

A SURVEY OF RETAIL GROCERY PRICES
IN STILLWATER, OKLAHOMA

By

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PREFACE

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CHAPTER I

INTRODUCTION

General Nature of Grocery Stores:

"In the United States there are about 1,700,000 business enterprises engaged in retailing."¹ 187,034 of these are classified as combination meat and grocery stores.²

In 1939, the total amount of yearly sales in combination meat and grocery stores varied from \$5,000 to \$1,000,000 per store. Total yearly sales of this type of business per store are small in comparison with other types of retail businesses.³

The combination meat and grocery store is primarily engaged in the sale of convenience goods. The customers of this type of store usually desire to purchase with a minimum of effort.⁴ However, groceries are now being shopped for, and low prices are attracting customers far beyond the limits of convenience.⁵ In a study of the "Patronage Motives in Buying Groceries", at any one particular store, it was found that price attracted more customers than other reasons, with convenience of location a fairly close second, followed by quality of merchandise, personality of grocer, wider selection of goods, credit service, reciprocity, delivery service, and advertising.⁶

¹ Duncan, Delbert J., and Phillips, Charles F., Retailing Principles and Methods, p. 3.

² U. S. Census of Business, Retail Trade, 1939, by Types of Operation, United Summary (April 16, 1941), pp. 4-7.

³ U. S. Department of Commerce, Establishing and Operating a Grocery Store, p. 7

⁴ Duncan, Delbert J., and Phillips, Charles F., Op. cit., p. 49.

⁵ Ibid., p. 107.

⁶ Ibid., p. 55.

Nearly every combination meat and grocery store could be divided into four distinct departments. They are: dry groceries, fresh and smoked meats, fresh fruits and vegetables, and dairy and egg products. To these, in some cases, could be added bakery goods and delicatessen departments. Each of these departments has its own distinct characteristics. "The dry grocery department almost invariably has the largest investment in stock and the slowest turnover, while meats have a comparatively small inventory and fast turnover."⁷

Grocery stores compete not only on a price basis but on services rendered to customers. "The services of the grocery store include service in the store, credit extension, telephone service, delivery service. When all four are offered the store is a complete service grocery."⁸ "Chain-store units tend to operate on a cash-and-carry basis, ask the customer to serve himself and in still other ways limit the amount of free service to the customer."⁹ Stores which offer credit and delivery service must obtain a higher price for their merchandise.

"Extension of credit is a costly service which must be absorbed in the markup of goods. If you base your business on a credit policy, you have the advantages of a better class of trade, a good mailing list for advertising, regular customers who buy more goods in your store, and the opportunity to induce your best cash customers to use charge accounts. On the other hand, credit business ties up money, adds to the bookkeeping expense, and may be the source of debt losses and collection costs. A cash business often offers lower prices or some other advantage to offset the convenience to customers of making regular payments on a charge account. The cost of doing business is about 4 per cent higher, however, if you support a credit program."¹⁰

⁷ Anon., Modern Food Merchandising, p. 25.

⁸ U. S. Department of Commerce, Op. cit., p. 11.

⁹ Duncan, Delbert J., and Phillips, Charles F., Op. cit., p. 19.

Shaw, Walter F., and Kay, Edith W., How to Start Your Own Business, p. 111.

"Delivery costs range from 0.1 to 1.3 percent of net store sales. This expense is high yet it may pay to add it in seeking greater sales volume."¹¹

Purpose of Study

The purpose of this study was: 1. To compare the prices of various types of grocery items in 29 full-line grocery stores in Stillwater; 2. to determine and show variations in prices of comparable grocery and meat items; 3. to determine and show variations in prices of non-comparable grocery and meat items; 4. to determine and compare total prices on all items as charged by the 29 grocery stores; 5. to compare prices as charged by grocery stores giving the same services; 6. to compare prices as charged by the four departments in the 29 grocery stores; and, 7. to compare stores on the basis of a weighted index.

Needs for This Study

A large percent of the national income is spent each year for food. This being the case, prices charged for meat and groceries are a concern to everyone. Any amount that can be saved on a grocery bill is the equivalent of an increase in pay. Grocery prices vary from store to store with no one store having a monopoly on the lowest price for each item sold. This sometimes leads to confusion on the part of the consumer as to which store actually has the lowest over-all price on the items desired. Of course the consumer could shop around for the best bargains but this would require a considerable loss of time and energy. It is believed that a consumer using this type of survey on a much smaller scale can determine which store will best suit his purpose. A study of this nature would also prove profitable

Haas, Kenneth B., and Kyker, B. Frank, Conference Topics for the Retail Grocery Store, p. 30.

to the grocer in order to determine if prices charged in his store are in line with other stores. There is a need to ascertain that prices do vary, how much they vary, and what it means to the consumer.

Scope and Limitations of the Study

This study was limited to the full-line grocery stores in Stillwater. Included were the following stores: A & M Grocery, Aggie Grocery, Andy's Grocery, Clark's Grocery, College Grocery and Market, Drumm Grocery, G & G Grocery, Hager's Market, Hesser Grocery, Hugh's Food Market, Jack's Grocery, King's Grocery and Market, Marvin's Food Market, M & W Food Store, Piggly Wiggly, Prichard's Grocery, Reed's Grocery, Ray's Grocery, Safeway, Steve's Drive-In, Stephenson's Model Grocery, Stillwater Fruit Market, Ventris Grocery and Market, Vernie's Grocery, W & W Food Market, Yancy & Raupe Grocery and Produce, Commissary (Village), Cooksey's Grocery, and King's Grocery #2.

One full-line grocery store was omitted from this study because being a consumer cooperative, the prices charged are not the true prices and any comparison made would be without meaning.

All stores, that did not carry a full-line of groceries and meats, were omitted because the study through necessity would be limited to the items they did carry.

The study was further limited to a three-day period, March 16, 1949, to March 19, 1949. This period was in the middle of the week in order to avoid as far as possible leaders or week-end specials.

No attempt was made to explain the differences in the prices of various items. This could be used as a study in itself.

All stores were given a code number so as not to disclose the information received from the various stores. This code number does in no way conform to the arrangement of the list of stores mentioned earlier in the chapter.

Source of Data and Procedure Followed

The primary data used in this study was obtained by an advanced Marketing Research class under the direction of Professor George R. Hill during the spring semester, 1949. The class selected the group of items to be used in the study and special effort was made to make the group of items representative of all items found in a grocery store. A separate trial survey was made to acquaint the interviewers with the items and method of pricing the items. The tabulation of prices was done by students working in pairs. This procedure was followed in order to insure accuracy in the pricing of the items. The items were classified as comparable and non-comparable. The class prepared a term paper from the data obtained. With the aid of a local grocer, the cost prices of some of the items which had been classified as non-comparable were found. The cost differences on these items were very small. Because of this it is believed that all the items are comparable.

Definition of Terms. The following terms are defined as they are used throughout this study.

Full-line grocery store: any retail food store which carries in stock an assortment of canned goods, poultry and dairy products, smoked and fresh meats, and fresh fruits and vegetables.

Comparable items: grocery items which are the same in quality, quantity and brand.

Non-comparable items: any item in which any doubt arises as to its comparability because of differences in brand or quality. For example, if any one store failed to handle an item with the same brand as the other 28 stores it was classified as a non-comparable item. As a whole this class of items are comparable.

Standard items: comparable items.

Non-standard items: non-comparable items.

Standard brands: brands of merchandise sold on a nation wide basis, whose name and reputation have been built by the manufacturer or the distributor.

Combination meat and grocery store: any retail store selling both groceries and meats.

Grocery store: full-line grocery store.

Large stores: as used here it refers to the seven grocery stores having the largest sales volume in Stillwater. Stores with code numbers from 1 to 7 are the large stores.

Small Stores: all stores other than the large stores. Stores with code numbers from 8 to 29 are the small stores.

Fresh fruits and vegetables: all uncanned and unprocessed fruits and vegetables.

Fresh and smoked meats: all meats which are usually distributed over the meat counter by a butcher.

Dairy products: includes all dairy products, poultry products, and margarine.

Dry groceries: all items not included in fresh fruits and vegetables, meats, and dairy products.

Assumptions. The following assumptions were made in this study.

1. That the prices tabulated on all articles clearly represents the pricing policies of the store in general and that no bias occurs in the sample because the price on that article is out of line with the general prices of the store.

2. That the prices tabulated in any one department reflect the general pricing policies of that department.

3. That while not identical, non-standard items are comparable; that is, equal in quality. The quantity has been ascertained.

4. That the national percentage average of sales by departments can be applied to Stillwater grocery stores.

5. That the sample of items selected for use in this study are representative of items carried in a full-line grocery store.

CHAPTER II

AN ANALYSIS OF THE PRICES OF COMPARABLE AND NON-COMPARABLE ITEMS

"Tests have shown that there are wide differences in the prices charged for identical items by different sellers."¹ These differences can be accounted for by (1) different rate of markups, (2) original cost of items, (3) loss-leader prices, (4) services rendered to customers, (5) operating expenses, (6) location of store, and (7) competition.

"The grocer usually cannot, without considerable loss of sales volume, obtain high mark-ups on unbranded staples that are purchased frequently, on standardized and branded items where competition is selling exactly the same thing, or on items where a difference in brand name or appearance means little to a customer. Prices on staples are often taken by customers as an indication of the general price level of the store."²

Comparable Items:

Table I has been prepared to show the variation in prices on forty comparable items in 29 full-line grocery stores in Stillwater. A total was obtained by stores for the 40 items. No one store had the lowest or the highest price on all of the individual items although store no. 5 was as low or lower than any other store on 31 of the 40 items and was high on one item. Totals for all the items ranged from \$11.21 for store no. 2 to \$13.16 for store no. 16. This indicates that store no. 16 was 17.4% higher on the forty comparable items than store no. 2.

The percent variation in prices on each of the individual items is shown in Table II. The lowest price charged by any store was compared against the highest price charged by any store, the difference found and that difference divided by the low price to obtain a percent variation. Folger's coffee, white cane sugar, crackers, and butter were found to be the four most competitive

¹ Department of Commerce, Establishing and Operating a Grocery Store, p. 153.

² Ibid., p. 161.

TABLE I
 FORTY COMPARABLE ITEMS PRICED IN 29 GROCERY STORES
 IN STILLWATER, OKLAHOMA

ITEM	BRAND	SIZE & CONTENTS	STORES----																												
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.
Tomato Soup	Campbells	10½ oz.	\$.13	\$.11	\$.13	\$.12	\$.11	\$.11	\$.11	\$.13	\$.12	\$.12	\$.12	\$.13	\$.13	\$.13	\$.12	\$.16	\$.12	\$.13	\$.13	\$.13	\$.12	\$.12	\$.12	\$.13	\$.13	\$.13	\$.13	\$.15	\$.13
Vegetable Soup	"	11 oz.	.17	.13	.17	.17	.13	.14	.14	.17	.17	.16	.16	.17	.17	.16	.16	.16	.14	.15	.16	.17	.15	.18	.16	.15	.15	.16	.15	.17	.15
Chicken Noodle Soup	"	10½ oz.	.19	.17	.20	.19	.17	.17	.17	.19	.19	.20	.19	.20	.20	.19	.19	.19	.17	.19	.19	.19	.19	.18	.19	.19	.19	.19	.19	.20	.19
Canned Milk	Pet	14½ oz.	.15	.13	.15	.14	.13	.14	.13	.15	.14	.15	.15	.15	.15	.14	.15	.16	.14	.16	.15	.15	.16	.16	.14	.15	.15	.16	.15	.15	
Strained Baby Food:																															
Mixed Veg.	Gerbers	4 2/3 oz.	.09	.09	.09	.09	.08	.08	.08	.10	.09	.09	.08	.09	.09	.09	.08	.08	.08	.08	.08	.09	.09	.09	.08	.08	.10	.09	.09	.09	.08
Peaches	"	"	.09	.09	.09	.09	.08	.08	.08	.10	.09	.09	.08	.09	.09	.09	.08	.08	.08	.08	.08	.09	.09	.09	.08	.08	.10	.09	.09	.09	.08
Pork & Beans	Van Camp	1 lb.	.15	.13	.15	.18	.12	.13	.12	.15	.15	.13	.14	.15	.15	.13	.13	.15	.13	.15	.15	.15	.14	.13	.14	.14	.14	.15	.14	.16	.13
Baking Powder	Calumet	1 lb.	.25	.18	.20	.20	.21	.19	.21	.21	.20	.23	.22	.25	.25	.25	.24	.25	.22	.25	.23	.25	.25	.25	.24	.23	.24	.18	.22	.25	.25
Soda	Arm & Hammer		.10	.08	.10	.09	.08	.10	.09	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.11	.10	.10	.09
Salt	Morton's	1 lb. & 10 oz.	.10	.10	.10	.10	.09	.10	.10	.10	.12	.10	.11	.12	.12	.12	.10	.10	.10	.11	.10	.12	.10	.10	.10	.10	.10	.10	.10	.11	.10
Powdered Sugar	Imperial	1 lb.	.13	.12	.14	.14	.12	.12	.12	.14	.13	.15	.14	.15	.15	.15	.14	.14	.13	.15	.13	.13	.14	.13	.14	.13	.14	.14	.13	.15	.13
Cocoa	Hershey's	½ lb.	.25	.23	.23	.23	.23	.21	.22	.25	.23	.25	.25	.27	.25	.25	.25	.27	.23	.25	.25	.25	.25	.24	.24	.25	.25	.20	.25	.27	.25
Coffee	Folger's	1 lb.	.59	.56	.57	.55	.55	.55	.55	.59	.59	.58	.57	.59	.59	.59	.57	.61	.57	.57	.56	.59	.58	.56	.55	.57	.56	.58	.56	.59	.59
Coffee	Cain's	1 lb.	.51	.47	.49	.49	.45	.45	.45	.49	.49	.50	.49	.50	.49	.51	.45	.54	.48	.48	.48	.53	.50	.48	.47	.48	.48	.49	.46	.49	.49
Syrup	Karo	1 pt.	.25	.21	.23	.23	.20	.21	.21	.23	.23	.23	.22	.23	.25	.21	.25	.24	.21	.25	.22	.25	.23	.22	.23	.23	.23	.21	.23	.25	.21
Tea	Lipton's	¼ lb.	.35	.31	.35	.35	.31	.33	.31	.35	.35	.36	.39	.39	.35	.36	.33	.37	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.39	.35
Sardines	Holmes	3¼ oz.	.15	.13	.15	.15	.15	.11	.10	.15	.15	.15	.15	.13	.15	.15	.15	.13	.13	.16	.13	.15	.15	.12	.15	.15	.14	.15	.15	.13	.13
Vienna Sausage	Armour	4 oz.	.21	.19	.21	.23	.19	.20	.19	.20	.21	.20	.21	.21	.21	.21	.21	.22	.20	.22	.20	.20	.19	.20	.20	.21	.20	.20	.20	.21	.21
Span		12 oz.	.50	.45	.55	.49	.45	.49	.49	.53	.55	.52	.49	.59	.49	.55	.49	.57	.50	.55	.55	.55	.53	.57	.49	.54	.52	.50	.51	.49	.55
Clorox		1 pt.	.12	.10	.15	.10	.09	.10	.10	.12	.10	.10	.10	.15	.15	.10	.10	.10	.09	.10	.10	.15	.10	.10	.10	.12	.10	.11	.11	.11	.10
Shortening	Crisco	3 lbs.	1.05	.97	.99	.98	.95	.97	.95	1.05	1.10	.99	.97	1.05	1.10	.96	1.12	1.19	1.03	1.09	.93	1.15	1.13	1.05	1.15	1.05	1.05	1.10	1.09	1.12	.99
Shortening	Mrs. Tuckers	3 lbs.	.79	.69	.79	.73	.69	.69	.69	.79	1.05	.89	.89	.79	.89	.79	.69	.89	.73	.97	.69	.85	.89	.89	.75	.79	.84	.95	.69	.89	.79
Cereals:																															
All Bran	Kelloggs	10 oz.	.17	.17	.16	.19	.16	.16	.16	.17	.17	.17	.17	.18	.19	.18	.18	.18	.18	.17	.18	.19	.18	.18	.16	.19	.18	.19	.19	.17	.18
Grapenut Flakes	Post	8 oz.	.16	.15	.16	.15	.15	.15	.15	.15	.15	.16	.15	.18	.16	.16	.16	.16	.15	.17	.17	.19	.17	.18	.18	.18	.17	.15	.16	.17	.17
Jello		3 oz.	.09	.08	.09	.09	.07	.07	.08	.10	.10	.09	.09	.10	.09	.10	.10	.10	.09	.10	.09	.10	.09	.08	.09	.09	.10	.08	.10	.08	.08
Crackers	Krispy Sunshine	1 lb.	.27	.25	.27	.27	.25	.27	.25	.27	.29	.28	.27	.28	.28	.28	.27	.27	.26	.27	.27	.29	.27	.27	.26	.26	.26	.27	.28	.27	.27
Soap (laundry)	Oxydol	1 lb. & 8 oz.	.34	.29	.33	.29	.29	.29	.29	.35	.33	.35	.33	.35	.35	.31	.30	.35	.30	.32	.33	.35	.34	.33	.31	.31	.32	.34	.31	.35	.32
Soap (laundry)	Dreft	11 oz.	.34	.28	.33	.28	.27	.27	.27	.35	.33	.35	.31	.33	.33	.31	.30	.34	.27	.32	.29	.35	.33	.31	.29	.32	.32	.33	.31	.33	.29
Hand soap	Lifebuoy	standard	.10	.09	.12	.10	.09	.09	.10	.10	.12	.12	.12	.10	.10	.10	.10	.12	.10	.12	.12	.13	.12	.12	.10	.11	.10	.11	.10	.10	.11
Hand soap	Lux	standard	.12	.09	.12	.10	.09	.09	.09	.10	.12	.12	.12	.10	.10	.11	.10	.11	.14	.12	.11	.13	.12	.11	.10	.11	.10	.11	.10	.10	.11
Navy Beans		2 lbs.	.29	.27	.33	.29	.25	.27	.25	.33	.33	.29	.34	.29	.35	.34	.29	.29	.25	.25	.29	.35	.32	.29	.29	.25	.35	.32	.30	.35	.25
Flour	Gold Medal	10 lbs.	.95	.84	.98	.89	.87	.85	.93	.98	.95	.98	.98	.99	.95	.98	.97	1.03	.93	.98	.95	.95	.99	.90	.98	.95	.98	.98	.95	.98	.98
Flour	Pillsbury	10 lbs.	.95	.84	.98	.89	.87	.85	.93	.98	.95	.98	.98	.99	.95	1.05	.97	1.03	.93	.98	.95	.95	.99	.89	.98	.95	.98	.98	.95	.98	.98
Sugar (white cane)	C & H	5 lbs.	.49	.48	.50	.49	.48	.48	.49	.55	.55	.49	.49	.59	.50	.49	.49	.55	.49	.53	.49	.55	.52	.49	.49	.52	.50	.50	.49	.55	.51
Pancake Flour	Aunt Jemima	1½ lbs.	.21	.17	.21	.19	.18	.19	.18	.20	.19	.20	.20	.22	.21	.21	.20	.21	.19	.20	.20	.19	.21	.20	.20	.20	.19	.20	.20	.22	.21
Cake Mix	Pillsbury	1 lb.	.42	.37	.45	.43	.35	.37	.38	.39	.39	.39	.39	.45	.39	.44	.43	.44	.38	.32	.39	.39	.39	.43	.39	.39	.44	.37	.39	.45	.39
Butter	A & M	1 lb.	.74	.73	.74	.69	.76	.69	.65	.76	.75	.71	.72	.76	.69	.74	.72	.75	.71	.69	.71	.79	.69	.70	.73	.74	.78	.73	.79	.73	.74
Tomatoes		carton - 1 lb.	.29	.21	.23	.23	.27	.29	.29	.29	.29	.29	.29	.29	.27	.27	.27	.24	.27	.28	.27	.29	.29	.28	.28	.27	.28	.28	.27	.29	.27
Potatoes (white)		1 lb.	.07	.07	.07	.07	.06	.07	.08	.09	.08	.08	.08	.08	.08	.07	.07	.08	.07	.07	.06	.08	.06	.06	.07	.06	.06	.06	.08	.07	.07
Apples	Red Delicious	1 lb.	.19	.19	.19	.23	.21	.19	.19	.29	.19	.19	.18	.21	.20	.19	.18	.21	.19	.21	.22	.23	.20	.20	.20	.20	.19	.19	.17	.18	.17
TOTALS			\$12.51	11.21	12.49	11.91	11.25	11.31	11.37	12.74	12.83	12.52	12.43	12.97	12.73	12.61	12.20	13.16	11.83	12.64	12.05	13.09	12.71	12.33	12.27	12.32	12.57	12.54	12.19	12.95	12.24

TABLE II
 PERCENT VARIATION IN PRICES OF FORTY COMPARABLE ITEMS
 IN 29 STILLWATER, OKLAHOMA, GROCERY
 STORES

Name of Item	Low	High	Difference	Percent Variation
Tomato Soup	\$.11	\$.16	\$.05	45.5
Vegetable Soup	.13	.17	.04	30.8
Chicken and Noodle Soup	.17	.20	.03	17.6
Canned Milk	.13	.16	.03	23.1
Strained Baby Food:				
Mixed Vegetables	.08	.10	.02	25.0
Peaches	.08	.10	.02	25.0
Pork and Beans	.12	.18	.06	50.0
Baking Powder	.18	.25	.07	38.9
Soda	.08	.11	.03	37.5
Salt	.09	.12	.03	33.3
Powdered Sugar	.12	.15	.03	25.0
Cocoa	.20	.27	.07	35.0
Coffee (Folger's)	.55	.61	.06	10.9
Coffee (Cain's)	.45	.53	.08	17.8
Syrup	.20	.25	.05	25.0
Tea	.31	.39	.08	25.8
Sardines	.10	.16	.06	60.0
Vienna Sausage	.19	.23	.04	21.1
Spam	.45	.59	.14	31.1
Clorox	.09	.15	.06	66.7
Shortening:				
Crisco	.93	1.19	.26	28.0
Mrs. Tucker's	.69	1.05	.36	52.2
Cereals				
All Bran	.16	.19	.03	18.8
Grapenut Flakes	.15	.19	.04	26.7
Jello	.07	.10	.03	42.9
Crackers	.25	.29	.04	16.0
Oxydol	.29	.35	.06	20.7
Dreft	.27	.35	.08	29.6
Lifebuoy	.09	.13	.04	44.4
Lux	.09	.14	.05	55.6
Navy Beans	.25	.35	.10	40.0
Gold Medal Flour	.84	1.03	.19	22.6
Pillsbury Flour	.84	1.05	.21	25.0
Sugar	.48	.55	.07	14.6
Pancake Flour	.17	.22	.05	29.4
Cake Mix	.35	.45	.10	28.6
Butter	.65	.76	.11	16.9
Fresh Tomatoes	.21	.29	.08	38.2
Potatoes	.06	.09	.03	50.0
Apples	.17	.23	.06	35.3

items with the percent variation in prices ranging from 10.9% to 16.9%. The largest variation in prices was found in Clorox (66.7%), Sardines (60%), Lux Toilet Soap (55.6%), and Mrs. Tucker's Shortening (52.2%).

An average for all standard items was obtained and this average used in Table III as an index number. The index number was \$12.34. The total for all the comparable items by stores was divided by the index number. The resulting figure was converted into a percentage variation from average for all standard items in the 29 stores. The lowest percentage was for store no. 2 with 90.84%. The highest was for store no. 16 with 106.65%, the range being 15.81%. The lowest percentages were found in the seven large stores as compared against the 22 small stores.

A comparison was made in Table IV between the 7 large stores. An average of \$11.72 was obtained for the 40 standard items and this used as an index number. The totals of the standard items for each of the 7 large stores was divided by the index number to obtain a percent variation from average. The variation ranged from 95.65% for store no. 2 to 106.74% for store no. 1. Four of the 7 stores were found to be selling below the average while 3 were above.

A percent variation from average for all standard items in the 22 small stores was obtained as shown in Table V. The average for all the items was found to be \$12.54. This figure was divided into the total amount for all the standard items in each store. The percent variation ranged from 94.34% for store no. 17 to 104.94% for store no. 16, the difference being 10.60%.

The differences between the two index numbers used in Table IV and Table V should be noted. \$11.72 used in Table IV is for the seven large stores while the \$12.54 used in Table V is for the 22 small stores. The difference represents the higher average price charged by the small stores.

TABLE III
 PERCENT VARIATION FROM AVERAGE FOR ALL STANDARD ITEMS *
 IN 29 STORES

Store Number	Total for All Items	Percent Variation
1	\$ 12.51	101.38
2	11.21	90.84
3	12.49	101.22
4	11.91	96.52
5	11.25	91.17
6	11.31	91.65
7	11.37	92.13
8	12.74	103.24
9	12.83	103.97
10	12.52	101.46
11	12.43	100.73
12	12.97	105.11
13	12.73	103.16
14	12.61	102.19
15	12.20	98.87
16	13.16	106.65
17	11.83	95.87
18	12.64	102.43
19	12.05	97.65
20	13.09	106.08
21	12.71	103.00
22	12.33	99.92
23	12.27	99.43
24	12.32	99.84
25	12.57	101.86
26	12.54	101.62
27	12.19	98.78
28	12.95	104.94
29	12.24	99.19

* \$12.34 Average Equals 100%

TABLE IV
 PERCENT VARIATION FROM AVERAGE *
 FOR 40 STANDARD ITEMS
 IN 7 LARGE STORES

Store Number	Total for All Items	Percent Variation
1	\$ 12.51	106.74
2	11.21	95.65
3	12.49	106.57
4	11.91	101.62
5	11.25	95.99
6	11.31	96.50
7	11.37	97.01

* \$11.72 Average Equals 100%

TABLE V
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL STANDARD ITEMS
 IN 22 SMALL STORES

Store Number	Total for All Items	Percent Variation
8	\$ 12.74	101.59
9	12.83	102.31
10	12.52	99.84
11	12.43	99.12
12	12.97	103.43
13	12.73	101.52
14	12.61	100.56
15	12.20	97.29
16	13.16	104.94
17	11.83	94.34
18	12.64	100.80
19	12.05	96.09
20	13.09	104.39
21	12.71	101.36
22	12.33	98.33
23	12.27	97.85
24	12.32	98.25
25	12.57	100.24
26	12.54	100.00
27	12.19	97.21
28	12.95	103.27
29	12.24	97.60

* \$12.54 Average Equals 100%

Non-Comparable

In most cases the term comparable could be used to describe this list of items. If all of the 29 stores did not carry the same brand the item was classified as non-comparable. For example, 16 of the 29 stores carried Niblet's Whole Kernel Corn(yellow), and 28 stores carried in stock Kraft's Velveeta Cheese.

Table VI has been prepared to show the individual prices on 24 items as charged in 29 grocery stores in Stillwater. Store no. 5 was found to be as low or lower than any of the other stores on 5 of the 24 items and was high on 2 items. Totals were obtained by stores for the 24 items.

The percent variation in prices on each of the 24 items is shown in Table VII. A much larger variation was found among the non-comparable items than among the comparable items. Raisins were the most competitive with a percentage variation of 27.3%. This variation was on the same standard brand. The largest variation was in grapefruit with a 140% variation.

The percentage variation from average for all stores is shown in Table VIII. An average total for all the non-standard items was obtained. This figure was found to be \$9.53. By dividing the \$9.53 into the total for each store, a per cent variation from average was found. The range was from 93.07% for store no. 5 to 106.72% for store no. 20, or a difference of 13.65%. It is interesting to note that the range was wider on the standard items (15.81%) than on non-standard items (13.65%).

Prices vary among the seven large stores by 12.53%. In Table IX an average total price of non-standard items was obtained for the seven large stores. This average of \$9.46 was divided into the total price of the non-standard items. The resulting percentage figures were found to range from 93.76% for store no. 5 to 106.29% for store no. 3. Three stores were selling below average and four above average.

TABLE XV
PRICES OF 64 GROCERY ITEMS
BY DEPARTMENTS

Name of Item	Store Number										11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.																			
Dry Grocery Department:																													
Tomato Soup	\$.13	\$.11	\$.13	\$.12	\$.11	\$.11	\$.11	\$.13	\$.12	\$.12	\$.12	\$.13	\$.13	\$.13	\$.12	\$.16	\$.12	\$.13	\$.13	\$.13	\$.12	\$.12	\$.12	\$.13	\$.13	\$.13	\$.12	\$.15	\$.13
Vegetable Soup	.17	.13	.17	.17	.13	.14	.14	.17	.17	.16	.16	.17	.17	.16	.16	.16	.14	.15	.16	.17	.15	.18	.16	.15	.15	.16	.15	.17	.15
Chicken & Noodle Soup	.19	.17	.20	.19	.17	.17	.17	.19	.19	.20	.19	.20	.20	.19	.19	.19	.17	.19	.19	.19	.19	.18	.19	.19	.19	.19	.19	.20	.19
Canned Milk	.15	.13	.15	.14	.13	.14	.13	.15	.14	.15	.15	.15	.15	.14	.15	.16	.14	.16	.15	.15	.16	.16	.14	.15	.15	.16	.15	.15	.15
Strained Baby Food:																													
Mixed Vegetables	.09	.09	.09	.09	.08	.08	.08	.10	.09	.09	.08	.09	.09	.09	.08	.08	.08	.08	.08	.08	.09	.09	.09	.08	.08	.10	.09	.09	.08
Peaches	.09	.09	.09	.09	.08	.08	.08	.10	.09	.09	.08	.09	.09	.09	.08	.08	.08	.08	.08	.08	.09	.09	.09	.08	.08	.10	.09	.09	.08
Pork & Beans	.15	.13	.15	.18	.12	.13	.12	.15	.15	.13	.14	.15	.15	.13	.13	.15	.13	.15	.15	.15	.14	.13	.13	.14	.14	.15	.14	.16	.13
Baking Powder	.25	.18	.20	.20	.21	.19	.21	.21	.20	.23	.22	.25	.25	.25	.24	.25	.22	.25	.23	.25	.25	.25	.24	.23	.24	.18	.22	.25	.25
Soda	.10	.08	.10	.09	.08	.10	.09	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.11	.10	.10	.09
Salt	.10	.10	.10	.10	.09	.10	.10	.10	.12	.10	.11	.12	.12	.12	.10	.10	.10	.11	.10	.12	.10	.10	.10	.10	.10	.10	.10	.11	.10
Powdered Sugar	.13	.12	.14	.14	.12	.12	.12	.14	.13	.15	.14	.15	.15	.15	.14	.14	.13	.15	.13	.13	.14	.13	.14	.13	.14	.13	.15	.13	.13
Cocoa	.25	.23	.23	.23	.23	.21	.22	.25	.23	.25	.25	.27	.25	.25	.25	.27	.23	.25	.25	.25	.25	.24	.24	.25	.25	.20	.25	.27	.25
Coffee (Folger's)	.59	.56	.57	.55	.55	.55	.55	.59	.59	.58	.57	.59	.59	.59	.57	.61	.57	.57	.56	.59	.58	.56	.55	.57	.56	.58	.56	.59	.59
Coffee (Cain's)	.51	.47	.49	.49	.45	.45	.45	.49	.49	.50	.49	.50	.49	.51	.45	.54	.48	.48	.48	.53	.50	.48	.47	.48	.48	.49	.46	.49	.49
Syrup	.25	.21	.23	.23	.20	.21	.21	.23	.23	.23	.22	.23	.25	.21	.25	.24	.21	.25	.22	.25	.23	.22	.23	.23	.23	.21	.23	.25	.21
Tea	.35	.31	.35	.35	.31	.33	.31	.35	.35	.36	.39	.39	.35	.36	.33	.37	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.39	.35
Sardines	.15	.13	.15	.15	.15	.11	.10	.15	.15	.15	.15	.13	.15	.15	.15	.13	.13	.16	.13	.15	.15	.12	.15	.15	.14	.15	.15	.13	.13
Vienna Sausage	.21	.19	.21	.23	.19	.20	.19	.20	.21	.20	.21	.21	.21	.21	.21	.22	.20	.22	.20	.20	.19	.20	.20	.21	.20	.20	.20	.20	.21
Spam	.50	.45	.55	.49	.45	.49	.49	.53	.55	.52	.49	.59	.49	.55	.49	.57	.50	.55	.55	.55	.53	.57	.49	.54	.52	.50	.51	.49	.55
Clarox	.12	.10	.15	.10	.09	.10	.10	.12	.10	.10	.10	.15	.15	.15	.10	.10	.09	.10	.10	.15	.10	.10	.10	.12	.10	.11	.11	.11	.10
Shortening (Crisco)	1.05	.97	.99	.98	.95	.97	.95	1.05	1.10	.99	.97	1.05	1.10	.96	1.12	1.19	1.03	1.09	.93	1.15	1.13	1.05	1.15	1.05	1.05	1.10	1.09	1.12	.99
Shortening (Mrs. Tucker)	.79	.69	.79	.75	.69	.69	.69	.79	1.05	.89	.89	.79	.89	.79	.69	.89	.73	.97	.69	.85	.89	.89	.75	.79	.84	.95	.69	.89	.79
Cereals:																													
All Bran	.17	.17	.16	.19	.16	.16	.16	.17	.17	.17	.17	.18	.19	.18	.18	.18	.18	.17	.18	.19	.18	.18	.16	.19	.18	.19	.19	.17	.18
Grapenut Flakes	.16	.15	.16	.15	.15	.15	.15	.15	.15	.16	.15	.18	.16	.16	.16	.16	.15	.17	.17	.19	.17	.18	.18	.18	.17	.15	.16	.17	.17
Jello	.09	.08	.09	.09	.07	.07	.08	.10	.10	.09	.09	.10	.09	.10	.10	.10	.09	.10	.09	.10	.09	.08	.09	.09	.10	.08	.10	.08	.08
Crackers	.27	.25	.27	.27	.25	.27	.25	.27	.29	.28	.27	.28	.28	.28	.27	.27	.26	.27	.27	.29	.27	.27	.27	.26	.28	.26	.27	.28	.27
Soap (Oxydol)	.34	.29	.33	.29	.29	.29	.29	.35	.33	.35	.33	.35	.35	.31	.30	.35	.30	.32	.33	.35	.34	.33	.31	.31	.32	.34	.31	.35	.32
Soap (Dreft)	.34	.28	.33	.28	.27	.27	.27	.35	.33	.35	.31	.33	.33	.31	.30	.34	.27	.32	.29	.35	.33	.31	.29	.32	.32	.33	.31	.33	.29
Handsoap (Lifebuoy)	.10	.09	.12	.10	.09	.09	.10	.10	.12	.12	.12	.10	.10	.10	.10	.12	.10	.12	.12	.13	.12	.12	.10	.11	.10	.11	.10	.10	.11
Handsoap (Lux)	.12	.09	.12	.10	.09	.09	.09	.10	.12	.12	.12	.10	.10	.11	.10	.11	.14	.12	.11	.13	.12	.11	.10	.11	.10	.11	.10	.10	.11
Navy Beans	.29	.27	.33	.29	.25	.27	.25	.33	.33	.29	.34	.29	.35	.34	.29	.29	.25	.25	.29	.35	.32	.29	.29	.25	.35	.32	.30	.35	.25
Flour (Gold Medal)	.95	.84	.98	.89	.87	.85	.93	.98	.95	.98	.98	.99	.95	.98	.97	1.03	.93	.98	.95	.95	.99	.90	.98	.95	.98	.98	.95	.98	.98
Flour (Pillsbury)	.95	.84	.98	.89	.87	.85	.93	.98	.95	.98	.98	.99	.95	1.05	.97	1.03	.93	.98	.95	.95	.99	.89	.98	.95	.98	.98	.95	.98	.98
Sugar (5 lbs.)	.49	.48	.50	.49	.48	.48	.49	.55	.55	.49	.49	.59	.50	.49	.49	.55	.49	.53	.49	.55	.52	.49	.49	.52	.50	.50	.49	.55	.51
Pancake Flour	.21	.17	.21	.19	.18	.19	.18	.20	.19	.20	.20	.22	.21	.21	.20	.21	.19	.20	.20	.19	.21	.20	.20	.20	.19	.20	.20	.22	.21
Totals carried forward	10.80	9.64	10.81	10.26	9.60	9.70	9.78	10.92	11.13	10.87	10.77	11.20	11.08	10.90	10.53	11.44	10.21	11.07	10.40	11.31	11.08	10.66	10.60	10.66	10.82	10.91	10.49	11.23	10.60

TABLE VII
 PERCENT VARIATION IN PRICES OF TWENTY-FOUR NON-COMPARABLE ITEMS
 IN 29 STILLWATER, OKLAHOMA, GROCERY STORES

Name of Item	Low	High	Difference	Percent Variation
Whole Kernel Corn	\$.15	\$.23	\$.08	53.3
Whole Green Beans	.22	.37	.15	68.2
Cut Green Beans	.16	.29	.13	81.3
Cherries	.25	.35	.10	40.0
Pineapple (crushed)	.33	.42	.09	27.3
Pineapple (sliced)	.32	.46	.14	43.8
Grapefruit Juice	.21	.33	.12	57.1
Tomato Juice	.25	.35	.10	40.0
Raisins	.17	.21	.04	23.5
Prunes	.18	.30	.12	66.7
Salmon	.59	.79	.20	33.9
Margarine (quarters)	.41	.54	.13	31.7
Margarine (white)	.30	.45	.15	50.0
Cheese (Velveeta)	.77	1.05	.28	36.4
Cheese (pimento)	.27	.38	.11	40.7
Bologna	.39	.59	.20	51.3
Bacon	.55	.79	.24	43.6
Bacon	.59	.83	.24	40.7
Spiced Ham	.49	.75	.26	53.1
Weiners	.45	.60	.15	33.3
Link Sausages	.49	.69	.20	40.8
Lettuce	.18	.25	.07	38.9
Oranges	.10	.18	.08	80.0
Grapefruit	.05	.12	.07	140.0

TABLE VIII
 PERCENT VARIATION FROM AVERAGE
 FOR NON-STANDARD ITEMS
 IN 29 STORES

Store Number	Total for All Items	Percent Variation
1	\$ 9.70	101.78
2	9.58	100.52
3	10.05	105.46
4	9.55	100.21
5	8.87	93.07
6	9.28	97.38
7	9.16	96.12
8	9.85	103.36
9	9.74	102.20
10	9.83	103.15
11	9.64	101.15
12	9.85	103.36
13	9.67	101.47
14	9.60	100.73
15	9.84	103.25
16	9.32	97.80
17	9.33	97.90
18	9.67	101.47
19	9.12	95.70
20	10.17	106.72
21	9.49	99.58
22	8.98	94.23
23	9.50	99.69
24	9.60	100.73
25	9.23	96.85
26	9.37	98.32
27	9.45	99.16
28	9.97	104.62
29	9.08	95.28

TABLE IX
 PERCENT VARIATION FROM AVERAGE *
 FOR NON-STANDARD ITEMS
 IN 7 LARGE STORES

Store Number	Total for All Items	Percent Variation
1	\$ 9.70	102.59
2	9.58	101.27
3	10.05	106.29
4	9.55	101.00
5	8.87	93.76
6	9.28	98.10
7	9.16	96.88

* \$9.46 Average equals 100%

Table No. X shows the same information for the twenty-two small stores that Table No. IX shows for the seven large stores. An average total price for non-standard items was obtained. This figure divided into the total price for each store and a per cent variation from average among the small stores was obtained. The range was found to be from 93.93% for store No. 22 to 106.38 for store No. 20, or a difference of 12.45%.

Table XI shows the relative rankings of the 29 grocery stores on comparable and non-comparable items. As a whole there was a great deal of correlation between the rankings on the two classes of items. For example, store No. 7 was the fourth lowest on standard items and fifth lowest on non-comparable items. The greatest deviations were found in stores 2, 3, 15, 16, 21, 22, 25, and 26. This is to be expected because many stores are competitive on nationally advertised brands but are not on brands of lesser note, while in other cases the real buying opportunities in a store are not to be found in nationally advertised brands.

TABLE X
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL NON-STANDARD ITEMS
 IN 22 STORES

Store Number	Total for All Items	Percent Variation
8	\$ 9.85	103.03
9	9.74	101.88
10	9.83	102.82
11	9.64	100.84
12	9.85	103.03
13	9.67	101.15
14	9.60	100.42
15	9.84	102.93
16	9.32	97.49
17	9.33	97.59
18	9.67	101.15
19	9.12	95.40
20	10.17	106.38
21	9.49	99.27
22	8.98	93.93
23	9.50	99.37
24	9.60	100.42
25	9.23	96.55
26	9.37	98.01
27	9.45	98.85
28	9.97	104.29
29	9.08	94.98

* \$9.56 Average equals 100%

TABLE XI
 RANKINGS OF 29 STORES
 ON COMPARABLE AND NON-COMPARABLE ITEMS

Store Number	Rank on Comparable Items	Rank on Non-Comparable Items
1	16	18
2	1	15
3	15	28
4	6	14
5	2	1
6	3	7
7	4	5
8	24	25
9	25	22
10	17	23
11	14	18
12	27	25
13	23	19
14	20	16
15	9	24
16	29	8
17	5	9
18	21	19
19	7	4
20	28	29
21	22	12
22	13	2
23	11	13
24	12	16
25	19	6
26	18	10
27	8	11
28	26	27
29	10	3

CHAPTER III

ANALYSIS OF PRICES OF ALL ITEMS BY DEPARTMENTS AND BY TYPES OF STORES

Most studies of grocery prices have been limited to a small number of nationally advertised staples. These studies could be criticized for several reasons. In order for the results of any survey to be valid, the sampling process used must be representative of the entire group.¹

A study of "Chain and Independent Grocery Prices in Colorado" was made by the University of Denver in October, 1938. The items selected were all nationally advertised staples. There were no meats, fresh fruits or fresh vegetables included in the list.² This is clearly not representative of the entire group of items sold in grocery stores. Just because a store has the lowest prices on staple goods does not give one sufficient reason to believe that the over-all prices of that store are the lowest. Mark-up rates differ from store to store, item to item, and from department to department.

An average was obtained for all items and this average used as an index number in Table XII. The percent variation from average ranged from 92.12% for store no. 5 to 106.50% for store no. 20, or a range of 14.38%. Store no. 3 and store no. 1 were the only large stores with prices above average.

Table XIII was prepared to show the percent variation from average in the seven large stores. The percent variation applies only to the large stores. Store no. 5 had the low percentage of 95%. Store no. 3 was high with 106.42%. This represents a range of 11.42% in prices charged in the large stores.

Table XIV shows the same picture for the 22 small stores that Table XIII did for the large stores. The range is not as large for the small stores as

¹ Riggleman, John R., and Frisbee, Ira N., Business Statistics, pp. 23-28.

² Bureau of Business and Social of The University of Denver, "Chain and Independent Grocery Prices in Colorado", October, 1948.

TABLE XII
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL ITEMS IN 29 STORES

Store Number	Total Item Amount	Percent Variation
1	\$ 21.21	101.69
2	20.79	95.19
3	22.54	103.21
4	21.46	98.26
5	20.12	92.12
6	20.59	94.28
7	20.53	94.00
8	22.59	103.43
9	22.57	103.34
10	22.35	102.34
11	22.07	101.05
12	22.82	104.49
13	22.40	102.56
14	22.21	101.69
15	22.04	100.92
16	22.48	102.93
17	21.16	96.88
18	22.31	102.15
19	21.17	96.93
20	23.26	106.50
21	22.20	101.65
22	21.31	97.57
23	21.77	99.68
24	21.92	100.37
25	21.80	99.82
26	21.91	100.32
27	21.64	99.08
28	22.92	104.95
29	21.32	97.62

* \$21.84 average equals 100%

TABLE XIII
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL ITEMS IN 7 LARGE STORES

Store Number	Total Item Amount	Percent Variation
1	\$ 22.21	104.86
2	20.79	98.16
3	22.54	106.42
4	21.46	101.32
5	20.12	95.00
6	20.59	97.21
7	20.53	96.93

* \$21.18 average equals 100%

TABLE XIV
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL ITEMS IN 22 SMALL STORES

Store Number	Total Item Amount	Percent Variation
8	\$ 22.59	102.22
9	22.57	102.12
10	22.35	101.13
11	22.07	99.86
12	22.82	103.25
13	22.40	101.36
14	22.21	100.50
15	22.04	99.73
16	22.49	101.76
17	21.16	95.75
18	22.31	100.95
19	21.17	95.79
20	23.26	105.25
21	22.20	100.45
22	21.31	96.43
23	21.77	98.51
24	21.92	99.19
25	21.80	98.64
26	21.91	99.14
27	21.64	97.92
28	22.92	103.71
29	21.32	96.47

* \$22.10 average equals 100%

it was for the large stores. Store no. 17 was low with 95.75% and store no. 20 high with 105.25%, or a difference of 9.5%. It should be noted that the index numbers used in Table XIII and Table XIV are not the same; the difference of \$.92 represents the higher average price charged by the smaller stores.

In Table XV the 64 items used in this study have been arranged by the departments in which they are usually found in Stillwater grocery stores. Totals by stores by departments have been obtained in order to determine the variation by stores by departments in other tables.

A study of Table XVI reveals that store no. 5 with 90.64% has the lowest percent variation in the dry grocery department. Store no. 5 is closely followed by store no. 6 with 91.26 and store no. 2 with 91.60%. Store no. 28 was high with 106.26%. This represents a range in the dry grocery department of 14.66%. As a group the larger stores were lower than the smaller stores.

Table XVII was prepared to show the percent variation in the meat departments. Store no. 17 and store no. 22 were low with a percentage variation of 90.76%, closely followed by store no. 5 with 91.32%. Store no. 2 had the highest variation with 110.92%. The range of variation was 20.16%. With the exception of stores 5 and 7, the larger stores were being outsold by the smaller stores on this selected list of meat items.

A study of Table XVIII reveals that store no. 2 had the lowest variation from average in the fresh fruits and vegetables department with 82.83%. This should be contrasted with their high ranking in the meat department where their variation was 110.92%. Store no. 8 was high with 113.13%. The difference between the high and the low was 30.30%. The mark-up on fresh fruits and vegetables is large in some stores which may account for the large difference.

In the dairy department, store no. 7 was low with 88.53%. This is shown in Table XIX. Store no. 20 was high with a variation from average of 107.53%. Five of the large stores were below the average for all stores.

TABLE XIV
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL ITEMS IN 22 SMALL STORES

Store Number	Total Item Amount	Percent Variation
8	\$ 22.59	102.22
9	22.57	102.12
10	22.35	101.13
11	22.07	99.86
12	22.82	103.25
13	22.40	101.36
14	22.21	100.50
15	22.04	99.73
16	22.49	101.76
17	21.16	95.75
18	22.31	100.95
19	21.17	95.79
20	23.26	105.25
21	22.20	100.45
22	21.31	96.43
23	21.77	98.51
24	21.92	99.19
25	21.80	98.64
26	21.91	99.14
27	21.64	97.92
28	22.92	103.71
29	21.32	96.47

* \$22.10 Average equals 100%

TABLE XV (Continued)
PRICES OF 64 GROCERY ITEMS
BY DEPARTMENTS

Name of Item	Store Number																													
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	
Dry Grocery Dept. (Cont'd):																														
Totals brought forward -	10.80	9.64	10.81	10.26	9.60	9.70	9.78	10.92	11.13	10.87	10.77	11.20	11.08	10.90	10.53	11.44	10.21	11.07	10.40	11.31	11.08	10.66	10.60	10.66	10.82	10.91	10.49	11.23	10.60	
Cake Mix	.42	.37	.45	.43	.35	.37	.38	.39	.39	.39	.39	.45	.39	.44	.43	.44	.38	.32	.39	.39	.39	.43	.39	.39	.44	.37	.39	.45	.39	
Whole Kernel Corn	.21	.20	.23	.23	.18	.21	.20	.23	.23	.22	.22	.21	.23	.21	.15	.16	.22	.21	.15	.23	.17	.18	.18	.19	.18	.16	.15	.21	.19	
Whole Green Beans	.30	.37	.45	.30	.29	.22	.31	.33	.29	.33	.29	.31	.33	.29	.35	.31	.35	.29	.29	.29	.32	.29	.29	.29	.29	.29	.29	.35	.37	
Cut Green Beans	.21	.25	.27	.25	.25	.16	.23	.27	.19	.19	.22	.20	.20	.29	.15	.17	.24	.29	.18	.27	.19	.19	.23	.29	.29	.29	.35	.37	.29	
Cherries (sour pitted)	.27	.25	.27	.33	.35	.29	.29	.29	.33	.30	.35	.31	.33	.29	.31	.32	.32	.29	.29	.33	.32	.30	.25	.30	.30	.33	.29	.33	.32	
Pineapple (crushed)	.39	.35	.39	.39	.33	.37	.37	.39	.39	.39	.42	.42	.39	.35	.38	.39	.33	.36	.37	.39	.37	.33	.36	.39	.33	.38	.38	.39	.35	
Pineapple (sliced)	.39	.35	.39	.39	.33	.37	.37	.39	.39	.39	.42	.42	.39	.35	.37	.39	.36	.46	.37	.39	.37	.32	.40	.39	.38	.40	.38	.39	.35	
Grapefruit Juice	.25	.21	.23	.25	.21	.24	.23	.29	.23	.22	.24	.25	.23	.31	.33	.25	.24	.25	.25	.29	.33	.25	.23	.23	.24	.40	.38	.43	.39	
Tomato Juice	.29	.29	.35	.33	.29	.31	.29	.35	.29	.35	.33	.29	.35	.29	.31	.27	.32	.35	.27	.33	.33	.31	.30	.33	.32	.29	.33	.25	.27	
Raisins	.20	.17	.21	.19	.17	.18	.19	.19	.20	.20	.20	.20	.20	.19	.19	.19	.18	.21	.19	.19	.20	.18	.19	.19	.19	.19	.19	.19	.21	.18
Prunes (dried)	.23	.25	.25	.21	.23	.25	.25	.23	.22	.25	.18	.21	.25	.22	.25	.23	.24	.23	.23	.29	.22	.20	.28	.22	.26	.25	.22	.30	.20	
Salmon (pink)	.66	.61	.69	.65	.59	.59	.64	.69	.65	.69	.69	.69	.65	.69	.69	.69	.68	.69	.65	.69	.67	.65	.79	.67	.68	.69	.67	.73	.67	
TOTALS	14.62	13.31	14.99	14.21	13.17	13.26	13.53	14.96	14.93	14.79	14.72	15.16	15.02	14.82	14.44	15.25	14.07	15.02	14.03	15.39	14.96	14.29	14.49	14.54	14.62	14.23	14.26	15.44	14.36	
Fresh Fruits & Vegetables:																														
Tomatoes	.29	.21	.23	.23	.27	.29	.29	.29	.29	.29	.29	.27	.29	.27	.27	.24	.27	.28	.27	.29	.29	.28	.28	.27	.28	.28	.27	.29	.27	
Potatoes (white)	.07	.07	.07	.07	.06	.07	.08	.09	.08	.07	.08	.08	.08	.07	.07	.08	.07	.07	.06	.08	.06	.06	.06	.06	.06	.06	.08	.07	.07	
Apples (Red Delicious)	.19	.19	.19	.23	.21	.19	.19	.29	.19	.19	.18	.21	.20	.19	.18	.21	.19	.21	.22	.23	.20	.20	.20	.20	.19	.19	.17	.18	.17	
Lettuce	.25	.19	.18	.23	.21	.25	.25	.23	.19	.20	.19	.20	.23	.23	.18	.20	.19	.23	.19	.23	.18	.20	.23	.19	.19	.19	.17	.18	.17	
Oranges	.10	.10	.17	.17	.18	.18	.15	.10	.15	.18	.15	.18	.16	.18	.12	.18	.16	.16	.13	.16	.16	.16	.16	.20	.16	.16	.16	.16	.16	
Grapefruit (white)	.06	.06	.09	.07	.09	.08	.08	.12	.07	.09	.07	.10	.10	.08	.08	.07	.09	.07	.08	.10	.08	.08	.08	.08	.08	.08	.08	.08	.08	
TOTALS	.96	.82	.93	1.00	1.02	1.06	1.04	1.12	.97	1.02	.96	1.00	1.05	1.00	1.01	.90	1.00	.98	1.02	1.02	1.02	.96	.99	1.04	.98	1.00	.98	.94	.93	
Dairy Products:																														
Butter	.74	.73	.74	.69	.76	.69	.65	.76	.75	.71	.72	.76	.69	.74	.72	.75	.71	.69	.71	.79	.69	.70	.73	.74	.78	.73	.79	.73	.74	
Margarine (qtrs.)	.45	.45	.45	.41	.43	.45	.41	.45	.42	.42	.49	.47	.49	.42	.54	.45	.45	.45	.45	.49	.45	.45	.45	.45	.45	.45	.45	.43	.43	
Margarine (white)	.35	.36	.35	.31	.34	.35	.35	.32	.37	.35	.39	.37	.36	.34	.45	.42	.45	.35	.37	.39	.39	.39	.35	.39	.35	.40	.30	.32	.37	
Cheese (Velveeta), 2 lbs.	.95	.85	.99	.89	.77	.79	.79	.78	.95	.89	.99	.98	.89	.84	.87	.93	.92	.95	.92	.95	.92	.95	.92	1.05	.89	.90	.95	.98	.98	
Cheese (Pimento), 1/2 lb.	.35	.31	.37	.33	.37	.34	.27	.33	.33	.33	.33	.32	.32	.32	.35	.32	.32	.34	.32	.38	.33	.33	.32	.32	.32	.32	.31	.37	.29	
TOTALS	2.84	2.70	2.90	2.63	2.67	2.62	2.47	2.64	2.82	2.70	2.92	2.90	2.75	2.66	2.93	2.87	2.85	2.78	2.77	3.00	2.78	2.82	2.90	2.79	2.80	2.85	2.83	2.83	2.76	
Meats:																														
Bologna (large)	.52	.59	.53	.49	.45	.49	.49	.49	.50	.49	.49	.55	.49	.48	.39	.39	.42	.52	.49	.55	.43	.45	.49	.48	.42	.44	.55	.55	.39	
Bacon	.75	.75	.69	.73	.57	.65	.65	.75	.75	.79	.69	.75	.55	.55	.75	.72	.67	.69	.59	.75	.59	.55	.65	.69	.66	.55	.73	.63	.63	
Bacon	.75	.83	.69	.73	.63	.74	.65	.69	.75	.79	.72	.67	.75	.75	.75	.72	.67	.69	.59	.75	.68	.70	.70	.70	.70	.70	.70	.69	.70	
Spiced Ham	.59	.69	.69	.55	.55	.59	.59	.70	.65	.59	.49	.65	.65	.75	.69	.65	.52	.65	.65	.60	.59	.55	.55	.55	.70	.70	.69	.70		
Weiners	.59	.55	.53	.49	.49	.59	.55	.65	.55	.59	.49	.49	.55	.55	.49	.45	.46	.49	.46	.60	.60	.49	.50	.60	.50	.57	.59	.59		
Link Sausages	.59	.55	.59	.63	.57	.59	.56	.59	.65	.59	.59	.65	.59	.65	.59	.53	.50	.49	.57	.60	.55	.50	.50	.53	.50	.50	.69	.65	.50	
TOTALS	3.79	3.96	3.72	3.62	3.26	3.65	3.49	3.87	3.85	3.84	3.47	3.76	3.58	3.73	3.66	3.46	3.24	3.53	3.35	3.85	3.44	3.24	3.39	3.55	3.40	3.33	3.57	3.71	3.27	

TABLE XV (Continued)
PRICES OF 64 GROCERY ITEMS
BY DEPARTMENTS

Name of Item	Store Number																												
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.
Dry Grocery Dept. (Cont'd):																													
Totals brought forward -	10.80	9.64	10.81	10.26	9.60	9.70	9.78	10.92	11.13	10.87	10.77	11.20	11.08	10.90	10.53	11.44	10.21	11.07	10.40	11.31	11.08	10.66	10.60	10.66	10.82	10.91	10.49	11.23	10.60
Cake Mix	.42	.37	.45	.43	.35	.37	.38	.39	.39	.39	.39	.45	.39	.44	.43	.44	.38	.32	.39	.39	.39	.43	.39	.44	.37	.39	.45	.39	
Whole Kernel Corn	.21	.20	.23	.23	.18	.21	.20	.23	.23	.22	.22	.21	.23	.21	.15	.16	.22	.21	.15	.23	.17	.18	.18	.19	.18	.16	.15	.21	.19
Whole Green Beans	.30	.37	.45	.30	.29	.22	.31	.33	.29	.33	.29	.31	.33	.29	.35	.31	.35	.29	.29	.29	.32	.29	.29	.29	.29	.29	.35	.37	.29
Cut Green Beans	.21	.25	.27	.25	.25	.16	.23	.27	.19	.19	.22	.20	.20	.29	.15	.17	.24	.29	.18	.27	.19	.19	.23	.29	.29	.29	.35	.37	.29
Cherries (sour pitted)	.27	.25	.27	.33	.35	.29	.29	.29	.33	.30	.35	.31	.33	.29	.31	.32	.32	.29	.29	.33	.32	.30	.25	.30	.30	.33	.29	.33	.32
Pineapple (crushed)	.39	.35	.39	.39	.33	.37	.37	.39	.39	.39	.42	.42	.39	.35	.38	.39	.33	.36	.37	.39	.37	.33	.36	.39	.33	.38	.38	.39	.35
Pineapple (sliced)	.39	.35	.39	.39	.33	.37	.37	.39	.39	.39	.42	.42	.39	.35	.37	.39	.36	.46	.37	.39	.37	.33	.36	.39	.33	.38	.38	.39	.35
Grapefruit Juice	.25	.21	.23	.25	.21	.24	.23	.29	.23	.22	.24	.25	.23	.31	.33	.25	.24	.25	.25	.29	.33	.33	.25	.23	.23	.24	.25	.23	.27
Tomato Juice	.29	.29	.35	.33	.29	.31	.29	.35	.29	.35	.33	.29	.35	.29	.31	.27	.32	.35	.27	.33	.33	.31	.30	.33	.32	.29	.33	.25	.27
Raisins	.20	.17	.21	.19	.17	.18	.19	.19	.20	.20	.20	.20	.20	.19	.19	.19	.18	.21	.19	.19	.20	.18	.30	.33	.32	.29	.33	.25	.33
Prunes (dried)	.23	.25	.25	.21	.23	.25	.25	.23	.22	.25	.18	.21	.25	.22	.25	.23	.24	.23	.23	.29	.22	.20	.28	.22	.26	.25	.22	.30	.20
Salmon (pink)	.66	.61	.69	.65	.59	.59	.64	.69	.65	.69	.69	.69	.65	.69	.69	.69	.68	.69	.65	.69	.67	.65	.79	.67	.68	.69	.67	.73	.67
TOTALS	14.62	13.31	14.99	14.21	13.17	13.26	13.53	14.96	14.93	14.79	14.72	15.16	15.02	14.82	14.44	15.25	14.07	15.02	14.03	15.39	14.96	14.29	14.49	14.54	14.62	14.23	14.26	15.44	14.36
Fresh Fruits & Vegetables:																													
Tomatoes	.29	.21	.23	.23	.27	.29	.29	.29	.29	.29	.29	.27	.29	.27	.27	.24	.27	.28	.27	.29	.29	.28	.28	.27	.28	.28	.27	.29	.27
Potatoes (white)	.07	.07	.07	.07	.06	.07	.08	.09	.08	.07	.08	.08	.08	.07	.07	.08	.07	.07	.06	.08	.06	.06	.07	.06	.06	.06	.08	.07	.07
Apples (Red Delicious)	.19	.19	.19	.23	.21	.19	.19	.29	.19	.19	.18	.21	.20	.19	.18	.21	.19	.21	.22	.23	.20	.20	.20	.20	.19	.19	.08	.07	.07
Lettuce	.25	.19	.18	.23	.21	.25	.25	.23	.19	.20	.19	.19	.20	.23	.23	.18	.20	.19	.23	.19	.23	.18	.20	.20	.19	.19	.17	.18	.17
Oranges	.10	.10	.17	.17	.18	.18	.15	.10	.15	.18	.15	.15	.18	.16	.18	.12	.18	.16	.16	.13	.16	.16	.16	.20	.16	.16	.16	.16	.16
Grapefruit (white)	.06	.06	.09	.07	.09	.08	.08	.12	.07	.09	.07	.10	.10	.08	.08	.07	.09	.07	.08	.10	.08	.08	.08	.08	.08	.08	.08	.08	.08
TOTALS	.96	.82	.93	1.00	1.02	1.06	1.04	1.12	.97	1.02	.96	1.00	1.05	1.00	1.01	.90	1.00	.98	1.02	1.02	1.02	.96	.99	1.04	.98	1.00	.98	.94	.93
Dairy Products:																													
Butter	.74	.73	.74	.69	.76	.69	.65	.76	.75	.71	.72	.76	.69	.74	.72	.75	.71	.69	.71	.79	.69	.70	.73	.74	.78	.73	.79	.73	.74
Margarine (qtrs.)	.45	.45	.45	.41	.43	.45	.41	.45	.42	.42	.49	.47	.49	.42	.54	.45	.45	.45	.45	.49	.45	.70	.73	.74	.78	.73	.79	.73	.74
Margarine (white)	.35	.36	.35	.31	.34	.35	.35	.32	.37	.35	.39	.37	.36	.34	.45	.42	.45	.35	.37	.39	.39	.45	.45	.45	.45	.45	.45	.43	.43
Cheese (Velveeta), 2 lbs.	.95	.85	.99	.89	.77	.79	.79	.78	.95	.89	.99	.98	.89	.84	.87	.93	.92	.95	.92	.95	.92	.95	.92	.95	.92	.95	.98	.98	.93
Cheese (Pimento), 1/2 lb.	.35	.31	.37	.33	.37	.34	.27	.33	.33	.33	.33	.32	.32	.32	.35	.32	.32	.34	.32	.38	.33	.33	1.05	.89	.90	.95	.98	.98	.93
TOTALS	2.84	2.70	2.90	2.63	2.67	2.62	2.47	2.64	2.82	2.70	2.92	2.90	2.75	2.66	2.93	2.87	2.85	2.78	2.77	3.00	2.78	2.82	2.90	2.79	2.80	2.85	2.83	2.83	2.76
Meats:																													
Bologna (large)	.52	.59	.53	.49	.45	.49	.49	.49	.50	.49	.49	.55	.49	.48	.39	.39	.42	.52	.49	.55	.43	.45	.49	.48	.42	.44	.55	.55	.39
Bacon	.75	.75	.69	.73	.57	.65	.65	.75	.75	.79	.69	.75	.55	.55	.75	.72	.67	.69	.59	.75	.59	.55	.65	.69	.66	.55	.55	.73	.63
Bacon	.75	.83	.69	.73	.63	.74	.65	.69	.75	.79	.72	.67	.75	.75	.75	.72	.67	.69	.59	.75	.68	.70	.70	.70	.70	.70	.70	.73	.63
Spiced Ham	.59	.69	.69	.55	.55	.59	.59	.70	.65	.59	.49	.65	.65	.75	.69	.65	.52	.65	.60	.60	.59	.55	.55	.55	.55	.55	.55	.55	.70
Weiners	.59	.55	.53	.49	.49	.59	.55	.65	.55	.59	.49	.49	.55	.55	.49	.45	.46	.49	.46	.60	.60	.55	.55	.55	.55	.55	.55	.55	.55
Link Sausages	.59	.55	.59	.63	.57	.59	.56	.59	.65	.59	.59	.65	.59	.65	.59	.53	.50	.49	.57	.60	.60	.49	.50	.60	.50	.46	.49	.50	.50
TOTALS	3.79	3.96	3.72	3.62	3.26	3.65	3.49	3.87	3.85	3.84	3.47	3.76	3.58	3.73	3.66	3.46	3.24	3.53	3.35	3.85	3.44	3.24	3.39	3.55	3.40	3.33	3.57	3.71	3.27

TABLE XVI
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL DRY GROCERY ITEMS
 IN 29 STORES

Store Number	Total Item Amount	Percent Variation
1	\$ 14.62	100.62
2	13.31	91.60
3	14.99	103.17
4	14.21	97.80
5	13.17	90.64
6	13.26	91.26
7	13.53	93.12
8	14.96	102.96
9	14.93	102.75
10	14.79	101.79
11	14.72	101.31
12	15.16	104.34
13	15.02	103.37
14	14.82	102.00
15	14.44	99.38
16	15.25	104.96
17	14.07	96.83
18	15.02	103.37
19	14.03	96.56
20	15.39	105.92
21	14.96	102.96
22	14.29	98.35
23	14.49	99.72
24	14.54	100.06
25	14.62	100.62
26	14.73	101.38
27	14.26	98.14
28	15.44	106.26
29	14.36	98.83

* \$14.53 Average equals 100%

TABLE XVII
 PERCENT VARIATION FROM AVERAGE *
 FOR ALL FRESH AND SMOKED MEATS
 IN 29 STORES

Store Number	Total Item Amount	Percent Variation
1	\$ 3.79	106.16
2	3.96	110.92
3	3.72	104.20
4	3.62	101.40
5	3.26	91.32
6	3.65	102.24
7	3.49	97.76
8	3.87	108.40
9	3.85	107.84
10	3.84	107.56
11	3.47	97.20
12	3.76	105.32
13	3.58	100.28
14	3.73	104.48
15	3.66	102.52
16	3.46	96.92
17	3.24	90.76
18	3.53	98.88
19	3.35	93.84
20	3.85	107.84
21	3.44	96.36
22	3.24	90.76
23	3.39	94.96
24	3.55	99.44
25	3.40	95.24
26	3.33	93.28
27	3.57	100.00
28	3.71	103.92
29	3.27	91.60

* \$3.57 Average equals 100%

TABLE XVIII
 PERCENT VARIATION FROM AVERAGE *
 FOR FRESH FRUITS AND VEGETABLES
 IN 29 STORES

Store Number	Total Item Amount	Percent Variation
1	\$.96	96.97
2	.82	82.83
3	.93	93.94
4	1.00	101.01
5	1.02	103.03
6	1.06	107.07
7	1.04	105.05
8	1.12	113.13
9	.97	97.98
10	1.02	103.03
11	.96	96.97
12	1.00	101.01
13	1.05	106.06
14	1.00	101.01
15	1.01	102.02
16	.90	90.91
17	1.00	101.01
18	.98	98.99
19	1.02	103.03
20	1.02	103.03
21	1.02	103.03
22	.96	96.97
23	.99	100.00
24	1.04	105.05
25	.98	98.99
26	1.00	101.01
27	.98	98.99
28	.94	94.95
29	.93	93.94

* \$0.99 Average equals 100%

TABLE XIX
 PERCENT VARIATION FROM AVERAGE *
 FOR DAIRY PRODUCTS
 IN 29 STORES

Store Number	Total Item Amount	Percent Variation
1	\$ 2.84	101.79
2	2.70	96.77
3	2.90	103.94
4	2.63	94.27
5	2.67	95.70
6	2.62	93.91
7	2.47	88.53
8	2.64	94.62
9	2.82	101.08
10	2.70	96.77
11	2.92	104.66
12	2.90	103.94
13	2.75	98.57
14	2.66	95.34
15	2.93	105.02
16	2.87	102.87
17	2.85	102.15
18	2.78	99.64
19	2.77	99.28
20	3.00	107.53
21	2.78	99.64
22	2.82	101.08
23	2.90	103.94
24	2.79	100.00
25	2.80	100.36
26	2.85	102.15
27	2.83	101.43
28	2.83	101.43
29	2.76	98.92

* \$2.79 Average equals 100%

The rankings of the stores by departments and on all items is shown in Table XX. In compiling its rank of 1st on all items, store no. 5 was 1st on dry groceries, 3rd on meats, tied for 20th on fresh fruits and vegetables, and was 6th on dairy products. Store no. 20 was the highest on all items, 28th on dry groceries, tied for 26th on meats, tied for 20th on fresh fruits and vegetables, and was 29th on dairy products. It was clearly evident that no one store offers the lowest prices in all departments or that any one store is the highest in all departments. A consumer interested in saving money on groceries can do so by shopping from store to store.

Table XXI indicates the services rendered to the customers by the 29 stores. Eight were selling on a cash-and-carry basis, three sold for cash but gave free delivery, eight were credit stores with no delivery, and ten were full service stores giving both credit and delivery.

Stores which have a cash-and-carry policy, all other things being equal, should be able to offer the customer a lower price on merchandise than stores offering delivery service, credit, or credit and delivery service. Table XXII was prepared to determine if this was the case. Of all the stores, store no. 5 was the lowest and this store operated on a cash-and-carry basis. However, on the average, stores selling for cash with delivery were the lowest. An explanation of this could be that two of the three stores selling for cash with delivery are large stores. Only two of the eight cash and carry stores were large stores. Credit stores were about average. As could be expected, the credit stores offering delivery service were the highest with 102.62% of average, with only store no. 4 below 100%.

As a group the cash stores had lower average prices than did the credit stores. However, some credit stores were out-selling some cash stores. Several of the credit stores were offering much more for less than some of the cash stores. Convenience of location could be the reason they are able to do this.

TABLE XX
 RANKINGS OF ALL STORES
 BY DEPARTMENTS
 AND FOR ALL ITEMS

Rank	Store Number -				
	Dry Groceries	Meats	Fruits and Vegetables	Dairy Products	All Items
1	5	17, 22	2	7	5
2	6		16	6	7
3	2	5	3, 29	4	6
4	7	29		8	2
5	19	26	28	14	17
6	17	19	1, 11, 22	5	19
7	4	23		2, 10	22
8	27	25			29
9	22	21	9	13	4
10	29	16	18, 25, 27	29	27
11	15	11		19	23
12	23	7		18, 21	25
13	24	18	23		26
14	1, 25	24	4, 12, 14, 17, 26	24	24
15		27		25	15
16	11	13		9, 22	11
17	26	4			21
18	10	6		27, 28	1, 14
19	14	15	15		
20	9	28	5, 10, 19, 20, 21	1	18
21	8, 21	3		17, 26	10
22		14			13
23	3	12		16	16
24	13, 18	1		3, 12, 23	3
25		10	7, 24		9
26	12	9, 20			8
27	16		13	11	12
28	20	8	6	15	28
29	28	2	8	20	20

TABLE XXI
 CASH, CREDIT AND DELIVERY
 STATUS OF STORES

Store Number	Cash	Delivery	Credit
1		X	X
2	X		
3		X	X
4		X	X
5	X		
6	X	X	
7	X	X	
8	X	X	
9		X	X
10		X	X
11	X		
12		X	X
13		X	X
14		X	X
15			X
16			X
17			X
18		X	X
19	X		
20		X	X
21			X
22			X
23			X
24			X
25			X
26	X		
27	X		
28	X		
29	X		

TABLE XXII
PERCENT VARIATION FROM AVERAGE
BY DEPARTMENTS BY TYPES OF SERVICES RENDERED

Store Number	Dry Grocery Department	Meat Department	Fruits and Vegetables	Dairy Products Department	All Items
<u>Cash and Carry Stores</u>					
2	91.60	110.92	82.83	96.77	95.19
5	90.64	91.32	103.03	95.70	92.12
11	101.31	97.20	96.97	104.66	101.05
19	96.56	93.84	103.03	99.28	96.93
26	101.38	93.28	101.01	102.15	100.32
27	98.14	100.00	98.99	101.43	99.08
28	106.26	103.92	94.95	101.43	104.95
29	98.83	91.60	93.94	98.92	97.62
<u>Average</u>	98.09	97.76	96.84	100.04	98.41
<u>Cash with Delivery Stores</u>					
6	91.26	102.24	107.07	93.91	94.28
7	93.12	97.76	105.05	88.53	94.00
8	102.96	108.40	113.13	94.62	103.43
<u>Average</u>	95.78	102.80	108.42	92.35	97.24
<u>Credit Stores with no Delivery</u>					
15	99.38	102.52	102.02	105.02	100.92
16	104.96	96.92	90.91	102.87	102.93
17	96.83	90.76	101.01	102.15	96.88
21	102.96	96.36	103.03	99.64	101.65
22	98.35	90.76	96.97	101.08	97.57
23	99.72	94.76	100.00	103.94	99.68
24	100.06	99.44	105.05	100.00	100.37
25	100.62	95.24	98.99	100.36	99.82
<u>Average</u>	100.36				
<u>Credit and Delivery Stores</u>					
1	100.62	106.16	96.97	101.79	101.69
3	103.17	104.20	93.94	103.94	103.21
4	97.80	101.40	101.01	94.27	98.26
9	102.75	107.84	97.98	101.08	103.34
10	101.79	107.56	103.03	96.77	102.34
12	104.34	105.32	101.01	103.94	104.49
13	103.37	100.28	106.06	98.57	102.56
14	102.00	104.98	101.01	95.34	101.69
18	103.37	98.88	98.99	99.64	102.15
20	105.92	107.84	103.03	107.53	106.50
<u>Average</u>	102.51	104.40	100.30	100.29	102.62

In order for any store, that offers either credit, delivery, or both, to obtain a profit equal to that of a cash and carry store, it must obtain a greater price for its merchandise. This is assuming that all other factors are the same except the services rendered to the customer. The consumer should bear this in mind in the selection of a grocery store.

CHAPTER IV

THE FAMILY FOOD BUDGET

Conditions During World War II and Immediately Following:

During and immediately following World War II, the consumer was not so much concerned or interested in saving on the family food budget. It was a seller's market and the buyer, in order to obtain scarce items, was forced to confine his buying to the store or stores in which these items could be obtained. Soaps, for example, were very scarce, but not rationed by the government. The grocer, being the seller, had the burden of deciding which customer would be allowed to buy these scarce items. He could not sell to all desiring to purchase these scarce items because the supply was not adequate. The regular customer was favored in most stores, especially by the small independent grocer. Scarce items were concealed under the counter or in the back of the store. The occasional buyer never saw these items. The chain and larger independent grocery stores had, to a certain extent, a policy of placing all scarce items on display. The customer was limited as to the amount he could buy. The larger stores sought to obtain a fairer distribution in this manner. Because of the size of their stores, they could not use the same system as the smaller stores. The large store, being more impersonal in nature and with many customers, could not recognize regular customers. "First come, first served", was their policy. Many customers, however, took advantage of this policy by shopping early at the large store, but only buying the scarce items. In this manner, they were able to maintain favor with the small independent grocer and get the scarce items from him, plus the scarce items that had been obtained in the larger stores.

Civilian transportation was greatly hampered during the war years because of gasoline rationing. Most of the super markets, chains, and larger independents did not offer delivery service. Buses and cabs were crowded, making it unfeasible to use them for transportation to and from the large cash and carry stores. To

combat this situation, the housewife turned to the neighborhood grocery, because of its convenient location. To the housewife, it was not a problem of where she could buy at the lowest prices. To her, it was a problem of selecting a store within walking distance of her home, as well as the actual obtaining of "hard-to-get" items.

These years were truly the boom period for the independent grocer. "During the war years the independent grocer enjoyed the strongest position he has ever known."¹

Shortly after the end of the war, rationing was lifted, scarce items were no longer scarce, and price became an important element in determining the consumer's choice of stores at which to trade. The neighborhood grocer's picnic was over. He now must compete against stores several blocks or miles away. How successfully he would now operate would depend to a decided extent upon his ability to meet the prices of competing stores. According to The Quality Grocer, the chain stores and super markets are beginning to move forward and are gaining more rapidly than the independent store. This trade journal feels that the independent grocer is resting on his oars while the chains and super markets are merchandising aggressively. Several reasons are given for this gain, such as lower prices, more up-to-date stores, and attractive self-service layouts.²

The Family Food Budget:

The preceding chapters have been concerned with an analysis of the variation in prices of individual items and in the variation of prices by departments. It has been found that prices do vary from store to store, not only on individual items, but by departments. No one store has been the lowest on all items and no one store offers the lowest prices in all departments. The ordinary consumer

¹ M. Dill, "Where Do We Go from Here as Regards Competition," The Quality Grocer, (September, 1946), p. 1.

² Ibid.

tends to confine most of his grocery purchases to one store. If the consumer is price conscious, he will endeavor to find which store offers the greatest value for the least outlay.

Up to this point, no reference has been made concerning the relative budget importance of the items. Only the items themselves have been considered. The price of the item has determined the relative importance of that item in the totals and percentages which were obtained. There is little room for doubt that a ten-pound sack of flour does not affect the average family budget to the same extent as do fresh fruits and vegetables. The average consumer certainly does not spend a third as much on flour as he does on meats.

Determination of a Weighting Process for the Items:

It would be nearly impossible to apply a weight to each item in order to secure a total reflecting the relative budget importance of the individual items. If possible, it would be very cumbersome to use and probably would be no more accurate than other less cumbersome methods. "The proportionate expenditures upon the different articles as indicated by representative family budget data, however, will make appropriate weights for application to retail prices of consumers' goods."³

According to C. V. Hill & Co., Inc., the sales record of a typical market, by departments, compared to total food sales, would be:⁴

Dry Groceries	25% to 35%
Fresh and Smoked Meats.	25% to 30%
Fresh Fruits and Vegetables	15% to 25%
Dairy Products.	10% to 15%

Taking the mid-points as average, it was found that sales by departments were in the following ratios:

Dry Groceries	30
Fresh and Smoked Meats.	27½
Fresh Fruits and Vegetables	20
Dairy Products.	12½

³ Riggleman, John R., and Frisbee, Ira N., Business Statistics, p. 200.

⁴ Anon., Modern Food Merchandising, p. 24.

The average totals, for the selected items, were not in this ratio.

Tables XVI, XVII, XVIII, and XIX show that the average total for dry groceries was \$14.53, meats \$3.57, fresh fruits and vegetables \$.99, and dairy products \$2.79. It was found that the ratios mentioned above could be obtained if the following weights were applied:

Dry Groceries	1
Fresh and Smoked Meats. . . .	3.7
Fresh Fruits and Vegetables .	9.8
Dairy Products.	2.2

Comparison of all Stores:

Table XXIII was prepared to show the weighted aggregate. Store No. 5 was low with \$41.10, closely followed by Store No. 29 with \$41.64, Store No. 22 with \$41.89, and Store No. 2 with \$41.94. Store No. 20 was high with \$46.24. An average family, trading at Store No. 20, could buy, for \$41.10 at Store No. 5, the same bill of goods that cost them \$46.24, or a savings of \$5.14. However, the difference in the weighted aggregates of Store No. 5 and Store No. 2 is only \$.84, and to most consumers, this price differential is not great enough to have much influence on the family budget. The totals of weighted aggregates, by departments, vary from store to store with no store the lowest in all departments.

A buyer could achieve a considerable savings by trading at four stores. For example, by buying dry groceries (\$13.17) at Store No. 5, meats (\$11.99) at Store No. 17, fresh fruits and vegetables (\$8.04) at Store No. 2, and dairy products (\$5.43) at Store No. 7, the same bill of goods obtained at Store No. 5 for \$41.10 could be obtained for \$38.63, or a savings of \$2.47. However, an unwise choice of stores might produce different results. For example, a buyer buying his dry groceries (\$15.44) at Store No. 28, meats (\$14.65) at Store No. 2, fresh fruits and vegetables (\$10.98) at Store No. 8, and dairy products (\$6.60) at Store No. 20, would pay \$47.67, or \$1.43 more than would have been paid at the highest store.

Dollar and cent amounts are sometimes misleading as to their true significance. Table XXIV was prepared on a percentage basis. The total aggregate of each store was divided by the lowest total aggregate. An average consumer trading at Store No. 20 is paying 12.5% more than at Store No. 5. For example, \$100 at Store No. 5 will buy the same bill of goods for the average consumer that \$112.50 will buy at Store No. 20.

Services Rendered:

There are many reasons that influence a buyer's choice of a grocery store. One buyer may prefer a store because of its price. Another buyer may want delivery, with price a secondary motive in choice of store. Still a third may demand both credit and delivery. Many times, it is not realized that usually the more service given by a store, the higher must be the over-all pricing policy of that store. Stores that stress service tend to charge more than stores which stress price.⁵

In Table XXV it is shown that cash-and-carry stores on the average were charging 3.8% more for their merchandise than the lowest cash-and-carry store. Cash stores which offered delivery service were charging 6.3% more than the lowest cash-and-carry store. The percentage for cash stores offering delivery service was influenced to a large extent by the high pricing policies of store no. 8. Stores 6 and 7 were very competitive in comparison to the average cash-and-carry store. Stores offering credit but no delivery were 5.1% above the low cash-and-carry store. Store no. 17 and Store no. 22, while giving credit, were still competitive in price. The average credit-and-delivery store was 8.4% above the low aggregate.

⁵ Maynard, Harold H., Dameron, Kenneth, and Siegler, Carlton J., Retail Marketing and Merchandising, p. 331.

TABLE XXIII
WEIGHTED AGGREGATES
OF RETAIL GROCERY PRICES IN STILLWATER

Store Number	Dry Groceries	Meats	Fresh Fruits and Vegetables	Dairy Products	Total
1	\$ 14.62	\$ 14.02	\$ 9.41	\$ 6.25	\$ 44.30
2	13.31	14.65	8.04	5.94	41.94
3	14.99	13.76	9.11	6.38	44.24
4	14.21	13.39	9.80	5.79	43.19
5	13.17	12.06	10.00	5.87	41.10
6	13.26	13.50	10.39	5.76	42.91
7	13.53	12.91	10.19	5.43	42.06
8	14.96	14.32	10.98	5.81	46.07
9	14.93	14.24	9.51	6.20	44.88
10	14.79	14.21	10.00	5.94	44.94
11	14.72	12.84	9.41	6.42	43.39
12	15.16	13.91	9.80	6.38	45.25
13	15.02	13.25	10.29	6.05	44.61
14	14.82	13.80	9.80	5.85	44.27
15	14.44	13.54	9.90	6.45	44.33
16	15.25	12.80	8.82	6.31	43.18
17	14.07	11.99	9.80	6.27	42.13
18	15.02	13.06	9.60	6.12	43.80
19	14.03	12.39	10.00	6.09	42.51
20	15.39	14.25	10.00	6.60	46.24
21	14.96	12.73	10.00	6.12	43.81
22	14.29	11.99	9.41	6.20	41.89
23	14.49	12.54	9.70	6.38	43.11
24	14.54	13.13	10.19	6.14	44.00
25	14.62	12.58	9.60	6.16	42.96
26	14.73	12.32	9.80	6.27	43.12
27	14.26	13.21	9.60	6.23	43.30
28	15.44	13.73	9.21	6.23	44.61
29	14.36	12.10	9.11	6.07	41.64
Median	14.62	13.21	9.80	6.16	43.39

TABLE XXIV
 RELATIVE PERCENTAGE OF ALL STORES
 AS COMPARED TO THE LOW AGGREGATE*

Store Number	Total Aggregate of Store	Relative Percentage
1	\$ 44.30	107.8
2	41.94	102.0
3	44.24	107.6
4	43.19	105.1
5	41.10	100.0
6	42.91	104.4
7	42.06	102.3
8	46.07	112.1
9	44.88	109.2
10	44.94	109.3
11	43.39	105.6
12	45.25	110.1
13	44.61	108.5
14	44.27	107.7
15	44.33	107.9
16	43.18	105.1
17	42.13	102.5
18	43.80	106.6
19	42.51	103.4
20	46.24	112.5
21	43.81	106.6
22	41.89	101.9
23	43.11	104.9
24	44.00	107.1
25	42.96	104.5
26	43.12	104.9
27	43.30	105.4
28	44.61	108.5
29	41.64	101.3

* \$41.10

TABLE XXV

RELATIVE PERCENTAGES OF ALL STORES
AS COMPARED TO THE LOW WEIGHTED AGGREGATE *
WITH THE CLASSIFICATION OF STORES, AVERAGES
FOR EACH CLASS, AND RANKINGS SHOWN

Store Number	Total Aggregate of Store	Rank of Store	Relative Percentage	Average by Type of Store
<u>Cash and Carry Stores</u>				
2	\$ 41.94	4	102.0	
5	41.10	1	100.0	
11	43.39	15	105.6	
19	42.51	7	103.4	
26	43.12	11	104.9	
27	43.30	14	105.4	
28	44.61	23	108.5	
29	41.64	2	101.3	
	Average			103.8
<u>Cash with Delivery Stores</u>				
6	42.91	8	104.4	
7	42.06	5	102.3	
8	46.07	28	112.1	
	Average			106.3
<u>Credit Stores without Delivery</u>				
15	44.33	22	107.9	
16	43.18	12	105.1	
17	42.13	6	102.5	
21	43.81	17	106.6	
22	41.89	3	101.9	
23	43.11	10	104.9	
24	44.00	18	107.1	
25	42.96	9	104.5	
	Average			105.1
<u>Credit with Delivery Stores</u>				
1	44.30	21	107.8	
3	44.24	19	107.6	
4	43.19	13	105.1	
9	44.88	25	109.2	
10	44.94	26	109.3	
12	45.25	27	110.1	
13	44.61	23	108.5	
14	44.27	20	107.7	
18	43.80	16	106.6	
20	46.24	29	112.5	
	Average			108.4

* \$41.10

It is interesting to note, that of the seven large stores (stores numbered 1 to 7), only four were in the ten lowest priced stores. Those four stores were stores 2, 5, 6, and 7. Of the small stores, six were in the low ten (stores 17, 19, 22, 23, 25, and 29). The credit-and-delivery store was the only type of store not able to break into the top ten.

The lowest cash store offering delivery service was charging 2.3% more than the lowest cash-and-carry store. The lowest credit-without-delivery store was charging 1.9% more than the lowest cash-and-carry store and was outselling the lowest cash-and-delivery service stores. The lowest credit-and-delivery store was charging 5.1% more than the lowest cash-and-carry store, 2.7% more than cash stores that offered delivery service, and 3.1% more than the credit store that did not offer delivery service.

There is an old saying that "one pays for what one gets if one gets it". This appears to be true even in buying groceries. A consumer, trading at a credit-and-delivery store but paying cash and not utilizing the delivery service, is still paying for that service even though he does not take advantage of it. Hence, it may often be felt that such a store is a poor place for a cash buyer to purchase.

Variation between Stores of the Same Type:

Not only do prices vary from store to store or by types of stores, they vary to a considerable extent in the same type. This should be where competition is the strongest.

Table XXVI shows that the variation between cash-and-carry stores runs as high as 8.5%. The highest store was 8.5% higher than the lowest store. Part of this difference arises because the higher-priced store is a small neighborhood grocery while the low store is a large downtown store. One has a convenient location, the other a volume business. Regardless of the location, there is still a difference of 8.5% in price. The second-lowest store is also a neighborhood grocery with only a 1.3% price difference.

TABLE XXVI
 VARIATIONS BY TYPES OF STORES
 FROM THE LOW AGGREGATE
 FOR THAT TYPE OF STORE

Store Number and Type	Total Aggregate	Variation by Type of Store
<u>Cash and Carry Stores</u>		
5	\$ 41.10*	100.0%
29	41.64	101.3
2	41.94	102.0
19	42.51	103.4
26	43.12	104.9
27	43.30	105.4
11	43.39	105.6
28	44.61	108.5
<u>Cash Stores with Delivery</u>		
7	42.06**	100.0
6	42.91	102.0
8	46.07	109.5
<u>Credit Stores without Delivery</u>		
22	41.89***	100.0
17	42.13	100.6
25	42.96	102.6
23	43.11	102.9
16	43.18	103.1
21	43.81	104.6
24	44.00	105.0
15	44.33	105.8
<u>Credit Stores with Delivery</u>		
4	43.19****	100.0
18	43.80	101.4
3	44.24	102.4
14	44.27	102.5
1	44.30	102.6
13	44.61	103.3
9	44.88	103.9
10	44.94	104.1
12	45.25	104.8
20	46.24	107.1

* low aggregate for cash and carry stores
 ** low aggregate for cash stores with delivery
 *** low aggregate for credit stores without delivery
 **** low aggregate for credit and delivery stores

The variation between cash stores offering delivery service was even greater than between cash-and-carry stores. Store No. 6 was charging the average buyer 2% more than Store No. 7. Store No. 8 was 9.5% higher than Store No. 7. Store No. 8 is a small neighborhood grocery, while Store No. 7 is a large downtown store. 9.5% seems a large premium to pay, even though to its customers Store No. 8 may have the most convenient location.

Credit stores that do not offer delivery have the smallest variation of any type of store. Store No. 15 was 5.8% higher than Store No. 22 and this is the widest range of variation among credit stores. Only 0.6% separates the lowest from the next lowest store.

Credit stores offering delivery service vary by as much as 7.1%. Store No. 4 was the lowest and Store No. 20 the highest.

As a whole, the large stores were offering the lowest prices, when they were compared against stores of their class of service. The rankings of the large stores, according to type of store, were as follows:

1. Cash-and-Carry Stores - - - - - Eight stores in group
 Store No. 5 - - 1st
 Store No. 2 - - 3rd
2. Cash Stores offering Delivery - - - - - Three stores in group
 Store No. 7 - - 1st
 Store No. 6 - - 2nd
3. Credit Stores not Offering Delivery - - - Eight stores in group
 There were no large stores in group.
4. Credit-and-Delivery Stores- - - - - Ten stores in group
 Store No. 4 - - 1st
 Store No. 3 - - 3rd
 Store No. 1 - - 5th

A Comparison of Rankings According to Two Different Methods:

Two different methods have been used in this study to determine the relative rankings of the twenty-nine stores.

The first method was one in which the prices of a group of selected items were totaled and ranks assigned according to those totals.

The second method made use of a weighted aggregate. The selected list of items was segregated and the items placed in the departments in which the

items are usually found. Weights were applied to the department totals order that the weighted department's total would be in about the same prop to the total aggregate as that department's sales are to total sales of an average store.

In Table XXVII, the rankings by both methods are shown. Six of the stores had the same rank by both methods. Those stores were Store No. 2 which ranked 4th, Store No. 5 which ranked 1st, Store No. 9 which ranked 25th, Store No. 12 which ranked 27th, Store No. 20 which ranked 29th, and Store No. 21 which ranked 21st.

Four of the stores changed but one position in ranking while four changed by five or more positions. The increase in the relative importance of fresh fruits and vegetables, meats, and dairy products in the weighted aggregate method accounted for those changes.

Meaning to the Consumer:

There are probably no two consumers that buy exactly the same items or whose purchases are in the same percentage ratio by departments. A vegetarian would be little interest in the meat or dairy departments, and his purchases would be confined almost wholly to dry groceries, fresh fruits and vegetables. To this type of buyer, the fresh fruits and vegetables department would be very important. Some buyers dislike vegetables, don't care for fruits, and a large percentage of their purchases come from the meat department.

It has been shown that prices vary from store to store and that even the highest-priced stores have some articles priced lower than the lowest-priced stores. A consumer, who buys a substantial amount of these types of articles, may find that in place of being the highest-priced store, it is for his purpose the lowest-priced store. In other words, a store may maintain the lowest overall pricing system and still not be the lowest to many customers or potential customers.

TABLE XXVII
A COMPARISON OF RANKINGS OF STORES
BY TWO DIFFERENT METHODS

Store Number	Rank on All Items *	Rank According to Total Aggregate **
1	18	21
2	4	4
3	24	19
4	9	13
5	1	1
6	3	8
7	2	5
8	26	28
9	25	25
10	21	26
11	11	15
12	27	27
13	22	23
14	18	20
15	15	22
16	16	12
17	5	6
18	20	16
19	6	7
20	29	29
21	17	17
22	7	3
23	11	10
24	14	18
25	12	9
26	13	11
27	10	14
28	28	23
29	8	2

* From Table XX

* From Table XXV

The buyer who shops from store to store and only buys after the lowest price on each article has been ascertained, is not interested in which store has the lowest over-all price. To him, no store is the lowest unless that store has the lowest price on the article he wants at the time he wants it. Still another class of buyer is the one that makes up a grocery list based on newspaper advertisements. This buyer, like the preceding one, cares little which store has the lowest over-all prices. It is the price on the individual article that counts.

Studies of this nature can prove helpful only to the buyer that confines his buying to one store or to a very few stores. Anyone can save on the grocery bill by shopping for bargains, if one has the time and the initiative to do so. Many consider the savings are not worth the effort or that the time spent shopping could be more profitably spent elsewhere.

A study could easily be made by every consumer to determine the store or stores that have the lowest over-all prices for him. The week's grocery list could be divided into two parts. Part of the items could be bought at one store and part at another store. The prices for all items on the list should be jotted down at each store and a total secured for each store. The lowest total for his purpose is the lowest-priced store. This simple method should prove fairly accurate providing the list of items is representative of normal purchases, and no items are included which are "today's specials". In the course of a few weeks, several stores could be compared in this manner. In case of doubt concerning the quality of two different brands at different stores, both could be purchased, both used, and quality tested in this manner. Quality, to a certain extent, is a matter of personal preference.

A consumer, wishing to take advantage of variations in the pricing policies by departments in different stores, could do so in the same study described above.

Meaning to the Grocer:

It would be advisable for the grocer to watch competition. Variations in prices, on individual items, indicate that this is not being done. "A retailer must watch competition when setting prices. He cannot go far above prevailing competitive prices and enjoy a profitable business."⁶

It would be reasonable to expect the over-all pricing policies of stores in the same service classification to be competitive. This was not the case. Cash-with-delivery stores' prices, based on a weighted aggregate, varied by as much as 9.5%. The variations, between the high and low stores in the other classifications, were 8.5% for cash-and-carry stores, 5.8% for credit-without-delivery stores, and 7.1% for credit-with-delivery stores.

As no information was obtained concerning pricing policies of the various stores, the actual reasons for the variations could not be ascertained. However, the variations definitely exist. A few of the reasons that might have caused these variations are:

1. Differences in wholesale prices in this area.

In a recent study made by Richard Auten, it was found that wholesale prices vary to a considerable extent among eight wholesalers serving this area. The totals for a group of fifty selected items varied by as much as four and one-third percent between wholesalers. Prices on individual items varied much more than this. For example, prices quoted on a case of Del Monte's Crushed Pineapple varied from \$5.68 to \$7.40, or about 30%.⁷ In other words, it would be as profitable for the grocer to shop as it is for the consumer.

⁶ Maynard, Harold H., Dameron, Kenneth, and Siegler, Carlton J., Op. cit., p. 331.

⁷ Auten, Richard, Survey of the Prices of the Wholesale Grocery Companies of This Area, Unpublished Term Problem in Advanced Marketing Research, pp. 1-30.

2. An attempt to exploit the customer.

The consumer, to a decided extent, bases his opinion of the over-all prices of a grocery store on the prices charged for nationally advertised staple goods. Some stores, knowing this, have competitive prices on this type of item but have a large mark-up on the other items or departments in comparison to other stores. In this manner, they hope to convince the consumer that they are a low-priced store while actually their over-all prices don't warrant this classification.

3. Uniform mark-up on all items.

Some stores may be attempting to obtain a certain mark-up on all or nearly all items. This should not be done. "Competition, customer demand, and the salability of the item are often the actual governing factors that determine how much mark-up can be set."⁸

4. Not watching competition.

Apparently most of the stores are not watching their competitors' prices to the extent they should. If this was being done, large variations in prices as found should not exist.

⁸ Robinson, O. Preston, and Haas, Kenneth B., How to Establish and Operate a Retail Store, p. 171.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE STUDY

Summary:

Prices on standard and non-standard items vary from store to store. No one store has the lowest prices or the highest prices on all standard or non-standard items although one store was as low or lower than any other store on thirty-six of the sixty-four items.

The most competitive of all standard items was Folger's Coffee with the price varying between stores by as much as 10.9%. The item with the greatest variation was Clorox with a 66.7% variation between the high and low store. Totals by stores for the forty standard items varied by as much as 17.4%. As a group, the large stores were lower than the small stores. The price variation between the seven large stores was 11.09% and between the twenty-two small stores was 10.60%.

The most competitive non-standard item was raisins with the prices varying between stores by as much as 27.3%. The largest variation was for grapefruit with a 140% variation between the high and low store.

The variations between stores for the total prices on the twenty-four non-standard items were less than for standard items. The totals varied by as much as 13.65%. The percent variation between the seven large stores was 12.53% and between the twenty-two small stores was 12.45%.

The correlation was high between the rankings of the twenty-nine stores on standard and non-standard items.

Percent variations from average for the total prices of all items for twenty-nine stores varied by as much as 14.38%. Only one large store's prices above average. A wider range in total prices of all items was found to exist between the large than between the small stores.

The sixty-four standard and non-standard items were segregated into four departments. These departments were fresh fruits and vegetables, dairy, meats, and dry groceries. The variations, between the high and low stores by departments, were 30.3% in the fresh fruits and vegetables department, 20.16% in the meat department, 14.66% in the dry grocery department, and 19% in the dairy department. No store ranked low in all departments. For example, Store No. 5, which was low for all items, ranked first on dry groceries, third on meats, tied for twentieth on fresh fruits and vegetables, and sixth on dairy products.

The average cash-and-carry store was being outsold on the total for the sixty-four items by cash-with-delivery stores. Credit-with-delivery stores were the highest with only one store below the average for all stores. As a group the cash stores were much lower than the credit stores.

Weights were applied to the department totals in order that those totals would be in the same ratio as department sales are to total sales in a typical grocery store. The variations in the total aggregates between stores ran as high as 12.5%.

Stores were classified by types of services rendered to the customer. A large variation was found to exist between the high and low stores in each classification. The variations between the high and low store in each classification were: cash-and-carry 8.5%; cash-with-delivery 9.5%; credit-without-delivery 5.8%; and credit-with-delivery 7.1%. In all classifications the variations between the low and next lowest stores were very small.

As a group, the large stores were offering the lowest prices when compared against stores in the same service classification. On a basis of a weighted aggregate, the average cash-and-carry store was much lower than the average store in any other classification.

A considerable change in rank was found when the rankings of all stores for the total item amount was compared against the rankings of all stores for the total aggregate amount. An increase in the relative importance of fresh fruits and vegetables, meats, and dairy products, in the total aggregate method, accounted for the changes.

CONCLUSIONS AND RECOMMENDATIONS

1. The large price differences, between stores on individual items, make it advantageous for the grocery buyer to shop from store to store. A substantial savings could be made in this manner providing the buyer had the time and the initiative to do this.

2. The smallest variations, in prices on individual items, are found on nationally advertised staple goods. It is easy for the consumer to compare prices on this type of item. For this reason, most stores offer competitive prices on nationally advertised brands although in some cases, large price differentials occur.

3. Large variations in prices on individual items are found on non-standard brands of equal quality and quantity. On this type of article the consumer can make substantial savings by shopping.

4. The consumer, who prefers to trade at one store, will find that using prices on nationally advertised brands as an indicator of the pricing policies of a store, is making a mistake. Stores use this type of item to attract customers and may offer them for sale at a cost or near cost basis. The mark-up on non-standard brands could be very high in comparison to other stores.

5. There were no grocery stores in Stillwater that had a low over-all pricing system in all departments when compared against the other stores. The store, which offered the lowest over-all prices, ranked twentieth in one department. The consumer should not only compare prices on individual items but should compare departments in several stores. A considerable savings could be made by trading at the four stores which had the lowest prices in the four departments.

6. A consumer should compare stores on a weighted aggregate basis. Each consumer's purchases are different and the weights would vary for each consumer.

The weekly grocery list, if representative, would give the same results for each consumer as a weighted aggregate.

7. Just because a store offers the lowest over-all prices is no sign that the store is the lowest for all consumers. The articles which a consumer buys determines which store has the lowest prices for him. The highest-prices store for one consumer may be the lowest-priced store for another consumer.

8. The larger stores have the lower over-all prices when compared with stores in the same service classification. Volume probably accounts for this. However, a few of the small stores are offering competitive prices and rank favorably in comparison to the large stores. The best small stores of today will be the large stores of tomorrow.

9. Prices tend to be higher in stores offering credit or delivery or credit and delivery. A consumer not desiring any one or all of these services should bear this in mind.

10. Grocers should shop for the goods they sell. Wholesale prices vary to a considerable extent between wholesalers. Many of the price differentials found in retail prices could be caused by this. A grocery store must offer competitive prices in order to enjoy a profitable business.

SUGGESTIONS FOR FUTURE STUDIES

1. A follow-up study of the same stores in order to determine if pricing policies have changed.
2. The determination of the causes of price differentials of a group of selected items in Stillwater grocery stores.
3. Studies of the same nature as this study made in other cities.
4. Correlation between sales volume and the over-all prices charged by a group of stores.
5. A study of the pricing policies of chain stores, voluntary chains, cooperatives, and independent grocery stores in this area.

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APPENDIX

GROCERY PRICE COMPARISON CHECK SHEET
 Stillwater, Oklahoma, March , 1949

Item	Brand	Size and Contents	Price
✓ Whole Kernel Corn (Yellow)	Niblet's	12 oz.	
Whole Breen Beans	Diamond A	#2, 1 lb. 4 oz.	
Cut Green Beans	Sweet May	#2, 1 lb. 3 oz.	
✓ Tomato Soup	Campbells	10½ oz.	
✓ Vegetable Soup	Campbells	11 oz.	
✓ Chicken Noodle Soup	Campbells	10½ oz.	
✓ Canned Milk	Pet	14½ oz.	
✓ Strained Baby Food (Mixed Vegetables)	Gerbers	4 2/3 oz.	
Strained Baby Food (Peaches)	Gerbers	4 3/4 oz.	
Olives (Stuffed)	First Pick	2 oz.	
Olives (Ripe)	Libby's	8½ oz. # 1 tall	
Pork and Beans	Van Camp	1 lb.	
✓ Baking Powder	Calumet	1 lb.	
✓ Soda	Arm & Hammer		
✓ Salt	Morton's	1 lb. 10 oz.	
Cherries (Sour Pitted)	Tree Top	#2, 1 lb. 4 oz.	
✓ Pineapple (Crushed)	White Pony	#2, 1 lb. 4 oz.	
✓ Pineapple (Sliced)	Libby's	#2, 1 lb. 4 oz.	
Grapefruit Juice (Unsweetened)	First Pick	1 qt. 14 oz.	
✓ Tomato Juice	Libby's	1 qt. 14 oz.	
✓ Powdered Sugar (Cane)	Imperial	1 lb.	
✓ Cocoa	Hershey	½ lb.	
✓ Coffee	Folgers	1 lb.	
✓ Coffee	Cain's	1 lb.	
✓ Syrup	Karo	1½ lb. 1 pint	

Item	Brand	Size and Contents	Price
Tea	Lipton's	$\frac{1}{4}$ lb.	
Raisins	I.G.A.	15 oz.	
Pickles (Sweet)	First Choice	1 pt. 6 oz.	
Prunes (Dried)	I.G.A.	1 lb.	
Sardines	Holmes	$3\frac{1}{4}$ oz.	
Salmon (Pink)	Pink Beauty	1 lb.	
Vienna Sausage	Armour	4 oz.	
Spam		12 oz.	
Clorox		1 pint	
Margarine (quarters)	Nucoa-Colored	1 lb.	
Margarine (White)	Blue Bonnet	1 lb.	
Shortening	Crisco	3 lbs.	
Shortening	Wilson Advance	3 lbs.	
Cereals (All Bran)	Kelloggs	10 oz.	
Grapenut Flakes	Post	8 oz.	
Jello		3 oz.	
Crackers	Krispy Sunshine	1 lb.	
Soap (Laundry)	Oxydol	Regular 1 lb. 8 oz.	
Soap (Laundry)	Dreft	Regular 11 oz.	
Hand Soap	Lifebuoy	Standard	
Hand Soap	Lux	Standard	
Navy Beans		2 lbs.	
Cheese (Velveeta)	Kraft's	2 lbs.	
Cheese (Pimento)			
Flour	Gold Medal	10 lbs.	
Flour	Pillsbury	10 lb.	
Sugar (White Cane)	C & H	5 lbs.	

Item	Brand	Size and Contents	Price
Pancake Flour	Aunt Jemima	1 $\frac{1}{4}$ lb.	
✓ Cake Mix	Pillsbury	1 lb.	
Butter	Dairy Land	1 lb.	
✓ Bologna (Large)	Swifts	1 lb.	
✓ Bacon	Swifts Armour	1 lb. 1 lb.	
Minced or Spiced Ham	Wilson	1 lb.	
✓ Weiners	Swifts	1 lb.	
✓ Link Sausages	Brookfield	1 lb.	
✓ Tomatoes (Fresh) (4 select)		carton	
✓ Potatoes (White)		1 lb.	
✓ Lettuce		1 lb.	
✓ Apples	Red Delicious	1 lb.	
✓ Oranges (thin skin)	Sunkist	1 lb.	
✓ Grapefruit (White) (Seedless)		1 lb.	
Onions (Yellow)		1 lb.	
Lemons	Sunkist	1 lb.	
Cabbage		1 lb.	

Typist: Lois B. Sowers

A SURVEY OF RETAIL GROCERY PRICES
IN STILLWATER, OKLAHOMA