price per dozen			Gross margin as a percentage of retail price
	Quantity	Percentage of total	Retail	Cost	Gross margin	
	Pounds	Percent	Cents	Cents	Cents	Percent
CALIFORNIA						
June						
Group I	4,555	14	68.28	46.32	21.96	32.2
Group II	7,006	22	60.60	43.44	17.16	28.3
Group III	15,256	48	49.80	34.80	15.00	30.1
Group IV	4,888	16	50.40	37.92	12.48	24.8
All stores	31,705		54.60	38.52	16.08	29.5
Dec. - June						
Group I	60,760	27	57.12	47.88	9.24	16.2
Group II	45,042	20	53.52	41.52	12.00	22.4
Group III	87,792	40	50.28	36.36	13.92	27.7
Group IV	27,888	13	54.72	41.40	13.32	24.3
All stores	221,482		53.16	40.80	12.36	23.3
FLORIDA						
December						
Group I	7,174	19	30.00	23.64	6.36	21.2
Group II	10,389	27	26.88	20.52	6.36	23.7
Group III	15,614	41	28.20	18.84	9.36	33.2
Group IV	5,181	13	31.32	21.24	10.08	32.2
All stores	38,358		28.56	20.52	8.04	28.2
January						
Group I	4,523	15	41.40	30.72	10.68	25.8
Group II	9,205	31	35.16	29.52	5.64	16.0
Group III	12,101	40	33.12	23.76	9.36	28.3
Group IV	4,043	14	35.16	26.28	8.88	25.3
All stores	29,872		35.04	26.88	8.16	23.3
February						
Group I	5,242	17	46.32	35.76	10.56	22.8
Group II	8,703	29	44.64	33.96	10.68	23.9
Group III	11,958	39	36.00	27.84	8.16	22.7
Group IV	4,661	15	43.92	32.40	11.52	26.2
All stores	30,564		41.16	31.56	9.60	23.3

(Continued)

Table 7. - Oranges: Quantity sold, retail price, cost and gross margin per dozen, by store groups and by months, Pittsburgh, December 1949-June 1950 - Continued

FLORIDA

Month and store group	Sales		Price per dozen			Gross margin as a percentage of retail price
	Quantity	Percentage of total	Retail	Cost	Gross margin	
	Pounds	Percent	Cents	Cents	Cents	Percent
March						
Group I	5,349	16	49.56	38.28	11.28	22.8
Group II	7,443	22	46.08	35.64	10.44	22.7
Group III	16,768	49	39.00	29.88	9.12	23.4
Group IV	4,295	13	43.80	34.56	9.24	21.1
All stores	33,855		42.60	32.88	9.72	22.8
April						
Group I	8,234	25	48.36	39.48	8.88	18.4
Group II	7,421	22	47.88	35.28	12.60	26.3
Group III	14,499	43	39.24	29.40	9.84	25.1
Group IV	3,499	10	40.80	32.16	8.64	21.2
All stores	33,653		43.20	33.12	10.08	23.3
May						
Group I	6,827	22	50.64	40.80	9.84	19.4
Group II	8,638	28	45.24	34.20	11.04	24.4
Group III	12,301	40	39.24	28.44	10.80	27.5
Group IV	3,119	10	44.64	32.52	12.12	27.2
All stores	30,885		43.44	32.64	10.80	24.9
June						
Group I	7,807	27	62.16	44.88	17.28	27.8
Group II	9,053	32	50.40	40.92	9.48	18.8
Group III	8,704	31	40.68	29.88	10.80	26.5
Group IV	2,895	10	45.60	34.68	10.92	23.9
All stores	28,459		49.08	37.20	11.88	24.2
Dec. - June						
Group I	45,156	20	46.32	35.88	10.44	22.5
Group II	60,852	27	41.28	32.16	9.12	22.1
Group III	91,945	41	36.24	26.64	9.60	26.5
Group IV	27,693	12	40.08	30.00	10.08	25.1
All stores	225,646		39.84	30.12	9.72	24.4

Table 8. - Distribution of volume of sales of California and Florida oranges in Pittsburgh, by store groups, December 1949-June 1950.

State of origin	Store group			
	I	II	III	IV
	Percent	Percent	Percent	Percent
California	57	43	49	50
Florida	43	57	51	50

In figures 4 and 5, monthly average retail prices are shown for sales of both California and Florida oranges in each store group. Also included are the corresponding cost prices, the difference between the two being the retail margin for each month.

The upward trend in the price of oranges from December to June is apparent in all groups of stores. For the most part, cost and retail prices moved together, indicating that on a monthly basis all groups of stores adjusted their selling prices to costs. Except during months when rapid changes in cost prices occurred, the percentage margin remained rather constant in all groups of stores. This reflects the combined effects of the pricing methods used by all stores in each group rather than the pricing policy of individual stores. Average margins for the period were lower in groups I and II than in groups III and IV.

The average variation in price among groups of stores for fruit from California and Florida was noteworthy during the period covered by this analysis. The deviation in prices among groups of stores from the average of all groups was about 3 times greater for California than for Florida oranges (table 9).

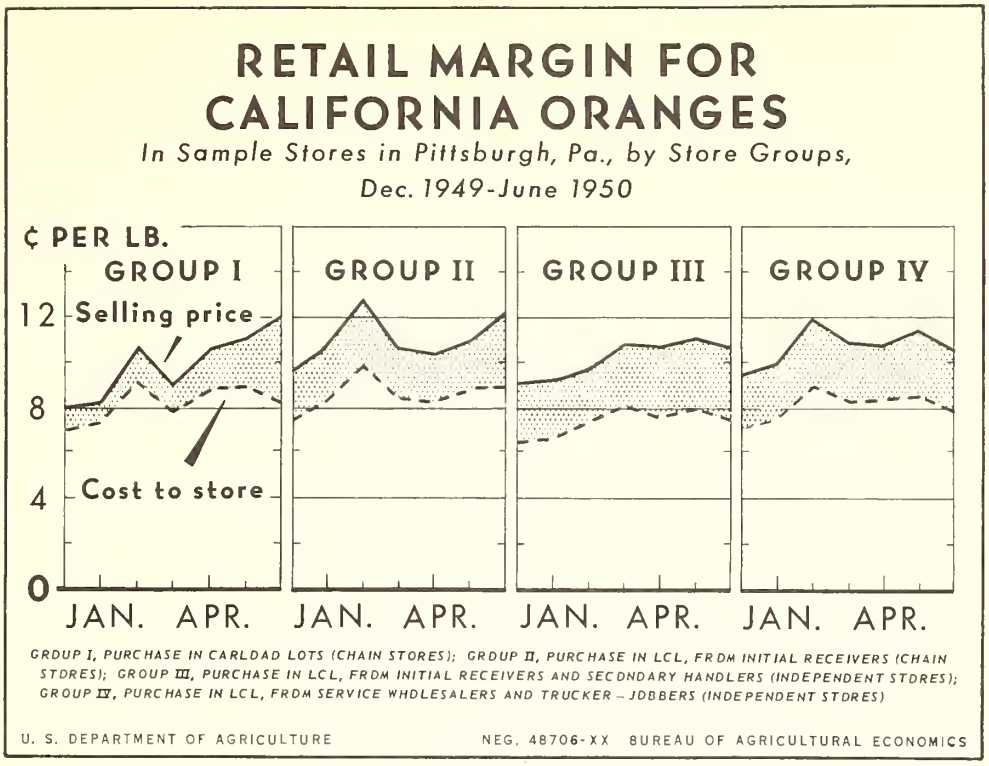

Figure 4.

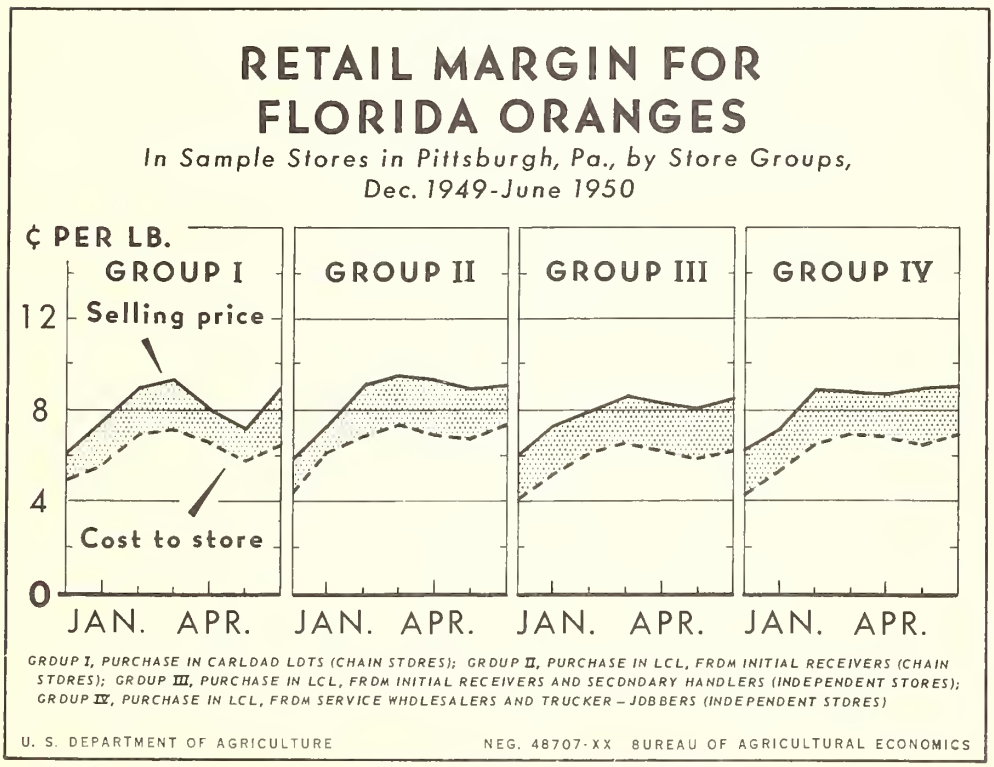

Figure 5.

Table 9. - Price and deviation from the mean for California and Florida oranges by store groups, Pittsburgh, average, December 1949-June 1950.

Store group	California		Florida	
	Average price per pound	Deviation from the mean	Average price per pound	Deviation from the mean
	Cents	Cents	Cents	Cents
I	9.51	-.74	7.95	-.05
II	10.89	.64	8.30	.30
III	10.28	.03	7.73	-.22
IV	10.73	.48	8.10	.10
Mean	10.25		8.00	
Average Deviation		0.47		0.17

Group I stores had the lowest average selling price for California fruit, but they did not sell Florida fruit for as low a price as the stores in group III. The average retail margin taken by stores in group I was 16.2 percent for California oranges and 22.5 percent for Florida oranges (table 10). With one exception these margins varied only moderately from month to month. In June, when California Valencias were replacing Navels in the Pittsburgh market, group I stores continued to handle Navels and the retail margin for the month increased to 32.2 percent for California fruit, or about twice the average for the whole period. A sharp drop in prices occurred in March for California oranges and in May for Florida oranges. It was found that group I stores handled an abnormally high proportion of large oranges during those months. Of all California oranges sold by group I stores in March, 93 percent were large, and of all Florida oranges sold in May, 90 percent were large.

Group II stores paid the highest average price for both California and Florida oranges. They also sold their oranges for the highest average price. The retail margin averaged 22.4 percent for California oranges and 22.1 percent for Florida oranges (table 10). A low margin of 16.0 percent, which was taken in February on Florida fruit, was the largest variation from the average. Available data offered no explanation for this variation. A high margin of 28.3 percent for California oranges occurred in June. This was probably explained by consumer preference for late-season Navel oranges.

Group III stores paid the lowest average price for both California and Florida oranges. Their selling price was also the lowest for Florida fruit, but for California fruit it was not as low as that of group I stores. The retail margin averaged 27.7 and 26.5 percent for California and Florida oranges, respectively.

Group IV stores, which sold both California and Florida oranges at the second highest retail price, paid next to the lowest price for California fruit. However, both store groups I and III paid less for Florida oranges. The average retail margin for stores in group IV was 24.3 percent for California oranges and 25.1 percent for Florida oranges.

Table 10. - Cost to store, retail price, and retail margins for California and Florida oranges, by store groups, Pittsburgh, average, December 1949-June 1950

Store group	California			Florida		
	Retail price per pound	Cost per pound	Margin	Retail price per pound	Cost per pound	Margin
	Cents	Cents	Percent	Cents	Cents	Percent
Group I	9.5	8.0	16.2	8.0	6.2	22.5
Group II	10.9	8.5	22.4	8.3	6.5	22.1
Group III	10.3	7.4	27.7	7.8	5.7	26.5
Group IV	10.7	8.2	24.3	8.1	6.1	25.1

CLEVELAND

The analysis of marketing oranges in Cleveland was based on data collected in 20 sample retail stores from February through June 1950, and on 96 lots of fruit which were traced back to point of shipment.

Marketing Charges

Grower's share. - Oranges sold in Cleveland brought an average return to growers of $3.24 for a 77-pound box of California fruit and $3.13 for a 90-pound box of Florida fruit delivered at the packing-house door. These prices represent a return of 37.5 percent of the consumer's dollar for California oranges and 40.3 percent for Florida oranges (fig. 6).

According to the average prices reported for the 1949-50 season, California growers received $2.44 a box for all oranges sold in fresh form. For oranges sold in Cleveland during the period of this study, they received $3.24 a box. Similarly, Florida growers received an average of $2.54 per box for all oranges sold fresh compared to $3.13 a box for fresh fruit sold in Cleveland. 6/

Shipping-point services. - Shipping-point services, which include advertising, inspection, and selling as well as the actual packing operation, averaged $1.16 a box in California and $1.03 a box in Florida for the 1949-50 season. These charges represented a margin of 13.4 percent of the retail selling price for California oranges in Cleveland and 13.3 percent of retail for Florida oranges.

Transportation. - Charges for transporting oranges from California to Cleveland averaged $1.63 a box, or 18.9 percent of the retail price. Comparable charges for moving Florida oranges to Cleveland totaled $1.31 a box, or 16.9 percent of retail. A break-down of the transportation charges which includes freight, protective services, and Federal tax is given in table 11.

6/ See footnote 3, page 6.

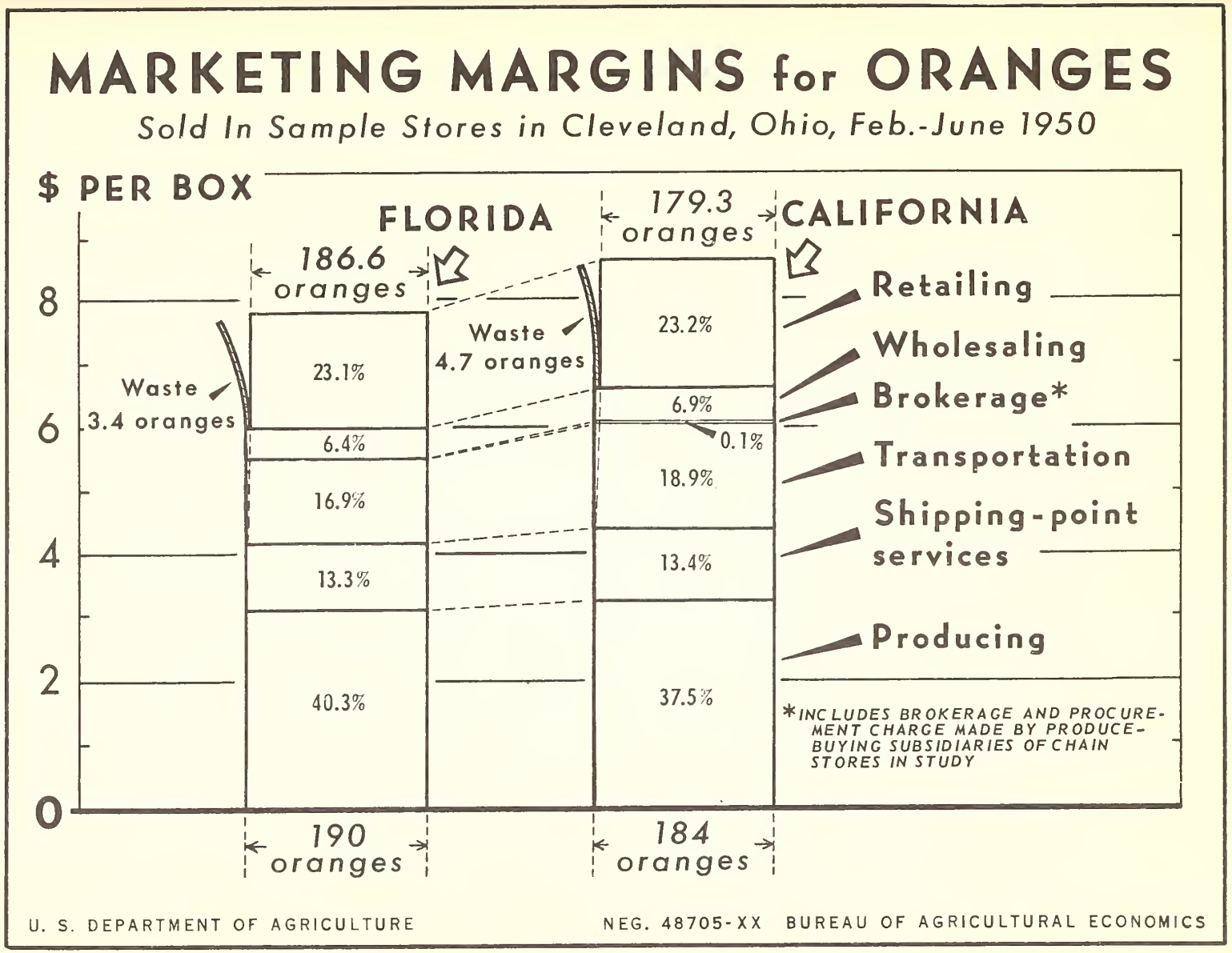
MARKETING MARGINS for ORANGES
Sold In Sample Stores in Cleveland, Ohio, Feb.-June 1950
$ PER BOX
FLORIDA
CALIFORNIA
186.6 oranges
179.3 oranges
Waste 3.4 oranges
Waste 4.7 oranges
23.1%
6.4%
16.9%
13.3%
40.3%
23.2%
6.9%
0.1%
18.9%
13.4%
37.5%
Retailing
Wholesaling
Brokerage*
Transportation
Shipping-point services
Producing
*INCLUDES BROKERAGE AND PROCUREMENT CHARGE MADE BY PRODUCE-BUYING SUBSIDIARIES OF CHAIN STORES IN STUDY
8
6
4
2
0
190 oranges
184 oranges
U. S. DEPARTMENT OF AGRICULTURE
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Figure 6.

Table 11. - Components of the total transportation cost for oranges shipped from f.o.b. points in Florida and California to Cleveland, February-June 1950. 1/

Item	Average charge per box			
	California		Florida	
	Actual	Percentage of total	Actual	Percentage of total
	Dollars	Percent	Dollars	Percent
Freight	1.49	91	1.25	95
Heat or ice	.09	6	.02	2
Federal tax	.05	3	.04	3
Total	1.63	100	1.31	100

1/ Based on 96 lots traced back to shipping point.

Brokerage. - Brokerage charges averaged $0.01 a box on California oranges for a margin of 0.1 percent of the retail selling price. The average brokerage charge on Florida oranges was less than a cent a box. Because terminal market brokers do not enter into many sales transactions, only a few brokerage charges appeared in the sample. Of the 41 lots of California oranges traced back to shipping point, brokerage was charged on 9 lots. The average charge for the 9 lots was $0.09 a box. Of the 55 lots of Florida oranges traced back to shipping point, brokerage was charged on 19 lots for which it averaged $0.02 a box.

Wholesaling. - The lots of oranges traced back from Cleveland retail stores to shipping point were distributed as follows: In 37 percent of the cases, California oranges were sold by initial receivers directly to the retail stores. The remaining 63 percent were sold to the retail store by an intermediate distributor. About 47 percent of the Florida oranges were sold by initial receivers directly to the retail store, while the remaining 53 percent were sold to retail stores by intermediate distributors.

The average wholesale margin for all lots of California oranges traced back to shipping point was $0.60 a box and resulted in a margin of 6.9 percent of retail. The average wholesale margin for all lots of Florida oranges was $0.05 a box or 6.4 percent of the retail selling price.

Retailing. - Cost to the consumer of retailing California oranges in Cleveland averaged $2.01 a box, or 23.2 percent of the retail selling price. Retailing charges for Florida oranges averaged $1.79 a box for a margin of 23.1 percent of retail.

Average waste for the sample stores in Cleveland was 2.55 percent of sales for California oranges and 1.80 percent of sales for Florida oranges. At this rate, retailers were able to sell about 195 California oranges or 196 Florida oranges of each box of 200 that they bought.

Retail margins varied little among the different varieties of fruit on sale from February through June (table 12). Sales of California Navel oranges and Florida Valencias predominated in most of the period. However, Florida Pineapple oranges were good sellers in February and March, and California Valencias were sold in quantity during June.

Table 12. - Average retail margins for oranges marketed in Cleveland sample stores, by variety and State of origin, February-June 1950.

State of origin	Margin as a percentage of retail		
	Navel	Pineapple	Valencia
	Percent	Percent	Percent
California	22.9	---	23.7
Florida	---	23.8	22.6

Factors Affecting Retail Price

State of origin, variety, and seasonal pattern. - In Cleveland, as in Pittsburgh, the seasonal availability of the different varieties of oranges was reflected in the volume of retail sales.

Sales of all oranges in the Cleveland sample stores increased steadily from 11,528 dozen in February to 12,788 dozen in May. Sales dropped off rapidly in June to 11,863 dozen. In the 5 months during which data were collected, 24,753 dozen California oranges and 36,128 dozen Florida oranges were sold.

There was a slight downward trend in the price of California oranges during the period, while the trend in the price of Florida oranges was upward. Volume of sales and average prices by months for both California and Florida oranges are shown in figure 7.

From February to June 1950, three major varieties of oranges were available in quantity on the Cleveland market. Florida Pineapple oranges were on the market during February and March, and Florida Valencias were available in quantity from March through June. California Navel oranges were marketed during the entire 5 months.

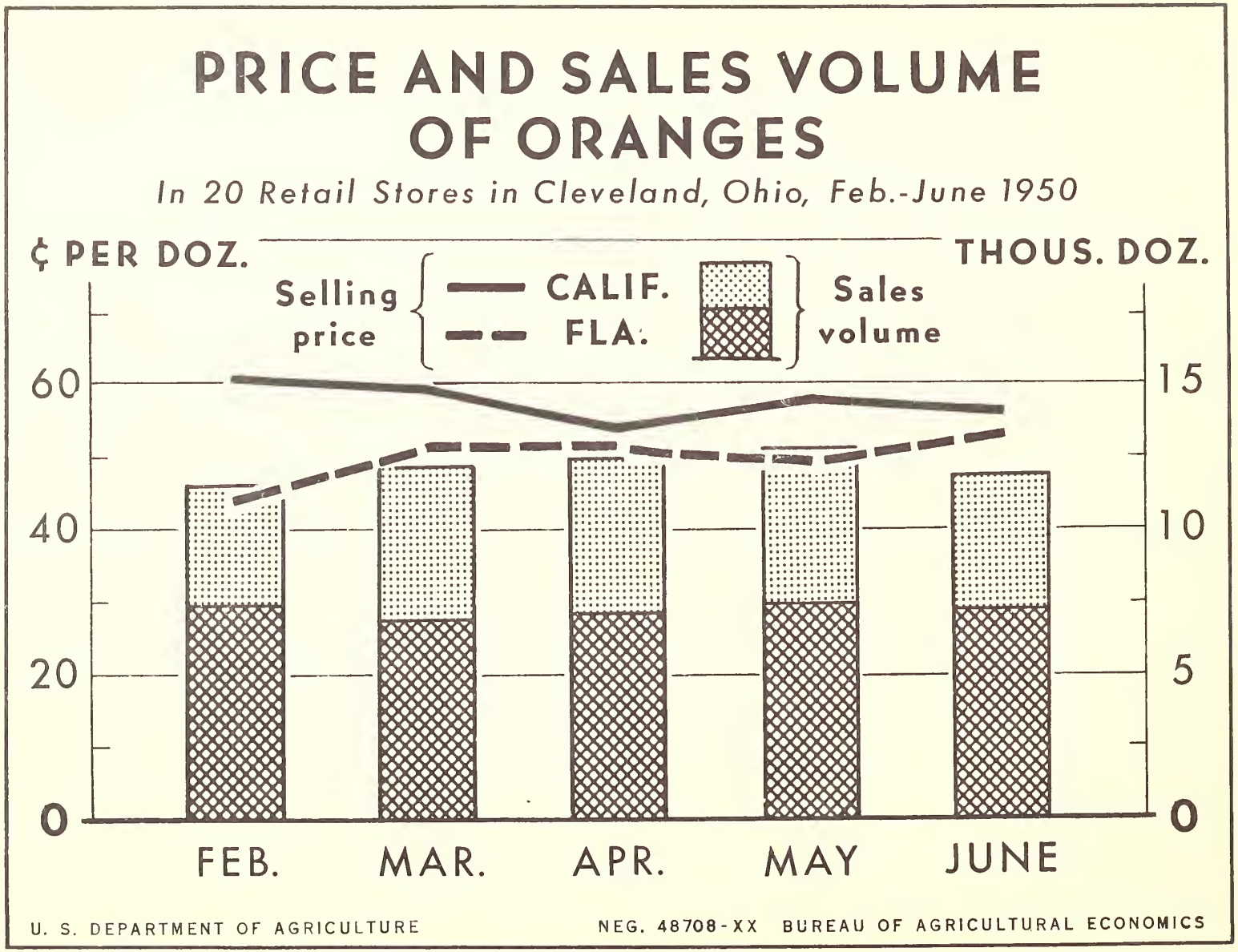
PRICE AND SALES VOLUME OF ORANGES
In 20 Retail Stores in Cleveland, Ohio, Feb.-June 1950
¢ PER DOZ.
THOUS. DOZ.
Selling price
CALIF.
FLA.
Sales volume
60
40
20
0
15
10
5
0
FEB.
MAR.
APR.
MAY
JUNE
U. S. DEPARTMENT OF AGRICULTURE
NEG. 48708-XX BUREAU OF AGRICULTURAL ECONOMICS

Figure 7.

In February, sales of California Navel oranges totaled 4,173 dozen in the Cleveland sample stores. The peak in volume of sales was reached in April, when 5,290 dozen were sold, after which sales dropped off slightly in May and again in June. California Valencia oranges did not appear in quantity until June, when 2,524 dozen were sold in the sample stores.

Prices of Navel oranges dropped from 60.7 cents a dozen in February to a low of 54.1 cents in April before increasing to 65.9 cents a dozen in June (fig. 8). California Valencias sold for 48.8 cents a dozen in June.

Sales of Florida oranges from February through June consisted of 6,139 dozen Pineapple oranges, 27,099 dozen Valencias, and a few dozen unclassified varieties. Sales of Valencias predominated in all months except February, when the Pineapple variety was sold in greatest quantity.

Florida Pineapple oranges brought an average price of 43.9 cents a dozen in February and increased to 47.2 cents as the season came to a close in March. Prices of Valencias, which averaged 52.9 cents a dozen in March, fell to 49.6 cents in May, then increased to 53.0 cents in June.

Size of fruit. - California oranges sold in Cleveland averaged 184 oranges per 77-pound box for the 5 months while Florida fruit averaged 190 oranges per 90-pound box. If the California oranges, which were smaller, were expressed in terms of the larger Florida box, they would average 215 oranges to the box.

To facilitate comparison, all oranges were classified as large, medium, or small. Only 4 percent of the California and 7 percent of the Florida oranges were classified as small. Most of the oranges, both California and Florida, were divided about equally between large and medium-sized fruit.

Sizes of Florida oranges varied extensively in the 5 months. In February, only 5 percent of the Florida oranges sold were large, whereas 17 percent were small. Sales of small fruit then decreased each month to 1 percent of the total in May and none in June. Sales of large fruit increased substantially after the first month and averaged 45 percent of the total for the entire period. Sizes of California oranges showed no significant variation in the 5 months.

In order to make valid comparisons among prices of large, medium, and small oranges, it was necessary to express them in common terms. Therefore, prices per dozen were converted to prices per pound, making more accurate observation of the price relationships possible (table 13).

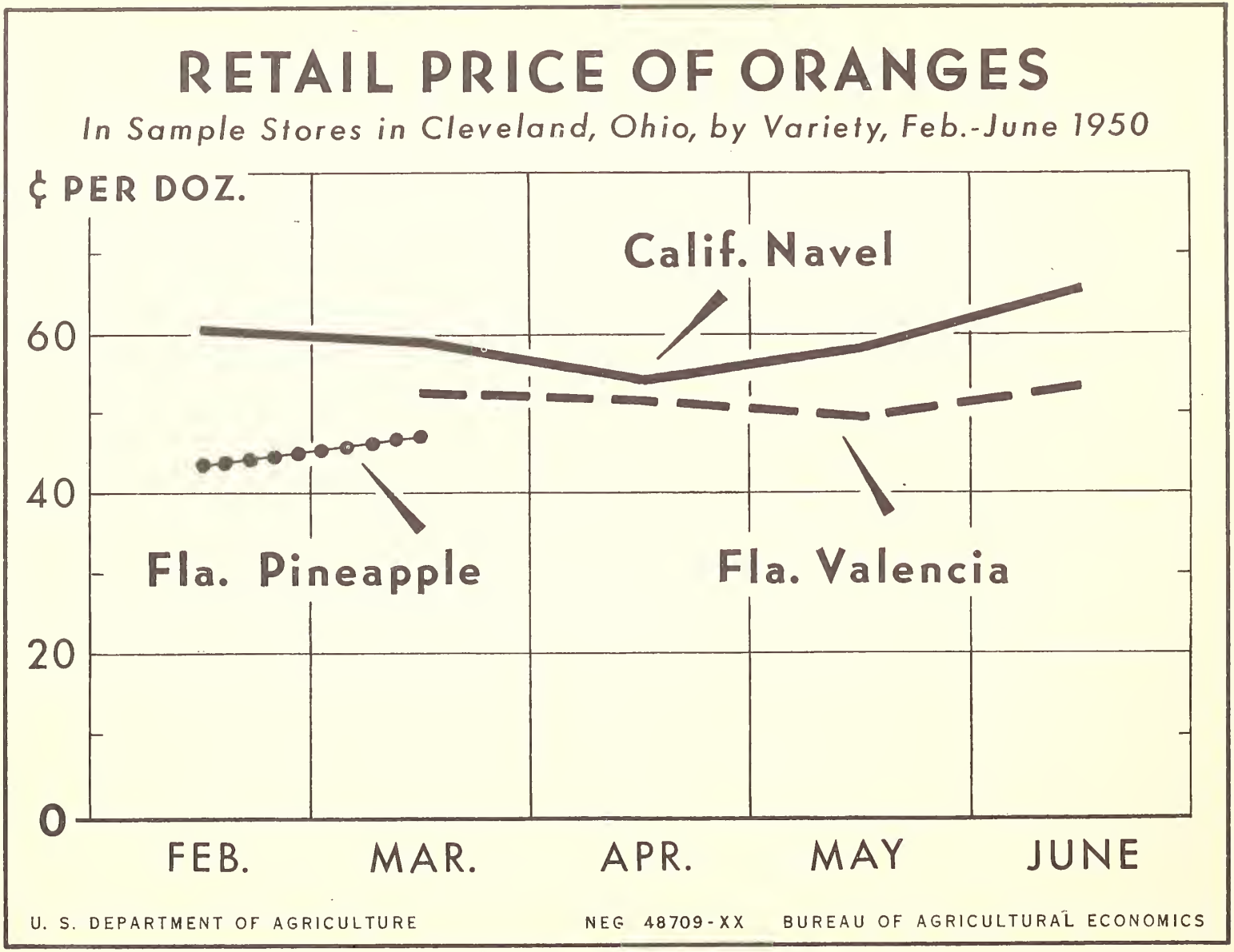
RETAIL PRICE OF ORANGES
In Sample Stores in Cleveland, Ohio, by Variety, Feb.-June 1950
¢ PER DOZ.
60
40
20
0
Calif. Navel
Fla. Pineapple
Fla. Valencia
FEB.
MAR.
APR.
MAY
JUNE
U. S. DEPARTMENT OF AGRICULTURE
NEG 48709-XX
BUREAU OF AGRICULTURAL ECONOMICS

Figure 8.

Table 13. - Retail price per dozen and per pound for California and Florida oranges, by size, Cleveland, average December 1949-June 1950.

State of origin and size of orange	Price per -	
	Dozen	Pound
	Cents	Cents
California		
Large	67.9	9.7
Medium	53.4	11.5
Small	32.2	9.5
Florida		
Large	52.6	7.2
Medium	49.4	9.3
Small	43.1	10.1

The price relationship among sizes was nearly the same for California and Florida oranges. The difference between the prices of large and medium-sized oranges was about 2 cents a pound for both California and Florida fruit. Medium-sized California oranges and small Florida oranges brought the highest prices. But this difference may be discounted somewhat as small Florida fruit included only 7 percent of the total volume of sales.

Retail store groups. - In this section a description of the price pattern is given for each of 3 different groups of retail stores. 7/ The retail and cost prices and the margin per dozen for oranges sold in each group of stores are shown in table 14. These prices are given for each month and divided between fruit from California and Florida.

About two-thirds of both California and Florida oranges sold in group I stores were large, and nearly all the remainder were medium-sized (table 15). These stores handled a high percentage of large Florida oranges late in the season when they became available in greater quantities. Stores in groups III and IV handled mostly medium-sized oranges and nearly all the small fruit that was sold during the 5 months.

Sales of the different varieties of oranges followed closely their seasonal availability in all groups of stores. Group I stores made the change to both Florida and California Valencia oranges more rapidly than did the other stores. Their sales of Florida Valencias were relatively high in March and sales of California Valencias were high in June.

7/ See footnote 2/, page 5, and last paragraph, page 40.

Table 14. - Oranges: Quantity sold, retail price, cost and gross margin per dozen by store groups and by months, Cleveland, February-June 1950. 1/

CALIFORNIA

Item	Sales		Price per dozen			Gross margin as a percentage of retail price
	Quantity	Percentage of total	Retail	Cost	Gross margin	
	Pounds	Percent	Cents	Cents	Cents	Percent
February						
Group I	11,008	48	60.84	54.00	6.84	11.2
Group III	9,982	44	60.12	44.76	15.36	25.5
Group IV	1,838	8	62.52	48.72	13.80	22.1
All stores	22,828	100	60.66	49.51	11.15	18.4
March						
Group I	16,146	52	60.72	52.20	8.52	14.0
Group III	13,252	42	57.00	42.36	14.64	25.7
Group IV	1,859	6	65.64	48.36	17.28	26.3
All stores	31,257	100	59.45	47.84	11.61	19.5
April						
Group I	15,135	53	51.60	37.56	14.04	27.2
Group III	11,105	39	55.80	41.64	14.16	25.4
Group IV	2,173	8	66.12	48.12	18.00	27.2
All stores	28,413	100	54.40	40.00	14.40	26.5
May						
Group I	13,320	45	60.72	50.52	10.20	16.8
Group III	14,539	49	56.40	41.16	15.24	27.0
Group IV	1,623	6	63.24	46.44	16.80	26.6
All stores	29,482	100	58.75	45.69	13.06	22.2
June						
Group I	8,612	36	59.88	47.88	12.00	20.0
Group III	13,482	56	53.76	36.00	17.76	33.0
Group IV	1,816	8	65.64	47.76	17.88	27.2
All stores	23,910	100	56.91	41.22	15.69	27.6
Feb. - June						
Group I	64,221	47	58.32	47.76	10.56	18.1
Group III	62,360	46	56.40	40.80	15.60	27.7
Group IV	9,309	7	64.68	48.00	16.68	25.8
All stores	135,890	100	57.84	44.40	13.44	23.2

(Continued)

Table 14. - Oranges: Quantity sold, retail price, cost and gross margin per dozen by store groups and by months, Cleveland, February-June 1950. 1/ - Continued

FLORIDA

Item	Sales		Price per dozen			Gross margin as a percentage of retail price
	Quantity	Percentage of total	Retail	Cost	Gross margin	
	Pounds	Percent	Cents	Cents	Cents	Percent
February						
Group I	16,330	43	44.28	35.88	8.40	19.0
Group III	21,040	55	44.88	33.24	11.64	25.9
Group IV	867	2	46.68	33.84	12.84	27.5
All stores	38,237	100	44.66	34.39	10.27	23.0
March						
Group I	23,361	59	54.48	45.36	9.12	16.7
Group III	15,284	38	47.28	33.72	13.56	28.7
Group IV	1,358	3	52.80	37.32	15.48	29.3
All stores	40,003	100	51.69	40.70	10.99	21.3
April						
Group I	26,867	61	52.32	43.32	9.00	17.2
Group III	16,117	36	49.92	33.72	16.20	32.5
Group IV	1,445	3	55.56	40.68	14.88	26.8
All stores	44,429	100	51.55	39.78	11.77	22.8
May						
Group I	29,526	63	50.28	42.36	7.92	15.8
Group III	16,404	35	48.24	32.28	15.96	33.1
Group IV	932	2	56.64	39.36	17.28	30.5
All stores	46,862	100	49.69	38.77	10.92	22.0
June						
Group I	27,233	59	53.40	44.04	9.36	17.5
Group III	17,600	38	52.08	36.48	15.60	30.0
Group IV	1,197	3	60.12	44.52	15.60	25.9
All stores	46,030	100	53.10	41.18	11.92	22.4
Feb. - June						
Group I	123,317	57	51.24	42.48	8.76	17.1
Group III	86,445	40	48.24	33.84	14.40	29.9
Group IV	5,799	3	54.36	39.12	15.24	28.0
All stores	215,561	100	49.92	38.40	11.52	23.1

1/ Does not include Temple variety or those sold in bags.

Table 15. - Distribution of California and Florida oranges, by store groups and by size, Cleveland, by months, February-June 1950.

Store group and size	February	March	April	May	June	Feb.-June
	CALIFORNIA					
	Percent	Percent	Percent	Percent	Percent	Percent
Group I						
Large	49	88	54	68	57	65
Medium	51	12	30	32	43	31
Small	---	---	16	---	---	4
Group III						
Large	42	40	35	29	34	36
Medium	58	60	65	71	46	60
Small	---	---	---	---	20	4
Group IV						
Large	39	37	45	47	47	43
Medium	61	63	55	53	53	57
Small	---	---	---	---	---	---
All stores						
Large	45	65	46	47	43	50
Medium	55	35	45	53	46	46
Small	---	---	9	---	11	4
	FLORIDA					
Group I						
Large	10	61	83	85	81	69
Medium	86	39	17	15	19	30
Small	4	---	---	---	---	1
Group III						
Large	2	9	18	6	23	11
Medium	72	64	60	91	77	73
Small	26	27	22	3	---	16
Group IV						
Large	---	6	19	29	58	23
Medium	58	68	75	71	42	63
Small	42	26	6	---	---	14
All stores						
Large	5	40	58	56	58	45
Medium	78	49	34	43	42	48
Small	17	11	8	1	---	7

Florida oranges made up about 61 percent of the sales in Cleveland from February through June 1950. Group I stores sold 66 percent Florida oranges and group III stores sold 58 percent Florida oranges (table 16). Group IV stores, with a relatively small part of total sales, were the only stores that handled relatively more California oranges. These oranges made up 62 percent of the sales of this group of stores. In all groups of stores the ratio of sales of California to sales of Florida oranges was constant throughout the entire 5 months.

Table 16. - Distribution of volume of sales of California and Florida oranges in Cleveland, by store groups, February-June 1950.

State of origin	Store group		
	I	III	IV
	Percent	Percent	Percent
California	34	42	62
Florida	66	58	38

In figures 9 and 10, monthly average prices are given for sales of California and Florida oranges in each group of stores. Also included are the corresponding cost prices, the difference between the two being the retail margin for each month.

The variation in average retail prices among groups of stores for California and Florida oranges is indicated in table 17. This variation was greater for Florida than for California fruit.

Table 17. - Price and deviation from the mean for California and Florida oranges by store groups, Cleveland, average February-June 1950.

Store group	California		Florida	
	Average price per pound	Deviation from the mean	Average price per pound	Deviation from the mean
	Cents	Cents	Cents	Cents
I	9.98	-.55	7.79	-.58
III	10.89	.36	9.11	.74
IV	11.93	1.40	9.90	1.53
Mean	10.53		8.37	
Average deviation		.77		.95

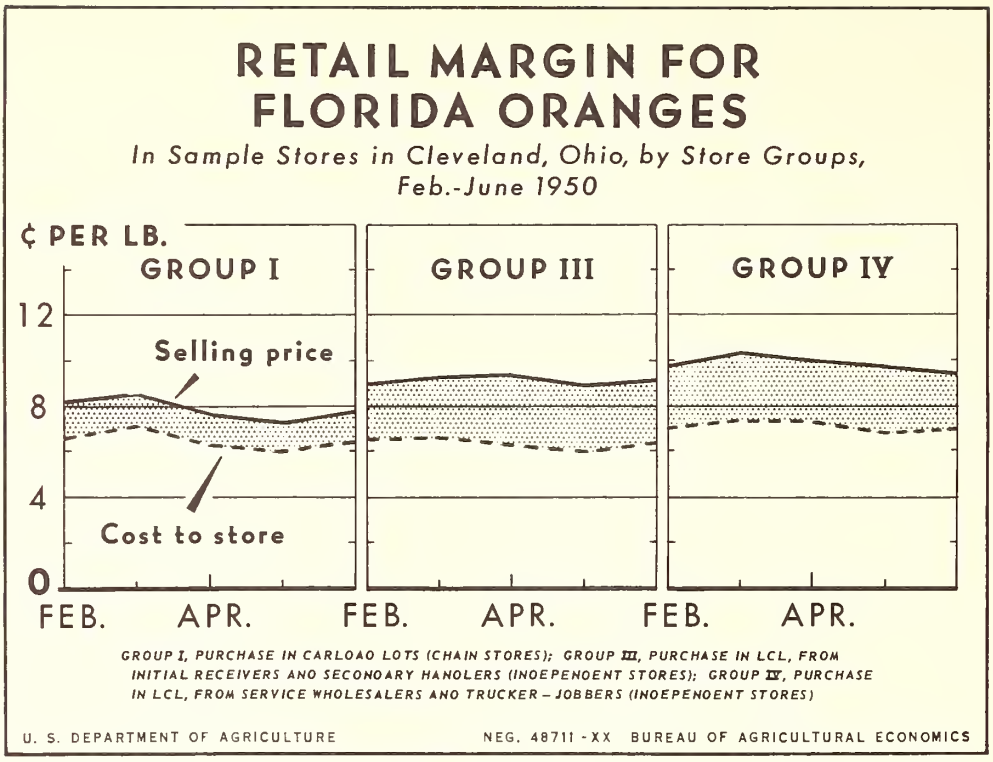

Figure 9.

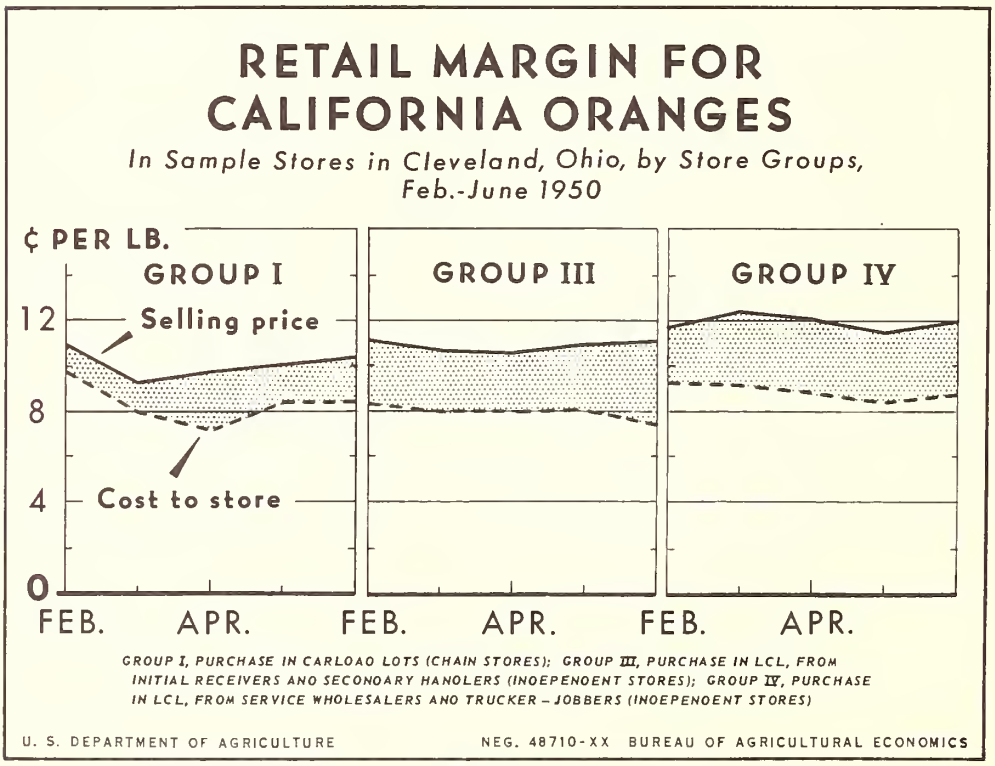

Figure 10.

Group I stores had the lowest average selling price for both California and Florida oranges from February through June (table 18). The average margin taken by these stores was 18.1 percent on California fruit and 17.1 percent on Florida fruit. These margins were well below those taken by the other store groups. Except for California oranges sold in April, these margins varied only moderately from month to month. An increase in sales of smaller fruit during that month was accompanied by an increase in the margin to an average of 27.2 percent.

Group III stores paid the lowest average price for both California and Florida oranges. The retail selling price averaged somewhat above that of group I stores resulting in the highest average margin recorded for any group of stores -- 27.7 percent on California fruit and 29.9 percent on Florida fruit. Month-to-month variation in margins was somewhat greater for Florida than for California oranges. However, the greatest variation occurred in sales of California oranges during June, when the average margin was 33.0 percent. As was the case in group I stores, this unusually high margin occurred in a month in which a relatively high percentage of small oranges was sold.

Group IV stores maintained the highest average retail selling price of any group of stores for both California and Florida oranges. These stores also paid the highest price for the fruit purchased. The retail margin for the 5 months averaged 25.8 percent on California oranges and 28.0 percent on Florida oranges. More month-to-month fluctuation in margins occurred than was found in other groups of stores, especially on Florida fruit.

Average retail margins on California and Florida oranges sold by stores of each group are given in table 18.

Table 18. - Cost to store, retail price, and retail margins for California and Florida oranges, by store groups, Cleveland, average, February-June 1950.

Store group	California			Florida		
	Retail price per pound	Cost per pound	Margin	Retail price per pound	Cost per pound	Margin
	Cents	Cents	Percent	Cents	Cents	Percent
Group I	10.0	8.2	18.1	7.8	6.5	17.1
Group III	10.9	7.9	27.7	9.1	6.4	29.9
Group IV	11.9	8.9	25.8	9.9	7.1	28.0

APPENDIX

Scope and Method of Data Collection

Pittsburgh. - A sample of 30 retail stores within the corporate limits of Pittsburgh was selected to provide representative retail prices for all stores having $35,000 yearly sales or more. 8/ According to trade reports, stores having sales volumes of less than $35,000 handled 12 percent or less of the fresh produce sold in the city.

Complete information was obtained on each lot of oranges delivered to each store in the sample from December 1949 through May 1950. 9/ This information included size, variety, State of origin, brand, method of selling, type of container, purchasing price, from whom purchased, selling price, waste, and quantity sold.

A sample of the lots of oranges for which this information was obtained was selected for tracing back through wholesalers to shipping-point origin. Information was obtained from each handler on the specific sample lot with respect to price paid for the lot, quantity purchased, date of purchase, services performed, selling price, and name of the seller from whom the lot was purchased. In this way a complete picture was obtained for each lot in the sample on its movement through the marketing channel, and the price was obtained at each point of transfer in the marketing channel.

An attempt was made to obtain prices at uniform levels in the marketing channel. This is particularly important with respect to retail margins. The level in the marketing channel at which retail stores take title to oranges may range all the way from the car door at terminal market to the time the oranges are delivered at retail stores. When retail stores take title at the car door, their reported margin includes some of the expenses of the wholesaling service, such as loading the truck, warehousing, delivery to retail stores, and unloading at retail stores. The retail margin, as herein defined, includes only the services provided after the oranges have been delivered to the store. In order to make retail margins on oranges comparable among the various stores, the per-box costs reported by the stores were adjusted to a delivered-at-store basis. An adjustment in cost was required only in the case of the local and national chain stores. Individual chains supplied the necessary cost data to make the adjustment to a delivered-at-store basis. This was done separately for each chain.

8/ The data on volume of sales by varieties may not necessarily be representative for the city. A larger number of stores would have been required to insure representativeness for volume data than for price data, because the variation found in store prices is less than the variation in volume of sales.

9/ A lot represents a specific purchase of any quantity of oranges by a retailer during a given day. Each individual lot consists of fruit having the same State of origin, variety, and unit cost.

Retail stores were separated into four groups, depending upon the method of purchasing oranges. Group I consisted of those stores whose purchases were made in carload lots. This included the national chain stores, plus one local chain. Group II comprised those stores whose purchases were made directly from initial receivers 10/ in the terminal market. This grouping included only local chain stores. Group III represented those stores that bought their oranges from both initial receivers and secondary handlers 11/ but owned their own trucks for picking up their purchases of fresh produce. 12/ These were the medium-sized and larger independently operated stores. Group IV included those independently operated stores that bought their oranges delivered-at-store from service wholesalers or trucker-jobbers. 13/

In this study the retail margin represents the difference between the realized retail selling price per box and the cost per box to the retailer delivered at store. Retail prices were weighted by the relative sales volume obtained from the sample stores. The wholesale margin represents the difference between the delivered-at-store price per box and the cost per box to the initial carlot receiver, based upon a full car or truck load laid down at the terminal market in Pittsburgh. The transportation margin represents the difference between the price per box laid down at Pittsburgh and the f.o.b. shipping-point price per box. The grower's return is represented by the packinghouse-door price per box. The grower's return is a residual figure obtained by subtracting the average packing charges for the season from the f.o.b. prices obtained from the sample lots traced back to shipping point.

10/ Initial receivers represent those wholesalers who receive oranges in carload lots. They perform the function of breaking down the carlots into smaller units for sale to secondary handlers and the larger retail stores, either local chains or independents.

11/ Secondary handlers represent those wholesalers who buy oranges from initial carlot receivers. Their function is to break down these purchases into smaller units for sale to retail stores.

12/ The independently operated stores in group III obtain no reduction in price from the wholesaler as a result of hauling their own produce, but they may receive some price concession on the basis of quantity purchased. These stores may also gain some advantage in quality of purchases as a result of picking up their produce in the terminal market. There was no practicable way to make such a comparison of quality in the Pittsburgh study.

13/ Service wholesalers as here used include initial receivers and secondary handlers who make deliveries to retail stores. These wholesalers have a central business office. Trucker-jobbers represent wholesalers who sell only from their trucks, making deliveries direct to retail stores. They have no central business office; they combine selling, delivery, and collection in one operation.

Cleveland. - In Cleveland the sample of 20 retail stores was chosen to represent all stores with an annual volume of sales of more than $35,000. As in Pittsburgh, complete data on each lot of oranges delivered to the sample stores in Cleveland were reported. This information included size, variety, State of origin, brand, method of sale, type of container, purchase price, from whom purchased, selling price, waste, and quantity sold.

A sample of 96 lots was traced back to shipping point. This offered a basis for determining margins for the various functions of marketing that occurred before the fruit reached the retail store.

The sample stores in the two cities did not include the same number of groups because the stores that bought oranges in less than carload lots principally from initial receivers in Pittsburgh were not present in Cleveland. Therefore, in attempting to group the stores of the Cleveland sample in the same way as those in Pittsburgh, group II stores were not represented. In order to facilitate comparisons between cities, the basis for grouping stores was maintained and stores of the Cleveland sample are all included in groups I, III, and IV stores.

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