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CHAPTER V

MARKETING

By MELVIN T. COPELAND

In the marketing field, the changes which have occurred since 1922 have been fully as notable as the changes in most other types of business activity, and of as great significance to the community. In order to keep the subject within manageable proportions for this survey, the topics selected for concentrated study, on the ground that they are of particular significance or of especial interest, are as follows: changes in demand, changes in retail trading areas, hand-to-mouth buying, changes in distribution, co-operative marketing, installment selling, and advertising.

As the facts brought out in the analyses of these various topics will show, there have been numerous cross-currents and counter-currents among the marketing influences at work. While these conflicting influences have benefited some industries and trades, they have reacted adversely upon other types of business. The purpose of this chapter is to show, so far as possible, the changes that have occurred and their relation to the general economic structure of the country.

I. CHANGES IN DEMAND

During the period since 1922, changes in demand have been one of the chief marketing developments.¹ As a consequence of the World War and of the boom preceding the crisis of 1920, various cakes-of-custom were broken. Old buying habits were changed and consumers subsequently manifested receptivity to new types of merchandise without all the customary delay and diffidence. New tastes and new buying habits developed more rapidly and more extensively than usually is the case under normal conditions. Wages did not decline at anything like the rate at which prices fell after 1920; consequently, buying power was available among large numbers of consumers to make the new demands effective. The merchandising imagination of some energetic manufacturers had been stimulated by the experiences of 1914 to 1920, with the result that they proceeded expeditiously to take advantage of consumers' receptivity. In numerous industries, furthermore, producing capacity was awaiting opportunity for utilization which furnished a strong incen-

¹ A detailed analysis of changes in standards of living, which constitute a major type of changes in demand, is given in Chap. I, Consumption and the Standard of Living.

tive to the exercise of merchandising imagination. The changes in demand during the last ten years, therefore, arose broadly from the offerings of new types of products, of improved types of old products, changes in the tastes and desires of consumers, increased purchasing power, and changes in the "tempo" of living.

These changes in demand brought business activity and prosperity to some industries and to some companies. They brought hardship and adversity to other industries or to individual companies. Any marked change in the quantity of merchandise of a particular sort that is desired, or in the character of the demand for the products of one industry, almost invariably has ramifications which are difficult to foresee and which are sometimes impossible to counteract. Herein is found one of the causes for the mixed conditions in American industry from 1922 to 1928, some industries manifesting great prosperity, others suffering from adversity.

New Commodities—Radio.—In the enumeration of changes in demand which occurred during the period covered by this survey, radio sets furnish the outstanding example of a new type of merchandise placed on the market with an almost phenomenally rapid increase in demand. The influences of this new medium of communication, furthermore, ramify widely. For the farmers, for example, the radio is not only furnishing news and crop information much more quickly than it hitherto has been available, but is also helping further to break down the differences between the wants and interests of the urban and the rural population. It is tending to make the market for various types of merchandise more homogeneous, since it increases the farmers' receptivity for, and even insistence on, merchandise similar to that bought by urban consumers.

A totally different quarter in which the radio is almost certain to exert an influence, of unforeseen significance, is in such districts as the lower East Side of New York City. On the roof of practically every tenement house on the lower East Side numerous radio antennae are in evidence, thus indicating that this new means of communication is already extensively installed in homes that so often have been looked upon as being somewhat impervious to the rapid spread of new ideas. The socializing influence and the possible effects of such a development on the standards of living of large numbers of consumers are subjects for interesting speculation.

The demand for radio sets spread within a few years from the homes of the well-to-do, through the middle-class urban community, to the farmers, in one direction, and to the homes of the tenement dwellers, in another. This spreading of demand resulted in a large volume of sales of radio equipment. Further than that, the use of radio equipment had an effect upon the demand for other types of commodities to which attention was called in radio broadcasting.

Airplanes.—Another new commodity which came to have commercial significance after 1920 was the airplane. By 1928, the volume of production of airplanes had not become sufficient to have a marked effect upon general business activity, nor had the influence of the airplane as a means of transportation then exerted a strong influence on commerce. Nevertheless, the industry was started during this period on a commercial basis and a demand was manifested for airplanes for commercial purposes not only for transportation of mail and the public conveyance of passengers, but also for private use by corporations in the conduct of their affairs.

Automobiles.—The period after 1920 also was marked by a rapid increase in the number of automobiles in use and by a change in the most popular type. In Table 1, data compiled by the National Automobile Chamber of Commerce are given on the annual production of closed and open cars from 1919 to 1927.

TABLE 1.—PRODUCTION OF CLOSED AND OPEN CARS,^a UNITED STATES AND CANADA

Year	Open	Closed	Per cent closed
1919 ^b	1,496,652	161,000	10.3
1920 ^b	1,581,610	323,950	17.0
1921.....	1,191,220	337,945	22.1
1922.....	1,701,675	729,290	30.0
1923.....	2,481,404	1,278,300	34.0
1924.....	1,891,024	1,426,562	43.0
1925.....	1,694,774	2,201,258	56.5
1926.....	1,113,180	2,862,460	72.0
1927.....	530,795	2,555,223	82.8

^a National Automobile Chamber of Commerce, *Facts and Figures of the Automobile Industry*, 1928, p. 11.

^b United States only.

In 1922, 30 per cent of the cars produced were closed cars; in 1927, 82.8 per cent. In 1927, the number of closed cars produced was three and one-half times as great as in 1922, whereas the number of open cars produced had declined 69 per cent. This change in the demand for automobiles had a marked influence on the demand for various fabricating materials; for example, much larger quantities of plate glass were required for closed cars and a different sort of upholstery from that which commonly had been used in open cars.

The increased production of automobiles and the increased number in use does not tell the whole story of the effect of automobiles upon demand, because, with the increased number of closed cars in service and the improvement in roads, all-the-year-round use became far more common. The effect of this more constant use was to increase the demand for gasoline, lubricants, and tires, to provide an almost new market for alcohol, glycerine, and other nonfreezing preparations, and, not least, to increase the demand for labor for repair and maintenance service.

The year 1927 also brought a striking example of another change in the character of demand for automobiles. The experience which culminated in the closing of the Ford factory and in the announcement of the new model of the Ford car showed that consumers not only were interested in economical operation and utilitarian service of even the cheapest automobiles, but that they also desired greater comfort and more attractive appearance in the cars which they purchased. This manifestation of consumers' desires was in keeping with changes that were taking place in other industries.

Heating Equipment.—In homes and apartment houses the use of oil-burning furnaces was another significant development during the period under review, and the introduction of gas furnaces for home heating began. The increased use of oil-burning equipment not only affected the prosperity of companies manufacturing such equipment and that of the producers of fuel oil, but it had an adverse effect on the demand for anthracite coal. In the northeastern section of the United States, in fact, the increased use of oil-burning equipment spread sufficiently to place the anthracite coal producers on the defensive marketwise, probably for the first time since the mining of anthracite coal had become a large-scale commercial undertaking.

Electrical Appliances.—The increased use of electrical appliances was still another outstanding change in demand which occurred during the period after 1922. Table 2, which was compiled by *Electrical Merchandising*, a McGraw-Hill Co. publication, gives estimates of the retail sales of electrical appliances in 1922 and in 1927. The preparation of such estimates as these is obviously difficult and subject to some degree of error. Nevertheless, it probably is fair to conclude that the annual retail sales of electrical appliances for household use doubled in the period of six years from 1922 to 1927. Items for which the increase in the volume of estimated sales was greatest were electric refrigerators, clothes washers, and sewing machines.

Table 3, also prepared by *Electrical Merchandising*, gives an estimate of the total number of electrical appliances in use in January, 1923, and in January, 1928.

The data in Table 3 are noteworthy in comparison with the total number of wired homes—17,596,390. This comparison indicates that in 1928 a large percentage of the homes wired for electricity already had electric flatirons, that less than one-third of them had washing machines, that slightly over one-third had vacuum cleaners, and that less than 5 per cent had electrical refrigerators, despite the rapid rate of increase in sales of electrical refrigerators during the years immediately preceding.

The increased use of electrical appliances in the home shows partially the manner in which the servant problem had been met. With the curtailment of immigration and the demand for labor in other occupations,

TABLE 2.—SALES OF ELECTRICAL APPLIANCES

Appliance	Estimated retail sales	
	1922	1927
Clothes washers.....	\$65,000,000	\$118,500,000
Vacuum cleaners.....	40,000,000	49,344,000
Flatirons.....	20,000,000	14,250,000
Fans.....	11,000,000	11,250,000
Sewing machines.....	10,000,000	33,250,000
Ranges.....	8,000,000	17,600,000
Ranges, wall outlet.....		500,000
Ironing machines.....	6,000,000	10,880,000
Refrigerators.....	4,000,000	82,125,000
Radiators and heaters.....	3,300,000	2,475,000
Percolators.....	2,600,000	5,400,000
Violet ray outfits.....	2,500,000	2,250,000
Vibrators.....	2,000,000	1,150,000
Toasters.....	2,000,000	2,343,000
Heating pads.....	1,250,000	1,657,500
Dishwashers.....	750,000	1,440,000
Waffle irons.....	750,000	3,300,000
Grills, hot plates, and table stoves...	875,000	1,890,000
Cookers (660 watts and under).....	225,000	1,800,000
Total, 19 appliances.....	\$178,250,000	\$361,404,000

TABLE 3.—ELECTRICAL APPLIANCES IN USE

Appliance	January, 1923	January, 1928
Flatirons.....	7,000,000	15,300,000
Washing machines.....	2,915,000	5,000,000
Vacuum cleaners.....	3,850,000	6,828,000
Fans.....	3,500,000	4,900,000
Heaters.....	1,260,000	2,600,000
Toasters.....	1,000,000	4,540,000
Ironing machines.....	116,000	348,000
Refrigerators.....	27,000	755,000

the wages of servants were high and good service was difficult to secure. These conditions served to stimulate the demand for labor-saving equipment. Even in homes where servants were employed, the servants themselves often insisted upon being provided with these labor-saving devices as a condition of their service. The increased use of electrical appliances, moreover, not only helped solve the servant problem, but it also brought comfort and relief to many thousands of housewives who were not accustomed to employing servants. From a business standpoint, the sales of electrical appliances were a large factor in the

prosperity of the companies manufacturing such goods and of related enterprises and public utility companies, but they reduced the sales of some other industries.

Most of the changes in demand which have been discussed so far have had to do with the introduction of new products or new types of products and the effects on industries whose markets were invaded. Another set of changes in demand, no less significant than those already cited, were those growing out of fashion.

Wearing Apparel.—There is nothing new in the phenomenon of changes of fashion, but the manifestations of the changes which have occurred during the last ten years have affected particular industries in a striking manner. The popularity of furs and fur-trimmed garments, short skirts, silk hosiery, and novelty styles of shoes resulted in activity in the silk hosiery industry, in the women's shoe trade, and in the fur business, but caused depression in the woolen and worsted industry and brought hardships to the manufacturers of cotton stockings. The woolen and worsted plants, equipped to manufacture enough cloth for ankle-length garments, had a substantial portion of their machines idle after the length of the skirts was raised to the knees. The popularity of fur trimming also tended to cut down the amount spent for cloth, since manufacturers and merchants sought to maintain the price of the finished garments at about the same figures that obtained before fur trimming came into vogue. A. D. Whiteside, president of the National Credit Office and later president of the Wool Institute, in an address before representatives of the wool industry, June 23, 1927, made the following statement regarding the relative value of materials entering into garments produced by manufacturers of women's cloaks and suits. This statement was a careful estimate based upon long and intimate acquaintance with the industry.

For every \$100 in fall and spring sales (by manufacturers of women's cloaks and suits in 1926), \$30 was paid out for labor, general expense, and profit, leaving \$70 for materials . . .

In the spring, \$39.20 of this remaining \$70 went into furs, trimmings, and linings, leaving \$30.80, or only three-tenths, against four-tenths for furs, of every \$100 spent by women for spring apparel as the value of the woolen and worsted cloth in the average garment.

But in the fall it was even worse, for during that season the cost of furs, trimmings, and linings amounted to \$50.40 or one-half, leaving \$19.60, or about one-fifth, of every \$100 in sales as the value of the wool fabrics purchased by these cutters.

As a result of his analysis, Mr. Whiteside concluded that in 1927 the consumption of woolen and worsted fabrics amounted to approximately \$656,000,000, as compared with a maximum manufacturing capacity in the industry of \$1,750,000,000 at current prices. Under these circumstances it is small wonder that the woolen and worsted industry was not prosperous in 1925, 1926, and 1927.

The vogue for short skirts was accompanied by a widely prevalent demand for silk hosiery, and, to a less extent, for rayon hosiery. This demand cut down the market for cotton hosiery. One company, for example, which had had a long and successful career in the manufacture of cotton hosiery, has been liquidated since 1922 because it could not change its production facilities to make silk and rayon goods. Two other hosiery companies with similar records were continuing to operate in 1928, but with heavy losses. A fourth hosiery company whose embarrassment probably could be traced, in part at least, to the same fundamental cause, announced plans for reorganization in 1928. Numerous other manufacturers of cotton hosiery undoubtedly suffered similar hardships as a result of the shift in demand from cotton to silk and rayon stockings. The change came rapidly and affected nearly all classes of consumers. Some of the companies manufacturing silk hosiery, in contrast with those just referred to, were conspicuously prosperous during these years.

An effort to provide a full explanation of the changes in fashion would be largely a matter of speculation, for as yet no complete study has been made of the economic aspects of style merchandising.² The increase in the demand for silk hosiery can be accounted for, in part, by the prosperity of many classes of consumers, in part by the increased tempo of demand, and in part by a combination of style influences whose sources are subtle and not yet generally understood.

Reference has been made to the use of rayon for the manufacture of hosiery. Rayon, of course, was used before 1920 under the name of artificial silk, but the most rapid development of the industry occurred after that date. It was used not only for hosiery, but even more extensively for decorative purposes on cotton and wool fabrics; some fabrics also were made entirely of rayon. A notable change occurred in the increased use of rayon for women's underwear. In 1926 a survey was made, the results of which were published by the National Retail Dry Goods Association,³ in which data were secured from representative department stores in all sections of the United States. This survey indicated that at that time 36 per cent of the sales of women's underwear (including vests, bloomers, step-ins, union suits, slips, and nightgowns) were made of rayon, 31 per cent of silk, and 33 per cent of cotton. The bulk of rayon underwear sold was of knitted construction, and the rapid shift of the demand from cotton to silk and rayon goods used for the manufacture of women's underwear had curtailed materially the demand for bleached cotton cloth for that use. This change in the type of fabrics

² For a pioneer study of certain aspects of this subject, see Paul H. Nystrom, *The Economics of Fashion*, New York, 1928.

³ *Trend of Women's Underwear Sales*, National Retail Dry Goods Association, New York, 1927.

used, together with the shorter skirts and the elimination of the old-fashioned petticoats, deprived cotton manufacturers of a market for a large yardage of bleached fabrics, thus tending to affect adversely the earnings of cotton mills producing fabrics previously used for that purpose.

The foregoing examples by no means exhaust the list of those which might be recorded under the heading of changes in demand resulting from the spread of new fashions. They suffice, however, to suggest the widespread influence of those changes.

Other Industries.—Examples of changes in demand in various other industries during the last ten years are: the increased use of automobile accessories, such as motormeters and windshield wipers, the new demand for cigarette lighters and propeller pencils, the popularity of card matches, the more prevalent use of soft collars by men, the purchases of golf supplies, and the shift in the demand from the old-style timepieces to wrist and bracelet watches. In the industrial field occurred such changes as the introduction of new alloys, the development of a large market for busses, and the introduction of paint-spraying machinery, which afforded a new field of activity for certain manufacturers but threatened to impair the market for brushes and to become a competitor of the journeyman painters.⁴ The increased use of paint-spraying machinery was closely related to the introduction of a new type of paint which presented an embarrassing problem to some of the old-line paint manufacturers. The manufacturers of ice-making machinery faced new problems as the result of the encroachments of electrical refrigerators. Numerous manufacturers of saddlery hardware have been forced by the increased use of automobiles and motor trucks either to change the character of their output or to go out of business.

More examples of similar tenor might be cited, but sufficient have been given, in this and other chapters of the survey, to indicate the prevalence of changes in demand within a short period of time. As a result of the rapidity of the changes and their character, some industries have been prosperous; others have been depressed. The changes came so rapidly, furthermore, as to prevent easy readjustment. The bulk of the output in many industries at the present time comes from large-scale, specialized plants which cannot be changed quickly and which have not heretofore maintained organizations which were prepared to cope without embarrassment with swift changes in demand.

Merchandising.—The prevalent condition of changing demand and the spread of hand-to-mouth buying have put a premium on what is coming to be called "merchandising." Reductions in costs have been an important factor in enabling individual companies to meet price

⁴ See Mechanization, Chap. II, Industry, Part 1, p. 84; Part 2, p. 104; Chap. III, Construction, p. 234.

competition, and they have been of benefit to the community. In some industries the reductions in costs which have been made during the last ten years have been essential for the continued existence of particular companies. In many industries, nevertheless, reductions in costs have been of far less consequence than ingenuity in devising types and styles of merchandise which satisfied actual or potential demands of consumers.

The manufacturers of gingham cloth, for example, could not have stemmed the trend of demand to fancy prints and other fabrics, even by large reductions in costs. The makers of women's black kid shoes no more could have competed successfully with novelty styles of shoes, merely by reducing costs, than the makers of the congress shoes for men a generation ago could have held their market by reducing prices. The competition of gas stoves with coal ranges has been governed by other factors than the costs of making ranges. The makers of the old-style timepieces, in the face of competition from wrist watches and bracelet watches, could not have insured prosperity for their enterprises merely by reducing costs. Without belittling the need for economy in production, the experience of recent years has especially emphasized the fact that the first requisite to success for an individual company or for an industry is to be able to cater effectively to the demands of consumers.

Many of the companies which have been most conspicuously successful during the last ten years have been the ones which have shown the most constructive merchandising ability. Conversely, the business troubles of numerous other companies can be traced to poor merchandising; that is, to the failures to comprehend market requirements, qualitatively and quantitatively.

A characteristic of many American industries during the nineteenth century and the early twentieth century was mass production of more or less standardized articles, a system which reached its zenith in the Ford plant. That method of operation permitted the economical utilization of labor and resulted in great economies in production. Since 1920, however, a different set of conditions has been apparent, as indicated by the new tempo of demand, the rapidity of style changes, and the receptivity of consumers to new varieties and types of products. Whether these new conditions are permanent or not, they must be faced. Some conditions, such as the change in rural markets and the rise in standards of living, are working for a continuance of frequently changing demand. There is some evidence of a reaction against widespread standardization of products, at least in the case of display merchandise. This tendency toward greater variety may be regretted, but it is a fact that cannot be disregarded by alert business executives. These conditions have placed a premium on keen foresight in product planning, that is, on constructive merchandising.

Merchandising⁵ includes the determination of what goods to produce in order to meet actual or potential demands, what changes to make in existing products, what styles or finishes to provide for, what methods of packing to adopt, what products to discard, and what quantities to make. Henry S. Dennison, in a paper submitted at the annual meeting of the Taylor Society, in December, 1927, made the following statement regarding the experience of the Dennison Manufacturing Company:⁶

Over a period of years, the task of merchandising has been found to consist of four elements. These are:

1. The study of the merchandise relative to—
 - (a) Creating new merchandise.
 - (b) Finding new uses for standard merchandise, and
 - (c) Watching the trends of the market, particularly to avoid the retaining of items that give indication of becoming obsolete.
2. The study of the merchandise relative to estimating the amount of production necessary to meet the market requirements at different seasons and periods.
3. The study of the merchandise relative to making price estimates on special merchandise and to making changes in list prices of stock merchandise.
4. To make each line of merchandise of continuing interest to the selling organization.

Until very recently, in most manufacturing companies this merchandising function has been assigned to various executives or shared jointly by numerous members of a manufacturing and sales organization. But within the last ten years, several companies have recognized the importance of this function and have set up in their organizations the office of merchandising manager, or its equivalent, to centralize the control of the merchandising function and to insure its proper performance. This probably has been one of the most noteworthy marketing developments during this period.

To sum up, the causes for changes in demand can be attributed, on the one hand, to the ingenuity of manufacturers in applying to ordinary uses new ideas, materials, and machinery which were developed during the war period, and to the devising of new products which rapidly attained popularity. The spread of the demand for many of these products was stimulated by the utilization of aggressive methods of marketing and sales promotion. On the other hand, the changes in demand were caused in part by the prevalence of high money wages, by the fact that the war and the subsequent boom had shaken many people loose from their old standards and made them receptive to new fashions and new notions. The modified economic conditions also placed a premium on the introduction of labor-saving devices. Thus, these changes in demand can be attributed partly to consumers and partly to the ingenuity of

⁵ M. T. Copeland, "The Merchandising Function in Industrial Marketing," *Advertising and Selling*, November 16, 1927, p. 21.

⁶ *Printers' Ink*, December 15, 1927, p. 109.

manufacturers and merchants in sensing the receptivity of consumers and in stimulating latent buying motives. While these changes were occurring, some industries were prosperous and others unprofitable. Changes in demand, furthermore, presented new problems in organization and were accompanied by changes in buying habits, changes in methods of distribution, and utilization of intensive methods of sales promotion.

II. CHANGES IN RETAIL TRADING AREAS

In addition to changes in demand, modifications of the buying habits of large numbers of consumers have occurred since 1920 in a manner to disturb the established channels of distribution and to affect the economic life of numerous communities. The major change in buying habits has resulted in a widening of retail trading areas, particularly in rural sections of the United States. This change, like most of the other business developments noted, had begun prior to 1920, but its progress was markedly accelerated after that date.

Shifting of Trade.—The chief feature of this change was a shifting of trade in certain lines of merchandise away from crossroads stores, village stores, and some small town stores, to stores located at county seats or other trading centers. From the county seats and trading centers, some trade, particularly in dry goods and wearing apparel, shifted to the cities of, roughly, 25,000 to 100,000 population. These medium-size cities, in turn, lost some trade to the metropolitan markets, but the shift to metropolitan markets was less marked during this period than the changes at the smaller trading points.

Meanwhile, several countershifts of trade were taking place, such as a growth of suburban department stores near several large cities. In addition, a marked increase occurred in the number of roadside stands for selling fruit and vegetables or candy, soft drinks, and lunches, and in the number of scattered gasoline filling stations. These countershifts, however, were not so significant as the movement of trade to county seats and larger trading centers.

Almost no statistics have been collected on the change in retail trading areas, and, pending the completion of the Census of Distribution, not even an approximate measurement of the volume of trade involved is possible. Ample evidence has been found, nevertheless, to show that a change of major economic significance has been under way and to indicate the kinds of business most affected.

In the course of a survey of the distribution of textiles, made by the Harvard Bureau of Business Research in 1925, reference was made to a shifting of trade in dry goods away from general merchandise stores in small towns and rural villages to county seats and medium-size cities.⁷

⁷ Harvard University, Bureau of Business Research, *Bulletin* No. 56, "Distribution of Textiles," p. 149.

Professor Horace Secrist, in 1925, obtained information from 2,413 students in 26 universities regarding their practices in buying clothing and furnishings. He concluded that "the direction of the movement of trade is from the small to the large centers."⁸

The Committee on Business Research of the University of Nebraska in 1927 published a bulletin on retail trading areas in 27 counties in southern and southeastern Nebraska. From credit rating books, tables were compiled to show the number of stocks of different lines of goods carried by retailers in towns of different sizes in 1903, 1917, and 1925. That analysis indicated⁹ that in 1925 there were fewer general merchandise stores, more grocery stores, little change in the number of stocks of meat, hardware, farm implements, or lumber, and a decrease in the number of harness shops, jewelry stocks, dry goods and women's apparel stocks, and shoe stocks. In most of the lines where decreases occurred, the changes were particularly marked after 1917. Information also was obtained from 171 students in the University of Nebraska regarding changes in the buying habits of their families, and one of the conclusions was stated as follows:¹⁰

The towns with a population between 1,000 and 5,000 gain much trade from the smaller places, but it is true that the smaller towns of this class lose much trade to the larger places. Towns of under 5,000 population suffer the greatest loss with respect to men's dress goods, millinery, and women's ready-to-wear goods. Towns of over 5,000 population, the typical county-seat town, probably gain more trade than they lose, while Lincoln has especially gained from the development of roads and the wide distribution of the automobile.

The results of an inquiry regarding trade conditions in 45 villages in Illinois were published by the Bureau of Business Research of the University of Illinois in 1928. It was stated:¹¹ "Speaking generally, the sales of village merchants in Illinois have decreased, although this decrease seems to be much less than is popularly supposed."

The results of a study of conditions in a particular community were published in *The Drygoodsman* in 1925.¹² This study was concerned with the territory around Springfield, Ill. It gave evidence to indicate that in Athens, for example, a town with 1,241 population in 1921, located 14

⁸ Horace Secrist, *The Widening Retail Market*, A. W. Shaw Co., Chicago, 1926, p. 48.

⁹ *Nebraska Studies in Business*, No. 18, "The Influence of Automobiles and Good Roads on Retail Trade Centers," pp. 7, 9.

¹⁰ *Ibid.*, p. 57.

¹¹ University of Illinois, Bureau of Business Research, *Bulletin* No. 19, "The Automobile and the Village Merchant," p. 7.

¹² Frank E. Belden, "Nationwide Trend Indicated by Study of Community with Good Roads," *The Drygoodsman and Southwest Merchant-Economist*, February 14, 1925, pp. 30-31.

miles north of Springfield, there had been a marked decrease in retail trade during the preceding four years. At Illiopolis, 24 miles east of Springfield and 16 miles west of Decatur, retail trade had declined greatly. At Pawnee, 24 miles south of Springfield, retail trade had suffered less than in the other two outlying towns mentioned, but it was stated that there some sales had been lost to Springfield merchants.

The Research Department of the Curtis Publishing Co. recently made a survey of various trading areas, such as those centering at Galesburg, Ill.; Sioux City, Iowa; and Adrian, Mich. The results were analogous in each district. The Galesburg market, for instance, was stated to include three sections. The first, comprising an area extending 5 to 8 miles from Galesburg, included the population which made most of its purchases in Galesburg. The second, extending from 10 to 25 miles from Galesburg, was one in which consumers made a large part of their purchases of shopping goods in that city. The third section, more distant, was one in which consumers made only occasional purchases in Galesburg. The proprietor of a hardware and furniture store in a small town 10 miles from Galesburg was quoted as stating that his furniture business had dropped off 50 per cent by the shift of trade to Galesburg. The proprietor of a general merchandise store 25 miles from Galesburg stated that he had discontinued the sale of men's clothing, women's ready-to-wear clothing, and various other lines of merchandise, because of his inability to compete with the stores at the trading center. Similar statements by numerous other merchants were quoted.

An inquiry sent by the *Kansas Farmer* to merchants in cities of 10,000 to 40,000 population in Kansas, Nebraska, Missouri, and Oklahoma indicated that the merchants in those towns were increasing their sales to out-of-town customers.

In the *Commercial Survey of the Southeast*, by the United States Department of Commerce, in 1927, it was stated that the shift of trade from the country districts to the larger trading centers was common in all sections of the Southeast, the trading radii of some cities being 100 miles.¹³

The published evidence, summarized above, was, for this survey, supplemented by correspondence with 41 wholesalers, manufacturers, and publishers of trade papers and farm journals, and by personal interviews with bankers and other business men in various parts of the United States during the spring of 1928. Reports were obtained by this means on conditions in Pennsylvania, New York, Ohio, Michigan, Illinois, Iowa, Kansas, Minnesota, Oklahoma, Arkansas, Missouri, Tennessee, Georgia, Virginia, West Virginia, Alabama, Texas, California, Oregon, and Washington. Many of the correspondents were also acquainted, from experience, with conditions in various other states.

¹³ John M. Hager, *Commercial Survey of the Southeast*, United States Department of Commerce, Domestic Commerce Series No. 19, Washington, 1927, p. 179.

Space permits the presentation of excerpts from only a few of the pertinent statements received. The editor of an especially *progressive* trade paper in the Middle West, for example, wrote as follows:

The first tendencies were noticeable to us as far back as 1911. The shift in buying has been primarily in those lines which we roughly classify as fashion goods. In such merchandise the purchaser usually desires a greater variety and wider assortment than can be effectively offered by the small town store. To reach a point which does offer a satisfying assortment, we have discovered the average customer is willing to travel about one hour by any convenient means of transportation.

The editor of a trade paper in Kansas stated that it was not uncommon for people to drive 100 or 150 miles to cities such as Wichita, Hutchinson, Arkansas City, and Dodge City to shop, particularly for the purchase of style merchandise.

The secretary of a retail merchants' association on the Pacific Coast estimated that the number of small stores had been reduced by one-half within a radius of 100 miles of cities of 100,000 population or more. He thought that the more remote districts had not been so much affected.

Dry goods wholesalers in Virginia, Arkansas, Ohio, Illinois, Georgia, and West Virginia reported definitely that the sales of dry goods in small towns had fallen off and that there had been a decline in the number of country merchants handling them. One wholesaler gave this as the reason for the voluntary liquidation of his business, and another cited the same condition as having led him to start a chain of retail stores in trading centers.

A drug wholesaler testified as especially noticeable for the drug business:

So far as the northwest territory is concerned, *i.e.*, the trade area served by the Minneapolis market which comprises Minnesota, North and South Dakota, Montana, northern Iowa, and western Wisconsin, I would say unhesitatingly that during the past five years small towns have suffered irreparable loss as a result of the shift of trade to the larger market towns, county seats, etc.

A firm selling cheap jewelry to stores in small towns reported more sales resistance during the past two years than in the three years previous. A man who is particularly well-informed regarding the retail clothing trade expressed his certainty that there had been a very considerable shift in trade in men's clothing away from the small towns to the county seats and larger cities. In the farm implement business a substantial decline, dating back to 1912, in the number of dealers was reported. In the grocery trade, on the other hand, the trading areas had undergone little change.

Much more evidence could be cited, but it would serve chiefly to corroborate the statements quoted. Practically all the reports agreed that a marked shift in retail trade in the small towns and rural districts and in the territories tributary to urban markets was taking place in

certain lines of goods, and that this change had been especially accelerated since 1920.

From the evidence, it is apparent that some lines of business have been much more affected by this change in trading areas than others. Those goods most affected were of the sort for which fashion dominates the demand, particularly women's apparel. It is for such goods that the trading area has the longest radius. There has been a marked tendency, however, for the trade in dry goods, toilet articles, jewelry, furniture, men's clothing, and shoes, to shift from general merchandise stores at crossroads or in small villages to the trading centers. The grocery trade has been much less affected. The retail agricultural implement business has been influenced not only by the general tendency for the shifting of trade to the larger trading centers, but also by a decline in the number of manufacturers of agricultural implements and by the increased sales of power machinery and heavy technical equipment, which requires upkeep service of greater proficiency than usually can be supplied by a small merchant.

This shift in trading areas has affected not only mercantile businesses, but also commercial banks. It has had some influence in lessening the deposits in small local banks, since their former depositors, to some extent, have preferred to do their banking in the trading centers where they do their shopping.

The development of the moving-picture business has been one of the causes for the shifting of trade, but it also has felt the effects. Accurate figures for the number of moving-picture theaters in the United States are available only for 1926, 1927, and 1928. In 1926 the total number of motion picture theaters was 14,976.¹⁴ On March 1, 1927, the total number, according to a survey by the *Motion Picture News*,¹⁵ was 15,119 and on March 1, 1928, the number was 14,235. An inquiry among men familiar with the business resulted in an estimate for the number of theaters in 1920 as 15,000. The tendency, therefore, seems to have been for a slight decline, particularly during the last year, in the number of moving-picture theaters. The theaters that were closed were chiefly small theaters in small towns, and their disappearance was much more than offset by the larger size of new theaters built. The *Motion Picture News* stated:¹⁶

This disappearing group is composed almost entirely of the "shooting-gallery" type, which have passed their era of usefulness and are therefore giving place to the modern theater either in the same town or in the nearby natural trading center.

The great increase in good roads and the use of the automobile is a decisive factor in the change that is going on.

¹⁴ J. S. Dickerson, *A Detailed Survey of Motion Picture Theaters in the United States*.

¹⁵ *Motion Picture News*, April 14, 1928, p. 1197.

¹⁶ *Ibid.*

The primary causes for the change in trading areas that has occurred have been the increased use of automobiles and the construction of good roads. These influences were supplemented by the popularity of moving pictures, in which the latest fashions were shown on the screen, and by radio broadcasting, which helped to stimulate an interest in new types of merchandise. Nearly all the influences which tended to cause changes in demand worked also toward increasing the size of retail trading areas, and various other influences also contributed to the modification of buying habits.

The spread of rural free delivery for mail, which has been facilitated by the building of good roads and the increased use of automobiles, removed one of the occasions which many farmers formerly had for visiting the local stores, and the discontinuance of fourth-class post offices took away one of the sources of income for numerous merchants. This was not a major cause for the change in trading areas, but, nevertheless, it probably was of some influence.

The figures in Table 4 were furnished by the United States Post Office Department and show the reduction in the number of fourth-class post offices.

The net reduction, by states, from July 1, 1919, to June 30, 1927, was as shown in Table 5.

In the South, the shift in trade during the last eight years has been influenced substantially by the decline in the amount of credit extended by lien merchants,¹⁷ who made loans to the farmers on their growing crops. In the *Commercial Survey of the Southeast*, to which reference previously has been made, it was stated that since 1920 there had been a marked change in the South; for the farm-loan banks, intermediate credit banks, and local financial institutions in numerous instances had taken over the credit function which formerly had been performed so generally by the local storekeepers. This statement is supported by information from private sources. Although the change had begun prior to 1920, increasing freedom of the farmers from the lien merchants undoubtedly was one of the factors exerting an influence in the change in buying habits in the South during the recent period.

The increase in the size of trading areas basically has been merely a manifestation of certain inherent traits in human nature; namely, the desire for variety and for up-to-date styles. New means of transportation and communication made it possible for a larger number of consumers to gratify these desires.

Just as the canal, the railroad, the steamboat, the steamship, the telephone and telegraph, and the electric railways caused revolutionary changes in methods of carrying on trade, by new and swifter means of

¹⁷ John M. Hager, *Commercial Survey of the Southeast*, United States Department of Commerce, Domestic Commerce Series No. 19, Washington, 1927, pp. 176-177.

TABLE 4.—NET REDUCTION IN NUMBER OF FOURTH-CLASS POST OFFICES

Year ending July 1	Net reduction	Year ending July 1	Net reduction
1911.....	343	1919.....	1,261
1912.....	508	1920.....	574
1913.....	709	1921.....	460
1914.....	1,210	1922.....	220
1915.....	430	1923.....	333
1916.....	446	1924.....	347
1917.....	521	1925.....	308
1918.....	1,068	1926.....	367
		1927.....	336

TABLE 5.—NET REDUCTION IN NUMBER OF FOURTH-CLASS POST OFFICES, BY STATES, JULY 1, 1919 TO JUNE 30, 1927

States	Net reduction	States	Net reduction
Alabama.....	92	Montana.....	77
Alaska.....	*11	Nebraska.....	93
Arizona.....	1	Nevada.....	17
Arkansas.....	175	New Hampshire.....	21
California.....	18	New Jersey.....	42
Colorado.....	83	New Mexico.....	35
Connecticut.....	12	New York.....	122
Delaware.....	8	North Carolina.....	130
Florida.....	108	North Dakota.....	66
Georgia.....	78	Ohio.....	64
Idaho.....	54	Oklahoma.....	99
Illinois.....	70	Oregon.....	65
Indiana.....	74	Pennsylvania.....	201
Iowa.....	39	Rhode Island.....	17
Kansas.....	61	South Carolina.....	51
Kentucky.....	*126	South Dakota.....	39
Louisiana.....	131	Tennessee.....	41
Maine.....	51	Texas.....	98
Maryland.....	46	Utah.....	*7
Massachusetts.....	34	Vermont.....	15
Michigan.....	87	Virginia.....	111
Minnesota.....	45	Washington.....	70
Mississippi.....	151	West Virginia.....	33
Missouri.....	110	Wisconsin.....	61
		Wyoming.....	0

* Increase.

transporting merchandise and passengers, so the automobile has been effecting a change in consumers' buying habits, particularly within the last ten years. The average trading area for consumers outside the urban districts has been increased by the automobile from 5 or 6 miles to 30 to 150 miles, and this change is still going on.

The size of retail trading areas has been affected in this latest development by the increase in the number of automobiles, in the mileage of hard-surfaced roads, and by the increased distances traveled by automobiles, all of which factors are interdependent.

Data are available to show definitely the increase in the number of automobiles and in the mileage of hard-surfaced roads. There are no adequate data, however, to show the increased distances traveled by automobiles. The number of automobile registrations by states is compiled annually by the National Automobile Chamber of Commerce. Data have also been compiled periodically by the Bureau of Public Roads of the United States Department of Agriculture on the mileage of surfaced roads.

From the Department of Agriculture's figures for the total road mileage and the mileage of surfaced roads,¹⁸ the percentage of miles surfaced to total road mileage, including both state highways and county and local highways, has been computed for each state for selected years. From the data on passenger car registrations¹⁹ and from the Census figures of 1920 and subsequent estimates of population by the Bureau of the Census, the number of passenger car registrations per 1,000 population has been computed for each state. In Table 6 these data are arranged according to the rank of the various states in the number of registrations per 1,000 population in 1925.²⁰

Table 6 indicates that the increase in the number of passenger car registrations per 1,000 population exerted a greater influence than the increase in the mileage of hard-surfaced roads toward widening the radii of trading areas. It is to be noted, for example, that Iowa, Kansas, and Nebraska ranked high in the number of passenger car registrations per 1,000 population, but low in percentage of roads surfaced. Nevertheless, the statements that were received from business men and publishers acquainted with conditions in those states indicated that the shift in trading areas had been going on there nearly as rapidly as in other states with a high percentage of roads surfaced. As the mileage of good roads increases in the states which now have a low ratio, however, a further shift of trade is to be expected.

In examining Table 6, an interesting comparison of a rough sort is to be noted between three different sections of the country. With occasional

¹⁸ The figures for 1921 are from the United States Department of Agriculture, *Bulletin* No. 1279, "Rural Highway Mileage Income and Expenditures, 1921 and 1922," Washington, 1925, p. 20.

In the same bulletin, similar data are given also for 1904, 1909, and 1914. The figures for later years are from unpublished reports of the Department of Agriculture.

In one instance a misprint in the bulletin has been corrected. The percentage of roads surfaced for Oklahoma in 1921 was stated in the bulletin as 18.33 per cent. An examination of the actual figures indicates that the percentage should have been given as 1.83 per cent.

¹⁹ National Automobile Chamber of Commerce, *Facts and Figures of the Automobile Industry*, 1927 and 1928 editions.

²⁰ In this table the figures for passenger car registrations for 1920 were used rather than those for 1921, because 1920 was the census year and the population figures for that year were not influenced in any way by estimates.

TABLE 6.—PASSENGER CAR REGISTRATIONS AND SURFACED ROADS, BY STATES

State	Passenger car registrations (per 1,000 population)			Percentage of roads surfaced		
	1920	1925	1927	1921	1925	1926
California.....	160	284	334	18.81	22.73	25.81
Iowa.....	170	253	268	2.48	5.82	9.00
Nevada.....	125	235	265	0.64	5.40	6.13
Oregon.....	117	227	251	17.70	21.62	22.38
Kansas.....	154	226	245	0.86	2.50	1.94
South Dakota.....	177	226	220	0.47	2.57	2.96
Nebraska.....	154	220	245	0.57	2.90	3.48
Colorado.....	129	213	228	9.55	12.68	9.14
North Dakota.....	137	209	226	0.67	1.68	1.75
Michigan.....	100	207	222	22.22	27.84	26.78
Indiana.....	102	204	221	52.27	65.81	67.16
Minnesota.....	126	201	210	15.78	22.56	27.23
Florida.....	66	188	244	23.29	32.48	42.87
Wisconsin.....	105	186	209	25.09	35.86	29.51
Wyoming.....	110	186	189	0.95	1.95	2.85
Vermont.....	82	183	208	24.15	31.04	29.86
Washington.....	106	183	209	26.33	35.24	35.27
Ohio.....	93	182	205	42.83	44.73	49.91
District of Columbia.....	67	175	182	...	...	...
Oklahoma.....	101	171	184	1.83	1.26	2.40
Texas.....	81	170	185	8.88	12.34	12.03
New Hampshire.....	68	160	183	12.22	13.99	18.57
Utah.....	83	157	155	11.04	13.34	11.22
Missouri.....	79	156	174	7.06	9.60	10.01
Illinois.....	78	155	172	11.91	15.81	17.34
Maine.....	72	148	168	13.75	20.60	21.09
Idaho.....	108	145	171	9.59	34.22	21.10
Maryland.....	60	142	166	24.80	30.82	31.71
Arizona.....	89	140	174	5.81	14.15	14.26
Delaware.....	73	137	157	11.39	20.62	23.30
Connecticut.....	69	136	146	18.15	19.55	23.77
Massachusetts.....	58	134	145	34.85	41.34	43.36
New Jersey.....	65	130	156	45.92	42.93	47.02
New Mexico.....	57	124	147	3.95	5.05	4.07
Rhode Island.....	68	124	140	33.15	32.72	35.46
Montana.....	108	122	133	2.74	1.77	3.74
New York.....	51	121	142	22.68	32.06	33.90
Pennsylvania.....	60	121	139	15.30	20.31	25.78
West Virginia.....	48	116	128	3.89	4.62	8.73
North Carolina.....	50	111	135	24.57	29.62	37.59
Virginia.....	44	99	113	12.29	16.51	17.66
Kentucky.....	41	94	101	22.47	25.08	24.87
Louisiana.....	37	93	112	6.96	13.02	24.56
Tennessee.....	39	91	108	15.79	21.39	17.81
Mississippi.....	36	89	110	10.82	17.66	19.93
Arkansas.....	30	85	91	5.17	8.68	8.05
South Carolina.....	51	85	97	11.17	15.57	22.25
Alabama.....	26	70	83	17.84	22.03	27.69
Georgia.....	46	70	83	19.32	19.11	11.72

exceptions, the states with the highest number of passenger car registrations per 1,000 population are the agricultural states of the Middle West, the Northwest, and the Pacific Coast, some of which have a high

percentage of roads surfaced, and some a low percentage. In the industrial states of the East, the ratio of the number of passenger cars per 1,000 population is substantially lower than in many of the agricultural states, but the mileage of good roads usually is high. In the southeastern and south central states, with the exception of Florida, the number of passenger car registrations per 1,000 population is lower than in the rest of the country, but the mileage of good roads has shown a marked increase since 1920. The number of cars per 1,000 population, furthermore, has shown the most rapid rate of increase since 1920 in the southern states, with the result that rural stores in the South have felt the force of long-distance competition as keenly as it has been felt by country merchants elsewhere in the United States.

The possibilities for further developments in the utilization of the automobile which may have an effect upon retail trading areas are suggested by the data given in Table 6. The number of passenger car registrations per 1,000 population ranged, in 1925, from 70 in Alabama and Georgia to 253 in Iowa and 284 in California. The percentage of roads surfaced in 1925 ranged from 1.26 per cent in Oklahoma to 65.81 per cent in Indiana. Although these percentages changed notably from year to year, the new means of transportation evidently had by no means reached its highest development, and therefore the changes in retail trading areas may be expected to continue.

The effects of the changes in retail trading areas have been varied and far-reaching. Apparently some decline occurred in the number of crossroads and village stores, particularly in the South. In the smaller towns, those merchants who have remained have been experiencing a change in the character of their business; they now commonly sell chiefly groceries and a few other staples; the trade in articles of wearing apparel, dry goods, shoes, furniture, and several other lines has been tending to pass out of the country store.

Several publishers of journals circulating among small town retailers, and also several wholesalers and association executives, expressed the view in their correspondence that the keen, wide-awake merchant in a small town could hold his trade, and they cited examples to prove their point. As a matter of fact, however, there are few keen, wide-awake merchants outside the trading centers, and, with the changed conditions, it has become harder for a merchant to operate a store successfully in those lines in which the trade is tending to shift to the county seats and larger cities than it is to succeed in the cities toward which trade is tending. There does not seem to be much likelihood that the country merchants will be able to exert a forceful influence in checking the shift.

At the county seats and other towns which have become trading centers, there apparently has been a tendency toward increasing specialization among the retailers. The general merchandise store has tended

to become either a grocery store or a small department store in which groceries are pushed into the background. There seems to be an increased number of stores at such points specializing in the sale of clothing, shoes, or some other single line of merchandise. In the cities of medium size the merchants have been experiencing an influx of trade which has benefited particularly the stores selling the cheaper grades of merchandise. The demand for the better grades of wearing apparel, in such cities, however, has tended to remain stationary or, in some instances, to shift to still larger trading centers.

The tendency for retail trade to concentrate in a smaller number of trading centers has afforded an opportunity for chain store development. A chain store company which could not profitably extend its operation to country villages may be able to reach a large part of the rural population by having stores located in a relatively small number of trading centers. The greatest development in this direction probably still remains to be experienced.

The same influences which have tended to cause this shift in trading areas have been working also against the sale of merchandise by mail and may be taken as a reason for the recent moves by Sears, Roebuck & Co. and Montgomery Ward Co. to open chains of retail stores. In some instances, the opening of retail stores by the mail order houses seems to be accelerating the shift in trading areas. In an article by Eagle Freshwater,²¹ an example was cited, which was said to be typical, of the experience of a furniture retailer in a town in Ohio—Fostoria—in which he stated that since the opening of a Montgomery Ward Co. store in that town a year before, he had sold more furniture and to customers from a greater distance than previously. He stated that people came from 50 to 75 or 80 miles away to shop in Fostoria.

One of the branches of industry most seriously affected by the change in trading areas is wholesale trade. During the last five years there have been several bankruptcies, liquidations, and mergers of dry goods wholesalers for which the change in trading areas has been one of the major causes. There also are a few examples of wholesalers who have decided to open chain stores as a means of meeting new conditions. As was indicated by the statements of several dry goods wholesalers, from whom information was secured on this change of market conditions, dry goods wholesalers typically have found that their markets in small towns have been seriously interfered with. The average dry goods wholesaler is selling smaller quantities of merchandise in the smaller towns, and if he continues to cover the same territory as he covered before the change began, his expenses have kept up while sales in such territories have declined. The stores in the trading centers he serves, furthermore, have become more easily accessible to other wholesalers, and competition for

²¹ *Printers' Ink*, May 17, 1928, p. 73.

their patronage has become keener. The dry goods wholesaler, therefore, has found it difficult in many instances to operate economically the organization which was needed prior to ten years ago for serving the small town trade. This change in trading areas is one of the numerous causes for the predicament in which many wholesalers find themselves.

The drug wholesalers apparently have been having somewhat the same experience as the dry goods wholesalers, with the additional complication of the spread of chain stores in urban districts. The wholesale grocers have been affected less by the shift in trading areas than most other wholesalers, and they have been less embarrassed by this change than by the spread of chain stores.

Relatively few wholesale firms have as yet readjusted their methods for dealing with the new conditions. This tardiness in recognizing the significance of the shift and in adjusting operating methods to it is one of the major reasons for the unsettled conditions which prevail in various wholesale trades.

The shift in trading areas affects the sales plans of some manufacturers and the merchandise plans of others. Several manufacturers of shoes, for instance, who sell their products directly to retailers, have changed their salesmen's territories so that the salesmen call in fewer towns than they did ten years ago. It appears that the saving in traveling expense, however, has been offset, in most instances at least, by having the salesmen call more frequently in the towns and cities which remain on their lists. There the influence of hand-to-mouth buying has been manifested.

The change in trading areas, as has been pointed out, is closely related to changes in demand. Consumers who go to larger towns to shop and to visit the motion picture theaters have opportunities to view the latest styles and to observe displays of up-to-date merchandise generally. The results are that there is a cumulative increase in the demand for fashion goods and that the influence of style changes is rapidly felt throughout a large part of the buying public. There has been a lessening in the lag in the spread of new styles from the metropolitan districts to the rural communities. As a result, there has been a tendency for the demand for staple types of merchandise, such as standard cotton prints, to weaken, and those manufacturers who were making such staple goods in large volume for rural and small town trade are finding it necessary to change their methods of operation to meet the new conditions. The change in trading areas has facilitated the introduction of new types of merchandise by making it possible to reach consumers more expeditiously in the small towns and rural communities. Changes in demand have been accelerated, to the disadvantage, in some cases, of the sales of established industries. Hence the modification of consumers' buying habits, as manifested in changes in trading areas, has had mixed effects on business generally, aiding in the prosperity of some merchants and manufacturers while hampering others.

III. HAND-TO-MOUTH BUYING

After the crisis of 1920 it became common practice in various industries for buyers to order relatively small quantities of merchandise for immediate delivery, instead of placing large orders several months in advance of the required delivery dates. With an improvement in railroad transportation service after 1923, manufacturers in various industries reduced their inventories of materials and supplies, and scheduled their purchases so that materials delivered went immediately into production. These practices became popularly known as hand-to-mouth buying. They were still prevalent in 1928. The initial cause for hand-to-mouth buying during this period was the drop in prices that resulted from the crisis. Subsequent causes were the intensification of style influences, the application of new methods of inventory control, improved transportation conditions, the existence of excess producing capacity, and the competitive practices in certain industries. The effects of hand-to-mouth buying were shown in changes in inventory investments, in methods of warehousing, in production plans and methods, and in selling methods.

Whether hand-to-mouth buying was a more common practice from 1922 to 1928 than it had been at any time prior to 1920, and whether it represented a permanent change in methods of carrying on trade, are open questions. The fact can easily be established, however, that hand-to-mouth buying after 1920 was not an entirely new phenomenon in American business. In a trade report on the dry goods business in 1872, for example, it was stated:²²

The current purchases of the retail trade are confined to their limited requirements, and unless prices become settled on a lower basis there is every prospect that trade will be carried on from "hand-to-mouth" during the entire season.

Again, in 1874, regarding the same trade, it was reported:²³

Indeed this system of buying goods only as they are required is being practiced more generally by all classes of buyers, and although much the safer plan, it seems unsatisfactory to many of our merchants who became accustomed years ago to this rush of a short season during which buyers purchased their supplies for a half-year's trade. Now the season is prolonged, and the business is dragged through several months.

In 1896 we again find that buyers were "adhering to a hand-to-mouth policy in their purchases."²⁴ Similar statements appeared during various other years from 1870 to 1912, not only for dry goods but for groceries,

²² *Commercial and Financial Chronicle*, New York, August 10, 1872, p. 195.

²³ *Ibid.*, August 29, 1874, p. 231.

²⁴ *Ibid.*, September 5, 1896, p. 414.

flour, paint, shoes, and hardware. In May, 1914, for instance, a market report on the hardware trade stated:²⁵

At present, trade is eccentric and spasmodic, advancing and receding day by day, according to consumptive demand. The closely pruned small orders are still being given to travelers or transmitted direct by mail in the same tiresome fashion that has long prevailed.

In the trade in silk goods, hand-to-mouth buying had become a practice before 1913.²⁶

The major causes for hand-to-mouth buying prior to 1920 were price uncertainties and, in the case of such merchandise as silk goods, the frequency of style changes. The same causes were primarily responsible for hand-to-mouth buying during the recent period. A conclusion regarding the probable persistence of the practice of hand-to-mouth buying is dependent, therefore, on the opinions that are held regarding the future course of prices and the continued influence of seasonal styles in merchandising.

When an attempt is made to secure definite measurements of the changes in buying practices which are known as hand-to-mouth buying, serious difficulties are encountered, because few manufacturing or mercantile firms have kept records which reveal changes in the size of orders over a period of years or which show changes in the volume of advance orders received. The evidence summarized in the following paragraphs, therefore, is unavoidably of a miscellaneous character, in many instances far from satisfactory, but the best that was discovered.

Unfiled Orders.—One means of securing an indication of the extent to which changes have occurred in advance ordering is by a comparison of changes in the average monthly unfilled orders with changes in the volume of business handled. In Table 7, such a comparison is given for various industries for which data are published in the *Survey of Current Business*. The comparison is by means of relatives based on 1922 figures taken as 100. If there had been no change in a particular industry in the practice of advance ordering, then the relatives for unfilled orders in that industry would have risen or declined by the same amount that the relatives for the volume of business changed. When the relatives for unfilled orders increased more rapidly than those for the volume of business, relative increase in advance orders was indicated. When the relatives for unfilled orders increased less rapidly or fell more rapidly than those for the volume of business, an increase in hand-to-mouth buying was indicated.

For finished cotton goods there was a slight decline in forward buying in 1923 as compared with 1922, and a sharp change in 1924. From 1924

²⁵ *Hardware Age*, May 21, 1914, p. 82.

²⁶ James Chittick, *Silk Manufacturing and Its Problems*, New York, 1913, pp. 284-288.

TABLE 7.—MONTHLY AVERAGE OF UNFILLED ORDERS* COMPARED WITH VOLUME OF BUSINESS
(1922 = 100)

Industries	1922	1923	1924	1925	1926	1927
Finished cotton goods:						
Billings.....	100	101	83	84	86	90
Unfilled orders.....	100	96	60	59	62	59
Knit underwear:						
Production.....	100	112	106	110	98	102
Unfilled orders.....	100	127	82	100	73	79
Steel sheets:						
Production.....	100	117	115	154	150	143
Unfilled orders.....	100	130	106	153	153	130
Steel barrels:						
Shipments.....	100	116	102	131	143	143
Unfilled orders.....	100	155	114	176	217	194
Pumps, steam, power, and centrifugal:						
Shipments.....	100	140	100	111	124	112
Unfilled orders.....	100	117	27	58	71	70
Bath tubs, enameled:						
Shipments.....	100	121	128	148	133	123
Unfilled orders.....	100	185	123	76	52	30
Western pine lumber:						
Production.....	100	121	114	125	119	108
Unfilled orders.....	100	86	94	85	82	81
Maple flooring:						
Production.....	100	102	75	77	81	82
Unfilled orders.....	100	132	61	50	52	46
Oak flooring:						
Production.....	100	132	152	189	194	165
Unfilled orders.....	100	134	141	157	126	109
Walnut lumber: ^b						
Production.....	...	100	139	151	109	117
Unfilled orders.....	...	100	134	174	178	176
Household furniture and case goods:						
Shipments.....	100	127	124	153	171	168
Unfilled orders.....	100	125	103	118	142	120
Furniture—Grand Rapids: ^b						
Shipments.....	...	100	100	108	108	100
Unfilled orders.....	...	100	92	98	102	73
Piano stools and benches:						
Shipments.....	100	150	128	134	121	97
Unfilled orders.....	100	168	72	62	58	41
Face brick:						
Production.....	100	117	113	122	122	126
Unfilled orders.....	100	145	111	112	117	108
Paving brick: ^b						
Production.....	...	100	78	88	72	73
Unfilled orders.....	...	100	82	73	74	73
Illuminating glassware stock: ^b						
Production.....	...	100	77	84	78	72
Unfilled orders.....	...	100	81	72	44	38

* Computed from data published in *Survey of Current Business*, Washington. ^b 1923 = 100.

^c Seven months' average. ^d Nine months' average.

to 1927, the unfilled orders showed a monthly average which was about 60 per cent of the 1922 figures, whereas billings did not decline to anything like the same degree.

For knit underwear there was an increase in advance ordering in 1923 which substantially exceeded the increase in the rate of production, but in that industry, too, a marked change in advance ordering occurred in 1924, and after that date more hand-to-mouth buying evidently was practised.

In the steel sheet business, in contrast to the textile trades just cited, no persistent modification of buying practice took place. There was a more rapid increase in unfilled orders than in production in 1923, and a more rapid decline in 1927, but neither of those changes can be taken as having had more than temporary significance.

In the steel barrel business, unfilled orders increased much more rapidly than shipments in 1923, fell off less in 1924, and increased more rapidly in subsequent years. From these figures there appears to have been a tendency toward less hand-to-mouth buying of steel barrels.

For steam, power, and centrifugal pumps, enameled bath tubs, western pine lumber, maple flooring, oak flooring, household furniture, piano stools and benches, face brick, and illuminating glassware the data on unfilled orders indicate an increase in hand-to-mouth buying. For walnut lumber, however, the tendency evidently was toward more advance buying; and in the paving brick industry, unfilled orders fluctuated at about the same rate as production.

From a consideration of the unfilled order statistics of volume of business indexes for the foregoing group of miscellaneous industries, it appears that hand-to-mouth buying became more common after 1923 in a majority of the industries, but to varying degrees. Some industries showed little change, however, in their buying practices and in a few the tendency was toward more rather than less advance ordering.

A similar set of relatives (Table 8) has been computed for the monthly unfilled orders and shipments of the United States Steel Corporation.

TABLE 8.—UNITED STATES STEEL CORPORATION RELATIVES FOR MONTHLY AVERAGE UNFILLED ORDERS AND SHIPMENTS
(Monthly averages 1922 = 100)

	1922	1923	1924	1925	1926	1927
Shipments.....	100	119	94	114	122	108
Unfilled orders.....	100	106	71	77	69	60

From the figures in Table 8 it is apparent that in the steel industry there was a tendency toward more hand-to-mouth buying.

The foregoing indexes of changes in unfilled orders and of the volume of business handled in various industries were computed from data available in published sources. In order to supplement those published data, information also was secured from numerous individual companies.

In the textile industry the evidence was conclusive that the manufacturers were not receiving large orders substantially in advance of delivery dates so commonly as they did prior to 1917, and the demand for prompt delivery was more insistent in 1927 and 1928 than in 1923 and 1924. One company manufacturing sheeting, for example, stated: "Our orders to-day cover only four to six weeks' requirements, whereas in 1913 they covered four months' requirements." Another company, manufacturing a popular, trade-marked cotton fabric, furnished records which showed that in 1923, 20.1 per cent of its orders were booked for delivery within one month from date of order; in 1927, 43.9 per cent. In 1923, 21.7 per cent of the orders were for delivery during the following month; in 1927, 31.8 per cent. Thus, on 58.2 per cent of this company's orders, deliveries could be made in more than two months in 1923, but in 1927 on only 24.3 per cent. For a well-known brand of gingham, 32 per cent of the orders were for delivery "at once" in 1924; 55.5 per cent in 1927; on 6.8 per cent, delivery was to be in one to four weeks in 1924; on 12.3 per cent in 1927. A cotton cloth converter reported that, in 1922, 13.6 per cent of his sales were on advance orders; in 1923, 16.8 per cent; in 1924, 10 per cent; in 1925, 4.4 per cent; and in 1926, 3.2 per cent. Although conditions varied, from company to company and from fabric to fabric, the evidence just cited was supported by nonstatistical statements of other cotton manufacturers that a marked decline in advance ordering of finished cotton fabrics occurred from 1923 to 1928. In the silk and worsted industries there also was an increase in hand-to-mouth buying.

In the shoe trade, as in the textile industry, hand-to-mouth buying became more common after 1920. A particularly good measurement of the change in buying practices was secured from the records of a large company manufacturing men's and women's shoes which were not of the ultrafashionable sort. These figures (Table 9) showed the percentage of the year's orders booked from one to four months in advance in 1916-17 and in 1927. It was stated by the company that the 1916-17 figures were typical for the entire period from 1912 to 1918.

This company obtained 52 per cent of its orders at least two months in advance of required delivery dates in 1916-17; and 2 per cent in 1927. It received 65 per cent of its orders at least one month in advance in 1916-17; and 18 per cent in 1927. That the experience of this company was fairly representative of the shoe trade was indicated by statements obtained from other shoe manufacturers. The only notable exception was in the case of women's novelty shoes where buying, prior to 1920, was of an entirely hand-to-mouth character.

In addition to the industries which have been cited, others in which there was a decline in forward buying were the tanning, hardware, household paint, and canned goods industries. The tanners of upper

TABLE 9.—ADVANCE ORDERS RECEIVED BY A SHOE MANUFACTURING COMPANY
(In per cent of year's net shipments)

	1916	1927
Booked for spring shipment starting December 1:	<i>Per cent</i>	<i>Per cent</i>
4 months in advance.....	8	..
3 months in advance.....	18	..
2 months in advance.....	28	1
1 month in advance.....	34	5
	1917	
Booked for fall shipment starting May 1:		
4 months in advance.....	1	..
3 months in advance.....	13	..
2 months in advance.....	24	1
1 month in advance.....	31	3
	1916-17	
Total regular advance bookings for year:		
4 months in advance.....	9	..
3 months in advance.....	31	..
2 months in advance.....	52	2
1 month in advance.....	65	8

leather felt the effects of hand-to-mouth buying by shoe retailers, which led shoe manufacturers to curtail their forward buying. In the hardware industry, one company manufacturing a large variety of products stated that it employed 15 salesmen in 1913, 23 in 1923, and 27 in 1927; salesmen called on their customers two to three times a year in 1913, four to five times in 1923, and four to seven times in 1927; the customers ordered twelve weeks' requirements ordinarily in 1913, about eight in 1923, and four to six in 1927; the average size order was \$40 in 1913, \$23 in 1923, and \$24 in 1927. This probably is a typical example of the extent of hand-to-mouth buying in numerous industries.

The foregoing furnishes some clues to the changes in advance ordering that have occurred in several important industries. For numerous other industries it was not possible, to obtain data on changes in buying practices, and for others only general statements could be secured. In the women's garment industry prior to 1917, orders usually were placed for delivery immediately or within a few weeks, and the same practice has continued since 1922. In the trade in perishable food products it always has been necessary to place orders for immediate delivery, and consequently no change occurred there. Manufacturers of such products as cement, newsprint, packing boxes, paper mill machinery, and machine tools reported little change in buying methods in their businesses; sales on contract or on special orders were customary both before and after 1922. In the men's clothing industry, in contrast to women's wear, a small decline in forward ordering and some increase in mail orders were reported by manufacturers, but in that industry in 1928 it still was customary for

retailers to place the bulk of their orders with manufacturers several months in advance of delivery dates.

Among wholesalers, conditions varied from trade to trade, just as in manufacturing businesses. In the wholesale grocery business, the sales, as well as the purchases, of canned goods futures were tending to decline from 1922 to 1928. As the sale of advertised goods in packages increased, wholesalers tended to buy regularly in smaller quantities rather than speculatively in large lots. Here the influence of advertising and merchandising developments was felt. The sales of many items by wholesale grocers long had been on a hand-to-mouth basis. In the wholesale drug business, competitive conditions had led retailers long before 1922 to purchase chiefly in small units for immediate delivery; that practice continued after 1922. In the wholesale dry goods trade, a decline in forward ordering was reported, together with a decline in the size of the average order. The records of one specialty dry goods wholesale firm showed that in 1912 its advance orders amounted to 10.3 per cent of its sales for the year; in 1913, 12.4 per cent; in 1922, 5.4 per cent; in 1923, 7.7 per cent; in 1924, 4.7 per cent; and in 1927, 1.8 per cent. These figures very likely are roughly typical of the experience of other dry goods wholesalers. It is to be noted that while a substantial decline in the percentage of advance orders occurred, nevertheless, even in 1912-13, only 10 to 12 per cent of the sales were on advance orders, whereas at that time it was customary for dry goods wholesalers to place advance orders for a much larger percentage of their own annual purchases. Since 1922, many dry goods wholesalers probably have cut down their advance purchases more rapidly than their advance sales have declined.

Although the specific information available on hand-to-mouth buying is scanty and miscellaneous in character, it is apparent, nevertheless, that only a portion of the industries in the United States have been affected. Hand-to-mouth buying has not by any means become a universal practice, and in those industries affected, the degree of change was much greater in some industries than in others.

The effects of hand-to-mouth buying have been to change production conditions and methods in certain industries and to modify sales methods. In some instances the production peaks of manufacturers are said to have been leveled, while in others the irregularity of operations has been increased as a consequence of the lack of forward orders. In several industries in which the decline in advance ordering has been most pronounced, operating methods have been altered in order to permit speedier production. In the tanning industry, for example, several tanners of upper leather have ceased manufacturing for stock. Instead of finishing the leather prior to the receipt of orders, they put it through the tanning process and hold it "in pickle" or "in the crust," so that it can be finished quickly for delivery as orders are received. Shoe manu-

facturers have been enabled, as a result of the introduction of new types of machinery and changes in methods, to reduce production time. One shoe company manufacturing men's shoes, for example, stated that in 1925 it took 19 days for an order to go through the factory; in 1928, 12 days. In most manufacturing industries affected by hand-to-mouth buying, efforts have been made, with varying degrees of success, to counteract some of the disadvantages of a decline in advance orders by speeding up the production processes.

The decline in advance ordering has made it necessary for many manufacturers and wholesalers to send their salesmen over their territories more frequently than they did prior to 1922. In the shoe business it formerly was customary for each salesman to cover his territory twice a year. Now it is the general practice for each salesman to visit his customers four to six times a year. One dry goods wholesaler stated that formerly his salesmen made five or six trips a year; in 1928, eight to ten trips. Another dry goods wholesaler formerly had each salesman make four trips, but in 1928 the number was eight to twelve trips, varying between territories. One of the chief effects of hand-to-mouth buying thus has been to increase the number of salesmen employed and the frequency with which they call on their customers. In addition to this extra selling effort, many department stores have adopted the practice of sending buyers to the primary markets much more frequently than they did prior to 1922, thus increasing their buying expense.

New Methods of Inventory Control.—In order to meet the demands for prompt delivery, some manufacturers have opened branch warehouses at which stocks of finished goods are carried for immediate delivery. Other manufacturers have utilized public warehouses for the same purpose.²⁷ Such action has tended to increase the inventories carried by those manufacturers. For wholesalers and retailers, hand-to-mouth buying is supposed popularly to have led to a reduction in inventories, but in many cases the decrease in the size of the stocks of individual items has been largely, if not wholly, counterbalanced by the increase in the number of items carried—the result of changes in demand.

Reference has been made to the improvements in railroad transportation service²⁸ after 1923 which have enabled numerous manufacturers to schedule their purchases so that shipments of materials can be received daily as needed, without reliance on large reserve stocks. Several large automobile manufacturing companies, for example, are reported to have reduced their inventories of materials substantially after they became able to depend upon punctual deliveries by the rail-

²⁷ See H. A. Haring, *Warehousing*, New York, 1925, pp. 96-103.

²⁸ For a comprehensive analysis of the major changes in transportation service, see Chap. IV, *Transportation*, Part I.

roads. Rehandling costs also were cut by having the materials enter into production immediately upon arrival. On one of the western divisions of a large railroad company there is a large steel plant which ships the greater part of its output to Detroit for use in the manufacture of automobiles. The steel is loaded into cars during the night and leaves the plant at 10 o'clock the following morning. The morning after that, it is delivered in Detroit. As a result of this service, it is stated, the automobile manufacturers have been able to eliminate this commodity from their stock and to depend entirely on current deliveries. When larger shipments of steel are required than the normal schedule calls for, extra steel frequently is shipped in passenger trains, by express, in order to protect the production schedules of the automobile manufacturers.

As another example of some of the changes in transportation service which have occurred, the following information was received from one of the largest railroad companies in the United States. This company's lines serve many large manufacturing districts. During the year ended June 30, 1928, the schedules on 154 regularly scheduled less-than-carload merchandise cars were advanced by this company as follows: 46 cars advanced from second morning to first morning delivery; 68 cars from third morning to second morning delivery; 36 cars from fourth morning to third morning delivery; and 4 cars from fifth morning to fourth morning delivery. These changes were in continuation of a policy that the company had been following for several years. Even with the speeding up of schedules, the company succeeded in maintaining its schedules more effectively than before. In the last eight months of 1925, 88 per cent of its regularly scheduled less-than-carload merchandise cars arrived at destination on time; in 1926, 86 per cent; in 1927, 92 per cent; and in the first nine months of 1928, 93.6 per cent. The percentage of such cars arriving and unloaded on time was 69.3 per cent in the last eight months of 1925; 77.8 per cent in 1926; 84 per cent in 1927; and 86 per cent in the first nine months of 1928.

Another railroad company reported, in 1928, to the same effect:

Freight train schedules are hooked up one with another looking toward minimization of terminal delay, distances being reckoned in hours and minutes rather than in miles. For instance, merchandise loaded in New York to-day arrives in Chicago early the fourth morning thereafter. It is given special movement by the eastern carriers through Chicago terminals and delivery effected to our line within an hour or two after arrival. We have a switch engine waiting to receive it and make a special run to our outer yard, Chicago, where a fast train is being made up leaving Chicago at 8:30 A. M. That train has a schedule of 23 hours to Kansas City, a distance of 458 miles, in a territory in which passenger train schedules are approximately 12 hours. The train arrives at Kansas City at 7:30 P. M., and freight for Kansas, Oklahoma, Colorado, and Texas is switched out of the through train and into trains scheduled to depart from Kansas City 30 minutes to 2 hours and 30 minutes thereafter. These trains arrive at such points as Tulsa, Oklahoma; Topeka, Kansas; Wichita, Kansas; and Hutchinson, Kansas, 600 to 700 miles away, for second morning delivery from Chicago.

That is practically express service; it was unheard of until recently, and, naturally, with such service there is no reason why the merchant should carry excessive stocks on his shelves, and he has simply shifted his burden on to the wholesaler and he, to a large extent, on to the manufacturer.

Many other instances could be cited of increased scheduling of freight trains, improvement in maintenance of schedules, reduction of time in transit, greater use of freight concentration points, improvements in through and pooled car service for less-than-carload shipments, and other means of expediting movement of freight and of rendering transportation service more dependable. The net effect of these changes must have been to reduce substantially the quantity of merchandise in transit at any one time, in proportion to the total quantity handled, just as the speeding up of production in a manufacturing plant reduces the stock of goods "in process." These improvements in transportation service also have enabled manufacturers to schedule their purchases so as to reduce inventories and cut handling costs.

In order to make a test of the effect of hand-to-mouth buying on merchandise inventories, statistics on inventories and sales of several hundred companies have been compiled from published and unpublished balance sheets and operating statements. These statistics are summarized in the following tables. The scope of these tabulations was limited by the fact that relatively few companies in most industries have reported both sales and inventory figures annually over a period of years, and the reports of only those companies that had reported both items each year were usable. It was not possible within the time available to obtain monthly inventory data; the tabulations were restricted to annual merchandise inventories as reported on balance sheets. Prewar comparisons would have been highly valuable for the interpretation of these data, but too few companies gave comparable information for prewar years to permit of such comparisons. Because of the small size of the sample for several of the industries, no attempt at precise comparisons between industries is warranted when examining these tabulations. They serve merely as the most comprehensive picture which could be drawn from existing material on relative changes in inventories and sales.

In Table 10 relatives are given for annual sales and inventories of groups of retail firms from 1922 to 1927.²⁹ These figures do not show

²⁹ The aggregate sales of these groups of retail firms in 1927 were as follows: unit grocery stores, \$2,248,000; grocery chains, \$824,966,000; unit shoe stores, \$3,616,000; shoe chains, \$35,485,000; cigar chains (1926), \$125,758,000; variety chains, \$516,260,000; mail order companies, \$524,276,000; department stores—small (sales under \$600,000 each), \$3,835,000; department stores—medium (sales over \$600,000 and less than \$4,000,000 each), \$23,389,000; department stores—large (sales over \$4,000,000 each), \$186,011,000; specialty stores, \$36,144,000; furniture, \$60,284,000; lumber and building material firms, \$15,384,000; jewelry stores, \$2,706,000.

TABLE 10.—RETAILERS' SALES AND INVENTORIES
(Annual figures, 1922 = 100)

Group and number of companies	1922	1923	1924	1925	1926	1927
Grocers—unit stores (12):						
Sales.....	100	96	104	110	107	113
Inventories.....	100	103	114	122	112	114
Grocery chains (6):						
Sales.....	100	130	144	221	256	283
Inventories.....	100	110	132	228	238	252
Unit shoe stores (13):						
Sales.....	100	107	...	108	113	110
Inventories.....	100	107	...	99	104	102
Shoe chains (2):						
Sales.....	100	108	134	187	224	262
Inventories.....	100	116	140	206	242	264
Cigar chains (2):						
Sales.....	100	106	118	129	141	...
Inventories.....	100	124	117	134	151	...
Variety chains (5):						
Sales.....	100	118	134	153	175	196
Inventories.....	100	111	111	104	148	154
Mail order companies (3):						
Sales.....	100	127	136	149	154	159
Inventories.....	100	118	109	141	125	133
Department stores—small (12):						
Sales.....	100	107	102	106	108	106
Inventories.....	100	107	99	95	89	93
Department stores—medium (12):						
Sales.....	100	107	106	114	114	107
Inventories.....	100	106	106	109	103	101
Department stores—large (12):						
Sales.....	100	111	115	119	126	130
Inventories.....	100	113	114	114	113	114
Specialty stores (11):						
Sales.....	100	116	117	127	140	148
Inventories.....	100	101	104	113	121	127
Furniture stores (13):						
Sales.....	100	128	134	142	155	166
Inventories.....	100	117	126	125	143	131
Lumber and building material firms (10):						
Sales.....	100	116	116	132	140	145
Inventories.....	100	115	124	126	136	140
Jewelry stores (17):						
Sales.....	100	108	115	122	127	130
Inventories.....	100	104	108	110	112	113

the ratio of inventories to sales, but rather the relative increase or decrease in sales and in inventories from year to year. Thus for 12 unit grocery stores, sales in 1923 were 96 per cent of the sales in 1922, and inventories in 1923 were 103 per cent of the inventories in 1922—a decline of 4 per cent in sales and an increase of 3 per cent in inventories. In the case of specialty stores, to give another illustration, sales were 48 per cent greater in 1927 than in 1922 and inventories increased 27 per cent during the same period.

The number of unit grocery stores included was too small to provide a basis for a safe judgment. Acquaintance with the grocery trade,

however, leads one to conclude that, as these figures suggest, there has been little change in the relation between inventory and volume of business handled in unit grocery stores. Grocery chain store companies rapidly expanded their operations after 1922. When the big increase came in 1925, however, merchandise inventories increased even more rapidly than sales. In 1926 and 1927, sales showed the more rapid increase.

In the small number of unit shoe stores covered in the table, merchandise inventories tended to increase less rapidly than sales; the effects of hand-to-mouth buying were clearly reflected there. In two large chains of shoe stores, on the other hand, merchandise inventories tended to increase fully as rapidly as sales increased. In the cigar chains, a heavy increase in inventories took place in 1923, but thereafter sales rose somewhat more rapidly than stocks of new merchandise on hand. The variety chains, mail order companies, department stores, metropolitan specialty stores, furniture stores, and jewelry stores showed a tendency for sales to increase more rapidly than inventories. In the retail lumber and building material trade, the sales and inventory indexes fluctuated roughly together.

In order to obtain a finer test of department store experience, the data, shown in Table 11, were secured from three well-managed metropolitan department stores. These data show relative changes in sales and monthly inventories by selected departments.

The figures in Table 11 show marked differences between departments within a single store and also differences between stores in handling inventories. In Store A, in all three departments the tendency definitely was toward lower inventory ratios, whereas in Store B, inventories roughly followed sales in two departments and were tending to be slightly higher, in ratio to sales, in two other departments. In Store C, the ratios of inventories to sales increased in both departments.

In general, it may be added, the ratio of sales to inventories in numerous retail stores has been affected by the tendency for certain types of trade to concentrate in larger stores in trading centers. Such stores usually are able to secure a higher rate of stock-turn than small stores. Standardization and simplification of inventories also have aided, in some instances, in securing better inventory ratios, but in many other instances the multiplication of styles has been working in the opposite direction.

In Table 12, sales and inventory indexes, computed from data obtained from private sources, are given for five groups of wholesalers.³⁰ The firms were selected at random and probably were typical.

³⁰ The aggregate sales of these groups of wholesale firms in 1927 were as follows: light hardware, \$20,462,000; heavy hardware, \$38,710,000; drugs, \$29,411,000; dry goods, \$83,025,000; grocery, \$37,220,000.

Among the wholesale groups shown in Table 12, the wholesalers of light hardware were most notably successful in handling an increasing volume of business with relatively stable inventories. The heavy hardware wholesalers and the drug wholesalers showed a slightly slower rate of increase in inventories than in sales. For the dry goods wholesalers and wholesale grocers, on the other hand, inventories tended to increase more rapidly than sales. The differences between the various trades revealed here suggest a fertile opportunity for further research.

In Table 13, sales and inventory figures are given for 241 manufacturing and mining companies,³¹ whose sales in 1927 amounted to approximately \$7,272,000,000. The data from which these computations were made were obtained in part from published, and in part from unpublished, confidential sources. The inventory figures were taken from balance sheets and the sales from operating statements. In making the computations for this table, as for the preceding tables, the relatives were computed for each company individually, and the group relatives are the simple, unweighted averages of the relatives for individual companies. The annual figures for 1922 were taken as the base on which to compare the relatives for sales and inventory changes in subsequent years, because 1922 marked the turning point in the depression that followed the crisis of 1920 and because that year was not open to greater objections than could be raised against any other year in the period as a base. It is to be remembered, furthermore, that the inventory figures include raw materials, goods in process, and finished goods, with the result that in some instances the effects of decreases in raw material inventories probably have been largely offset by increases in stocks of finished goods carried.

Hand-to-mouth buying, changes in plant operating methods, and improved transportation conditions—the factors which have tended to

³¹ The aggregate sales of these groups of manufacturing companies in 1927 were as follows: cotton cloth mills, \$68,221,000; cotton cloth converters, \$33,179,000; shirt manufacturers, \$31,098,000; hosiery manufacturers, \$20,270,000; knit goods manufacturers, \$29,386,000; woolen and worsted mills, \$36,767,000; men's clothing manufacturers, \$36,361,000; textile manufacturers—miscellaneous, \$79,949,000; tanners, \$40,517,000; shoe manufacturers, \$277,260,000; tire and rubber manufacturers, \$781,582,000; automobile parts and accessories manufacturers, \$52,907,000; passenger automobile manufacturers, \$1,589,571,000; motor truck manufacturers (1926), \$124,651,000; iron and steel manufacturers, \$1,679,087,000; miscellaneous metal working companies, \$52,944,000; miscellaneous machinery manufacturers, \$107,089,000; electrical goods manufacturers, \$542,836,000; building material manufacturers, \$166,359,000; soap manufacturers, \$217,686,000; paper and pulp mills (1926), \$20,453,000; printers and lithographers, \$17,781,000; furniture, piano, and radio manufacturers, \$225,529,000; candy and soft drink manufacturers, \$49,954,000; grocery manufacturers, \$309,734,000; meat packers, \$263,279,000; coal mining companies, \$51,186,000; nonferrous metal mining companies, \$255,818,000; oil producing companies, \$110,376,000.

TABLE 13.—SALES AND INVENTORIES OF INDUSTRIAL COMPANIES
(Annual figures, 1922 = 100)

Group and number of companies	1922	1923	1924	1925	1926	1927
Cotton cloth mills (18):						
Sales.....	100	128	126	140	132	133
Inventories.....	100	122	109	132	96	117
Cotton cloth converters (10):						
Sales.....	100	114	107	113	103	104
Inventories.....	100	116	115	105	88	108
Shirt manufacturers (2):						
Sales.....	100	110	92	97	96	90
Inventories.....	100	117	77	87	63	68
Hosiery manufacturers (8):						
Sales.....	100	113	99	122	118	111
Inventories.....	100	105	99	103	112	105
Knit goods manufacturers (10):						
Sales.....	100	125	117	131	128	125
Inventories.....	100	101	88	96	88	98
Woolen and worsted mills (10):						
Sales.....	100	141	149	148	131	123
Inventories.....	100	108	123	106	96	95
Men's clothing manufacturers (13):						
Sales.....	100	125	121	130	120	123
Inventories.....	100	121	126	132	114	139
Textile manufacturers, miscellaneous (8):						
Sales.....	100	139	118	132	128	117
Inventories.....	100	118	150	144	148	144
Tanners (11):						
Sales.....	100	115	111	118	119	130
Inventories.....	100	111	112	120	114	126
Shoe manufacturers (15):						
Sales.....	100	120	119	129	131	128
Inventories.....	100	108	107	107	113	114
Tire and rubber manufacturers (6):						
Sales.....	100	115	129	165	179	168
Inventories.....	100	125	117	160	176	176
Automobile parts and accessories manufacturers (6):						
Sales.....	100	142	118	127	147	117
Inventories.....	100	104	87	112	127	91
Passenger automobile manufacturers (6):						
Sales.....	100	131	102	125	201	190
Inventories.....	100	121	109	124	133	153
Motor truck manufacturers (4):						
Sales.....	100	134	149	208	229	204
Inventories.....	100	134	157	201	234	207
Iron and steel manufacturers (6):						
Sales.....	100	162	138	155	161	151
Inventories.....	100	130	138	126	127	138
Miscellaneous metal working companies (13):						
Sales.....	100	141	131	139	145	130
Inventories.....	100	116	110	120	121	118
Miscellaneous machinery manufacturers (16):						
Sales.....	100	135	126	132	128	138
Inventories.....	100	124	115	108	113	118
Electrical goods manufacturers (7):						
Sales.....	100	130	137	141	161	157
Inventories.....	100	117	110	125	133	124

TABLE 13.—(Continued)

Group and number of companies	1922	1923	1924	1925	1926	1927
Building material manufacturers (9):						
Sales.....	100	140	143	155	163	176
Inventories.....	100	116	124	140	145	154
Soap manufacturers (2):						
Sales.....	100	110	124	148	172	192
Inventories.....	100	105	141	132	142	159
Paper and pulp mills (6):						
Sales.....	100	124	116	135	145	...
Inventories.....	100	110	100	134	135	...
Printers and lithographers (4):						
Sales.....	100	115	137	129	154	163
Inventories.....	100	104	101	116	130	124
Furniture, piano, and radio manufacturers (9):						
Sales.....	100	134	172	167	192	194
Inventories.....	100	123	131	140	167	150
Candy and soft drink manufacturers (5):						
Sales.....	100	114	115	124	129	123
Inventories.....	100	126	118	132	138	138
Grocery manufacturers (7):						
Sales.....	100	114	129	149	169	181
Inventories.....	100	114	127	168	177	231
Meat packers (5):						
Sales.....	100	119	133	164	183	180
Inventories.....	100	115	121	159	135	108
Coal mining companies (6):						
Sales.....	100	125	111	83	95	89
Inventories.....	100	123	108	96	91	102
Nonferrous metal mining companies (13):						
Sales.....	100	113	114	121	131	119
Inventories.....	100	131	102	98	111	136
Oil producing companies (6):						
Sales.....	100	123	136	167	221	222
Inventories.....	100	135	132	147	165	212

permit industrial companies to handle a given volume of business with smaller inventories than formerly were required—have affected different industries to varying degrees.³² The small size of the samples for some of the industries listed in Table 13 renders it unsafe to attempt to draw precise comparisons between inventory changes in the various industries. These figures do show, nevertheless, that the net changes in inventories have not followed uniform tendencies in all industries. The situation has been mixed.

In the men's clothing industry, cotton cloth converting business, tanning industry, tire and rubber industry, motor truck industry, miscellaneous metal working plants, automobile parts and accessories

³² Wide diversities have appeared also in the inventory practice of different companies within a single industry, one company occasionally increasing its sales greatly with small change in its inventory investment, or, in another case, piling up a large inventory with no corresponding increase in sales. Figures for these exceptional cases were not included in the preparation of Table 13.

industry, iron and steel industry, building material industry, oil industry, woolen and worsted industry, nonferrous metal mining industry, and coal mining industry, no well-established tendency to keep inventories at a lower ratio to sales was manifested. In those industries, the inventory and sales figures do not show any regular tendency toward a net reduction in inventory ratios. In the tanning industry, to be sure, there was a suggestion of a tendency toward lower inventory ratios after 1925, but it was slight. In the miscellaneous metal working plants, in the automobile parts and accessories industry, in the building material industry, in the iron and steel industry, and in the woolen and worsted industry a large increase in sales occurred in 1923 which was not accompanied by a corresponding increase in inventories; after 1923, however, further improvement in inventory ratios did not occur in those industries.

Among the producers of miscellaneous textiles, candy and soft drinks, and groceries, inventories increased out of proportion to sales; in those industries the tendency was for the producers from whom operating reports were available for this study to carry heavier inventories for handling a given volume of business. In some cases, the increases in inventory ratios were the result, partially at least, of the operation of sales branches or of the carrying of more numerous warehouse stocks.

In another large group of industries, including cotton cloth mills, shirt manufacturers, hosiery manufacturers, knit goods manufacturers, shoe manufacturers, passenger automobile manufacturers, miscellaneous machinery manufacturers, electrical goods manufacturers, paper and pulp mills, printers and lithographers, furniture, piano, and radio manufacturers, and meat packers, the tendency definitely was for inventories to increase less rapidly than sales increased or to fall more rapidly as sales declined. In the case of the manufacturers of passenger automobiles, an especially noteworthy change occurred after 1925, when sales increased far more rapidly than inventories.

The aggregate volume of sales of all the industrial companies whose sales and inventory figures were used in preparing Table 13 amounted to approximately \$7,272,000,000 in 1927; the aggregate inventories in the same year were approximately \$1,589,000,000. The relatives for the aggregate sales of those companies were as follows: 1922, 100; 1923, 132; 1924, 122; 1925, 140; 1926, 156; 1927, 153. The relatives for the aggregate inventories were: 1922, 100; 1923, 119; 1924, 111; 1925, 120; 1926, 124; 1927, 124. The figures for the changes in aggregate sales and inventories from 1922 to 1927 represented a large volume of business and probably were fairly representative of industrial enterprises in total. If that premise is accepted, it leads to the conclusion that at the end of 1927 inventories of raw materials, goods in process, and finished goods in the hands of industrial companies were about 20 per cent less than they would have been if hand-to-mouth buying, changes in production methods, and

improvements in transportation conditions had not occurred between 1922 and 1927. For the 241 industrial corporations for which data were presented above, the inventory requirements, on that basis of computation, were \$375,900,000 less in 1927 than they would have been at the 1922 ratios.

Some of the reasons why the reductions in inventory ratios were not greater in some industrial concerns were briefly as follows. In several industries, such as oil, cement, motor trucks, and certain branches of the chemical industry, there was overproduction during all or a part of the period from 1922 to 1927. When overproduction takes place, inventories tend to accumulate. In the second place, numerous manufacturers were impelled to carry larger stocks of finished goods, either in factory warehouses or in warehouses at distributing points, in order to meet the insistent demands of customers for immediate deliveries. Hand-to-mouth buying by wholesalers and retailers threw back upon many manufacturers more of an inventory burden, with its attendant risks of price decline and style depreciation.

The effects of hand-to-mouth buying also operated to keep the material and supply inventories of railroads at substantially lower figures than they otherwise would have been. For all Class I steam railways in the United States, the inventories of materials and supplies were reduced from \$545,026,522 in 1922 to \$523,520,208 in 1927, whereas total railway operating revenues increased approximately 10 per cent during the same period. The railroad companies aided manufacturers and merchants to effect inventory retrenchments, through quick and dependable transportation service, and they also have made an actual reduction in their own inventory investments.

It is evident, from the foregoing evidence, that the aggregate merchandise inventories carried by merchants, manufacturers, other industrial companies, and railroads were materially less in 1927 than they would have been if hand-to-mouth buying, changes in plant operating methods, and improvements in transportation had not taken place. While the changes in inventory ratios were not uniform for all industries and no actual release of capital occurred, nevertheless the effect of these influences was to lessen the demands that otherwise would have been made for capital or credit to finance inventory investments. To have handled the same volume of production, traffic, and trade in 1927, without hand-to-mouth buying, would have required over a billion dollars of capital and credit beyond the amount that actually was employed for inventory purposes under existing conditions.

The net effects of hand-to-mouth buying during the period from 1922 to 1927 cannot be measured precisely. On the one hand, the selling, buying, and handling expenses of numerous companies were increased thereby. On the other hand, the capital and credit require-

ments for financing inventories were lightened in the aggregate; the evils of returning merchandise for credit probably were lessened in wholesale trade; and the losses from depreciation of merchandise subject to rapid style changes were minimized. Hand-to-mouth buying, in fact, was in considerable measure a means of defense against rising costs during a period when changes in demand were resulting in a large increase in the varieties of merchandise offered for sale and in rapidly changing styles, and when prices of staple merchandise either were stationary or tending to decline. The lightening of the demand for capital and credit, however, probably was the chief result of hand-to-mouth buying, and that lightening of the demand for capital and credit must have been a large factor in facilitating industrial expansion and the rise in security prices.

IV. CHANGES IN DISTRIBUTION

Changes in trade channels have occurred during the last ten years both in industrial marketing and in the marketing of consumers' goods. In the industrial field, the changes have been of significance primarily from the standpoint of business administration rather than for the interpretation of general economic conditions. An exception to this statement applies to agricultural raw materials, the co-operative marketing of which is taken up in a later section.

An example of the changes in the distribution of industrial goods is afforded by the chemical industry, where various manufacturers since 1918 have dispensed with the services of brokers and dealers and have adopted the practice of selling their products directly to users. Some manufacturers in other industrial trades have replaced their distributors by opening sales branches, while others have replaced branches by distributors. In many lines of industrial goods the methods of distribution have been highly unsettled, without an indication, as yet, of what the trend is to be. Numerous examples illustrating these mixed conditions could be cited, but, as previously stated, they would pertain chiefly to technical problems of business administration.

In marketing consumers' goods, some of the changes in distribution have been primarily of significance to business executives without broad economic implications. An example of this sort might be found in a study of the position of the broker in the grocery trade or in the increased use of public warehouses by manufacturers who deem it necessary to carry stocks at strategic points for distribution to retailers or wholesalers. The major changes in the distribution of consumers' goods, however, have been of general economic significance. These include such changes as the growth of chain stores, and new developments in the department store and mail order businesses and in wholesale trade.

Chain Stores.—The growth of the sales of chain store companies in certain trades is indicated by Table 14, prepared by the Division of Research and Statistics of the Federal Reserve Board. The same

TABLE 14.—CHAIN STORE SALES—ANNUAL INDEXES^a
(Monthly average 1923–1925 = 100)

Year	Grocery	5 and 10 cent	Wearing apparel	Drug	Cigar	Shoe	Candy
1919.....	45	53	36	64	72	76	53
1920.....	66	64	52	78	96	91	73
1921.....	59	66	59	79	95	86	75
1922.....	69	74	64	82	93	86	77
1923.....	85	88	83	93	98	93	93
1924.....	97	99	98	98	100	101	101
1925.....	118	113	119	109	102	106	106
1926.....	143	125	149	126	111	113	114
1927.....	174	138	189	143	110	115	119

^a *Federal Reserve Bulletin*, April, 1928, p. 234.

companies were not included for every year, but the method of computation which was used by the Federal Reserve Board made allowances for the difference in the number of companies for which data were available. These figures reflect the aggregate volume of business for those companies that reported. They do not indicate, of course, the changes in the volume of sales per store, and since not all chains reported and not all trades were included, they do not indicate the entire development of the chain store business. They do afford, nevertheless, a valuable index.

These indexes show that a rapid increase in chain store sales occurred after 1922, particularly in the grocery, 5 and 10 cent, wearing apparel, and drug trades. These conclusions are supported by data obtained from other sources.

The only dependable information regarding the proportion of retail trade handled by chain stores is that obtained by the Census of Distribution taken by the United States Bureau of the Census in 11 cities for the year 1926. A detailed analysis of the census figures for sales by unit stores and chain stores was published³³ by the Domestic Distribution Department of the Chamber of Commerce of the United States, which had sponsored the census. The chain store sales amounted to 30.66 per cent of the total retail trade in Atlanta, 22.44 per cent in Baltimore, 37.13 per cent in Chicago, 19.52 per cent in Denver, 6.34 per cent in Fargo, N. D., 17.88 per cent in Kansas City, 20.55 per cent in Providence and environs, 22.57 per cent in San Francisco and environs, 19.55 per cent in Seattle, 18 per cent in Springfield, Ill., and 14.84 per cent in Syracuse, N. Y.

³³ Chamber of Commerce of the United States, Domestic Distribution Department, *Retail and Wholesale Trade*, Washington, May, 1928.

The number of unit stores, the number of chain stores, and the proportion of the retail business handled by each group, in the 11 cities combined, were as shown in Table 15 for selected trades.

TABLE 15.—CHAIN STORE SALES AND UNIT STORE SALES IN 11 CITIES, 1926

Kind of stores	Number		Total sales		Percentage of total sales	
	Unit stores	Chain stores	Unit stores	Chain stores	Unit stores	Chain stores
Grocery and delicatessen.....	16,500	4,386	\$286,767,800	\$201,741,200	58.7	41.3
Drug.....	3,876	521	109,348,300	46,543,900	70.1	29.9
Variety.....	164	201	16,686,100	40,293,300	29.3	70.7
Women's clothing.....	1,426	246	121,548,300	22,480,000	84.4	15.6
Men's ready-made clothing.....	2,485	349	123,541,700	28,946,700	81.0	19.0
Men's hats and caps.....	169	86	3,625,800	3,880,400	48.3	51.7
Shoe.....	1,475	555	44,116,300	47,430,200	48.2	51.8
Cigar.....	2,900	380	32,378,100	17,840,700	64.5	35.5
Confectionery, ice cream, and soft drinks.....	6,289	388	46,842,600	17,971,700	72.3	27.7
Automobiles.....	762	256	203,004,100	92,526,400	68.7	31.3
Auto accessories.....	1,907	170	49,891,900	11,920,500	80.7	19.3
Bakery shops.....	2,418	248	56,674,300	7,289,600	88.6	11.4
Building materials.....	809	167	129,077,800	22,907,200	84.9	15.1
Coal, wood, and ice.....	1,153	150	64,532,100	25,327,000	71.8	28.2
Dairy and poultry products.....	514	63	39,745,000	31,226,100	56.0	44.0
Dry goods and notions.....	3,105	187	82,437,400	7,398,300	91.8	8.2
Electrical appliances and supplies.....	679	71	26,852,600	11,122,500	70.7	29.3
Fruit and vegetables.....	2,280	426	32,743,700	3,443,800	90.5	9.5
Fur and fur clothing.....	326	28	19,179,000	2,415,000	88.8	11.2
Furniture and house furnishings.....	2,458	386	137,957,000	67,400,100	67.2	32.8
Gasoline and oil.....	2,215	1,920	36,456,900	100,985,400	26.5	73.5
Hardware.....	2,111	361	74,289,900	7,508,300	90.8	9.2
Jewelry.....	1,291	79	47,065,000	9,798,200	82.8	17.2
Meat, poultry, and fish.....	5,222	490	145,708,900	24,203,200	85.8	14.2
Millinery.....	881	326	13,973,800	8,163,000	63.1	36.9
Musical instruments.....	479	76	26,530,400	9,935,400	72.8	27.2
Paint, varnish, and glass.....	547	30	14,594,700	2,710,500	84.3	15.7
Plumbing and heating fixtures and supplies.....	648	71	30,558,200	3,056,700	90.9	9.1
Stationery.....	893	168	31,940,100	5,644,600	85.0	15.0

The data in Table 15, although for only one year and for only 11 cities, furnish an invaluable basis for judging the significance of the Federal Reserve Board's indexes and for obtaining a view of the part that chain stores play in trades not included in those indexes.

The expansion of the chain store business since 1922 has come about in part through the organization of new companies and in part through the opening of new stores by companies then in operation. The grocery trade is one in which the foregoing statistics show that chain store growth has been especially rapid. In that trade, the increase in the sales per store has been relatively small, but the number of stores has expanded rapidly. In Table 16, the average sales per store are computed for several

large chains of grocery stores which publish statements of their annual sales and give the number of stores.

TABLE 16.—AVERAGE ANNUAL SALES PER STORE,^a GROCERY CHAINS

Year	H. C. Bohack & Co. (Inc.)	Safeway Stores (Inc.)	Sanitary Grocery Co. (Inc.)	National Tea Co.	Kroger Grocery & Baking Co.
1922.....	.....	\$65,279	.....	\$69,940	\$34,129
1923.....	\$68,077	64,554	\$51,967	60,880	39,754
1924.....	65,642	64,994	49,034	65,316	41,022
1925.....	57,726	66,710	51,484	62,353	40,699
1926.....	55,100	67,579	51,768	63,878	43,339
1927.....	54,254	63,176	48,795	.....	.....

^a The figures in this table for H. C. Bohack & Co. (Inc.) and for Kroger Grocery & Baking Co. were computed by dividing the sales of each company by the number of grocery stores operated. Inasmuch as both companies also operate meat markets, which in some instances are separate from the grocery stores, some error is involved, but it would not affect the general conclusions drawn. In the case of the National Tea Co., the sales made by route wagons were included and the figures of the average sales per store, therefore, are somewhat too high.

For the sales of individual companies mentioned here and in subsequent paragraphs, data have been obtained chiefly from *Moody's Analyses of Investments*, Industrial Section, 1927; Hoit, Rose & Troster, *Manual of Chain Stores*, New York, December, 1927. Other recent publications giving data on chain stores are: Paul T. Cherington, "Chain Stores in the Grocery Business," *J. Walter Thompson News Bulletin*, September, 1927, p. 1; Frank Seaman (Inc.), *The Chain Store*, New York, March, 1928; George H. Burr & Co., *Why Chain Store Securities are Exceptional Investments*, New York, 1928; and *The Chain Store Age*.

The increase in the total sales of these companies was as follows: H. C. Bohack & Co. (Inc.), from \$15,317,284 in 1923 to \$21,159,069 in 1927; Safeway Stores (Inc.), from \$12,468,290 in 1922 to \$76,484,749 in 1927; Sanitary Grocery Co. (Inc.), from \$11,121,037 in 1923 to \$17,615,137 in 1927; National Tea Co., from \$20,632,332 in 1922 to \$58,801,377 in 1927; and Kroger Grocery & Baking Co., from \$53,753,563 in 1922 to \$161,261,353 in 1927.

Other large grocery chains for which sales figures have been published experienced the following growth: The Great Atlantic & Pacific Tea Co., from \$202,433,531 in 1922 to \$352,093,342 in 1925;³⁴ American Stores (Inc.), from \$85,866,395 in 1922 to \$120,664,568 in 1927; The First National Stores (Inc.), from \$40,673,592 in 1922 to \$64,445,962 in 1927; David Pender Grocery Co., from \$4,263,106 in 1922 to \$12,599,161 in 1927. There are, of course, numerous other large chain store companies in the grocery trade; sufficient evidence has been given, however, to depict the growth of this type of institution in the grocery business during recent years, and the quotation of data regarding additional companies would add little to the general picture. Here is one field, obviously, in which expansion has been remarkably rapid since 1921, but that expansion has been achieved in large part at the expense of other types of distributors.

³⁴ Sales for later years not published.

In the drug trade, chain store companies are not so large individually as in the grocery trade and they do not handle, apparently, quite so large a proportion of the total business in their trade as is handled by the chain stores in the grocery trade. The increase in the number of companies and in the number of stores from 1921 to 1928 is shown in Table 17:³⁵

TABLE 17.—CHAIN DRUG STORE COMPANIES

Year	Total number of chain store companies	Total number of stores	Number of companies operating 10 or more stores	Number of stores operated by companies having 10 or more stores
1921.....	303	1,763	24	650
1923.....	327	2,014	34	837
1925.....	320	2,173	34	972
1928.....	328	2,725	40	1,513

From these data it is apparent that the chief expansion of chain stores in the drug trade during this period was by companies operating over 10 stores each. The largest chain store company in this field is the Louis K. Liggett Co., a subsidiary of the United Drug Co. The sales of that chain increased from \$32,721,798 in 1922 to \$58,456,694 in 1927. The Walgreen Co., which was started in Chicago in 1920 with 19 stores, had 138 stores in 1927 and its sales in the latter year were about \$20,000-000.³⁶ The Owl Drug Co. increased its sales from \$11,025,088 in 1922 to \$17,069,031 in 1926.

The companies operating chains of candy stores did not expand so rapidly during this period as the chain store companies in several other fields; that fact is indicated by the indexes published by the Federal Reserve Board. In itself, nevertheless, the expansion of the candy chains was noteworthy. Some of the large chain store companies in this field are as follows: Frank G. Shattuck Co., operating "Schrafft's" stores, with 29 stores and sales amounting to \$13,247,470 in 1926; Loft (Inc.), with 45 stores and sales of \$7,873,223 in 1927; Happiness Candy Stores (Inc.), with 76 stores and sales of \$7,509,026 in 1927; Page & Shaw (Inc.), with stores in 12 cities and sales of \$5,350,000 in 1926; the Mary Lee Candy Shops (Inc.), with over 50 stores and sales of \$1,364,980 in 1926; Fanny Farmer Candy Shops (Inc.), with 110 stores and sales of \$3,722,528 in 1927. The last two companies showed a particularly rapid rate of growth during the period from 1922 to 1926-27.

Three special features of the chain store development in the candy trade deserve mention. The first is the fact that nearly all these chain store companies operated factories for the manufacture of the goods sold

³⁵ *The Druggists' Circular*, March, 1928, p. 6.

³⁶ *Ibid.*, March, 1928, p. 6.

in their stores, whereas the grocery, drug, and variety chains, with few exceptions, were primarily mercantile organizations. Several of the candy chains, in the second place, operated restaurants or lunch counters in their stores. A third fact to be noted is the alliance of the Happiness Candy Stores (Inc.) with the United Cigar Stores Co. of America, and the control of Huyler's, a chain of 51 candy stores, by D. A. Schulte (Inc.) and the Schulte Retail Stores Corporation.

The largest chain of tobacco stores was operated by the United Cigar Stores Co. of America. Its sales increased from \$72,484,254 in 1922 and \$73,199,273 in 1923 to \$87,262,218 in 1926 and the number of stores from 2,439 in 1923 to 3,134 in 1926. The second large chain of tobacco stores was operated by the Schulte Retail Stores Corporation, with 239 stores in 1922 and 296 in 1927 and with sales of \$23,765,364 in 1922 and \$41,342,011 in 1927.

In March, 1928, it was announced that the Schulte Retail Stores Corporation and the United Cigar Stores Co. of America had formed a new company, to be known as Schulte-United 5 cent to \$1 Stores (Inc.), to operate a chain of variety stores. Thus the two large chains of tobacco stores not only had a controlling interest in two chains of candy stores, but they united to organize and operate a chain of variety stores, a suggestive ramification of enterprises.

The variety store field is one of those especially dominated by chain stores; in 1926, the census figures for the 11 cities showed that 70.7 per cent of the total sales of variety stores were made by chain stores. The only large company in this field which now restricts its selection of merchandise to articles that can be sold for 5 or 10 cents is F. W. Woolworth Co., one of the pioneer chain store undertakings. The company had 1,182 stores in 1922 and 1,581 in 1927. Its total sales in 1922 were \$167,319,365 and \$272,754,046 in 1927. Its sales per store amounted to \$141,556 in 1922 and to \$172,520 in 1927.

One of the effects of the rapid rise in prices from 1915 to 1920 and the continuance of a scale of prices after 1920 generally higher than that of 1913 was to induce numerous companies operating chains of variety stores to cease confining their merchandise selection to 5 and 10 cent items and instead to cover a range from 5 cents to \$1. This change in price limit gave them a wider opportunity for selection of merchandise than was possible under the 10 cent limitations. S. S. Kresge Co. has two classes of stores, one selling merchandise from 5 to 25 cents in price; and the other, merchandise from 25 cents to \$1. In 1922 that company had 212 stores of both classes, with sales of \$65,191,467, and in 1927 its total sales, in 435 stores, amounted to \$133,847,477. Its sales per store averaged \$307,507 in 1922 and \$307,695 in 1927.

S. H. Kress & Co., selling 5, 10, and 25 cent merchandise, with higher-priced goods in a few stores, had 145 stores in 1922, with sales of \$30,646,-

937; in 1927 it had 183 stores and sales of \$58,059,925. The sales per store in this case showed an increase from \$211,358 in 1922 to \$322,731 in 1927. The McCrory Stores Corporation, also handling variety goods, increased the number of stores from 161 in 1922 to 221 in 1927 and its sales from \$17,123,252 to \$39,336,090. The W. T. Grant Co., selling merchandise priced 5 cents to \$1, mostly over 25 cents, increased the number of stores from 45 in 1922 to 109 in 1927. Its total sales increased from \$12,728,412 in 1922 to \$36,074,617 in 1927 and its sales per store during the same period from \$282,854 to \$330,960. The increase in the volume of sales per store in these variety chains was in contrast to the development in the grocery trade. The variety chains in most instances expanded their operations, not only by increasing the number of stores, but also by increasing materially the volume of sales per store. In addition to the chain store companies in the variety field listed here, there are various others, some of which have sales over \$10,000,000 each.

Stores like those operated by W. T. Grant Co. handle large quantities of dry goods and have many of the characteristics of department stores, except with respect to the limits on the price range. In the dry goods field proper, the J. C. Penney Co. operates the largest chain. The retail stores owned by this company are located chiefly in small cities and large towns. In 1922 the company was operating 371 stores, with sales of \$49,035,729; in 1927 it had 930 stores, with sales of \$151,957,865. The average sales per store were \$132,172 in 1922 and \$163,395 in 1927.

In the department store field there are several companies operating stores in 12 to 30 or 40 medium-size cities. There also are a few large companies, such as the May Department Stores Co., the Associated Dry Goods Corporation, and the National Department Stores (Inc.), which are operating under central ownership but without the same centralization of merchandise control that exists in chain stores in most other trades. In December, 1928, announcement was made of the organization of Hahn Department Stores (Inc.), through the merger of 22 companies operating 27 department stores located in 25 cities, the total sales of those stores amounted to \$108,000,000 in 1927. It was further stated that this group of stores was the nucleus around which a larger organization was to be built. Some concentration of ownership is taking place, therefore, in the department store field, but, in the main, department stores deserve separate consideration.

In addition to the chain store developments just discussed, attention should be called to similar developments in other trades. In 1926, in the 11 cities covered by the Census of Distribution, 73.5 per cent of the sales in gasoline and oil stores, 51.8 per cent of the sales of shoe stores, 44 per cent of the sales of dairy stores, 36.9 per cent of the sales of millinery stores, and 32.8 per cent of the sales of furniture and house furnishings stores were made by chain stores. In some instances chains were oper-

ated by mercantile companies and in other instances by manufacturers. In the gasoline business and in the shoe trade, manufacturers' chains of retail stores have been especially conspicuous.

The Federal Reserve Board's indexes and the data for the individual companies show that in several trades chain store companies increased their sales at an extraordinary rate after 1922. There were variations between trades, and some lines of business were little affected by chain store developments. Some chain store experiments, furthermore, as, for example, that of the Winchester Co., did not succeed. Nevertheless, the chain store movement was widespread and during the period after 1922 there were few, if any, developments in the marketing field of equal significance. The chain stores expanded far more rapidly than general business; hence there was a displacement of other types of distributors. The expansion of the chain store business brought adversity to competing merchants.

Chain stores were in existence and prominent prior to 1922, and no new management or operating methods of outstanding significance have been introduced in the chain store field since 1921. Hence the expansion of the chain store business cannot be attributed to new discoveries or to radical improvements in methods of management and operation. Nevertheless, the economies in operation, resulting from the elimination of credit and delivery expenses and from the standardization of methods in chain stores, which had been significant prior to 1920, especially in the grocery, drug, and variety fields, were particularly potent after the crisis of 1920. The period since 1922 generally has been one of price competition, with a premium on economies in operation, and the chain stores in many instances have had aggressive management which thrived on price competition. As their volume of sales increased, the chain store companies were able to exert greater pressure on manufacturers in highly competitive markets and thus in some instances to secure special concessions in discounts, advertising allowances, or other forms of secret rebates.

In the shoe and clothing trades it does not appear that the chain store companies generally have had a substantial advantage over unit stores in operating expenses. The growth of chains in those trades, therefore, was occasioned by causes different from those which led to the growth of the grocery, drug, and variety chains. In several instances manufacturers were impelled to operate chains of shoe or clothing stores to counteract the influence of hand-to-mouth buying on the regularity of their plant operations, or to prevent obstruction to the flow of merchandise from their factories to consumers. In both the shoe and clothing trades, furthermore, some chains were formed to exploit the sale of low-priced merchandise. In the gasoline and oil business, the refining companies found it difficult to prevent substitution and to protect the reputa-

tion of their brands when their products were sold chiefly by independent stations. The desire to eliminate such abuses was an especially influential motive leading the refining companies to operate chains of filling stations.

An external influence affecting the growth of chain stores in various trades was the influx of new capital, as a result of the activities of investment bankers in promoting chain stores in order to obtain securities for sale during the stock market boom. This activity of the investment bankers in the chain store field was particularly noticeable in 1926 and 1927, the years during which the growth of the chain stores was most rapid.

The expansion of the chain store type of organization has represented an application of the capitalistic form of organization to several branches of retail trade which previously had been operated in small units. Some of the chief problems arising from this development remain to be faced. Attention has been called to the large scale of some of the chain store enterprises and to certain alliances that have been formed between chains in different fields. The growth of large retail organizations has resulted in the development of buying power which leads to a demand for concessions of various sorts from manufacturers. The situation is somewhat analogous to the conditions which once existed in the railroad business when large shippers sought and received preferential treatment.

No data are available on the changes in the number of unit stores during the last ten years, but there must have been a decline in the number of unit stores in those trades where the chain store growth has been most rapid. In the five years prior to 1919 there was some reduction in operating expenses in retail grocery stores, because of the chain store competition. The amount of credit extended by retail grocers had been curtailed substantially, and there probably has been some further development in the same direction since 1919. In other trades there has been diversification in the kinds of merchandise handled by retailers, but this has occurred in chain stores as well as in unit stores, and it is not possible to designate any definite change in operating methods as having occurred in the last ten years in unit stores as a means of meeting chain store competition. The fact that so few unit stores have materially improved their methods of management and operation points to one of the major reasons for the continued chain store growth.

Department Stores.—Department stores have felt the competition of chain stores selling variety goods and other types of merchandise at the lower end of the price scale. To a large extent, however, the department stores and typical chain stores have been noncompetitive. They both represent large capitalistic organizations catering to different buying habits of consumers. The chain store represents a standardization of merchandise and of operating methods, with a large number of small selling units located at strategic points operating under centralized con-

trol. The strength of the chain stores is in selling convenience goods and standard merchandise of low price. A department store, in contrast, comprises a large number of widely diverse departments brought together under one roof. In department stores, style goods and novelties are predominant. Those lines of merchandise which are best suited to chain store distribution are not well adapted to department store merchandising. The department stores have benefited by the widening of the retail trading areas which has led consumers from wider and wider territories to do their shopping in those communities where department stores are located. The following statement shows indexes for department store sales.

TABLE 18.—DEPARTMENT STORE SALES^a

(1923-1925 average = 100)

1919.....	78	1924.....	99
1920.....	94	1925.....	103
1921.....	87	1926.....	106
1922.....	88	1927.....	106
1923.....	98		

^a *Federal Reserve Bulletin*, February, 1928, p. 117.

It is to be noted that the increase in the volume of sales of department stores was far less rapid than the increase in the sales of chain stores. There are instances of individual companies, as, for example, R. H. Macy & Co. (Inc.), New York City, which have increased their volume of sales rapidly, but in general the rate of increase has been much slower during the last ten years than in chain stores. This slower rate of growth of department stores may be accounted for by the fact that the department store market had been much more fully developed prior to 1920 than had the chain store market. Furthermore, the increasing traffic

TABLE 19.—OPERATING EXPENSES IN DEPARTMENT STORES

Year	Stores with annual sales, less than \$1,000,000 ^a		Stores with annual sales over \$1,000,000 ^b	
	Number of stores	Total expenses (per cent net sales)	Number of stores	Total expenses (per cent net sales)
1922.....	340	27.1	151	28.6
1923.....	403	26.3	163	28.4
1924.....	399	28.2	168	30.1
1925.....	398	28.1	183	29.9
1926.....	284	28.7	163	30.3
1927.....	328	29.5	180	31.4

^a Harvard University, Bureau of Business Research, *Bulletin* No. 74, "Operating Expenses of Department Stores and Departmentized Specialty Stores in 1927," p. 20.

^b *Ibid*, p. 3.

congestion in metropolitan districts probably tended to check the growth of the department store sales. There also was a prevalence of strong competition from specialty stores selling style goods. It is to be noted, too, that the operating expenses of department stores tended to increase during the period covered by this survey. The figures in Table 19 are taken from bulletins of the Harvard Bureau of Business Research. The same companies, for the most part, were included in these groups from year to year.

Mail Order Business.—The following statement of annual indexes shows the expansion of business of the large mail order companies from 1919 to 1927. These indexes were based upon the reports of four companies which had an aggregate volume of sales in 1927 of \$562,765,581.

TABLE 20.—SALES OF MAIL ORDER COMPANIES^a

(Monthly averages 1923-1925 = 100)

1919.....	93	1924.....	98
1920.....	96	1925.....	110
1921.....	67	1926.....	115
1922.....	73	1927.....	120
1923.....	92		

^a Federal Reserve Bulletin, April, 1928, p. 234.

It is to be noted that the mail order companies experienced a particularly severe decline in their volume of sales in 1921, from which full recovery was not made until 1924. This sharp drop in the sales of the mail order companies during a period of depression reflected a difficulty which is experienced by that type of enterprise when prices are declining rapidly. A mail order company issues a catalogue which normally remains in use for a period of six months. The prices in the catalogue thus look less and less favorable if prices in retail stores are falling. Even though the mail order company states that it will meet declines in the market, it is difficult for the company to notify all its potential customers of the prices at which it will sell at any one time, when those prices differ from the ones stated in the catalogue.

After 1924, the mail order companies showed a more rapid expansion of sales than was shown by the department stores. This increase did not reflect solely an increase in the regular mail order business. In 1926, Montgomery Ward & Co. (Inc.), began opening retail stores, located in towns of 3,000 to 6,000 population. In December, 1928, it was said to have about 230 such stores and 18 department stores in its chain; it was further announced that the company planned a chain of 1,500 stores. Sears, Roebuck & Co. began selling over the counter at its warehouse in Chicago in 1925, and in December, 1928, was reported to be operating a chain of 37 department stores and 155 smaller stores. The Sears, Roebuck & Co.'s department stores were located in the outskirts of large cities where ample parking accommodations were expected to be avail-

able. The Federal Reserve Board's figures include the sales of these companies in their retail stores as well as sales from their catalogues; hence, they are not a real index to the changes in the volume of catalogue selling during this period.

The decision of these two large mail order companies to operate chain stores is one of the most significant marketing developments during the period under review. Although no definite statement has been made by these companies, it is reasonable to infer that their decisions to open retail stores reflect the change in buying habits in the small towns and rural districts. The same factors which brought about the increase in the radius of trading areas, discussed in a previous section, inevitably tended to affect the mail order business. With the increased use of automobiles and good roads, consumers were likely to purchase less from catalogues, just as they purchased less from country retail stores. By going to trading centers, it was possible for the consumers to examine the merchandise and to buy the goods on the spot. These two large mail order companies, therefore, manifested keen foresight in utilizing their reputations to launch chains of stores. The volume of sales which the companies had attained in these stores by 1928, important though it was, did not have so great significance as the fact of their establishment, since that fact emphasized the trend in the change in trading areas and in the development of the chain store type of enterprise.

Although such companies as the Fuller Brush Co. and the Real Silk Hosiery Mills (Inc.) have attracted widespread attention to the sale of merchandise by house-to-house solicitation, only a very small percentage of the retail trade of the United States has been affected thereby, and their experience is interesting without being broadly significant.

Wholesale Trades.—The best index to the volume of sales of wholesale merchants is compiled by the Division of Research and Statistics of the Federal Reserve Board.³⁷ For its purposes, the Federal Reserve Board includes in the index the sales of manufacturers who sell directly to retailers, and in several trades, such as meat packing, shoe manufacturing, and furniture manufacturing, the manufacturers' figures predominate. In such trades as groceries, dry goods, hardware, and drugs, however, the Federal Reserve Board figures are chiefly for wholesale merchants. This index, therefore, furnishes a guide as to how wholesale merchants were faring in those trades.

The grocery and dry goods wholesalers tended to lose ground; the hardware wholesalers barely held their own; and the drug wholesalers showed a moderate increase in their volume of sales. These figures do not give a complete picture of the conditions in wholesale trade, because they do not reflect the number of wholesale firms which went out of

³⁷ This index was explained in the *Federal Reserve Bulletin*, December, 1927, pp. 817-828.

TABLE 21.—SALES OF WHOLESALERS^a
(1923-1925 average = 100)

Year	Groceries	Dry goods	Hardware	Drugs
1919.....	118	110	96	91
1920.....	126	107	116	95
1921.....	93	91	80	86
1922.....	93	89	86	87
1923.....	100	103	102	97
1924.....	101	97	97	99
1925.....	99	100	101	104
1926.....	98	94	100	107
1927.....	94	89	95	108

^a *Federal Reserve Bulletin*, December, 1927, p. 826.

business during these years through voluntary or involuntary liquidation or through mergers, or which changed from the wholesale business to the chain store business. Liquidations, mergers, and shifts to chain store operation occurred in the grocery, drug, and dry goods trades. Some new firms came into the field, as, for example, the desk jobbers and cash-and-carry wholesalers in the grocery trade, but the sales of the newcomers did not equal the sales of the firms which went out of business.

When the indexes for the grocery and drug wholesalers are compared with the chain store indexes, and the dry goods wholesalers' figures with those for wearing apparel chains and for department stores, it is evident that since 1920 the wholesalers have been handling a smaller and smaller proportion of the trade in their respective lines.

The causes for the stationary or declining volume of sales of the wholesalers in several lines of business were varied.³⁸ The predominant influence, of course, was the growth of chain stores, operating on a scale sufficiently large to permit them to buy directly from manufacturers, sometimes on even more favorable terms than were granted to wholesalers. Another factor in the grocery and drug trades was the continued activity of retailers' co-operative buying associations, organized in the hope of enabling the unit stores to meet the price competition of chain stores. In the department store field some increase occurred after 1922 in group or syndicate buying, but that development did not have nearly so great an influence as certain other factors on the trade of dry goods wholesalers. The shift in trading areas tended especially to weaken the dry goods wholesalers, for, as has been pointed out, many dry goods wholesalers continued to send their salesmen to the small towns and country stores where the volume of business was falling off and where the traveling expenses were becoming higher and higher in proportion

³⁸ Melvin T. Copeland, "The Present Status of Wholesale Trade," *Harvard Business Review*, April, 1928, p. 257.

to sales. Hand-to-mouth buying by retailers, furthermore, led the wholesalers to send their salesmen over their territories more frequently.

In general, wholesalers were not alert in meeting the new merchandising conditions, occasioned by changes in demand and changes in consumers' buying habits. At the same time competition became keener and keener, with a tendency for expenses to increase to a higher proportion of sales. Various expedients were tried, such as private brands, the opening of cash-and-carry departments, and the organization of groups of stores into syndicates by individual wholesalers, but those expedients have not as yet proved an effective foil to chain store competition or an adequate substitute for up-to-date merchandising.

V. CO-OPERATIVE MARKETING³⁹

In Table 22 is shown the number of farmers' co-operative associations reporting to the United States Department of Agriculture from 1913 to 1925.⁴⁰

TABLE 22.—CO-OPERATIVE ASSOCIATIONS REPORTING ACTIVE TO THE UNITED STATES DEPARTMENT OF AGRICULTURE, 1913-1925^a

Year	Cotton	Dairy	Forage crops	Fruits and vegetables	Grain	Live-stock	Nuts	Poultry and eggs	Tobacco	Wool
1913.....	35	1,085	2	293	1,079	99	15	2	3	7
1914.....	45	1,178	2	334	1,245	138	18	3	3	8
1915.....	50	1,264	3	389	1,450	202	21	5	3	10
1916.....	53	1,371	3	448	1,728	273	22	7	3	11
1917.....	56	1,492	4	477	1,939	358	24	10	3	12
1918.....	60	1,593	4	526	2,194	489	26	11	3	22
1919.....	66	1,719	5	604	2,594	699	29	11	7	42
1920.....	75	1,829	5	725	2,958	987	33	15	8	58
1921.....	83	1,970	9	852	3,093	1,275	34	26	10	64
1922.....	90	2,055	13	958	3,163	1,429	35	31	16	68
1923.....	99	2,112	14	1,059	3,195	1,488	38	43	19	72
1924.....	102	2,131	14	1,117	3,210	1,524	40	57	19	78
1925.....	106	2,136	14	1,121	3,212	1,529	40	59	19	80

^a R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, p. 76.

Table 23 shows the net annual increase in the number of these associations in those trades in which the largest number were found for 1922-1925.

³⁹ A particularly comprehensive reference on this subject is by R. B. Forrester, *Report upon Large Scale Co-operative Marketing in the United States of America*, Ministry of Agriculture and Fisheries, London, 1925.

⁴⁰ See, on co-operative buying and selling, Chap. VIII, Agriculture, pp. 579-581.

TABLE 23.—CO-OPERATIVE MARKETING ASSOCIATIONS: NET ANNUAL INCREASE IN NUMBER REPORTING ACTIVE TO THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Cotton	Dairy	Fruit and vegetables	Grain	Livestock
1922.....	7	85	106	70	154
1923.....	9	57	101	32	59
1924.....	3	19	58	15	36
1925.....	4	5	4	2	5

This apparent increase represented in part the inclusion in the Department's records of associations organized in earlier years. Since 1925, it is stated by an especially well-informed representative of the United States Department of Agriculture, there has been little, if any, net increase in the number of farmers' co-operative associations. The tendency instead has been toward the organization of larger associations and federations.

The estimated amount of business handled by the co-operative associations in the various trades in 1925 and in 1927 was as shown in Table 24.

TABLE 24.—CO-OPERATIVE MARKETING ASSOCIATIONS, BY COMMODITIES^a

Commodity	Number of associations, 1925	Estimated number of members, 1925	Estimated amount of business	
			1925	1927
Grain.....	3,338	520,000	\$750,000,000	\$680,000,000
Dairy products.....	2,197	460,000	535,000,000	620,000,000
Livestock.....	1,770	400,000	320,000,000	320,000,000
Fruits and vegetables.....	1,237	180,000	280,000,000	300,000,000
Cotton.....	121	300,000	150,000,000	97,000,000
Tobacco.....	24	300,000	90,000,000	22,000,000
Poultry products.....	71	50,000	40,000,000	40,000,000
Nuts.....	39	20,000	16,000,000	14,600,000
Wool.....	91	50,000	10,000,000	7,000,000

^a R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, pp. 22, 27, 29; United States Department of Agriculture, *Agricultural Co-operation*, October 27, 1928, p. 425. The lower figures for 1927 were in several instances the result of lower prices. The discrepancy between the figures in this table and those in Table 22 for number of associations is explained by the fact that the estimates in Table 24 included associations not reporting to the Department of Agriculture.

Dairy.—One of the large groups of farmers' co-operative societies comprises associations handling dairy products—that is, those operating cheese factories, creameries, fluid milk plants, cream pools, plants for condensing milk and making ice cream, associations for distributing

milk at wholesale and retail, and associations for bargaining on the price at which milk is to be sold by the farmers.

It was estimated by the United States Department of Agriculture that approximately 11,000,000,000 pounds of fluid milk were marketed through co-operative associations in 1927.⁴¹ This quantity, it was stated, represented nearly one-fifth of the estimated quantity of fluid milk used in the continental United States for household purposes in that year. About 60 per cent of the milk classed as having been marketed co-operatively was under the control of bargaining associations, which did not actually engage in commercial transactions. The remaining 40 per cent was marketed by operating associations which assembled, processed, and delivered milk to consumers, such as hotels, restaurants, and private families.

One of the large milk associations is the Dairymen's League Co-operative Association (Inc.), furnishing milk at wholesale for metropolitan New York. Its sales in 1922-23 were 3,735,998,307 pounds of milk; in 1926-27, 2,224,220,066 pounds. The value of the milk sold by this association was \$82,130,902 in 1922-23 and \$79,452,617 in 1927-28.⁴² The association at the outset engaged extensively in the manufacturing and selling of by-products for which the surplus milk was used during the season of heavy production. In 1925, the Dairymen's League Co-operative Association (Inc.) transferred a substantial part of its by-product business to The Borden Company.⁴³ The Twin City Milk Producers' Association, St. Paul, in 1922 had sales of \$4,313,275 and in 1926, \$8,464,354.⁴⁴ This association manufactures its surplus into butter, cheese, milk powder, condensed milk, ice cream, and casein. In several other districts also, co-operative associations have been successful in stabilizing the fluid milk business by aiding in the adjustment of production to demand, by stimulating improvements in quality, and by sales promotion methods.

One of the unsuccessful co-operative milk associations was the Oregon Dairymen's Co-operative League, which was organized in 1917 for supplying milk to the Portland market, and reorganized in 1920 for the purpose of controlling the dairy industry of the state.⁴⁵ At the end of 1921, steps were taken to wind up the business of the association. Numerous reasons were given for its failure, including defects in organization and poor management. It was stated, further, that the efforts of the league to keep surplus milk off the Portland market were frustrated by the

⁴¹ United States Department of Agriculture, *Agricultural Co-operation*, May 26, 1928, p. 205.

⁴² *The Dairymen's League News*, June 29, 1928, p. 18.

⁴³ *Printers' Ink*, January 29, 1925, pp. 53-55.

⁴⁴ United States Department of Agriculture, *Agricultural Cooperation*, January 22, 1927, p. 25.

⁴⁵ *Ibid*, February 12, 1923, pp. 5, 6.

construction of hard-surfaced roads which had greatly increased the area from which milk could be shipped in and thus caused a surplus at all seasons of the year.

Another dairy enterprise in which the co-operative type of organization has flourished is cheese making. It is stated that in 1926 approximately one-third of the cheese produced in the United States was marketed through 793 co-operative associations in 21 states, with sales amounting to 139,112,879 pounds of cheese. Seventy-five per cent of this cheese was made in Wisconsin; 6 per cent in Oregon; 5 per cent in Minnesota; and 4 per cent in New York.⁴⁶

The Wisconsin Cheese Producers' Federation, formerly known as the National Cheese Producers' Association, in 1928 had 299 member factories located in Wisconsin and Minnesota. The sales of this association increased from 18,646,263 pounds in 1922 to 35,650,849 pounds in 1927; the value of these sales increased from \$3,790,219 to \$8,553,483 during the same period.⁴⁷ The sales of this association represented approximately 5 per cent of the total quantity of cheese produced in the United States in 1922 and a somewhat higher percentage in 1927.

The Land O'Lakes Creameries (Inc.), which started in 1921 under the name of the Minnesota Co-operative Creameries Association (Inc.), was organized for furnishing field service and for arranging for car-lot shipments. In 1923 it began the co-operative purchase of creamery and dairy supplies and in 1924 undertook the sale of butter and other dairy products, thus becoming an operating organization. This association was a federation of local co-operative creamery associations. It adopted and advertised a trade-mark—"Land O'Lakes"—for high-quality creamery butter and subsequently the name of the association was changed to Land O'Lakes Creameries (Inc.). The total sales of this association in 1927 amounted to \$46,315,079.⁴⁸ The association marketed not only butter but also cheese, buttermilk powder, sweet and frozen cream, milk powder, milk fat, eggs, and poultry. The association made sales to wholesalers, chain store companies, and milk companies. In 1928 it was supplying butter under its trade-mark to a dozen or more of the large chains of retail grocery stores. Its market extends into the eastern and southern states. One of the most noteworthy accomplishments of this association has been a substantial increase in the proportion of high-grade butter manufactured by its members.

The Challenge Cream and Butter Association, a sales agency which marketed the products of 11 co-operative creamery associations in California, whose total sales increased from \$5,011,591, in 1922⁴⁹ to

⁴⁶ *Ibid*, March 31, 1928, p. 125.

⁴⁷ *Ibid*, March 3, 1928, p. 81.

⁴⁸ *Ibid*, May 26, 1928, p. 206.

⁴⁹ *Ibid*, February 15, 1926, p. 73.

\$15,955,033 in 1927,⁵⁰ in September, 1928, affiliated with the Land O'Lakes Creameries (Inc.), thus making the latter one of the largest single distributors of milk powder in the United States. The rapid growth of these large-scale co-operative enterprises in the dairy industry was strongly in contrast to the showing made by the large scale associations in several other trades.

Fruits and Vegetables.—The fruit industry furnishes some of the outstanding examples of successful co-operative marketing of agricultural products. The California Fruit Growers' Exchange is one of the oldest of these associations. Its sales, as shown in Table 25, increased from \$55,271,975 in 1923 to \$85,295,840 in 1927.

TABLE 25.—CALIFORNIA FRUIT GROWERS' EXCHANGE—SHIPMENTS^a

Season ending Oct. 31—	Oranges and grapefruit	Lemons	Total	Total sales
	<i>Boxes</i>	<i>Boxes</i>	<i>Boxes</i>	
1923.....	14,645,070	3,212,347	17,857,417	\$55,271,975
1924.....	14,800,069	4,588,211	19,388,280	50,508,184
1925.....	11,967,715	4,176,677	16,144,392	70,236,507
1926.....	15,485,011	4,819,724	20,304,735	70,744,727
1927.....	17,815,857½	4,450,754½	22,266,612	85,295,840

^a Compiled from Annual Reports.

The shipments by the exchange constituted 68.7 per cent of the cars of citrus fruit shipped from California in 1922 and 71.5 per cent of the cars shipped from that state in 1927.

The California Fruit Growers' Exchange began advertising in 1907 on a small scale. The advertising has been continued in increasing volume. In 1927, the advertising and sales promotion expenditures of the exchange amounted to approximately \$700,000. This was equivalent to 82/100 of 1 per cent of the sales of the exchange.⁵¹ In addition to advertising in magazines and newspapers, in 1922 the company introduced the Sunkist electric juice extractor for use at soda fountains. In the annual report of the general manager of the exchange for 1927, it was stated that the number of extractors in use had increased to 41,614 and that the Sunkist extractors represented an annual consumption of 2,080,700 boxes of citrus fruit. The total selling and advertising expenses of the exchange, in percentage of the delivered value of the goods sold, were as follows: In 1922, 1.69 per cent; 1923, 2.49 per cent; 1924, 3.04 per cent; 1925, 2.40 per cent; 1926, 2.48 per cent; 1927, 2.41 per cent.

The Florida Citrus Fruit Exchange, organized on a plan similar to that of the California Fruit Growers' Exchange, reported annual ship-

⁵⁰ Annual Report.

⁵¹ Annual Report, 1927.

ments of 5,205,510 boxes of fruit in 1922-23; 3,958,572 boxes in 1925-26; and 4,440,030 boxes to May 10, 1927.⁵²

TABLE 26.—CALIFORNIA PRUNE AND APRICOT GROWERS' ASSOCIATION—RECEIPTS

Year	Prunes	Apricots	Pits	Percentage of California crop	
				Prunes	Apricots
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Per cent</i>	<i>Per cent</i>
1922.....	144,538,800	14,540,802	5,237,276	56	47
1923.....	137,694,938	24,690,557	6,447,669	52	41
1924.....	121,747,559	7,704,182	2,196,243	44	24
1925.....	138,100,257	6,811,499	1,588,735	47	19
1926.....	128,149,097	6,138,311	1,755,494	46	18
1927.....	105,737,772	10,192,464	.....	..	..

The California Prune and Apricot Growers' Association was organized in 1921. Table 26 shows receipts⁵³ of the association. This association experienced a decline in receipts in 1923 and 1924, but a revival in 1925, following a reorganization which was necessitated by the slump in prices that occurred on a large carry over. During 1926 and 1927, the association carried on an extensive advertising and sales promotion program. In 1928 a second reorganization occurred.⁵⁴

The California Associated Raisin Co., which was organized in 1912, controlled the bulk of the raisin output of the state. During the period of high prices, the production of raisins increased and, as a result, this association was hit particularly hard by the crisis of 1920. The price per pound fell from 13 cents in 1920 to 3¼ cents in 1922. The association had agreed in its contract to pay at least 4 cents a pound to its members. The result of the drop in prices, therefore, was a loss of \$4,225,000.⁵⁵ In 1922 the name was changed to the Sun Maid Raisin Growers and in 1923 the association was reorganized. The sales of the association since 1922 have been as follows: 1922, \$30,830,087; 1923, \$19,632,805; 1924, \$24,119,172; 1925, \$20,397,184; and 1926, \$19,978,137.⁵⁶ The association has organized two subsidiaries; one for carrying on processing and handling operations; the other, the Sunland Sales Co-operative Association, for marketing. The association has introduced the five-cent package of raisins and has made other merchandising innovations. It has carried on an extensive advertising and sales promotion program.

⁵² United States Department of Agriculture, *Agricultural Co-operation*, July 9, 1927, p. 259.

⁵³ *Ibid*, July 9, 1927, p. 261. The 1927 figures are from *Sunsweet Standard*, May, 1928, pp. 10, 18.

⁵⁴ *Sunsweet Standard*, July, 1928.

⁵⁵ R. B. Forrester, *Report upon Large Scale Co-operative Marketing in the United States of America*, Ministry of Agriculture and Fisheries, London, 1925, p. 48.

⁵⁶ *Poor's Manual of Industrials*, 1927.

The association also has embarked upon an extensive program for promoting sales of its raisins in foreign countries.

The American Cranberry Exchange is a sales agency for the co-operative marketing of cranberries grown in Massachusetts, New Jersey, and Wisconsin. The sales of the exchange were as follows: 1922-23, 373,315 barrels; 1923-24, 390,976 barrels; 1924-25, 360,383 barrels; 1925-26, 314,083 barrels;⁵⁷ 1926-27, 461,278 barrels,⁵⁸ 1927-28, 288,326 barrels. In 1922-23, the shipments of the association amounted to 66 per cent of the commercial cranberry crop of the United States and in 1927-28 to 63 per cent. The association not only has provided for inspecting, crating, and standardizing shipments, but it also has advertised extensively. The expenditures for advertising which was undertaken in order to assist in marketing the bumper crop in 1926 amounted to \$222,007. This is another example of the extent to which farmers' co-operative associations have become large-scale business enterprises, utilizing extensive advertising and sales promotion methods comparable to those of large private corporations.

In the marketing of vegetables there are various co-operative associations, most of which are small. Large-scale co-operative marketing has been attempted in the potato trade, but without universal success.

The Eastern Shore of Virginia Produce Exchange handles from 70 per cent to 80 per cent of the business in the district covered.⁵⁹ The chief business of the exchange is in white and sweet potatoes, but it also sells cabbage, strawberries, onions, and miscellaneous vegetables. Its sales in 1922 were \$9,511,124; in 1923, \$11,409,195; in 1927, \$9,997,464.⁶⁰ In 1925 and 1926 the association experienced a loss because of low prices, but thanks to the financial policy which had resulted in the accumulation of a heavy reserve fund, the association was not embarrassed, and in 1927 it was again able to pay substantial patronage dividends to its members.

The Maine Potato Growers' Exchange had sales amounting to \$3,283,884 in 1924-25.⁶¹ In that year, however, the association was wrecked by the bumper crop which was produced not only in Maine but in other potato-growing states. The large crop resulted in a decline in prices and financial embarrassment to the farmers which the association was unable to avert. The Minnesota Potato Growers' Exchange met the same fate. The Colorado Potato Growers' Exchange, organized in 1923, made shipments amounting to 5,006 cars in 1923-24, and 5,269

⁵⁷ United States Department of Agriculture, *Agricultural Co-operation*, June 9, 1928, p. 231.

⁵⁸ *Ibid.*, June 25, 1927, p. 238.

⁵⁹ *Co-operation in the United States*, Grain Dealers' National Association, Toledo, 1925, p. 18.

⁶⁰ United States Department of Agriculture, *Agricultural Co-operation*, February 4, 1928, p. 37.

⁶¹ *Ibid.*, September 28, 1925, p. 401.

cars in 1926-27.⁶² The Michigan Potato Growers' Exchange, organized in 1918, increased its shipments from 2,439 cars in 1921-22 to 3,013 cars in 1926-27. These shipments constituted 16 per cent of the total shipments of potatoes from Michigan in 1921-22 and 21 per cent in 1925-26.⁶³

Grain.—As was indicated by Tables 22 and 23, there are more farmers' co-operative associations in the grain trade than in any other trade, and their sales constitute the largest aggregate volume among the co-operative groups. The co-operative associations in the grain trade are of several types: (1) farmers' elevators; (2) large-scale organizations composed of (a) farmer-owned lines of elevators, (b) state or regional pools, (c) terminal sales agencies.

The estimated sales of grain by 3,330 farmers' elevators in 1926-27 were as follows: wheat, 213,000,000 bushels; corn, 152,500,000 bushels; oats, 98,500,000 bushels; barley, 16,500,000 bushels; flax, 9,000,000 bushels; rye, 8,500,000 bushels; other grains, 2,000,000 bushels.⁶⁴ The sales by the nine wheat pools active in 1926-27 amounted to 17,500,000 bushels. In addition, some wheat was marketed by co-operative terminal sales agencies which came from other sources than the associations enumerated. Thus the total co-operative sales of wheat were estimated to amount to 27.7 per cent of the total wheat produced in the United States in 1926.⁶⁵ Inasmuch as only 580,000,000 bushels were shipped out of "counties where grown,"⁶⁶ the sales by the co-operative associations represented approximately 40 per cent of the 1926 wheat crop which entered into commercial channels. It has been estimated that the proportions which the co-operative associations handled of the quantities of other grains entering commercial channels in 1926 were as follows: corn, 26.3 per cent; oats, 35.9 per cent; rye, 20.8 per cent; barley, 29.5 per cent; and flax, 46.5 per cent; total for all grains, about 33 per cent.

The data just cited indicate that in 1926-27 the local co-operative elevators and farmer-owned line companies handled over 12 times as much wheat as was handled by the pools. Information received by the United States Department of Agriculture indicates that the estimated sales by the farmers' elevators amounted to approximately \$750,000,000 in 1921, \$754,000,000 in 1924, and \$733,000,000 in 1926-27. Those figures include sales of both grain and side lines.

Table 27 shows the sales by the wheat pools as compared to the total United States production from 1921 to 1926.

⁶² *Ibid.*, December 10, 1927, p. 478.

⁶³ *Ibid.*, September 17, 1927, p. 360.

⁶⁴ *Ibid.*, May 12, 1928, p. 185.

⁶⁵ *Ibid.*, May 12, 1928, p. 185.

⁶⁶ United States Department of Agriculture, *Yearbook of Agriculture*, 1927, p. 750.

TABLE 27.—SALES BY WHEAT POOLS COMPARED TO TOTAL UNITED STATES PRODUCTION

Year	Total United States production ^a	Number of associations ^b	Marketed by centralized co-operative associations ^c	Per cent of total production
	<i>Bushels</i>		<i>Bushels</i>	
1921-22.....	814,905,000	3	11,374,370	1.4
1922-23.....	867,598,000	11	21,876,539	2.5
1923-24.....	797,394,000	12	27,144,055	3.4
1924-25.....	864,428,000	10	27,907,577	3.2
1925-26.....	676,429,000	9	16,823,560	2.5
1926-27.....	831,040,000	9	17,500,000	2.1

^a United States Department of Agriculture, *Yearbook of Agriculture*, 1927, p. 739.

^b United States Department of Agriculture, *Agricultural Co-operation*, August 6, 1927, p. 297.

^c R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, pp. 47, 48.

The wheat pools which were operated by the associations in the Pacific Northwest, starting in 1920, were not successful, and in 1924 the last of the state pools in that section disbanded and the Northwest Wheat Growers' Associated went out of business.⁶⁷ The California association also went out of business in 1924.⁶⁸ Wheat pools continued to operate in the soft wheat district of the Central States, in Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas. These pools experienced varying degrees of stability and success. One of their main purposes was to secure "orderly marketing," usually by attempting to hold wheat off the market in the hope of obtaining prices that were deemed satisfactory.

The United States Grain Growers (Inc.), a terminal sales agency, organized in 1921 when the severe drop in prices was impending, became defunct in 1924. Various other farmer-owned sales agencies have been established⁶⁹ and their sales have been reported to have been as follows: 1924-25, \$21,446,564; 1925-26, \$14,664,333; 1926-27, \$22,819,637; 1927-28, \$35,623,237.

At the present time, the local farmers' elevators seem to be holding their own in respect to the volume of business handled. Diversification of production is tending to decrease the volume of grain marketed, but this is being partially offset by increases in the volume of sales of side lines. The large-scale pooling organizations, in contrast, have been losing ground in the grain trade, and, while the farmer-owned terminal sales agencies have shown an increase in volume handled, the strength

⁶⁷ A. C. Adams, "History and Status of Wheat Pools in the Northwest," *American Co-operation*, Vol. II, Washington, D.C., 1926, pp. 603-16.

⁶⁸ R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, p. 48.

⁶⁹ *Ibid.*

of the co-operative movement among the grain farmers still lies with the local associations.

Livestock.—In the livestock trade there are two chief types of associations; one, the local co-operative shipping association, and the other, the terminal co-operative sales agency. The terminal sales agencies sell not only for such local associations as are members but also for farmers who are not members of local associations. There are approximately 4,500 co-operative livestock shipping associations in the United States. Data are not available from all these associations, but according to the United States Department of Agriculture, in 1927, 1,980 local associations handled \$239,891,000 worth of livestock.

The growth of the terminal co-operative sales agencies has been notable in this trade during the last few years. The largest of the terminal sales agencies is the Central Co-operative Association at South St. Paul, Minn.⁷⁰ Its sales increased from \$4,887,293 in 1921 to \$21,756,805 in 1922 and \$40,908,879 in 1926. The total quantity of livestock handled in 1926 was 1,556,478 head. This represented 26.2 per cent of the market receipts at South St. Paul.⁷¹ The Chicago Producers' Commission Association increased its sales from \$6,383,313 in 1922 to \$26,815,250 in 1926. Its sales in 1926 amounted to 6.2 per cent of the total market receipts in Chicago.⁷² The sales of the Producers' Live Stock Commission Association, East St. Louis, Ill., increased from \$9,704,023 in 1922 to \$27,214,576 in 1926. Its sales in 1926 constituted 16.5 per cent of the market receipts at East St. Louis.⁷³ The sales of the Producers' Co-operative Commission Association at East Buffalo, N. Y., increased from \$1,730,536 in 1922 to \$10,718,925 in 1926 and its sales in the latter year were equal to 21.8 per cent of the total market receipts.⁷⁴ Although at least five similar agencies, which had been organized from 1916 to 1924, had been disbanded, 25 of these agencies were operating at 19 terminal markets in 1926.⁷⁵ The terminal commission agencies in operation in 1926 handled 10,660,569 head of livestock, valued at \$295,098,736.⁷⁶ Their most rapid growth occurred from 1922 to 1924.

Another significant development in the livestock business, during the last few years, has been the direct selling and shipping of hogs to packers by local shipping associations. In 1925, 25 per cent of all hogs marketed

⁷⁰ C. G. Randell, "Co-operative Marketing of Livestock in the United States by Terminal Associations," United States Department of Agriculture, *Technical Bulletin* No. 57, Washington, 1928, p. 62.

⁷¹ *Ibid.*, pp. 96-97.

⁷² *Ibid.*, p. 68.

⁷³ *Ibid.*, pp. 65-66.

⁷⁴ *Ibid.*, p. 72.

⁷⁵ *Ibid.*, p. 2.

⁷⁶ *Ibid.*, p. 5.

in this country were sold direct to packers. In 1927, approximately one-third of all hogs marketed were either sold locally to packer representatives or consigned to packing plants located at terminal markets or adjacent to them. Numerous livestock shipping associations sell all their hogs direct to packers.

A second recent and important development in the livestock trade is a movement among Corn Belt feeders and ranchmen in the West and Southwest to establish closer trading relations, whereby stocker and feeder cattle and lambs are sold directly by the ranchmen to the feeders. During the last three years, an increasing proportion of stocker and feeder animals have been purchased on the range and moved direct to feed-lots without going through central markets. The terminal livestock sales agencies have had a prominent place in facilitating these transactions by organizing pools. In 1925 they established the first stocker and feeder pool and handled 3,400 cattle in that manner. In 1928 these associations, through their pools, moved over 25,000 cattle and 75,000 lambs direct from the range to feed-lots in the Corn Belt. Thus these associations have found means of improving marketing methods in their industry.

Cotton.—In the cotton trade, the number of co-operative associations is much smaller than in the grain, dairy, livestock, and fruit and vegetable trades. Since 1920, the small local associations of cotton growers have been supplanted largely by large-scale associations, usually organized by states. Many of these large-scale associations are federated under the name of the American Cotton Growers' Exchange. In 1921-22, 5.3 per cent of the cotton crop was marketed by these large-scale associations; in 1922-23, 7.4 per cent; in 1923-24, 8.9 per cent; in 1924-25, 8 per cent; in 1925-26, 9.1 per cent; and in 1926-27, 6.7 per cent.⁷⁷ A decline in the percentage of the crop handled by these associations occurred in every state excepting Louisiana in 1926-27.

With the exception of the Staple Cotton Co-operative Association, which had attained a strong, constructive position in the trade in long staple cotton grown in the lower Mississippi Valley, the large-scale co-operative associations of cotton growers did not prove their permanency during the period under review. Their attention for the most part was focused on price, and little economic improvement was effected, for example, in baling cotton, where heavy waste still occurs, or in other methods of handling the trade. The farmers, furthermore, in numerous instances did not find it satisfactory to await the settlement of the pools to learn what their income was to be; they preferred, or were obliged, to sell to merchants for cash.

There are some indications that the cotton co-operatives may firmly establish themselves, as a result of new methods with which they are

⁷⁷ R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, p. 35.

experimenting. The American Cotton Growers' Exchange since 1926 has maintained a research division, primarily for studies of price trends and relationships, which also is giving attention to the improving and standardizing of the business practices of state associations. The co-operatives have modified their selling policies so that they now sell on practically any terms desired by buyers. Short-time pooling arrangements have been worked out which enable members to obtain payment almost as soon as the cotton is delivered. Co-operative gins have been established by three state associations, to aid in maintaining purity of seed and in effecting better ginning and baling. The credit situation has been helped in some instances by the establishment of credit corporations with the aid of the co-operatives. Some savings have been effected for members in interest charges and in cost of insurance and warehousing. By drawing only one sample from a bale, whereas several samples are pulled from each bale under the traditional methods of marketing, the co-operatives also effect savings. Opportunities for constructive service unquestionably exist in the raw cotton trade, but it remains to be seen whether the co-operative associations will have the strength and the foresight to utilize them for carrying out broad-gauge, constructive programs which will yield substantial economic gains.

Wool.—The quantity of wool handled by co-operative associations (Table 28) in the United States increased from 10,558,283 pounds in 1922 to approximately 25,611,055 pounds in 1926, followed by a decline to 15,755,305 pounds in 1927.

TABLE 28.—CO-OPERATIVE SALES OF WOOL

Year	Total United States production of fleece wool ^a	Wool handled by co-operative associations ^b	Per cent of total production
	<i>Pounds</i>	<i>Pounds</i>	
1922.....	221,713,000	10,558,283	4.8
1923.....	225,696,000	18,799,678	8.3
1924.....	235,575,000	17,167,974	7.3
1925.....	245,562,000	25,184,587	10.3
1926.....	260,976,000	25,611,055	9.8
1927.....	272,453,000	15,755,305	5.8

^a United States Department of Agriculture, *Yearbook of Agriculture*, 1926, p. 1131.

^b Data furnished by United States Department of Agriculture.

In the wool trade, as in the grain trade, state pools have been tried during recent years. The Pacific Co-operative Wool Growers, which in June, 1927, had 2,400 members from eastern Oregon, eastern Washington, and Idaho, was performing the services of classing, grading, financing, sorting, scouring, and selling wool for its members, chiefly direct to mills. The sales of this association increased from 1,500,028 pounds in 1921–22

to 6,097,159 pounds in 1925-26.⁷⁸ The Ohio Wool Growers' Co-operative Association increased its sales from 2,725,000 pounds in 1922⁷⁹ to 3,138,849 pounds in 1927.⁸⁰ The National Wool Warehouse and Storage Co., which was formed in 1909, went out of existence when it completed the marketing of the 1924 clip. The cause for its failure was financial embarrassment resulting from overadvances to members on wool in 1920.⁸¹ The co-operative associations have not yet become a major factor in the wool market, except in a few districts.

Tobacco.—Table 29 shows the total production of tobacco and the quantity marketed by large-scale co-operative associations from 1921 to 1926. It is to be noted that there was a marked decline in 1924-25 in

TABLE 29.—COMPARATIVE MARKETING OF TOBACCO

Year	Total United States production ^a	Received by large-scale tobacco marketing associations	
		Quantity ^b	Per cent of total production
	<i>Pounds</i>		
1921-22.....	1,069,693,000	129,414,613	12.1
1922-23.....	1,246,837,000	607,843,756	48.8
1923-24.....	1,515,110,000	699,864,889	46.2
1924-25.....	1,251,343,000	429,576,392	34.3

^a United States Department of Agriculture, *Yearbook of Agriculture*, 1926, p. 1024.

^b R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, p. 61.

the receipts by the large-scale marketing associations in the tobacco trade.

The largest and, with one exception, most successful of the co-operative associations of tobacco growers is the Burley Tobacco Growers' Co-operative Association, which was organized in 1921. Its receipts and sales from 1921 to 1926 are shown in Table 30.

The association experienced difficulty in marketing the 1923 crop, which was large and of poor quality. The final payments to members on that crop were not made until December, 1927.⁸² The association, from 1921 to 1925, undertook to hold tobacco off the market until satisfactory prices were secured. In the autumn of 1926 a new plan was announced, in which the association arranged for the sale of tobacco at auction.⁸³

⁷⁸ Approximate figures, United States Department of Agriculture, *Agricultural Co-operation*, June 7, 1926, p. 246.

⁷⁹ *Ibid*, March 19, 1927, p. 106.

⁸⁰ *Ibid*, February 4, 1928, p. 44.

⁸¹ United States Department of Agriculture, *Co-operative Marketing of Wool*, 1920-1926, p. 7.

⁸² United States Department of Agriculture, *Agricultural Co-operation*, December 24, 1927, p. 504.

⁸³ *Ibid*, November 22, 1926, p. 469.

TABLE 30.—RECEIPTS AND SALES OF THE BURLEY TOBACCO GROWERS' CO-OPERATIVE ASSOCIATION^a

Crops	Pounds received	Sales
1921.....	119,914,613	\$26,271,514
1922.....	197,009,743	52,218,341
1923.....	245,443,006	^b 48,882,697
1924.....	171,403,690	^b 35,983,065
1925.....	135,574,125	^b 25,473,568
1926.....	^c 118,359,923	

^a United States Department of Agriculture, *Agricultural Co-operation*, December 6, 1926, p. 489.

^b Including inventories as estimated August 31.

^c *Ibid.*, May 28, 1927, p. 209.

The association thus adopted a plan similar to the loose leaf auction sales which had been condemned by the promoters of the association in 1921 as being thoroughly unsound. The managers of the association, however, stated that the results of the sale at auction in 1926 were not satisfactory.⁸⁴ In 1927, an effort was made to induce growers to sign a new seven-year contract which would permit the marketing of tobacco by private sale rather than by auction, provided a 75 per cent sign-up could be secured.⁸⁵ The association did not secure a 75 per cent sign-up, however, and early in 1928 the association was operating its warehouses for the sale of tobacco for members and other growers at loose leaf auctions.⁸⁶

The Northern Wisconsin Co-operative Tobacco Pool was organized in 1922 on a five-year contract and began operations in 1923. The deliveries by members to the association amounted to 30,631,245 pounds in the season 1922-23, 31,049,418 pounds in 1923-24, and 15,577,078 pounds in 1924-25.⁸⁷ The association encountered difficulties during the early years because of the low quality of successive crops. Nevertheless it accomplished sufficiently satisfactory results to induce growers producing upwards of 20,000,000 pounds a year to sign contracts for a second five-year period beginning in 1927. The association established a grading system, whereas none had existed previously in that market, and checked the dumping of tobacco on the market.⁸⁸ It also placed itself in a strong financial position by accumulating reserves against various contingencies.

The Connecticut Valley Tobacco Association was organized in 1922 with a five-year contract with members. Its receipts in 1922-23 were 26,901,714 pounds of tobacco; in 1923-24, 35,311,079 pounds; in 1924-25,

⁸⁴ *Ibid.*, May 28, 1927, p. 209.

⁸⁵ *Ibid.*, October 1, 1927, p. 387.

⁸⁶ *Ibid.*, February 4, 1928, p. 44.

⁸⁷ *Ibid.*, May 10, 1926, p. 204.

⁸⁸ *Ibid.*, September 28, 1925, p. 411.

30,733,017 pounds; and in 1925-26, 26,428,254 pounds.⁸⁹ To assist in financing the association, \$8,000,000 was subscribed by a syndicate of 47 New England and New York banks in 1923.⁹⁰ This association, like the Burley Tobacco Growers' Co-operative Association, undertook to carry over part of the crop in the early years in the hope of securing better prices. The delay in making payments to members caused dissatisfaction, and the maintenance of artificially high prices, together with a tendency for the demand for cigars to decline, resulted in over-production.⁹¹ In March, 1927, it was decided to disband the association.

The Dark Tobacco Growers' Co-operative Association was organized in 1922. At the outset it had 57,000 members which were expected to give control of 66 per cent of the crop.⁹² Less than 50 members were delinquent in the delivery of the 1922-23 crop and the association received 175,000,000 pounds out of the total production of 303,000,000 pounds. The price was maintained at an abnormally high point by carrying over 20 to 25 per cent of the tobacco received. Dissatisfaction was caused by the delay in payments, and violation of contracts by members were numerous when the time came for delivering the 1923-24 crop. The crop of that year was of poor quality and large in volume. Again tobacco was carried over and payments to members were postponed in order to hold up prices. This caused so great discontent that the deliveries for the 1924 crop dropped to 90,000,000 pounds. In October, 1925, the growers were released from their contracts and the association handled no tobacco of the 1925 crop. In 1926 the association received voluntary deliveries of 49,000,000 pounds.

The Miami Valley Tobacco Growers' Association was organized in 1923, but went out of business in 1926. It handled 19,742,000 pounds of the 1923-24 crop and 5,051,622 pounds of the 1924-25 crop.⁹³

The Tobacco Growers' Co-operative Association, Raleigh, N. C., was organized in 1922. Its receipts for the season of 1922-23 amounted to 163,589,034 pounds of tobacco; for 1923-24, 180,135,838 pounds; for 1924-25, 103,821,150 pounds; and for 1925-26, 83,480,539 pounds.⁹⁴ In June, 1926, receivers in bankruptcy were appointed for liquidation.⁹⁵ In this case it was stated that the managers of the association were dishonest.⁹⁶

⁸⁹ *Ibid*, August 16, 1926, p. 344.

⁹⁰ *Ibid*, January 2, 1923, p. 10.

⁹¹ *Ibid*, September 14, 1925, p. 386.

⁹² J. W. Jones, "Some Causes of the Difficulties of the Dark Tobacco Association," *American Co-operation*, Vol. I, Washington, 1927, pp. 60-72.

⁹³ R. H. Elsworth, "Agricultural Co-operative Associations," United States Department of Agriculture, *Technical Bulletin* No. 40, Washington, 1928, p. 61.

⁹⁴ United States Department of Agriculture, *Agricultural Co-operation*, June 21, 1926, p. 267.

⁹⁵ *Ibid*, July 5, 1926, p. 287.

⁹⁶ Aaron Sapiro, "Dark and Bright Spots in Co-operative Marketing," *American Co-operation*, Vol. I, Washington, 1926, p. 35.

During the period covered by this survey, one of the chief slogans of those interested in promoting co-operative marketing of agricultural products has been "orderly marketing." The record of the years from 1922 to 1927, however, do not indicate substantial accomplishments by large-scale co-operative enterprises in handling the staple crops, and the doctrine that marketing of staple agricultural commodities by the private firms is disorderly has not been proved. The theory back of the demand for "orderly marketing" is that prices are depressed by having a crop come on the market in large quantities during a short season of the year. No conclusive evidence has been found that such is the case, nor is it reasonable to expect prices to be depressed during the period of heavy crop movement. A flour miller, a cotton manufacturer, or a wool manufacturer, in determining the price at which to buy, takes into account the fact that the crop must suffice for an entire season, and in the large markets the only significance that is attached to the movement of the crop during the season is the indication that may be afforded regarding the total size of the crop. An effort is made constantly by merchants and manufacturers in respective trades to determine the price with reference to the entire crop season and not merely for the period during which it is moving to market. As a result, those large co-operative associations which have focused their attention chiefly upon withholding particular raw materials from the market, in the hope of securing better prices later have had little success, and, as in the case of various tobacco growers' associations, have sometimes experienced embarrassment.

The experiments of large-scale enterprises in co-operative marketing, which have been especially characteristic of the period from 1922 to 1927, show that success has been attained when the associations have been able to effect real economies in distribution, or where they have applied constructive methods of merchandising and sales promotion with avoidance of overproduction. It is by methods such as those associations have used, rather than by efforts at valorization, that large-scale co-operative enterprises have prospered.⁹⁷

⁹⁷ Although consumers' co-operation is not so strong in America as in the countries of Europe, nor even so well established as the co-operative marketing movement among the farmers, nevertheless it does occupy a significant place in the lives of several hundred thousands of farmers and industrial workers. In 1928 there were approximately 1,700 co-operative store societies, the larger number of them in the rural districts, although the societies doing the largest business are situated in the cities. The biggest of all, in point of membership and turnover, is the Franklin Co-operative Creamery Association, distributor of milk and other dairy products to thirty or forty thousand consumers of Minneapolis. This organization has 5,000 shareholder members and annual sales in excess of \$3,500,000. The Co-operative Trading Company of Waukegan, Ill., has sales of nearly \$700,000 and distributes groceries, meats, its own bakery products, and milk. Consumers Co-operative Services of New York City, with more than 3,000 members, operates eight cafeterias and restaurants. The Soo Co-operative Mercantile Association, at Sault Sainte Marie, Mich., the largest

VI. INSTALLMENT SELLING

Regarding installment selling there are, unfortunately, relatively few facts which are not open to question. In 1926, Milan V. Ayres published an estimate of retail installment sales in 1925 and an estimate of the increase in the volume of outstanding installment debts from 1923 to 1925.⁹⁸ His estimate of the total volume of retail installment sales was \$5,704,000,000, in 1925. In 1927, Professor Edwin R. A. Seligman published his two volume study on installment selling.⁹⁹ In that study Seligman discussed Ayres' estimates and made various revisions in them, with the result that he arrived at a figure of \$4,875,000,000.¹ Both writers stated frankly, however, that on most points their estimates were only in the nature of intelligent guesses. In the present survey it has been possible to secure a further check on some items, and an attempt has been made to estimate the increase in the volume of installment selling which occurred from 1923 to 1927. These estimates are subject to a large percentage of error, but even within the limits of possible error it is believed that they have significance.

In making estimates of the increase in the volume of retail installment sales since 1923, use has been made of the estimates of Ayres and Seligman and of various indexes of the expansion or contraction of particular industries. The balance sheets of companies engaged in the production of goods sold on installment were examined and also the balance sheets

business institution in the city, operates a bakery and a chain of eight retail stores which do a business of \$650,000 annually. The Cloquet Co-operative Society of Minnesota has a membership of 1,300, composed of mill workers and farmers, and has a turnover of \$550,000. There are co-operative bakeries owned and operated by consumers in 22 cities and towns throughout the country. The co-operative restaurant, cafeteria, and boarding house societies number 27. Ten co-operatives are distributing milk. Hundreds are handling gasoline and oil, and in several states wholesale oil companies have been formed by federations of these societies. Co-operatives are also engaged in a multitude of miscellaneous services, such as the distribution of coal, water power, telephone service, operations of book stores, etc. Federations of local consumers' societies have formed co-operative wholesales in Seattle, Wash., Superior, Wis., Omaha, Neb., and New York City. The Co-operative League of the U.S.A. is the central educational union for the movement, supported by its constituent membership. It publishes a monthly magazine, conducts an accounting bureau, provides legal service to its members, sends out speakers and organizers, conducts a correspondence school and local resident training schools for employees and others, gets out a Co-operative Year Book and other publications, and conducts every second year a National Co-operative Congress. The League is the only member of the International Co-operative Alliance from the United States, and its President, Dr. James P. Warbasse, is on the Central Executive Committee of that body. Note by Harry W. Laidler, Director.

⁹⁸ Milan V. Ayres, *Installment Selling and Its Financing*, paper presented at the Third National Automotive Financing Conference, November 15-16, 1926.

⁹⁹ Edwin R. A. Seligman, *The Economics of Installment Selling*, 2 vols., New York, 1927.

¹ *Ibid*, vol. I, p. 117.

of such of the finance corporations as are publicly available. In a few instances helpful data were secured from those sources, but for the most part they proved barren.

The industry with the largest volume of installment sales is the automobile business. Ayres' estimate of installment sales for new cars in 1925 was \$2,188,000,000, new trucks \$454,000,000, used cars and trucks \$881,000,000, making a total of \$3,523,000,000 for all automobiles and trucks. Seligman, as a result of his investigations, reduced the estimate of the installment sales of all automobiles and trucks to \$2,734,000,000 in 1925.²

Ayres estimated that, as a result of the decline in prices of automobiles, there was no increase in the volume of automobile installment paper outstanding in 1925 over 1923. The analysis made by Dr. Filipetti, as part of Seligman's study, showed that 45.8 per cent of the new cars sold by the General Motors dealers, from whom reports were obtained, were sold on installments in 1923, 50.7 per cent in 1924, 52 per cent in 1925, and 55.9 per cent in 1926.³ For used cars, the installment sales in 1923 amounted to 54.8 per cent; in 1924, 57.4 per cent; in 1925, 62.8 per cent; and in the first six months of 1926, 65.2 per cent. These ratios related solely to the number of cars, whereas, in computing the value of the sales in dollars, Seligman used weighted ratios which showed that 59 per cent of the total sales of automobiles were on installments in 1925 and 57 per cent in 1926.⁴

C. C. Hanch, general manager of the National Association of Finance Companies, stated in November, 1927, that in 1927, 58 per cent of the new cars were sold on installments, as compared with 64 per cent in 1926, and that the percentage of all cars, new and used, sold on installments was 60.8 per cent in 1927, as compared with 70 per cent in 1926 and 75.5 per cent in 1925.⁵ The percentage figure which Hanch gave for 1927 was approximately the same as the figure which Seligman used for 1925. Hanch stated further that used-car paper was 26.8 per cent of the total retail automobile notes purchased by finance companies in 1927, as compared with 33 per cent in 1926. He also stated that there had been a tightening of terms since 1924, when the practice became particularly common of accepting small initial payments and granting long terms. As a result of reports which he had received from numerous finance companies, he stated that retail automobile paper, calling for more than 12 monthly payments, had been reduced from 18.3 per cent in 1925 to 13.2 per cent in 1926 and 12.4 per cent in 1927, and that the

² *Ibid*, Vol. I, p. 117.

³ *Ibid*, Vol. II, p. 426.

Ibid, Vol. I, p. 111.

⁵ C. C. Hanch, *Composite Experience of Automobile Finance Companies*, release dated November 14, 1927.

volume of retail paper calling for less than the standard down payment of at least one-third of the cash price decreased from 19.4 per cent in 1925 to 9 per cent in 1926 and 5.2 per cent in 1927.

This information regarding the practice of finance companies is significant, since over a period of years finance companies have been purchasing a larger and larger proportion of the installment notes taken by dealers, whereas previously the notes were discounted at commercial banks. John J. Schulmann, Jr., an officer of the General Motors Acceptance Corporation, stated, at the annual meeting of the National Association of Finance Companies in 1927, that a few years previously the General Motors Acceptance Corporation was financing 21 or 22 per cent of all the cars sold by its dealers, a ratio which represented about one-third of the cars sold on installments by the dealers. In 1927, the General Motors Acceptance Corporation, he stated, was financing approximately 36 per cent of all the cars sold by the dealers, or over 55 per cent of the cars that the dealers sold on installments.

In view of the foregoing evidence, some of which represents conflicting opinions, it has been deemed advisable to estimate roughly the change in installment sales of automobiles and trucks from year to year in the following manner. Seligman's estimate of the total sales of automobiles and trucks in 1925, of \$2,734,000,000, was accepted as the base. In order to obtain an index to the annual changes in the total volume of sales, the data in the *Survey of Current Business*, published by the United States Department of Commerce, on the sales of new passenger cars and motorcycles, were utilized. These figures, computed from the tax returns for domestic sales, were as follows: 1923, \$2,125,600,000; 1924, \$2,022,500,000; 1925, \$2,239,700,000; 1926, \$2,508,881,000; 1927, \$1,990,444,000. These figures indicated an increase of 5 per cent in new car sales in 1925 over 1923, a 12 per cent increase in 1926, and a decline of 21 per cent in 1927. Assuming that the volume of installment sales for both new and used cars and trucks changed at the same rate, there was an increase of \$130,000,000 in the installment sales of automobiles in 1925 over 1923, a further increase of \$328,000,000 in 1926, and a decline in 1927 of \$643,000,000 below the point reached in the preceding year. These figures probably are in excess of the net changes that actually occurred, since the prices of used cars were tending to decline, less liberal terms were being offered by the finance companies after 1924, and an opinion that deserves weight has been quoted to the effect that the percentage of cars sold on installments declined after 1925. The figures as given represent liberal estimates.

It appears, therefore, that the largest growth in the volume of installment sales of automobiles occurred prior to 1923. The offering of easier terms in 1924, and the subsequent efforts to stimulate the interest of manufacturers and merchants in other industries to sell on installments,

probably reflected a tendency for the sales of automobiles on installments to slacken rather than a new discovery of the advantages of installment selling. In other words, the widespread discussion of installment selling after 1923 probably was stimulated, in part at least, by the efforts of the finance companies to expand their business in other directions as they found the resistance to installment sales of automobiles becoming greater.

For furniture, Ayres gave an estimate of installment sales of \$700,000,000 in 1925. Seligman placed the figure at \$850,000,000, on the ground that 80 per cent of the retail sales of furniture were made on installments. The 80 per cent ratio is doubtful, however, and in fact it is by no means certain that even so high a ratio as the 70 per cent used by Ayres was warranted. Seligman's elaborate compilation of credit ratios threw practically no light on installment selling because it included book credit as well as installment credit. In the large cities it is quite possible that 70 per cent or perhaps 80 per cent of the furniture is sold on installments, but in medium-size cities and smaller communities the volume of installment sales commonly is less.

Ayres estimated that there was an increase of 15 per cent in the volume of furniture paper outstanding in 1925 over 1923. This figure is judged to be too high. The data in the *Survey of Current Business* on shipments and plant operations of furniture manufacturers in the Grand Rapids district did not indicate any substantial change from 1923 to 1927. The figures for shipments of household furniture and case goods did indicate an increase, but the basis of the compilation was changed during the period, so that it cannot be taken as an accurate check.

For the purpose of this survey, annual figures for total sales and installment sales were obtained from five retailers, engaged primarily in the installment furniture business, with an aggregate volume of sales of \$5,919,935 in 1927. These firms were representative and, although the sample was small, their figures are the only definite guide which is available regarding the change in the volume of installment sales of furniture. For these five firms, the installment sales in 1925 were 6 per cent greater than in 1923. In 1926 there was a further increase of 2 per cent and in 1927 a decline of 1 per cent.

In order to make a liberal allowance in arriving at a conclusion regarding the changes that occurred, it has been estimated that the installment sales of furniture in 1925 were somewhat over 10 per cent greater than in 1923, or roughly \$70,000,000, that a further increase of \$8,000,000 occurred in 1926, and that there was no substantial change in 1927.

For the piano business, Ayres estimated that there had been no increase in the volume of outstanding installment paper in 1925 as compared with 1923, and no evidence has been found to indicate any material increase since that time. It is agreed that 80 to 90 per cent

of the pianos sold in the United States are paid for in installments, a ratio which obtained long before 1923.

For phonographs, Ayres estimated an increase of 5 per cent in the volume of installment paper outstanding in 1925 over 1923, which would have amounted to \$8,000,000. The sales of two of the large phonograph manufacturers, however, do not support such a conclusion. The sales of the Brunswick-Balke-Collender Co., both domestic and foreign, were \$28,295,386 in 1923, \$25,792,913 in 1924, \$23,371,968 in 1925, \$29,017,125 in 1926, and \$27,891,919 in 1927. That company manufactures billiard tables and other products, as well as phonographs and combination phonograph and radio sets. The sales of the Victor Talking Machine Co. were \$44,160,211 in 1923, \$36,951,879 in 1924, \$20,857,956 in 1925, \$46,662,103 in 1926, and \$46,886,842 in 1927. In the absence of evidence to the contrary, therefore, it is concluded that no allowance should be made for an increase in the installment sales of phonographs from 1923 to 1927.

Radio sets constitute another large item in the installment trade, but any estimate of this business is particularly difficult. Ayres placed the installment sales of radio sets in 1925 at \$169,000,000, which was 75 per cent of the estimated total sales of radio sets amounting to \$225,000,000. Seligman stated that the estimates of the Radio Manufacturers' Association for the volume of retail trade for 1925 were \$175,000,000 and for 1926, \$225,000,000, from which he concluded that Ayres' estimate was based on the 1926 figures rather than on the 1925 figures.⁶ Ayres' estimate of an increase of 215 per cent in the volume of radio installment paper outstanding from 1923 to 1925 has, therefore, been spread over 1926 as well, and the estimate for the increase from 1923 to 1925 was placed at \$76,000,000, the increase in 1926 at \$39,000,000, and for 1927 a rough guess of a further increase of \$40,000,000 was made.

For washing machines, Ayres gave an estimate of installment sales of \$95,000,000 in 1925, with an increase of 16 per cent over 1923 in the volume of the installment paper outstanding. Instead of accepting the latter figure, the following method was used for estimating the increase in the volume of installment sales of washing machines. Ayres' estimate of \$95,000,000 of installment sales in 1925, which Seligman agreed was fairly close, was accepted. As an index to the change in the volume of washing machine sales, the figures of the average monthly shipments published in the *Survey of Current Business* were utilized. These figures, it was stated, represented practically the entire industry. In 1923, the average monthly shipments were 46,197 machines; in 1924, 51,005 machines; in 1925, 61,073 machines; in 1926, 70,307 machines; and in 1927, 64,638 machines. These figures indicate that the sales in 1925 were 32 per cent greater than in 1923, 15 per cent greater in 1926

⁶ Edwin R. A. Seligman, *The Economics of Installment Selling*, Vol. I, p. 107.

than in 1925, and 8 per cent less in 1927 than in 1926. Applying these ratios to Ayres' estimate of \$95,000,000 in 1925, we have an increase of sales of washing machines on installments of \$23,000,000 in 1925 over 1923, a further increase of \$14,000,000 in 1926, and a decline of \$6,000,000 in 1927.

For vacuum cleaners a similar method of computation was used. The average quarterly shipments of vacuum cleaners in 1923 were 254,075 machines; in 1924, 225,891 machines; in 1925, 239,463 machines; in 1926, 266,358 machines; and in 1927, 259,654 machines, according to data, published in the *Survey of Current Business*, which represented the bulk of the industry. Ayres' estimate of sales of vacuum cleaners on installments in 1925 was \$51,000,000. This was somewhat larger than Seligman's estimate, but is used here in order to err on the side of liberality. Utilizing the data on shipments as an index to the volume of trade, it appears that there was a decline of \$3,000,000 in the sales of vacuum cleaners on installments from 1923 to 1925, an increase of \$6,000,000 in 1926, and a decline of \$2,000,000 in 1927. For washing machines it was estimated that 90 per cent of all retail sales were made on installments, for vacuum cleaners 85 per cent, and for sewing machines 90 per cent.

Ayres estimated the total sales of sewing machines in 1925 at \$100,000,000 and the installment sales at \$90,000,000. He stated that the volume of sewing machine installment paper outstanding was 5 per cent greater in 1925 than it had been in 1923. This volume of sales of sewing machines on installments is a particularly troublesome one for which to get a satisfactory figure, even though the industry has been long established. During recent years there has been a marked increase in the sales of electric sewing machines, as was stated in the section on Changes in Demand. The estimate of the total retail sales of electric sewing machines by *Electrical Merchandising* was \$10,000,000 in 1922 and \$33,250,000 in 1927.⁷ No data are available, however, for the changes in the volume of sales of foot-power machines. The sales of the Singer Sewing Machine Co. are not published. The sales of sewing machines by the White Sewing Machine Co., according to the company's annual reports, amounted to \$4,478,841 in 1923, \$5,763,936 in 1924, \$8,334,219 in 1925, and \$9,322,823 in 1926, but were not published for 1927.

The estimate which Ayres gave of \$100,000,000 for the sales of sewing machines probably included the sales of sewing machines for use in garment factories and other manufacturing establishments as well as for household use. For want of a better guide, the retail sales of electric sewing machines, as given by *Electrical Merchandising*, have been utilized, and from them an inference has been drawn that the increased installment sales of sewing machines have amounted to about \$5,000,000 a

⁷ See page 325.

year since 1923. This is somewhat larger than Ayres' figure for the increase during the two-year period from 1923 to 1925.

Ayres' estimates were utilized for the increase in the installment sales of gas stoves, amounting to \$2,000,000 from 1923 to 1925, and the same rate was used for 1926 and 1927.

The estimated retail sales of electrical refrigerators was placed by *Electrical Merchandising* at \$4,000,000 in 1922 and \$82,125,000 in 1927. Ayres placed the sales of all mechanical refrigerators at \$15,000,000 in 1925, with an increase of 450 per cent in the volume of installment paper for that industry during the two preceding years. In the light of the estimates made by *Electrical Merchandising*, Ayres' estimate of the sales in 1925 was too low. Instead of accepting that estimate, a rough guess has been made that the increase in the installment sales of mechanical refrigerators amounted to \$20,000,000 from 1923 to 1925, \$30,000,000 in 1926, and \$25,000,000 in 1927.

For the jewelry trade, Ayres estimated that 25 per cent of the jewelry sales were on installments. Seligman concluded that 25 per cent was too high. From ten years' experience with the retail jewelry trade, I am of the opinion that 25 per cent is too high a ratio and that Seligman's estimate of jewelry installment sales, which was about half that of Ayres, was more nearly correct. Ayres placed the increase in jewelry paper outstanding from 1923 to 1925 at 25 per cent. Installment firms in the jewelry business seem to have been more prosperous than the retail jewelers who were not selling on installment, but Ayres' estimate is sufficiently liberal. From consideration of these factors, the estimate for increase in the sales of jewelry on installments in 1924-25 has been placed at \$12,000,000, for 1926 at \$6,000,000, and for 1927 at \$6,000,000. These estimates probably are somewhat exaggerated.

In the clothing trade it is necessary to make a differentiation between the sales of those firms which long have been doing an installment business and the sales of retailers who adopted the so-called "10-payment plan." The sales on the 10-payment plan represented the only substantial increase in installment business during recent years. There are grounds, furthermore, for not including the 10-payment sales under the heading of installment sales, because of the fact that the installment period was only 10 weeks and that the sales made on this plan largely took the place of book credit. Ayres placed the volume of sales of clothing on the 10-payment plan at \$185,000,000 in 1925, which represented, according to his ratio of the increase in outstandings, an increase of \$125,000,000 over 1923. This estimate is permitted to stand for the period from 1923 to 1925, although it is doubtful if the volume was as large. At all events, it can be stated safely that there has been no material increase in the volume of installment sales of clothing since 1925.

The next item on Ayres' list is property improvements. Utilizing Ayres' figures, there was an increase of \$53,000,000 in installment sales of this character from 1923 to 1925. There may have been perhaps a further increase of \$25,000,000 in 1926, but with no additional volume in 1927. This figure is merely a guess and is probably too high.

The sales of tractors, both for cash and on installments, were placed by Ayres at \$95,000,000 in 1925 and the sales of other farm machinery at \$280,000,000. By combining these figures, an estimate of \$375,000,000 was obtained for the total sales of tractors and other farm machinery. For the combined group, Ayres estimated that 27 per cent was sold on installments.

Seligman stated that the sales of farm equipment on installments should not properly be included with the discussion of retail installment selling, on the ground that these were producers' goods. At this point, however, the economists' traditional distinction between consumers' goods and producers' goods breaks down, because, if Seligman were consistent, he would have eliminated the sale of motor trucks on the same ground that farm machinery was eliminated. From the marketing standpoint, furthermore, the methods of distribution of farm equipment are similar to the methods of distributing various types of consumers' goods, such as automobiles, and the marketing problems are far more analogous to other problems of marketing consumers' goods than they are to the marketing of industrial goods. It is for this reason that it has been found advisable to make a differentiation between consumers' goods and industrial goods and to include such items as farm equipment with consumers' goods for the purpose of marketing discussions.

The International Harvester Co. does not publish its annual sales, but, in its annual reports, the ratio of cash collections to total sales in the United States is given. For 1923, the cash collections amounted to 81 per cent of the sales; in 1924, 78 per cent; in 1925, 76 per cent; in 1926, 73 per cent; and in 1927, 72 per cent. Incidentally, it is of interest to note that in 1911 this ratio was 64.2 per cent.⁸

In 1922, the International Harvester Co. adopted a policy of offering more liberal credit terms to enable farmers to purchase new equipment more readily. This accounts for the decline in the ratio of cash collections to total sales from 1923 to 1927. The differences between the cash collections and total sales in 1925 was 24 per cent for the International Harvester Co., whereas Ayres' estimate of the sales of both tractors and farm equipment on installments amounted to 27 per cent of the total sales.

The policy of various manufacturers of farm implements has varied somewhat from company to company, in part probably because of differ-

⁸ Federal Trade Commission, *Report on the International Harvester Co.*, Washington, 1913, p. 283.

ences in the strength of their respective financial resources. Nevertheless, it is probable that either the manufacturers or the retailers selling farm implements have had to make arrangements to meet approximately the International Harvester Co.'s practice. The increased sales of the International Harvester Co. on long-term credits may be taken as fairly indicative for the industry.

Data are compiled by the Federal Reserve Bank of Chicago and published in its bulletin, and also in the *Survey of Current Business*, on the average monthly shipments of agricultural machinery and equipment. These figures are stated to represent 80 per cent of the industry. The relative domestic shipments of agricultural machinery and equipment, according to these figures, on the basis of the average of 1923-1925 = 100, were as follows: 1923, 92.5 per cent; 1924, 90.5 per cent; 1925, 117.1 per cent; 1926, 132.1 per cent; 1927, 137 per cent. By using Ayres' estimate of retail installment sales of tractors and other farm machinery amounting to \$375,000,000, and making allowance for the increase in the total volume of sales and in the higher percentage of installment sales, it has been concluded that the installment sales of farm machinery were \$34,000,000 greater in 1925 than in 1923; that in 1926 there was a further increase of \$25,000,000; and in 1927 another increase of \$9,000,000.

Increase in Volume.—The estimates of the increase in the volume of retail installment sales, therefore, stand as shown in Table 31. In this total, Ayres' estimates have been derived from his estimates of the

TABLE 31.—INCREASE IN VOLUME OF RETAIL INSTALLMENT SALES
(In millions of dollars)

	1925 above 1923		1926 above 1925	1927 above 1926
	Ayres' estimate	Revised estimate		
Automobiles.....	.....	130	328	- 643
Furniture.....	91	70	8	.....
Pianos.....	.....	.....	.....	.....
Phonographs.....	8	.....	.....	.....
Radio sets.....	115	76	39	40
Washing machines.....	14	23	14	- 6
Vacuum cleaners.....	5	- 3	6	- 2
Sewing machines.....	5	10	5	5
Gas stoves.....	2	2	1	1
Mechanical refrigerators.....	13	20	30	25
Jewelry.....	22	12	6	6
Clothing.....	125	125	.....	.....
Property improvements.....	53	53	25	.....
Tractors.....	8	34	25	9
Other farm machinery.....	2			
All other.....	54	54	25	25
Total.....	517	606	512	- 540

volume of installment sales in 1925 and the percentage increase in outstandings in 1925 over 1923.

Another set of figures, which do not fit into Table 31 but which are to be noted, are those on the installment sales by department stores. For a group of New England department stores, the monthly average installment sales have been recorded since 1925 by the Boston Federal Reserve Bank. The monthly average installment sales in 1925 amounted to 5.2 per cent of the total sales, to 6.2 per cent in 1926, and to 6.7 per cent in 1927. Inasmuch as department stores sell furniture, pianos, phonographs, radio sets, washing machines, vacuum cleaners, sewing machines, jewelry, clothing, and electrical refrigerators, they have sometimes felt directly the competition in most items in which installment selling is extensively used, except in the case of automobiles, farm machinery, and various types of equipment such as heating apparatus.

Department stores included in the New England figures are chiefly the larger metropolitan stores, and their percentage of installment sales is higher than the percentage of installment sales made by department stores located in smaller cities. The Harvard Bureau of Business Research reported that in 1925 in those department stores, with sales of less than \$1,000,000 each, which sold on installments, installment sales amounted to 2 per cent;⁹ in 1926 to 3 per cent;¹⁰ in those department stores with sales over \$1,000,000 each which reported any installment sales, the installment sales amounted to 5 per cent of the total sales in 1925 and also in 1926 and 1927.¹¹ In 1927, about one-third of the stores reporting sold on installments.

These department store figures tend to corroborate the conclusions that can be drawn from the estimates of the increase in the volume of retail installment sales from 1923 to 1927. In stating these conclusions, however, it may be well to point out again that the estimates for changes in the volume of the retail installment sales are only rough guesses with no pretense at statistical accuracy. For reasons which have been indicated, it is safe to state that these estimates err on the side of liberality. In other words, these estimates, it is believed, represent a maximum figure for the increase in installment sales, and very likely the actual changes were substantially less.

⁹ Harvard University, Bureau of Business Research, Bulletin No. 57, *Operating Expenses in Department Stores in 1925*, p. 78.

¹⁰ Harvard University, Bureau of Business Research, Bulletin No. 63, *Operating Expenses of Department Stores and Departmentized Specialty Stores in 1926*, p. 3.

¹¹ Harvard University, Bureau of Business Research, Bulletin No. 57, *Operating Expenses in Department Stores in 1925*, p. 23; Bulletin No. 63, *Operating Expenses of Department Stores and Departmentized Specialty Stores in 1926*, p. 6; Bulletin No. 74, *Operating Expenses of Department Stores and Departmentized Specialty Stores in 1927*, p. 9.

This establishment of a rough approximation of the maximum changes in the volume of retail installment sales is significant, because for 1923 Nystrom estimated the total volume of retail trade to be about \$35,000,000,000.¹² For 1926 he estimated the total to be \$40,000,000,000 and in 1927 again \$40,000,000,000.¹³ If the total increase in installment sales in 1925 as compared with 1923 was not appreciably over \$600,000,000 out of a total volume of retail sales of perhaps \$37,000,000,000, the factor of installment selling cannot be looked upon as one of the major influences affecting general business prosperity. If in 1926 there was a further increase of approximately \$500,000,000 and in 1927 a decrease of perhaps \$500,000,000 in installment sales out of total retail sales of \$40,000,000,000 a year, it is necessary to look elsewhere for the chief explanation of changes in general business conditions. It must be remembered, furthermore, that in these figures one of the largest items for 1925 was the 10-payment sales of clothing, which, as has been stated, hardly deserves a place in these installment figures, since such sales were in considerable measure substitutes for book credit of equal length. Against the increase in installment credit, furthermore, some offsetting allowance of indefinite amount should be made for the decline in the credit purchases of such merchandise as groceries as a result of the spread of cash-and-carry chain stores.

On the basis of Ayres' original statement of the volume of installment sales and Nystrom's estimates of the total volume of retail business and the estimates of the changes in the volume of installment sales, it appears that the total volume of retail installment sales was 15.4 per cent of all retail sales in 1925, 15 per cent in 1926, and less than 15 per cent in 1927. If Seligman's estimates of the total volume of retail installment sales were used, then the installment sales amounted to only slightly more

¹² Paul H. Nystrom, "An Estimate of the Volume of Retail Business in the United States," *Harvard Business Review*, January, 1925, p. 150.

¹³ Paul H. Nystrom, "Survey Shows Trends by Sales of Retail Trades," *Journal of Commerce*, New York, January, 28, 1928. Nystrom's estimate of \$40,000,000,000 for the total volume of retail trade in 1926 appears to be conservative. The total sales of retail establishments, exclusive of restaurants, in the 11 cities in which the Census of Distribution was taken in 1926 amounted to \$3,954,921,800. The population of those cities was slightly less than 6 per cent of the total population of the United States. The volume of retail trade in these cities probably was a greater percentage of the total retail trade of the United States than the population ratio would indicate, for such cities attracted some trade from outside their borders. It is not probable, however, that with 6 per cent of the population of the United States in those cities their volume of trade exceeded 10 per cent of the total. If 10 per cent were the correct ratio, the total volume of retail business of the country would have been \$39,500,000,000, or approximately Nystrom's figure. That can be taken as a minimum estimate. It is probable, however, that the volume of retail business in these cities did not exceed 8.5 per cent of the total retail trade of the country, a ratio which would give an estimate of \$46,000,000,000 for the total volume.

than 13 per cent of the total retail sales in 1925 and a smaller percentage of the total in 1926 and 1927, and if Nystrom's estimate of total retail sales was low, the ratio of installment sales to total sales would have been even less.

So far as individual industries are concerned, installment selling has been a factor of consequence in the development of those to which its use is particularly suited. Installment payments have long predominated in the sales of pianos and sewing machines. For many years, substantial quantities of furniture and jewelry have been sold on installments and in the farm machinery business installment sales long have been substantial in volume. Automobiles, radio sets, washing machines, vacuum cleaners, and mechanical refrigerators fall into the same general class as other merchandise which customarily has been sold on installments, and therefore it was but natural that the volume of installment sales should have increased in these industries as the total sales increased. The availability of credit for installment sales undoubtedly helped to lessen the sales resistance for radio sets, electrical refrigerators, and various other items coming upon the market during the period covered by this survey. The use of installment credit, however, was a means of lessening sales resistance rather than a positive stimulus to sales. Hence the primary cause for the changes in the volume of business in these trades must be sought elsewhere rather than in installment selling, and, as a matter of fact, it is probable that the amounts spent for advertising and sales promotion annually in the United States have had a greater influence than installment sales on the developments during the last ten years.

In reaching these conclusions regarding installment selling, it is fitting to offer a brief suggestion as a possible explanation of the importance that has been attached, in popular discussions, to installment selling as a factor in business prosperity since 1924.

Installment selling had been used for many years, as has been stated, in the sales of sewing machines, pianos, furniture, books, and agricultural implements. The International Harvester Co., upon its organization, undertook to provide credit for sales of farm machinery which previously had been provided by the retailers from their own resources or from local banks. This facilitated the granting of credit and the establishing of greater uniformity of practice. When the automobile business developed, it paralleled the farm machinery business in this respect as in numerous others. In 1912, the first finance company was organized, it is stated, for dealing in automobile notes, and from that date the financing of automobile sales through the discounting of notes with finance companies increased. Originally, the automobile dealers had obtained the bulk of their credit for installment sales from banks, and a substantial amount of business is still financed in that way.

With the rapid increase in the number of finance companies, a factor was injected into the situation which helps to explain the attention which has been directed toward installment selling since 1923. At that time, it appears from evidence which has been cited, the volume of installment sales of automobiles probably was tending to slacken, or, at all events, the finance companies could not readily secure so large a volume of notes to purchase as they desired. Hence the terms with respect to down payments and length of the installment period were relaxed in the automobile business in 1924, and the finance companies, casting around for business, sought to induce various manufacturers of other products to utilize the installment method. Public attention thus was attracted in such a manner as to give an exaggerated impression of the new development.

VII. ADVERTISING¹⁴

By stimulating demand, advertising has served as a stabilizing influence for some industries and as a means of securing economy in selling in other industries. It has exerted a strong influence on changes in demand, and in some instances has tended to cause speculative buying to be supplanted by more orderly merchandising.

No complete figures are available on the amount spent annually for advertising in the United States. In the absence of better data, the following rough estimate has been made of advertising expenditures for all purposes in 1927, by classes of mediums: newspapers, \$690,000,000; magazines, \$210,000,000; direct advertising, \$400,000,000; street car cards, \$20,000,000; outdoor advertising, \$75,000,000; radio, \$7,000,000; business papers, \$75,000,000; premium advertising, programs, and directories, \$25,000,000; total, \$1,502,000,000. For some items in this estimate the figures are demonstrably close to the truth; for others the amount of error not only is uncertain but may be large. Nevertheless, even after allowing for the maximum probable error, this estimate, like various other rough estimates in this survey, is believed to be useful in furnishing some concept of the magnitude of the economic factors with which we are dealing. The changes in the volume of advertising in the various classes of mediums are, so far as possible, indicated below.

Newspaper.—Since 1921, not to go back into earlier years, a decline has occurred in the number of newspapers published in English in the United States. In 1921 there were 427 morning papers, 1,601 evening papers, and 545 Sunday papers. In 1927 the numbers were: morning, 411; evening 1,538; Sunday, 526. Hence such changes as have taken place in the volume of newspaper advertising have not resulted from an increase in the number of publications in this class of mediums. The

¹⁴ The statistical material for this section was collected under the supervision of Prof. Neil H. Borden, of the Harvard Graduate School of Business Administration.

chief factors, therefore, in judging changes in the volume of newspaper advertising for this period are the lineage of advertisements published, circulation, and rates.

Table 32 shows the average net paid circulation of all daily newspapers, including both morning and evening papers, and of Sunday newspapers in the United States, for the period 1921 to 1927.

TABLE 32.—CIRCULATION OF NEWSPAPERS IN THE UNITED STATES*

Year	Daily newspapers		Sunday newspapers	
	Total net paid circulation	Relative (1921 = 100)	Total net paid circulation	Relative (1921 = 100)
1921.....	28,423,740	100	19,041,413	100
1922.....	29,780,328	105	19,712,874	103
1923.....	31,453,683	111	21,463,289	112
1924.....	32,999,427	116	22,219,646	116
1925.....	33,739,369	119	23,354,622	122
1926.....	36,001,803	127	24,435,192	128
1927.....	37,966,656	134	25,469,037	133

* Compiled from annual editions of *Editor and Publisher*, International Yearbook Numbers.

Despite the slight decline that took place in the total number of newspapers, the average circulation of both the daily newspapers and the Sunday newspapers increased continually from 1921 to 1927, with more rapid increase in 1923, 1926, and 1927 than in the other years. The average circulation of the daily papers was 34 per cent greater and of the Sunday papers 33 per cent greater in 1927 than in 1921.

The quantity of advertising published, irrespective of the number of copies of the papers sold, is best measured by agate lines. Data on the advertising lineage in all newspapers are not available, but the *New York Evening Post* has compiled lineage figures, shown in Table 33, for the advertising in the newspapers in 29 selected cities since 1921. The circulation of the papers in this list comprised slightly over one-half the total daily newspaper circulation in the United States in 1927.

TABLE 33.—TOTAL ADVERTISING LINEAGE IN NEWSPAPERS IN 29 SELECTED CITIES*

Year	Agate lines	Relative (1921 = 100)
1921.....	1,177,284,988	100
1922.....	1,240,403,281	105
1923.....	1,351,754,117	115
1924.....	1,379,445,141	117
1925.....	1,440,077,004	122
1926.....	1,503,034,867	128
1927.....	1,442,784,907	123

* *New York Evening Post*, Statistical Department, "Total Newspaper Advertising of the Principal Cities of the United States," published monthly, data compiled from annual summaries.

The number of agate lines of advertising in daily newspapers increased continually from 1921 to 1926, with an especially heavy increase in 1923. Although the number of lines of advertising fell off in 1927, it is worth noting, nevertheless, that even in 1927 the lineage was 23 per cent greater than in 1921, while the total circulation, as has been pointed out, was 34 per cent greater.

As an index to newspaper advertising rates, the *Editor and Publisher* has compiled (Table 34) the joint minimum advertising line rate for all daily newspapers and Sunday newspapers. The joint rate indicates the cost of one line for one insertion in all newspapers in the United States.

TABLE 34.—ADVERTISING RATES*

Year	Morning and evening newspapers		Sunday newspapers	
	Joint minimum agate line rate	Relative (1921 = 100)	Joint minimum agate line rate	Relative (1921 = 100)
1921.....	\$ 86.051	100	\$44.253	100
1922.....	90.645	105	45.829	103
1923.....	97.318	113	48.672	109
1924.....	102.077	118	51.098	115
1925.....	105.568	122	54.243	122
1926.....	110.251	128	56.956	128
1927.....	114.209	132	58.478	132

* *Editor and Publisher*, International Yearbook Numbers, annual editions.

The advertiser is interested, of course, in both circulation and rates. A combined index of those two factors is obtained by computing the milline rate, that is the rate per line per million circulation.

TABLE 35.—MILLINE RATES FOR NEWSPAPER ADVERTISING

Year	Morning and evening newspapers		Sunday newspapers	
	Milline rate	Relative	Milline rate	Relative
1921.....	\$3.03	100	\$2.32	100
1922.....	3.04	100	2.33	100
1923.....	3.09	102	2.27	98
1924.....	3.10	102	2.29	98
1925.....	3.13	103	2.32	100
1926.....	3.06	101	2.33	100
1927.....	3.01	99	2.29	98

The above figures for milline rates indicate that, for the United States as a whole, the increases in newspaper advertising rates from 1921 to 1927 corresponded closely to the changes in circulation. In the larger

cities, however, the rates did not advance so rapidly as circulation increased. The relative for the milline rate of the newspapers in the 29 cities on the *New York Evening Post* list was as follows: 1921, 100; 1922, 101; 1923, 98; 1924, 93; 1925, 93; 1926, 89; 1927, 88.

The census of manufactures reported¹⁵ that newspapers in the United States received \$521,685,483 for advertising in 1921, \$580,937,741 in 1923, and \$661,513,242 in 1925. These figures indicated that newspaper receipts for advertising were 11 per cent greater in 1923, and 26 per cent greater in 1925, than in 1921. These figures, however, did not show an increase proportional to the increase in lineage and the advance in agate line rates recorded above. The discrepancy probably arose from the practice of some newspaper publishers of granting reduced rates on contracts with large local advertisers and from the inelasticity of rates on classified advertising, such as "want ads." From 1925 to 1927, the increase in newspaper advertising expenditures is judged not to have been large.

The Bureau of Advertising of the American Newspaper Publishers' Association has estimated the total expenditures for newspaper advertising in the United States to have been \$690,000,000 in 1927. This figure is not directly comparable with the census figures quoted above, since the advertisers' payments covered commissions to advertising agents and special newspaper representatives which were not included in the net receipts of the newspapers. In the light of the census figures and of the analyses of circulation, lineage, and rates that have been made, however, the estimate of \$690,000,000 for the total volume of expenditures for newspaper advertising in 1927 can be accepted as approximately correct. This total comprised expenditures of \$210,000,000 for national advertising and \$480,000,000 for local advertising.

Magazine.—For magazine advertising, more dependable figures are available than for advertising in any other class of mediums. The attainment of this greater degree of accuracy has been facilitated by the relatively small number of publications, the standardization of rates, and the pioneer enterprise of such institutions as *Printers' Ink* and the Curtis Publishing Co. in publishing records. For 1927, the Curtis Publishing Co., on the basis of computations of the Advertising Record Co., gave the expenditures for advertising in 65 magazines as \$177,215,898. The Denney Publishing Co., in its *National Advertising Records* (published only since 1925), computed the advertising expenditures in 90 magazines in 1927 as \$190,817,540; that list was stated to have included all magazines of advertising importance. To allow for advertising expenditures in minor magazines, however, I have placed the estimate of magazine advertising at \$210,000,000. That figure contains only a small percentage of error.

¹⁵ *United States Biennial Census of Manufactures*, 1925, p. 659.

TABLE 36.—TOTAL CIRCULATION^a OF SELECTED MAGAZINES
(*Printers' Ink* list and selected list of agricultural magazines)

Year	General		Weekly		Women's		Class		Total (four classes)		Agricultural	
	Circulation	Relative 1921 = 100	Circulation	Relative 1921 = 100	Circulation	Relative 1921 = 100	Circulation	Relative 1921 = 100	Circulation	Relative 1921 = 100	Circulation	Relative 1921 = 100
1921.....	6,718,587	100	7,560,438	100	12,665,052	100	1,809,618	100	28,753,695	100	5,752,441	100
1922.....	6,832,525	102	8,853,387	117	13,369,881	105	1,838,211	101	30,894,004	107	6,019,901	105
1923.....	7,428,984	110	9,700,026	128	14,541,673	115	1,965,959	109	33,636,642	117	6,076,140	106
1924.....	7,975,027	119	9,289,427	123	15,615,590	123	2,122,460	117	35,002,504	122	6,232,589	108
1925.....	7,815,901	116	9,607,429	127	15,934,546	126	2,153,894	119	35,511,770	123	5,915,664	103
1926.....	7,897,098	117	10,247,751	136	16,887,646	133	2,222,610	123	37,255,105	130	6,761,459	118
1927.....	7,848,663	117	11,122,917	147	17,023,265	134	2,374,596	131	38,369,441	133	7,174,989	125

^a Compiled from records in reports of *Standard Rate and Data Service*.

In order to show the changes in the amount of magazine advertising since 1921, statistics regarding circulation, rates, lineage, and an index to the total volume of magazine advertising are summarized. In this summary, use is made of two lists of magazines—one, the *Printers' Ink* list, including 61 magazines; and the other, the Curtis Publishing Co. list, including 65 magazines. The lists are so similar, and each comprises such a large part of the magazine advertising pages, that no appreciable allowance has to be made in changing from one series to the other. Changes have occurred unavoidably in the make-up of these lists over a period of years, but those changes have not distorted the series. The total circulation per issue of magazines in the *Printers' Ink* list, subdivided into four groups, and of a selected list of agricultural magazines was as stated in Table 36. These circulation figures were compiled from the reports on the circulation of the individual magazines published by the *Standard Rate and Data Service*.

While the circulation of the weekly magazines increased most rapidly and of the general magazines least rapidly, it is noteworthy that the circulation for the entire group increased at approximately the same rate that newspaper circulation¹⁶ increased.

In 1927, the average agate line rate for general magazines in the selected list was \$2.99, for weekly magazines \$5.19, for women's magazines \$7.33, for class magazines \$1.50, and for agricultural magazines \$4.81. Table 37 shows the relative changes in the average agate line rate from 1921 to 1927.

TABLE 37.—AVERAGE AGATE LINE RATE FOR SELECTED MAGAZINES*
(*Printers' Ink* list and selected list of agricultural magazine; relative, 1921 = 100)

Year	General	Weekly	Women's	Class	Total (four groups)	Agricultural
1921.....	100	100	100	100	100	100
1922.....	97	100	100	103	99	97
1923.....	101	108	111	110	107	100
1924.....	106	110	115	115	111	102
1925.....	111	120	118	117	117	111
1926.....	115	124	120	123	120	118
1927.....	115	128	118	132	122	122

* Computed from data published by *Standard Rate and Data Service*.

When the relatives in Table 37 are compared with those in Table 36, it appears that agate line rates increased somewhat less rapidly than the circulation, particularly in the case of the weekly magazines and women's magazines.

The fact that magazine circulation increased more rapidly than rates is shown clearly in Table 38, which gives the relatives for the joint milline

¹⁶ See Table 32.

TABLE 39.—LINEAGE OF ADVERTISING IN SELECTED MAGAZINES^a
(*Printers' Ink* list)

Year	General		Weekly		Women's		Class		Total	
	Lines (000 omitted)	Relative (1921 = 100)	Lines (000 omitted)	Relative (1921 = 100)	Lines (000 omitted)	Relative (1921 = 100)	Lines (000 omitted)	Relative (1921 = 100)	Lines (000 omitted)	Relative (1921 = 100)
1921.....	4,215	100	4,698	100	4,876	100	4,171	100	17,959	100
1922.....	4,441	105	4,794	102	5,271	108	5,173	124	19,679	110
1923.....	4,854	115	6,092	130	6,326	130	6,190	148	23,462	131
1924.....	4,754	113	6,435	137	6,471	133	6,558	157	24,217	135
1925.....	4,757	113	7,010	149	6,772	139	6,946	167	25,485	142
1926.....	4,877	116	7,215	154	7,193	147	7,959	191	27,244	152
1927.....	4,940	117	7,101	151	7,113	146	8,406	202	27,560	153

^a Compiled from statistics published periodically in *Printers' Ink*.

rate of magazines in the *Printers' Ink* list and the selected list of agricultural magazines.

TABLE 38.—JOINT MILLINE RATE OF SELECTED MAGAZINES^a
(*Printers' Ink* list and selected list of agricultural magazines)
(Relative, 1921 = 100)

Year	General	Weekly	Women's	Class	Total (four groups)	Agricultural
1921.....	100	100	100	100	100	100
1922.....	95	86	95	101	92	93
1923.....	91	84	96	102	92	95
1924.....	89	90	93	98	92	94
1925.....	87	84	94	98	90	96
1926.....	89	81	90	100	88	89
1927.....	90	77	88	95	86	87

^a Compiled from data published by *Standard Rate and Data Service*.

Table 39 shows the increase in the lineage of advertising published in the magazines in the *Printers' Ink* list from 1921 to 1927.

From these figures it appears that the quantity of magazine advertising, measured in lines, increased over 50 per cent from 1921 to 1927, and approximately 40 per cent from 1922 to 1927. Inasmuch as rates were increasing, however, and more color was being used from year to year in the advertising copy, the total expenditures for advertising increased more rapidly than the lineage. Table 40 shows the figures for the annual advertising expenditures in all the magazines in the Curtis Publishing Co.'s list.¹⁷

TABLE 40.—EXPENDITURES FOR ADVERTISING IN MAGAZINES^a

Year	Total	Relative (1921 = 100)
1921.....	\$ 95,665,384	100
1922.....	98,718,210	103
1923.....	121,296,448	127
1924.....	134,346,768	140
1925.....	148,600,572	155
1926.....	164,881,704	172
1927.....	176,277,984	184

^a Curtis Publishing Company, *Leading Advertisers*, annual editions.

While this list did not include all magazines, it was, as has been stated, a large sample, and the figures can be relied upon as showing the relative increase in advertising expenditures. It is to be noted that a sharp

¹⁷ A similar tabulation was made for the expenditures in the magazines in the *Printers' Ink* list and the relatives corresponded closely to those for the advertising in the Curtis Publishing Co.'s list of magazines.

increase took place in 1923 and that the expenditures continued to increase until in 1927 they were 84 per cent greater than in 1921. These increases in advertising expenditures, together with more intelligent utilization of those expenditures, probably constituted one of the main reasons for the high degree of activity maintained by many American businesses from 1923 to 1927.

Direct Advertising.—This includes all advertising booklets, circulars, and announcements distributed to consumers or users by mail or by other direct means, and is of a very uncertain aggregate volume. No means have been discovered of making an estimate that is more than a guess. Opinions regarding the total volume in 1927, expressed by various persons experienced in direct advertising, ranged from \$300,000,000 to \$550,000,000. These opinions thus indicate that very likely the total expenditure for direct advertising in the United States in 1927 was about \$400,000,000. The amount expended for this type of advertising undoubtedly increased substantially between 1921 and 1927.

Outdoor Advertising.—In this class are included painted displays, posters, and electrical signs. The outdoor advertising companies which had authentic facts regarding expenditures for that type of advertising were not willing to furnish any definite figures. From estimates obtained from other sources it was concluded, however, that the total expenditures for outdoor advertising in the United States were approximately \$75,000,000 in 1927. The amount by which these expenditures had increased between 1921 and 1927 is problematical. On the one hand, there was an increase in the expenditures for electrical signs and other outdoor advertising in urban districts. On the other hand, legislative action and public criticism led several companies, which had used billboards extensively, to remove their signs from highways.

Street Car Cards.—The expenditures for advertising by means of street car cards are more definitely ascertainable than the expenditures for direct advertising and for outdoor advertising, since street car advertising is in the hands of relatively few companies and the amount of available space as well as the rates are definitely known by those companies. Detailed figures were not forthcoming, but an estimate was secured which placed the total street car advertising at \$20,000,000 in 1927.

Radio.—The utilization of radio broadcasting for advertising purposes has been one of the strongest influences causing the rapid expansion of the radio industry from 1922 to 1928. This advertising acquainted consumers with radio receiving apparatus, and the programs broadcast by other than radio manufacturers were of a character to stimulate a continually broadening desire for the ownership of radio sets. The organization of the National Broadcasting Co. in 1926, and subsequently of the Columbia Broadcasting System, facilitated broadcasting through chains

of stations. Thus an expensive program could be broadcast to a large number of listeners and its advertising value enhanced. The rate card of the National Broadcasting Co., dated March 1, 1928, quoted a rate of \$4,740 an hour for its "red network" of 20 stations for the hours between 7 and 11 P.M. For one-half hour, the rate was \$2,962.50 and for one-quarter hour \$1,845.37. Rates for other hours were one-half the evening rates. Discounts were granted on contracts covering more than 24 periods. The evening rates of the Columbia Broadcasting System of 17 stations in 1928 were \$5,000 per hour, or \$2,500 per half-hour, for the services of the stations and of performers; without performers, \$4,000 and \$2,000.

A list of the 79 companies and institutions which employed the facilities of the National Broadcasting Co. in 1927 was published,¹⁸ together with a computation of the amounts paid for the broadcasting service. According to that computation, the total expenditures of those companies were \$3,760,010 in 1927. In order to obtain an estimate of the total expenditures for radio advertising, it is necessary to add to the figure just stated an allowance for the amounts paid to artists and other performers and also an allowance for the amounts spent in advertising through local stations. Hence the total expenditures for radio advertising in the United States in 1927 were estimated to have been approximately \$7,000,000.

Trade Journals.—Business papers, which constitute another large group of advertising mediums, include industrial magazines, such as *American Machinist*, *Iron Age*, *Railway Age*, and *Iron Trade Review*; trade publications, such as *Dry Goods Economist*, *Hardware Age*, and *Building Supply News*; and class publications, such as *Cafeteria Management* and *Purchasing Agent*. The total number of business papers in the United States in September, 1928, according to a tabulation of such papers listed by the *Standard Rate and Data Service*, was 1,782. That figure represented a net increase of somewhat more than 100 publications from 1921 to 1928. Since numerous publications in this class are not members of the Audit Bureau of Circulations, dependable figures are not available for the circulation of the entire group. No complete record has been compiled for the volume of advertising in the group. Sufficient figures have been assembled, nevertheless, for a portion of the group, to show the trend of circulation, rates, and volume of advertising from 1921 to 1927.

The list of magazines which has been utilized for the sample tests is that used by *Class and Industrial Advertising* in compiling monthly and yearly records of industrial advertising. This list has varied somewhat from year to year, but the methods of computation which have been used discount the effects of those variations on the statistics used. The

¹⁸ *Advertising and Selling*, May 30, 1928, p. 72.

list in 1928 comprised 48 industrial magazines, 18 trade publications, and 13 class publications.

In order to show the trend of circulation (Table 41), the average circulation per magazine in the *Class and Industrial Advertising* list was computed and the relatives were determined on the basis of 1921 = 100.

TABLE 41.—AVERAGE CIRCULATION OF SELECTED BUSINESS PAPERS^a

(*Class and Industrial Advertising* list; relative, 1921 = 100)

Year	Industrial	Trade	Class	Total
1921.....	100	100	100	100
1922.....	99	101	84	97
1923.....	108	101	84	108
1924.....	132	110	87	118
1925.....	127	110	90	116
1926.....	134	110	89	120
1927.....	137	113	92	123

^a Computed from figures compiled from *Standard Rate and Data Service*.

The circulation of the industrial subgroup increased at about the same rate as that of newspapers and consumers' magazines, but the figures for the entire group were kept down by the lag in the circulation of the trade and class groups.

As a guide to the trend of advertising rates in business papers, the average page rate for a single insertion in black and white was computed for the list of magazines cited above.

TABLE 42.—AVERAGE PAGE RATE OF SELECTED BUSINESS PUBLICATIONS^a

(*Class and Industrial Advertising* list; relative, 1921 = 100)

Year	Industrial	Trade	Class	Total
1921.....	100	100	100	100
1922.....	102	105	103	103
1923.....	106	105	107	106
1924.....	116	115	109	114
1925.....	119	118	115	118
1926.....	125	120	119	123
1927.....	133	130	121	130

^a Computed from figures compiled from *Standard Rate and Data Service*.

A comparison of the relatives in Table 42 with those in Table 41 shows that advertising rates in the industrial subgroup nearly kept pace with the increase in circulation and that the advertising rates of the trade and class subgroups rose substantially faster than circulation increased.

The number of pages of advertising in the business publications on its list has been compiled by *Class and Industrial Advertising* since 1923, and the figures in Table 43 are taken from its charts.

TABLE 43.—VOLUME OF ADVERTISING IN SELECTED BUSINESS PAPERS^a
(*Class and Industrial Marketing* list)

Year	Industrial	Trade	Class	Total
	Pages	Pages	Pages	Pages
1923.....	119,600	43,100	12,100	174,800
1924.....	125,700	40,800	14,400	180,900
1925.....	117,500	40,700	13,500	171,700
1926.....	118,700	39,800	14,870	173,370
1927.....	111,500	39,600	15,250	166,350

^a From charts published in *Class and Industrial Marketing*, January, 1928.

Data on the volume of advertising published were obtained privately from the publishers of 25 leading industrial papers. That series (Table 44) resembles, but does not agree entirely with, the fluctuations in the series in Table 41.

TABLE 44.—VOLUME OF ADVERTISING IN 25 INDUSTRIAL PAPERS

Year	Pages	Relative (1921 = 100)
1921.....	99,483	100
1922.....	85,372	86
1923.....	89,850	90
1924.....	90,448	91
1925.....	88,987	89
1926.....	92,024	92
1927.....	91,693	92

Since rates were about 30 per cent higher, and the number of pages of advertising about 8 per cent less, in 1927 than in 1921, total advertising expenditures in business papers apparently increased about 20 per cent during the period. From 1923 to 1927 the total expenditures are estimated to have increased 24 per cent.

The number of pages of advertising multiplied by the page rate indicates that the expenditures for advertising in the magazines in the *Class and Industrial Advertising* list in 1927 were approximately \$28,000,000. This list included many of the largest and most progressive business publications. Hence it is concluded that an estimate of \$75,000,000 for the advertising expenditures in all business papers in 1927 is fair.

Other Mediums.—To cover advertising expenditures for premiums, programs, and directories, an estimate of \$25,000,000 has been made.

The series which are available for various classes of mediums show that the total advertising expenditures in the United States increased substantially in 1923 and that further increases took place in subsequent years. From 1921 to 1927, the increase approximated 50 per cent.

In connection with advertising expenditures, reference should be made also to the expenditures for other types of sales promotion, such as the employment of missionary salesmen, who solicited orders from retailers or users to be filled by wholesalers or dealers, the distributors receiving their full margin on orders turned over to them to be filled. Missionary salesmen had been employed extensively, of course, prior to 1921, but a marked increase took place after that date. In 1928 it was stated, on good authority, that about \$60,000,000 a year was spent by grocery manufacturers for missionary salesmen. Missionary salesmen also were employed extensively by drug manufacturers and by numerous manufacturers in other industries selling both consumers' goods and industrial goods. In 1927, the annual expenditures for this type of sales promotion in the United States probably amounted to something like \$150,000,000, but the expenditures were beginning to decline, because of increasing doubts among manufacturers as to whether such missionary work was sufficiently effective to offset its cost under any but special conditions.¹⁹

Volume of Advertising.—The volume of advertising naturally has varied greatly between industries, because of the diversity of conditions affecting production and marketing and because of varying degrees of alertness in management. For 1926 and 1927, figures have been compiled on the amount of national advertising in daily newspapers of 49 cities for various groups of products and services. The figures for 1927, which were similar to those for 1926, are shown in the following table.

TABLE 45.—NATIONAL NEWSPAPER ADVERTISING, BY COMMODITY GROUPS, IN 1927^a

	Per cent of total
Automobiles.....	19.3
Automobile accessories, parts, and supplies.....	5.7
Cigars, cigarettes, and tobacco.....	10.2
Financial.....	3.2
Food, groceries, and beverages.....	13.1
Hotels and resorts.....	1.7
Household furniture.....	2.0
Men's clothing.....	1.1
Musical instruments.....	0.6
Radio and electrical.....	5.4
Railroads and steamships.....	6.4
Shoes.....	0.6
Toilet articles and medicinal preparations.....	17.9
Women's wear.....	0.5
Miscellaneous.....	12.3
Total.....	100.0

^a Computed from lineage figures published by *Printers' Ink* and summarized in the *Survey of Current Business*.

¹⁹ See *Harvard Business Reports*, Vol. V, pp. 460-466, 470-472, 511-526.

The advertisements of automobiles; toilet articles and medicinal preparations; food, groceries, and beverages; and cigars, cigarettes, and tobacco, thus constituted 60.5 per cent of the total national advertising in newspapers in these cities in 1927. For local commodity advertising in newspapers, in contrast to manufacturers' advertising in those mediums, the percentages would be quite different, with the advertising of women's and men's wearing apparel bulking large.

No data, which would constitute a representative sample, are available to show what changes have taken place over a period of years in the volume of newspaper advertising by classes of commodities. For magazine advertising, however, it is possible to indicate such changes with a high degree of accuracy. For a series of years the Curtis Publishing Co. has published compilations of the amounts spent by advertisers who paid more than \$20,000 each for advertising in any or all of 32 magazines.²⁰ This list of magazines comprised such a large percentage of the total volume of magazine advertising that it furnishes a dependable index to magazine advertising. The statistics in Table 46 were compiled from that source and show how the expenditures for magazine advertising were divided among major groups of commodities in 1922 and 1927.

TABLE 46.—MAGAZINE ADVERTISING IN 1922 AND 1927; PERCENTAGE OF EXPENDITURES FOR EACH COMMODITY GROUP^a

(100 per cent = total expenditures of advertisers spending \$20,000 or more in 32 magazines)

Commodity group	1922	1927
	<i>Per cent</i>	<i>Per cent</i>
Automotive.....	7.04	8.88
Automotive accessories, parts, and supplies...	7.11	8.49
Beverages.....	1.22	1.36
Candy and gum.....	0.88	1.40
Electrical and radio.....	2.06	3.84
Food.....	13.30	15.33
Heating.....	2.73	1.81
Household.....	7.90	8.70
Jewelry and silverware.....	2.54	2.37
Lubricants and fuel oils.....	1.68	2.08
Musical instruments.....	2.46	1.35
Office equipment and supplies.....	2.80	1.96
Paints and varnishes.....	1.95	2.27
Shoes.....	2.30	1.87
Smoking materials.....	1.04	1.14
Soaps and cleansers.....	7.00	4.93
Textiles.....	1.31	1.14
Toilet goods.....	8.80	9.90
Men's wearing apparel.....	1.82	0.96
Women's wearing apparel.....	4.13	1.93
Other goods and services.....	19.83	18.29

^a Computed from data in Curtis Publishing Co., *Leading Advertisers*, annual editions.

²⁰ Curtis Publishing Co., *Leading Advertisers*, annual editions. Prior to 1925, the compilation included all advertisers spending in excess of \$10,000 each in the selected magazines. This change in the limit had little practical significance.

The groups of commodities advertised most extensively in 1927 included foods, toilet goods, household goods, automobiles and trucks, and automotive accessories, parts, and supplies. Those five groups together accounted for 51.3 per cent of the magazine advertising in 1927. They showed a more rapid increase in magazine advertising, furthermore, than was shown by numerous other commodities, for in 1922 they accounted for only 44.15 per cent of the total expenditures for advertising in magazines.

Advertising Expenditures for Particular Commodities.—In the following tables, statistics are given for the annual expenditures for magazine advertising of particular commodities.²¹ The rapid growth of the radio business and of the electrical refrigerator business, for example, has been stimulated by heavy expenditures for advertising. In seven years, radio advertising in selected magazines rose from nothing to \$3,428,159 and electrical refrigerator advertising to \$1,517,836, as shown by Table 47.

TABLE 47.—MAGAZINE ADVERTISING OF RADIO AND ELECTRICAL REFRIGERATORS

Year	Radio and radio equipment	Electrical refrigerators
1922.....	\$79,869	.....
1923.....	587,715	\$44,642
1924.....	1,983,926	114,249
1925.....	3,822,850	415,348
1926.....	3,430,629	1,120,033
1927.....	3,428,159	1,517,836

A wide difference of opinion exists regarding the quality of much of the current automotive advertising. Nevertheless, the industry is one of the heaviest users of magazine space as well as of newspaper space and of other types of mediums. Automotive advertising in magazines

TABLE 48.—AUTOMOTIVE ADVERTISING IN MAGAZINES

Year	Passenger cars	Trucks	Tires	Accessories, parts, and supplies
1921.....	\$3,479,561	\$577,773	\$2,011,170	\$3,501,578
1922.....	4,780,606	526,851	2,433,821	4,162,393
1923.....	7,731,223	642,787	2,612,027	6,207,125
1924.....	8,875,927	748,313	2,015,088	7,310,920
1925.....	9,389,919	908,749	3,229,414	7,708,606
1926.....	11,427,386	807,149	3,585,006	8,828,422
1927.....	11,937,328	930,350	3,555,012	9,269,600

²¹ The data in all the following tables were compiled from Curtis Publishing Co., *Leading Advertisers*, annual editions.

has increased, as shown in Table 48, since 1921, the expansion in the advertising of passenger cars and of accessories, parts, and supplies in 1923 being particularly noteworthy.

The magazine advertising of certain types of foods and related products has shown expansion (Table 49). This advertising by manufacturers probably facilitated the growth of chain stores, whose methods of merchandising are best applied to branded merchandise sold in packages.

TABLE 49.—MAGAZINE ADVERTISING OF CERTAIN FOODS AND RELATED PRODUCTS

Year	Canned goods	Cereals, flour, bread, and crackers	Desserts, flavorings, jams, salad dressings, etc.	Tea, coffee, and substi- tutes	Candy and gum
1921.....	\$3,417,042	\$2,507,883	\$1,194,463	\$386,796	\$609,655
1922.....	4,141,565	2,153,222	1,050,205	371,158	689,585
1923.....	4,358,527	2,852,992	1,284,037	621,921	734,041
1924.....	5,647,883	3,630,692	1,569,631	849,110	721,468
1925.....	6,133,525	4,052,244	1,804,416	1,156,071	1,142,814
1926.....	6,595,024	5,169,724	2,075,639	1,305,245	1,470,983
1927.....	8,080,837	5,467,969	2,515,964	1,268,757	2,154,540

Textile fabrics, in the sale of which pattern and design play such an important part, are difficult to advertise effectively. This fact probably affords a partial explanation of the relatively small expenditures for the advertising of such goods. Table 50 shows the annual expenditures for the advertising of textile fabrics, hosiery, and underwear in magazines.

TABLE 50.—MAGAZINE ADVERTISING OF TEXTILE FABRICS, HOSIERY, AND UNDERWEAR

Year	Textile fabrics	Hosiery	Underwear
1921.....	\$978,099	\$907,469	\$954,137
1922.....	1,027,306	1,135,212	859,617
1923.....	1,145,471	1,443,485	1,181,562
1924.....	1,213,643	1,524,038	964,114
1925.....	1,364,348	1,738,061	790,481
1926.....	1,185,892	1,613,552	773,024
1927.....	1,758,849	1,622,123	647,611

Table 51 gives similar statistics for the advertising of ready-to-wear clothing and shoes in magazines. These figures, when compared with those for numerous other commodities, suggest that one reason for the lack of prosperity in the textile industry may have been the failure of garment manufacturers to stimulate a sufficiently effective demand for their products.

TABLE 51.—MAGAZINE ADVERTISING OF READY-TO-WEAR CLOTHING AND SHOES

Year	Women's ready-to-wear	Men's ready-to-wear	Men's furnishings	Shoes
1921.....	\$1,330,083	\$994,179	\$354,142	\$1,719,585
1922.....	1,244,280	978,428	452,247	1,808,662
1923.....	1,184,210	902,135	482,760	2,399,201
1924.....	1,159,643	908,835	559,359	2,556,403
1925.....	1,199,714	895,718	650,253	2,351,156
1926.....	787,323	818,195	644,428	2,680,958
1927.....	698,448	773,348	695,796	2,721,280

The magazine advertising of various types of home equipment has increased notably during recent years (Table 52).

TABLE 52.—MAGAZINE ADVERTISING OF SELECTED ITEMS OF HOME EQUIPMENT

Year	Furnaces and heating systems	Bathroom equipment and plumbing fixtures	Furniture	Rugs and other floor coverings	Electric vacuum cleaners, sweepers, and floor polishers
1921.....	\$888,196	\$386,837	\$546,288	\$1,376,044	\$593,294
1922.....	823,932	363,900	566,564	1,484,680	658,559
1923.....	741,008	492,347	1,093,183	2,206,590	981,716
1924.....	1,135,135	774,117	1,227,806	2,994,274	1,084,251
1925.....	1,101,141	1,179,502	1,181,610	3,988,369	1,005,515
1926.....	1,253,682	999,895	1,032,018	3,383,219	1,706,165
1927.....	1,196,851	1,113,461	1,178,293	2,998,890	1,483,964

The three classes of commodities for which magazine advertising expenditures are given in Table 53 have nothing in common; they are brought together merely for convenience in tabulation. The relatively small expenditures for hardware and cutlery advertising and the heavy expenditures for soap advertising are noteworthy.

TABLE 53.—MAGAZINE ADVERTISING OF HARDWARE AND CUTLERY; PAINTS AND VARNISHES; SOAPS AND CLEANERS

Year	Hardware and cutlery	Paints and varnishes	Soaps and cleansers
1921.....	\$544,676	\$1,366,982	\$4,903,968
1922.....	374,600	1,559,748	5,499,130
1923.....	632,102	2,229,007	6,273,478
1924.....	938,138	2,474,116	6,288,130
1925.....	939,400	3,254,150	7,038,277
1926.....	712,055	3,317,200	7,206,104
1927.....	727,647	3,336,421	7,363,311

Table 54 shows the changes in the expenditures for magazine advertising of silverware, jewelry, timepieces, pens and pencils, and musical instruments.

TABLE 54.—MAGAZINE ADVERTISING OF SILVERWARE, JEWELRY, TIMEPIECES, PENS AND PENCILS, AND MUSICAL INSTRUMENTS

Year	Silverware	Jewelry	Clocks and watches	Pens and pencils	Phonographs and records	Pianos, organs, and piano rolls
1921.....	\$784,176	\$409,429	\$959,312	\$676,719	\$2,324,640	\$259,906
1922.....	712,855	385,371	898,937	568,958	1,355,542	443,423
1923.....	1,046,203	481,810	884,036	579,798	1,450,635	689,635
1924.....	1,195,324	336,778	1,023,475	871,667	1,417,877	505,673
1925.....	1,297,346	307,975	1,156,068	1,108,412	1,168,299	442,379
1926.....	1,299,725	459,187	1,325,109	1,253,191	1,028,570	570,765
1927.....	1,427,058	505,339	1,569,089	1,246,611	1,360,194	585,112

The expenditures for the magazine advertising of toilet goods (Table 55) constituted a substantial percentage of all magazine advertising in 1921 and an even higher percentage in 1927. Although criticism has been directed at certain types of advertising employed by some manufacturers of articles in this category, the expenditures for magazine advertising have mounted rapidly.

TABLE 55.—MAGAZINE ADVERTISING OF TOILET GOODS

Year	Dentifrices	Face creams and lotions	Face powder	Shaving soap	Other toilet goods
1921.....	\$1,443,038	\$483,253	\$380,749	\$423,777	\$3,535,610
1922.....	1,516,567	750,216	409,343	411,548	3,832,756
1923.....	1,623,425	1,020,058	288,522	563,881	4,780,601
1924.....	1,933,460	1,054,172	514,398	660,974	5,498,997
1925.....	2,475,620	1,263,757	617,494	712,457	5,664,411
1926.....	3,453,114	1,990,813	806,189	715,013	6,546,106
1927.....	3,389,272	2,057,573	673,722	819,585	7,978,383

These detailed figures for changes in the expenditures for magazine advertising by the producers of various commodities provide significant facts for the analysis of causes of the degree of prosperity and rate of growth of numerous industries. They also show that powerful influences have been at work to cause changes in demand.

Improvement in Quality.—In addition to the quantitative changes in the volume of advertising, which have been analyzed in the preceding pages, the quality of advertisements has tended to show real improvement during this period. This qualitative improvement was facilitated by the broader utilization of certain technical processes, such as offset printing, rotogravure, the aquatone process, and the Smithsonian process

for the application of four color plates on noncoated paper. A notable improvement has occurred also during this period in the art work, both in consumer advertising and in industrial advertising. The improvement in art work has not been uniform, of course, for all advertisers, but examples of it can be found in magazine advertising, industrial advertising, newspaper advertising, and direct mail circulars.

Some magazine and newspaper publishers adopted a policy, about twenty years ago, of excluding unreliable and undesirable types of advertising from their pages. About 1912, the Associated Advertising Clubs adopted the slogan "Truth in Advertising" and subsequently began the organization of Better Business Bureaus. These bureaus have increased in number until, in 1927, there were 41 bureaus in the leading cities of the country, and a central organization, the National Better Business Bureau (Inc.). The purpose of these bureaus is to prevent fraudulent advertising and to aid in the prosecution of fraudulent advertisers. The results of their work have been especially notable during the last ten years. In 1927, furthermore, a discussion of the need for "sincerity" in advertising was begun among advertising men, which holds large promise for the future as a means of increasing the effectiveness of advertising expenditures.

From the managerial standpoint, there has been a steady tendency toward more careful and more intelligent planning of advertising campaigns. This planning has been facilitated by the work of the Audit Bureau of Circulations, which began its operations in 1914. The primary purpose of the Audit Bureau of Circulations was to audit the circulation statements of magazines and newspapers in order to assure their accuracy. Subsequently it obtained, from its member publications, facts regarding the distribution of the circulation of each medium by geographical divisions and by size of town, and an analysis of methods of securing circulation. Although the foundation for its success was laid prior to 1921, the chief utilization of the results of its work has come since that date. In this respect, as in several others, advertising since 1921 has experienced the cumulative effects of constructive measures taken prior to the World War period. Another noteworthy fact regarding the Audit Bureau of Circulations, as well as regarding the Better Business Bureaus, is that the institution was organized by business men and constitutes a conspicuous example of self-regulation in industry.

The planning of advertising programs has been materially assisted since 1921 by the research work of the advertising associations, which have undertaken to supplement the basic data of the Audit Bureau of Circulations by determining the quality of the circulation of various mediums and the duplication in circulation between mediums. Publishers, advertising agencies, and other institutions, as well as individual companies, also have carried out extensive programs of marketing

research. The period has been one of exceptional diligence in a search for facts as a guide to advertising expenditures. There is still a large amount of waste in advertising and there are many opportunities for improvement, both in planning and in execution. Nevertheless, vigorous efforts for betterment have been launched which will yield benefits in the future. Much scientific study still is needed for determining what types of commodities, which are not now profitably advertised, are susceptible to effective advertising and how that advertising should be carried out. The attention that is being directed toward the solution of these problems, however, indicates that advertising will have even greater influence in the future than it has had heretofore.

VIII. SUMMARY

It often is stated that marketing costs, in contrast to production costs, have been tending to rise, in ratio to sales, over a period of years. That statement probably is true, but it cannot be proved statistically with the data now available. Furthermore, significant counter-tendencies have been at work, which have partially offset some of the increases. Some manufacturers, in order to increase their volume of sales, either with a view to securing production economies or to having the pleasure of doing a bigger business, have increased their expenditures for selling and sales promotion more rapidly than their sales have grown. Other manufacturers have followed a similar course with the hope of stabilizing their operations and their earnings. Still other manufacturers and wholesalers have been forced to increase their selling expenses because of their customers' growing practice of buying from hand to mouth. The changes in retail trading areas and the competition of chain stores have had the effect of increasing the expense ratios of numerous wholesalers. In department stores, too, there has been a tendency for the expense ratios to increase. On the other hand, many manufacturers have had no increase in their marketing expense ratios; chain stores have reduced the costs of retail and wholesale marketing in numerous lines; and some of the co-operative associations of farmers have succeeded in cutting marketing costs. Undoubtedly, the application of more scientific methods will result eventually in large economies in marketing. A detailed discussion of that problem, however, would take us far beyond the scope of this survey. The significant point for the task at hand is that during the period from 1922 to 1928 substantial reductions in marketing costs did not occur in most industries. The conditions which have existed during this period have led manufacturers and merchants in most instances to seek to stimulate and to satisfy demand rather than to reduce their marketing expenses.

During the period since 1922, the rise in standards of living, changes in methods of living, new inventions, and the exercise of merchandising ingenuity by manufacturers and merchants, have combined to cause

large-scale changes in the character of the demand in the United States. Among these changes, the introduction of new types of merchandise, the broader emphasis on fashion, and the increased rapidity of style changes have been especially noteworthy. The result of these changes has been to yield prosperity for some industries and to necessitate retrenchment and reorganization for others. A premium thus has been placed on constructive merchandising ability and more attention has come to be given, therefore, to specialized merchandising management. By no means all the problems growing out of these changes in demand have yet been solved.

The automobile has been one of the most pervasive influences affecting marketing as well as production during recent years. In addition to its direct influence on demand, its use as a transportation agency, supplemented by the construction of good roads, has facilitated changes in demand in many communities and has led to the widening of retail trading areas. These changes also have enhanced the prosperity of some groups of manufacturers and merchants and have created conditions which have necessitated, or will necessitate in the near future, readjustments in operating methods for many other manufacturers and merchants.

The data presented in the section on hand-to-mouth buying showed that there was less advance ordering in a majority of industries in 1927 than in 1922. The average size of orders also commonly declined during this period, the degree of change being much greater in some industries than in others, and several industries manifesting no tendency toward hand-to-mouth buying. One effect of these changes was to enable the volume of business transacted in 1927 to be handled with more than a billion dollars less capital and credit than would have been required if the 1922 inventory ratios had prevailed in 1927. The effect which this development has had in holding down prices and interest rates has been far from negligible. With the increase in the number of styles and in the variety of products offered for sale, merchants were forced to buy individual items in smaller quantities in order to keep their aggregate inventories from increasing. By buying from hand to mouth, they also could lessen their risk of loss from declining prices and from style depreciation. The existence of surplus producing capacity in numerous industries enabled the buyers to secure prompt deliveries on small orders, and the action of the railroads in accelerating traffic movement worked to the same end. The advantages of prompt and dependable railroad service have been pointed out. The potential danger of complete reliance on the continuation of that type of service also should be recognized, since any substantial interference with it would result in a scramble for goods to build up depleted reserve stocks, and price inflation might be expected to follow.

In the field of distribution, the most notable change during the last eight years has been the expansion of chain stores. They have attained dominant positions in the gasoline and variety goods businesses and rapidly have been approaching dominance in the grocery, drug, and shoe trades. The changes in buying habits in rural communities and small towns, with their impending effect on mail order sales, presumably impelled two of the largest mail order companies to launch chains of stores. The concentration of retail buying power in chain store companies and other large retail organizations not only has been cutting down the wholesalers' fields of activity and lessening the scope of opportunities for small-scale business enterprises, but it is also bringing to the fore a new problem of public policy in dealing with discriminations in terms of sale.

In the co-operative marketing of farm products, the most noteworthy development since 1922 has been the growth of large-scale enterprises. Co-operative associations have taken a place in "big business." The large-scale co-operative associations fall into two main groups, differentiated by their aims and methods. One group comprises the associations which have sought primarily to exercise a monopolistic power to valorize the crops of their members. They have not been successful. The associations in the other group have successfully supplanted private business by manifesting broader vision and greater foresight in introducing economies in marketing, as in the case of the livestock associations; in improving the quality of the product of their members, as in the case of the dairy associations; in utilizing effective methods of sales promotion, as in the case of the citrus fruit growers; or by a combination of these services. Co-operative marketing has not been able to alleviate immediately the distress of farmers whose crops exceeded market requirements. It has not been a panacea for the ills of overproduction. Its successes have come where the members and their leaders have had the patience and the vision to work out new methods of operation which can come to fruition only over a fairly long period of time. In dealing constructively with the fundamental problems in marketing a particular commodity, a large-scale co-operative organization has great advantages over numerous small-scale associations working independently of each other.

Installment selling has been one of the most discussed marketing topics during the last four years. From the analysis of the subject in this survey, however, it appears doubtful if installment sales have increased more rapidly than total retail sales since 1923. Agricultural implement manufacturers increased their sales on installments in order to meet agricultural credit needs. Aside from agricultural implements, the chief industries in which sales on installments increased were those where the total demand was increasing and where the particular products were especially suited to that type of sales promotion. The sales of

electric refrigerators and radio sets, for example, could be facilitated by means of installment terms, just as the same terms previously had been used for the sale of sewing machines and pianos. There is no real evidence to indicate that installment selling has been undermining the integrity of the credit structure or becoming more of a financial hazard than it was, for example, in 1920. The companies and institutions financing installment sales have learned the necessity of exercising discretion in the selection of credit risks and of avoiding excessively liberal terms.

Advertising has been a positive factor in stimulating the increase of sales in numerous industries since 1921. From 1921 to 1927, the total annual expenditures for advertising in the United States probably increased about 50 per cent. The increases were especially notable in 1923 and 1926. The industries in which particularly noteworthy increases in advertising expenditures took place were: radio sets, electric refrigerators, automotive equipment, foods, home equipment, soaps and cleansers, silverware, clocks and watches, pens and pencils, and toilet articles. Several of these industries were those whose sales expanded with especial rapidity.

During this period the art and typography used in advertising were improved; higher standards of business practice were attained; and advertising tended to become more effective. Much of this progress was based on foundations laid prior to 1920. Further improvements may be expected as a result of constructive steps taken since 1920.

The chief characteristics of the advertising developments since 1921 are typical of nearly the whole field of marketing activities. The major changes represent the culmination of influences at work prior to 1920. The war period and the crisis of 1920, by upsetting traditions and adding a new spur of necessity, may have accelerated some of the changes, but the foundations had been laid before. Most of these changes, furthermore, are not yet completed. In fact, in view of the conditions now existing and in light of the opportunities almost untouched by scientific research, it seems probable that there are impending changes in marketing methods even greater than those that have occurred since 1921.