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**EXPENSES AND PROFITS OF  
FOOD CHAINS IN 1934**

**BY  
CARL N. SCHMALZ**



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**HARVARD UNIVERSITY  
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# EXPENSES AND PROFITS OF FOOD CHAINS IN 1934

BY

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## FOREWORD

In 1930 the Bureau of Business Research of the Harvard Business School began a series of studies of the margins, expenses, and profits of chain store companies. This research has covered food, drug, shoe, limited-price variety, department store, and women's apparel chains for one or more of the years beginning with 1929, and has contributed new information of important help to business men as well as to teachers and students of retail distribution.

The current report is the second dealing exclusively with food chains, and it presents figures for the fourth and fifth years for which data regarding the typical operating performance of food chains now are available from the Harvard studies.

Distribution cost surveys of this type increase in value as the period which they cover grows longer. The Bureau's work in the food chain field was originally financed out of the School's own research funds, but lack of adequate resources made it necessary to interrupt the work in 1930 and to carry forward on a restricted basis for 1931 and 1932. It is gratifying, therefore, that the Food and Grocery Chain Stores of America, Inc., has found it possible to finance the present study, which covers the years 1933 and 1934, through voluntary subscriptions from a number of its members. The Bureau appreciates very much not only the financial aid of this Association, but also the help which its executives and members have given in other ways. Among those who have been especially helpful are Mr. John A. Logan, Executive Vice-President of the Association, and Mr. Ralph F. Burkard, First National Stores, Inc., Somerville, Massachusetts, who was designated by the Association to consult with the Bureau on problems connected with the study.

Like most other studies of the Bureau of Business Research, this survey is based upon the actual profit and loss statements and balance sheets of a substantial number of business firms. These underlying data were gathered directly from the individual companies on standard forms which had been prepared by the Bureau out of its experience in earlier studies of food chains and after conferences with food chain executives. The reports as received from the individual chains were examined by the Bureau for arithmetical accuracy and for comparability, adjusted wherever adjustment was necessary to make them comparable, and then classified into significant groups, as will be described in detail later. For each of these various groups average or typical figures were determined; and these figures constitute the data from which the conclusions of the study are drawn.

The Bureau and the School cordially acknowledge the interest and co-operation of the individual companies which submitted their figures for use in this study. All statements for individual firms were handled on a strictly confidential basis; under no circumstances did members of the trade, students in the School, or any other persons outside the Bureau staff have access to the figures for individual firms. As soon as the profit and loss statements were received, all identifying data were removed and the statements went through the various stages of statistical work under a code number. Under the circumstances, it is not possible to mention the several co-operating firms by name here; but, nevertheless, their assistance is deeply appreciated.

This bulletin was written by Assistant Professor Carl N. Schmalz, Manager of the Bureau of Business Research, who directed the study upon which it reports. The statistical and accounting phases of the work were supervised by Miss Elizabeth A. Burnham, and the field work was done by Mr. Martin Canavan, who also assisted materially in the analysis of the data.

MALCOLM P. MCNAIR,  
*Director of Research*

Boston, Massachusetts  
April, 1936.

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## APPENDIX

### DEFINITIONS AND EXPLANATORY NOTES

In order to obtain comparability among the reports from individual firms used in this study, and to make the published figures as representative as possible, the Bureau adopted a number of definitions and followed certain accounting and statistical procedures. The more important of these definitions and procedures are described in this Appendix.

*Base of Percentages.* All percentages in this bulletin, unless otherwise indicated, are based on net sales as 100%.

*Net Sales.* Net sales are gross sales at retail, less any returns by or allowances to customers, not including sales taxes collected from customers as an item distinct from price and segregated in special accounts until turned over to the government.

*Gross Margin.* The term "gross margin" is increasingly used in preference to "gross profit". It represents the amount remaining after the deduction of net cost of goods sold from net sales. Net cost of goods sold is billed or invoice cost of goods sold, plus any processing taxes, less cash discounts taken and allowances received, plus inward transportation charges, plus proper charges for merchandise depreciation and stock shortages, and plus or minus any change in the value of the inventory. The treatment of inward transportation charges, that is, charges incurred in moving the goods to the point where the firm first takes physical possession, as part of the merchandise cost makes the gross margin figure lower by the amount of such charges than it otherwise would be and is a common practice among trading businesses.

The several important figures used in computing net cost of goods sold are defined as follows:

*Net Inventory of Merchandise.* This item consists of the value of merchandise on hand in stores and warehouses at cost or market, whichever is lower, including merchandise held on consignment, merchandise in transit if bought f.o.b. shipping point, and finished goods of own manufacture, but not manufacturing or wholesaling inventory or inventories of fixtures, equipment, or supplies.

*Purchases.* The net invoice cost of merchandise purchased is the extended figure on the invoice after trade and quantity discounts and brokerage have been deducted or added, but before cash discounts, adver-

tising allowances, and deferred quantity discounts have been considered. This figure includes merchandise received on consignment, if sold; merchandise in transit, if bought f.o.b. shipping point; the cost of goods transferred from own manufacturing departments; duties and insurance on imported purchases; and any processing taxes paid. It excludes returns to manufacturers and allowances from manufacturers for damaged or spoiled merchandise, as well as purchases for any wholesale business or purchases of office or store supplies or equipment.

*Discounts and Allowances Received.* This item, which is deducted from the net invoice cost of purchases, includes cash discounts received on merchandise purchased, discounts or rebates secured by purchasing a given minimum quantity in a given period of time, and advertising allowances of indefinite character. Allowances received from manufacturers for advertising space actually used are treated as a credit to advertising expense.

*Inward Transportation.* Inward transportation charges include all expenses (freight, express, and truckage) for transporting merchandise from source of supply to warehouses, whether done by outside firms or in the chains' own trucks. Many chains in some lines of business treat this item as operating expense rather than as cost of merchandise, but the better and more general practice seems to be to include it with purchases. Note that expense for transportation from warehouse to stores, or from stores to customers, is not included here, but is treated as expense. To secure comparability among the figures for the six meat chains, however, all transportation expense was included with inward transportation.

*Salaries and Wages.* The salary and wage classification embraces all items of payroll expense both in stores and in the central organizations, including the compensation of chief executives. Thus, it includes salaries, commissions, bonuses, profit sharings, supper money, pensions, and other miscellaneous forms of compensation.

Store salaries and wages include these expenses which relate specifically to store operation, whether for selling or non-selling work. Carpenters and mechanics regularly employed for labor on major improvements are deemed to be store employees. Other salaries and wages

include the compensation of all central office and district office executives and employes, superintendents and supervisors, and all men engaged directly or indirectly in transporting goods from warehouses to stores, but no manufacturing employees. All pensions are included in other salaries and wages.

**Tenancy Costs.** Tenancy costs comprise all expenses on property used in the business. They therefore cover, in the case of leased property, not only rentals actually paid to landlords or realty holding companies but also any other payments made in lieu of rent, such as taxes, insurance, repairs, amortization or depreciation of major improvements, and amortization of leaseholds. The charges on owned real estate included in this account are the sum of the amounts that would be paid if outside firms owned the property, or, in other words, rentals based on the going value of real estate in the respective localities. Ordinarily, but not necessarily, rent on owned property will cover taxes, insurance, repairs, and depreciation on owned real estate, plus a fair charge for interest on equity in land, buildings, and improvements, as well as interest actually paid on mortgages.

In cases where a chain owns or leases more space than it needs and subleases portions to others, the going value of the space occupied by the chain is entered as expense. This amount should represent a fair rent on the real estate used, including a fair proportion of any additional expenses on the property, such as taxes, insurance, and repairs; and any profit or loss resulting from the subleasing operations, or from failure to sublease, is carried to other income.

**Transportation Purchased.** This item includes charges for freight, express, trucking, and handling done by outside firms in moving goods from warehouses to stores; but, in view of the definition of inward transportation, it does not include charges for the moving of merchandise from sources of supply to warehouses or to the points where the chain first takes physical possession of the goods. When trucking is done in a chain's own vehicles, the total cost is distributed equitably between inward transportation and expense, debits being made to the appropriate natural items, but no debit is made to transportation purchased.

**Advertising.** Advertising covers no salaries or supplies but does include the total space cost of advertising in newspapers, the cost of preparing mats at the central office, the total cost of printing handbills, circulars, catalogs, and other printed materials, the cost of special rider tickets bearing the firm's trade-mark or name and attached to merchandise, and the space cost for magazine advertising.

Allowances received from manufacturers for space actually used are credited to this account in order to

arrive at the total net advertising cost for the chain; but note that allowances not in compensation for space actually used are included with discounts and allowances.

**Insurance.** Insurance expense includes all insurance costs except insurance on real estate, which is treated as part of tenancy cost. It includes amounts set aside for self-insurance.

**Taxes.** Taxes includes all taxes borne directly by the chains except taxes on real estate, which are included in tenancy costs, and Federal taxes on income. Where sales taxes are collected directly from customers in the form of additional charges and later passed on to the government, they are not included in sales or in expense. In most states, however, no such provision for special collection was made in the law, the tax being levied either at a flat rate or at a graduated rate upon the total sales volume. Therefore, in most cases, reporting chains operating stores in sales tax states were able to shift the burden of the tax to consumers only by increasing their mark-ups. The amounts collected in such cases are, of course, included in the net sales figure, and the sales tax expense in such cases is included in taxes. It is recognized that this method of handling sales taxes, dictated by expediency, is subject to some criticism. The error resulting from the inclusion of the additional amounts in the net sales figure used as a base for percentage computation is small, however.

**Interest.** In order to obtain comparability between businesses using different methods of financing, interest at the rate of 6% on the average net worth is considered as an expense, along with interest actually paid, less interest and dividends received. Interest at 6% on real estate equity, and mortgage interest, are included with tenancy expense; while the item interest includes interest at 6% on net worth exclusive of real estate, leaseholds, and goodwill; plus interest paid, other than mortgage interest; less the amount of interest and dividends received.

**Total Expense Including Interest.** Total expense including interest is the complete cost of doing business, comprising, in addition to the usual outlays and charges, salaries of executives, proprietors, and partners; rental charges for owned real estate; and interest on owned capital.

**Net Profit.** The above procedure with respect to interest leads to a narrow definition of net profit as a theoretically residual sum over and above all the economic costs (as distinguished from the accounting or business costs) of carrying on the chain's merchandising operations, including interest on invested capital at either cost or 6%.

**Net Other Income.** Net other income has three

component parts: net profit or loss from real estate operations; interest on net worth other than real estate; and other revenue, net. In the first of these are included net profit or loss on owned real estate not used in the business, interest previously charged as expense on the investment in owned real estate used in the business, profit or loss on real estate which has been sublet, and the profit or loss of any subsidiary real estate holding companies. Under interest on net worth is credited back the interest at 6% on the average net worth (excluding real estate) previously included as an operating expense in arriving at the net profit on merchandising operations. Miscellaneous revenue, including receipts from the sale of salvaged materials, profits on any wholesaling or manufacturing business done with outsiders, and income from weighing or vending machines and pay telephones, is added under other revenue, net.

*Net Gain.* To arrive at the final net gain or net business profit, net other income is added to the net profit. Therefore the net gain figure, while not affording, from a statistical standpoint, so valid an interchain comparison as the net profit figure, may be taken as roughly approximate to net business profit in the commonly understood sense. Net gain is expressed both as a percentage of net sales and as a percentage of the average net worth. The use of the average net worth as a base for this figure introduces the complication of differing policies in regard to investment, particularly in assets requiring considerable capital, such as real estate. Where a chain owns many of the store sites and/or buildings used, either directly or through a subsidiary real estate corporation, the total average net worth is large in proportion to the net sales volume, and as a result the rate of return on invested capital is low as compared with that for a chain owning little or no real estate.

*Rate of Stock-turn.* The rate of stock-turn, or rapidity of merchandise turnover, is calculated by dividing the cost of merchandise sold by the average inventory at cost. For chain enterprises the average total inventory includes merchandise both in stores and in warehouses, plus other minor items noted earlier in defining net inventory of merchandise. Stock-turn figures of two types were computed for this study: the first, available for practically all chains, was based on the average of the beginning and ending total chain inventories (store and warehouse inventories combined); and the second, available for part of the chains only, was based on store inventories alone. Only total chain stock-turn figures are published in this report.

*Types of Average Used.* Some of the operating results included in this report are averages based on aggregate

or combined dollar figures for groups of chains, while other typical or summary figures are median or range data based on percentages computed for each firm individually.

The averages based on dollar aggregates manifestly are weighted according to sales volume. They do not afford good year-to-year comparisons unless only identical firms are used, since the averages are substantially affected by the omission or addition of one or two large firms.

The median figures give equal weight to each chain, irrespective of sales volume and number of stores. The median is the middle figure in an array of percentages listed in order from the smallest to the largest. Thus, in the third column of Table 5, where the gross margin of straight grocery chains is stated as 20.44%, this means that when the gross margin percentages for all 13 chains were arranged in order from the smallest to the largest, 20.44% was the percentage which stood at the mid-point. The range figures given in the last two columns of Table 5 indicate how closely the middle 50% of the percentages in the array for any item grouped themselves around the median. A narrow middle range indicates close concentration around the median figure; and the closer this concentration, the more reliable and more nearly representative is the median figure. In the interpretation of the median figures it should be noted that because of their statistical nature the medians for the individual items of expense ordinarily will not add to the median total expense, and the median net profit as a rule will not correspond precisely to the difference between the median gross margin and the median total expense. The same conditions hold true of the middle range figures.

*Information Omitted or Not Comparable.* A careful effort was made to get complete and fully comparable reports from all chains, but in a number of instances this was not possible.

Where information was not reported, or was not comparable and could not be made comparable, median figures were based on the comparable data available. This involved no important complications. In preparing medians each chain's experience received the same weight as each other chain's experience, and it was a simple matter to omit one or two figures. Unless only a few reports were available, or unless there was substantial dispersion among the figures reported, this normally would not have any important effect on the median.

More difficulty was encountered in the preparation of the averages based on aggregates of dollar figures. Here, if complete reports were not available for all firms, it was not possible to arrive at correct dollar

aggregates or to compute correct percentages from the dollar aggregates; and hence, speaking strictly, one could not simply omit a firm's data for one item of expense unless that firm's data for all items were omitted. To avoid this latter alternative in cases where reports contained only minor, or a few, shortcomings, one or the other of two practical expedients was adopted.

Where the omission, or lack of comparability, concerned an item of small importance, or a relatively small chain (which, of course, would have small weight), the omission was overlooked, the dollar aggregate figure was built up on the basis of all firms which did report, and in computing the percentage the total dollar aggregate thus arrived at was divided by the dollar sales for all firms. In such cases, the dollar expense and the percentage expense for the item in question were understated, but the understatement was deemed to be not serious. Such figures are indicated in the tables by daggers (†).

Where the figure omitted, or not comparable, was of more importance, so that the procedure just described would lead to serious error not only in the figure for the individual item but also in those for other items, such as total expense or net profit, or where the dollar amount involved was large, the Bureau prepared an estimated dollar figure for the chain which did not report. Such estimates were based on the figures which were reported by the chain concerned, and also upon the experiences of other similar chains which supplied complete information. They were employed occasionally in the case of interest, both the expense and the offsetting credit, for chains which did not report balance sheet data adequate for the computation of net worth.

*Classification of Expense.* Expenses are classified on the usual so-called "natural" basis as follows: salaries and wages; tenancy costs, including amortization or depreciation of major improvements; depreciation of fixtures and equipment; light, heat, water, power, and refrigeration; transportation purchased; supplies; advertising; insurance; taxes; miscellaneous expense; and interest. Miscellaneous expense includes communication, travelling, professional services, and unclassified expense.

Such a classification indicates the type of expenditure but does not indicate for what activity or function of the business the expenditure was incurred. Therefore, for the firms reporting sufficiently detailed figures, average percentages are presented, also, for expenses subdivided according to a roughly functional classification into "store" expense and "administrative, general,

warehouse, and transportation" expense. Several detailed aspects of this classification have been described in connection with the definition of salaries and wages, and other aspects are evident from Table 9, page 20. It should be noted especially that all advertising expense, all taxes except those on real estate and Federal taxes on income, and transportation expense incurred in moving goods from warehouses to stores are included with central office or overhead expense; and that interest is not included with either store expense or other expense, but is placed in a category entirely separate.

For other groups of chains which reported in sufficient detail, gross margin, store expense, and store profit (before allocation of central office overhead) are given for straight grocery stores, for the grocery sides of combination stores, for straight grocery stores and the grocery sides of combination stores combined, and for the meat sides of combination stores.

*Distribution of Expense.* No definite rules were laid down for the distribution, or allocation, of expense between the grocery and meat sides of combination stores. It was felt that the divergence of practice among chains was so great that such rules would have involved substantial hardship and perhaps would have discouraged firms from reporting figures. The Bureau indicated, however, that wherever possible expense should be charged directly to the respective sides; that tenancy, light, heat, water, power, and refrigeration might be charged on a square foot basis; and that other expenses might be allocated on the basis of sales.

*Goal Figures.* As is described in the body of this report on pages 9 and 43, the so-called "goal" figures presented for several groups of food chains are based on the operations of the most profitable firms in each group and are offered as standards of operating efficiency. The name "goal" has been taken over from the department store field where it is well established.

*Manufacturing and Wholesaling.* Where there were any substantial sales at wholesale to outsiders, whether of goods manufactured by the chain or goods bought for resale, all figures relating to these operations were excluded from the operating statement (except that any net profit or loss from them was carried to other income) and listed separately on the balance sheet. Goods transferred from a manufacturing department to the chain were transferred at cost, the appropriate amount being included as purchases. This cost reflected expenditures and charges for materials, labor, supplies, depreciation, interest paid, interest at 6% on the equity in inventory, plant, and equipment, and other items, but no profit.

## BUREAU OF BUSINESS RESEARCH: BULLETINS IN PRINT—Continued

### DRUG — WHOLESALE

- No. 50. Operating Expenses in the Wholesale Drug Business in 1924..... 50 cents  
No. 46. Operating Expenses in the Wholesale Drug Business in 1923..... 50 cents

### DRY GOODS — WHOLESALE (Southern)

- No. 45. Operating Expenses in the Wholesale Dry Goods Business in the South in 1923..... 50 cents

### GROCERY — RETAIL (See also CHAIN STORES)

- Operating Expenses in Retail Grocery Stores: 1924, No. 52; 1923, No. 41; 1919, No. 18..... 50 cents each  
No. 13. Management Problems in Retail Grocery Stores (1918)..... 50 cents  
No. 5. Expenses in Operating Retail Grocery Stores (1914)..... 50 cents  
No. 3. Operating Accounts for Retail Grocery Stores (revised edition — 1922)..... 50 cents

### GROCERY — WHOLESALE (See also CHAIN STORES)

- No. 55. Cases on Merchandise Control in the Wholesale Grocery Business (1925)..... (In cloth) 50 cents  
Operating Expenses in the Wholesale Grocery Business: 1923, No. 40; 1921, No. 30; 1919, No. 19..... 50 cents each  
No. 14. Methods of Paying Salesmen, and Operating Expenses in the Wholesale Grocery Business in 1918. 50 cents  
No. 9. Operating Expenses in the Wholesale Grocery Business (1916)..... 50 cents  
No. 8. Operating Accounts for Wholesale Grocers (revised edition — 1920)..... 50 cents

### GROCERY — MANUFACTURERS

- No. 79. Marketing Expenses of Grocery Manufacturers for 1927 and 1928..... \$1.00  
No. 77. Marketing Expenses of Grocery Manufacturers for 1927..... \$1.00  
No. 69. Marketing Expense Classification for Grocery Manufacturers (1928)..... \$1.00

### HARDWARE — RETAIL

- No. 21. Operating Expenses in Retail Hardware Stores in 1919..... 50 cents  
No. 11. System of Operating Accounts for Hardware Retailers (1918)..... 50 cents

### JEWELRY — RETAIL

- No. 76. Operating Results of Retail Jewelry Stores for 1927..... \$1.00  
No. 65. Operating Expenses of Retail Jewelry Stores in 1926..... \$1.00  
Corresponding Bulletins for earlier years: No. 58, 1925; No. 54, 1924; No. 47, 1923; No. 38, 1922; No. 32, 1921;  
No. 27, 1920; No. 23, 1919..... 50 cents each  
No. 15. Operating Accounts for Retail Jewelry Stores (1919)..... 50 cents

### LABOR

- No. 25. Labor Terminology (1921)..... (In cloth) 50 cents

### PAINT AND VARNISH — WHOLESALE

- No. 66. Operating Expenses in the Wholesale Paint and Varnish Business in 1926..... \$1.00  
No. 60. Preliminary Report on Operating Expenses in the Wholesale Paint and Varnish Business in 1925. 50 cents

### PLUMBING AND HEATING SUPPLY — WHOLESALE

- No. 72. Methods of Departmentizing Merchandise and Expense Figures for Plumbing and Heating Supply Wholesalers (1928)..... \$1.00  
No. 71. Operating Expenses of Plumbing and Heating Supply Wholesalers in the Central States in 1927..... \$1.00

### PRIVATE SCHOOLS

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### SHOE — RETAIL (See also CHAIN STORES)

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Operating Expenses in Retail Shoe Stores: 1923, No. 43; 1922, No. 36; 1921, No. 31; 1919, No. 20..... 50 cents each  
No. 10. Management Problems in Retail Shoe Stores (1913-1917)..... 50 cents  
No. 7. System of Stock-keeping for Retail Shoe Stores (1922)..... 50 cents  
No. 2. Operating Accounts for Retail Shoe Stores (revised edition — 1917)..... 50 cents

### SHOE — WHOLESALE

- No. 6. System of Accounts for Shoe Wholesalers (1916)..... 50 cents

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- No. 80. Operating Results of Retail Stationers and Office Outfitters in 1928..... \$1.00  
No. 67. Operating Expenses of Retail Stationers and Office Outfitters in 1926..... \$1.00

### TEXTILES (See also COTTON)

- No. 56. Distribution of Textiles (1926)..... (In cloth) \$1.00

### WALL PAPER — WHOLESALE

- No. 73. Operating Expenses of Wall Paper Wholesalers in 1927..... \$1.00