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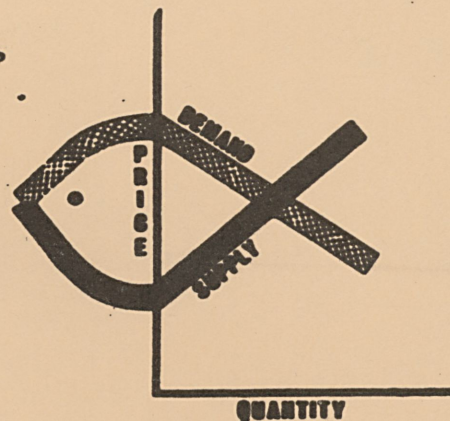
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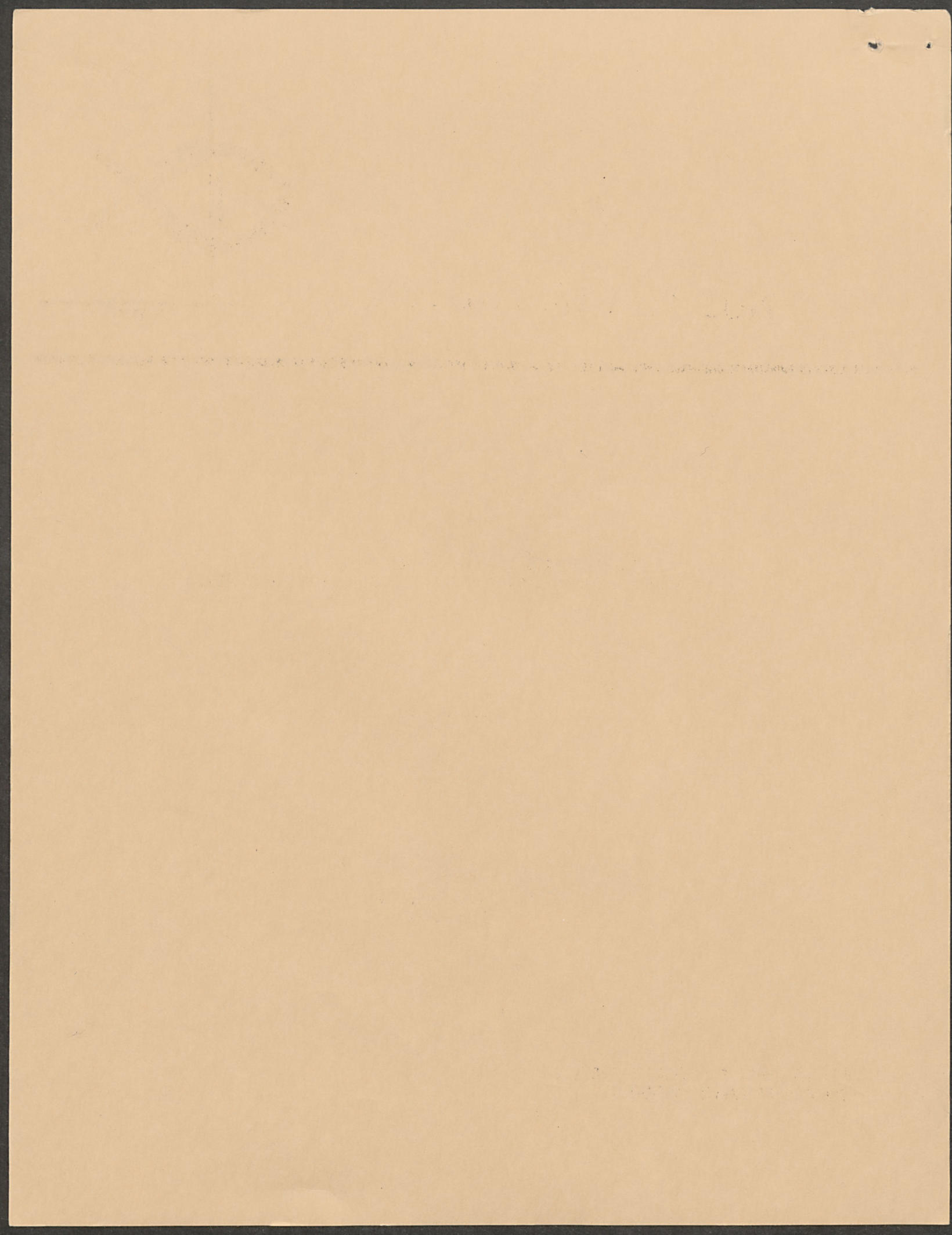
PRICE SPREADS AND COST ANALYSES FOR FINFISH
AND SHELLFISH PRODUCTS AT DIFFERENT MARKETING LEVELS

by

Erwin S. Penn

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U.S. NATIONAL MARINE FISHERIES SERVICE
ECONOMIC RESEARCH LABORATORY



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ABSTRACT

The rapid increase of fish prices has recently caused public concern. Consumers as well as fishermen have often attributed rises in fish retail prices to increases in marketing costs. To find the cause of the difference between the price the fisherman^{1/} receives for his product and the ultimate price paid by the consumer, the distribution of the consumer's dollar paid to the retailer as well as to the wholesaler, processor, and fisherman is analyzed.

Selected for this study are four groundfish fillets (haddock, flounder, cod, and ocean perch), salmon and halibut in steak and dressed form, canned tuna, canned salmon, and five shellfish products: shrimp, blue crabs, northern lobsters, sea scallops, and oysters. Their production accounts for 36% of total sea fish harvested in this country in 1969 on a round weight basis. The difference or margin between selling and purchasing prices of each level and the fisherman's share of the consumer's dollar are presented for each fish product over the period from 1950 to 1969. In addition, the report analyzes the costs and profits incurred by each marketing function and describes the major influences on margin differences.

INTRODUCTION

Meaning of Price Spread

Price spread is a term often used in agricultural marketing. For a fish product, the price spread is the difference between the price paid for the final product by the consumer and the dockside value of an equivalent weight of the product. This difference is also called the marketing charge, most of which includes the payments

^{1/}A fisherman is one who is engaged or employed in fishing as an occupation. In this study, the fisherman's share refers to the return to those who own, manage, or operate the vessels and gear used to catch fish.

Note: Retail prices for some fish products are not available for the early fifties. The price spread study ends in 1969 because processor's prices are not published for later years.

received by all agents performing services in moving fish products from fishermen to consumers. These services involve handling (landing), processing, storage, transportation, wholesaling, and retailing.

Computation of the ex-vessel/retail spread provides the measurement for the fisherman's share of the dollar the consumers spend for the product. The share is commonly expressed as a percentage of the product retail price. The wider the price spread, the lower the fisherman's share.

From dockside to retail the overall spread is composed of different margins at different levels. The difference between the retail price and the cost of the product to the retailer (or price paid to the wholesaler) is called the retail margin. The difference between the price charged by the wholesaler and the cost of purchase from the processor is called the wholesale margin. In the same manner the processor's margin can be estimated from what he paid at dockside and the price received from the wholesaler.

Purpose of the Study

Fish is one category of commodities where prices have increased rapidly compared to all food products, particularly since 1968.^{2/} Both consumers and consumer protection advocates are concerned about the marketing margin from fisherman to consumer.

^{2/}Consumer price indices for food increased 3.3% and 5.6% in 1969 and 1970 respectively, while they increased 5.5% and 10.1% respectively for all fish. In 1968, the fish retail price increased only 1.7% from 1967.

Operations at each level add either form, time, or place utility to the raw product. Through the various mechanisms of exchange, each level or sector of the economy gets its return for the value it contributes to the final product. The study of margins together with the analysis of marketing costs is an approach to the inquiry of marketing systems aimed at detecting whether every sector of the fishery is performing its services efficiently. The ultimate objective is to determine why prices have risen so rapidly and what steps, if any, can be taken to slow down this trend. As an intermediate objective, this study serves, therefore, to:

1. Present estimates of the costs and profits comprising the margins for a number of selected fishery products.
2. Encourage marketing agencies at each level to review their own operations by examining the magnitude of their margins.
3. Indicate areas where problems exist which require further study.

Problems derived from marketing efficiency studies may have other ramifications such that supplemental studies are found to be necessary. Studies like industrial organization of fisheries, labor-output and capital-output analyses of processing plants, efficient size of plant, streamlining of exchange mechanisms, efficiency of transportation and storage facilities, and others could be pursued with to reduce costs in marketing fish products.

Source of Data

To calculate each of the margins of a price spread, prices of fish products at different marketing levels are collected. Over 60% of fish products consumed in this country are imported. Almost all imported fish products are frozen, priced lower than domestic fresh products. To avoid the distortion of measurement of the fisherman's share of the consumer's dollar only fresh fish prices and canned fish prices are employed in this study except where a large portion of the domestic catch is frozen.^{3/}

Ex-vessel prices are published by the Regional Market News Offices of the National Marine Fisheries Service.

Wholesale prices for groundfish are collected from quotations in Boston; for salmon and halibut steaks, they are based on New York market prices; for canned tuna they are averages of different brands reported by San Diego brokers and cannery representatives; for canned salmon, they are confined to pink salmon prices at Seattle; for shellfish, they are collected from the cities near where they are landed (e.g., Brownsville, Texas; Miami, Florida; Hampton, Virginia; Portland, Maine; and New Bedford, Massachusetts).

New York City is the only place where quite a number of retail prices of fresh fish products have been published. These are available from 1949 to the present, except that one or two series were discontinued and a new series started in later years. They are still

^{3/}About 72% of ocean perch landings, 15% of haddock, 64% of shrimp, and 21% of sea scallop landings were frozen during 1967-69. Their frozen prices are also taken for comparison in this study. Canned tuna prices are mixed for domestic and imported products. Canned salmon prices are for domestic products.

relatively complete so far as the availability of fresh fish prices is concerned. Shellfish retail prices, with the exception of shrimp, are collected from agricultural marketing service offices of different State Governments in or near the cities where wholesale prices are gathered.

Although the author recognizes that some of these price series are imperfect and that biases may distort the findings, these are the best data available. Because of this, adjustments were made as described below. Other people using these price series will need to evaluate the sources to find out what is included and how they were reported.

Adjustment of Price Data

To measure the fisherman's share in the retail price, the ex-vessel price has to be expressed on a comparable weight basis with the retail price. In our study, the ex-vessel price is converted to the value of a quantity equivalent to the final form sold to the consumer. For example, if fish are landed in round form and sold to consumers in fillet form, ex-vessel prices of that species are converted from a round-weight to a fillet-weight basis, by a conversion factor calculated for that species.

Prices at all levels are further adjusted to account for general price inflation. This is done by expressing all prices on the basis of the 1957-59 price level. Thus, ex-vessel, processing, and wholesale prices of different fishery products are divided by the wholesale

price index for all commodities. The consumer price index for all commodities is used to adjust the fishery retail prices.

Shrinkage and spoilage of fish products vary at different levels. Prices could be adjusted according to the ratio of shrinkage and spoilage losses estimated by studies made by the Marketing Division of our Service in 1966. They will not be adjusted for such losses in the present study until more accurate figures for shrinkage and spoilage are established.

Processor's costs could be adjusted downward if the value of their byproducts were known. Further studies should be made in this respect.

Behavior of the Retail Food Market

To assess the markups of prices at different levels, a distinction in characteristics should be drawn between a retail food market on the one hand and harvesting, processing, and wholesaling of food products as a group on the other. A retail food store is a multiproduct firm handling thousands of food and non-food items at the same time, whereas the latter handle a small number of products in different seasons of the year. The demand for any product taken by itself in the multiproduct retail firms is very inelastic and prices tend to vary widely among different stores, while the opposite is true among the sectors that handle fewer products at one time (Naden, 1945).

Thus, while price is an important factor for an individual commodity up to the wholesale level, sales at the retail level are more likely to be determined by location, service offered, the personality of the manager, the layout, decorations, and atmosphere of each store.

For the retailers, less emphasis is placed on prices or margins of individual commodities. The imputation of retailing costs is imperfect and the bases of their allocation are different from store to store. It is more economical to allocate costs to a product-mix rather than to each individual product. For these reasons some products are priced lower in one store than in another. The losses on one item could be recouped by profits made on other items. The retail pricing policy is such that the margin of individual items is less significant; its strategy is focused on the maximization of the overall profit of the entire store.

The diversity in prices among stores and the rigidity of price movement within a store are characteristic of the behavior of the retail food market. This is substantiated by the following studies. A nationwide survey of fish retail distributors was made in 1968. The wide dispersion of prices of various fish products are shown in table 53. In another study, weekly fish retail prices collected from New York City indicate wide deviations from their means as shown in tables 54 and 55. On the other hand, the weekly average retail

prices of similar fish products from one store in a Chicago study remained stable regardless of changes in costs and sales volume. This is presented in charts shown in figures 16 to 27. These tables and figures are appended to the end of the report.

While the price of individual products of each store differs widely from that of another, the average annual price of the same product in a market area remains more or less in line from year to year as exemplified by the retail price series of fish products in New York and Chicago. Individual prices are marked by irregularity in their occurrence; but when many individual prices are brought together, regularity of arrangement appears. Randomness is the cause of orderliness in mass behavior. Given the large number of products to be priced and the large number of factors to be considered by different stores, there is bound to be a considerable amount of unexplained variations. But equal forces independent of each other working in different directions tend to generate values toward the mean.

THE FISHERMAN'S SHARE

Variation Among Finfish Product Groups

The fisherman's share in the retail market varies considerably depending on the products. It averaged about 44% for fresh groundfish fillets, 51% for frozen groundfish fillets, 36% for fresh salmon steaks, 39% for halibut steaks, 28% for canned salmon, and 46% for

Table 1

canned tuna in 1969 (table 1). The weighted average share in these major groups is estimated at about 39% in 1969. This means that, on the average, for each dollar spent for finfish products by consumers in retail food stores, fishermen received about 39 cents and marketing firms, 61 cents.

Fresh fillets are usually priced higher than frozen fillets, not only because fresh supply is seasonal and limited but also because their costs in packing and transporting (usually shipped with layered ice) are higher and losses in spoilage and shrinkage are greater. In addition, prices of domestic frozen fillets are depressed by lower-cost imports.

The fisherman's share in canned tuna retail prices was greater than in canned salmon in all the years since 1950. One reason for this was that the annual supply of canned tuna at the wholesale level was much higher than canned salmon (3.4 times greater in 1969). The higher turnover rate tends to reduce the overhead costs and thus the price spread of canned tuna. Second, the salmon production season historically has been shorter than tuna, and the domestic market for salmon is not supplemented by imports as it is in the case of canned tuna.^{4/} This results in higher storage costs for salmon and a greater risk of price declines over the marketing period. All of these factors limit the supply of salmon and, therefore, help to raise the price spread of canned salmon.

^{4/}In 1969, about 290 million pounds (or 62%) of canned tuna supply in the United States were imported, whereas there was a net export of 8.3 million pounds of canned salmon.

Table 1.--Fisherman's share compared with farmer's share of consumer's dollar by groups of finfish products, beef, pork, and market basket foods, 1950-1969.

Year	Fisherman's Share					Farmer's Share ^{3/}			
	Groundfish fillets (Fresh) ^{1/}	Groundfish fillets (Frozen) ^{2/}	Salmon Steaks (Fresh)	Halibut Steaks (Fresh & Frozen)	Canned Fish Pink Salmon Tuna (Chunk)	Market Basket of Foods ^{4/}	Beef (Choice grade)	Pork	
----- percent -----									
1950	39.87	--	--	--	26.71	--	47	74	64
1951	41.81	--	--	--	29.58	--	49	77	63
1952	44.51	36.99	--	--	27.59	--	47	74	60
1953	38.57	36.88	--	--	29.59	33.17	44	66	67
1954	36.25	34.26	--	--	28.31	34.25	43	68	65
1955	36.20	32.94	--	--	30.21	32.50	41	66	54
1956	35.14	34.27	--	--	25.33	32.52	40	65	52
1957	36.79	37.94	--	--	30.89	32.07	40	65	55
1958	40.73	40.74	--	--	24.49	33.65	40	67	58
1959	40.57	38.73	--	--	30.93	32.44	38	66	46
1960	36.60	35.93	--	23.98	33.46	34.77	39	65	51
1961	34.75	34.42	--	30.17	23.53	33.71	38	62	52
1962	35.80	36.85	--	37.23	32.42	35.18	38	68	51
1963	36.34	41.03	--	26.02	29.22	31.49	37	62	48
1964	34.17	37.23	--	32.37	28.28	34.23	37	60	48
1965	37.09	39.37	--	37.44	5/	34.90	39	65	58
1966	39.72	40.63	--	40.97	5/	34.98	40	63	57
1967	39.01	39.32	43.58	34.91	5/	32.93	38	64	52
1968	38.51	42.58	40.36	36.64	5/	43.04	39	65	51
1969	43.77	50.77	35.88	39.10	5/	45.83	41	65	55

^{1/} Includes cod, flounder, and haddock fillets.

^{2/} Includes haddock and ocean perch fillets.
U.S.

^{3/} Compiled by the Department of Agriculture.

^{4/} Include meat products, dairy products, poultry, eggs, bakery and cereal products, fresh fruits, fresh vegetables, processed fruits and vegetables, fats and oils, and miscellaneous products--farm-originated food products purchased annually per household by wage-earners and clerical worker families and single workers living alone. Meals in eating places, imported foods, seafoods, and foods not of farm-origin are excluded.

^{5/} Series discontinued by the Bureau of Labor Statistics

Variation Among Shellfish Products

Table 2 The fisherman's share in the shellfish retail market was higher in most cases than that in finfish in 1969. It ranged from 64.9% for sea scallops, 59.9% for northern lobsters, 50.8% for peeled shrimp, 36.6% for oyster meats, to 23.9% for blue crab meat (table 2). The weighted average share in these products was almost 45%. For each dollar spent for shellfish products by consumers, fishermen received about 45 cents and distribution channels, 55 cents.

Sea scallops are shucked prior to landing, while northern lobsters are sold live. In each case, it results in little or no processing beyond the harvesting level. This explains the higher fisherman's share for these products. In addition, reduced consumption of the two products in recent years was associated with a slower rate of increase in retail prices than in their ex-vessel prices. This further boosted the fisherman's share in the consumer's dollar for these two shellfish products.

Blue crab meats are picked by hand. The high cost of wages in the processing stage raises the prices at the wholesale and retail levels higher than the other four shellfish products and, therefore, diminishes the crab fisherman's share to the lowest rank.

Oysters are also hand shucked in many areas. Although not as costly as crab picking, oyster shucking adds considerably to processing costs.

Table 2.--Fisherman's share compared with farmer's share of consumer's dollar by shellfish products, beef, pork, and market basket of foods, 1959-1969 ^{1/}

Year	Fisherman's Share					Farmer's Share		
	Sea scallop meats	Oyster meats	Peeled shrimp	Live Northern lobsters	Blue crab meat	Beef (Choice grade)	Pork	Market basket of foods
	-----percent-----							
1959	54.26	43.24	36.66	49.55	39.56	66.0	46.0	38.0
1960	45.81	38.27	41.79	47.26	27.35	65.0	51.0	39.0
1961	51.27	39.64	46.51	47.24	29.67	62.0	52.0	38.0
1962	54.68	40.96	49.18	47.01	29.20	68.0	51.0	38.0
1963	58.57	35.69	38.85	54.07	27.28	62.0	48.0	37.0
1964	60.55	37.28	47.74	58.85	30.48	60.0	48.0	37.0
1965	63.49	41.11	46.72	54.85	32.10	65.0	58.0	39.0
1966	54.22	37.98	51.79	55.15	28.84	63.0	57.0	40.0
1967	69.94	40.31	43.66	59.89	25.18	64.0	52.0	38.0
1968	62.60	38.16	52.00	N.A.	30.36	65.0	51.0	39.0
1969	64.88	36.61	50.83	N.A.	23.94	65.0	55.0	41.0

^{1/}Retail prices of most shellfish products are not available for the years before 1959.

The fisherman's share for shrimp (peeled) is next highest after oyster meats. The ex-vessel prices have increased faster than their retail prices, which tends to increase the fisherman's share over time.

Variation Over Time

Even though prices at all levels are adjusted to the 1957-59 dollar value, the fisherman's share in the finfish market varied considerably during the last 20 years since 1950. When we examine the historical series of fisherman's share in groundfish products,^{5/} greater shares at 38% to 45% (table 1) are found during the early 1950's. This could be attributed to the lower marketing costs due to less services involved, cheaper materials used in packaging, and lower freight rates in transportation. Less efficient methods in fishing were practiced in earlier years before the rapid transition to trawling and the extensive use of electronic equipment, such as fish finders, depth indicators, automatic steering, and others. The unit cost at the ex-vessel level was raised while prices at the retail level stayed stable in competing with imports.

In certain years from 1955 to 1965, the fisherman's share in groundfish products was depressed somewhat. The downturns during this period almost coincide with the recession years of 1954-55, 1960-61, and 1964, when ex-vessel prices dropped more visibly than retail prices.

^{5/}The series under other products are not complete enough to cover the comparable period.

The rise of fisherman's share in groundfish products to above 39% after 1966 could be explained by the following: (1) the rapid growth in the size and sales of supermarkets since 1963 (tables 10 and 11) has lowered marketing costs; (2) centralization of purchases by chain stores has tended to reduce invoice costs; and (3) increasing imports of fish products has exerted more pressure on retail prices than ex-vessel prices in the domestic market.

During the 11 years from 1959 to 1969 the fisherman's share for shellfish increased in three products--sea scallops, northern lobsters, and shrimp--and declined in the two others--blue crabs and oysters.

The fisherman's share, in the case of shrimp, showed a distinct upward trend following the pattern of consumption. As shrimp consumption increases, the fisherman is likely to get a bigger share, since consumption is inversely related to retail prices.

Ex-vessel prices of sea scallops and northern lobsters increased faster than retail prices over the years since 1959. The increase has raised the fisherman's share in these two products in recent years.

The declines in the fisherman's share in blue crabs and in oysters are attributed to different reasons. Blue crab meat processing is labor intensive with its costs increasing more rapidly than the expenses in harvesting. Ex-vessel prices of oysters were higher than other shellfish, on a meat weight basis, except shrimp in the early 1960's. Since 1965, prices to oystermen have eased to become more

competitive with other shellfish harvested. Their total income, however, has not declined. The rehabilitation of oyster resources took effect in the late 1960's, notably in the Chesapeake Bay area, the major oyster ground in the United States, following the introduction of a propagation program in the early 1960's. Increasing oyster landings in the Chesapeake Bay in recent years with a more or less constant force of oystermen have resulted in an increase in earnings per oysterman (Corrigan, 1969).

Comparison with the Farmer's Share

The weighted average of the fisherman's share was 39% of finfish and 45% of shellfish retail prices in 1969, compared with 41% of the farmer's share in the market basket of 63 food items compiled by the U.S. Department of Agriculture in the same period (tables 1 and 2). But the fisherman's share in the finfish and most shellfish markets was much lower than the farmer's share in beef and pork markets which were 65% and 55%, respectively.

Beef and pork are sold in big quantities in the market. Compared with fish products, beef consumption averaged about 10 times and pork consumption 6 times greater during 1967-69. To handle the big quantities of meat products, each meat packing plant is operated on a much bigger scale and with more automation than a fish processing plant. It is likely that meat packing has an edge over fish processing in being able to lower packing and marketing costs due to the economics

of scale (National Commission on Food Marketing, 1966). Fish are not sold in big quantities as meat is in the retail market. Demand for fish products is less elastic than that for beef and pork (U.S. Department of Agriculture, 1967).^{6/} Owing to bigger quantities in the sale of meat, meat prices, particularly beef prices, are more often offered by retail stores as the "price leaders" to attract customers. Beef and pork prices are, therefore, cut to the lowest possible levels (National Commission on Food Marketing, 1966a). This reduces the margins on beef and pork sales and raises the farmer's share accordingly.

TREND OF PRICE SPREADS OF FISH PRODUCTS

While the fisherman's share is expressed in percentage terms of the retail price, price spread is an absolute value between price and cost. It can be divided into as many margins as there are ownership transfers and available price information. In this study, the prices of each fish product are gathered at four levels--retail, wholesale, processing, and ex-vessel (tables 12 to 26 in the Appendix, and figures 1 to 14).

Figures 1
thru 14

Ex-Vessel Prices

Margins at different levels are built up from the ex-vessel price. When all the prices are adjusted to constant dollar value since 1950 (1957-59 = 100), ex-vessel prices trended upward for some

^{6/}The price elasticity of demand for beef was estimated to be -0.75; for pork, -0.32; for fish and seafood, -0.07 at the retail level (U.S. Department of Agriculture, 1967).

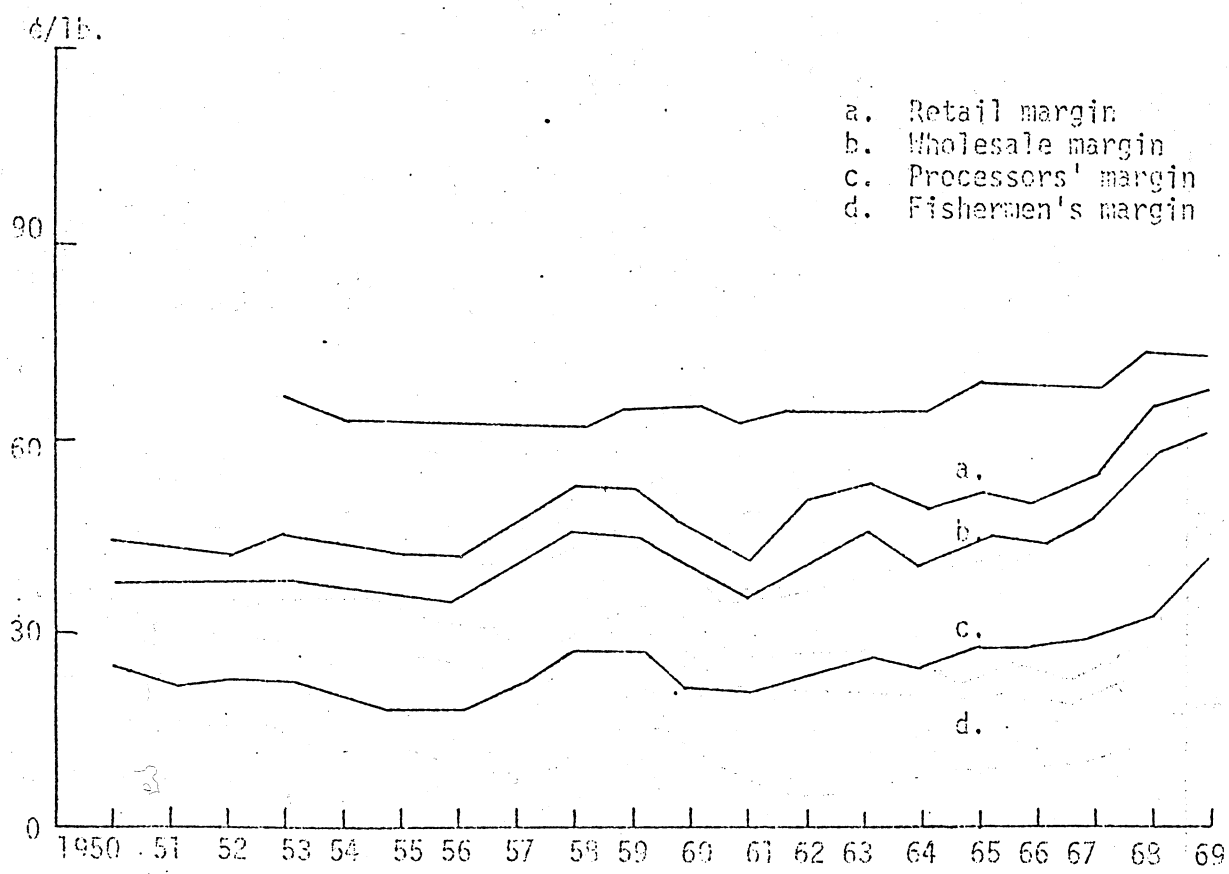


Figure 1.-- Price spreads for fresh haddock fillets, 1950-1969

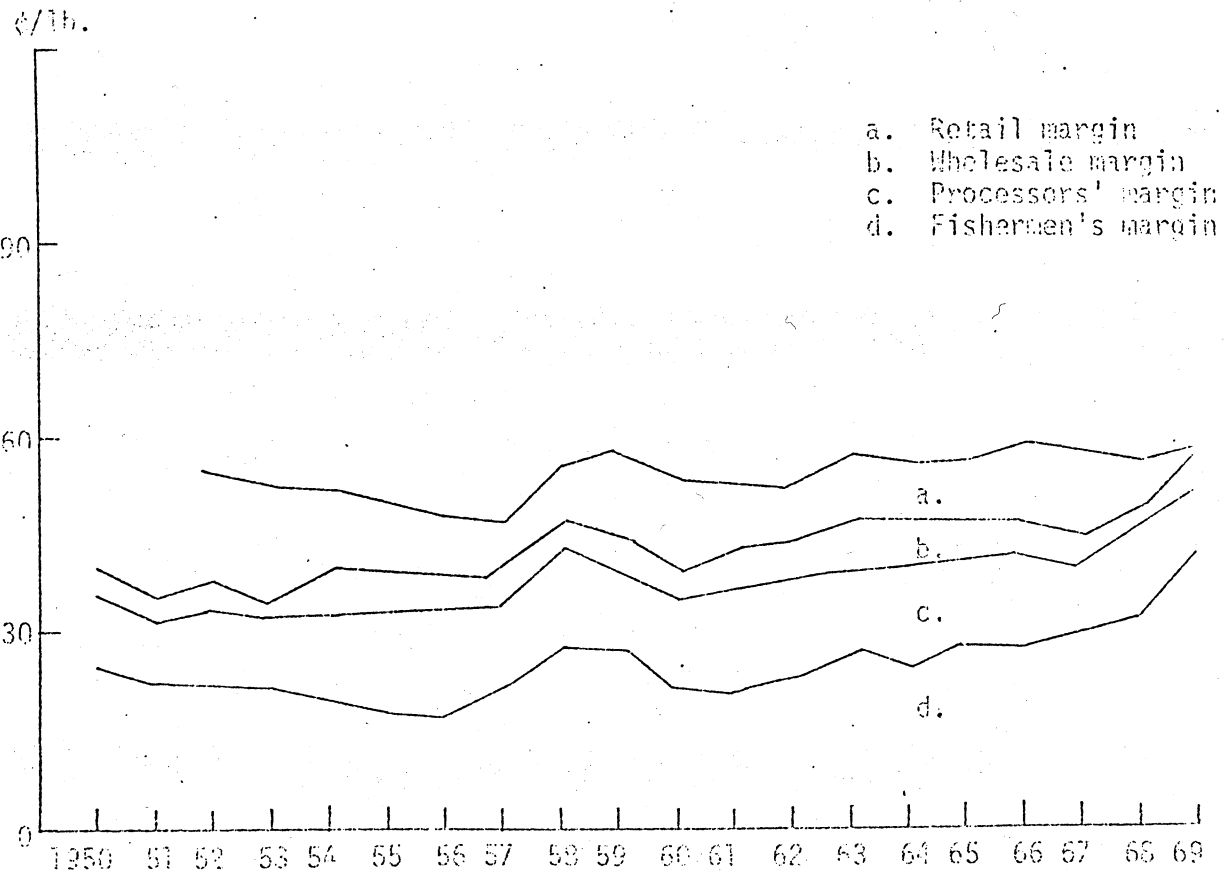


Figure 2.--Price spreads for frozen haddock fillets, 1950-1969

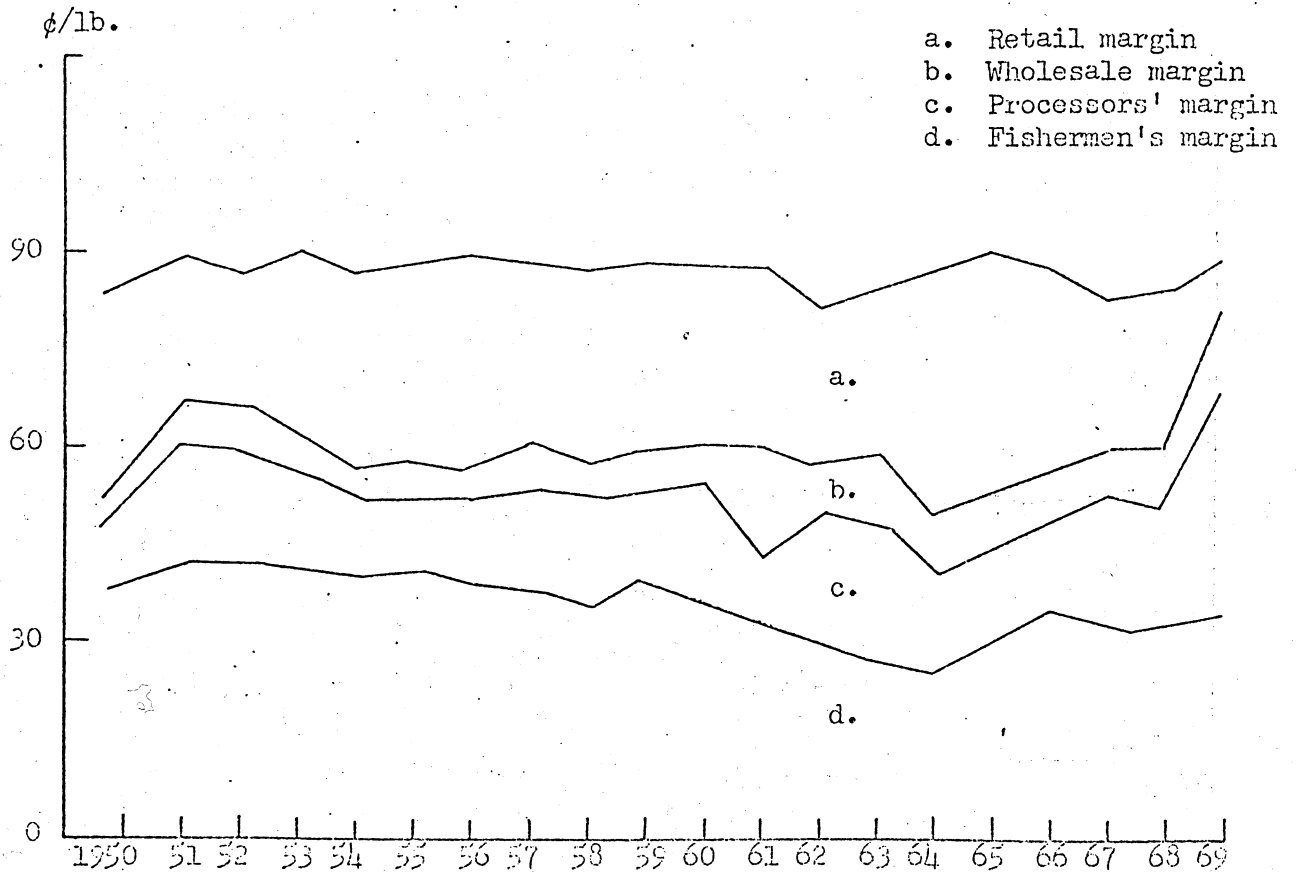


Figure 3.--Price spreads for fresh flounder fillets, 1950-1969

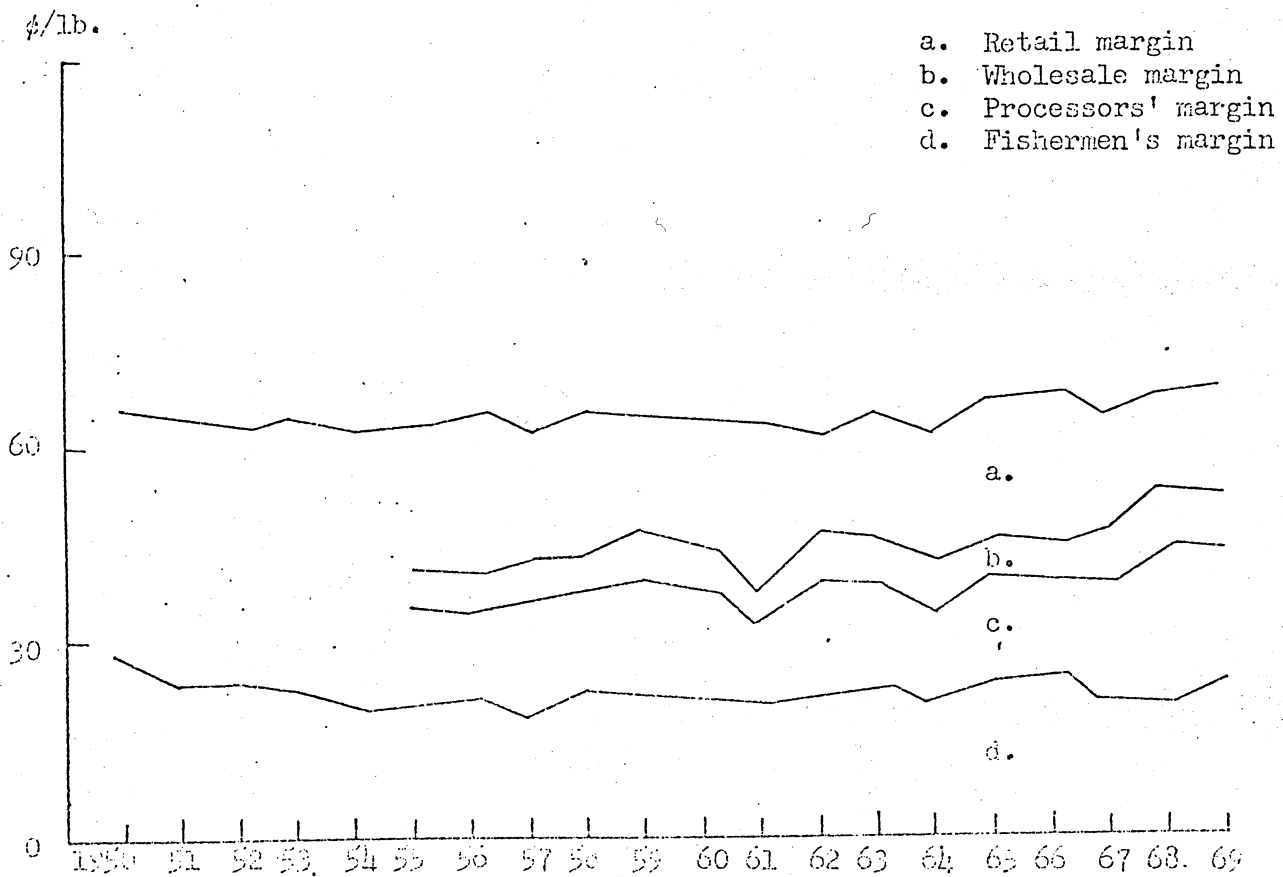


Figure 4.-- Price spreads for fresh cod fillets, 1950-1969

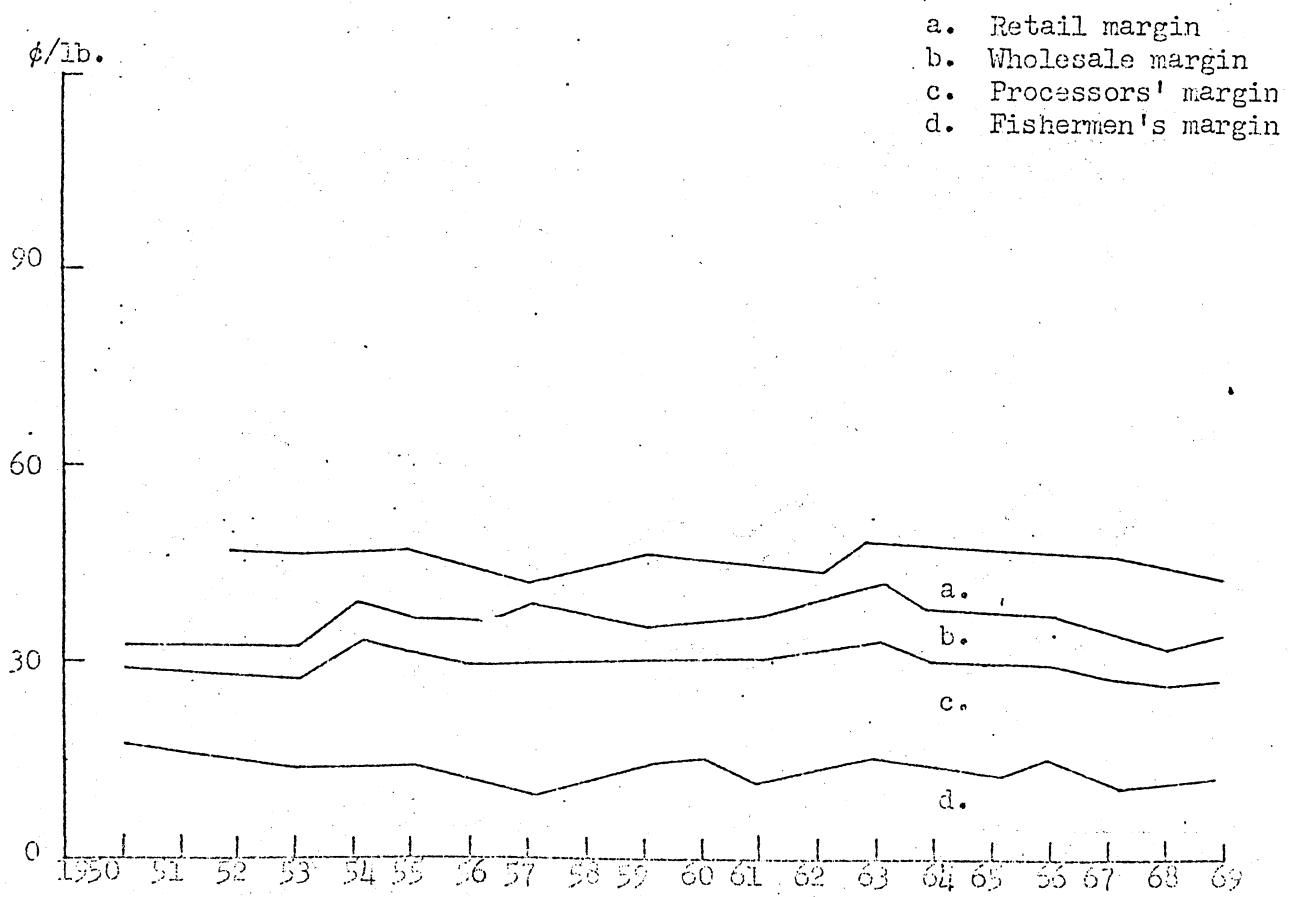


Figure 5.--Price spreads for frozen ocean perch fillets, 1950-1969

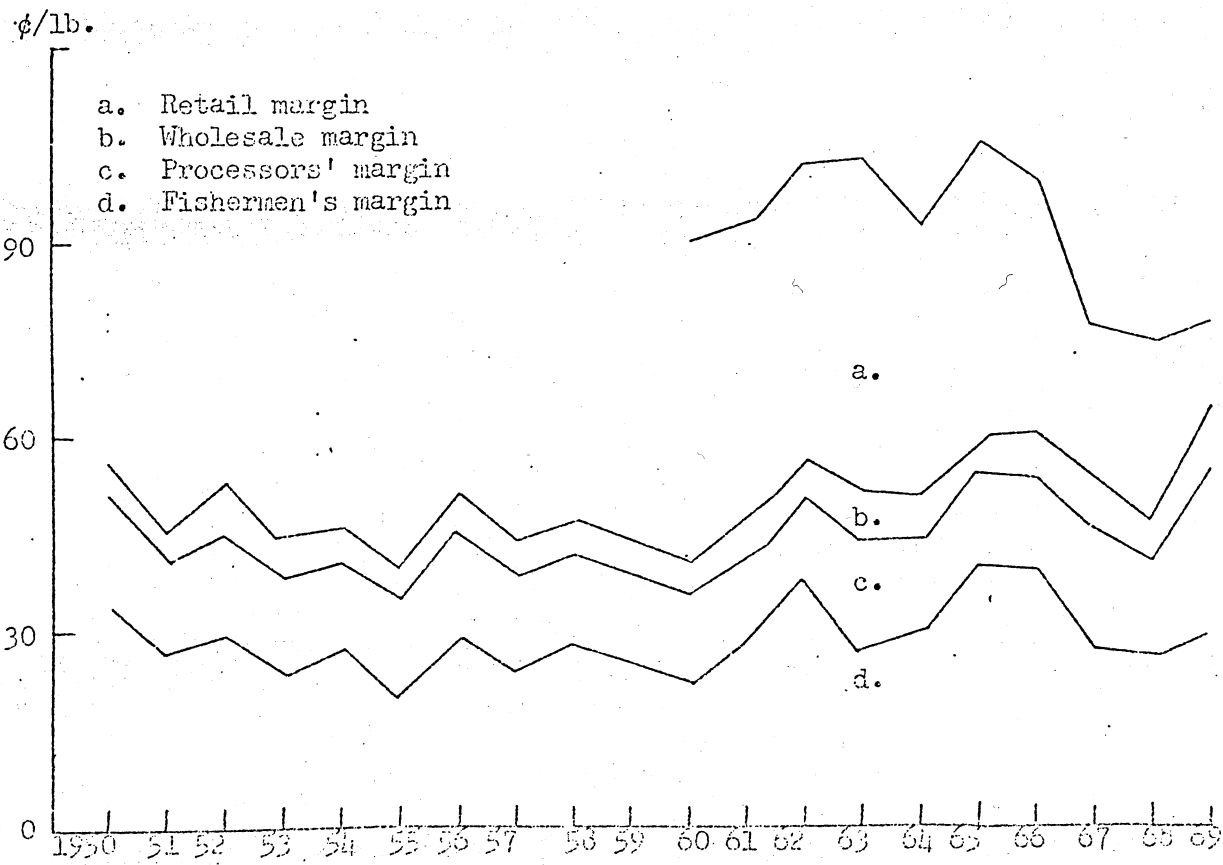


Figure 6.--Price spreads for fresh and frozen halibut steaks, 1950-1969

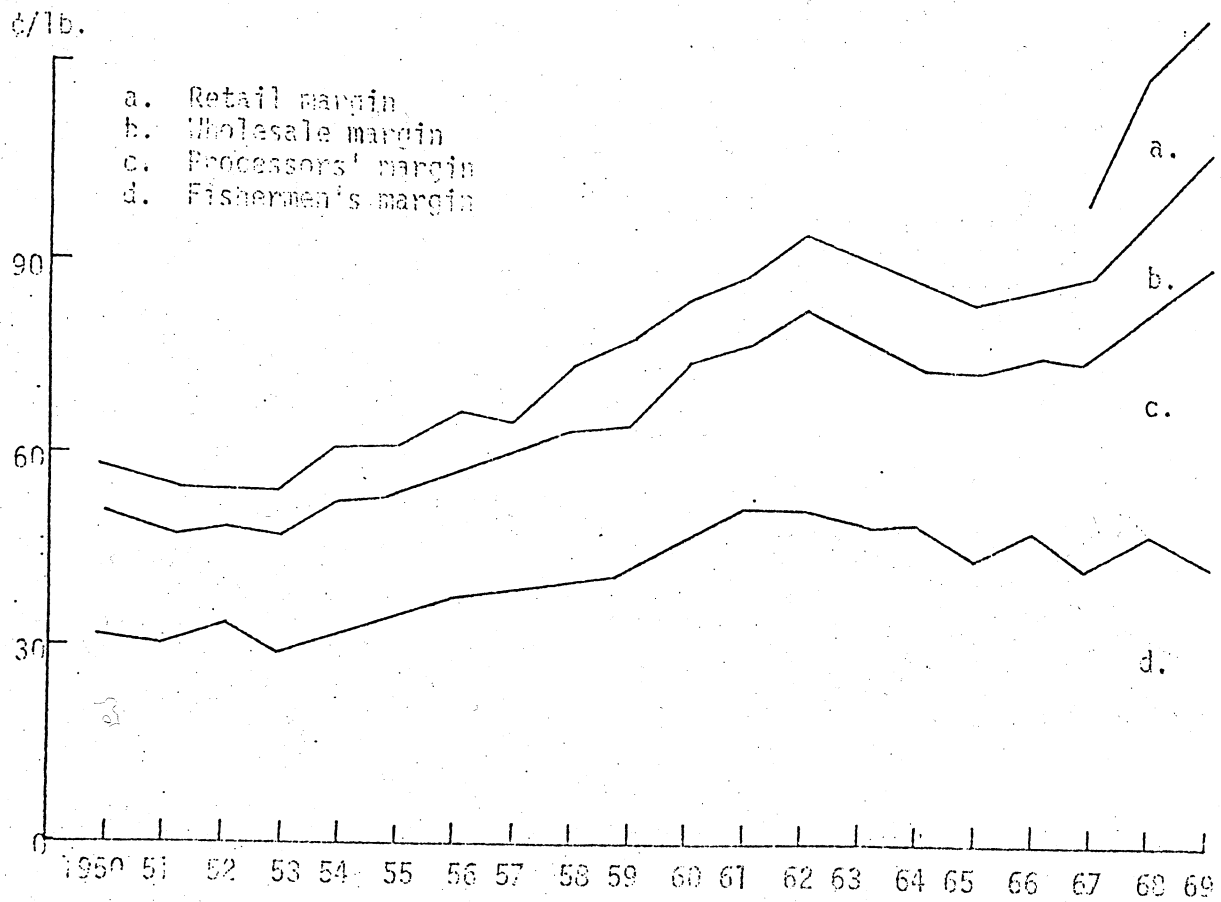


Figure 7.--Price spreads for fresh, dressed king salmon, 1950-1969

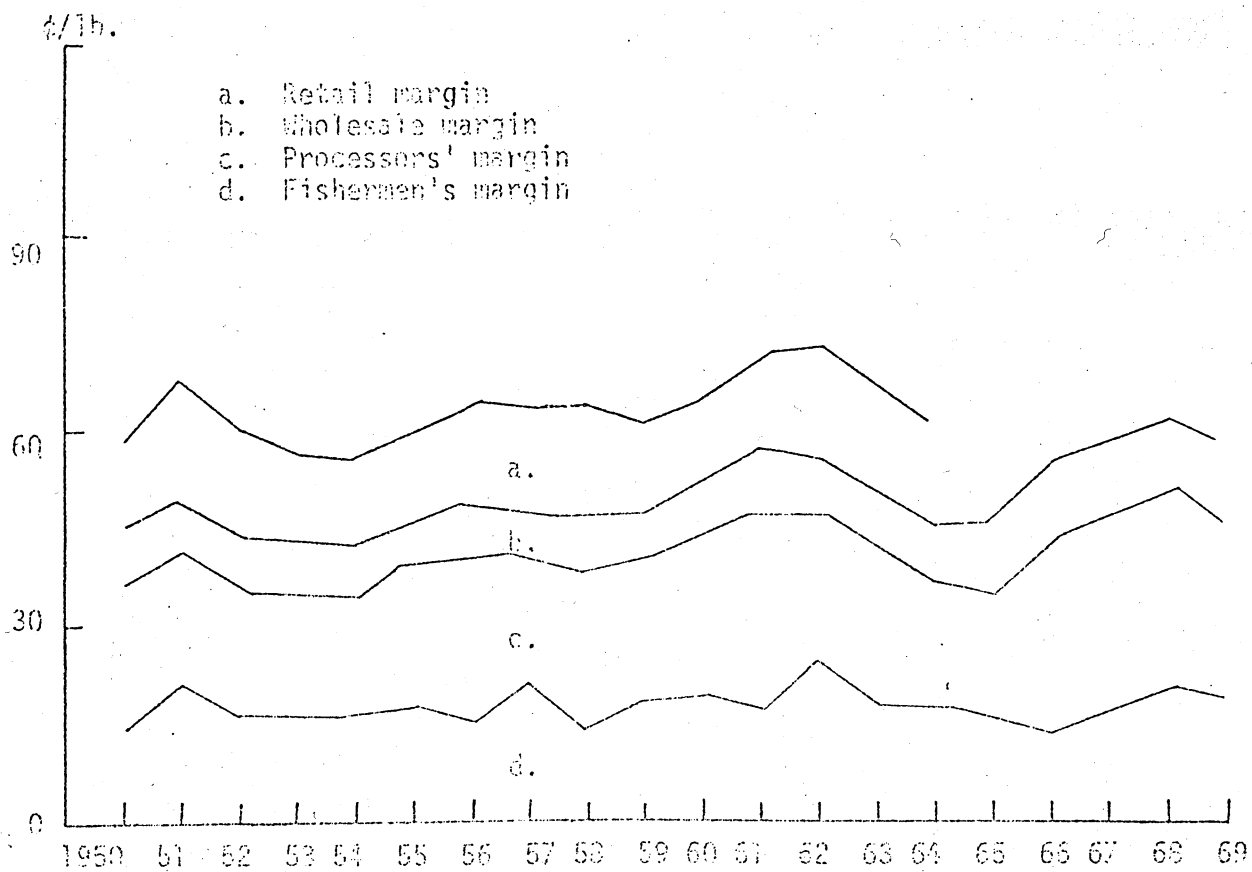


Figure 3.--Price spreads for canned pink salmon, 1950-1969

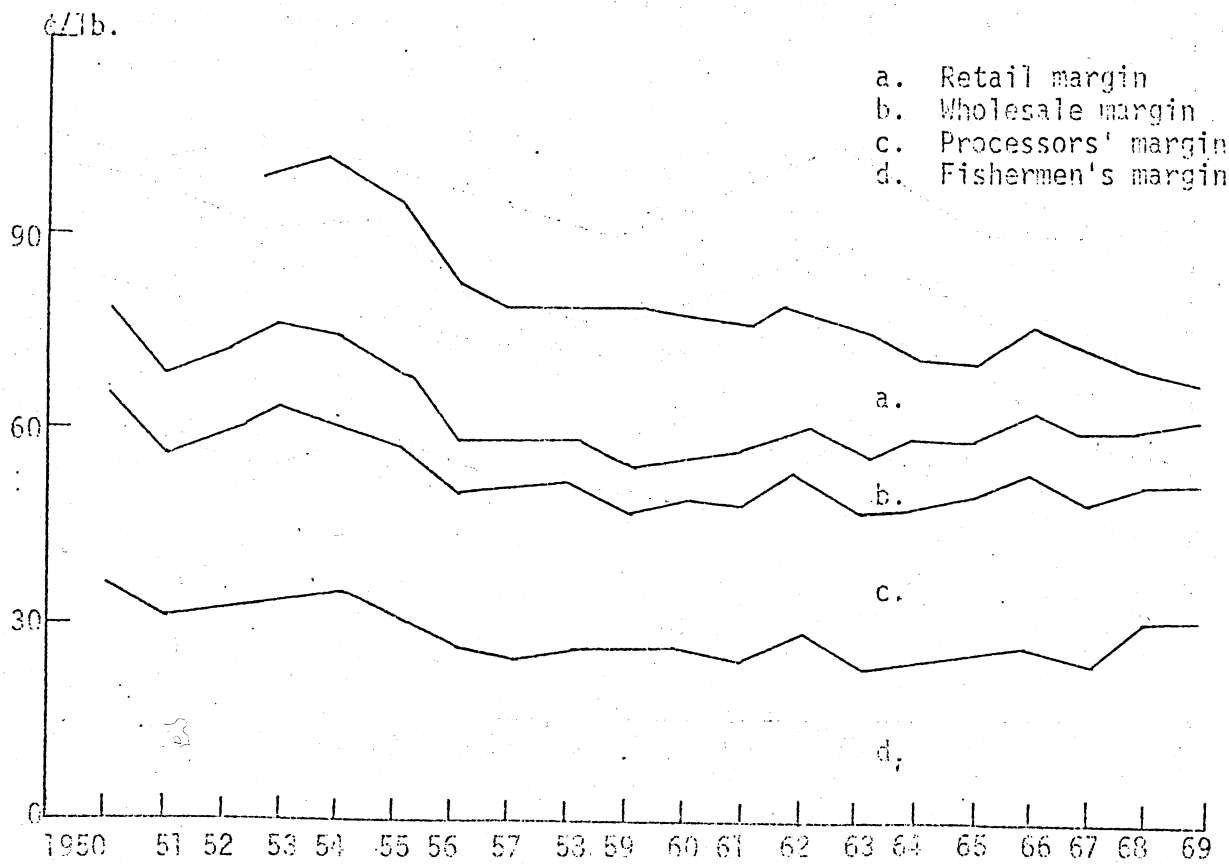


Figure 9.--Price spreads for canned tuna (chunk).

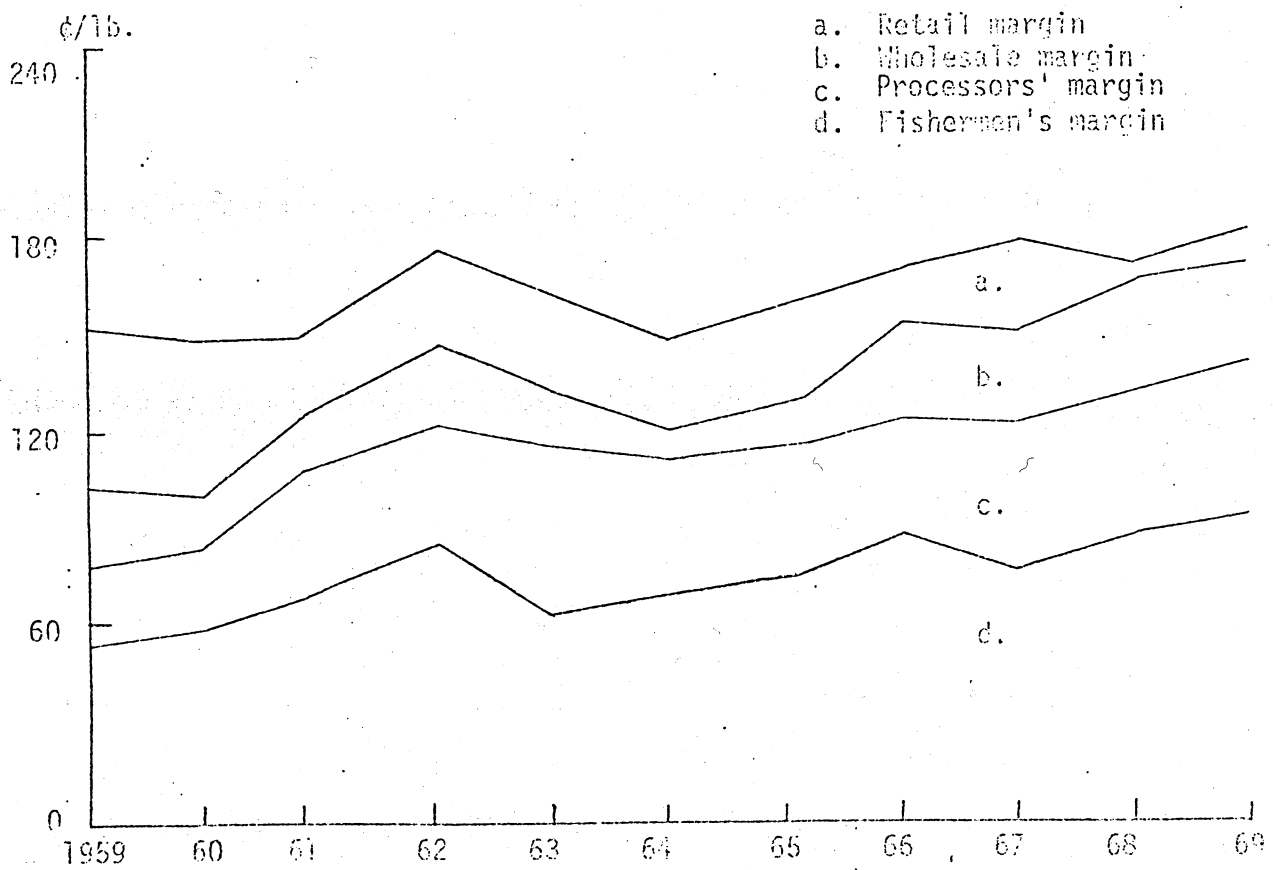


Figure 10.--Price spreads for frozen raw peeled shrimp, 1959-1969

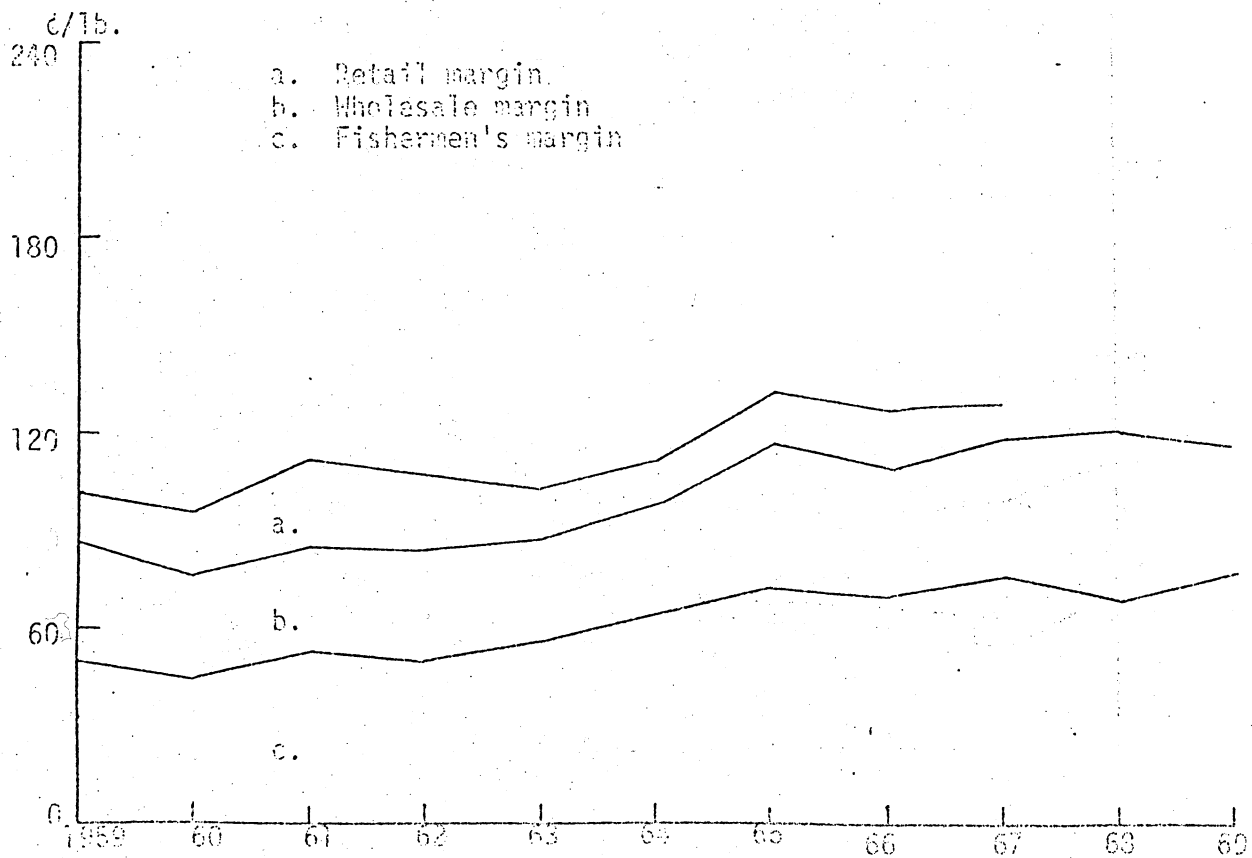


Figure 11.--Price spreads for live northern lobsters, 1959-1969

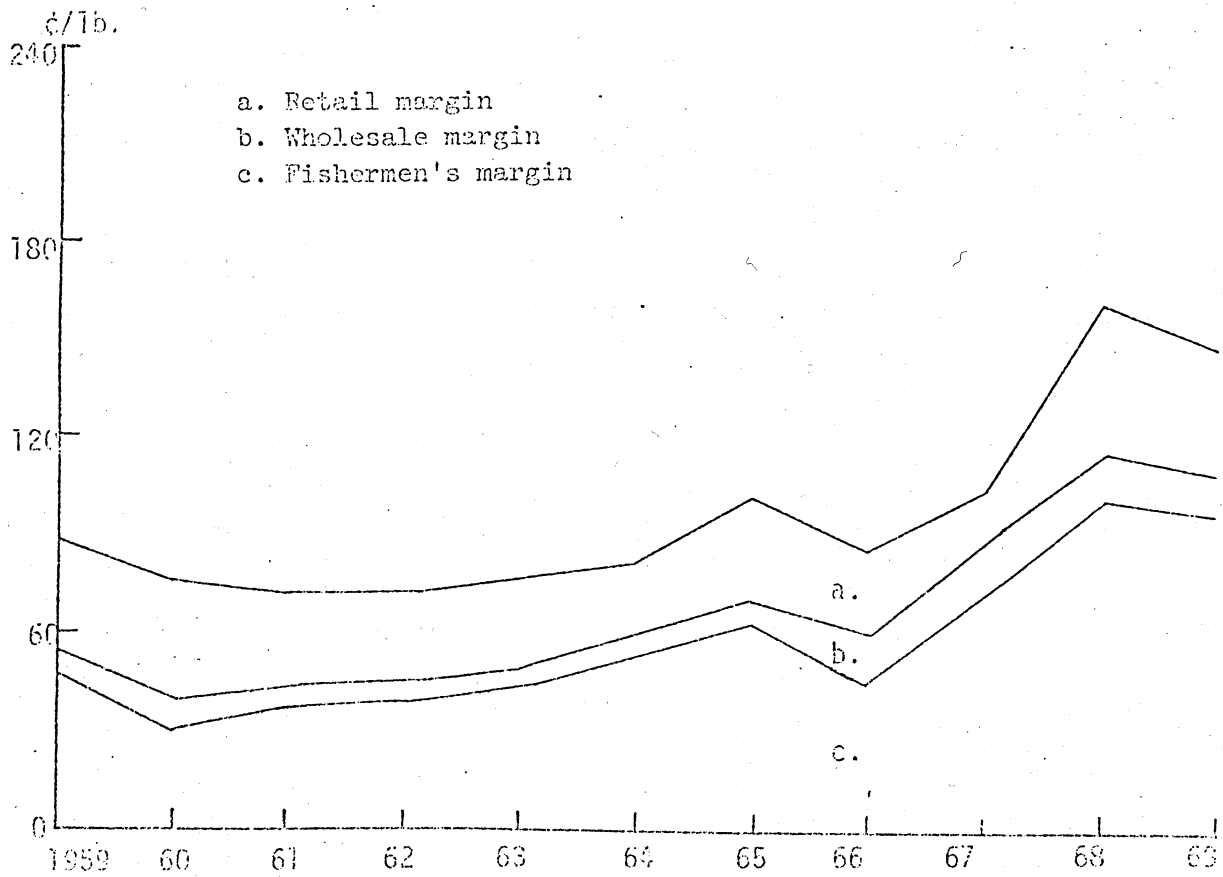


Figure 12.--Price spreads for fresh sea scallops, 1959-1969

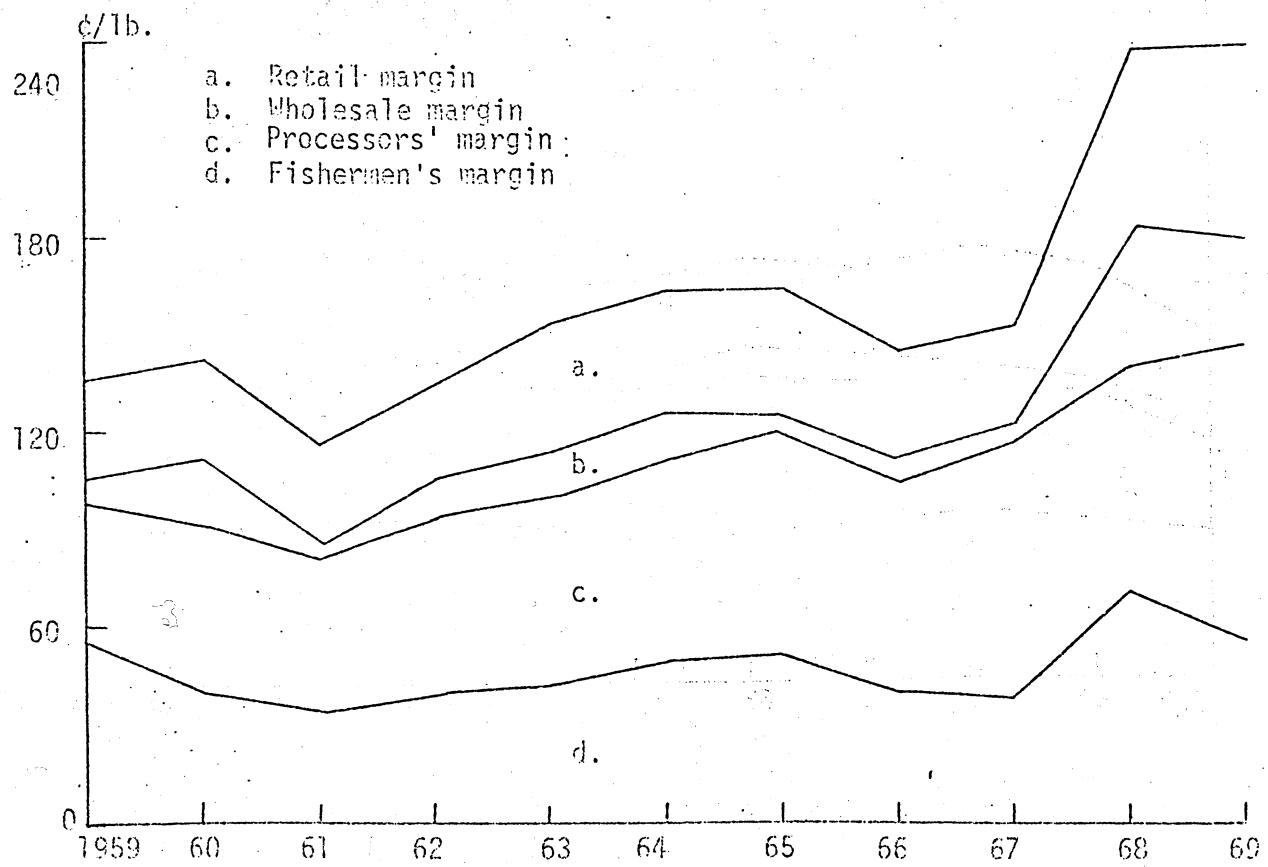


Figure 13.--Price spreads for fresh blue crab meat, 1959-1969

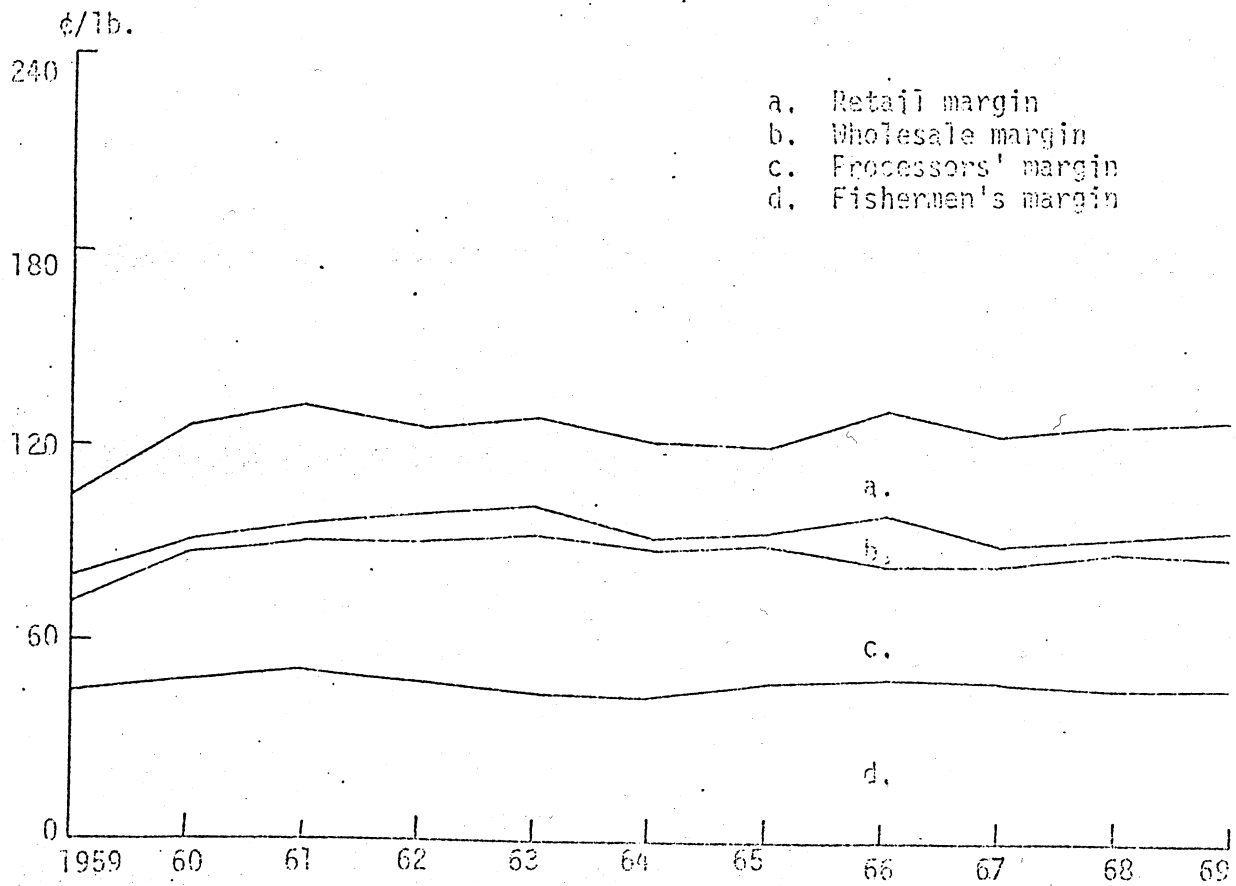


Figure 14.--Price spreads for fresh oyster meat, 1959-1969

species, particularly haddock. Haddock abundance drastically declined during the last 5 years. The unevenness of ex-vessel prices of flounder, halibut, king salmon, oysters, and sea scallops are due to changes in stocks and runs. Better harvesting years command lower ex-vessel prices.

Margins for most fish products are relatively wide at the ex-vessel level compared to other levels. About half of gross earnings is spent on labor and one-fifth on capital costs. They contribute to widening the margins.

Retail Margin

Retail prices of most fish products after adjustment to constant value fluctuated slightly around a level from year to year without a discernible upward or downward trend. Exceptions to this observation are canned tuna and halibut steaks with gradual declining retail prices; while fresh king salmon, blue crab meat, and sea scallop meat prices show a marked rising trend.

The rigidity of the pricing practice of each retail store and the consistency of its policy from year to year make the retail price of each item less responsive to the cost of sales. The result is a narrowing of the retail margin as wholesale prices advance.

The retail markup (American Accounting Association, 1964)⁷⁷ for the last 3 years of the analysis was an estimated 21% of the

⁷⁷Markup at any level can be calculated in two ways: One is the quotient of the margin (or the difference between the sales value and cost of sales) divided by cost of sales; the other is the quotient of the margin divided by the value of sales. Either method is correct depending on the purpose it serves. The second method is used here because the result so obtained is equivalent to the gross profit rates that will be applied in the report from time to time. (American Accounting Association, 1964).

retail price for fresh groundfish fillets, 18% for frozen groundfish, almost 17% for salmon and halibut steaks, over 26% for canned salmon, and an average 14% for canned tuna (table 3).

Table 3

Retail markups for shellfish products range from a high of 26.5% for oyster meats to a low of 7.6% for peeled shrimp during the years from 1967 to 1969 (table 4).

Table 4

Fish products with a relatively high unit price usually have low retail markups. Overhead costs are often allocated to products not according to their value but to the volume of floor space occupied. High-priced shrimp, lobsters, fresh haddock fillets, and halibut and king salmon steaks illustrate this observation. Those products that have easily discernible quality and are purchased relatively frequently by consumers are also given low retail markups because of the large turnover of their sales. That is why canned tuna retail markups have been low.

Wholesale Margin

Retail prices are subject to lesser fluctuations than are ex-vessel prices in most of the cases in this study. Assuming that retail prices are relatively stable, it follows that market margins somewhere in the channels of distribution must be reduced when ex-vessel prices are rising. Conversely, market margins at some point in distribution must be widened when ex-vessel prices are declining.

Table 3--Markups of finfish by product group at three functional levels, 1969^{1/}

Products	Processing	Wholesale	Retail
	----- percent -----		
<u>Groundfish Fillets:</u>			
Fresh:			
Haddock ^{2/}	36.4	12.8	12.4
Flounder	40.4	14.0	20.9
Cod ^{2/}	<u>48.5</u>	<u>16.3</u>	<u>24.5</u>
Average	41.8	14.4	19.3
Frozen:			
Haddock ^{2/}	23.4	8.6	12.6
Ocean Perch	<u>55.4</u>	<u>18.2</u>	<u>20.4</u>
Average	39.4	13.4	16.5
<u>Steaks(fresh & frozen):</u>			
Halibut	44.4	15.2	17.0
Salmon (King)	48.7	16.4	16.3
Salmon (King, Dressed)	<u>48.7</u>	<u>16.4</u>	<u>16.4</u>
Average	47.3	16.0	16.6
<u>Canned Products:</u>			
Salmon (1964) ^{1/}	52.3	19.2	26.6
Tuna (1964) ^{1/}	48.4	18.1	19.0
Tuna (1969)	<u>41.9</u>	<u>13.5</u>	<u>8.9</u>
Average	47.5	16.9	18.2

^{1/} Canned salmon price series was dropped by BLS in 1965, therefore, 1964 prices are shown.

^{2/} Average of 3 years--1967-69. The haddock resource situation in 1969 was the worst among the 3 years 1967-1969. The unusually high prices of haddock fillets in 1969 had a great influence on the prices of their substitutes--flounder and cod. To measure margins and markups of the three products with an abnormal year as a basis will be misleading. Therefore, the average prices of the 3 years--1967-1969--at all levels were used for the study of these three groundfish products.

Table 4.--Markups of shellfish by product at three functional levels,
1967-1969

Products	Processing	Wholesale percent	Retail
<u>Fresh Products:</u>			
Blue crab meat			
1967	67.35	2.62	20.80
1968	49.02	22.23	23.43
1969	63.70	11.75	25.26
Average	60.02	12.20	23.16
Oyster meat:			
1967	41.01	7.13	26.43
1968	45.08	5.34	26.61
1969	46.08	7.79	26.37
Average	44.06	6.75	26.47
Northern lobsters (live) ^{1/}			
1965	Sold	37.33	12.48
1966	live	35.52	14.51
1967		35.04	7.78
Average		35.96	11.59
Sea scallop meat			
1967	Shucking	19.16	13.49
1968	is done	11.26	29.46
1969	on the boat	11.00	27.10
Average		13.81	23.35
<u>Frozen Products:</u>			
Peeled shrimp			
1967	36.05	12.80	15.36
1968	32.27	20.69	3.20
1969	34.64	18.92	4.08
Average	34.32	17.47	7.55

^{1/} Retail prices of northern lobsters were not available for 1967-1969; 1965-1967 prices were used. The product is sold live; no processing is required. More costs are incurred by the wholesalers in packing and transportation.

Prices at the wholesale level fluctuated more distinctly and moved on an upward trend for most fish products in the study. This does not mean that wholesale margin over processor's price has increased. For the last 3 years, wholesale margins (gross profits) for packaged and canned fish products, with the exception of northern lobsters,^{8/} are estimated at about 15-16% of their wholesale prices (tables 3 and 4). According to business income tax returns statistics published by the Internal Revenue Service, gross profit ratios for wholesale food in general have been more or less uniform since the 1950's.

Although wholesale prices have increased, wholesaler's margins have remained stable from year to year. A similar increase in wholesaler's cost of sales (i.e., processor's prices) have equalized the margins at the wholesale level over the period.

Processor's Margin

3 The processor's markup was about 45% of his selling price for packaged fish (fillets and steaks), 52% for canned salmon, and 42% for canned tuna for the last 3 years (table 3). Markups for shellfish range from 34% for peeled shrimp to 60% for blue crab meat in the same period (table 4). In 1967, it was 52.7% for canned seafood processing and 48.7% for packaged seafood processing according to the Census of Manufactures (see tables 31 and 32 in the Appendix).

^{8/}Wholesaler's margin of northern lobsters is larger than other fish products because they are sold live. Heavy transportation costs are assumed by the wholesalers.

Figure 15

Processor's markup is much higher than that at the retail or wholesale level. About 55% or 60% of processor's margin is composed of labor and material costs. Processors' margins differ according to the costs of raw materials or fish they purchased for processing. Their margins have increased over the years since 1960 because labor and material costs increased faster than the overhead costs as shown in figure 15 (also table 27 in Appendix).^{9/} The amount spent for food products' advertising increased the fastest. These expenses are incurred by processors when the products bear the manufacturer's brand name.

COSTS AND PROFITS--THE COMPONENTS OF PRICE SPREADS

To develop an understanding of the size of price spreads and the variation between products and marketing levels, it is necessary to consider the services performed in getting the fish products from dockside to the retail market and the costs and profits involved in performing these services.

Source of Data

Estimates of costs and profits are compiled from the industry and trade series reports published by the Bureau of the Census and the Business income tax returns and Corporate tax returns published by the Internal Revenue Service (both 1968). They represent U.S.

^{9/}Processors' margins may go down from the present level in the event that there will be advancement in production efficiency either due to modernization of technology or to the growth in plant size to reduce unit cost. The high cost could be offset by intensive capital improvement.

37

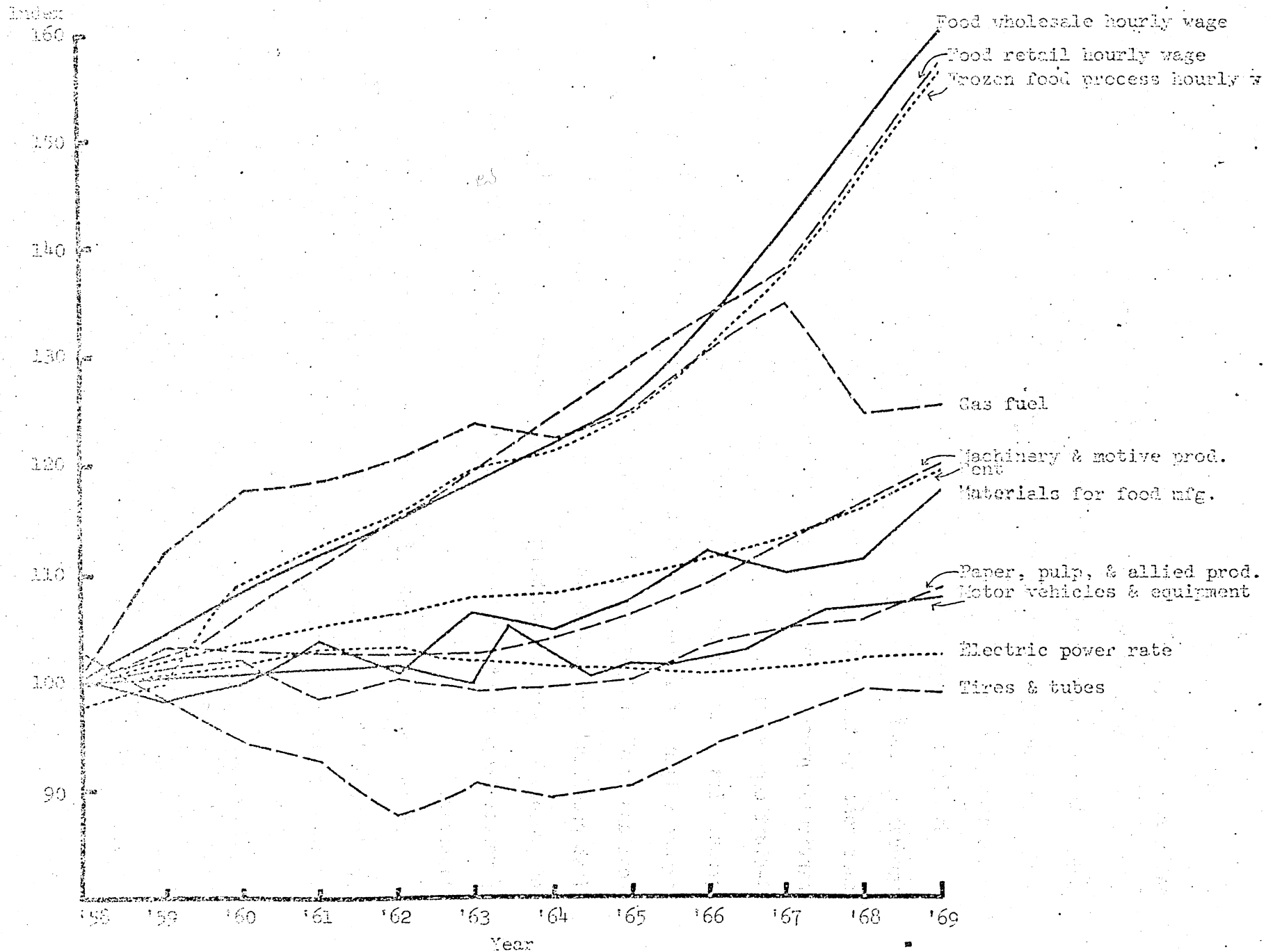


Figure 15.—Price of inputs used by fish processing and marketing firms (1957-1959=100)

national averages for all firms engaged in the manufacture and trade of fishery products at the 4-digit level^{10/} of the Standard Industrial Classification (SIC) system. These estimates are not broken down by regions of the country or points of time other than the census year.

Usually more than one fish product is processed in or distributed through the same establishment at different seasons, with the result that costs of the total operation of the year could be allocated to particular products on a more or less discretionary basis. The 4-digit census report put "canned and cured seafoods" as an industry group. Its costs and profits, reduced to ratios, are applied to canned salmon and canned tuna at the processor's level in this study. Cost and profit ratios derived from the "fresh and frozen packaged fish products" are applied to the processing of fillets and steaks of groundfish, salmon, and halibut and the processing of shellfish products (adjustments are made based on special studies for individual fisheries).

At the wholesale level, cost and profit ratios are derived from the "food and kindred products" statistics based on the Census of Business 1967: wholesale trade, commodity line sales (U.S. Bureau of

^{10/}In the SIC system, the first 2 digits represent a major group, the first 3 digits a group, and the first 4 digits a sub-group. For example: in the manufacturing industries, 2-digit major group 20 is Food and Kindred Products; 3-digit group 203 is Canned and Preserved Food; and 4-digit sub-group 2031 is Canned and Cured Seafoods.

the Census, 1971). At the retail level for fresh and frozen processed fish products, costs and profits of the "meat and fish retail market" from Business income tax returns and Corporate tax returns which were both published by the Internal Revenue Service (both 1968) are used. Canned fish products are sold in the grocery departments of supermarkets, costs and profits statistics of the supermarket published by the Supermarket Institute, Inc. are applied to canned tuna and salmon retailing margins in this study.

Data for costs and profits of fishing vessels are gathered by this Laboratory according to types of boats from different fishing areas. Each type of vessel is understood to be specialized in the fishing of a particular species of fish although some of them are capable of alternating from one species to another.

Classification of Costs

None of the cost statistics assembled from different sources provide information in the detail needed for cost allocation. Furthermore, each source has its own breakdowns of cost items. Under the circumstances, the estimated costs are grouped in a way to satisfy the different conditions that the primary data present. They are classified into four groups--materials and fuels, labor, capital costs, and operating expenses. Together with net profit, they form the five components of each margin (or gross profit) at each functional level. The estimates are not made with perfect precision; they must be dealt with as approximations.

Under materials and fuels are included paper products (for packing and wrapping), metal containers, ice, gas, electric energy purchased, and office supplies. Bait and food are included in this category in the case of fishing vessels. Capital costs are comprised of depreciation, rent, and interest. Operating expenses include salaries, employee benefits, insurance, advertising, commission, bad debts, taxes, contract work, office maintenance and repairs, telephone charges, mailing, and miscellaneous expenses.

Labor costs at the production level are wages paid to the directly productive workers in the processing plants and those paid to the crews while working on fishing vessels. Vessel owner's share and crewmen's shares except for wages are considered as salary and bonus, respectively. As salary it is an operating expense; as bonus it is considered as profit. Labor cost at the retail and wholesale levels are wages paid to workers in wrapping and labeling products and in unloading and moving cargoes.

Allocation of Costs

Margin components are reduced to ratios expressed as percentages of the margin or gross profit at each of the four functional levels--harvesting (fishing), processing, wholesaling, and retailing. They are summarized in tables 5 and 6 with the latest data available, gathered from the sources mentioned in earlier sections and shown separately in historical series in tables 28 to 35 in the Appendix. The ratios presented in tables 5 and 6 are used as bases to allocate

Tables 5
and 6

Table 5 .---Cost rates, as percentage of price margin, at different market levels

	Margin (gross profit)	Materials & fuels	Labor	Capital costs	Operating expenses	Net profit
-----Percent-----						
I. <u>Retail:</u>						
a) Meat & Fish market <u>1/</u>	100.0	4.8	33.5	13.1	19.4	29.3
b) Supermarket <u>2/</u>	100.0	4.1	6.3	16.9	63.6	9.1
II. <u>Wholesale:</u>						
a) Food & kindred products <u>1/</u>	100.0	14.8	6.1	9.2	45.4	24.5
b) Northern lobster (live) <u>3/</u>	100.0	23.0	13.0	7.0	47.0	10.0
III. <u>Processing:</u>						
a) Fresh & frozen packaged fish <u>4/</u>	100.0	36.5	22.2	7.8	25.3	8.2
b) Canned & cured seafoods <u>4/</u>	100.0	34.3	19.9	9.7	29.6	6.5
c) Food & kindred products <u>1/</u>	100.0	21.3	11.2	9.0	44.0	14.5
d) Peeled shrimp <u>5/</u>	100.0	27.0	33.2	9.3	22.5	8.0
e) Blue crab meat <u>6/</u>	100.0	25.3	44.2	2.2	21.3	7.0
IV. <u>Wholesale and Processing Combined</u>						
Scallop & oyster <u>7/</u>	100.0	20.2	13.2	9.6	45.0	12.0

1/ Business Income Tax Return Statistics, Internal Revenue Service, 1967.
2/ Published by Supermarket Institute, Inc., 1963.
3/ Derived from the Joint Master Plan for the Northern Lobster Fishery, BCF, Department of the Interior, April, 1970.
4/ Census of Manufactures, U.S. Department of the Interior, 1967.
5/ Survey of the U.S. Shrimp Industry, Vol. 1, Special Scientific Report--Fisheries No. 277, U.S. Department of the Interior, 1954.
6/ Derived from the discussion with the Branch of Shellfish Products, Division of Current Economic Analysis, NMFS, Department of Commerce.
7/ Derived from Culture, Handling, and Processing of Pacific Coast Oysters, Bureau of Commercial Fisheries, Department of the Interior, 1960.

Table 6---Cost rates, as percentage of gross receipts, for different fishing vessels. (Average of 3 years--1966-68, unless otherwise marked).

Type of vessel	Gross receipts	Materials fuels, etc.	Labor	Capital costs	Operating expenses	Net profit
	-----Percent-----					
1. Boston large trawler (1964-66)	100.0%	19.6	47.2	16.6	12.3	4.3
2. New Bedford dragger (1967-68)	100.0%	18.6	47.0	18.0	11.3	5.1
3. Rhode Island small trawler (1964)	100.0%	16.1	47.1	21.1	7.1	8.6
4. Halibut vessel	100.0%	18.5	36.6	21.4	12.0	11.5
5. Salmon troller ^{1/}	100.0%	12.5	32.5	31.8	11.1	12.1
6. Salmon purse seiner	100.0%	9.8	39.0	21.8	13.2	16.1
7. Tuna purse seiner	100.0%	13.2	41.5	25.2	13.1	7.0
8. Northern lobster in-shore boats with traps (1966)-- same for blue crab traps ^{2/}	100.0%	16.3	43.1	9.8	24.9	6.0
9. Gulf shrimp otter trawler	100.0%	13.9	37.6	16.6	25.5	6.4
10. New Bedford sea scallop dragger (1967-68)-- same for oyster dragger	100.0%	14.5	48.0 ^{3/}	15.8	17.2	4.5

^{1/} Printout of salmon troller earnings and costs for 68 vessels surveyed by the Division in 1968.

^{2/} Estimation of the Economic Benefits to Fishermen, Vessels, and Society from Limited Entry to the Inshore U.S. Northern Lobster Fishery, draft manuscript by Dr. Frederick Bell, March 1970.

^{3/} Snacking done on boat.

Source: Basic Economic Indicators, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, 1970.

the costs of each fish product according to the actual margins calculated from price studies at each level as exemplified in the margin component tables 37 to 52 in the Appendix. A summary of margin estimates for all products is shown in table 7 for comparison. The margin at the lowest level, harvesting, is the ex-vessel price itself. Since fish in the sea are common property resources, there is no cost of purchase to deduct.

Table 7

Division of Consumer's Dollar Spent on Fish Products

The values of fish products are greatly increased by the transformation and services rendered in harvesting, processing, wholesaling, and retailing. The return to each of these functions and to every cost item incurred by the performances of each marketing function can be expressed in proportion to the consumer's dollar paid for the finished product as shown in the top portion of table 8. By inspection, it is found when the margins are expressed as percentages of retail prices, that out of each dollar spent by the consumer on fresh haddock fillets, a relatively high-valued fish, the retailer grossed 12.4 cents; the wholesaler, 11.2 cents; the processor, 27.9 cents; and the fisherman, 48.6 cents. By contrast, in the sale of frozen ocean perch fillets, which are low-valued, the retailer retains 20.4 cents per consumer food dollar; the wholesaler, 14.5 cents; the processor, 36.0 cents; and the fisherman, 29.1 cents. In general, the marketing margins are absolute rather than percentage

Table 8

Table 7.--Margins of fish products at four market levels.

Products	Harvesting	Processing	Wholesale	Retail
<u>Groundfish fillets:</u>				
Fresh:				
Haddock ¹	35.05	20.10	8.08	8.91
Flounder ¹	34.75	24.98	10.06	15.95
Cod ¹	21.95	20.71	8.33	16.54
Frozen:				
Haddock ¹	35.05	13.04	2.02	7.26
Ocean Perch ²	12.69	15.69	6.32	8.92
<u>Steaks:</u>				
Halibut ²	30.19	24.16	9.73	13.13
Salmon (king) ²	50.74	48.19	19.40	23.10
Salmon (king, dressed) ²	45.66	43.35	17.45	20.95
<u>Canned Products:</u>				
Salmon ³	17.58	20.42	7.60	16.56
Tuna ³	24.92	24.84	9.24	13.80
Tuna ²	30.93	22.27	8.30	6.00
<u>Fresh Shellfish Products:</u>				
Oyster meat ¹	49.36	38.93	6.39	34.08
Northern lobster ¹	79.94	a/	41.53	15.13
Blue crab meat ¹	56.70	80.53	25.50	49.95
Sea scallop meat ¹	91.25	b/	14.15	34.83
<u>Frozen Shellfish Products:</u>				
Peeled shrimp ¹	87.20	45.81	32.12	13.55

¹/Average of 3 years--1967-1969. (See note for Table 3.)

²/1969.

³/1964, figures not available in later years.

a/Sold live.

b/Loaded chucked.

Table 8. --Distribution of consumer's dollar spent in various fish products in the U.S.

	(1)	(2)	(3)	(4)	(5)
	Fresh haddock fillets (1967-69)	Frozen haddock fillets (1967-69)	Fresh flounder fillets (1967-69)	Fresh cod fillets (1967-69)	Frozen ocean perch fillets (1969)
-----cents-----					
<u>By Marketing Functions</u>					
Retailing	12.4	12.7	18.6	24.5	20.4
Wholesaling	11.2	3.5	11.7	12.3	14.5
Processing	27.9	22.7	29.1	30.7	36.0
Harvesting	<u>48.6</u>	<u>61.1</u>	<u>40.5</u>	<u>32.5</u>	<u>29.1</u>
Total	100.0	100.0	100.0	100.0	100.0
<u>By Cost Items</u>					
Profits at 4 Levels: Total	9.7	1.5	9.8	11.5	8.6
Retailing	1.1	1.2	1.7	2.3	1.7
Wholesaling	2.7	.9	2.9	3.0	3.6
Processing	3.8	-3.2	3.5	4.9	1.9
Harvesting	2.1	2.6	1.7	1.4	1.3
Materials and Fuels	21.6	22.8	19.9	19.8	21.5
Labor	30.6	37.6	28.9	24.2	26.4
Capital Costs	13.4	15.4	13.2	13.1	13.1
Operating Expenses	<u>24.7</u>	<u>22.3</u>	<u>28.1</u>	<u>31.4</u>	<u>30.4</u>
Total	100.0	100.0	100.0	100.0	100.0

Table 8. --Distribution of consumer's dollar spent on various fish products in the U.S. (continued)

	(12)	(13)	(14)	(15)	(16)
	Live northern lobster (1967-69)	Fresh blue crab meat (1967-69)	Frozen peeled shrimp (1967-69)	Fresh oyster meat (1967-69)	Fresh and frozen sea scallop meat (1967-69)
-----cents-----					
<u>By Marketing Functions</u>					
Retailing	11.6	23.5	7.6	26.5	24.7
Wholesaling	31.8	12.0	18.0	5.0	10.1
Processing	a/	37.9	25.6	30.2	b/
Harvesting	<u>56.6</u>	<u>26.7</u>	<u>48.8</u>	<u>38.3</u>	<u>65.2</u>
Total	100.0	100.0	100.0	100.0	100.0
<u>By Cost Items</u>					
Profits at 4 levels: Total	7.6	9.3	10.3	7.8	6.4
Retailing	1.1	2.1	.7	2.4	2.2
Wholesaling	3.2	2.9	4.4	1.2	1.2
Processing	a/	2.7	2.0	2.5	b/
Harvesting	3.4	1.6	3.1	1.7	2.9
Materials and Fuels	17.0	16.7	16.7	18.4	12.5
Labor	29.3	30.4	28.4	27.1	34.2
Capital Costs	9.7	8.5	13.4	13.4	15.4
Operating Expenses	<u>36.4</u>	<u>35.1</u>	<u>31.2</u>	<u>33.3</u>	<u>31.5</u>
Total	100.0	100.0	100.0	100.0	100.0

a/ No processing
b/ Shucked at sea

Note: This table is compiled in percentage terms from the actual values presented in tables 37 and 52 in the Appendix.

additions to the raw product; thus margins (except at the harvesting level) tend to be higher for low-valued commodities, other conditions being equal.

When the dollar spent on fresh haddock fillets is split according to costs paid at all levels, shown in the lower part of table 12 (Appendix) labor earned 30.6 cents; materials and fuels cost 21.6 cents; operating expenses disposed of 24.7 cents; capital costs used up 13.4 cents; and profits netted 9.7 cents. Profit netted differs by the four marketing functions. It is estimated that the processor netted the most, 3.8 cents, while the retailer had the least, 1.1 cents.

The distribution of consumer's dollar spent on other fish and shellfish products included in the study are also found in table 8. The reader is also referred to Appendix tables 37 through 52 which show this same information expressed in terms of cents per pound of sales, rather than percent of consumer food dollar.

It is interesting to note that the processor of haddock fillets had a net profit on fresh products but incurred a net loss on frozen production. Costs of processing both fresh and frozen haddock fillets (on a per pound basis) are about the same, but the margin of the latter was so low that it resulted in loss. It appears that the marketing of domestic frozen haddock fillets is done only to avoid total loss of the product. Domestic landings are disposed of in the fresh food market as much as possible. When the disposition of haddock in the fresh market was heavy during the peak landing

season, certain amounts of the product were kept in cold storage. Less than 16% of haddock fillets were frozen during 1967-69. As frozen fillets, haddock products could only be sold at the price level of imported frozen products, which was insufficient to cover all processing costs.

In 1969 the same processing plant produced halibut and salmon steaks, yet profits were higher on king salmon steak than on halibut (columns 6 and 9, table 8). The demand for fresh king salmon in restaurants is usually much greater than that for halibut; i.e., the supply of fresh king salmon steak was only 1.2 million pounds as opposed to 56 million pounds of halibut in 1969. To meet this demand, fresh king salmon steaks were shipped by air freight while halibut steaks were not. Air freight from Seattle to New York was about 15 cents per pound, whereas the cost by train or truck in 1969 was only 5 cents per pound.

Prices of shellfish are generally higher than that for finfish products on a meat weight basis. Profits tended to vary less among shellfish than among finfish. Except for canned tuna and frozen haddock, finfish profits were somewhat higher than shellfish.

CONCLUSION

We are now in a position to make some general conclusions concerning the degree to which marketing costs have contributed to increases in retail fish prices. The trend of marketing charges

Table 9

over time by product analyzed when prices are adjusted to the dollar value of 1957-59 is shown in table 9. The classifications are somewhat subjective; but, taken as a whole, they do show certain patterns.

The striking feature of the table is the relative frequency of increasing trends at the fisherman's level compared to others. Only in the case of blue crab did fisherman's share decline over time. A greater percent of processors showed an upward trend in markups than wholesalers, and there were no cases of increasing markups at the retail level. Quite the reverse, more than half the products registered a declining level of markups at the retail level. When comparing within products it is reasonable to conclude that marketing charges for fish products are declining through time, and therefore price increases are due to other factors, such as increasing demand or declining supply. This does not show, however, whether efficiency of fish marketing could be improved.

The fact that the retail margin was 26.6% for canned pink salmon and 12.4% for fresh haddock fillets in 1969 (columns 1 and 11, table 8), to take two diverse cases, reveals nothing about the comparative efficiency of the marketing systems for the two products. The quantity of supply, perishability of the product, the manner in which the product is packed and shipped, the distance traveled, competition from imports, the degree of processing, demand by the consumer, and the level of price are different for the two products.

Table 9 .--Trends in fisherman's share and marketing markups over period analyzed

Product	Fisherman's share	Markup		
		Processors	Wholesalers	Retailers
Fresh haddock	i	n.t.	n.t.	s.d.
Frozen haddock	i	d.	n.t.	s.d.
Flounder	n.t.	s.i.	i	n.t.
Cod	n.t.	n.t.	i	d
Ocean perch	n.t.	n.t.	n.t.	n.t.
Halibut	i	n.t.	i	s.d.
Fresh king salmon	--	i	n.t.	--
Canned pink salmon	n.t.	n.t.	n.t.	n.t.
Canned chunk tuna	i	n.t.	n.t.	s.d.
Frozen shrimp	s.i.	n.t.	n.t.	s.d.
Blue crab meat	d	s.i.	n.t.	n.t.
Scallop meats	s.i.	--	n.t.	d
Northern lobsters	s.i.	--	s.d.	s.d.
Oyster meats	n.t.	n.t.	n.t.	n.t.

Notations:

- i = increasing trend
- s.i. = significantly increasing trend
- d = decreasing trend
- s.d. = significantly decreasing trend
- n.t. = no trend

Dividing each price spread into margins at different functional levels and breaking each margin down into component costs and profits to examine them in depth is the first step toward evaluating the comparative efficiency of the marketing system.

Over half of the margin at the harvesting level is labor cost. Wage rates have been increasing faster than most costs (figure 15), and this trend is likely to continue. The slow recruitment of resources of certain species and the lagging of harvesting efficiency will further accelerate the increase in ex-vessel prices or fishermen's margin compared to other levels.

Component costs at the wholesale level are mostly administrative. Margins at this level will increase much slower than at the ex-vessel level, although their prices will increase according to the purchase cost.

Processor's costs are comparatively less committed to labor than the fishing vessels, but more than at the wholesale and retail levels. Its margin tends to rise at a pace between the rates of increase in wholesale and ex-vessel prices.

At the retail level, observations made at the variation of margin for different products have born out the expectation that:

1. Margins vary inversely with turnover. Items like canned tuna with relatively large sales volume carried a low markup while the relatively low-volume items such as canned salmon carried a higher markup. Higher turnover lowers fixed costs per unit, and, therefore, prices.

2. Margins vary inversely with unit price. More costly items carry lower percentage markups than less expensive items. Haddock and flounder fillets, and halibut and king salmon steaks, are higher priced products with lower margins compared with other packaged fish products.

3. Retail margins are higher on manufacturers' brands than on private brands. Each store attempts to promote its own brands by price appeal to shift patronage from manufacturer's brands. This is particularly true with canned products.^{11/}

4. Margins vary inversely with the amount of imports of identical products. Much of the difference in retail margin between canned salmon (with no imports) and canned tuna (of which 62% was imported in 1969) can be attributed to this factor.

When price spreads of different periods are compared, the year-to-year changes are ascribed to any or all of the following four factors: (1) the cost of the production factors, (2) the different profits made by processors and dealers, (3) the degree of processing and the extent of services, and (4) the efficiency of the marketing system. Precise measurement of the last two factors is not possible at present as there exists a paucity of sources for detailed data and information. Marketing agencies at each level will

^{11/}While the information necessary to fully document this conclusion was not available for the study, this is shown in the price difference between advertised brands and the private labels of canned tuna. The price of the former was 26.6% higher than that of the latter in 1969.

be able to identify whether there is room for improvement in their performances by examining the magnitude of their margins and component costs and comparing it with those of other levels.

RECOMMENDATIONS

1. Continuous Price Spread Studies--Since the creation of the Joint Commission of Agricultural Inquiry by Congress in the early 1930's to investigate the cause of the difference between the prices of agricultural products paid to the producer and the ultimate costs to the consumer, the U.S. Department of Agriculture has been publishing the quarterly price spreads of different farm products. Price spreads between the fisherman and the consumer have only recently begun to attract the attention of the public. To serve the interest of the public a continuous inquiry into the subject matter as attempted by this report appears to be necessary.

2. Primary Data on Marketing--To make a more accurate study of price margins by functional levels, a field survey of the processing procedures and distributing practices for some of the major fish products in important areas will be necessary for marketing research.

Over a period of time, marketing services and distribution channels change. As a result, some of the marketing services have improved; some channels are combined and others separated. Difficulties arise when one attempts to delineate clearly where fish harvesting leaves off and marketing begins. Some fishery firms are

vertically integrated from fishing, processing to distribution; some wholesalers are engaged in processing or repacking, or part of each. Commissions and transportation costs are assumed either by processors or wholesalers depending on the kind of agreement entered into or the practices in a certain area. Furthermore, no data regarding by-products from fish processing are available. If they are utilized their value should be included.

3. Detailed Marketing Cost Studies--Transportation costs in the distribution system of fish products are not available and therefore not shown separately in this study. The evaluation of the services done by this sector of the economy to the fishery is not presented in the study. Transportation costs have to be compiled, transaction by transaction, from the truck and railroad companies' shipping consignment copies collected from various States by the Interstate Commerce Commission. The Marketing Development Research Division of the U.S. Department of Agriculture has a special section which concentrates on food transportation studies.

Costs at the production and distribution levels of the fishing industry are not presented in detail nor are they weighted according to the importance of each. To embark on a more accurate analysis, special arrangements should be made with the Bureau of Census and the Internal Revenue Service to use their primary printouts and work sheets to look into detailed breakdowns of costs items.

4. Correction and Extension of Statistical Series--BLS's purpose in collecting prices is to measure change in prices (to compile price indexes) rather than their absolute values. The same is true with the New York State Marketing Service in collecting retail fish prices. The latter collects prices on Mondays and Tuesdays, but special sales are mostly offered on Fridays and Saturdays. The quantity sold at reduced prices may be much greater than that sold at regular prices. Neither BLS nor the New York State Marketing Information Service weight prices of fish according to volume sold. The reported prices are, therefore, overestimated. To measure the discrepancy, spot surveys would be necessary to establish a ratio or factor for corrections.

If these studies are to be carried out, fresh fish price series at wholesale and retail levels should eventually be established by the Division of Statistics and Market News in cooperation with marketing service offices of different State Governments. More attention should be given to obtaining fresh fish prices, since a larger share of domestic catch is marketed in that form. The vast majority of foreign-caught fish is sold either frozen or canned.

Based on complete price statistics of both fresh and frozen products, price spreads and profit margins could be derived and published to keep fishermen, packers, distributors, and retailers

informed of the profitability of marketed fresh fish products. It serves to encourage fishermen to adjust production and distributors to make timely alterations and improvements in shipping and packaging to minimize losses or take advantage of favorable prices.

Appendix Tables

Table 10.--Number and sales of food stores and eating places in the United States, 1963 and 1967

	1963		1967		Percent change in	
	Establishment Number	Sales or value of food consumed Mill. Dollars	Establishment Number	Sales or value of food consumed Mill. Dollars	Number of establishments %	Sales
Food stores	319,433	52,566.0	294,343	70,251.3	- 7.86	33.6
Fish Markets	3,630	176.0	1,798	177.8	- 50.47	
Grocery Stores	244,838	52,566.0	218,130	65,073.7	- 10.91	23.0
Eating places	223,876	13,919.0	236,563	18,878.7	5.67	35.6
Total	543,309	76,000.0	530,806	89,130.1	- 2.30	17.3

Source: Compiled from Census of Business, Retail Trade, Bureau of the Census, Department of Commerce.

Table 11--Percentage distribution of numbers of grocery stores and sales, by annual sales size, Census years, 1929-1967

Annual sales	Percent of total stores						Percent of total sales					
	1929	1939	1949	1958	1963	1967	1929	1939	1948	1958	1963	1967
Under 50,000	87.1	91.5	66.1	53.5	46.7	38.53	53.0	53.6	18.5	7.5	6.9	3.10
50,000-299,999	12.7	8.2	29.8	35.0	37.7	42.06	43.1	37.3	43.4	23.5	19.3	16.02
300,000-999,999	.2	.3	3.5	7.2	9.1	10.30	2.7	8.0	26.2	23.5	23.2	19.62
1,000,000 & over	(1)	(1)	.6	4.3	6.5	9.11	1.2	1.1	11.9	45.5	52.7	61.26
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) Less than .05 percent

Source: Compiled from Census of Business, Retail Trade, Bureau of the Census, Department of Commerce.

Table 12--Fresh haddock fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel	Pro- cessing	Whole- sale	Retail		Processors ^{2/}	Salers ^{3/}	Retailers ^{4/}
	cents				percent	percent		
1950	24.50	38.28	43.53	N.A.	--	35.99	12.06	--
1951	22.88	37.89	43.61	N.A.	--	39.61	13.11	--
1952	23.47	37.90	43.40	N.A.	--	38.07	12.67	--
1953	23.23	38.95	44.95	66.85	34.75	40.35	13.34	32.76
1954	19.81	36.79	43.26	64.10	30.91	46.15	14.95	32.51
1955	18.34	35.92	42.62	63.02	29.00	48.94	15.72	32.37
1956	18.65	36.44	43.26	63.46	29.39	48.81	15.76	31.83
1957	21.97	40.19	47.17	62.05	35.41	45.33	14.79	23.98
1958	27.85	46.13	53.13	62.66	44.45	39.62	13.17	15.21
1959	27.51	46.04	53.14	64.83	42.43	40.24	13.36	18.03
1960	22.40	39.76	46.25	65.08	34.42	43.66	14.03	28.93
1961	21.06	36.12	42.10	63.15	33.36	41.69	14.20	33.33
1962	23.02	41.92	49.86	64.52	35.63	45.08	15.92	22.72
1963	26.82	45.45	53.67	65.42	41.00	40.99	15.31	17.96
1964	25.15	41.39	50.14	64.02	39.29	39.23	17.45	21.68
1965	28.30	44.82	51.56	69.25	40.86	36.85	13.07	25.55
1966	28.38	44.52	51.21	68.79	41.26	36.25	13.06	25.56
1967	30.25	47.87	54.96	68.96	43.87	36.80	12.90	20.30
1968	32.89	56.65	66.21	73.67	44.64	41.94	14.43	10.13
1969	42.02	60.90	68.50	73.77	56.97	31.00	11.09	7.14

^{1/} See sections on data collection and price adjustment in the Introduction.

^{2/} The margin between processing and ex vessel prices is expressed as a percentage of the processing price, representing processors' gross profit in percentage of their total sales value.

^{3/} The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesalers' gross profit in percentage of their total sales value.

^{4/} The margin between retail and wholesale prices is expressed as a percentage of the retail price. Each figure is equivalent to the gross profit of retailers in percentage of their total sales value.

Table 13 --Frozen haddock fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel :	Pro- cessing :	Whole- sale :	Retail :		Processors ^{2/}	Wholesale ^{2/} salers ^{2/}	Retailers ^{4/}
	Cents				percent	percent		
1950	24.50	35.52	39.72	N.A.	--	31.02	10.57	--
1951	22.88	32.27	35.85	N.A.	--	29.09	9.98	--
1952	23.47	34.05	38.09	54.80	42.83	31.07	7.37	30.49
1953	23.23	31.77	35.03	52.70	44.08	26.88	9.30	33.53
1954	19.81	34.28	39.80	52.90	37.45	42.21	13.86	24.76
1955	18.34	33.67	39.51	50.00	36.68	45.53	14.78	20.93
1956	18.65	33.67	39.42	47.90	38.94	44.60	14.58	17.70
1957	21.97	35.30	40.40	47.30	46.45	37.76	12.62	14.59
1958	27.85	41.88	47.25	55.10	50.54	33.50	11.36	14.25
1959	27.51	39.93	44.69	57.50	47.84	31.10	10.65	22.28
1960	22.40	34.27	38.70	54.00	41.48	34.63	11.44	28.33
1961	21.06	36.98	43.30	52.60	40.04	43.05	14.59	17.68
1962	23.02	37.86	44.10	52.60	43.76	39.19	14.14	16.16
1963	26.82	40.40	46.39	53.90	49.76	33.61	12.91	13.93
1964	25.15	39.49	47.21	55.90	44.99	36.31	16.35	15.55
1965	28.30	41.90	47.46	56.50	50.09	32.45	11.71	16.00
1966	28.38	41.71	47.24	58.50	48.51	31.95	11.70	19.25
1967	30.25	40.61	44.78	58.00	52.16	25.51	9.31	22.79
1968	32.89	44.55	49.28	56.10	58.63	26.22	9.53	12.16
1969	42.02	52.19	56.28	58.00	72.45	19.43	7.26	2.98

1/ 2/ 3/ and 4/ See footnotes in table 12.

Table 14.--Fresh Flounder Fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel	Pro- cessing	Whole- sale	Retail		Processors ^{2/}	Whole- salers ^{3/}	Retailers ^{4/}
	Cents				percent	percent		
1950	38.67	51.33	56.16	85.32	45.33	24.66	8.65	34.18
1951	42.02	59.97	66.82	88.73	47.36	29.93	10.25	24.69
1952	43.39	60.26	66.69	86.92	49.92	27.99	9.64	23.27
1953	41.03	56.53	62.44	89.27	45.96	27.41	9.46	30.06
1954	40.10	52.58	57.34	87.18	46.00	23.73	8.30	34.23
1955	41.32	53.43	58.05	88.80	46.96	22.66	7.95	34.63
1956	39.48	52.44	57.40	89.86	43.94	24.71	8.64	36.12
1957	38.06	54.31	60.51	88.98	42.77	29.92	10.24	32.00
1958	36.41	52.11	58.12	86.79	41.95	30.12	10.34	33.03
1959	38.69	54.38	60.39	87.59	44.18	28.85	9.95	31.05
1960	37.20	54.24	60.61	87.10	42.71	31.41	10.50	30.41
1961	33.32	44.19	48.50	84.65	39.36	24.59	8.88	42.71
1962	30.99	49.78	57.68	81.88	37.84	37.74	13.69	29.56
1963	27.33	49.17	58.80	84.44	32.36	44.41	16.37	30.37
1964	26.14	42.14	50.76	87.88	29.74	37.96	16.98	42.24
1965	30.75	46.43	52.84	90.08	34.14	33.77	12.13	41.34
1966	35.88	50.06	55.94	87.98	40.79	28.32	10.51	36.42
1967	33.40	53.19	61.15	83.32	40.09	37.20	13.01	26.61
1968	34.22	52.65	60.07	84.55	40.47	35.00	12.35	28.95
1969	36.68	69.11	82.14	89.35	41.00	46.99	15.86	8.07

^{1/} ^{2/} ^{3/} and ^{4/} See footnotes in table 12.

Table 15.--Fresh cod fillets: Prices at four market levels, fisherman's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel ^{1/}	Pro- cessing ^{2/}	Whole sale ^{3/}	Retail ^{4/}		Processors ^{2/}	Whole- salers ^{3/}	Retailers ^{4/}
	Cents				percent	percent		
1950	27.96	N.A.	N.A.	66.73	34.40	--	--	--
1951	23.71	N.A.	N.A.	65.37	36.26	--	--	--
1952	24.26	N.A.	N.A.	67.07	39.10	--	--	--
1953	22.67	N.A.	N.A.	64.76	35.00	--	--	--
1954	20.17	N.A.	N.A.	63.33	31.85	--	--	--
1955	20.58	36.24	41.07	63.02	32.65	43.21	11.76	34.83
1956	20.77	35.08	40.57	64.75	32.08	40.79	13.53	37.34
1957	20.37	36.96	43.31	63.31	32.18	44.88	14.66	31.59
1958	23.11	38.02	43.73	64.71	35.78	39.21	13.05	32.42
1959	22.45	40.09	46.87	63.84	35.09	44.12	14.46	26.58
1960	20.92	38.71	45.36	64.02	32.67	45.95	14.66	29.15
1961	20.22	32.02	38.10	64.15	31.52	38.76	13.33	40.61
1962	21.03	38.76	46.22	62.05	33.89	45.74	16.14	25.51
1963	23.16	38.90	45.84	64.95	35.66	40.46	15.13	29.42
1964	21.22	34.66	41.90	63.37	33.49	38.77	17.27	33.88
1965	24.56	39.51	45.62	67.70	36.28	37.83	13.39	32.61
1966	25.36	39.45	45.29	68.35	37.11	35.71	12.89	33.74
1967	21.89	39.86	47.09	64.75	32.08	45.08	15.35	27.27
1968	20.90	43.72	52.91	63.69	30.43	52.19	17.36	22.97
1969	23.06	44.39	52.98	69.15	33.35	48.05	16.21	23.38

1/ 2/ 3/ and 4/ See footnotes in table 12.

Table 16.--Frozen ocean perch fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel	Pro- cessing	Whole- sale	Retail		Processors ^{2/}	Whole- salers ^{3/}	Retailers ^{4/}
	-----Cents-----				percent	-----percent-----		
1950	16.89	28.99	33.60	N.A.	--	41.73	13.72	--
1951	16.81	29.40	34.20	N.A.	--	42.82	14.03	--
1952	15.46	28.38	33.30	49.62	31.15	45.52	14.77	32.89
1953	14.01	27.04	32.00	47.21	29.67	48.18	15.50	32.22
1954	14.57	31.90	38.50	46.90	31.06	54.32	17.14	17.91
1955	13.74	30.72	37.20	47.05	29.19	55.27	17.41	20.94
1956	13.13	30.32	36.90	44.35	29.60	56.69	17.83	16.80
1957	12.86	29.74	36.20	43.78	29.43	56.75	17.84	17.31
1958	14.01	30.85	37.30	45.28	30.93	54.58	17.29	17.62
1959	13.86	29.94	36.10	46.80	29.62	53.70	17.06	22.86
1960	13.97	29.79	35.70	45.98	30.38	53.10	16.55	22.36
1961	13.13	30.51	37.40	45.59	28.80	56.96	18.42	17.96
1962	14.20	32.29	39.90	47.44	29.93	56.02	19.07	15.89
1963	15.93	33.68	41.50	49.30	32.30	52.70	18.84	15.82
1964	14.39	30.13	38.60	48.84	29.47	52.24	21.94	20.97
1965	13.73	31.03	38.10	47.95	28.64	55.75	18.55	20.54
1966	15.66	31.45	38.00	47.83	32.74	50.20	17.23	20.55
1967	12.31	28.35	34.80	46.52	26.47	56.57	18.53	25.19
1968	11.97	26.89	32.90	45.10	26.53	55.48	18.26	27.05
1969	12.65	28.37	34.70	43.62	29.09	55.41	18.24	20.45

1/ 2/ 3/ and 4/ See footnotes in table 12.

Table 17.--Halibut steaks, fresh and frozen: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fishermen's share of retail price	Markups		
	For-vessel	Pro-cessing	Whole-sale	Retail		Processors ^{2/}	Whole-salers ^{3/}	Retailers ^{4/}
	Cents				percent	percent		
1950	33.34	50.06	56.43	N.A.	--	33.39	11.28	--
1951	26.63	40.83	46.25	N.A.	--	34.77	11.71	--
1952	29.03	46.15	52.68	N.A.	--	37.09	12.39	--
1953	23.53	39.10	45.04	N.A.	--	39.82	13.18	--
1954	26.54	41.19	46.78	N.A.	--	35.56	11.94	--
1955	20.14	35.06	40.75	N.A.	--	42.55	13.96	--
1956	29.97	45.62	51.61	N.A.	--	34.30	11.60	--
1957	24.22	39.47	45.31	N.A.	--	38.63	12.83	--
1958	28.37	41.59	46.65	N.A.	--	31.73	10.84	--
1959	25.34	38.91	44.10	N.A.	--	34.87	11.76	--
1960	21.63	36.04	41.42	90.20	23.98	39.96	12.98	54.08
1961	28.05	41.27	46.51	92.99	30.17	32.03	11.26	49.98
1962	38.15	51.40	56.97	102.47	37.23	25.77	9.77	44.40
1963	26.82	44.21	51.83	103.09	26.02	39.33	14.78	49.68
1964	29.94	43.85	51.34	92.51	22.37	31.72	14.58	44.50
1965	39.52	53.15	53.71	105.55	37.44	25.62	9.47	44.38
1966	40.37	54.72	60.59	99.03	40.97	25.35	9.68	38.82
1967	27.01	45.03	52.28	77.39	34.91	40.01	13.86	32.45
1968	27.43	41.43	47.05	75.00	36.64	33.67	11.94	37.27
1969	30.19	54.35	64.03	77.21	39.10	44.45	15.18	17.01

1/ 2/ 3/ and 4/ See footnotes in table 12.

Table 18.--Fresh king salmon steak: Prices at four market levels, fisherman's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel	Pro- cessing	Whole- sale	Retail		Processors ^{2/}	Whole- salers ^{3/}	Retailers ^{4/}
	-----Cents-----				percent	-----percent-----		
1967	47.96	83.80	98.22	110.05	43.58	42.76	14.68	10.75
1968	53.38	91.06	106.22	132.27	40.36	41.37	14.27	19.69
1969	50.74	98.93	116.33	141.43	35.38	48.71	16.39	16.33

^{1/} ^{2/} ^{3/} and ^{4/} See footnotes in table 12.

Table 19.--Fresh, dressed king salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel :	Pro- cessing :	Whole- sale :	Retail :		Processors ^{2/} :	Whole- salers ^{3/} :	Retailers ^{4/} :
	-----Cents-----				percent	-----percent-----		
1950	32.10	50.65	57.72	N.A.	--	36.62	12.24	--
1951	30.88	48.21	54.81	N.A.	--	35.94	12.04	--
1952	33.77	49.29	55.21	N.A.	--	31.48	10.72	--
1953	29.55	46.90	53.51	N.A.	--	36.99	12.35	--
1954	33.02	53.07	60.71	N.A.	--	37.78	12.58	--
1955	36.37	53.93	60.62	N.A.	--	32.56	11.03	--
1956	38.42	58.36	66.00	N.A.	--	34.16	11.57	--
1957	38.19	57.47	64.85	N.A.	--	33.54	11.38	--
1958	40.77	64.08	73.01	N.A.	--	36.37	12.23	--
1959	40.50	66.77	76.84	N.A.	--	39.34	13.10	--
1960	48.10	74.46	84.31	N.A.	--	35.40	11.68	--
1961	50.68	76.43	86.64	N.A.	--	33.69	11.78	--
1962	52.43	82.00	94.43	N.A.	--	36.06	13.16	--
1963	50.03	78.62	91.23	N.A.	--	36.36	13.82	--
1964	49.59	74.40	87.76	N.A.	--	33.34	15.22	--
1965	45.21	73.03	84.39	N.A.	--	38.09	13.46	--
1966	47.69	74.59	85.73	N.A.	--	36.06	12.99	--
1967	43.21	75.44	88.41	99.14	43.58	42.72	14.67	56.42
1968	48.03	81.93	95.58	119.16	40.31	41.37	14.28	59.69
1969	45.66	89.01	106.46	127.41	35.76	48.70	16.39	64.16

^{1/} ^{2/} ^{3/} and ^{4/} See footnotes in table 12.

Table 20.--Canned pink salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel :	Pro- cessing :	Whole- sale :	Retail		Processors ^{2/}	Whole- salers ^{3/}	Retailers ^{4/}
	-----Cents-----				percent	-----percent-----		
1950	15.17	35.52	44.00	56.80	26.71	57.29	19.27	22.54
1951	21.20	40.90	49.10	68.29	29.58	48.16	16.70	28.11
1952	16.67	35.68	43.60	60.43	27.59	53.27	18.16	27.81
1953	16.76	34.93	42.50	56.65	29.59	52.01	17.81	25.04
1954	15.76	34.64	42.50	55.66	28.31	54.50	18.49	23.70
1955	18.10	39.91	46.80	59.91	30.21	54.64	14.93	21.87
1956	16.13	41.19	49.10	63.67	25.33	60.84	16.10	22.92
1957	19.70	40.98	47.70	63.78	30.89	51.92	14.08	25.24
1958	15.27	39.08	46.60	62.36	24.49	60.92	16.13	25.32
1959	18.89	41.24	48.30	61.08	30.93	54.19	14.61	20.95
1960	21.52	44.88	52.30	64.31	33.46	52.04	14.18	18.66
1961	16.78	47.61	58.00	71.31	23.53	64.75	17.91	18.65
1962	23.53	48.08	56.80	72.58	32.42	51.06	15.35	21.76
1963	19.44	41.69	50.00	66.54	29.22	53.37	16.62	24.81
1964	17.58	36.83	45.60	62.16	28.28	52.26	19.23	26.69
1965	16.91	39.12	47.50	N.A.	--	56.77	17.64	--
1966	14.11	44.04	55.50	N.A.	--	67.96	20.64	--
1967	17.51	47.32	58.40	N.A.	--	62.99	18.97	--
1968	21.16	50.57	61.50	N.A.	--	58.15	17.77	--
1969	19.62	47.31	57.60	N.A.	--	58.52	17.86	--

^{1/} ^{2/} ^{3/} and ^{4/} See footnotes in table 12.

Table 21.--Canned tuna (chunk): Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-1969

Year	Price per pound, adjusted ^{1/}				Fisher- men's share of retail price	Markups		
	Ex- vessel :	Pro- cessing :	Whole- sale :	Retail :		Processors ^{2/} :	Whole- salers ^{3/} :	Retailers ^{4/} :
	-----Cents-----				percent	-----percent-----		
1950	36.23	66.78	79.50	N.A.	--	45.74	16.00	--
1951	31.14	57.30	68.20	N.A.	--	45.65	15.98	--
1952	32.74	60.32	71.80	N.A.	--	45.72	15.98	--
1953	33.46	63.99	76.70	100.86	33.17	47.71	16.57	23.95
1954	35.20	63.09	74.70	102.78	34.25	44.20	15.54	27.32
1955	31.46	58.46	69.70	96.79	32.50	46.18	16.12	27.99
1956	27.61	51.31	58.80	84.90	32.52	46.18	12.73	30.74
1957	25.85	50.59	58.40	80.61	32.07	48.90	13.37	27.55
1958	27.20	51.67	59.40	80.83	33.65	47.35	13.01	26.51
1959	26.01	48.35	55.40	80.20	32.44	46.20	12.72	30.92
1960	26.98	49.08	56.10	77.60	34.77	45.02	12.51	27.71
1961	25.78	49.66	57.70	76.49	33.71	48.08	13.93	24.57
1962	28.51	52.64	61.20	80.03	35.18	45.83	13.98	24.47
1963	24.40	48.57	57.60	77.51	31.49	49.76	15.67	25.69
1964	24.92	48.33	59.00	72.80	34.23	48.43	18.08	18.96
1965	24.99	48.96	58.00	71.61	34.90	48.95	15.58	19.01
1966	26.94	54.24	64.70	77.01	34.98	50.33	16.16	15.98
1967	24.32	50.84	60.70	73.86	32.93	52.16	16.24	17.82
1968	30.35	52.61	60.90	70.52	43.04	42.31	13.61	13.64
1969	30.93	53.22	61.50	67.50	45.83	41.88	13.46	8.89

^{1/} ^{2/} ^{3/} and ^{4/} See footnotes in table 12.

Table 22.--Frozen raw peeled shrimp: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-1969.

Year	Price per pound, adjusted <u>1/</u>				Fisher- men's share of retail price	Markups <u>6/</u>		
	Ex- vessel <u>2/</u> :	Pro- cessing <u>3/</u> :	Whole- sale <u>4/</u> :	Retail <u>5/</u> :		Processors	Whole- salers	Retailers
	-----cents/lb.-----				percent	-----percent-----		
1959	56.16	80.52	104.47	153.20	36.66	30.25	22.93	31.81
1960	62.86	85.20	102.28	150.44	41.79	26.22	16.69	32.01
1961	70.39	108.37	126.20	151.34	46.51	35.05	14.13	27.86
1962	86.78	122.37	147.12	176.47	49.18	29.08	16.82	16.63
1963	64.01	116.21	132.20	164.76	38.85	44.92	12.10	19.76
1964	71.54	113.63	122.39	149.86	47.74	37.04	7.16	18.33
1965	75.12	116.10	129.66	160.78	46.72	35.29	10.46	19.36
1966	89.79	125.71	155.20	173.39	51.79	28.57	19.00	10.49
1967	78.61	123.89	152.40	180.05	43.66	36.55	18.71	15.36
1968	89.79	132.57	167.16	172.67	52.00	32.27	20.69	3.20
1969	93.19	142.57	175.84	183.32	50.83	34.64	18.92	4.08

1/See sections on Data Collections and Price Adjustment in the text.

2/Weighted average for all shrimp landed in South Atlantic and Gulf States, converted from headless to peeled prices.

3/Weighted average of raw peeled shrimp processed in the Gulf region, Fishery Statistics of the U.S., Department of the Interior, 1959-69.

4/Frozen raw headless, New York City, converted to peeled prices.

5/Frozen raw headless at New York City, 1959-63; BLS 41- city average price from 1964 to present--converted to raw peeled price.

6/See footnotes for the markup columns in table 12.

Table 23.--Live northern lobsters: Prices at three market levels, fishermen's share at retail level and markups at two market levels, 1959-69.

Year	Price per pound adjusted 1/			Fishermen's share of retail price	Markups 5/	
	Ex-vessel 2/	Wholesale 3/	Retail 4/		Wholesalers	Retailers
	----- cents/lb. -----			- percent -	-----percent-----	
1959	49.80	86.48	100.49	49.56	42.41	13.94
1960	45.38	76.46	96.02	47.26	40.65	20.36
1961	53.04	85.74	112.28	47.24	38.14	23.64
1962	50.40	82.50	107.21	47.01	38.92	23.04
1963	55.23	85.74	102.16	54.07	35.58	16.07
1964	65.87	97.51	111.93	58.85	32.45	12.88
1965	73.37	117.07	133.76	54.85	37.33	12.48
1966	70.70	109.64	128.21	55.15	35.52	14.51
1967	77.76	119.70	129.84	59.89	35.04	7.78
1968	67.97	121.44	N.A.	--	44.85	--
1969	77.96	117.70	N.A.	--	33.76	--

1/See sections on Data Collection and Price Adjustment in the text.

2/Weighted average of landings in Maine.

3/Live, chicken size, New York City.

4/Live, chicken size, New York City.

5/See footnotes for markup columns in table 12.

Table 24.--Fresh sea scallops, shucked: Prices at three market levels, fishermen's share at retail level and markups at two market levels, 1959-69.

Year	Price per pound adjusted 1/			Fishermen's share of retail price	Markups 5/	
	Ex-vessel 2/	Wholesale 3/	Retail 4/		Wholesalers	Retailers
	----- cents/lb. -----			- percent -	----- percent -----	
1959	48.11	54.87	88.67	54.26	12.32	38.12
1960	34.66	41.41	75.65	45.81	16.31	48.26
1961	37.89	44.67	73.90	51.27	15.18	39.56
1962	40.46	46.82	74.00	54.68	13.59	36.73
1963	45.56	51.35	77.79	58.57	11.26	33.99
1964	54.33	61.29	89.73	60.55	11.36	31.69
1965	65.85	72.10	103.73	63.49	18.66	30.50
1966	46.50	61.63	85.76	54.22	24.54	28.15
1967	72.76	90.01	104.04	69.94	19.16	13.49
1968	102.94	116.01	164.45	62.60	11.26	29.46
1969	98.05	110.18	151.14	64.88	11.00	27.10

1/See sections on Data Collection and Price Adjustment in the introduction of the text.

2/New Bedford, Massachusetts, prices, shucked form.

3/Boston, Massachusetts, 5-pound package, raw. Wholesaler and processor are combined since scallop are landed shucked. Washing, sorting, and packing are done by the wholesaler.

4/Baltimore, Maryland.

5/See footnotes for the markup columns in table 12.

Table 25.--Fresh blue crab meat: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-1969.

Year	Price per pound, adjusted <u>1/</u>				Fisher- men's share of retail price	Markups <u>6/</u>		
	Ex- vessel <u>2/</u> :	Pro- cessing <u>3/</u> :	Whole- sale <u>4/</u> :	Retail <u>5/</u> :		Processors	Whole- salers	Retailers
	----- cents/lb. -----				percent	----- percent -----		
1959	53.98	96.93	104.87	136.45	39.56	44.31	7.57	23.15
1960	39.03	90.37	111.22	142.68	27.35	56.81	18.75	22.05
1961	34.20	81.04	85.74	115.26	29.67	55.80	5.48	25.61
1962	39.07	93.84	105.86	133.78	29.20	58.37	11.36	20.86
1963	41.97	100.40	115.45	153.89	27.28	58.19	13.04	24.98
1964	50.45	112.80	126.37	165.49	30.48	55.27	10.74	23.64
1965	52.98	122.85	125.46	165.06	32.10	56.87	2.08	23.99
1966	41.87	106.81	112.19	145.18	28.84	60.49	4.80	22.72
1967	39.02	119.50	122.71	154.94	25.18	67.35	2.62	20.80
1968	72.95	143.10	183.99	240.28	30.36	49.02	22.23	23.43
1969	58.14	149.10	181.50	242.83	23.94	63.70	11.75	25.26

1/See sections on Data Collections and price Adjustment in the text.

2/Chesapeake Bay hard crab prices from live weight to meat weight basis.

3/Processed Fishery Products, Chesapeake Bay Fisheries, Fishery Statistics of the U.S., Department of the Interior, 1959-1969.

4/Weighted average of regular, lump and claw meats from Hampton, Virginia, Market News Annual Report, Bureau of Commercial Fisheries, Department of the Interior, 1959-69.

5/Adjusted weighted average prices for fresh, regular, lump, and claw meats in Baltimore, Maryland.

6/See footnotes for the markup columns in table 12.

Table 26.--Fresh oyster meats: Prices at four market levels, fisherman's share at retail level and markups at three market levels, 1959-1969

Year	Price per pound, adjusted <u>1/</u>				Fisher- men's share of retail price percent	Markups <u>6/</u>		
	Ex- vessel <u>2/</u>	Pro- cessing <u>3/</u>	Whole- sale <u>4/</u>	Retail <u>5/</u>		Processors	Whole- salers	Retailers
	cents/lb. - - - -					percent - - - -		
1959	45.33	69.48	78.93	104.83	43.24	34.76	11.97	24.71
1960	48.36	86.00	89.97	126.38	38.27	43.76	4.42	28.81
1961	53.14	90.03	97.61	134.07	39.64	40.98	7.76	27.20
1962	51.69	91.95	98.51	126.19	40.96	43.78	6.66	21.93
1963	46.26	92.52	102.19	129.62	35.69	50.00	9.46	21.16
1964	45.87	88.96	93.03	123.03	37.28	48.43	4.39	24.38
1965	49.76	91.41	94.05	121.02	41.11	45.57	2.80	22.29
1966	50.47	86.20	101.32	132.89	37.98	41.45	14.93	23.76
1967	50.71	85.96	92.55	125.80	40.31	41.01	7.13	26.43
1968	49.31	89.79	94.85	129.24	38.16	45.08	5.34	26.61
1969	48.05	89.11	96.64	131.25	36.61	46.08	7.79	26.37

1/ See sections on Data Collection and Price Adjustment in the text.

2/ Weighted average prices of oysters landed in Maryland and Virginia at Chesapeake Bay.

3/ Converted to per pound basis from price per gallon shucked in Virginia.

4/ Prices of fresh meat quoted in Norfolk, Virginia.

5/ Prices in Baltimore, Maryland, for 12 oz. pack fresh meat, converted to 1-lb. basis.

6/ See footnotes for markup columns in table 12.

Table 27.--Price indices of inputs used by food and fish product marketing firms (1957-1959=100)

Year	Hourly Wage 1/			Rent 1/	Electric Power Rates 2/	Gas Fuel 2/	Tires and Tubes 2/	Materials for Food Manufacturing
	Food Wholesale	Frozen Food Processing	Food Retail					
1958	100.0	97.0	100.0	100.1	100.0	100.0	100.0	102.0
1959	104.2	99.4	100.0	101.6	100.8	110.9	98.0	98.3
1960	107.4	108.3	105.5	103.1	101.9	116.6	94.2	99.5
1961	110.5	111.2	109.8	104.4	102.4	118.7	92.4	102.6
1962	114.2	115.4	114.1	105.7	102.8	119.2	87.1	100.5
1963	117.9	118.9	118.4	106.8	102.0	122.8	90.1	105.5
1964	120.6	120.7	123.3	107.8	101.1	121.3	89.0	104.0
1965	124.8	123.1	128.2	108.9	100.8	124.1	90.0	106.6
1966	131.7	129.0	132.5	110.4	100.3	129.3	93.3	111.3
1967	140.7	136.1	136.8	112.4	100.7	133.7	96.0	109.2
1968	150.2	146.2	146.0	114.9	101.6	123.9	98.7	110.6
1969	158.7	155.0	155.8	118.6	102.7	124.5	98.2	116.6

Table 27.--Price indices of inputs used by food and fish product marketing firms (1957-1959=100) (continued)

Year	Motor Vehicles and Equipment <u>2/</u>	Paper Pulp, and Allied Products <u>3/</u>	Machinery and Motive Product <u>3/</u>	T.V. Advertising Cost for Food Products <u>4/</u>	Magazine Advertising Cost for Food Products <u>4/</u>
1958	100.3	100.1	100.1		
1959	102.5	101.0	102.2	100.0	100.0
1960	101.0	101.8	102.4	102.8	112.5
1961	100.8	98.8	102.3	349.5	117.2
1962	100.8	100.0	102.3	376.2	121.8
1963	100.0	99.2	102.2	454.3	119.5
1964	105.0	99.0	102.9	1995.2	1549.4
1965	100.7	99.9	105.0	2236.2	1539.1
1966	100.8	102.6	108.2	2609.5	1441.4
1967	102.2	103.8	111.8	2921.9	1334.5
1968	105.1	104.9	115.4	2793.3	1221.8
1969	107.0	108.2	119.0	2994.3	1166.7

1/ Employment and Earnings Statistics, 1958-1969, Bureau of Labor Statistics

2/ Survey of Current Business, Department of Commerce.

3/ Economic Almanac, 1968-1969, National Industrial Conference Board, Inc.

4/ Survey of Current Business. Figures are calculated from the amount spent in advertising. The rates of advertising charges are not available. Therefore, figures in these two columns can not be considered as price indices.

Table 28.--Gross profit and costs, as percentage of sales, for retail grocery stores, by form of organization, 1963-67.

	Business Receipts	Cost of Sales	Gross Profit	Materials & Supplies	Other Costs	Capital Costs	Labor	Operating Expenses	Net Prof
-----Percent-----									
<u>Corporations</u>									
1963	100%	78.9	21.1	.3	.5	2.6	1.0	15.2	1.
1964	100%	78.5	21.5	.3	.5	2.6	.9	15.5	1.
1965	100%	78.8	21.2	.2	.4	2.7	.9	15.4	1.
1966	100%	78.5	21.5	.3	.4	2.7	.9	15.8	1.
1967	100%	78.6	21.4	.3	.4	2.7	.9	15.6	1.
<u>Partnerships</u>									
1963	100%	80.7	19.3	.3	.6	2.0	.6	11.0	4.
1964	100%	79.3	20.7	.3	.5	2.1	.7	11.9	5.
1965	100%	79.2	20.8	.4	.5	2.0	.6	12.1	5.
1966	100%	79.8	20.2	.4	.5	1.9	.6	11.7	5.
1967	100%	79.2	20.8	.4	.5	2.1	.8	11.5	5.
<u>Proprietorships</u>									
1963	100%	81.8	18.2	.3	1.0	2.4	.6	9.2	4.
1964	100%	80.7	19.3	.3	1.2	2.6	.6	9.6	5.
1965	100%	80.9	19.1	.2	.2	2.6	.6	10.6	4.
1966	100%	81.8	18.2	.3	.4	2.5	.5	9.5	5.
1967	100%	81.3	18.7	.3	.4	2.4	.5	10.4	4.

Source: Compiled from the income statements prepared by the Internal Revenue Service.

Table 29.--Gross profit and costs, as percentage of sales, for wholesale groceries and related products, 1957-58 to 1967.

Period	receipts	Costs of sales	Gross profit	Materials & supplies	Other costs	Capital costs	Labor	Operating expenses	Net profit
----- Percent -----									
1957-58	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3.2
1958-59	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3.3
1959-60	100%	81.7	17.3	3.5	3.0	1.5	1.3	7.1	.9
1960-61	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.1
1961-62	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.5
79 1962-63	100%	79.4	20.6	.9	3.3	1.5	1.0	9.2	4.7
1963-64	100%	78.4	21.6	1.3	2.1	1.5	1.0	11.2	4.5
1964-65	100%	73.6	26.4	.7	6.1	1.5	1.1	12.5	4.5
1965	100%	80.1	19.9	2.0	1.7	1.4	1.0	9.9	3.9
1966	100%	79.8	20.2	.6	1.9	1.7	.8	10.4	4.8
1967	100%	80.4	19.6	1.8	1.1	1.8	1.2	8.9	4.8

Source: Compiled from the income statements prepared by the Internal Revenue Service for sole proprietorships.

Table 30.--Gross profit and costs, as percentage of sales, for food and kindred product processing,
1957-58 to 1967

Period	Business Receipts	Cost of Sales	Gross Profit	Materials & Supplies	Other Costs	Capital Costs	Labor	Operating Expenses	Net Profit
----- percent -----									
1957-58	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.4
1958-59	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.4
1959-60	100%	63.7	36.3	4.7	2.6	3.0	2.8	18.1	5.1
1960-61	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	5.8
1961-62	100%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	6.3
1962-63	100%	64.4	35.6	3.1	1.5	3.0	3.7	19.5	4.8
1963-64	100%	57.0	43.0	7.6	3.0	3.5	4.7	19.2	5.0
1964-65	100%	61.3	38.7	2.6	4.2	3.2	4.0	19.4	5.3
1965	100%	58.9	41.1	5.4	3.2	3.4	5.9	17.9	5.3
1966	100%	66.7	33.3	1.9	2.5	3.2	2.5	17.7	5.5
1967	100%	63.4	36.6	6.0	1.8	3.3	4.1	16.1	5.3

Source: Compiled from the income statements prepared by the Internal Revenue Service for sole proprietorships.

Table 31. --Comparative income statements of canned and cured seafood processing plants for 1954, 1958, 1963, and 1967.

	1954		1958		1963		1967	
	\$ mil.	per- cent	\$ mil.	per- cent	\$ mil.	per- cent	\$ mil.	per- cent
Total sales (inc.resales)	273.9	100.0	325.1	100.0	452.5	100.0	523.1	100.0
Value of resales	30.3	11.1	19.7	6.1	44.8	9.9	83.3	15.9
Cost of sales	160.2	58.5	146.9	45.2	190.3	42.1	247.6	47.3
Finfish round	114.5	41.8	115.2	35.4	126.9	28.0	137.6	26.3
Shellfish	18.6	6.8	14.8	4.6	23.1	5.1	37.2	7.1
Cost of resales	27.1	9.9	16.9	5.2	40.2	8.9	72.8	13.9
Gross profit	113.7	41.5	178.2	54.8	262.2	57.9	275.5	52.7
Material costs	32.7	11.9	77.9	24.0	87.5	19.3	94.5	18.1
Wages	34.8	12.7	37.4	11.5	52.6	11.6	54.8	10.5
Capital costs								
Operating expenses	46.1	16.8	62.8	19.3	122.0	27.0	126.2	24.1
Net profit								

Source: Compiled from Industry Statistics of the Census of Manufactures, U.S. Dept. of Commerce

Table 32.--Comparative income statements of packaged seafood processing plants
for 1954, 1958, 1963, and 1967

	1954		1958		1963		1967	
	\$ mil.	per- cent	\$ mil.	per- cent	\$ mil.	per- cent	\$ mil.	per- cent
Total sales (inc. resales)	164.6	100.0	307.4	100.0	391.2	100.0	557.4	100.0
Value of Resales	12.1	7.4	24.7	8.0	29.1	7.5	37.9	6.8
Cost of sales:	90.0	54.7	168.3	54.8	199.3	50.9	285.8	51.3
Finfish round	39.3	23.9	68.0	22.1	86.2	22.0	102.8	18.4
Shellfish	40.1	24.4	79.6	25.9	88.0	22.5	155.5	27.9
Cost of resales	10.5	6.4	20.7	6.8	25.1	6.4	27.5	5.0
Gross profit	74.7	45.4	139.1	45.2	191.9	49.1	271.6	48.7
Material costs	29.0	17.6	56.7	18.5	73.5	18.8	106.7	19.1
Wages	21.5	13.0	31.9	10.4	44.6	11.4	60.0	10.8
Capital costs								
Operating expenses	24.2	14.8	50.5	16.4	73.9	18.9	104.9	18.8
Net profit								

Source: Compiled from Industry Statistics of the Census of Manufactures, U.S. Department of Commerce.

Table 33.--Costs and profit on percentages of net sales of restaurants collected by different agencies at different years

	Eating & drinking places <u>1/</u> (1967)	Restaurants small size <u>2/</u> (1960-61)	Restaurants medium size <u>3/</u> (1963)	Average
Net sales	100%	100%	100%	100%
Cost of sales	55.48	51.33	42.45	49.75
Gross profit	44.52	48.67	57.55	50.25
Material costs	3.99	2.43	3.00	3.14
Labor	12.74	21.22	25.28	19.75
Capital costs	8.07	6.71	8.15	7.64
Operating expenses	10.60	9.44	12.10	10.71
Net profit before tax	9.12	8.87	9.02	9.00

1/ Business Income Tax Return Statistics, 1967, Internal Revenue Service.

2/ Barometer of Small Business: for restaurants grossing \$25,000 to \$100,000 annually.

3/ National Restaurant Association for restaurants grossing \$300,000 to \$500,000 annually.

Table 34.---Net profit before taxes as percentage of sales at three market levels of food products in general in the United States, 1953-54 to 1966

Period	Processor	Wholesaler	Retailer
	-----Percent-----		
1953-54	3.5	N.A.	2.1
1954-55	3.3	N.A.	2.0
1955-56	3.9	N.A.	2.0
1956-57	3.7	N.A.	2.1
1957-58	3.4	N.A.	2.0
1958-59	3.3	.8	1.9
1959-60	3.4	.9	1.8
1960-61	3.3	.8	1.7
1961-62 <u>1/</u>	4.1	1.4	2.0
1962-63	N.A.	N.A.	N.A.
1963-64	4.0	.7	2.7
1964-65	3.9	.9	1.7
1965	4.0	.9	1.5
1966	4.0	1.0	1.8
1967	4.1	1.0	1.6

1/ Corporations that incurred losses were not included in this year's report.

Source: Compiled from Business Income Tax Return Statistics for corporations (proprietorships and partnerships are excluded), Internal Revenue Service, Department of the Treasury.

Table 35--Costs and profit, as percentage of net sales, for each type of fish processing plant compared with food processing in general, 1967

	Fresh & frozen packaged fish 1/	Canned & cured seafoods 1/	Groundfish filleting fishery 2/	Average	Food Processing: food and kindred products 1/
Net sales	100.0	100.0	100.0	100.0	100.0
Cost of sales	51.3	47.3	66.3	55.0	63.4
Gross profit	48.7	52.7	33.7	45.0	36.6
Material costs	19.1	18.1	6.7	14.6	7.8
Labor	10.8	10.5	12.5	11.3	4.1
Capital costs	3.3 <u>4/</u>	5.1 <u>4/</u>	9.0	5.8	3.3
Operating expenses	11.5 <u>4/</u>	15.6 <u>4/</u>	6.4	11.2	16.1
Net profit before tax	4.0 <u>5/</u>	3.4 <u>5/</u>	-0.9	2.2	5.3

1/ Census of Manufactures (Including fin and shellfish) 1967, U.S. Department of Commerce.

2/ Groundfish: Fishing and Filleting, a special study of 23 firms in 1954, 55, 56, made by U.S. Tariff Commission.

3/ Business Income Tax Returns Statistics, 1967, Internal Revenue Service.

4/ Derived from the ratios of the 2 items in general food processing as reported by Internal Revenue Service, 1967.

5/ Derived from financial statements collected by Moody's on fishery product processors and canners, 1969.

Table 36.--Costs and profit as percentages of net sales of retail foodstores collected by different agencies at different years

	Groceries <u>1/</u> 1964	Food stores <u>2/</u> 1967	Super- market <u>3/</u> 1963	Average	Meat market <u>4/</u> 1964	Meat and fish market <u>2/</u> 1967	Average	Food stores in Portland, Mai. 1964-65 <u>5/</u>
	----- Percent -----							
Net sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cost of sales	83.18	81.90	80.25	81.78	79.23	79.08	79.15	64.33
Gross profit	16.82	18.10	19.75	18.22	20.77	20.92	20.85	35.67
Material costs	.51	.80	.80	.70	1.19	1.00	1.10	5.97
Labor	4.37	.60	1.25	4.12	7.04	7.00	7.02	7.40
Capital costs	2.34	2.60	3.34	2.76	2.35	2.75	2.55	2.00
Operating expenses	4.38	9.90	12.56	6.90	3.96	4.05	4.01	19.77
Net profit before tax	5.22	4.20	1.80	3.74	6.23	6.12	6.17	0.53

1/ For groceries with annual gross sales under \$200,000. 410 samples collected by the Barometer of Small Business, Accounting Corporation of America.

2/ Statistics of Income, 1967, Internal Revenue Service.

3/ For self-service food stores with annual gross sales above one million dollars. Nationwide samples collected by the Super Market Institute, Inc. 1963.

4/ Barometer of Small Business, Accounting Corporation of America.

5/ A special study of 15 stores in Portland, Maine, made by National Commission of Food Marketing and published in Food Retailing in 1966.

Table 37.--Fresh haddock fillets: Margin components by marketing functions, 1967-1969.

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	72.13	8.91	.37	.56	1.51	5.67	.81
Wholesaling	64.32	8.08	1.20	.49	.74	3.67	1.98
Processing	55.15	20.10	7.14	4.46	1.57	4.20	2.73
Harvesting	35.05	35.05	6.87	16.54	5.82	4.30	1.51
Total		72.13	15.58	22.04	9.64	17.84	7.03

Table 38.--Frozen haddock fillets: Margin components by marketing functions, 1967-1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	57.37	7.26	.30	.46	1.23	4.62	.66
Wholesaling	50.11	2.02	.30	.12	.19	.92	.49
Processing	48.09	13.04	5.60	4.46	1.57	3.20	-1.79
Harvesting	35.05	35.05	6.87	16.54	5.82	4.30	1.51
Total		57.37	13.07	21.58	8.81	13.04	0.87

Table 39.-- Fresh flounder fillets: Margin components by marketing functions, 1967-1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	85.74	15.95	.65	1.00	2.70	10.14	1.45
Wholesaling	69.79	10.06	1.49	.61	.93	4.57	2.46
Processing	59.73	24.98	8.12	6.55	1.95	5.32	3.04
Harvesting	34.75	34.75	6.81	16.58	5.77	4.09	1.49
Total	85.74	17.07	24.74	11.35	24.12	8.44	

Table 40.-- Fresh cod fillets: Margin components by marketing functions, 1967-1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	67.53	16.54	.68	1.04	2.80	10.52	1.51
Wholesaling	50.99	8.33	1.23	.51	.77	3.78	2.04
Processing	42.66	20.71	7.14	4.46	1.62	4.20	3.29
Harvesting	21.95	21.95	4.30	10.35	3.64	2.70	.94
Total	67.53	13.35	16.36	8.83	21.20	7.78	

Table 41.--- Frozen ocean perch fillets: Margin components by marketing functions, 1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	43.62	8.92	.37	.56	1.51	5.67	.81
Wholesaling	34.70	6.32	.94	.39	.58	2.87	1.55
Processing	28.38	15.69	5.60	4.20	1.50	3.57	.82
Harvesting	12.69	12.69	2.49	6.38	2.11	1.16	.55
Total		43.62	9.40	11.53	5.70	13.27	3.73

Table 42.--Halibut steak (fresh and frozen mixed): Margin components by marketing functions, 1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	77.21	13.13	.54	.83	2.22	8.35	1.19
Wholesaling	64.08	9.73	1.44	.59	.90	4.42	2.38
Processing	54.35	24.16	8.82	5.36	1.88	6.11	1.98
Harvesting	30.19	30.19	5.58	11.05	6.46	3.63	3.47
Total		77.21	16.38	17.83	11.46	22.51	9.02

Table 43.--Fresh king salmon steak: Margin components by marketing functions, 1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	141.43	23.10	.95	1.46	3.90	14.69	2.10
Wholesaling	118.33	19.40	2.87	1.18	1.78	8.81	4.75
Processing	98.93	48.19	17.59	10.70	3.76	12.19	3.95
Harvesting	50.74	50.74	6.34	16.49	16.14	5.63	6.14
Total	141.43	27.75	29.83	25.58	41.32	16.94	

Table 44.-- Fresh dressed king salmon: Margin components by marketing functions, 1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	127.41	20.95	.86	1.32	3.54	13.32	1.91
Wholesaling	106.46	17.45	2.58	1.06	1.61	7.92	4.28
Processing	89.01	43.35	15.82	9.62	3.38	10.97	3.55
Harvesting	45.66	45.66	5.71	14.84	14.52	5.07	5.52
Total	127.41	24.97	26.84	23.05	37.28	15.26	

Table 45.-- Canned tuna (chunk): Margin components by marketing functions, 1964.

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	72.80						
Wholesaling	59.00	13.80	.42	.53	1.60	9.23	2.02
Processing	49.76	9.24	1.37	.56	.85	4.20	2.26
Harvesting	24.92	24.84	8.52	4.94	2.41	7.35	1.61
		24.92	3.29	10.34	6.28	3.27	1.74
Total		72.80	13.60	16.37	11.14	24.05	7.63

Table 46.-- Canned tuna (chunk): Margin components by marketing functions, 1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	67.50						
Wholesaling	61.50	6.00	.39	.49	1.49	8.56	-4.93
Processing	53.20	8.30	1.23	.51	.76	3.77	2.03
Harvesting	30.93	22.27	7.64	4.43	2.16	6.59	1.45
		30.93	4.08	12.84	7.79	4.05	2.17
Total		67.50	13.34	18.27	12.20	22.97	.72

Table 47.--Canned salmon (pink): Margin components by marketing functions, 1964

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retailing	62.16	16.56	.68	1.04	2.80	10.53	1.51
Wholesaling	45.60	7.60	1.12	.46	.70	3.45	1.87
Processing	38.00	20.42	7.00	4.06	1.98	6.04	1.34
Harvesting	17.58	17.58	1.72	6.86	3.83	2.34	2.83
Total		62.16	10.52	12.42	9.31	22.36	7.55

Table 48.--Oyster meat, fresh: Margin components by marketing functions, 1967-1969

Functions	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
-----Cents per pound-----							
Retail	128.76	34.08	1.40	2.15	5.76	21.67	3.10
Wholesale	94.68	6.39	.95	.39	.59	2.90	1.57
Processor	88.29	38.93	14.21	8.64	3.04	9.85	3.19
Ex vessel	49.36	49.36	7.16	23.69	7.80	8.49	2.22
Total		128.76	23.72	34.87	17.19	42.91	10.08

Table 49 .--Frozen raw peeled shrimp: Margin components by marketing functions, 1967-69.

Function	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			----- cents/lb. -----				
Retail	178.68						
Wholesale	165.13	13.55	.56	.85	2.29	8.62	1.23
Processor	133.01	32.12	4.75	1.96	2.96	14.58	7.87
Ex vessel	87.20	45.81	12.37	15.21	4.26	10.31	3.66
		87.20	12.12	32.79	14.48	22.24	5.58
Total	178.68	178.68	29.80	50.81	23.99	55.75	18.34

Table 50 .--Fresh blue crab meat: Margin components by marketing functions, 1967-69.

Function	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			----- cents/lb. -----				
Retail	212.68						
Wholesale	162.73	49.95	2.05	3.15	8.44	31.77	4.55
Processor	137.23	25.50	3.77	1.56	2.35	11.58	6.25
Ex vessel	56.70	80.53	20.37	35.59	1.77	17.15	5.64
		56.70	9.24	24.44	5.56	14.06	3.40
Total	212.68	212.68	35.43	64.74	18.12	74.56	19.84

Table 51.--Live northern lobsters: Margin components by marketing functions, 1965-1967 1/

Function	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			----- cents/lb. -----				
Retail	130.60	15.13	.62	.95	2.56	9.62	1.38
Wholesale	115.47	41.53	9.55	5.40	2.91	19.52	4.15
Ex vessel	73.94	73.94	12.05	31.87	7.25	18.34	4.44
Total	130.60	22.22	38.22	12.72	47.48	9.97	

1/No processing level as the products are sold in live form.

Table 52.--Sea scallops: Margin components by marketing functions, 1967-1969 1/

Function	Prices	Margins	Components of margins				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			----- cents/lb. -----				
Retail	139.88	34.48	1.41	2.17	5.83	21.93	3.14
Wholesale	105.40	14.15	2.86	1.87	1.36	6.36	1.70
Ex vessel	91.25	91.25	13.23	43.79	14.42	15.70	4.11
Total	139.88	17.50	47.83	21.61	43.99	8.95	

1/Sea scallops are landed shucked. Processing is largely done on the boat.

Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968

Class interval of prices (cents/lb.)	Ocean Perch									
	Frozen Fillet		Frozen Steak		Frozen Dressed		Fresh Fillet		Fresh Dressed	
	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency
22.0-25.9	1	.03								
26.0-29.9	2	.05								
30.0-33.9	5	.13	1	.17						
34.0-37.9	5	.13			1	.25				
38.0-41.9	11	.29	2	.33			2	.33		
42.0-45.9	3	.08			1	.25	1	.17		
46.0-49.9	4	.10	1	.17						
50.0-53.9	2	.05								
54.0-57.9			2	.33	1	.25			1	.33
58.0-61.9					1	.25	2	.33		
62.0-65.9	3	.08							2	.67
66.0-69.9										
70.0-73.9	1	.03								
74.0-77.9										
78.0-81.9										
82.0-85.9	1	.03					1	.17		
Total:	38	1.00	6	1.00	4	1.00	6	1.00	3	1.00
Mean:	43.07		44.73		48.87		54.95		60.53	

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Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968
(continued)

Class interval of prices (cents/lb.)	Cod						Tuna			
	Frozen Fillet		Frozen Steak		Frozen Dressed		Fresh Fillet			
	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency		
22.0-25.9										
26.0-29.9										
30.0-33.9	2	.11			1	.11				
34.0-37.9	2	.11			1	.11				
38.0-41.9	4	.21			2	.23				
42.0-45.9	4	.21	1	.33	1	.11				
46.0-49.9	4	.21	2	.67			1	.11		
50.0-53.9					4	.44				
54.0-57.9							5	.55		
58.0-61.9	2	.11								
62.0-65.9	1	.04					1	.11		
66.0-69.9								2	.29	
70.0-73.9								1	.14	
74.0-77.9							2	.23	1	.14
78.0-81.9								2	.29	
82.0-85.9										
86.0-89.9										
90.0-93.9								1	.14	
Total:	19	1.00	3	1.00	9	1.00	9	1.00	7	1.00
Mean:	44.69		46.10		44.24		59.12		75.08	

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Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968 (continued)

Class interval of prices (cents/lb.)	Haddock											
	Frozen Fillet		Frozen Steak		Frozen Stick		Frozen Raw		Fresh Fillet		Fresh Dressed	
	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency
30.0-33.9							1	.50			1	.50
34.0-37.9												
38.0-41.9	3	.11	1	.20	1	.33						
42.0-45.9			1	.20								
46.0-49.9	4	.15	2	.40								
50.0-53.9	4	.15					1	.50	1	.09		
54.0-57.9	7	.26							3	.16		
58.0-61.9	2	.07							1	.09		
62.0-65.9	3	.11			1	.33			1	.09		
66.0-69.9	2	.07			1	.34			2	.15		
70.0-73.9	1	.04	1	.20								
74.0-77.9									2	.15	1	.50
78.0-81.9												
82.0-85.9									1	.09		
86.0-89.9												
90.0-93.9	1	.04										
94.0-97.9												
Total:	27	1.00	5	1.00	3	1.00	2	1.00	13	1.00	2	1.00
Mean:	51.16		48.86		54.41		40.00		67.40		51.00	

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Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968 (continued)

Class interval of prices (cents/lb.)	Salmon					
	Canned		Frozen Steak		Fresh Steak	
	:Relative :		:Relative :		:Relative	
	Frequency:	Frequency:	Frequency:	Frequency:	Frequency:	Frequency
46.0-49.9	2	.29				
50.0-53.9						
54.0-57.9						
58.0-61.9						
62.0-65.9	1	.14				
66.0-69.9	1	.14	1	.12		
70.0-73.9					1	.18
74.0-77.9	2	.29	2	.25	1	.18
78.0-81.9	1	.14			1	.17
82.0-85.9			1	.13	1	.17
86.0-89.9						
90.0-93.9			4	.50	1	.17
94.0-97.9						
98.0-101.9						
102.0-105.9						
106.0-109.9					1	.17
Total:	7	1.00	8	1.00	6	1.00
Mean:	65.29		84.60		86.21	

Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968 (continued)

Class interval of prices (cents/lb.)	Flounder											
	Frozen Fillet		Frozen Steak		Frozen Stick		Frozen Raw		Fresh Fillet		Fresh Dressed	
	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency	Frequency	Relative Frequency
30.0-33.9	1	.04										
34.0-37.9			1	.20								
38.0-41.9	4	.14										
42.0-45.9	2	.07								1	.20	
46.0-49.9	5	.17	1	.50	2	.40			1	.50	2	.40
50.0-53.9	4	.14	1	.50	2	.40						
54.0-57.9	3	.11					2	.07	1	.50		
58.0-61.9	2	.07					2	.07				
62.0-65.9	3	.11					4	.15			1	.20
66.0-69.9	3	.11					4	.15				
70.0-73.9	1	.04					4	.15				
74.0-77.9							4	.15				
78.0-81.9							6	.22				
82.0-85.9												
86.0-89.9												
90.0-93.9							1	.04			1	.20
Total:	28	1.00	2	1.00	5	1.00	27	1.00	2	1.00	5	1.00
Mean:	52.67		49.16		47.96		71.81		52.00		62.15	

Table 53.--Dispersion of retail prices by fish products from the survey of retail distributors, 1968
(continued)

Class interval of prices (cents/lb.)	Halibut									
	Frozen Fillet		Frozen Steak		Frozen Dressed		Fresh Fillet		Fresh Dressed	
	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency	Fre- quency	:Relative :Frequency
30.0-33.9			1	.06						
34.0-37.9										
38.0-41.9										
42.0-45.9			1	.06						
46.0-49.9					1	.50				
50.0-53.9										
54.0-57.9	2	.33	2	.12			1	.20	1	.33
58.0-61.9	2	.33								
62.0-65.9			6	.34					2	.67
66.0-69.9			1	.06						
70.0-73.9	1	.17	2	.12	1	.50				
74.0-77.9	1	.17	2	.12			2	.40		
78.0-81.9			1	.06			2	.40		
82.0-85.9										
86.0-89.9										
90.0-93.9										
94.0-97.9										
98.0-101.9										
102.0-105.9			1	.06						
106.0-109.9										
Total:	6	1.00	17	1.00	2	1.00	4	1.00	3	1.00
Mean:	62.72		65.84		59.57		72.92		61.21	

Source: Compiled from the survey of retail distributors of fresh and frozen fish and shellfish products conducted by the Division of Economic Research, Bureau of Commercial Fisheries, U.S. Department of the Interior, 1968.

Table 54.--Weekly retail price range of fresh cod fillets, New York City, 1970

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
	-----cents/lb.-----				High	Low
					----percent----	
Jan. 12-14	74	130	77- 99	88	+32	-16
19-21	-	130	79-110	95	+27	-
26-28	-	130	79-109	94	+28	-
Feb. 2- 4	64	130	79-119	99	+24	-35
9-11	69	139	79-109	94	+32	-26
16-18	69	130	79-109	94	+28	-26
24-26	69	130	79-105	92	+29	-25
March 2- 4	69	130	79-119	99	+24	-30
9-11	69	130	79-119	99	+24	-30
16-18	69	130	79-119	99	+24	-30
23-25	69	139	79-109	94	+32	-26
Mar. 30-Apr. 1	69	139	89-109	99	+29	-30
April 6- 8	74	139	89-109	99	+29	-25
13-15	79	130	89-119	104	+20	-24
20-22	69	130	89-119	104	+20	-34
27-29	69	130	89-119	104	+20	-34
May 11-13	69	130	79-119	99	+24	-30
18-20	74	130	79-115	97	+25	-24
25-27	69	145	79-119	99	+32	-30
June 1- 3	69	145	79-119	99	+32	-30
8-10	69	130	79-119	99	+24	-30
15-17	67	145	79-139	109	+25	-38
22-24	69	145	89-139	114	+21	-39
June 29-July 1	65	145	89-115	102	+30	-36
July 6- 8	69	145	89-109	99	+32	-30
13-15	69	145	89-119	104	+28	-34
20-22	79	145	79-119	99	+32	-20
27-29	59	145	69-119	94	+35	-37
Aug. 3- 5	69	145	89-119	104	+28	-34
10-12	69	145	79-109	94	+35	-26
17-19	69	145	79-119	99	+32	-30
24-26	59	145	79- 99	88	+39	-33

Table 54.--Weekly retail price range of fresh cod fillets, New York City, 1970 (continued)

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
					High	Low
	-----cents/lb.-----				-----percent-----	
Aug. 31-Sept. 2	69	145	89-109	99	+32	-30
Sept. 8-10	64	145	79-129	104	+28	-38
14-16	59	145	79-129	104	+28	-43
21-23	69	145	79-129	104	+28	-34
28-30	68	140	79-129	104	+26	-35
Oct. 5-7	59	140	89-129	109	+22	-46
13-15	69	140	89-129	109	+22	-37
19-21	64	160	89-129	109	+32	-41
26-28	59	160	79-129	104	+35	-43
Nov. 2-5	-	160	79-129	104	+35	-
9-12	-	160	79-129	104	+35	-
16-18	59	160	89-129	109	+32	-46
23-25	69	160	89-129	109	+32	-37
Nov. 30-Dec. 2	69	160	79-125	102	+36	-32
Dec. 7-9	69	160	89-125	107	+33	-35
14-16	59	160	89-129	109	+32	-46
21-23	-	160	89-139	114	+29	-
28-30	-	160	89-139	114	+29	-

Source: Weekly reports of retail prices of food products published by New York State Marketing Information Service, 1970.

Table 55.--Weekly retail price range of fresh flounder fillets,
New York City, 1970

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
					High	Low
	-----cents/lb.-----				----percent----	
Jan. 12-14	-	195	109-169	139	+29	-
19-21	-	195	99-159	129	+34	-
26-28	89	220	98-169	134	+39	-34
Feb. 2-4	84	220	99-169	134	+39	-37
9-11	-	195	109-169	139	+29	-
16-18	-	195	109-169	139	+29	-
24-26	-	195	109-169	139	+29	-
March 2-4	-	195	109-169	139	+29	-
9-11	93	195	109-169	139	+29	-34
16-18	-	195	109-169	139	+29	-
23-25	99	195	109-169	139	+29	-29
March 30-April 1	99	195	109-165	137	+30	-28
April 6-8	-	195	109-169	139	+29	-
13-15	-	195	109-169	139	+29	-
20-22	99	195	99-169	134	+31	-26
27-29	109	195	109-149	129	+34	-16
May 11-13	89	195	99-139	119	+39	-25
18-20	99	195	99-149	124	+36	-20
25-27	89	195	99-139	119	+39	-25
June 1-3	89	195	99-149	124	+36	-28
8-10	94	195	109-159	134	+31	-30
15-17	94	195	99-149	124	+36	-24
22-24	99	195	109-169	139	+29	-29
June 29-July 1	99	195	109-149	129	+34	-23
July 6-8	-	195	109-149	129	+34	-
13-15	99	195	109-149	129	+34	-23
20-22	99	195	99-149	124	+36	-20
27-29	99	195	109-145	127	+35	-22
Aug. 3-5	99	195	109-149	129	+34	-23
10-12	99	195	109-129	129	+34	-23
17-19	94	195	109-139	124	+36	-24
24-26	108	195	109-139	124	+36	-13

Table 55.--Weekly retail price range of fresh flounder fillets,
New York City, 1970 (continued)

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
	-----cents/lb.-----				High	Low
					---percent---	
Aug. 31-Sept. 2	104	195	109-139	124	+36	-16
Sept. 8-10	105	195	109-139	124	+36	-12
14-16	99	195	109-139	124	+36	-20
21-23	99	195	109-149	129	+34	-23
28-30	98	195	99-139	119	+39	-17
Oct. 5-7	89	195	99-139	119	+39	-25
13-15	94	220	99-139	119	+46	-21
19-21	94	220	109-149	129	+41	-27
26-28	95	220	109-149	129	+41	-27
Nov. 2-5	95	220	109-149	129	+41	-27
9-12	95	220	109-159	134	+39	-30
16-18	88	220	99-169	134	+39	-34
23-25	97	220	109-149	129	+41	-25
Nov. 30-Dec. 2	-	220	89-149	119	+46	-
Dec. 7-9	92	220	109-149	129	+41	-29
14-16	92	220	99-139	119	+46	-23
21-23	103	220	99-139	119	+46	-13
28-30	99	220	109-149	129	+41	-23

Source: Weekly reports of retail prices of food products published by New York State Marketing Information Service, 1970.

Appendix Figures

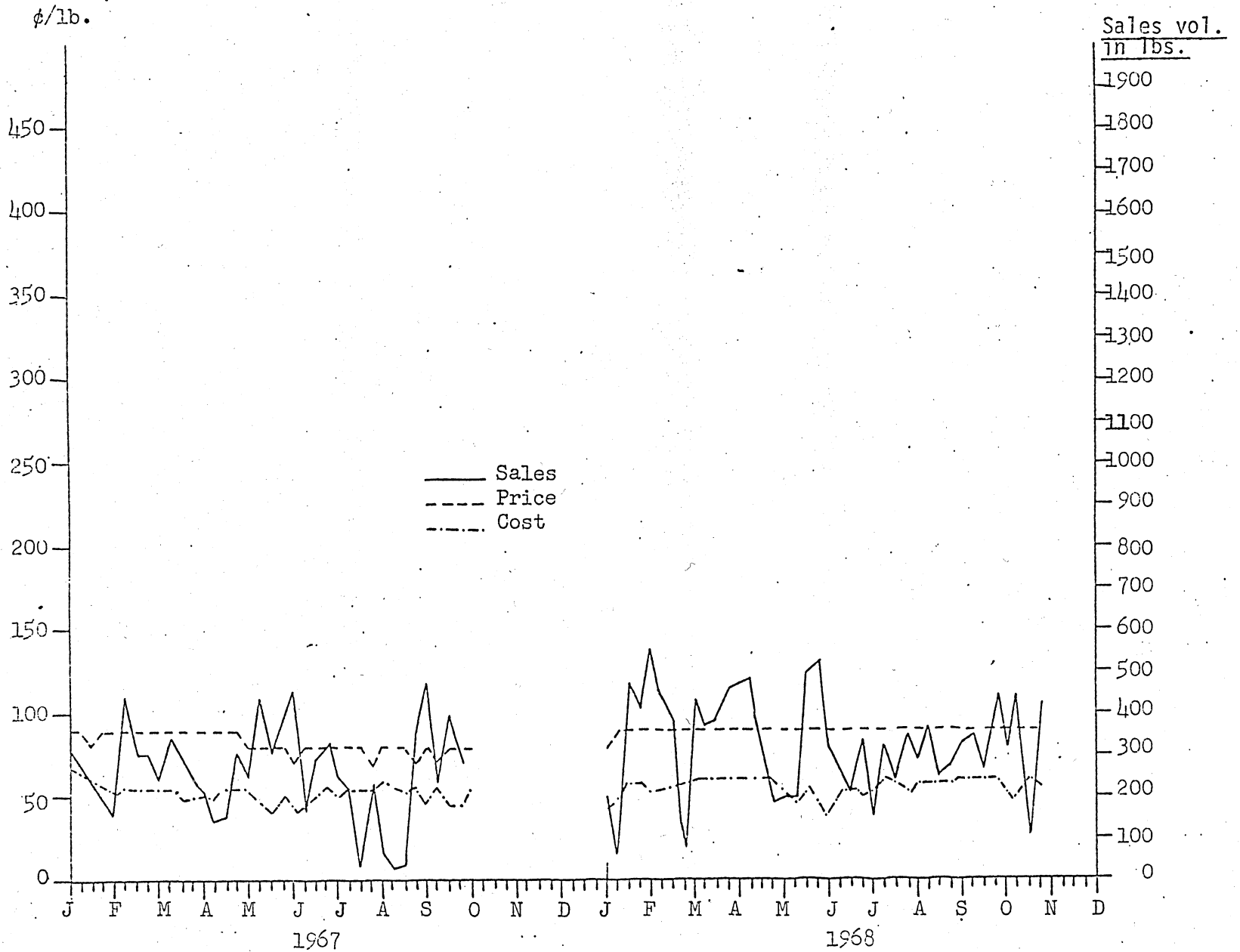


Figure 16.--Fresh haddock fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

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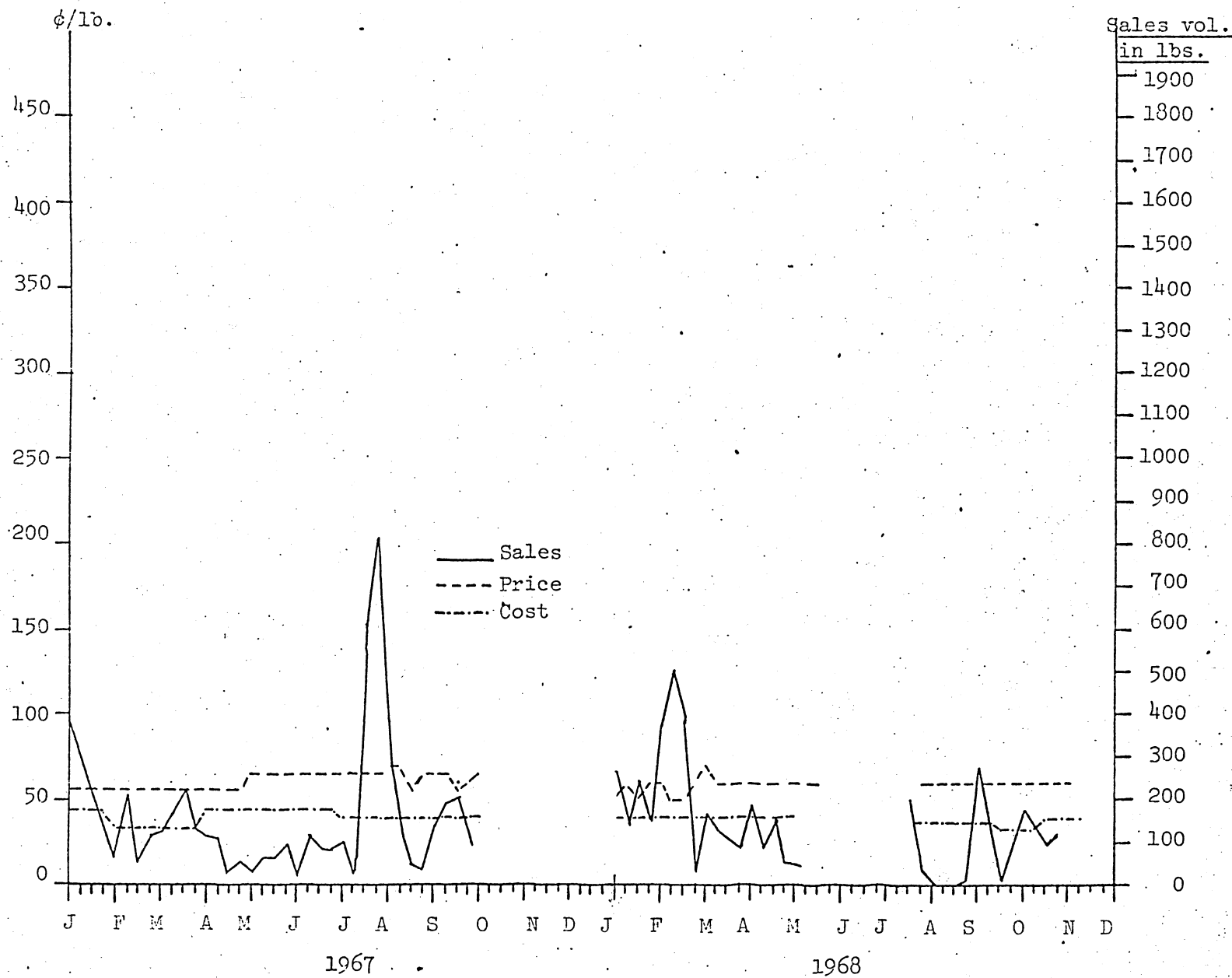


Figure 17.--Frozen haddock fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

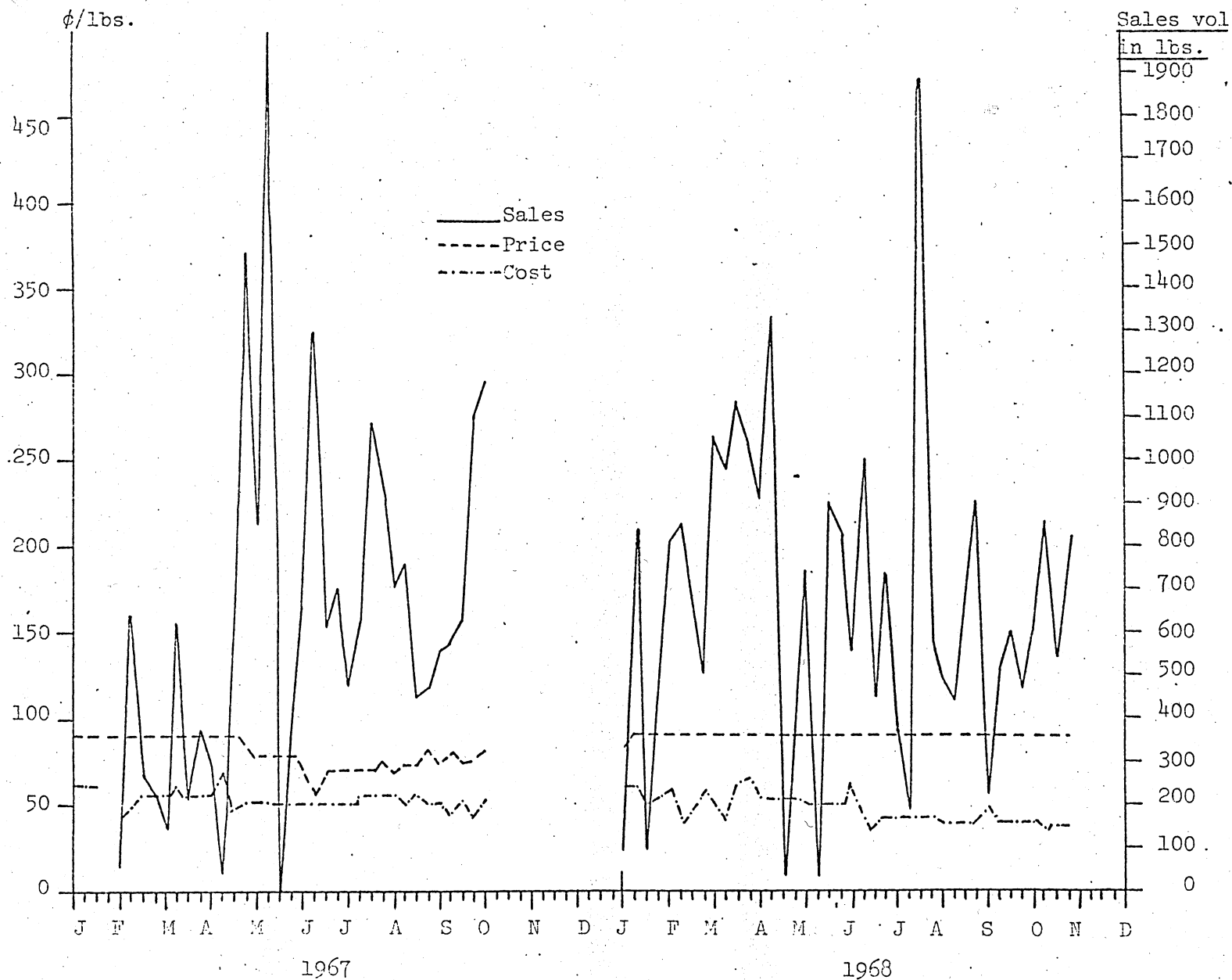


Figure 18.---Fresh ocean perch fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

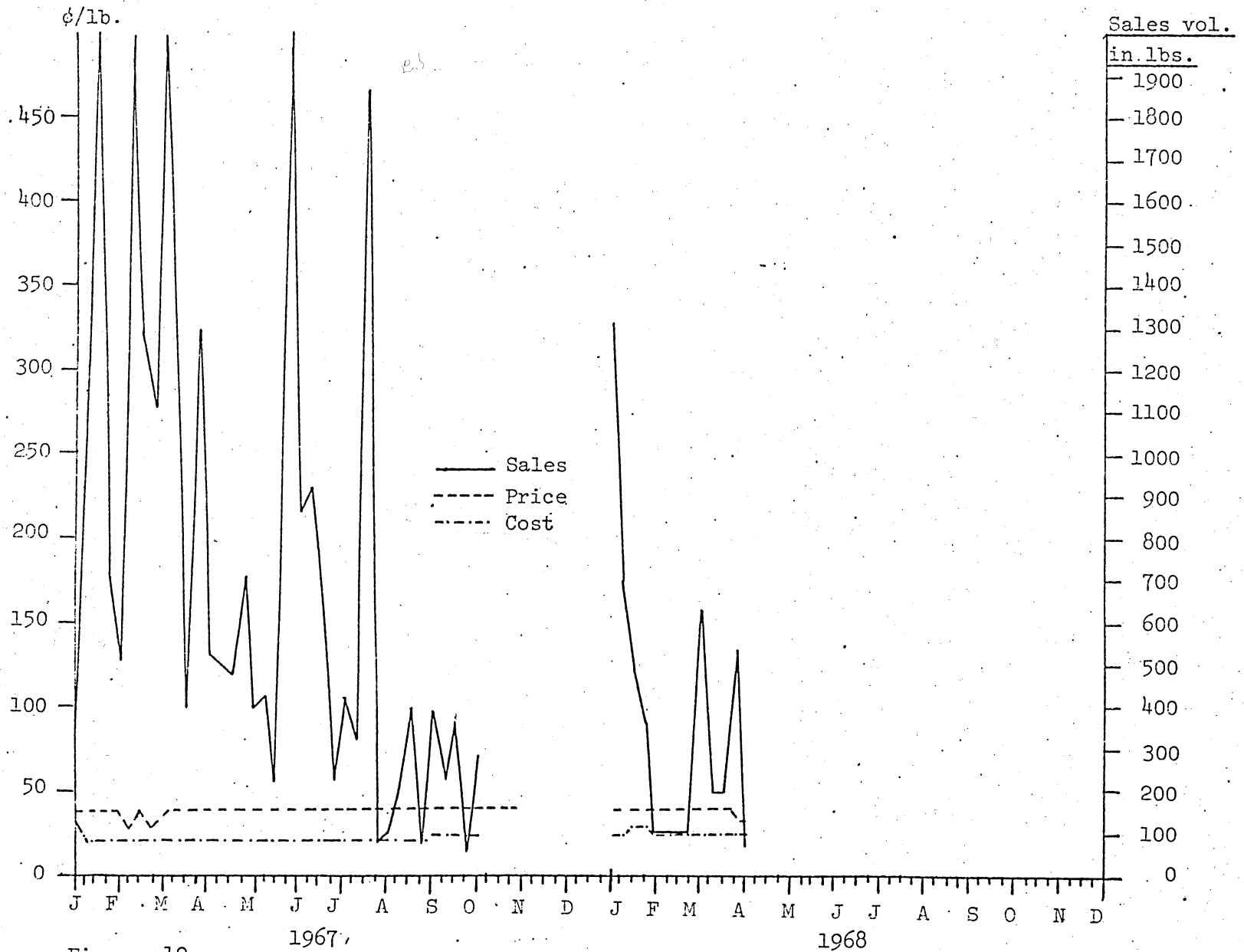


Figure 19. --Frozen ocean perch fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

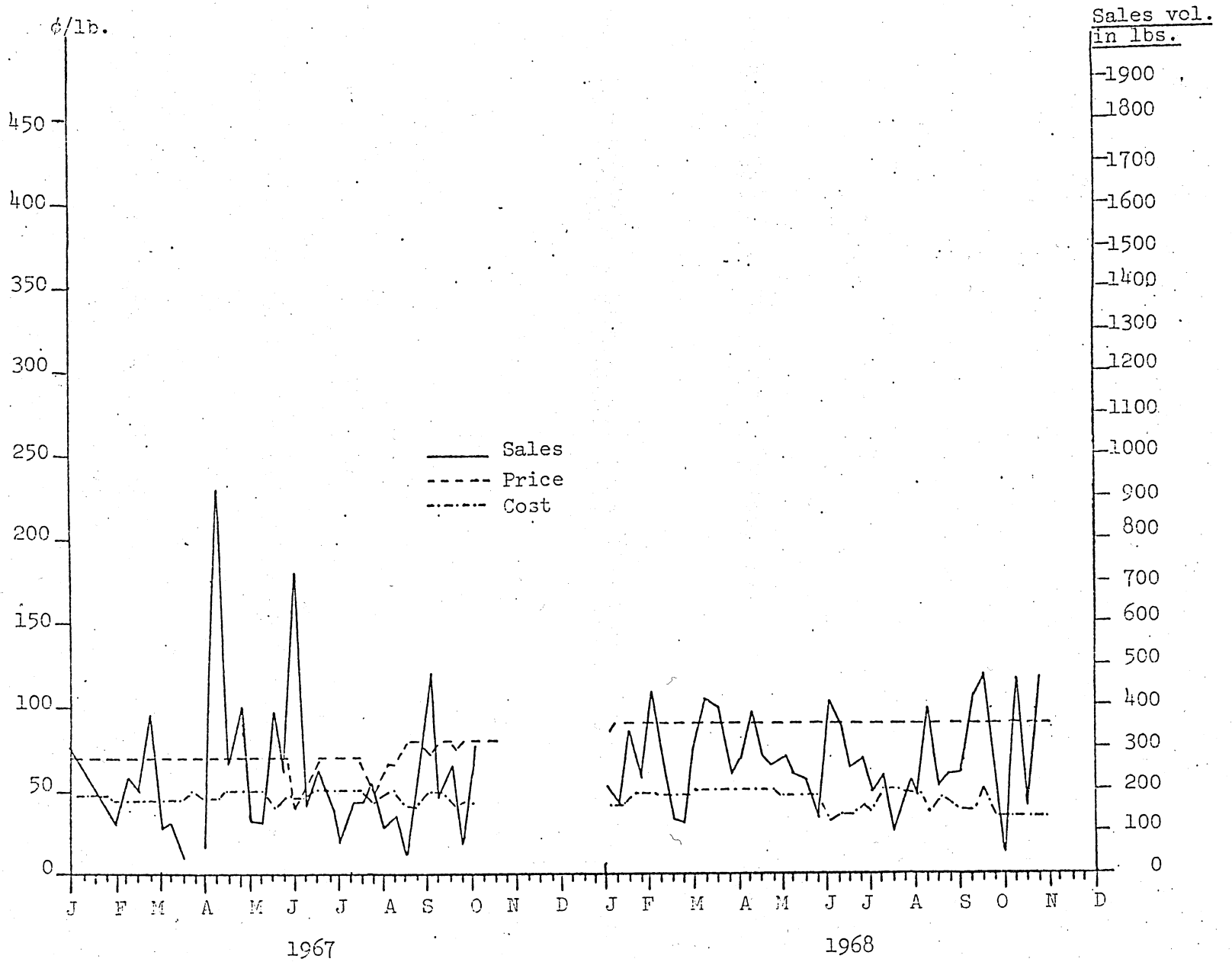


Figure 20--Fresh cod fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

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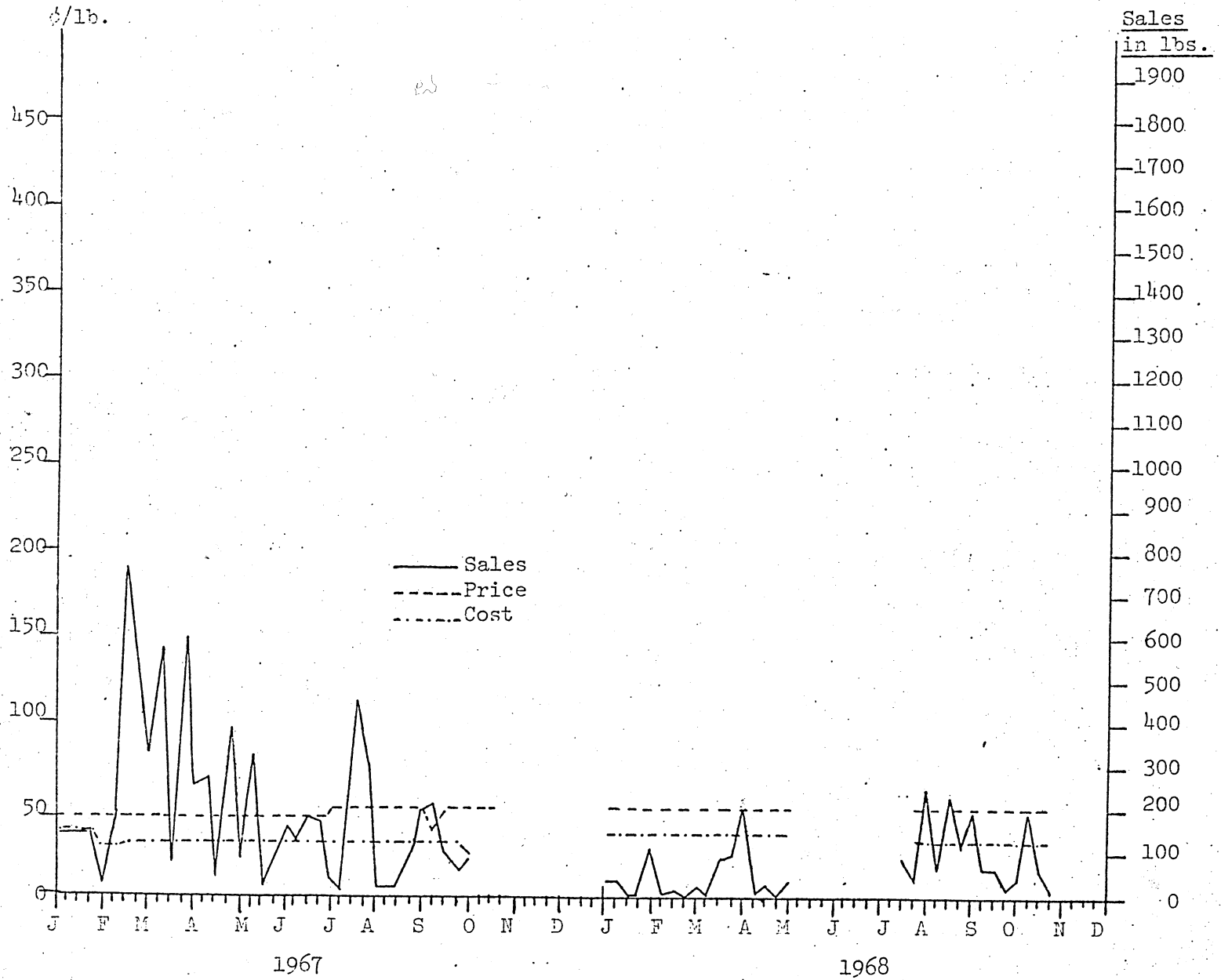


Figure 21--Frozen cod fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

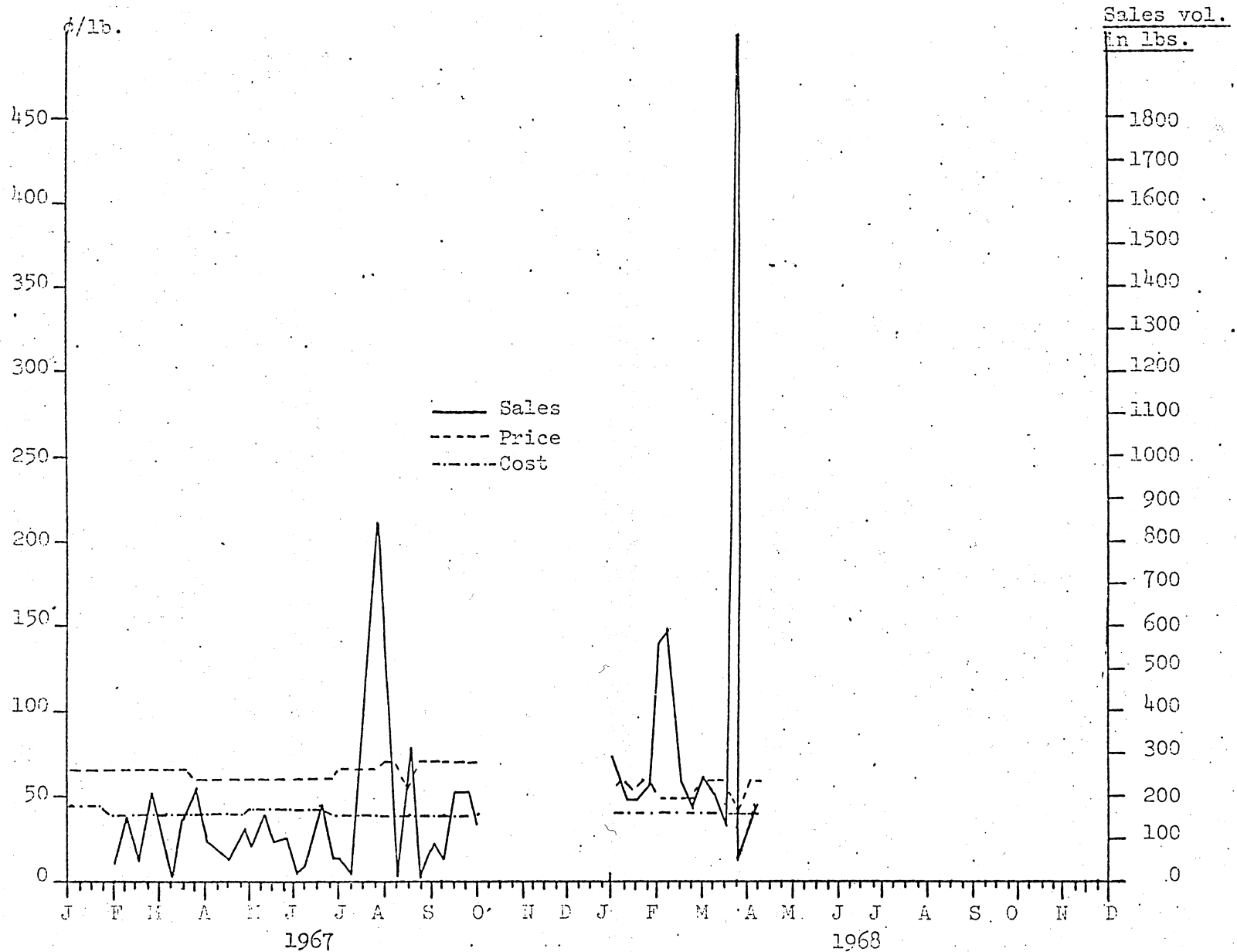


Figure 22.--Frozen sole fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

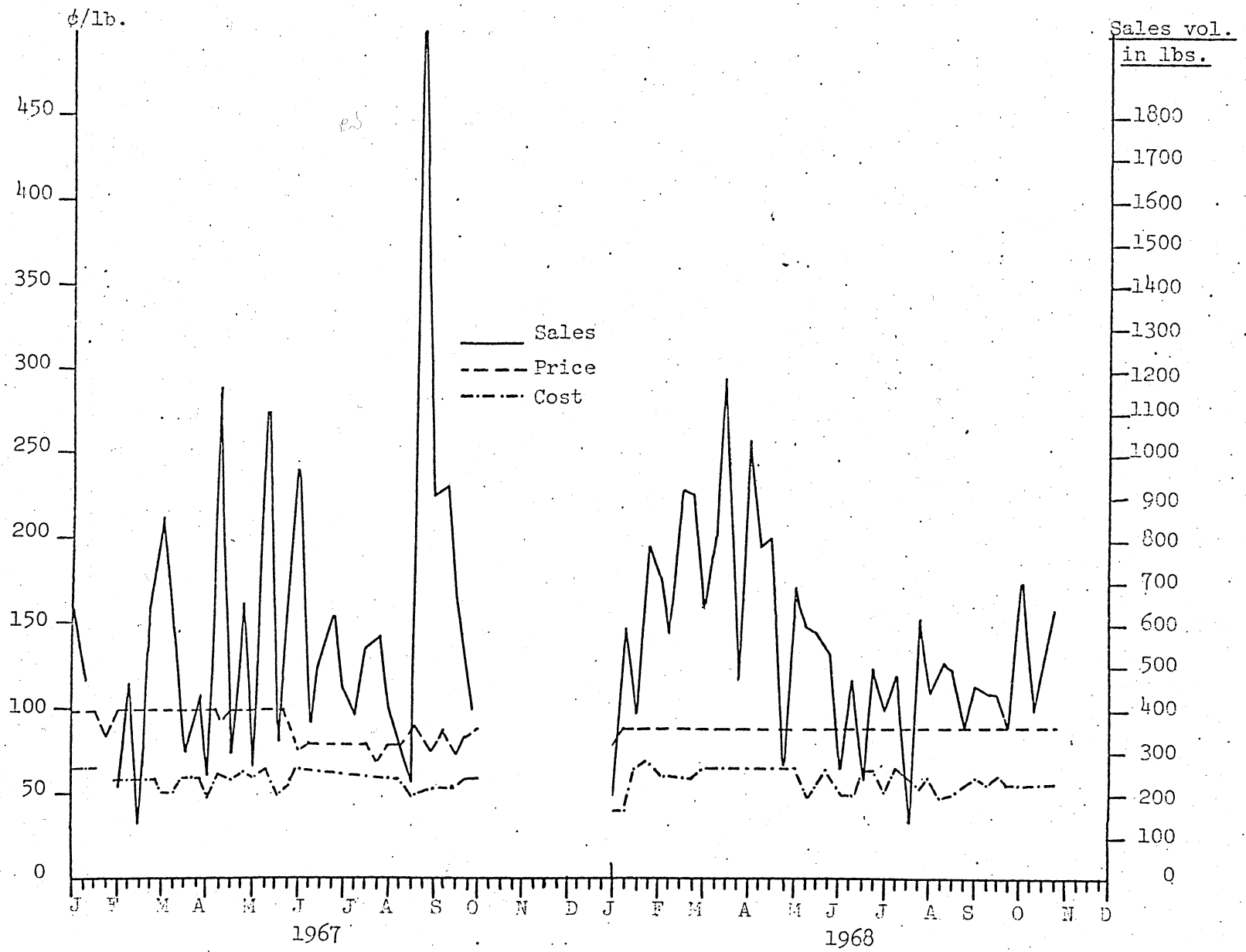


Figure 23.--Fresh sole fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

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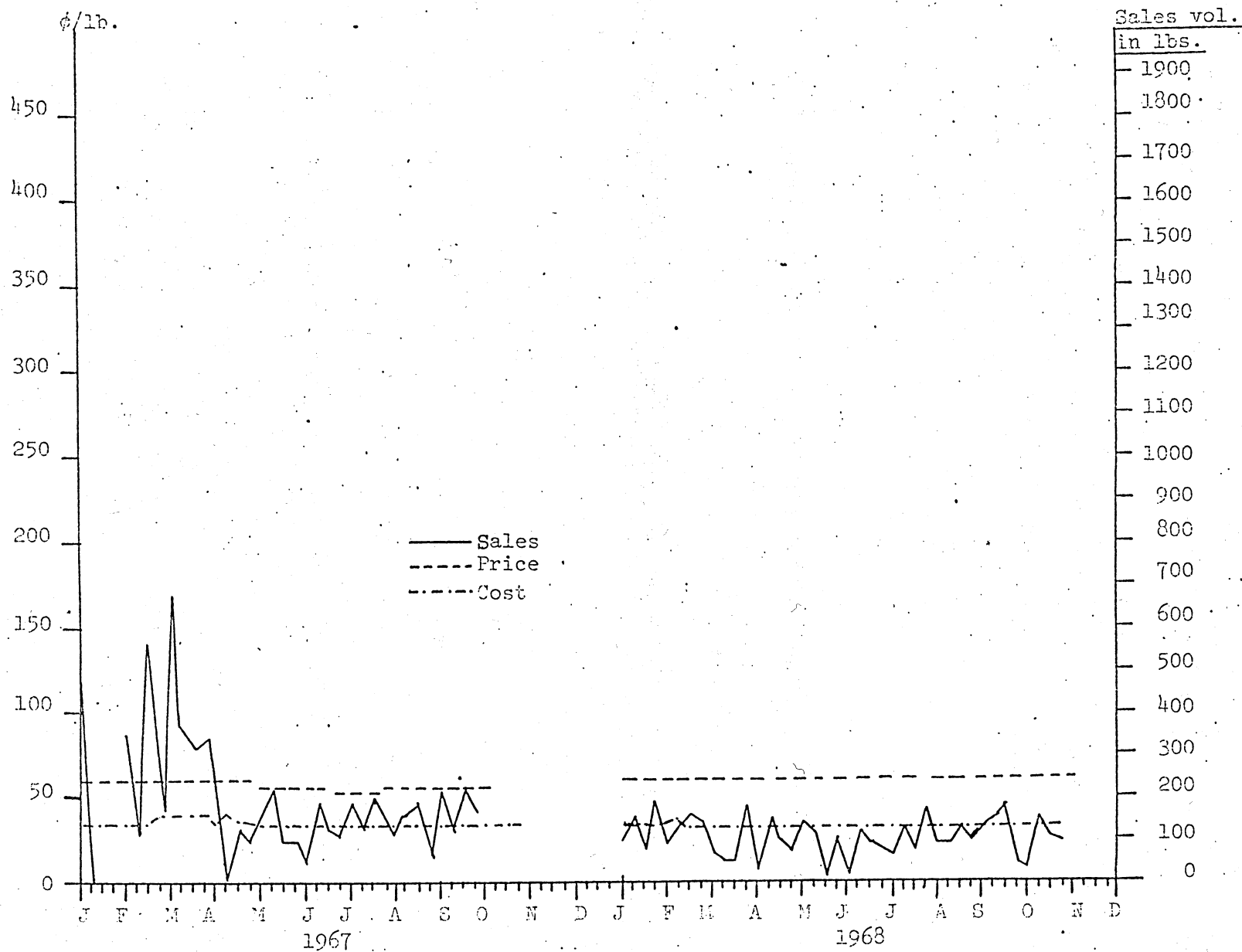


Figure 24.--Fresh flounder fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.

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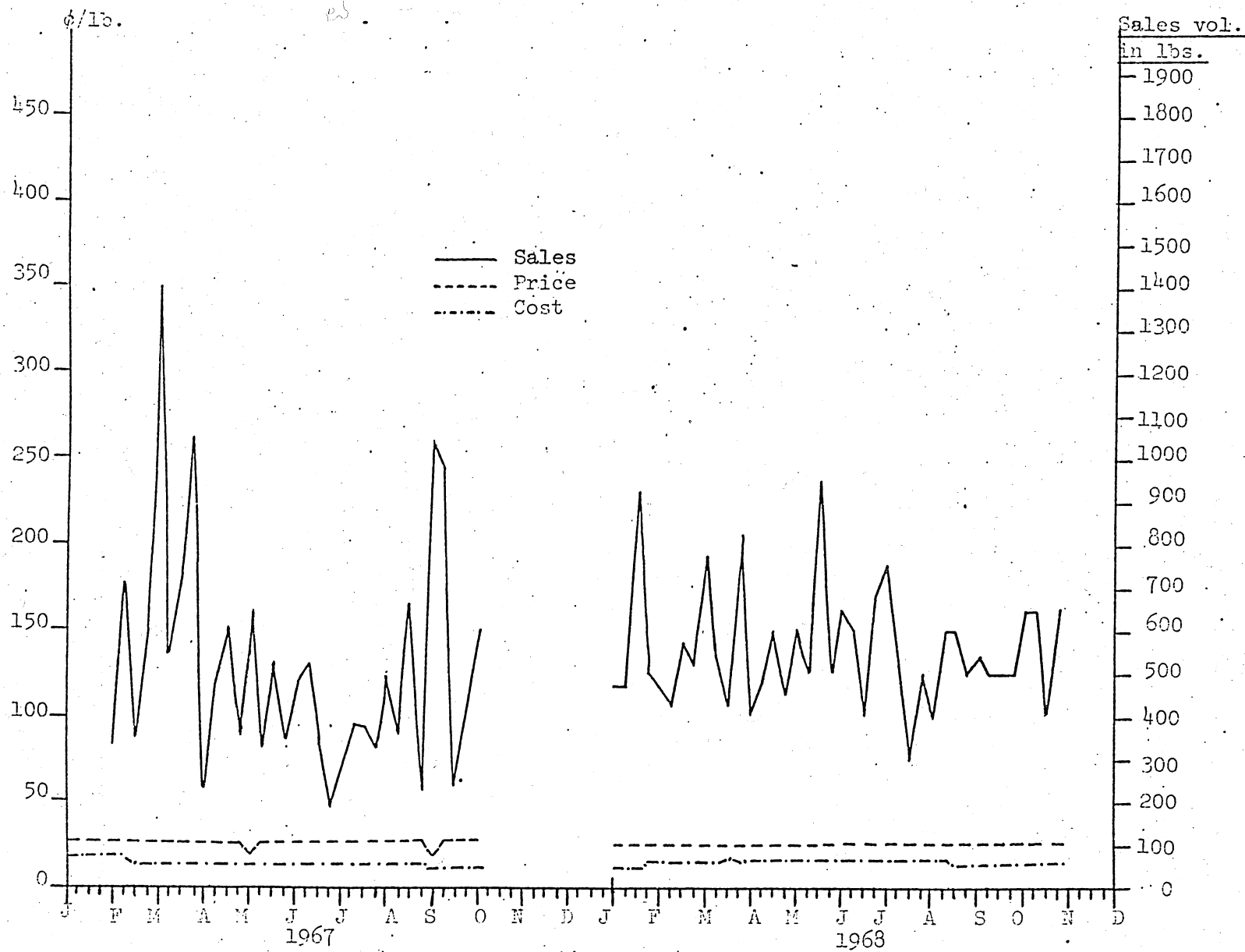


Figure 25.--Whiting--headed and gutted--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

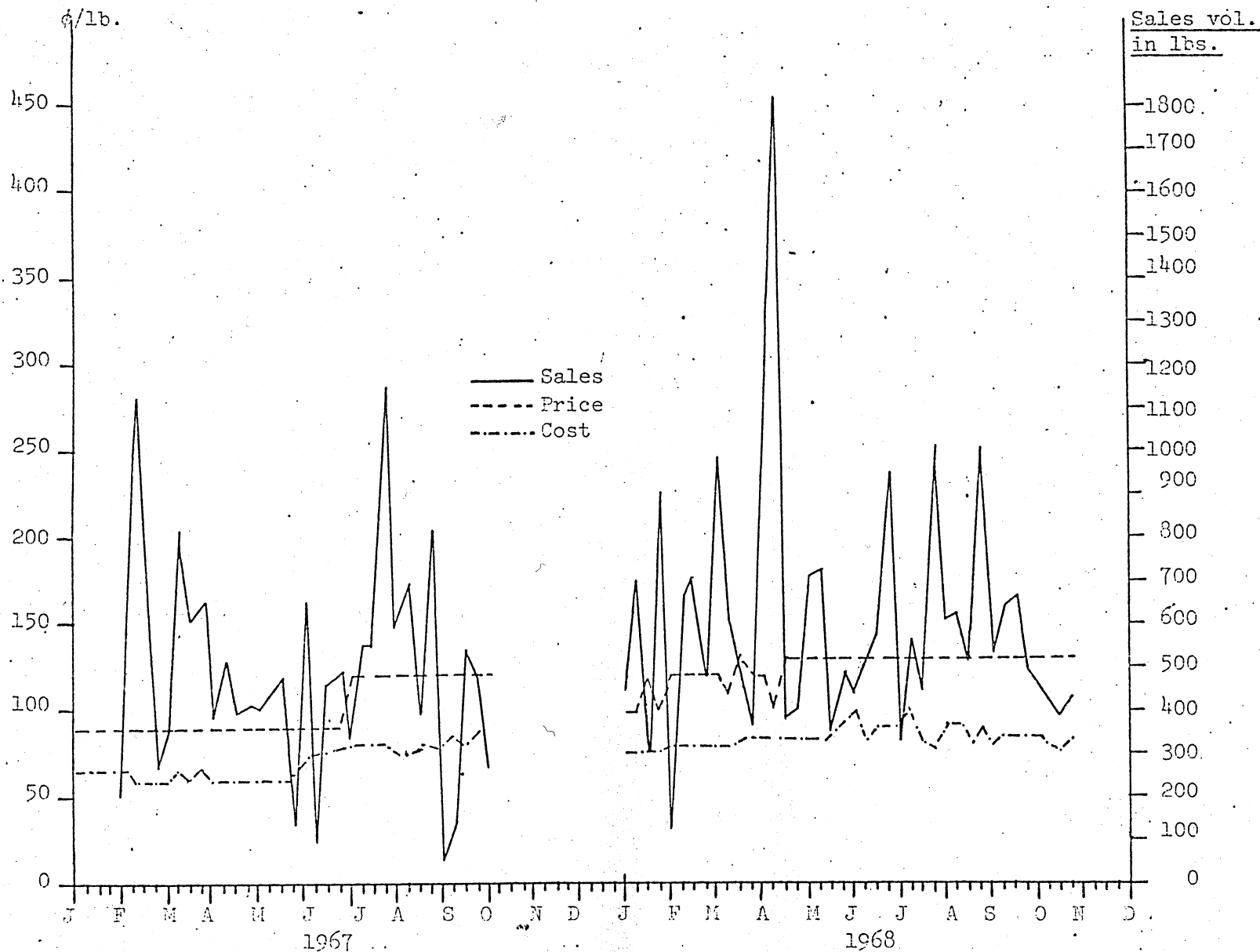


Figure 26.--Fresh and frozen salmon sticks--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

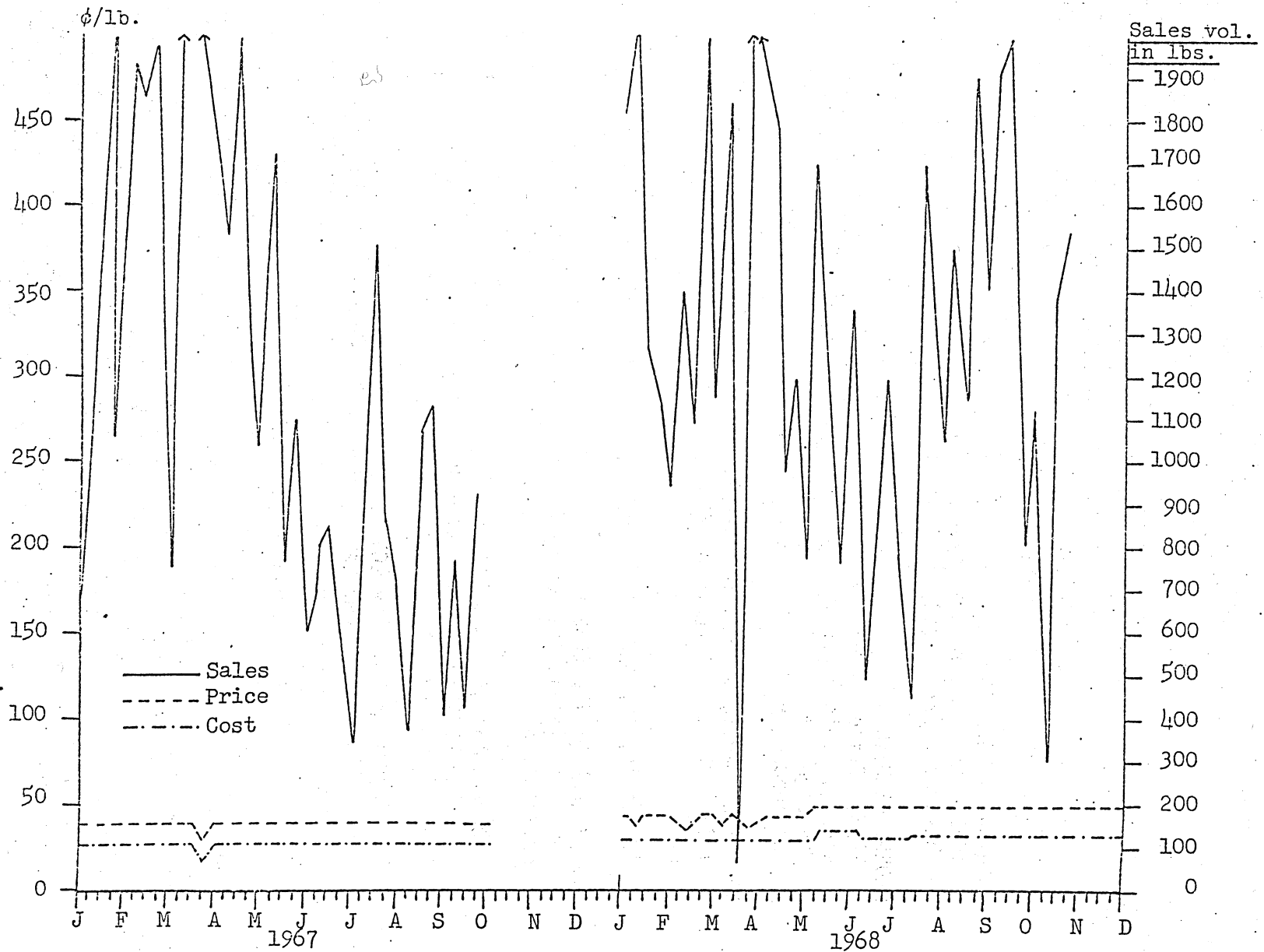


Figure 27.--Frozen halibut fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

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FIGURE LEGENDS

1. Price spreads for fresh haddock fillets, 1950-1969
2. Price spreads for frozen haddock fillets, 1950-1969
3. Price spreads for fresh flounder fillets, 1950-1969
4. Price spreads for fresh cod fillets, 1950-1969
5. Price spreads for frozen ocean perch fillets, 1950-1969
6. Price spreads for fresh and frozen halibut steaks, 1950-1969
7. Price spreads for fresh, dressed king salmon, 1950-1969
8. Price spreads for canned pink salmon, 1950-1969
9. Price spreads for canned tuna (chunk)
10. Price spreads for frozen raw peeled shrimp, 1959-1969
11. Price spreads for live northern lobsters, 1959-1969
12. Price spreads for fresh sea scallops, 1959-1969
13. Price spreads for fresh blue crab meat, 1959-1969
14. Price spreads for fresh oyster meat, 1959-1969
15. Price of inputs used by fish processing and marketing firms (1957-1959=100)

APPENDIX FIGURE LEGENDS

16. Fresh haddock fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
17. Frozen haddock fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
18. Fresh ocean perch fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
19. Frozen ocean perch fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
20. Fresh cod fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
21. Frozen cod fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
22. Frozen sole fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
23. Fresh sole fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
24. Fresh flounder fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
25. Whiting--headed and gutted--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
26. Fresh and frozen salmon sticks--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968
27. Frozen halibut fillets--weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968

