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FIFTEENTH CENSUS OF THE UNITED STATES

CENSUS OF DISTRIBUTION

WHOLESALE DISTRIBUTION

(TRADE SERIES)

WHOLESALE TRADE IN PAINTS AND VARNISHES

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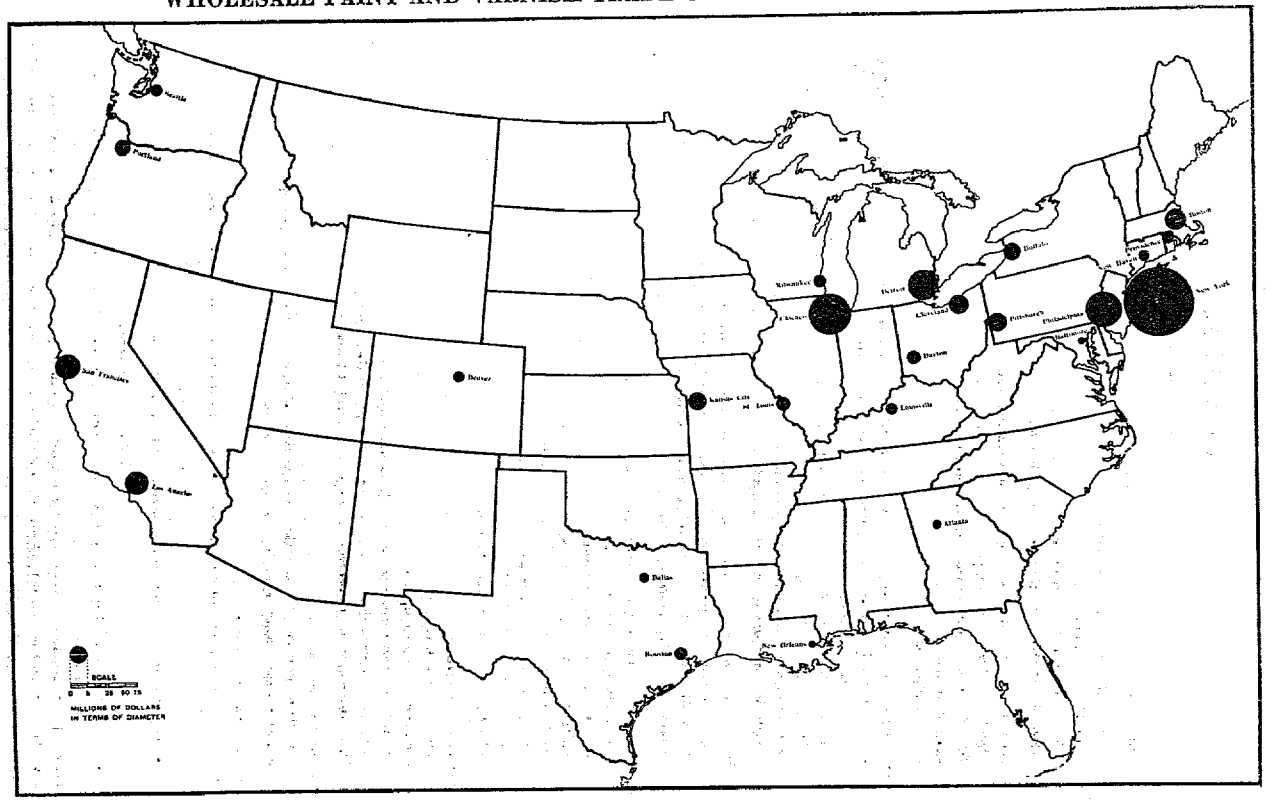
WHOLESALE PAINT AND VARNISH TRADE CENTERS IN THE UNITED STATES



WHOLESALE TRADE IN PAINTS AND VARNISHES[1]

By THEODORE N. BECKMAN, *in Charge of Wholesale Distribution*

INTRODUCTION

This is one of a series of trade reports presenting the findings of the first Census of Wholesale Distribution, which is a part of the Fifteenth Decennial Census of the United States. The statistics were collected in 1930 and cover the wholesale operations for the year 1929. This report was prepared under the general supervision of Robert J. McFall, chief statistician for distribution. The data for this report were compiled under the immediate supervision of John Albright, whose assistance is hereby acknowledged.

The data were secured by a field canvass covering every State, county, and city in continental United States. The canvass was based upon wholesale establishments which are defined, for census purposes, as places of business where goods are sold in a wholesale manner. Consequently, *no establishments are included in this report unless 50 per cent or more of their sales were made at wholesale.* An establishment may take the form of a store which does not generally sell to the public; a wholesaling warehouse; an office; or part of an office, as when the office is shared with other similar establishments. The census was taken on the basis of establishments in order to facilitate the canvass and to make it possible to present data by geographic areas. A separate report was required for each establishment, regardless of whether or not it was owned or operated as part of a larger business organization. Wholesale peddlers as well as others who maintained no place of business were not included in this census.

In preparing this report it was impossible to secure exact correspondence between the statistics presented herein and those appearing in the State series of reports on wholesale distribution. Differences are due for the most part to a certain amount of reclassification and regrouping of schedules for the purposes of this special trade analysis.

THE PAINT AND VARNISH INDUSTRY

Volume of production.—The paint and varnish industry consists of "establishments engaged primarily in the manufacture of pigments or colors (other than bone black, carbon black, and lampblack), paints in paste form, paints mixed ready for use, varnishes, lacquers, japans, enamels, fillers, stains, etc." [2] According to the Census of Manufactures, 1,063 manufacturing establishments sold during the year 1929 products valued (f. o. b. factory) at $568,975,838. These data do not include establishments with products under $5,000 in value. To the $568,975,838 of products manufactured by the 1,063 establishments specializing in the production of paints and varnishes to the extent of more than 90 per cent of their respective volumes, must be added $44,289,418 worth of paints, varnishes, and related products made as secondary products in other industries. When other products (not normally belonging to the industry) produced by the 1,063 plants to the extent of $38,385,673 are deducted from the sum of the above, we have an aggregate value in paints, varnishes, and related products sold by manufacturers in all industries of $574,879,583.

Current volume of production.—With the statistics for the sales of paints and varnishes by manufacturers during the year 1929 as a base, it is possible to determine the volume of sales for each successive year from the data compiled by the Bureau of the Census in its Current Inquiries Section. Beginning with January, 1928, 588 manufacturers have been reporting their total sales each month. These manufacturers produced approximately 80 per cent of the total for the United States. During 1929 the 588 reporting manufacturers sold goods to the extent of $435,101,295, which constituted 76.5 per cent of the total production by paint and varnish establishments during that year of $568,975,838. During

[1] The terms "paints and varnishes" and "paint and varnish trade," whenever used in this report are meant to include also lacquers, japans, enamels, fillers, stains, and other products normally handled in the trade.

[2] Census of manufactures.

1931 the 588 manufacturers sold goods to the extent of $278,381,754, which was 83.9 per cent of the products manufactured during that year by 1,010 establishments engaged in the manufacture of paints and varnishes as reported to the Census of Manufactures as part of the 1931 biennial census. By projecting the statistics reported monthly by the 588 establishments into a total figure (divide the amount reported by 80 and multiply by 100), it is possible to ascertain at any given time the total amount of paints and varnishes sold by manufacturers in the United States.

As shown in the section of this report immediately following, the manufacturers reported for the year 1929 the distribution of their sales by channels so that it is possible to ascertain the percentage of paints and varnishes sold by manufacturers to wholesalers, the percentage sold direct to retailers, and so on. Assuming that these percentages do not change from year to year, being of a fundamental character, they can be applied to the current figures showing the total amount of paints and varnishes sold by manufacturers, in order to determine just how much is being handled through a given channel at any time. The totals arrived at in the manner indicated above can be used further as a basis for bringing all distribution statistics down to date from those shown for the year 1929 and until the next complete Census of Distribution is taken.

Seasonal variation in paint and varnish sales.—It is also of considerable importance to know the extent of fluctuation in the production and sale of paints and varnishes from month to month. Inasmuch as the 588 paint and varnish manufacturers reporting to the Bureau of the Census their monthly sales have consistently submitted such reports from January 1, 1928, to date, it is possible to construct a curve (chart I) based on data for the 4-year period 1928 to 1931, inclusive (Table 1), showing seasonal variation in the sale of paints and varnishes. It is interesting to note from these composite data that May is the peak sale month, with production stepping up gradually from the low in December and descending gradually after the month of May. The months of March, April, May, and June are months of maximum sale, accounting for over 40 per cent (40.3 per cent) of the total amount produced for the entire year, while the months of November and December contribute but 11.7 per cent of the total. When the current monthly statistics for the 588 establishments are charted in conjunction with the composite average for the four years, deviations in the seasonality of sales by producers may be definitely spotted.

CHART I.—SEASONAL VARIATION IN THE SALES MADE BY MANUFACTURERS OF PAINTS AND VARNISHES, BY MONTHS—UNITED STATES

[Average annual sales 1928-1931=100 per cent]

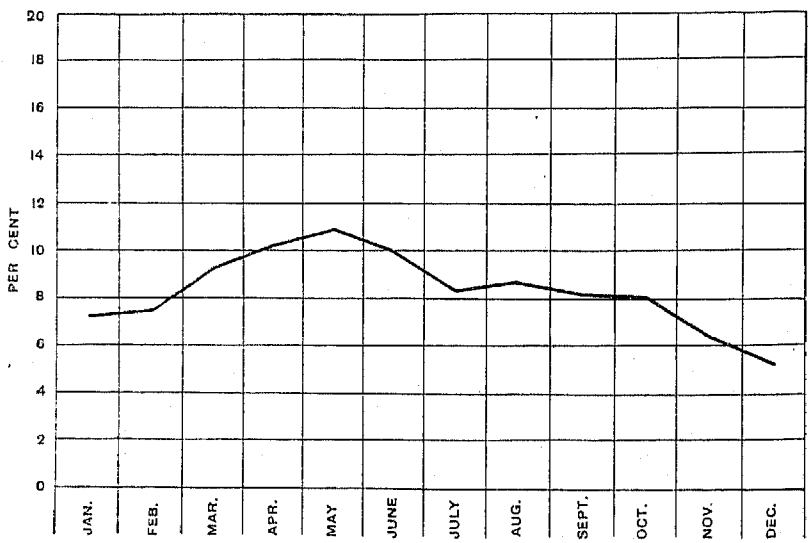


TABLE 1.—THE COMPOSITE AVERAGE PERCENTAGE OF SALES OF PAINTS, VARNISHES, AND LACQUERS, FOR THE YEARS 1928–1931, BY MONTHS

MONTH	Per cent	MONTH	Per cent
TOTAL	100.0	July	8.3
January	7.2	August	8.7
February	7.5	September	8.2
March	9.2	October	8.1
April	10.2	November	6.4
May	10.9	December	5.3
June	10.0		

CHANNELS OF DISTRIBUTION USED BY MANUFACTURERS

On the returns made by manufacturers to the Census of Manufactures for 1929, each plant reported the distribution of sales through the various channels as far as the first step in the distribution process was concerned. In other words, manufacturers indicated how much of their sales during the year was made direct from the factory to ultimate consumers, to retailers, to wholesalers, to industrial consumers, and how much was sold through their own retail and/or wholesale branches. They also indicated the amount that was sold to any of the above through the intervention of agents and brokers.

The manufacturers specializing in the production of paints and varnishes distributed their products as follows:

	Selling value (f. o. b. factory)	Per cent of total
To manufacturers' own wholesale branches	$79,231,000	14.1
To wholesalers	128,109,000	22.7
To manufacturers' own retail stores	10,749,000	1.9
To retailers	103,836,000	18.4
To industrial consumers	232,604,000	41.3
To home or ultimate consumers	9,123,000	1.6
Total	563,652,000	100.0
Sales of above through agents and brokers	18,118,000	3.2

Direct sales by manufacturers.—The term "direct selling" has many meanings and connotations. It may refer to sales made by manufacturers to retailers without going through the wholesaler. Occasionally, it is applied to sales made *to* wholesalers without the intervention of another middleman such as a broker or manufacturers' agent. Frequently, the term is used to indicate sales made by a manufacturer through his own outlets either direct to retailers or direct to consumers (both ultimate and industrial). Regardless of the above, it has always been applied to sales made by manufacturers from their plants direct to consumers. *It is in this latter and restricted sense that the term is used in this report.*

The paint and varnish manufacturers sold relatively little (1.6 per cent of total sales) direct to ultimate or household consumers. It is probable that this method of selling was restricted to the local markets of the small plants. While 199 plants reported such sales, only 34 of them sold exclusively in this manner. The direct sales to industrial consumers, however, were very substantial, amounting to 41.3 per cent of the total sales, thus constituting the most important channel of distribution for the industry. Among the industrial consumers are included manufacturers, contractors, railroads, public utilities, institutions, and the like. Direct sales to such consumers were made by 619 of the 1,063 plants, 206 of which sold their entire output in this way.

Many of the goods sold to industrial consumers are semimanufactured products intended for further processing or take the form of supplies. In order to arrive at a truer picture of household consumer goods, it is therefore necessary to deduct from the total the sales that were made to industrial consumers. While the total amount thus sold is not readily available, it is possible to deduct at least the sales that were made *direct from factory* to industrial consumers.

When such sales are deducted from the total and the amounts sold through each of the other channels are converted into a percentage of the remainder, the following percentage distribution is obtained:

	Per cent
To manufacturers' own wholesale branches	23.9
To wholesalers	38.7
To manufacturers' own retail stores	3.2
To retailers	31.4
To home or ultimate consumers	2.8
Total	100.0

Sales through manufacturer-owned outlets.—A total of 16 per cent of the sales reported by the paint and varnish manufacturers was made through their own outlets, 1.9 per cent through retail stores, and 14.1 per cent through wholesale sales branches. When calculated on the basis of total sales less sales direct from factory to industrial consumers, the percentages sold through such manufacturer-owned outlets are 3.2 and 23.9, respectively.

While 104 of the manufacturing establishments sold some of their products through their own retail stores, only 24 of the plants disposed of their entire output in this manner. This method of distribution is apparently best adapted to manufacturers with strong financial resources and an adequate knowledge of retailing. Paints and varnishes are in the nature of convenience goods, i. e., they are purchased by the consuming public, other things being equal, in the most accessible stores. To comply with such buying habits requires wide distribution which can be obtained by placing the goods in a large number of stores, often a much larger number than a manufacturer of paints and varnishes can operate to greatest advantage.

Sales made exclusively through wholesale branches owned by the manufacturers were reported by 42 plants, and another 100 establishments sold some of their goods in this manner. These wholesale branches in turn sold to industrial consumers (a little over 34 per cent of their sales), to retailers, and to wholesalers. Just how much they sold to wholesalers, which would take the form of duplication—the same commodity having been handled twice at wholesale—is difficult to state.

Sales to retailers.—Sales made direct from factories to retailers of all kinds, including sales to chain stores and mail-order houses, were more extensive than the combined sales through all the other channels except for sales to wholesalers and direct to industrial consumers. Of all goods intended primarily for the home consumer market (arrived at by deducting sales direct from factory to industrial consumers from the total as indicated above), manufacturers sold to retailers 31.4 per cent of their products. These sales were reported by 414 establishments, 79 of which sold exclusively in this manner. In addition to the large retail organizations, there are a number of stores specializing in the distribution of paint products. Because of this, their purchases are much larger than would be the case with hardware stores handling paints and varnishes in addition to their major lines of merchandise. These relatively large requirements on the part of such specialized retailers, coupled with the fact that some manufacturers produce a complete assortment of paints, make direct selling from factory to store possible within such limits.

Sales to wholesalers.—As might be expected in the case of a product that requires wide distribution, the wholesaler was one of the principal outlets for paints and varnishes, only next to direct sales to industrial consumers. Manufacturers sold direct to wholesalers 22.7 per cent of their combined output, which amounted to 38.7 per cent when figured on the basis of the amount intended primarily for the home consumer market. As many as 128 manufacturing establishments confined all their sales to wholesalers, while another 304 establishments sold some of their goods in the same way.

DISTRIBUTION OF PAINTS AND VARNISHES THROUGH WHOLESALE OUTLETS,[3] BY KIND OF BUSINESS [4]

As pointed out in the introduction, the Census of Distribution secured reports by means of a field canvass covering every wholesale establishment that could be located. Separate reports for the Census of Distribution were not solicited from manufacturers who sold direct from their factories. Only when whole-

[3] For a definition of the different types of wholesale organizations, see Bulletin: Distribution W-100 United States Government Printing Office, 1931.

[4] In this report, the terms "kind of business," "trade," and "line of trade," are used interchangeably since they are so recognized in actual practice.

sale establishments were maintained by manufacturers, physically apart from their producing plants, were they required to furnish separate distribution reports. For this reason the Census of Distribution figures are not comparable with those of the Census of Manufactures. Were this the only factor the volume of paints and varnishes to be traced through wholesale organizations would then approximate $213,000,000 at f. o. b. factory prices (36.8 per cent of $574,879,583) since only 36.8 per cent of the paints and varnishes was sold to wholesale establishments according to the reports made by the manufacturers, 14.1 per cent being sold to manufacturers' own wholesale branches and 22.7 per cent to wholesalers. But there are other factors which make this procedure impossible. The duplication of steps in both manufacturing and distribution processes, for example, proves a stumbling block. Manufacturers buy from and sell to other manufacturers for industrial use or for resale. Wholesale organizations sell to one another and also make sales to industrial consumers, usually manufacturers, which still further complicates matters and invalidates comparisons. Then, there is a difference in the selling prices at which the goods were reported, since selling prices of wholesale establishments must be higher than f. o. b. factory prices to wholesalers by the amount of the wholesale margin. It may also be that the inventories at the end of the year in the hands of wholesalers were smaller than those carried by them at the beginning of the year, which would mean that some of the goods sold were carried over from the preceding period so that the sales reported by wholesalers would differ from the amounts reported by the manufacturers to that extent.

When some of the above factors are taken into account, the discrepancy between the amounts reported by manufacturers and the amounts reported by wholesale organizations becomes very small. In a later part of this report it will be seen that wholesale merchants and manufacturers' sales branches had operating expenses averaging approximately 20 per cent of net sales. Assuming a net profit around 5 per cent, the margin based on selling prices would then be about 25 per cent (equivalent to 33.3 per cent based on the cost of the goods). When the $213,027,686 of paints and varnishes which manufacturers sold to wholesale organizations is raised by the amount of this margin, the sales by wholesale organizations would amount to $284,027,000, or $37,623,000 less than the amount actually sold during the year as reported to the Census of Wholesale Distribution. (See Table 2.) This extra amount may be accounted for by duplication in the sales of the same merchandise as indicated above, by differences in inventories, etc. In these calculations the $15,802,000 worth of paints and varnishes reported by agents and brokers were left out of consideration on the theory that the agents and brokers sold most of these goods to wholesalers and to manufacturers' sales branches in different lines of trade, thereby involving duplication for the most part. Based on the total amount of sales reported by wholesalers and manufacturers' sales branches, the difference amounts to but 13 per cent.

Table 2 shows the wholesale channels through which paints and varnishes move. It is significant to note that 70.3 per cent of all the paints and varnishes handled by wholesale establishments went through concerns specializing in the distribution of such products. Next in importance was the construction and building materials trade, with 8.1 per cent of the paint and varnish business, followed by the hardware trade, with 5.4 per cent of the sales. Among the other important trades which served as outlets for paints and varnishes were (in the order of their importance) the chemical trade, the drug trade, the metal and metalwork (other than iron and steel) trade, the wall-paper trade, and the general merchandise trade. Each of these trades sold at least 1 per cent of the total amount of paints and varnishes handled by wholesale establishments.

Not only does Table 2 point out to the manufacturer, for example, what lines of trade or kinds of business constitute the most important outlets for paints and varnishes, but it also shows what types of distributors in a given line of trade constitute the largest channel for the distribution of his products. An examination of this table indicates that for all lines of trade the manufacturers' sales branches were the most important outlet, handling 46.4 per cent of the total. Wholesale merchants of the conventional service type were next in importance, with 39.8 per cent, followed by "all other" types of wholesale distributors, with 9.1 per cent of the business. Agents and brokers handled only 4.7 per cent of the sales in paints and varnishes.

While manufacturers' sales branches lead in the amount of paint and varnish business for all lines of trade combined, their importance is less in some lines of trade than in others. They are, for example, much overshadowed in the hardware

trade by wholesale merchants who handled $18,096,000 worth of paints and varnishes as against a mere $14,000 of such sales by manufacturers' sales branches operating in the hardware trade. A similar situation may be noted in the wall-paper trade, where wholesale merchants handled $4,186,000 in paints and varnishes as compared with $75,000 sold by wall-paper manufacturers' sales branches. Manufacturers' sales branches maintained by the producers of paints and varnishes handled $126,871,000 of paints and varnishes, the remaining $30,000,000 of such sales being made by manufacturers' sales branches operating in other lines of trade.

The total amounts shown in Table 2 are subject to certain limitations. In the first place, there is a certain amount of duplication. Agents and brokers, for example, sold unknown quantities of the merchandise to wholesalers who, in turn, sold it to retailers, in which case the same commodity was involved twice in wholesale transactions. The same is true to a certain extent of manufacturers' sales branches, who made some of their sales to wholesalers. This amount of duplication can not exceed 20 per cent and may be not more than 10 per cent of all sales made by wholesale establishments, inasmuch as agents and brokers accounted for but 4.7 per cent of the business and manufacturers' sales branches, while selling fully 46.4 per cent of the paints and varnishes, sold over half to industrial consumers and substantial amounts direct to retailers, neither type of transaction being regarded as duplication. However, to the extent to which duplication was involved, to that extent must the total amount shown in Table 2 be reduced. On the other hand, only about 90 per cent of the net sales of all trades was reported broken down by commodities, which means that to that extent the amount shown in the table is understated.

TABLE 2.—SALES OF PAINTS AND VARNISHES, BY TRADE AND TYPE OF ESTABLISHMENT—UNITED STATES: 1929

[Expressed in thousands of dollars]

TRADE	TOTAL		Wholesale merchants	Manufacturers' sales branches	Agents and brokers	All other types
	Amount	Per cent of total				
Total	$337,452	100.0	$134,400	$156,520	$15,802	$30,721
Per cent of total	100.0	------	39.8	46.4	4.7	9.1
Automotive (automotive equipment)	464	0.1	464	--------	--------	--------
Chemicals, drugs, and allied products:						
Chemicals	12,417	3.7	4,110	3,564	4,166	577
Drugs and drug sundries (general line)	8,576	2.5	2,251	1,581	3,609	1,135
Paints, varnishes, lacquers, and enamels	237,307	70.3	86,238	126,871	7,055	17,143
Other chemicals, drugs, and allied products	43	(1)	2	41	--------	--------
Electrical	309	0.1	286	10	--------	13
Farm products (not elsewhere classified)	162	0.1	--------	--------	--------	162
Farm supplies (except machinery and equipment)	194	0.1	--------	--------	--------	194
Furniture and house furnishings (house furnishings)	36	(1)	36	--------	--------	--------
General merchandise	3,259	1.0	466	--------	3	2,790
Hardware	18,341	5.4	18,096	14	54	177
Lumber and building materials:						
Construction and building materials	27,370	8.1	12,822	14,222	215	111
Lumber and millwork	3,193	0.9	1,149	2,003	--------	41
Machinery, equipment, and supplies (except electrical)	3,821	1.1	1,881	576	466	898
Metals and minerals (except petroleum and scrap):						
Coal	65	(1)	6	11	14	34
Iron and steel (except scrap)	16	(1)	16	--------	--------	--------
Metals and metal work (other than iron and steel)	6,067	1.8	48	6,019	--------	--------
Paper and paper products:						
Paper and paper products (general line)	195	0.1	195	--------	--------	--------
Paper and paper products (specialty, other than specified)	90	(1)	90	--------	--------	--------
Stationery and stationery supplies	318	0.1	--------	318	--------	--------
Wall paper	4,261	1.3	4,186	75	--------	--------
Petroleum and petroleum products	1,731	0.5	507	1,061	--------	163
Plumbing and heating equipment and supplies (plumbing)	252	0.1	247	--------	5	--------
Textiles and textile materials (other than dry goods)	190	0.1	105	--------	85	--------
All other	8,775	2.6	1,208	154	130	7,283

[1] Less than one-tenth of 1 per cent.

SUMMARY OF THE WHOLESALE PAINT AND VARNISH TRADE

The foregoing analysis deals solely with the distribution of paints and varnishes *as a commodity* by all kinds of business or lines of trade. It does not show what other commodities are handled in the paint and varnish trade, nor is any attempt made therein to discuss the *paint and varnish trade* as such. The latter kind of analysis and discussion has been reserved for the pages immediately following. In these pages are analyzed the wholesale organizations that specialized in the sale of paints and varnishes to the extent of more than 50 per cent of their net sales. In other words, only those establishments are included in what is termed the *wholesale paint and varnish trade*, the bulk of whose business (over 50 per cent of the total) consisted in paints and varnishes proper. Naturally this group of organizations constitutes by far the most important outlet for paints and varnishes, accounting for 70.3 per cent of the total volume of wholesale trade in paints and varnishes proper, as shown in Table 2.

United States Summary.—As already indicated in Table 2, the total sales of paints and varnishes by wholesale organizations operating in all lines of trade amounted to $337,452,000. Of this amount, $245,642,333 was sold by wholesale establishments classified in the paint and varnish trade,[5] and $91,809,667 was sold through other lines of trade.

In addition to the $245,642,333 of paints and varnishes sold by wholesale establishments in the paint and varnish trade, $57,994,821 worth of other commodities were sold in this trade, making the total sales by the paint and varnish trade (paints and varnishes and all other commodities) $303,637,154. This is the total volume of business which is analyzed in the following tables and consists of 80.9 per cent in paints and varnishes and 19.1 per cent in all other commodities. Just what the various products making up the 19.1 per cent of the paint and varnish wholesale trade are and in what quantities they were handled will be shown in Table 10.

The 995 paint and varnish wholesale establishments employed 12,617 people, paying them $28,139,852 in salaries and wages. They incurred total operating expenses (not including the cost of merchandise sold nor capital investment) of $58,964,382, and carried stocks of merchandise at the end of the year 1929 valued at a cost or replacement basis at $41,499,362.

TABLE 3.—SUMMARY OF WHOLESALE PAINT AND VARNISH TRADE IN THE UNITED STATES: 1929

Number of establishments	995
Net sales	$303,637,154
Total employees	12,617
Total salaries and wages	$28,130,852
Total expenses	$58,964,382
Stocks on hand, Dec. 31, 1929	$41,499,362

United States summary by type of establishment.—The 995 paint and varnish establishments consisted of 565 wholesale merchants of the service type (commonly designated as wholesalers or jobbers), 327 manufacturers' sales branches, 56 agents and brokers, and 47 establishments listed under "all other" types of distributors. (See Table 4.) The wholesale merchants, with 56.8 per cent of the establishments, occupied a dominant position from the standpoint of numbers, but manufacturers' sales branches, with but 32.9 per cent of the establishments, made 51 per cent of the sales, as against 38.7 per cent of the sales for the former. Agents and brokers accounted for 3.4 per cent of the business, and all other types of distributors specializing in the wholesale distribution of paints and varnishes contributed 6.9 per cent of the business.

Wholesale merchants did 38.7 per cent of the business, carried 55.1 per cent of the stocks and employed 53.1 per cent of the people. Manufacturers' sales branches carried a much smaller share of stocks, and agents and brokers, as may be expected, had a very low ratio of stocks to sales.

[5] 80.9 per cent of $303,637,000 as shown in Table 10, although the amount given in that table is but $237,307,000 because only 96.6 per cent of the sales made by paint wholesalers were broken down by commodities.

TABLE 4.—SUMMARY OF WHOLESALE PAINT AND VARNISH DISTRIBUTION, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

	Total	WHOLESALE MERCHANTS		MANUFACTURERS' SALES BRANCHES		AGENTS AND BROKERS		ALL OTHER TYPES [1]	
		Number or amount	Per cent of total	Number or amount	Per cent of total	Number or amount	Per cent of total	Number or amount	Per cent of total
Number of establishments	995	565	56.8	327	32.9	56	5.6	47	4.7
Net sales	$303,637,154	$117,493,014	38.7	$154,955,283	51.0	$10,305,843	3.4	$20,883,014	6.9
Total employees	12,617	6,693	53.1	4,446	35.2	661	5.2	817	6.5
Total salaries and wages	$28,139,852	$13,464,298	47.9	$11,717,234	41.6	$1,414,120	5.0	$1,544,200	5.5
Total expenses	$58,964,382	$25,619,894	43.4	$28,085,079	47.6	$2,220,811	3.8	$3,038,598	5.2
Stocks on hand Dec. 31, 1929	$41,499,362	$22,851,958	55.1	$15,999,157	38.6	$264,652	0.6	$2,383,595	5.7

[1] Includes 1 cash-and-carry wholesaler with $17,000 net sales; 17 chain store warehouses with $1,603,788; 3 commission merchants with $163,766; 8 drop shippers with $219,846; 7 importers with $11,994,667; 1 mail-order wholesaler with $737,074; 3 distributing warehouses with $1,504,826; and 7 wholesaling manufacturers with $4,642,074.

Growth of paint and varnish wholesalers.—Significant facts on the approximate growth and stability of the paint and varnish service wholesalers is revealed in the reports on this point made by the 565 wholesale merchants. These concerns reported the year in which the business was established or first organized, as well as the year in which it came under present (1929) ownership. (See Table 5.)

It is impossible from census statistics to determine how many paint and varnish wholesalers (or manufacturers' sales branches) came into being and went out of business during the period covered by Tables 5 and 6. In other words, no mortality figures or data can be shown in this report. It was impossible to count "ghosts," or concerns not in existence at the time the census was taken. It is possible, however, to show the age of the establishments that were in existence when the enumerators called. This, in a way, points to the probable longevity of paint and varnish concerns operating in the wholesale field, although in a very imperfect manner.

Only 16 of the 565 wholesale merchants were in business prior to 1850 and but 35 more were formed in the period of 1850–1874. In fact, only 131 houses, constituting 23.2 per cent of the total, existed prior to 1900. The greatest development in the number of paint and varnish service wholesalers (based on the number in existence when the canvass was taken) occurred within the decade ending with 1929, during which time 46 per cent of all such establishments in existence at the end of 1929 came into being. The greatest rate of growth was experienced during the five years beginning with 1925, approximately 27 per cent being organized during that time.

The multiplication in the number of paint and varnish wholesale merchants seems to parallel somewhat the establishment of specialty houses in the hardware trade.[6] This may indicate that it is but a part of a larger movement toward specialty wholesaling which has, as far as both hardware and paints and varnishes are concerned, experienced its greatest acceleration in the rate of growth in the years immediately preceding and ending with 1929—the last year for which such data are available.

[6] See The Wholesale Hardware Trade, Distribution W-203, United States Government Printing Office 1932.

TABLE 5.—DATE OF ESTABLISHMENT AND DATE OF PRESENT OWNERSHIP OF WHOLESALE MERCHANTS—UNITED STATES: 1929

YEAR BUSINESS WAS ESTABLISHED	Total	YEAR BUSINESS CAME UNDER PRESENT OWNERSHIP											
		1929	1928	1927	1926	1925	1920-1924	1914-1919	1900-1913	1875-1899	1850-1874	Prior to 1850	Unknown
Total	565	50	46	45	38	32	121	83	103	38	6	2	1
1929	31	31											
1928	33	4	29										
1927	29		1	28									
1926	33	2		1	30								
1925	26	1	1	2	1	21							
1920-1924	104	3	3	4	2	4	88						
1914-1919	72	1	2	4	2	1	5	57					
1900-1913	102	2	3	3	2	2	9	7	74				
1875-1899	80	6	4	3	1	2	12	7	14	31			
1850-1874	35		1			1	4	10	8	6	5		
Prior to 1850	16						3	2	7	1	1	2	
Unknown	4		2			1							1

Growth of manufacturers' sales branches.—The history of the development of paint and varnish wholesalers is repeated in connection with the growth of manufacturers' sales branches operating in the same field, except for differences in degree. For example, 39 per cent of all such sales branches came into being during the decade ending with 1929, as compared with 46 per cent of the wholesale merchants. Approximately 22 per cent of the manufacturers' sales branches were organized since 1925 as against 27 per cent for wholesale merchants. On the other hand, fully 34.5 per cent of all the manufacturers' sales branches in existence at the end of 1929 was formed prior to the twentieth century, while only 23 per cent of the wholesale merchants specializing in paints and varnishes was then in existence. It is possible that a greater share of paints and varnishes was then distributed through general line hardware wholesalers or even through general merchandise wholesalers. This may also indicate a trend in the direction of distribution through the wholesale merchant. Better evidence relative to a trend toward sale of paints through specialized houses would be had were statistics available for two or more periods or censuses.

TABLE 6.—DATE OF ESTABLISHMENT AND DATE OF PRESENT OWNERSHIP OF MANUFACTURERS' SALES BRANCHES—UNITED STATES: 1929

YEAR BUSINESS WAS ESTABLISHED	Total	YEAR BUSINESS CAME UNDER PRESENT OWNERSHIP											
		1929	1928	1927	1926	1925	1920-1924	1914-1919	1900-1913	1875-1899	1850-1874	Prior to 1850	Unknown
Total	327	38	25	19	7	15	54	34	77	41	5	1	11
1929	16	16											
1928	14	1	13										
1927	20	2	3	15									
1926	6	1		1	4								
1925	15	1				14							
1920-1924	48	2	1	1			42						2
1914-1919	44	1		2	3		6	32					
1900-1913	43		2			1	1		39				
1875-1899	93	13	6				4		35	34			1
1850-1874	12							2	1	4	5		
Prior to 1850	8	1					1		2	3		1	
Unknown	8												8

Continuity and age of present ownership.—Of the 565 wholesale merchants specializing in the distribution of paints and varnishes, 397, or 70.3 per cent, were under the same ownership since their organization. This statement, as well as the entire treatment of the subject relating to the continuity of ownership, is subject to important qualifications. This is due to the fact that some of the statistics are presented for *periods* involving more than one year. For example, if a business was established in 1921 and came into its present ownership (as of the end of 1929) in 1923, it would not be included in the establishments changing ownership. What the data really indicate is that of the 104 wholesale merchant establishments, for example, that came into being during the period 1920–1924, 88 houses have not changed hands since 1925, although some of them may have changed hands prior to 1925 but after 1921 and they may have changed hands during that period more than once. The same applies to all data shown in Tables 5 and 6, except where they are given for individual years beginning with 1925. Furthermore, all of these data are based on the number of establishments that existed when the canvass was taken and do not cover the unknown number of organizations that have come and gone during the period covered by the tables. Nevertheless, they present a rough approximation of the continuity of ownership, which is particularly valuable for comparison with other lines of business, similar data for which are subject to the same general qualifications.

All of the 31 houses established in 1929 apparently remained under the same ownership, and 29 of the 33 firms established in 1928 did likewise. Few of the remaining houses that were established since 1925 have changed hands. Of the 104 houses organized in the period 1920–1924, 88 remained under the original ownership. The greatest changes in ownership took place among establishments that were organized prior to 1900, approximately 71 per cent of such establishments having changed hands. This is as may be expected, since they were in existence the longest. A majority of the changes in ownership (52.3 per cent) took place during the first quarter of the present century. On the whole, these statistics show a fair continuity in ownership for wholesale merchants in the paint and varnish business. While it is true that 70.3 per cent of these establishments never changed hands (subject to above qualifications), it must be remembered that a very large proportion of these houses were of recent origin, as shown in Table 5.

Of the manufacturers' sales branches, 68.2 per cent remained under the original ownership. (See Table 6.) Most of the changes that have taken place occurred during the period of 1900–1913 and in 1929. Both of these have the earmarks of consolidations of manufacturing plants, involving also the consolidation of the branches. For example, of the 22 sales branches that changed hands in 1929, 13 were established in the period of 1875–1900, which may, of course, have been in a single year, and it looks very much as if they belonged to one or two manufacturers. Similarly, of the 38 branches that changed ownership in 1900–1913 (which may have taken place in a single year), 35 were established in the period of 1875–1900.

LOCATION OF WHOLESALE PAINT AND VARNISH ESTABLISHMENTS

Paint and varnish distribution, by States and geographic divisions.—In canvassing establishments for the census, it was deemed impracticable to secure information on the geographic *movement* of goods that would indicate just where the goods sold by wholesale organizations were consumed. To do so would have necessitated a complete analysis of sales for each wholesale establishment *by territories*. It is therefore impossible to show *where* the wholesale establishments had made their sales (the location of their customers), particularly since many of them operated over wide areas. The statistics presented in Table 7 show, by States and by geographic divisions, the location of the wholesale establishments and their net sales. The data are given, first, for all types of establishments combined, and, second, for wholesale merchants only. The States are ranked according to the volume of business of the establishments located therein.

An examination of Table 7 reveals a fairly high degree of concentration geographically. No wholesale paint and varnish establishments may be found in 8 of the States, while another 24 States and the District of Columbia reported each less than 1 per cent of the business of all establishments operating in the paint and varnish trade. In fact, 16 States accounted for 91.5 per cent of the business, and almost two-thirds of the total (65.3 per cent) was concentrated in the 5 leading States of New York, Illinois, Pennsylvania, California, and Michigan (ranked in the order of their importance as paint and varnish trade centers). The 5 States

of New Jersey, Ohio, Massachusetts, Missouri, and Texas cared for another 18.8 per cent. Thus, the leading 10 States in the trade accounted for 84.1 per cent of the business.

Little correlation of wholesale paint and varnish sales to population may be noted. The State of Washington, for example, ranked eleventh in the wholesale paint and varnish trade but was thirtieth in population. Delaware ranked fifteenth in volume of paint business, but was forty-seventh in population. On the other hand, some of the States that ranked high in population showed small sales in paints and varnishes. The same conclusion is borne out by the great variations in per capita sales, even when reckoned by large geographic areas. For the entire United States the per capita sales made by all paint and varnish wholesale establishments and by wholesale merchants alone, located in the divisions indicated (but not representing sales necessarily made within those divisions), were $2.47 and $0.96, respectively. These per capita figures for the various sections of the country were as follows:

GEOGRAPHIC DIVISION	All types	Wholesale merchants	GEOGRAPHIC DIVISION	All types	Wholesale merchants
United States	$2.47	$0.96	South Atlantic	$0.68	$0.40
New England	2.25	1.32	East South Central	0.46	0.16
Middle Atlantic	5.20	1.38	West South Central	0.64	0.54
East North Central	2.77	1.05	Mountain	0.96	0.93
West North Central	1.25	0.78	Pacific	4.29	1.94

TABLE 7.—WHOLESALE PAINT AND VARNISH DISTRIBUTION, BY STATES AND GEOGRAPHIC DIVISIONS: 1929

DIVISION AND STATE	ALL TYPES					WHOLESALE MERCHANTS				
	Number of establishments	Net sales		Rank in—		Number of establishments	Net sales		Rank in—	
		Amount	Per cent of total	Net sales	Population		Amount	Per cent of total	Net sales	Population
UNITED STATES	995	$303,637,154	100.0	-----	-----	565	$117,493,014	100.0	-----	-----
NEW ENGLAND	83	18,403,048	-----	-----	-----	57	10,789,901	-----	-----	-----
Maine	5	501,947	0.2	32	35	5	501,947	0.4	30	35
New Hampshire	-----	-----	-----	-----	42	-----	-----	-----	-----	42
Vermont	-----	-----	-----	-----	46	-----	-----	-----	-----	46
Massachusetts	53	12,183,976	4.0	8	8	28	4,612,190	3.9	7	8
Rhode Island	7	2,143,177	0.7	22	37	7	2,143,177	1.8	17	37
Connecticut	18	3,573,948	1.2	13	29	17	3,532,587	3.0	10	29
MIDDLE ATLANTIC	264	136,593,421	-----	-----	-----	170	36,165,829	-----	-----	-----
New York	185	91,506,291	30.1	1	1	119	27,503,285	23.4	1	1
New Jersey	16	15,084,112	5.0	6	9	13	1,836,912	1.6	19	9
Pennsylvania	63	30,003,018	9.9	3	2	38	6,825,632	5.8	4	2
EAST NORTH CENTRAL	244	70,163,321	-----	-----	-----	134	26,459,948	-----	-----	-----
Ohio	66	14,085,224	4.6	7	4	32	5,783,124	4.9	5	4
Indiana	17	2,833,584	0.9	17	11	11	2,432,509	2.1	12	11
Illinois	85	31,954,287	10.5	2	3	46	12,401,909	10.6	2	3
Michigan	51	18,372,125	6.1	5	7	28	3,596,822	3.1	9	7
Wisconsin	25	2,918,101	1.0	16	13	17	2,245,584	1.9	14	13
WEST NORTH CENTRAL	92	16,031,500	-----	-----	-----	52	10,340,723	-----	-----	-----
Minnesota	24	2,346,335	0.8	20	18	15	1,755,581	1.5	20	18
Iowa	15	3,477,000	1.1	14	19	13	3,241,542	2.8	11	19
Missouri	40	9,408,623	3.1	9	10	15	4,147,961	3.5	8	10
North Dakota	2	55,379	(1)	40	38	2	55,379	(1)	38	38
South Dakota	-----	-----	-----	-----	36	-----	-----	-----	-----	36
Nebraska	10	1,285,735	0.4	26	32	7	1,140,260	1.0	23	32
Kansas	1	58,428	(1)	39	24	-----	-----	-----	-----	24

[1] Less than one-tenth of 1 per cent.

TABLE 7.—WHOLESALE PAINT AND VARNISH DISTRIBUTION, BY STATES AND GEOGRAPHIC DIVISIONS: 1929—Continued

DIVISION AND STATE	ALL TYPES					WHOLESALE MERCHANTS				
	Number of establishments	Net sales		Rank in—		Number of establishments	Net sales		Rank in—	
		Amount	Per cent of total	Net sales	Population		Amount	Per cent of total	Net sales	Population
SOUTH ATLANTIC	61	$10,789,951				36	$6,320,448			
Delaware	3	3,429,495	1.1	15	47	2	476,172	0.4	31	47
Maryland	12	919,392	0.3	28	28	7	749,400	0.6	24	28
District of Columbia	7	1,359,598	0.4	25	41	6	1,259,934	1.1	21	41
Virginia	11	2,286,527	0.8	21	20	9	2,204,540	1.9	16	20
West Virginia	3	582,636	0.2	29	27	2	530,619	0.5	27	27
North Carolina	4	208,003	0.1	38	12	1	43,695	(1)	39	12
South Carolina					26					26
Georgia	13	1,489,865	0.5	23	14	4	738,716	0.6	25	14
Florida	8	514,435	0.2	31	31	5	317,372	0.3	34	31
EAST SOUTH CENTRAL	16	4,531,081				8	1,547,343			
Kentucky	7	2,748,729	0.9	18	17	4	503,380	0.4	29	17
Tennessee	6	1,363,211	0.4	24	16	2	697,316	0.6	26	16
Alabama	3	419,141	0.1	33	15	2	346,647	0.3	33	15
Mississippi					23					23
WEST SOUTH CENTRAL	52	7,797,981				32	6,515,324			
Arkansas	3	353,529	0.1	36	25	1	236,000	0.2	37	25
Louisiana	7	1,239,734	0.4	27	22	6	1,234,199	1.1	22	22
Oklahoma	8	396,989	0.1	35	21	5	269,745	0.2	35	21
Texas	34	5,807,729	1.9	10	5	20	4,775,380	4.1	6	5
MOUNTAIN	19	3,563,137				15	3,455,538			
Montana	1	33,245	(1)	41	39					39
Idaho	2	397,277	0.1	34	43	2	397,277	0.3	32	43
Wyoming					48					48
Colorado	11	2,349,028	0.8	19	33	9	2,290,438	1.9	13	33
New Mexico					45					45
Arizona	1	257,338	0.1	37	44	1	257,338	0.2	36	44
Utah	4	526,249	0.2	30	40	3	510,485	0.4	28	40
Nevada					49					49
PACIFIC	164	35,163,714				61	15,897,960			
Washington	33	4,778,578	1.6	11	30	12	2,220,840	1.9	15	30
Oregon	12	4,102,488	1.4	12	34	2	1,975,920	1.7	18	34
California	119	26,282,648	8.7	4	6	47	11,701,200	10.0	3	6

[1] Less than one-tenth of 1 per cent.

Wholesale paint trade, by principal trade centers.—For the purposes of the trade series of reports of the Census of Wholesale Distribution, 18 cities have been selected for which information is given in addition to the data shown by other areas. These cities either have more than 500,000 inhabitants or are so located as to be representative of their respective sections of the country.

Table 8 shows for each of these cities the total number of establishments engaged in the wholesale paint and varnish trade, their net sales, the rank of each city according to the volume of paint and varnish business as compared with its rank in population, and the number of establishments by types of organization. In addition, such information is given for 7 other cities with annual paint and varnish sales of not less than $2,000,000. This indicates the relative importance of a community as a paint and varnish trade center and the types of wholesale outlets available to a manufacturer, as well as the nature of competition in the wholesale paint and varnish trade among the different types of establishments. (See Table 8 and the map showing Wholesale Paint and Varnish Trade Centers in the United States.)

As shown in Table 8, the five leading wholesale centers in the paint and varnish trade are New York, Chicago, Philadelphia, Detroit, and San Francisco. These five cities accounted for over half (53.3 per cent) of the total business reported by paint and varnish establishments for the United States. The next five cities, also

ranked in their order of importance, are Los Angeles, Boston, Cleveland, Pittsburgh, and Kansas City, Mo. They contributed another 11.8 per cent, so that the 10 leading centers handled almost two-thirds (65.1 per cent) of the business. All of the 25 cities included in Table 8 handled 77.5 per cent of the total business.

The information disclosed in Table 8 points to the possibility of securing fair coverage on the part of a manufacturer of paints and varnishes, either through a limited number of sales branches or through the selection of a limited number of independent wholesale merchants, provided that such establishments are located in the proper cities. It also furnishes an excellent basis for charting sales quotas by territories and for the ascertainment of changes in trend as future censuses of distribution are taken.

TABLE 8.—WHOLESALE PAINT AND VARNISH TRADE CENTERS IN THE UNITED STATES: 1929

CITY (Arranged according to population)	Number of establishments	NET SALES		RANK IN—		NUMBER OF ESTABLISHMENTS BY TYPE			
		Amount	Per cent of total	Net sales	Population	Wholesale merchants	Manufacturers' sales branches	Agents and brokers	All other types
UNITED STATES, total	995	$303,637,154	100.0	------	------	------	------	------	------
Total for 25 cities	639	235,213,977	77.5	------	------	322	230	49	38
New York, N. Y.	143	82,715,515	27.3	1	1	88	31	13	11
Chicago, Ill.	73	30,493,439	10.0	2	2	36	27	4	6
Philadelphia, Pa.	33	22,551,668	7.4	3	3	16	13	2	2
Detroit, Mich.	32	15,597,371	5.1	4	4	14	12	3	3
Los Angeles, Calif.	44	9,376,009	3.1	6	5	18	22	2	2
Cleveland, Ohio	29	6,376,234	2.2	8	6	13	7	7	2
St. Louis, Mo.	17	3,414,787	1.1	13	7	8	6	1	2
Baltimore, Md.	12	919,392	0.3	25	8	7	3	2	------
Boston, Mass.	34	7,618,688	2.5	7	9	13	19	1	1
Pittsburgh, Pa.	18	6,281,365	2.1	9	10	10	6	1	1
San Francisco, Calif.	42	10,741,285	3.5	5	11	15	21	4	2
Milwaukee, Wis.	19	2,541,147	0.8	16	12	13	5	------	1
Buffalo, N. Y.	16	4,887,313	1.6	11	13	10	6	------	------
New Orleans, La.	5	920,134	0.3	24	14	4	1	------	------
Seattle, Wash.	25	2,443,312	0.8	18	15	8	12	4	1
Denver, Colo.	11	2,349,028	0.8	19	16	9	1	------	1
Atlanta, Ga.	11	1,360,561	0.4	22	17	3	8	------	------
Dallas, Tex.	11	1,678,860	0.6	23	18	4	3	3	1
Dayton, Ohio	4	3,241,191	1.1	14	19	3	1	------	------
Houston, Tex.	8	2,956,565	1.0	15	20	6	2	------	------
Kansas City, Mo.	22	5,711,150	1.9	10	21	6	14	1	1
Louisville, Ky.	5	2,488,574	0.8	17	22	3	1	------	1
New Haven, Conn.	6	2,007,724	0.7	21	23	6	------	------	------
Portland, Oreg.	12	4,102,488	1.4	12	24	2	9	1	------
Providence, R. I.	7	2,143,177	0.7	20	25	7	------	------	------

Extent of the sales territory radius.—Additional light is thrown on the wholesale paint and varnish market by the statistics showing the extent of the sales territory covered regularly by wholesale establishments. For the United States as a whole the data are presented in Table 22. The extent of the sales territory for 18 cities, so chosen as to be representative of all sections of the country for all lines of trade, is shown in Table 9. This information is given for *all types of establishments* combined. The total volume of paint and varnish business for these cities was $212,563,108, or 69.9 per cent of the total for the United States. Their strategic locations, together with the large proportion of total sales (although there are cities with greater volume of paint and varnish business than some that are included among the 18 centers, as shown in Table 8), make this analysis very significant in the study of market areas and for the manufacturer or wholesaler who is planning a sales campaign or preparing a budget.

TABLE 9.—THE MARKET RADIUS[1] FOR 18 CITIES, WHOLESALE PAINT AND VARNISH TRADE: 1929

CITY (Arranged according to population)	TOTAL NET SALES		PER CENT OF TOTAL NET SALES						
			Made by concerns whose sales territory extends from their respective locations to a radius of—						
	Amount	Per cent of total	Not over 75 miles	76 to 150 miles	151 to 250 miles	251 to 500 miles	Over 500 miles: But not nation-wide	Over 500 miles: Nation-wide	All other[2]
UNITED STATES, total	$303,637,154	100.0							
Total for 18 cities	212,563,108	69.9	16.4	7.6	9.9	11.5	16.3	21.3	17.0
New York, N. Y.	82,715,515	27.3	17.6	8.2	7.6	2.5	6.0	21.8	36.3
Chicago, Ill.	30,493,439	10.0	13.4	3.0	7.1	10.4	33.4	32.7	-------
Philadelphia, Pa.	22,551,668	7.4	5.8	4.4	5.3	45.6	35.2	3.7	-------
Detroit, Mich.	15,597,371	5.1	13.1	8.8	9.5	1.9	2.4	64.3	-------
Los Angeles, Calif.	9,376,009	3.1	22.6	7.6	8.9	43.9	17.0	-------	-------
Cleveland, Ohio	6,673,234	2.2	13.6	3.4	6.9	2.2	49.7	24.2	-------
St. Louis, Mo.	3,414,787	1.1	18.0	2.7	8.7	0.4	28.7	41.5	-------
Baltimore, Md.	919,392	0.3	40.9	-------	5.9	-------	36.3	16.9	-------
Boston, Mass.	7,618,688	2.5	23.4	1.9	56.8	6.9	1.3	9.7	-------
Pittsburgh, Pa.	6,281,365	2.1	24.8	40.4	6.6	-------	-------	28.2	-------
San Francisco, Calif.	10,741,285	3.5	24.9	-------	-------	20.7	21.0	-------	33.4
Milwaukee, Wis.	2,541,147	0.8	45.3	-------	54.7	-------	-------	-------	-------
Buffalo, N. Y.	4,887,313	1.6	9.2	28.3	3.6	-------	-------	14.7	44.2
New Orleans, La.	920,134	0.3	45.2	-------	21.8	33.0	-------	-------	-------
Seattle, Wash.	2,443,312	0.8	3.2	23.6	53.9	4.3	1.3	-------	13.7
Denver, Colo.	2,349,028	0.8	4.9	-------	1.7	23.8	69.6	-------	-------
Atlanta, Ga.	1,360,561	0.4	31.5	20.4	16.8	6.1	25.2	-------	-------
Dallas, Tex.	1,678,860	0.6	16.8	10.2	12.6	30.4	30.0	-------	-------

[1] The length of the sales territory radius should not be interpreted as meaning that the sales territory is circular in character. It may constitute only a segment of a circle, as in the case of a seacoast city. Furthermore, the territory radius does not mean that trade is not secured locally, as well as at all points within the radius. If a given city shows no business for a particular radius, such as 76 to 150 miles, for example, this does not mean that such territory was not covered but merely that no establishments in the city reported that particular radius as the outer limits for their sales territory. Such territory was either covered by establishments reporting a longer radius for the same city or, in the absence of the latter, by establishments in other marketing centers. The chief value of these statistics is that they indicate how far from the home city trade is sought and the volume of business of the concerns operating within a given radius.

[2] Includes establishments engaged in foreign trade, in domestic and foreign trade, and a few establishments that did not report the sales territory covered.

New York, Detroit, and Chicago, in the order named, may properly be called national distribution centers for paints and varnishes. Of the $82,715,515 in the wholesale paint and varnish trade of New York City, 21.8 per cent, or $18,031,982, was handled by houses with national coverage. Of Detroit's paint and varnish trade, $10,029,110, or 64.3 per cent, was handled by houses operating nation-wide. Chicago was third, with $9,971,355 of its paint and varnish trade, or 32.7 per cent of the total, being handled by establishments with national distribution. If the cities were ranked on the basis of the proportion of their respective sales in the hands of establishments with national distribution, Detroit would take first position, St. Louis second, Chicago third, and New York City fourth. Fully half of the 18 cities reported approximately 10 or more per cent of their respective paint and varnish sales being handled by firms with national distribution. *This tends to show that paints and varnishes are susceptible to distribution over a very wide area from single distribution centers.*[7]

At the other extreme from national distribution lies what is commonly known as local distribution, which, for census purposes, means distribution from a single establishment within a sales territory radius under 75 miles. The table shows that those houses whose sales territory did not extend beyond a radius of 75 miles did over one-fourth of the total business in the cities of Milwaukee,

[7] From the data presented in Table 9 it is impossible to determine: (1) How much business was done within the city by an establishment having a 500-mile radius, for example, and how much was located within the nearby areas; (2) how many of the commodities sold by the establishment were sold in distant territories, i. e., the larger radius is frequently used for the sale of only one or two specialties of which the wholesaler may have an exclusive franchise.

Time, 11.10 a.m.

Baltimore, Atlanta, and New Orleans; and that houses of this class did over one-fifth of the total business in the cities of San Francisco, Boston, Los Angeles, and Pittsburgh. Each and every one of the 18 cities reported establishments that confined their operations to a 75-mile radius, which indicates that local distribution of paints and varnishes is quite significant, although 7 of the cities showed less than 15 per cent of the business handled by houses that operated on a purely local scale. Sectional wholesaling seemed to be more prominent, however. The wholesale establishments of Denver, Colo., for example, operated over a radius of more than 500 miles but not nation-wide to the extent of 69.6 per cent of the paint and varnish business. About one-half of the business of Cleveland, Ohio, paint and varnish establishments was in the hands of concerns that operated over a similar radius, while 7 more cities showed more than one-fifth of the sales handled by firms covering a radius of more than 500 miles. *Thus, it appears that paint and varnish wholesaling from a single establishment is done largely on a national or sectional basis, although local wholesaling also plays a significant part.* These facts should prove of real value to wholesale organizations in establishing the best size sales territory, especially when used in conjunction with the data shown in Table 22. They may be equally valuable to a manufacturer who is desirous of working out a scientific distribution program.

ANALYSIS OF SALES IN THE PAINT AND VARNISH TRADE

Sales analysis by commodities.—Table 2 shows how paints and varnishes move through wholesale channels. From those data it is possible to ascertain the relative importance of various *types of wholesale organizations* operating in *different lines of trade* as outlets for paints and varnishes. This is of tremendous significance to the manufacturer of these products, inasmuch as it shows the movement of paints and varnishes outside of the paint and varnish trade proper as well as through paint and varnish establishments. Table 2 does not show, however, what percentage of the business of the paint and varnish trade consists in paints and varnishes proper and what other commodities are normally handled in the paint and varnish trade. Such information is presented in Table 10, below.

Fully 96.6 per cent of the sales by paint and varnish firms was reported by commodities. It may therefore be assumed that the remaining 3.4 per cent is distributed by lines of trade and by types of establishments in the same proportion as the 96.6 per cent. In this manner total amounts can be projected from the percentages given. For example, the amount in paints, varnishes, lacquers, and enamels handled by paint and varnish establishments of all types is shown to be $237,307,000, which is 80.9 per cent of the amount broken down by commodities. But the total amount broken down by commodities is 96.6 per cent of total net sales; hence 80.9 per cent of $303,637,000 (total net sales), or $245,642,333, which may be assumed to be the actual amount of paints and varnishes sold by paint and varnish establishments.

For all types of wholesale paint and varnish establishments combined, paints and varnishes proper made up 80.9 per cent of the volume. Animal and vegetable oils contributed 3 per cent of the business; nonferrous metals (not elsewhere classified), 2.8 per cent; and chemicals, refined and/or related products, 2.7 per cent. Many other commodities were handled by paint and varnish firms in the amounts indicated in the table.

The information in Table 10 affords an opportunity to a manufacturer to determine to what extent, if any, paint and varnish wholesale firms can be used as outlets for his type of products. It also enables a paint and varnish wholesaler to discover what items of merchandise are handled by others that hedoes not carry and, conversely, what items of merchandise he handles that are not normally carried by similar firms. This kind of presentation is also valuable to manufacturers. To illustrate, wholesale merchants reported 79.7 per cent of their sales to consist in paints and varnishes proper, while manufacturers' sales branches sold as high as 82 per cent of their total volume in such commodities.[8] This means that relatively, wholesale paint and varnish merchants offer a better opportunity as outlets for goods other than paints and varnishes than do manufacturers' sales branches. Just in what specific commodities these relative

[8] Contrary to popular conceptions, a number of manufacturers' sales branches handle noncompeting goods produced by other than the parent manufacturing company. To that extent they should be regarded as at least semipublic *outlets* for producers' goods, although the merchandising activities of manufacturers' sales branches are genreally centered upon their own products or upon the products of plants closely affiliated with the parent company.

opportunities lie can be further discovered through an examination of the data. Relatively little glass, for example, was handled by manufacturers' sales branches ($179,000), as compared with wholesale merchants who sold almost $3,000,000 worth of this commodity ($2,777,000). On the other hand, metals of different kinds were handled in substantial amounts by manufacturers' sales branches and very little by wholesale merchants.

TABLE 10.—WHOLESALE PAINT AND VARNISH TRADE, BY COMMODITIES—UNITED STATES: 1929

[Sales expressed in thousands of dollars]

Commodities	TOTAL		Wholesale merchants	Manufacturers' sales branches	Agents and brokers	All other types
	Amount [1]	Per cent of total				
Total net sales	$303,637	------	$117,493	$154,955	$10,306	$20,883
Reported commodity sales, per cent of total net sales	96.6	------	92.1	100.0	89.4	97.4
Reported commodity sales, total	$293,447	100.0	$108,192	$155,702	$9,218	$20,335
Per cent of total reported commodity sales	100.0	------	36.6	53.4	3.1	6.9
Books, magazines, and newspapers	$4	(2)	$4	------	------	------
Building materials not classified elsewhere	776	0.3	595	$142	$39	------
Building materials (ornamental)	248	0.1	------	248	------	------
Cameras and photographic supplies	144	0.1	144	------	------	------
Cement, lime, and plaster	175	0.1	174	------	------	$1
Chemicals, industrial and heavy	2,687	0.9	1,146	1,301	240	------
Chemicals, refined, and/or related products	7,850	2.7	1,920	3,491	1,528	911
China, glassware, and crockery (glassware)	2	(2)	2	------	------	------
Clothing and furnishings, men's and boys' work clothing	5	(2)	------	------	5	------
Drugs and drug sundries	306	0.1	280	------	26	------
Drugs, chemicals, and pharmaceuticals	143	------	143	------	------	------
Proprietary medicines	18	------	18	------	------	------
Druggists' sundries not elsewhere listed	30	------	4	------	26	------
Amount not shown in detail	115	------	115	------	------	------
Electrical appliances, equipment and supplies	10	(2)	------	2	8	------
Feeds, mixed and other	1,407	0.5	------	1,407	------	------
Fertilizer and fertilizer materials	114	(2)	114	------	------	------
Glass	2,956	1.0	2,777	179	------	------
Hardware	2,888	1.0	2,113	476	41	258
Builders' hardware	105	------	105	------	------	------
Shelf or light hardware	427	------	382	42	3	------
Tools and cutlery	155	------	148	------	5	2
Heavy hardware	15	------	15	------	------	------
Other hardware	2,140	------	1,417	434	33	256
Amount not shown in detail	46	------	46	------	------	------
House furnishings	277	0.1	277	------	------	------
Linoleums, felt base and other	111	------	111	------	------	------
House furnishings not listed elsewhere	166	------	166	------	------	------
Iron and steel products (except as classified)	10	(2)	------	------	10	------
Lead pigs, bars, sheets, and pipe	5,049	1.7	28	5,021	------	------
Machinery, equipment, and supplies (industrial)	597	0.2	174	393	30	------
Mining, quarrying, well drilling	1	------	1	------	------	------
Belting, hose, packing, and mechanical rubber goods	28	------	24	------	4	------
Pipe fittings, valves, and specialties	393	------	------	393	------	------
Rope, cordage, and twine	24	------	24	------	------	------
Industrial machinery and equipment	145	------	119	------	26	------
Amount not shown in detail	6	------	6	------	------	------
Nonferrous metals not elsewhere classified	8,109	2.8	------	8,109	------	------
Nonmetallic minerals (crude) and their products	315	0.1	193	------	------	122
Notions and dry goods, small wares	62	(2)	62	------	------	------
Oils, animal and vegetable	8,945	3.0	3,330	5,532	41	42
Paints, varnishes, lacquers, and enamels	237,307	80.9	86,238	126,871	7,055	17,143
Paper (wrapping, book, wall paper, etc.)	3,331	1.1	3,229	63	23	16
Book paper, uncoated	14	------	14	------	------	------
All other paper	3,288	------	3,190	59	23	16
Amount not shown in detail	29	------	25	4	------	------
Paper products	65	(2)	23	42	------	------

[1] As reported. The amount given in this column for any one commodity may be projected to a total figure by multiplying the percentage by the total net sales ($303,637,000). Where the percentage is not given in the table, it is necessary to obtain it by dividing the amount of the commodity by $293,447,000 and then to multiply the percentage by $303,637,000.

[2] Less than one-tenth of 1 per cent.

TABLE 10.—WHOLESALE PAINT AND VARNISH TRADE, BY COMMODITIES—UNITED STATES: 1929—Continued

[Sales expressed in thousands of dollars]

Commodities	TOTAL		Wholesale merchants	Manufacturers' sales branches	Agents and brokers	All other types
	Amount	Per cent of total				
Petroleum and petroleum products	579	0.2	459	117	3	
Gasoline and naphthas	41		41			
Fuel oils, gas oils, and furnace oils	1			1		
Lubricating oils and greases	336		217	116	3	
All other petroleum products	187		187			
Amount not shown in detail	14		14			
Piece goods (cotton)	300	0.1	300			
Plumbing and heating equipment and supplies (stoves and ranges)	4	(2)	4			
Radios, parts, and accessories	19	(2)	19			
Rubber, crude	1,865	0.6	50			1,815
Seeds (garden)	7	(2)	7			
Sheet-metal work	6	(2)			6	
Soap and toilet preparations	33	(2)	33			
Soap, toilet and other	11		11			
Toilet preparations and cosmetics	5		5			
Amount not shown in detail	17		17			
Sporting goods	933	0.3		933		
Textile products, not classified elsewhere	304	0.1	291		13	
Tin, block	125	(2)		125		
Wood products	493	0.2	334	117	42	
Miscellaneous commodities	5,140	1.8	3,872	1,133	108	27

[2] Less than one-tenth of 1 per cent.

Sales analysis—General summary.—Table 11 presents a bird's-eye view of the nature of sales in the paint and varnish trade. It shows the number of establishments, the gross sales, returned goods and allowances, net sales, credit sales, sales made to industrial consumers, sales to home or ultimate consumers (at retail), and the sales of goods manufactured in the establishments covered in this report where the bulk of the business consisted of distribution rather than of manufacturing or production.

Statistics for each of the items discussed below are given in terms of those establishments which reported on the item under consideration. This does not mean, however, that those which did not report credit sales, for example, did not extend any credit. While such is probably the case with most establishments not reporting credit sales, it may be that some of them merely had no information on the subject or failed to report accurately on the item, and hence were not included in the number of establishments reporting credit sales.

TABLE 11.—SALES ANALYSIS OF PAINT AND VARNISH HOUSES—GENERAL SUMMARY UNITED STATES: 1929

	Number or amount	Per cent of net sales
Number of establishments	995	
Gross sales	$308,816,402	101.71
Returns and allowances	5,179,248	1.71
Net sales	303,637,154	100.00
Credit sales	266,003,658	87.61
Sales to industrial consumers	92,618,589	30.50
Sales to home consumers	9,479,477	3.12
Sales of goods of own manufacture	12,702,586	4.18

Returned goods and allowances.—The gross sales of all paint and varnish establishments, amounting to $308,816,402, consisted of $303,637,154 in net sales and $5,179,248 in returned goods and allowances. Thus, the returns and allowances constituted 1.71 per cent of all net sales. Numerous causes may have been responsible for these returns and allowances. Among the reasons most commonly given, according to various nongovernmental surveys, are: Errors in filling orders, undesirable substitutions made without the consent of the purchaser, delay in delivery, filling back orders too late, overbuying on the part of customers, errors made by salesmen in recording the wants of their customers, etc. Whatev the causes, *the burden placed upon the distribution system as a result of returns a allowances is very substantial.*

Of the 995 paint and varnish establishments, only 451 reported returned goods and allowances. The remaining establishments either had no returns and had made no allowances to customers during the year or had no information on the item. In some cases the information was so obviously incorrect that it was not included in this particular analysis. For the 451 establishments the returns and allowances were 3.1 per cent of their net sales. This percentage varied from 2.7 for manufacturers' sales branches to 3.6 for wholesale merchants, and the unusually high percentage of 7.9 for agents and brokers.

TABLE 12.—RETURNS AND ALLOWANCES, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	ALL ESTABLISHMENTS				ESTABLISHMENTS REPORTING RETURNS AND ALLOWANCES		
	Number	Net sales	Returns and allowances		Number	Net sales	Per cent of net sales
			Amount	Per cent of net sales			
Total	995	$303,637,154	$5,179,248	1.7	451	$164,580,521	3.1
Wholesale merchants	565	117,493,014	2,264,131	1.9	265	62,316,836	3.6
Manufacturers' sales branches	327	154,955,283	2,394,657	1.5	158	87,346,525	2.7
Agents and brokers	56	10,305,843	249,173	2.4	14	3,148,308	7.9
All other types	47	20,883,014	271,287	1.3	14	11,768,852	2.3

Credit sales in the paint and varnish trade.—Table 13 shows that credit occupies a prominent position in the wholesale distribution of paints and varnishes. Approximately 88 per cent (87.6) of all the paint and varnish trade was conducted on a credit basis. When the percentage is calculated on the basis of the net sales of those firms that reported credit sales it becomes much higher—94.7 per cent. On this latter basis manufacturers' sales branches reported the highest ratio of credit to net sales. Agents and brokers were next in rank with 98.7 per cent of their business on credit, and wholesale merchants were last with 88.9 per cent credit sales. It is interesting to note that practically 60 per cent of the agents and brokers extended credit accommodations to their customers, which is quite contrary to current conceptions, at least on the part of laymen. About 81 per cent of all wholesale merchants operated on a credit basis, and about 82 per cent of the manufacturers' sales branches followed a similar practice.

The figures in Table 13 indicate that manufacturers' sales branches extended a larger percentage of credit than wholesale merchants, probably because they operate somewhat on a different plane, at least to the extent to which they sell to wholesale merchants, also in the degree of their sales to industrial consumers as will be pointed out in Table 14. It also shows that, as far as credit is concerned, when a manufacturer chooses to sell through his own sales branches instead of going through wholesalers he does not eliminate the wholesaler's functions. He merely undertakes to perform them himself.

TABLE 13.—CREDIT SALES, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	ALL ESTABLISHMENTS				ESTABLISHMENTS REPORTING CREDIT SALES		
	Number	Net sales	Credit sales		Number	Net sales	Per cent of net sales
			Amount	Per cent of net sales			
Total	995	$303,637,154	$266,003,658	87.6	799	$280,826,651	94.7
Wholesale merchants	565	117,493,014	92,991,229	79.1	458	104,660,125	88.9
Manufacturers' sales branches	327	154,955,283	148,123,742	95.6	269	149,521,377	99.1
Agents and brokers	56	10,305,843	6,655,836	64.6	33	6,745,299	98.7
All other types	47	20,883,014	18,232,852	87.3	39	19,899,850	91.6

Sales to industrial consumers.—The popular conception of a wholesaler on the part of the layman is that of a merchant who sells to retailers for resale to home consumers. That this is far from a complete picture is revealed in Table 14, below. Fully 30.5 per cent of all sales made by paint and varnish wholesale establishments were to industrial consumers such as manufacturers, operators of mines and quarries, oil-well concerns, railroads, public utilities, and to others who buy goods, not for home consumption, but for business use. This business did not enter the retail field at all and was not transacted through retail stores.

Of the 565 wholesale merchants, 177 sold goods to industrial consumers. The volume of such sales was 20.7 per cent of the net sales of all wholeslae merchants and 41 per cent of the net sales of the 177 establishments reporting such sales. Among the manufacturers' sales branches, 170 of the 327 made sales to industrial consumers, such sales being 34 per cent of the net sales for all manufacturers' sales branches and 58.5 per cent of the net sales of those reporting sales to industrial consumers. While only 19 of the agents and brokers sold to industrial consumers such sales constituted 93.3 per cent of their net sales, indicating a high degree of specialization in industrial selling.

TABLE 14.—SALES TO INDUSTRIAL CONSUMERS, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	ALL ESTABLISHMENTS				ESTABLISHMENTS REPORTING SALES TO INDUSTRIAL CONSUMERS		
	Number	Net sales	Sales to industrial consumers		Number	Net sales	Per cent of net sales
			Amount	Per cent of net sales			
Total	995	$303,637,154	$92,618,589	30.5	381	$168,207,600	55.1
Wholesale merchants	565	117,493,014	24,358,750	20.7	177	59,392,983	41.0
Manufacturers' sales branches	327	154,955,283	52,736,515	34.0	170	90,113,582	58.5
Agents and brokers	56	10,305,843	2,174,574	21.1	19	2,329,601	93.3
All other types	47	20,883,014	13,348,750	63.9	15	16,371,434	81.5

Sales to home consumers.—It is true that wholesale establishments are not supposed to sell to consumers at retail. It is also true that retailers are not supposed to sell to other retailers at wholesale. These types of transactions take place nevertheless, and in some lines of trade they are given full sanction and are accepted as a part of normal business activity. Such a combination of wholesale and retail business is frequently referred to as "semijobbing."

The amount sold to ultimate or home consumers at retail by wholesale paint and varnish establishments was $9,479,477, or 3.12 per cent of total net sales.[9] Naturally, not all wholesale establishments made such sales. As shown in Table 15, only 74 of the 327 manufacturers' sales branches followed this practice to the extent of 10.6 per cent of their net sales, and only 10 of the agents and brokers followed the same procedure. However, the practice of selling at retail was more widespread among wholesale merchants, of whom 267 of the 565 made such sales to the extent of 13.7 per cent of their net sales. These data show that retailing on the part of paint and varnish wholesalers is quite generally indulged in and that sales made in this manner are an important part of the business of those who engage in the performance of the dual function.

[9] According to retail census, paint stores sold to other retailers (at wholesale) goods amounting to $3,299,094.

TABLE 15.—SALES TO HOME CONSUMERS, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	ALL ESTABLISHMENTS				ESTABLISHMENTS REPORTING SALES TO HOME CONSUMERS		
	Number	Net sales	Sales to home consumers		Number	Net sales	Per cent of net sales
			Amount	Per cent of net sales			
Total	995	$303,637,154	$9,479,477	3.1	353	$75,225,852	12.6
Wholesale merchants	565	117,493,014	7,501,847	6.4	267	54,822,852	13.7
Manufacturers' sales branches	327	154,955,283	1,866,867	1.2	74	17,598,734	10.6
Agents and brokers	56	10,305,843	104,387	1.0	10	830,137	12.6
All other types	47	20,883,014	6,376	-------	2	1,974,129	0.3

Sale of goods of own manufacture.—Relatively few manufacturing wholesalers may be found in the paint and varnish trade. (See Table 16.) Only 41 of the 565 wholesale merchants did any manufacturing on their premises. The amount so produced had a selling value, however, of $6,891,122, or 39.7 per cent of the net sales of those reporting the sales of goods of own manufacture. Among the manufacturers' sales branches only 11 combined manufacturing with the wholesaling of goods in the same establishment. But the selling value of the goods so produced was 67.7 per cent of the net sales of these 11 establishments. *No wholesale merchant establishment has been included in this report that is primarily engaged in manufacturing, i. e., producing 50 per cent or more of its goods in the same location.* On the whole, the amount of manufacturing carried on in the paint and varnish wholesale field is not insignificant, especially when compared with certain other trades where this practice is virtually unknown. The total so produced was 4.18 per cent of the net sales for all establishments and approximated $13,000,000 ($12,702,586).

TABLE 16.—SALES OF GOODS OF OWN MANUFACTURE, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	ALL ESTABLISHMENTS				ESTABLISHMENTS REPORTING SALES OF GOODS OF OWN MANUFACTURE		
	Number	Net sales	Sales of goods of own manufacture		Number	Net sales	Per cent of net sales
			Amount	Per cent of net sales			
Total	995	$303,637,154	$12,702,586	4.2	58	$24,409,242	52.0
Wholesale merchant	565	117,493,014	6,891,122	5.9	41	17,352,399	39.7
Manufacturers' sales branches	327	154,955,283	1,672,730	1.1	11	2,471,162	67.7
Agents and brokers	56	10,305,843	-------	-------	-------	-------	-------
All other types	47	20,883,014	4,138,734	19.8	6	4,585,681	90.3

OPERATING EXPENSES [10]

The nature of the statistics.—The total expense figures used by the wholesale division of the Census of Distribution comprise five elements:

1. Salaries and wages paid.
2. Expenses of salesmen paid.
3. Rent paid.
4. Interest paid.
5. All other expenses paid during the year.

The first group is further subdivided into salaries and wages of salesmen, of executives, and of all other employees. In securing information for each of the five items, the enumerators were instructed to get only the actual money outlays for the items included, hence rent was not supposed to be reported for owned premises, nor interest on owned capital. *The "all other expense" item does not include net profits nor cost of the merchandise sold.* Such items as taxes; insurance; administrative; office and overhead expense; maintenance; delivery; stationery and supplies, light, heat, and power were supposed to be included. The following quotation from the printed instructions to the field force is of interest:

> A practical method of determining the amount of "all other expenses" is to take the total operating expenses, which most firms have at hand, and deduct from this the sum of all expense items specifically provided for in the schedule—wages, salaries, commissions, bonuses, expenses of salesmen; rent; and interest. Sometimes it may be necessary to estimate the total operating expense by a building-up process and then deduct from it the sum of all items of expense listed separately in order to obtain all other expenses.

Considerable confidence may be placed in the figures for total expenses. The value of an adequate accounting system has been so impressed upon the wholesaler by trade associations, bureaus of business research, and income-tax requirements that the census field force faced a much better group for the gathering of wholesale trade statistics than was possible in many other trades. While it is true, of course, that uniform accounting systems are not generally used, there is little fundamental difference in bookkeeping practice with respect to the few items required by the Census. Moreover, since the entire field has been covered, minor discrepancies tend to offset each other through the operation of the law of averages. In the case of total salaries and wages, and in the case of salesmen's salaries and wages and expenses of salesmen, it is felt that the figures are particularly satisfactory. Wholesalers watch these items much more closely, as a general rule, than do most merchants and constantly use the ratios of expenses to sales as checks upon the efficiency of their employees.

Summary of operating costs.—Table 17 shows the cost of distributing paints and varnishes at wholesale as reported by the establishments included in this report. For all types of organizations combined the cost was *19.4 per cent* of net sales. This percentage varied from 18.1 for manufacturers' sales branches to 21.5 per cent for agents and brokers, and 21.8 per cent for wholesale merchants. The lowest costs are shown for "all other" types of wholesale establishments, the composition of which is given in the footnote to Table 4.

Wholesale merchants showed operating costs 3.7 points higher than for manufacturers' sales branches. This difference in favor of the manufacturers' sales branches may be explained partly by the fact that the latter sell a larger proportion to industrial consumers (34 per cent of their net sales as against 20.7 per cent of the net sales of wholesale merchants) who usually buy in larger quantities than do many retailers. Then, again, manufacturers' sales branches probably sold some of their goods to wholesale middlemen rather than to retailers. Such sales are usually made in larger amounts, the credit risks are superior, and fewer services need to be rendered in making the sales. In other words, *some of the difference in costs between these two types of organizations may be due to differences in the types of customers to which they cater as well as to differences in their respective size of operations, although much of the difference in favor of manufacturers' sales branches is no doubt due to efficiency in management and operation.*

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[10] In the figures on operating expenses are included only those items which are normally regarded as such by most business men. They do not include depreciation, obsolescence, or interest on invested capital. The figures presented in this section, however, approximate the expenses actually incurred and are particularly useful for comparison purposes as between different lines of trade and different types of wholesale organizations, inasmuch as they have all been treated in the same manner.

TABLE 17.—TOTAL OPERATING EXPENSES, BY TYPE OF ESTABLISHMENT—UNITED STATES: 1929

TYPE OF ESTABLISHMENT	Net sales	TOTAL EXPENSES	
		Amount	Per cent of net sales
Total	$303,637,154	$58,964,382	19.4
Wholesale merchants	117,493,014	25,619,894	21.8
Manufacturers' sales branches	154,955,283	28,035,079	18.1
Agents and brokers	10,305,843	2,220,811	[1] 21.5
All other types	20,883,014	3,038,598	14.6

[1] Includes 3 brokers with operating expenses of 14.8 per cent and 8 selling agents with operating expenses of 8.4 per cent. The remaining 45 establishments in this group were manufacturers' agents, some of whom operated on a very high expense ratio, bringing the average for the group up to 21.5 per cent.

Analysis of operating expenses of wholesale merchants.—In order to make the analysis of operating expenses in its component parts meaningful, this discussion is confined to a homogeneous group comprising only wholesale merchants. This group had a total cost of doing business (not including the cost of goods sold) of 21.8 per cent of net sales. A total of 6,693 people were employed, receiving 11.5 per cent of net sales in compensation. These employees were divided into 502 executives who received 2.2 per cent; 1,925 salesmen who were paid 4 per cent; and 4,266 warehouse, delivery, and office employees whose salaries and wages absorbed another 5.3 per cent. The average salaries or wages per employee were $5,029 for executives, $2,460 for salesmen, and $1,455 for all other employees. Selling expenses proper constituted 5.4 per cent of net sales, of which 4 per cent was for salesmen's salaries and 1.4 per cent covered the traveling and other expenses of salesmen.

Of the 565 establishments, 455 paid rent for the premises which they occupied, while 110 presumably owned their places of business. The amount paid in the form of rent, *based on the net sales only of those who reported as having paid rent to outsiders during the year*, was 1.8 per cent of net sales. All other expenses not analyzed in detail amounted to 7.6 per cent of net sales.

TABLE 18.—OPERATING EXPENSE ANALYSIS OF WHOLESALE MERCHANTS

	Number	Amount	Average salaries	Per cent of net sales
Establishments	565			
Net sales		$117,493,014		100.0
Total expenses		25,619,894		21.8
Salaries and wages	6,693	13,464,298		11.5
Executives	502	2,524,422	$5,029	2.2
Salesmen	1,925	4,734,888	2,460	4.0
All other employees	4,266	6,204,988	1,455	5.3
Expenses of salesmen		1,649,421		1.4
Rent [1]	455	1,568,566		1.8
All other expenses		8,937,609		7.0

[1] Rent per cent of net sales computed only for those showing rent.

Frequency distribution of expense ratios for wholesale merchants.—To throw further light on operating costs in paint and varnish wholesaling and to discover the range of such expenses, a distribution of expense ratios was prepared for the wholesale merchants in this trade. (See Table 19 and Chart II.) At first glance such a wide range of expense ratios as appear in Table 19 seem absurd if not impossible. A careful examination of the schedules themselves from which these data were compiled leaves no doubt as to the correctness of the situation as depicted. The figures do represent actual conditions, but certain qualifications must be made with regard to the expense percentages at both extremes. The

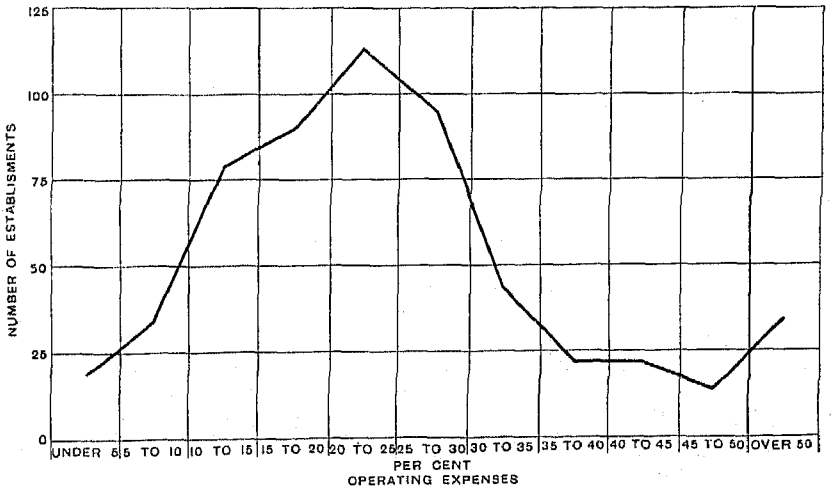
high-expense ratios need little explanation. It is a well-known fact that not all in business make profits. On the contrary, many businesses show losses even in prosperous times. After all, only 34 of the establishments showed costs over 50 per cent of net sales and only about 10 per cent of all the wholesale merchants had more than twice the average operating expenses. Many of these establishments operated on a very small scale. Some of them were just getting started in business, hence the initial expenses were responsible for high costs. On the other extreme, 19 establishments showed operating expenses under 5 per cent. It is possible that a few of them were actually drop shippers but reported themselves as service wholesalers, while others were unusually efficient or operated in peculiar ways not disclosed in the reports, perhaps specializing in the handling of such items as white lead in quantities.

TABLE 19.—FREQUENCY DISTRIBUTION OF OPERATING EXPENSE PERCENTAGES, WHOLESALE MERCHANTS—UNITED STATES: 1929

OPERATING EXPENSE PERCENTAGES	Number of establishments	Cumulative frequency of establishments	Average annual sales per establishment
Under 5 per cent	19	19	$190,441
5 to 9.99 per cent	34	53	252,254
10 to 14.99 per cent	79	132	162,253
15 to 19.99 per cent	90	222	219,268
20 to 24.99 per cent	113	335	310,418
25 to 29.99 per cent	95	430	229,475
30 to 34.99 per cent	43	473	140,482
35 to 39.99 per cent	22	495	175,805
40 to 44.99 per cent	22	517	121,542
45 to 49.99 per cent	14	531	81,954
Over 50 per cent	34	565	62,936

Approximately 80 per cent of the establishments had costs between 5 per cent and 35 per cent. *The modal average for the group, i. e., the most characteristic or most frequent cost ratio found in the distribution, amounting to 22.5 per cent, was but 0.7 per cent higher than the simple arithmetic average shown in the other tables.* This means that for all practical purposes the arithmetic average of 21.8 per cent may be used. However, the range was unusually great. This, coupled with the fact that 132 merchants kept their costs down to less than 15 per cent, would tend to point to possibilities for improvement along these lines.

CHART II.—FREQUENCY DISTRIBUTION OF OPERATING EXPENSE PERCENTAGES, WHOLESALE PAINT AND VARNISH MERCHANTS—UNITED STATES: 1929



Operating expenses in relation to location of establishments.—According to Table 20, sectional differences seem to account for certain variations in the costs of doing business. Operating expenses for wholesale paint and varnish merchants ranged from a low of 18.2 per cent for the Middle Atlantic Division (as compared with an average for the United States of 21.8 per cent) to a high of 30.4 per cent for the wholesalers located in the East South Central States, a variation of 12.2 points. Both the West North Central Division and the West South Central Division had costs around 26 per cent.

In all cases, without a single exception, salaries and wages approximated one-half of the total operating expenses. For the entire United States salaries and wages of the wholesale merchants in the paint and varnish trade amounted to 11.5 per cent of net sales against operating expenses of 21.8 per cent. The wholesale merchants located in the Middle Atlantic States paid in salaries and wages 9.4 per cent of their net sales and their operating expenses were but 18.2 per cent. In the East South Central States, however, where the costs of doing business amounted to 30.4 per cent, salaries and wages were 15.6 per cent.

The size of the inventories carried, no doubt, had some effect upon operating expenses, although the relationship is not very clear on the basis of the statistics shown in the table. Apparently stocks of goods are not carried in the same proportion in different parts of the United States. The largest stocks in relation to sales are shown for the Mountain, Pacific, and West South Central Divisions, all far removed from the sources of paint production. The lowest stocks are carried in the West North Central and the Middle Atlantic Divisions, the range from the lowest to the highest ratios of stocks to sales being 9.8 per cent of net sales. To trace the effect of stocks on hand upon operating expenses in relation to other factors such as salaries and wages would require multiple or partial correlation analysis that is beyond the scope of this study.

TABLE 20.—OPERATING EXPENSES OF WHOLESALE MERCHANTS BY GEOGRAPHIC DIVISIONS: 1929

GEOGRAPHIC DIVISION	Number of establishments	Net sales, per cent of total	Total expenses, per cent of net sales	Salaries and wages, per cent of net sales	Stocks on hand, per cent of net sales
United States, total	565	[1] 100.0	21.8	11.5	19.0
New England	57	9.2	22.9	12.1	22.3
Middle Atlantic	170	30.8	18.2	9.4	16.5
East North Central	134	22.5	21.4	11.7	17.2
West North Central	52	8.8	26.0	13.3	16.0
South Atlantic	36	5.4	21.9	11.0	22.1
East South Central	8	1.3	30.4	15.6	20.7
West South Central	32	5.6	26.8	13.1	25.0
Mountain	15	2.9	24.6	11.1	25.8
Pacific	61	13.5	23.7	13.3	25.4

[1] Total net sales—$117,493,014.

SIZE OF ESTABLISHMENT

Operating expenses of wholesale merchants in relation to size of the business.—As shown in Table 21 and Chart III, there were 135 paint and varnish wholesale merchants with less than $50,000 annual business each. Together, these establishments, while constituting 23.9 per cent of all the wholesale merchants, contributed but 2.9 per cent of the business for the group. Another 129 merchants doing an annual business of $50,000 to $100,000 added another 8 per cent of the business. Thus, almost one-half (46.7 per cent) of all the wholesale merchants accounted for less than 11 per cent (10.9) of the business reported by all wholesale merchants. This *indicates that paint and varnish wholesaling is not essentially a large-scale business.* In fact, about five-sixths (83.7 per cent) of all wholesale merchants had annual sales under $300,000 each. On the other extreme, 13 of the establishments, or 2.3 per cent of the firms, with business of a million dollars and over per annum, transacted 24 per cent of the total net sales. This shows that while essentially paint and varnish wholesaling is not a large-scale enterprise as far as individual wholesale merchant establishments are concerned, it is also conducted on a relatively large scale.

CHART III.—NUMBER OF ESTABLISHMENTS AND NET SALES BY SIZE OF BUSINESS, WHOLESALE PAINT AND VARNISH MERCHANTS—UNITED STATES: 1929

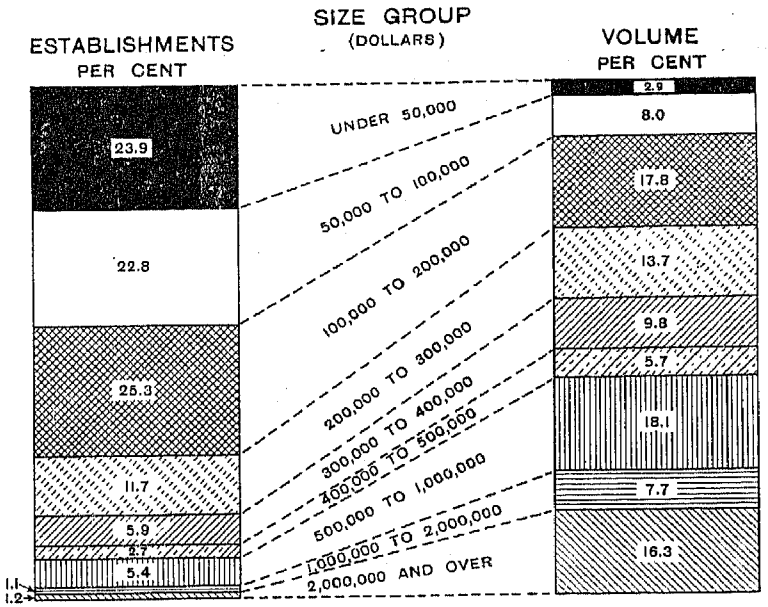
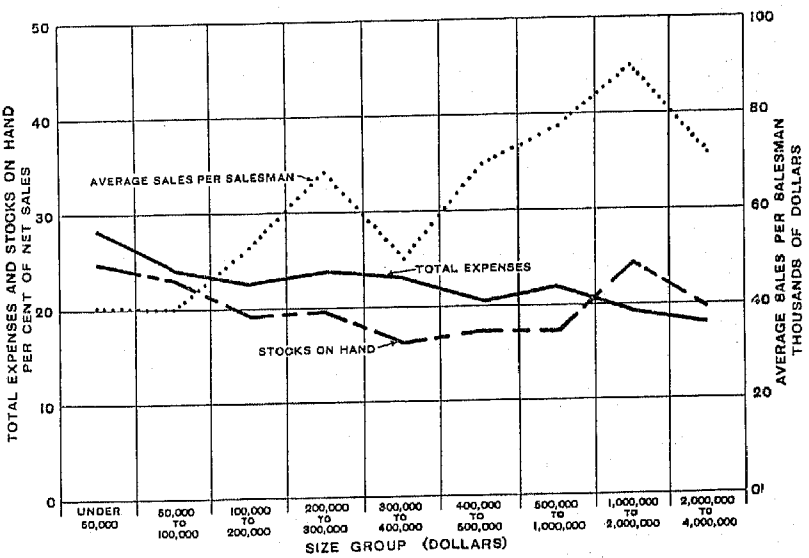


CHART IV.—EXPENSES, SALES PER SALESMAN, AND STOCKS ON HAND, BY SIZE OF BUSINESS, WHOLESALE PAINT AND VARNISH MERCHANTS—UNITED STATES: 1929

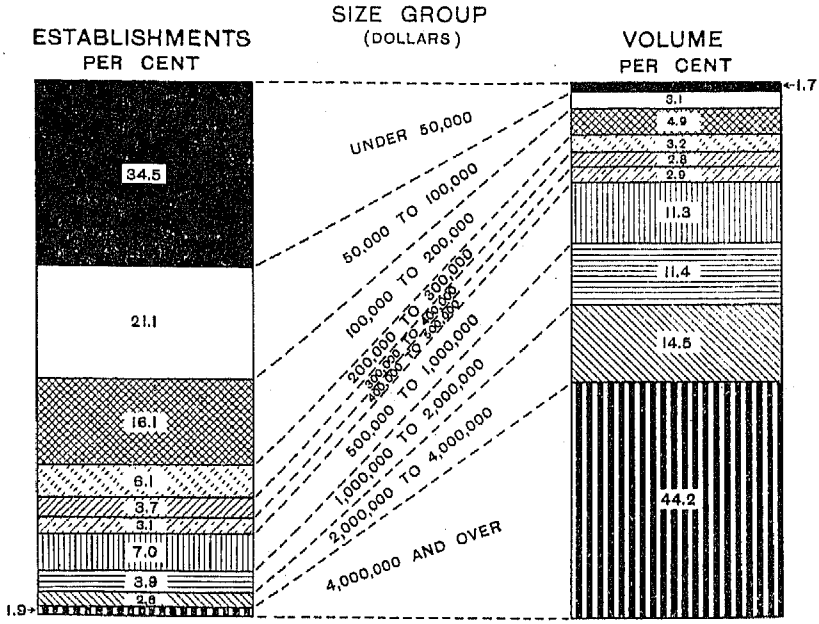


There is a general tendency for operating expenses to decrease as the size of the business increases. The lowest costs are shown in Table 21 and Chart IV for the 7 firms with annual sales of $2,000,000 to $4,000,000. Their costs were 18 per cent of net sales as compared with average costs for all wholesale mer-

chants of 21.8 per cent and 28.2 per cent for the establishments with sales under $50,000 annually. The second lowest costs (19.3 per cent) are shown for the 6 firms with annual sales of $1,000,000 to $2,000,000. Just what seems to cause the differences in operating costs with variations in size is difficult to say without further analyses that are beyond the scope of this study, although an examination of Table 21 may throw some light on the subject. As already pointed out, labor costs as expressed in salaries and wages may be one factor, while stocks on hand apparently also exercise some influence. Sales per salesman, as well as the size of the territory covered, may also affect the results.

Manufacturers' sales branches, by size of business.—Here, too, the small-scale establishments predominated as far as numbers are concerned. Of the 327 manufacturers' sales branches, 113 (34.5 per cent) had annual sales under $50,000 and handled only 1.7 per cent of the business of the entire group. Another 69 establishments, with sales of $50,000 to $100,000, cared for 3.1 per cent of the business. Less than 10 per cent (9.8 per cent) of all the sales reported for the manufacturers' sales branches were handled by almost three-fourths (71.7 per cent) of the establishments. On the other hand, over 70 per cent of the business (70.1 per cent) was handled by less than 10 per cent (7.4 per cent) of the establishments. *This shows a high degree of concentration of the paint and varnish business in the hands of a few manufacturers' sales branches,* probably maintained by the largest paint-producing companies. *At the same time it seems to indicate a possibility of distributing the product on a small scale,* since the differences in costs of doing business for all but the smallest and largest concerns were not great. (See Table 21 and Chart IV.)

CHART V.—NUMBER OF ESTABLISHMENTS AND NET SALES BY SIZE OF BUSINESS, PAINT AND VARNISH MANUFACTURERS' SALES BRANCHES—UNITED STATES: 1929



The highest operating expenses for manufacturers' sales branches are shown for the group with annual sales under $50,000. These establishments had costs of 33.2 per cent of net sales, as compared with average costs of 18.1 per cent for all sales branches and 12.2 per cent for the branches with sales of $4,000,000 to $25,000,000. High costs are also shown for the 12 establishments with annual sales of $300,000 to $400,000. *It is interesting to note that the largest establishments, with the lowest operating costs, had the highest sales per salesman, the lowest*

expenditures in salesmen's salaries, and the lowest stocks on hand. It is also significant that stocks on hand decreased gradually as the size of business increased and sharply decreased for the branches with more than a million dollars of sales per annum. (See Table 21.)

TABLE 21.—WHOLESALE PAINT AND VARNISH TRADE, BY SIZE OF ESTABLISHMENT—UNITED STATES: 1929

WHOLESALE MERCHANTS

SIZE GROUP	Number of establishments	Net sales, per cent of total	Total expenses per cent of net sales	Number of salesmen	Average sales per salesman	Salesmen's salaries, per cent of net sales	Stocks on hand, per cent of net sales
Total	565	[1] 100.0	21.8	1,925	$61,035	4.0	[3] 19.4
Under $50,000	135	2.9	28.2	84	40,429	4.0	24.8
$50,000 to $99,999	129	8.0	24.0	235	40,009	4.3	23.1
$100,000 to $199,999	143	17.8	22.5	397	52,727	4.0	19.3
$200,000 to $299,999	66	13.7	23.8	240	68,792	3.7	19.7
$300,000 to $399,999	33	9.8	22.9	230	50,044	4.3	16.2
$400,000 to $499,999	15	5.7	20.5	95	69,764	3.5	17.3
$500,000 to $999,999	31	18.1	22.0	276	77,107	3.8	17.3
$1,000,000 to $1,999,999	6	7.7	19.3	101	32,876	3.0	24.4
$2,000,000 to $3,999,999	7	16.3	18.0	267	71,774	4.9	19.5

MANUFACTURERS' SALES BRANCHES

Total	327	[2] 100.0	18.1	1,989	$77,906	4.3	10.3
Under $50,000	113	1.7	33.2	130	20,314	12.0	21.2
$50,000 to $99,999	69	3.1	26.1	127	38,332	8.0	17.5
$100,000 to $199,999	53	4.9	24.9	213	35,401	7.8	16.4
$200,000 to $299,999	20	3.2	26.6	113	43,328	7.8	15.0
$300,000 to $399,999	12	2.8	31.4	101	42,769	6.2	14.6
$400,000 to $499,999	10	2.9	20.7	84	53,882	7.1	14.9
$500,000 to $999,999	23	11.3	24.9	271	64,452	5.8	14.1
$1,000,000 to $1,999,999	13	11.4	23.8	298	59,022	5.7	9.9
$2,000,000 to $3,999,999	8	14.5	15.9	282	79,705	4.6	9.3
$4,000,000 to $25,000,000	6	44.2	12.2	370	185,492	1.9	7.3

[1] Total net sales amounted to $117,493,014.
[2] Total net sales amounted to $154,955,283.
[3] This figure must not be confused with stock turn, which can not be computed from census figures, due to lack of information on net profits. Computation of stock turn requires that inventory and sales figures be on the same basis, either cost or selling price. Census figures for inventory are on a cost basis which is not comparable with net sales figures. Lack of net profit information and, hence, of gross margins prevents the conversion of sales and inventory figures to the same basis. Furthermore, stock-turn computation should use average inventory figures which are lacking here.

SIZE OF SALES TERRITORY

Of the 565 wholesale merchants operating in the paint and varnish trade, all but 6 indicated the sales territory which they cover regularly. The six concerns which did not report on this point were probably located in towns under 10,000 population and hence reported on schedules which had no provision for such information. Over 60 per cent (61.4 per cent) of those reporting the sales territory operated locally within a radius of 75 miles; 52 establishments, or 9.2 per cent, reported a sales-territory radius of between 75 and 150 miles; 66 covered a radius of 150 to 250 miles; 38 covered a territory of 250 to 500 miles; 24 covered a radius over 500 miles but did not operate nation-wide; 26 were national distributors; and 6 others sold in the United States and in foreign countries.

All of the manufacturers' sales branches reported the sales territory which they cover regularly. Only 37 per cent of the branches confined their operations within a radius of 75 miles as against more than 60 per cent of the wholesale merchants so operating. About the same percentage of the branches operated nationally as in the case of wholesale merchants (5.5 per cent), hence most of the manufacturers' branches might be termed as sectional distributors.

TABLE 22.—OPERATING EXPENSES, BY SIZE OF SALES TERRITORY COVERED REGULARLY

WHOLESALE MERCHANTS

EXTENT OF SALES TERRITORY COVERED REGULARLY	Number of establishments	Net sales	Average sales per establishment	Total expenses, per cent of net sales	SALESMEN			
					Number	Average per salesman	Salaries, per cent of net sales	Expenses, per cent of net sales
Total	565	$117,493,014	$207,952	21.8	1,925	$61,035	4.0	1.4
Up to 75 miles	347	40,102,708	115,570	23.5	678	59,149	3.6	.8
Up to 150 miles	52	21,810,716	419,437	15.6	232	94,012	3.0	1.3
Up to 250 miles	66	16,325,357	247,354	24.1	242	67,460	3.6	2.0
Up to 500 miles	38	12,245,772	322,257	26.2	257	47,649	4.8	2.5
Over 500 miles, but not national	24	6,211,889	258,829	29.1	174	35,701	6.4	2.7
National	26	16,062,457	617,787	18.1	278	57,779	5.9	1.2
United States and foreign countries	6	3,927,961	654,660	20.7	64	61,374	3.2	1.0
Unknown	6	806,154	134,359	16.9				

MANUFACTURERS' SALES BRANCHES

Total	327	$154,955,283	$473,869	18.1	1,989	$77,906	4.3	2.4
Up to 75 miles	120	13,223,529	109,285	25.9	326	40,563	7.6	3.3
Up to 150 miles	37	7,224,242	195,250	15.0	150	48,162	6.0	2.3
Up to 250 miles	82	15,097,795	184,119	26.9	303	49,828	6.4	3.0
Up to 500 miles	37	20,628,753	557,534	16.5	190	108,572	3.2	2.6
Over 500 miles, but not national	33	41,094,880	1,245,299	20.6	553	74,313	4.6	3.2
National	15	30,572,008	2,038,134	17.1	383	79,822	4.4	2.5
United States and foreign countries	3	27,114,076	9,038,025	8.9	84	322,787	1.1	.5

As shown in Table 22, expenses of salesmen of wholesale merchants which include traveling and other expenses incurred by salesmen while soliciting business increased sharply as the sales territory widened. For wholesale merchants, the average expenses of salesmen were 1.4 per cent of net sales, ranging from 0.8 per cent for the firms operating locally within a radius of 75 miles to as high as 2.7 per cent for those covering over 500 miles but not operating nation-wide. Salesmen's salaries also show a decided increase for the firms operating over a wider territory. Thus, the 24 wholesale merchants that operated over a territory of more than 500 miles but not nation-wide showed a total direct selling cost (salesmen's salaries plus expenses of salesmen) of 9.1 per cent, as compared with average selling costs for all wholesale merchants of 5.4 per cent, 4.4 per cent for the establishments operating locally, and 4.3 per cent for the 52 merchants covering a territory up to 150 miles. These costs then increased to 5.6 per cent for those establishments that covered a radius of 250 miles and to 7.3 per cent for the establishments operating over a territory of 500 miles. Somewhat of a decrease in such direct-selling costs may be noted for the so-called national distributors, which reported direct-selling expenses of 7.1 per cent, probably because these were the largest establishments which, no doubt, gave more attention to the matter of sales control, but even they had higher selling costs than those operating over a narrower territory. Total operating expenses, however, did not reflect exactly the variations in direct-selling costs. Other factors such as stocks on hand, rates of wages, sales per salesman, the size of the business, and the location of the establishments must have exercised some influence on operating costs which are not clearly revealed in these figures. The same observations apply generally to the manufacturers' sales branches. (See Table 22).

OTHER CENSUS OF DISTRIBUTION DATA ON THE WHOLESALE PAINT AND VARNISH TRADE

In presenting the data in this report for the wholesale paint and varnish trade, an attempt has been made to analyze the information for the United States as a whole. Only the most meager statistics have been shown by States and other geographic areas. Neither has any attempt been made to show the relative position of the wholesale paint and varnish trade in relation to other trades, either for the United States or by smaller geographic areas.

The main reason for these omissions lies in the fact that such statistics are presented in the State series of reports, in the United States Summary, and in Volume II, Wholesale Distribution.

A separate report has been issued for each State and the District of Columbia, showing, among others, the following statistics *for the paint and varnish trade*, the table numbers referring to the table in the State series of reports:

TABLE 2.—Number of establishments; number of employees—total, male, and female; salaries and wages; total expenses; stocks on hand, end of year (at cost); net sales; credit sales; sales to ultimate consumers (at retail); and sales to industrial consumers. This information is shown in this table for *wholesalers only*, for the State, and for cities of 100,000 population and over.

TABLE 3.—The same data as in Table 2, for all types of wholesale establishments for the State and for each city of 5,000 population and over.

TABLE 5.—The number of paint and varnish establishments by types of establishments. This information is given only for the States.

TABLE 10.—Number of establishments; number of proprietors and firm members; total paid employees, male and female; salaries and wages; the number of salesmen and their salaries; the number of executives and their salaries; and the number of all other employees and their salaries; all of these are shown for the State and for a limited number of cities separately. This table also gives the number of employees on specified dates in order to ascertain fluctuations in employment with the seasons.

TABLE 13.—Commodity sales for the State, showing for a number of commodities the same information by States as presented in Table 2 of this report.

All the information just outlined is presented not only for each State and for cities as indicated under the respective tables, but is also given in the United States Summary of Wholesale Distribution for the entire country. In addition, Table 5 for the United States gives data on the net sales and total expenses; data are also shown for the entire United States on the number of paint and varnish establishments, their net sales, and total expenses, by the number of marketing units operated by a single organization. Similar statistics are also given for paint and varnish wholesale merchants by size of the business.[11]

[11] Attention is called again to the fact that the figures presented in this report may not correspond to those shown in the other reports, merely because many of the schedules have been reclassified and regrouped for the purpose of this analysis.

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