

## CHAPTER 8.—FILLING STATION CHAINS

### CONTENTS

	Page
Introduction.....	109
Large chains predominate in sales.....	109
Types of chains.....	110
Operating expenses.....	110
Chains classified by size.....	111
Sales classified by size of city.....	111
Credit business.....	111
Growth of chains.....	111
Sales by commodities.....	112
Garage chains.....	112

### TABLES

1. Sales classified by size of chains, size of city, and geographic divisions.....	113
2. Sales classified by types of operation and size of chains.....	115
3. Employment, wage, and expense data.....	115
4. Operating expenses.....	116
5. Chains reporting credit sales.....	116
6. Chain units classified by age of units and geographic divisions.....	117
7. Distribution of sales by commodities.....	118
8. Chains classified by volume of sales.....	118
9. Garage chains:	
<i>a.</i> Employment and wage facts.....	119
<i>b.</i> Distribution of sales by commodities.....	119

# RETAIL DISTRIBUTION BY FILLING-STATION CHAINS

## INTRODUCTION

This report of the retail merchandising series presents facts derived from the first nation-wide Census of Distribution, which is a part of the Fifteenth Decennial Census of the United States. It deals with retail distribution through filling-station chains, variously known as oil chains, gasoline chains, and service-station chains.

The 864 filling-station chains operate 30,038 units out of a total of 124,000 filling stations in the United States, and do a total business of more than \$629,000,000.

There were 26,500,000 registered motor cars and trucks in 1929,<sup>1</sup> the year of the census, and sales of \$1,883,842,465 in filling stations averaged \$71 per vehicle. Of this average, \$24 was sold through the 30,038 filling stations of the chains, and \$47 was sold through the remaining 94,000 independently operated stations. The latter classification includes a large proportion of agency stations handling the products of some one oil company exclusively, but now owned or operated by the oil company.

The average annual sales of chain stations is reported to be \$20,933 while that of independent stations is approximately \$14,000. The chain stations employ 60,761 full-time employees at an annual salary cost of \$79,630,419, and 4,189 part-time employees, at an additional pay-roll cost of \$1,608,966, a total pay roll of more than \$81,239,000 per year. Corresponding figures for independent stations are not yet known, as such a large part of their personnel consists of proprietors drawing no fixed salary and part-time employees for which the census count is not yet complete.

## LARGE CHAINS PREDOMINATE IN SALES

Large chains, each operating over an extensive area, dominate the filling-station chain field. Where other kinds of chains show from 50 to 75 per cent of sales from chains of less than 50 units located in more or less restricted trade areas, this report reveals that chains of this type constitute only 25 per cent of filling-station sales.

More than 49 per cent of the total sales of all the chains is shown to go to 14 chains of 500 units or more, and these 14 largest chains operate 15,886 stations, or more than half of all the chain stations in the country. The next largest classification is made up of 25 chains with 100 to 500 stations each, operating a total of 6,144 stations with aggregate sales of \$108,400,000, or 17 per cent. There are 18 chains operating between 50 and 100 stations, 36 chains operating 26 to 50 units each, 132 chains with 11 to 25 units each, 264 chains with 6 to 10 units each, and 375 small chains with less than 6 units each. The latter classification includes 1,587 stations doing an aggregate business of \$49,956,000, or 7.46 per cent of the total of all chains. These very small chains also show the largest average

<sup>1</sup> U. S. Department of Agriculture, Bureau of Public Roads.

sales per station, \$29,588, in comparison with an average for the largest chains of \$19,432 and for all chains of \$20,933.

### TYPES OF CHAINS

Local chains, which are those with substantially all of their stations located in and around some one city, number 770 organizations with 6,953 stations, and account for 29.8 per cent of the total chain business; 83 sectional chains operate 15,585 stations with sales exceeding \$310,214,000, or 49.3 per cent of the total; and 11 national chains, which account for the remaining 20.9 per cent of the total chain business of the country, operate 7,500 stations with aggregate sales of \$131,300,000. In the case of the filling-station chains, it is impossible to disclose without revelation of individual operations the proportion of business done by the so-called major oil companies or producers, as compared with the merchant or distributing companies and the smaller producers. In Pennsylvania, in the Southwest, and particularly in parts of California, there are small wells and refineries which sell a substantial proportion of their products in their own chains of filling stations, and there are local and sectional chains in these territories which depend entirely upon small refineries as their sources of supply. Only by consideration of the type classification and the number of units is it possible to identify approximately the operations of the major oil companies as a group, and the stations of the small producers can not be distinguished from those of strictly distributing organizations.

Tank or bulk stations, the majority of whose sales are made to retail filling stations and to fleet operators, are classified as wholesale establishments and are not included in the Retail Census even though operated by the same companies that operate the filling stations.

### OPERATING EXPENSES

The Census for the first time throws light in an authoritative way upon the matter of operating expenses of filling stations. The first intimation of such cost was given in the Washington, D. C., report of all retail operations in that city, which was published April 9, 1931, and which showed operating expenses for all chain and independent filling stations there of 24.7 per cent. The bureau now shows that for the entire United States, the 864 chains which do one-third of all the filling station business operate on an average station expense of 23.77 per cent of sales. This is exclusive, of course, of the cost of gasoline, oil, and merchandise sold, and includes no allowance for profit or any interest return on working capital required. It is strictly the operating expenses of the stations, and does not include tank-truck transportation to the stations nor central office administrative expenses, which are not regarded by the industry as retailing costs. The report shows that stocks of merchandise on hand at the end of the year totaled \$17,447,694 at cost prices which, at retail, would indicate a turnover of more than twenty-seven times. There is nothing in the report to indicate the amount of working capital invested in accounts receivable and other current assets. About 56 per cent of total sales are made in leased premises for which more than \$19,000,000 of rent is paid, at a rental cost to sales of 6.23 per cent. This same rental rate could be applied to the remaining 44 per cent of sales to establish the estimated rental value of owned premises. Table 4 shows expenses separately for seven different size classes of chains, and although the smaller chains appear to operate at a somewhat lower expense, the variations are surprisingly small.

Forty-nine chains, which have reported administrative salaries of executives and central office employees, show that this expense averages 4.81 per cent of

net sales, 1.07 per cent being designated as executives' salaries and 3.76 per cent as employees' salaries. Chains having less than 50 units report this expense as high as 11 per cent of net sales, but it decreases perceptibly as the size of the chain increases and the sales expand.

### CHAINS CLASSIFIED BY SIZE

Classified according to annual sales, Table 8 shows that 4 chains exceed \$25,000,000 each in the amount of business done each year, another 4 exceed \$13,500,000 each, another 20 exceed \$3,500,000 each, and 19 more exceed \$1,500,000 each. The four largest chains in this classification report aggregate sales of \$179,593,140 or 29 per cent of all chain sales. This volume is equal to the aggregate sales of all of the 817 chains whose annual business is less than \$1,500,000 each.

### SALES CLASSIFIED BY SIZE OF CITY

Classified by size of city, it is shown that 43 per cent of the sales of chain stations is in cities of 100,000 or more inhabitants, 19 per cent in cities between 25,000 and 100,000, 12 per cent in cities between 10,000 and 25,000, and 26 per cent in places of less than 10,000 population. In all sizes of cities the larger chains do from 65 per cent to 75 per cent of the total of all chain-station business except in the Mountain States, where the business goes largely to the smaller chains. The five States of Ohio, Indiana, Illinois, Wisconsin, and Michigan account for 31 per cent of the sales of all filling station chains, and 19 per cent is sold in New York, New Jersey, and Pennsylvania.

### CREDIT BUSINESS

Of the 864 chains, 285 report that they sell partly for credit. These chains appear to be typical, as they constitute about one-third of all the chains, and their sales of \$206,520,368 constitute about one-third of the aggregate sales of all the chains. These 285 chains report that 21 per cent of their business is on the open credit or monthly account basis, and the remaining 79 per cent is sold for cash. Only 17 chains or more than 50 units are included among those which extend credit privileges, but they have average sales of nearly \$10,000,000 each, of which 16.6 per cent is sold on credit. The highest proportion of credit is granted by 90 chains of 6 to 10 units each, which report that they do 49.7 per cent of their business on credit.

### GROWTH OF CHAINS

Of the 30,038 stations operating at the end of 1929, 6,390 were established or acquired in that year. These constitute 23.8 per cent of the total. Forty-three new chains were organized in 1929, accounting for 292 of these new units. The balance were added to previously existing chains. Another 12,000, or 45.0 per cent, were established between 1925 and 1928, and only about one-third of all the stations operating at the end of 1929 had been in business for five years or more. The percentage of stations newly established or acquired in 1929 varies greatly in the different divisions of the country. The Pacific Coast States lead, with 69 per cent of all of their stations established or acquired in 1929; the Mountain States follow with 40 per cent; the West South Central States of Arkansas, Louisiana, Oklahoma, and Texas opened 34 per cent of their stations in 1929, and the New England States follow closely with 30 per cent.

**SALES BY COMMODITIES**

Gasoline constitutes 85.02 per cent of the total sales of all filling station chains; lubricating oil averages 11.64 per cent. Only 3.34 per cent of sales consist of other than gasoline and oil. Of this, 1 per cent is for service charges of various kinds and 2.35 per cent is made up of the sale of fuel oil, kerosene, radiator alcohol, tires, batteries, confectionery, soft drinks, smokes, and miscellaneous merchandise. In this connection it should be considered that many of the chains which in 1929 limited their products strictly to gasoline and oil have since added tires and batteries, some have added other merchandise, and a few have experimented with the service of receiving telegrams for transmission by the Western Union and the Postal Telegraph systems. For that reason, the commodity breakdown of sales which is shown to apply to 1929 might not apply to-day, nor will this breakdown of chain stations apply to the sales of independent stations, whose sales are known to include a greater proportion of other merchandise and service than is shown for these chains.

This report covers about 24 per cent of the filling stations of the country and about one-third of the filling station business. It does not cover bulk stations. It does not cover any part of the 54,000 garages and 742 parking stations which sell gasoline and oil in addition to rendering other service, except the stations of 15 chains mentioned in the following paragraph. There are numerous additional outlets through which gasoline and oil are distributed at retail, in the form of "gasoline pumps" operated by grocers, restaurants, general stores, and many other kinds of business, but such stores can not be classified as filling stations. Commodity tables in the final series of State reports will provide data by means of which sales through these subsidiary outlets may be measured, within the limits of the commodity information obtainable from such retailers.

**GARAGE CHAINS**

Appended to this report as Tables 9-A and 9-B are data applying to 15 chains which operate storage, service, and repair garages, doing a business in excess of \$4,000,000, of which nearly 40 per cent represents repair operations and 10 per cent represents storage, the balance being the sale of gasoline, oil, parts, and accessories.

These garage chains are not included in the number of filling-station chains analyzed in this report, nor are their sales included in any of the tables except Tables 9-A and 9-B.

TABLE 1.—SALES CLASSIFIED BY SIZE OF CHAINS, SIZE OF CITY, AND GEOGRAPHIC DIVISIONS

DIVISION AND CLASSIFICATION	All chains	CHAINS CLASSIFIED BY SIZE				
		More than 50 units (57 chains)	26 to 50 units (36 chains)	11 to 25 units (132 chains)	6 to 10 units (264 chains)	Less than 6 units (375 chains)
<b>UNITED STATES</b>						
Total net sales.....	\$629, 024, 296	\$450, 746, 803	\$29, 240, 717	\$49, 768, 054	\$52, 312, 715	\$46, 956, 007
Cities and places of—						
More than 100,000.....	268, 119, 358	199, 717, 243	12, 947, 960	19, 311, 443	21, 915, 170	14, 227, 542
Between 25,000 and 100,000.....	121, 502, 559	79, 317, 703	4, 558, 259	11, 203, 494	13, 282, 279	13, 140, 824
Between 10,000 and 25,000.....	74, 369, 645	53, 557, 915	2, 443, 385	4, 222, 137	7, 174, 677	6, 971, 531
Less than 10,000.....	165, 032, 734	118, 153, 942	9, 291, 113	15, 030, 980	9, 940, 589	12, 616, 110
<b>NEW ENGLAND DIV.</b>						
Total.....	41, 604, 047	33, 052, 863	-----	1, 553, 794	3, 726, 513	3, 270, 877
Cities and places of—						
More than 100,000.....	18, 534, 871	14, 883, 144	-----	338, 577	2, 237, 816	1, 075, 334
Between 25,000 and 100,000.....	11, 424, 245	8, 758, 106	-----	180, 431	856, 457	1, 629, 251
Between 10,000 and 25,000.....	5, 107, 080	4, 468, 397	-----	132, 093	262, 006	244, 584
Less than 10,000.....	6, 537, 851	4, 943, 216	-----	902, 693	370, 234	321, 708
<b>MIDDLE ATLANTIC DIV.</b>						
Total.....	118, 158, 295	80, 060, 060	2, 960, 875	11, 723, 689	14, 163, 142	9, 250, 529
Cities and place of—						
More than 100,000.....	60, 127, 261	42, 396, 497	1, 273, 840	6, 622, 261	5, 963, 129	3, 871, 534
Between 25,000 and 100,000.....	22, 262, 217	14, 296, 042	548, 993	1, 951, 197	3, 107, 051	2, 358, 934
Between 10,000 and 25,000.....	14, 264, 687	8, 977, 057	213, 451	1, 170, 552	2, 600, 121	1, 303, 506
Less than 10,000.....	21, 504, 130	14, 390, 464	924, 591	1, 979, 679	2, 492, 841	1, 716, 555
<b>EAST NORTH CENTRAL DIV.</b>						
Total.....	197, 539, 820	137, 683, 311	14, 344, 779	18, 266, 611	14, 665, 153	12, 579, 966
Cities and places of—						
More than 100,000.....	91, 204, 978	67, 495, 468	8, 371, 028	5, 629, 072	5, 779, 604	3, 929, 806
Between 25,000 and 100,000.....	41, 857, 822	25, 758, 832	2, 538, 245	4, 773, 159	4, 807, 860	3, 979, 726
Between 10,000 and 25,000.....	20, 280, 833	15, 093, 289	529, 655	1, 183, 458	1, 701, 149	1, 773, 282
Less than 10,000.....	44, 196, 187	29, 335, 722	2, 905, 851	6, 680, 922	2, 376, 540	2, 897, 152
<b>WEST NORTH CENTRAL DIV.</b>						
Total.....	91, 732, 540	63, 992, 744	4, 917, 291	6, 764, 018	8, 426, 640	7, 631, 847
Cities and places of—						
More than 100,000.....	28, 220, 916	22, 077, 730	261, 209	2, 137, 300	2, 033, 723	1, 710, 954
Between 25,000 and 100,000.....	11, 563, 835	7, 226, 759	519, 111	1, 326, 408	1, 716, 822	774, 735
Between 10,000 and 25,000.....	12, 877, 640	7, 908, 782	835, 948	873, 185	1, 612, 993	1, 646, 732
Less than 10,000.....	39, 070, 149	26, 779, 473	3, 301, 023	2, 427, 125	3, 063, 102	3, 499, 426
<b>SOUTH ATLANTIC DIV.</b>						
Total.....	59, 681, 847	44, 259, 149	1, 652, 131	4, 911, 924	3, 243, 235	5, 615, 408
Cities and places of—						
More than 100,000.....	22, 028, 909	17, 959, 239	518, 032	1, 494, 324	932, 410	1, 124, 904
Between 25,000 and 100,000.....	16, 052, 510	10, 224, 925	249, 385	1, 419, 677	1, 424, 636	2, 733, 887
Between 10,000 and 25,000.....	7, 145, 559	5, 031, 365	606, 316	271, 233	563, 051	673, 594
Less than 10,000.....	14, 454, 869	11, 043, 620	278, 398	1, 726, 690	323, 138	1, 083, 023
<b>EAST SOUTH CENTRAL DIV.</b>						
Total.....	21, 121, 343	17, 137, 032	593, 902	963, 176	1, 717, 609	709, 624
Cities and places of—						
More than 100,000.....	9, 281, 390	6, 729, 264	523, 981	469, 950	1, 306, 721	251, 474
Between 25,000 and 100,000.....	4, 495, 774	3, 609, 646	22, 288	434, 275	213, 543	216, 022
Between 10,000 and 25,000.....	3, 082, 590	2, 931, 483	27, 075	30, 735	2, 757	90, 540
Less than 10,000.....	4, 261, 589	3, 866, 639	20, 558	28, 216	194, 588	151, 588

TABLE 1.—SALES CLASSIFIED BY SIZE OF CHAINS, SIZE OF CITY, AND GEOGRAPHIC DIVISIONS—Continued

DIVISION AND CLASSIFICATION.	All chains	CHAINS CLASSIFIED BY SIZE				
		More than 50 units (57 chains)	26 to 50 units (36 chains)	11 to 25 units (132 chains)	6 to 10 units (264 chains)	Less than 6 units (375 chains)
<b>WEST SOUTH CENTRAL DIV.</b>						
Total.....	\$54,536,516	\$42,660,950	\$3,424,785	\$1,947,978	\$2,554,029	\$3,948,774
Cities and places of—						
More than 100,000.....	16,532,983	11,799,302	1,999,870	1,005,177	1,061,710	666,924
Between 25,000 and 100,000..	7,537,175	4,777,956	585,221	451,688	710,268	1,012,042
Between 10,000 and 25,000..	7,087,323	5,778,851	157,407	201,336	299,855	649,874
Less than 10,000.....	23,379,035	20,304,841	682,287	289,777	482,196	1,619,934
<b>MOUNTAIN DIV.</b>						
Total.....	13,001,900	5,883,686	1,346,954	2,733,890	1,239,866	1,797,504
Cities and places of—						
More than 100,000.....	4,498,494	1,796,290	-----	1,204,203	847,183	650,818
Between 25,000 and 100,000..	1,845,543	760,026	95,016	462,714	146,077	381,710
Between 10,000 and 25,000..	1,588,191	781,279	73,533	332,361	-----	401,018
Less than 10,000.....	5,069,672	2,546,091	1,178,405	734,612	246,606	363,958
<b>PACIFIC DIV.</b>						
Total.....	31,647,988	26,017,008	-----	902,974	2,576,528	2,151,478
Cities and places of—						
More than 100,000.....	17,689,556	14,580,309	-----	410,579	1,752,874	945,794
Between 25,000 and 100,000..	4,463,438	3,905,411	-----	203,945	299,565	54,517
Between 10,000 and 25,000..	2,935,742	2,587,412	-----	27,184	132,745	188,401
Less than 10,000.....	6,559,252	4,943,876	-----	261,266	391,344	962,766

TABLE 2.—SALES CLASSIFIED BY TYPES OF OPERATION AND SIZE OF CHAINS

SIZE-CLASS	ALL TYPES OF CHAINS					LOCAL CHAINS			SECTIONAL CHAINS			NATIONAL CHAINS			
	Num-ber of chains	Num-ber of units	Net sales (1929)	Per cent of total sales	Average sales per unit	Num-ber of chains	Num-ber of units	Net sales (1929)	Num-ber of chains	Num-ber of units	Net sales (1929)	Num-ber of chains	Num-ber of units	Net sales (1929)	Num-ber of units
Total, all chains.....	864	30,038	\$629,024,296	100.00	\$20,933	770	6,953	\$187,485,282	83	15,585	\$310,214,550	11	7,500	\$131,324,464	
Chains of more than 500 units.....	14	15,874	308,696,666	49.08	19,432	3	382	10,654,005	9	10,275	217,083,224	5	5,599	91,663,442	
Chains of 101 to 500 units.....	25	6,114	108,300,929	17.23	17,643	10	691	20,783,103	16	3,851	58,084,902	6	1,901	39,661,022	
Chains of 51 to 100 units.....	18	1,252	83,650,208	5.35	26,877	24	776	21,384,667	8	561	12,867,105	7	856	1,856,050	
Chains of 26 to 50 units.....	36	1,210	28,240,717	4.65	24,166	114	1,700	40,266,891	12	434	7,856,050	18	322	4,501,163	
Chains of 11 to 25 units.....	132	2,022	49,768,054	7.91	24,613	369	1,559	46,229,813	14	114	9,501,163	28	726	194	
Chains of 6 to 10 units.....	264	1,949	52,312,715	8.32	26,841										
Chains of less than 6 units.....	375	1,587	46,956,007	7.46	29,588										

TABLE 3.—EMPLOYMENT, WAGE, AND EXPENSE DATA

SIZE-CLASS	Num-ber of chains	NUMBER OF UNITS OPERATED BY—			NUMBER OF EMPLOYEES AND PAY ROLL				OTHER OPER-ATING EX-PENSES OF STATIONS OF YEAR (INCLUDING RENT) <sup>1</sup>	STOCKS ON HAND, END OF YEAR (at cost)	NET SALES (1929) <sup>1</sup>
		Local chains	Sectional chains	National chains	Full time		Part time				
					Number	Salaries and wages	Number	Salaries and wages			
Total, all chains.....	864	6,953	15,585	7,500	60,761	\$79,630,419	4,189	\$1,608,966	\$68,258,916	\$17,447,694	\$629,024,296
Chains of more than 500 units.....	14	10,275	5,599	5,599	30,288	40,754,041	2,017	747,017	26,420,679	6,320,680	308,696,666
Chains of 101 to 500 units.....	25	3,851	1,901	1,901	12,008	14,943,260	791	256,801	17,862,555	2,278,121	108,399,929
Chains of 51 to 100 units.....	18	691	561	561	2,747	4,073,209	137	80,456	4,368,132	817,113	33,650,208
Chains of 26 to 50 units.....	36	1,776	434	434	2,618	3,372,482	134	66,438	3,747,301	1,385,762	29,240,717
Chains of 11 to 25 units.....	132	1,700	322	322	4,225	5,305,230	301	127,511	5,180,182	1,650,327	49,768,054
Chains of 6 to 10 units.....	264	1,835	114	114	4,797	6,160,462	436	178,144	5,659,200	2,547,172	52,312,715
Chains of less than 6 units.....	375	1,559	28	28	4,098	5,021,735	373	152,599	5,020,867	2,448,519	46,956,007

<sup>1</sup> Of the total number of stations 16,002 are in leased premises for which the annual rent aggregates \$19,690,280 or 6.23 per cent of sales in such leased premises.

TABLE 4.—OPERATING EXPENSES <sup>1</sup>

(Retail expenses only)

	ALL CHAINS (864 chains)		Chains with more than 500 units (14 chains)	Chains with 101 to 500 units (25 chains)
	Total	Per cent of sales		
Total net sales (1929) .....	\$629, 024, 296	-----	\$308, 696, 666	\$108, 399, 929
Reported expenses—Total.....	149, 498, 301	23. 77	67, 921, 737	33, 062, 616
Total wage cost.....	81, 239, 385	12. 92	41, 501, 058	15, 200, 061
Salaries and wages paid 60,761 full-time employees.....	79, 630, 419	12. 66	40, 754, 041	14, 943, 260
Salaries and wages paid 4,189 part-time employees.....	1, 608, 966	. 26	747, 017	256, 801
Other operating expenses, including rent <sup>2</sup> ..	68, 258, 916	10. 85	26, 420, 679	17, 862, 555
Expenses, per cent to sales.....	23. 77	-----	22. 00	30. 50

	Chains with 51 to 100 units (18 chains)	Chains with 26 to 50 units (36 chains)	Chains with 11 to 25 units (132 chains)	Chains with 6 to 10 units (264 chains)	Chains with less than 6 units (375 chains)
Total net sales (1929) .....	\$33, 650, 208	\$29, 240, 717	\$49, 768, 054	\$52, 312, 715	\$46, 956, 007
Reported expenses—Total.....	8, 521, 797	7, 186, 221	10, 612, 923	11, 997, 806	10, 195, 201
Total wage cost.....	4, 153, 665	3, 438, 920	5, 432, 741	6, 338, 606	5, 174, 334
Salaries and wages paid 60,761 full-time employees.....	4, 073, 209	3, 372, 482	5, 305, 230	6, 160, 462	5, 021, 735
Salaries and wages paid 4,189 part-time employees.....	80, 456	66, 438	127, 511	178, 144	152, 599
Other operating expenses, includ- ing rent <sup>2</sup> .....	4, 368, 132	3, 747, 301	5, 180, 182	5, 659, 200	5, 020, 867
Expenses, per cent to sales.....	25. 32	24. 58	21. 32	22. 93	21. 71

<sup>1</sup> This computation of expenses includes no return on capital invested in merchandise, fixtures, or accounts.

<sup>2</sup> Of the total number of stations 16,002 are in leased premises for which the annual rent aggregates \$19,690,280 or 6.23 per cent of sales in such leased premises.

TABLE 5.—CHAINS REPORTING CREDIT SALES

SIZE-CLASS	Num- ber of chains report- ing credit sales	Total net sales in chains report- ing credit	Credit sales	Per cent of sales	Cash sales	Per cent of sales
All chains which extend credit— Total.....	285	\$203, 520, 368	\$43, 039, 937	20. 8	\$163, 480, 431	79. 2
Chains of more than 50 units.....	17	153, 445, 628	25, 423, 895	16. 6	128, 021, 733	83. 4
Chains of 26 to 50 units.....	10	11, 424, 392	2, 976, 686	26. 1	8, 447, 706	73. 9
Chains of 11 to 25 units.....	43	15, 715, 641	3, 804, 576	24. 2	11, 911, 065	75. 8
Chains of 6 to 10 units.....	90	11, 263, 317	5, 599, 938	49. 7	5, 663, 379	50. 3
Chains of less than 6 units.....	125	14, 671, 390	5, 234, 842	35. 7	9, 436, 548	64. 3

TABLE 6.—CHAIN UNITS CLASSIFIED BY AGE OF UNITS AND GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISION AND AGE OF UNITS	Per cent of total units	NUMBER OF UNITS IN CHAINS OF—					
		All chains	More than 50 units	26 to 50 units	11 to 25 units	6 to 10 units	Less than 6 units
UNITED STATES—Total.....	100.0	30,038	23,270	1,210	2,022	1,949	1,587
All units established in—							
1929.....	23.8	6,390	5,118	215	344	408	305
1925 to 1928.....	45.0	12,066	9,113	356	804	960	833
Previous to 1925.....	31.2	8,401	6,320	544	665	469	403
Units not classified.....		3,181	2,719	95	209	112	46
NEW ENGLAND DIVISION.....	100.0	1,893	1,585		48	163	97
Established—							
1929.....	30.0	567	518		5	27	17
1925 to 1928.....	53.0	1,010	853		25	82	50
Previous to 1925.....	17.0	316	214		18	54	30
MIDDLE ATLANTIC DIVISION.....	100.0	5,044	3,915	85	362	410	272
Established—							
1929.....	19.0	964	732	12	63	110	47
1925 to 1928.....	53.0	2,659	2,091	29	156	222	161
Previous to 1925.....	28.0	1,421	1,092	44	143	78	64
EAST NORTH CENTRAL DIVISION.....	100.0	6,364	4,370	445	618	531	400
Established—							
1929.....	18.0	1,124	821	63	89	73	78
1925 to 1928.....	39.0	2,465	1,602	69	261	312	221
Previous to 1925.....	43.0	2,775	1,947	313	268	146	101
WEST NORTH CENTRAL DIVISION.....	100.0	5,578	4,485	244	241	313	295
Established—							
1929.....	15.0	853	620	69	52	62	50
1925 to 1928.....	49.0	2,736	2,211	84	115	160	166
Previous to 1925.....	36.0	1,989	1,654	91	74	91	79
SOUTH ATLANTIC DIVISION.....	100.0	2,049	1,551	61	132	125	180
Established—							
1929.....	25.0	521	393	2	34	53	39
1925 to 1928.....	47.0	964	733	44	54	47	86
Previous to 1925.....	28.0	564	425	15	44	25	55
EAST SOUTH CENTRAL DIVISION.....	100.0	1,161	1,008	32	35	50	36
Established—							
1929.....	27.0	308	233	1	6	7	11
1925 to 1928.....	46.0	536	488		12	19	17
Previous to 1925.....	27.0	317	237	31	17	24	8
WEST SOUTH CENTRAL DIVISION.....	100.0	3,066	2,492	193	139	107	135
Established—							
1929.....	34.0	1,052	862	64	36	44	46
1925 to 1928.....	40.0	1,207	937	87	61	54	68
Previous to 1925.....	26.0	807	693	42	42	9	21
MOUNTAIN DIVISION.....	100.0	609	301	55	145	36	72
Established—							
1929.....	40.0	242	198	4	25	3	12
1925 to 1928.....	34.0	210	46	43	75	15	31
Previous to 1925.....	26.0	157	57	8	45	18	29
PACIFIC DIVISION.....	100.0	1,093	844		93	102	54
Established—							
1929.....	69.0	759	691		34	29	5
1925 to 1928.....	26.0	279	152		45	49	33
Previous to 1925.....	5.0	55	1		14	24	16

TABLE 7.—DISTRIBUTION OF SALES BY COMMODITIES

COMMODITY	AS REPORTED		WHEN SALES NOT REPORTED BY COMMODITIES ARE PRORATED <sup>1</sup>	
	Net sales	Per cent of total	Net sales	Per cent of total
Total net sales.....	\$629, 024, 296	100. 00	\$629, 024, 296	100. 00
Gasoline and oil.....	369, 156, 883	58. 69	608, 024, 130	96. 66
Gasoline.....	282, 553, 106	44. 92	534, 813, 262	85. 02
Oil and greases.....	38, 675, 396	6. 15	73, 210, 868	11. 64
Not distributed.....	47, 928, 881	7. 62	( <sup>2</sup> )	( <sup>2</sup> )
Miscellaneous merchandise (including confectionery, soft drinks, cigars, fuel, oil, kerosene, and alcohol).....	8, 956, 977	1. 42	14, 764, 323	2. 35
Service charges.....	3, 789, 344	. 60	6, 235, 843	. 99
Not distributed (applying to all commodities).....	247, 121, 092	39. 29	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> In this column the sales not fully reported by commodities have been distributed or prorated on the basis of proration shown for the sales that were so reported.

<sup>2</sup> Prorated and added to sales of individual commodities on basis of individual commodity sales actually reported.

TABLE 8.—CHAINS CLASSIFIED BY VOLUME OF SALES

	ALL CHAINS			CHAINS OF MORE THAN 50 UNITS	
	Number	Net sales	Per cent of total sales	Number	Net sales
All chains.....	864	\$629, 024, 296	100	57	\$650, 746, 803
Chains with net sales in excess of—					
\$25,000,000.....	4	179, 563, 140	29	4	179, 593, 140
\$13,500,000.....	8	255, 146, 822	41	8	255, 146, 822
\$3,500,000.....	28	399, 685, 473	64	27	394, 633, 330
\$1,500,000.....	47	445, 525, 870	71	46	440, 473, 727
\$750,000.....	88	487, 516, 200	78	53	448, 440, 026
\$350,000.....	190	537, 038, 236	85	56	450, 397, 769
\$150,000.....	445	594, 618, 049	95	57	450, 746, 803
Chains with net sales of less than \$150,000.....	419	34, 406, 247	5		

	CHAINS OF 26 TO 50 UNITS		CHAINS OF 11 TO 25 UNITS		CHAINS OF 6 TO 10 UNITS		CHAINS OF LESS THAN 6 UNITS	
	Number	Net sales	Number	Net sales	Number	Net sales	Number	Net sales
All chains.....	36	\$29, 240, 717	132	\$49, 768, 054	264	\$52, 312, 715	375	\$46, 956, 007
Chains with net sales in excess of—								
\$3,500,000.....	1	5, 052, 143						
\$1,500,000.....	1	5, 052, 143						
\$750,000.....	15	19, 043, 648	14	13, 989, 041	6	6, 043, 485		
\$350,000.....	31	27, 625, 013	54	33, 497, 916	29	16, 632, 564	20	8, 884, 974
\$150,000.....	36	29, 240, 717	114	48, 211, 974	137	40, 154, 363	101	26, 264, 192
Chains with net sales of less than \$150,000.....			18	1, 556, 080	127	12, 158, 352	274	20, 691, 815

**GARAGE CHAINS**

In addition to the filling-station chains, there are 18 chains which operate 113 garages in the United States, and their receipts from service charges and from the sale of gasoline, oil, and incidental accessories are more than \$4,500,000 annually. Of these, 15 chains are included in the following brief analysis.

All of the 15 organizations are local chains. All but one have less than 10 units, and except for two chains, all operate their units in large cities of the East, Middle West, and California.

Employees total 768 of which 760 are on a full-time basis. The annual pay roll aggregates \$1,142,505. Because service is such a large proportion of the business, operating expenses for the 15 chains are almost double those of filling-station chains, or in excess of \$60 for every \$100 of net sales. Of this amount \$28.20 is for pay roll, \$19.31 is paid for rent, and \$12.77 is the cost of all other operating expenses. Expensive downtown location is a characteristic of these garage chains. Service and repair operations produce nearly 40 per cent of total income, storage about 10 per cent, and the remaining 50 per cent represents the sale of gasoline, oil, parts, and accessories.

Credit business of 7 chains, whose net sales aggregate \$2,159,938 amounts to \$825,340, or approximately 41 per cent of the business of those chains which extend credit privileges.

**TABLE 9.—GARAGE CHAINS**  
A—EMPLOYMENT AND WAGE FACTS

	Number and amount
Number of chains (all local).....	15
Number of units.....	91
Employees and wages:	
Full-time employees.....	760
Salaries and wages.....	\$1,139,481
Part-time employees.....	8
Salaries and wages.....	\$3,024
Expenses:	
Rent.....	\$782,440
Other operating expenses.....	\$517,354
Stocks on hand at end of year (at cost).....	\$183,145
Net sales (1929).....	\$4,051,340
Total operating expenses—per cent of sales <sup>1</sup> .....	60.28

B—DISTRIBUTION OF SALES BY COMMODITIES

COMMODITY	AS REPORTED		WHEN SALES NOT REPORTED BY COMMODITIES ARE PRORATED <sup>3</sup>	
	Net sales	Per cent of sales	Net sales	Per cent of sales
Total net sales, 15 garage chains.....	4,051,340	100.00	4,051,340	100.00
Service and repair operations.....	1,073,010	26.48	1,578,300	38.96
Gasoline and oil.....	888,290	21.93	1,306,555	32.25
Miscellaneous merchandise (including parts and accessories, tires, and tubes, batteries, etc.).....	503,798	12.44	741,009	18.29
Storage.....	289,297	7.14	425,476	10.50
Not distributed.....	1,296,945	32.01	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> This computation of expenses includes no return on capital invested in merchandise, fixtures, or accounts. Expenses do not include, of course, the cost of merchandise sold, nor profit.

<sup>2</sup> In this column the sales not fully reported by commodities have been distributed or prorated on the basis of proration shown for sales that were reported.

<sup>3</sup> Prorated and added to sales of individual commodities on basis of relative sales of individual commodity sales actually reported.