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CHAPTER 7

THE BUSINESS SERVICES

THE industries that provide services to the business community do not form a category wholly distinct from those providing services to consumers; there is, indeed, a fairly continuous array of industries between the limits. At one extreme, service industries such as the consulting construction engineers serve only business; in the middle of the array, independent lawyers receive approximately equal shares of income from business and nonbusiness clients; and at the other extreme, teachers serve individuals in their nonbusiness capacity. Enough important industries fall in the category of those serving chiefly businesses, however, to justify separate discussion.

Let us seek some knowledge of the variety and nature of business services by means of an inventory. Our particular inventory is drawn chiefly from the classified telephone directory of New York City. It cannot pretend to be complete: many industries are too small in this city to support specialized business services, and many industries use other methods or media for advertising their existence. Nor can we be sure that all superficial differences in business activity have been eliminated. We have also deliberately omitted the largest of all business service industries—wholesale trade, in which specialization goes to great lengths (burlap, children's hats, hotel china, health foods, frog legs, pets)—in order to keep the inventory down to assimilable dimensions.

The inventory is listed in the appendix to this chapter. The most casual inspection will suggest the enormous variety and the extreme degree of specialization to be found in the business services. No commodity-producing enterprise grows large enough to be able to keep fully occupied the individuals who translate documents from obscure tongues, such as those employed by some small nations and most government price-fixers, or those who calculate the actuarial aspects of pension systems, or the lawyers who specialize in narrow branches of the law, or the individuals who plan bookkeeping systems or eradicate termites. Yet even the smaller enterprises use some of these services almost daily: legal aid is necessary to begin, to die—and to struggle along meanwhile; financial aid may be required continuously; a host of repair services are cheaper to hire when needed than to maintain.

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It is highly probable that the reliance upon specialized business services has been increasing steadily over a long period of time. One cannot easily devise a measure which will record this trend: any inventory of business services at an earlier date, for example, would be different in length simply because of the changing practices in the classification of industries and the changing sources from which one derives his list of industries. Yet many of the industries listed in our inventory have arisen out of modern technological developments, or out of expanding government activities, and careful examination of business directories of half a century ago has revealed few lines of business which have since disappeared.

We shall survey the growth of employment in a few categories of business services for which data are available, and then discuss wholesale trade in more detail.

1. *Employment Trends in the Business Service Industries*

The vast detail of our partial inventory of the business services finds no counterpart in the recorded statistics: wholesale trade, the largest of these industries, was first enumerated in the industrial census of 1929, and the population census gives only the parsimonious detail on the business services reproduced in Table 53.

In addition we have information for a longer span on a group of industries—finance, insurance, and real estate—that serves both businesses and consumers (Table 54). Finance includes security and commodity markets as well as banking, and real estate includes both commercial and residential buildings; both are predominantly

TABLE 53
Labor Force in Selected Business Service Industries,
1930-1950

	EXPERIENCED LABOR FORCE		
	1950	1940	1930
Wholesale trade	2,042,072	1,294,001	
Advertising	117,183	79,035	70,246
Accounting, auditing, etc.	104,995	} 161,452	
Miscellaneous business services	251,931		
Engineering and architectural services	87,022		
Miscellaneous professional services	71,054		

Source: Alba M. Edwards, *Comparative Occupation Statistics for the United States, 1870-1940*, Bureau of the Census, 1943, Table 7, and *Census of Population, 1950*, Vol. II, Part 1, Table 130.

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TABLE 54

The Labor Force in Finance, Insurance, and Real Estate,
1910-1950

	<i>Banking and Finance</i>	<i>Insurance</i>	<i>Real Estate</i>
1910	213,050	153,174	150,846
1920	390,952	225,783	177,997
1930	624,783	507,299	288,192
1930	605,953	512,357	351,591
1940	499,040	545,964	503,553
1950	626,187	770,095	552,697

Source: Daniel Carson, "Changes in the Industrial Composition of Manpower since the Civil War," *Studies in Income and Wealth, Volume Eleven*, National Bureau of Economic Research, 1949, p. 57, and *Census of Population, 1950*, Bureau of the Census, Vol. II, Part 1, Table 130.

The figures for 1910-1930 show the number of persons in finance, insurance, and real estate estimated on the basis of the census classification of these industries in 1910 and 1930; those for 1930-1950 give adjusted estimates for the 1930 figures so that they will be comparable with the 1940 figures for the respective industries. The adjustment takes account of differences in classification only (see Alba M. Edwards, *Comparative Occupation Statistics for the United States, 1870 to 1940*, Bureau of the Census, 1943, Table 7).

business services. Employment in each category at least tripled between 1910 and 1950, while the total labor force increased by only two-thirds. Despite this rapid upward trend in employment, the numbers in finance fell by a sixth during the 1930's, for this group of industries was unusually sensitive to the deflation and depression of that decade.

In the rapidly growing field of insurance, we do not have knowledge of the trend of employees by type of insurance, so we use premium income instead (Table 55). The primary part of the insurance business, in terms of income and no doubt also of employment,¹ has been life insurance, which serves chiefly nonbusiness clients. This branch has grown at a high rate relative to national product. In 1874-1883, premium income of life insurance companies was .79 per cent of net national product; by 1929-1938 it had grown to 5.85 per cent. By the recent period, 1946-1950,

¹ In 1935 there were 286,000 employees in home and branch offices of insurance companies, and of these 183,000, or almost two-thirds, were in life insurance companies. Presumably a similar distribution held for the 158,000 agents. See *Census of Business, 1935*, Bureau of the Census, *Insurance*.

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TABLE 55
 Premiums of Insurance Companies, 1869-1950
 (millions of dollars)

PERIOD	INSURANCE COMPANY PREMIUMS			
	AVERAGE NET NATIONAL PRODUCT (1)	LIFE INSURANCE (2)	CASUALTY, FIRE, MARINE, ETC.	
			Stock (3)	All ^a (4)
1869-1878	\$6,489	\$83		
1879-1888	9,941	74		
1889-1898	11,671	199		
1899-1908	19,740	444	\$278	
1909-1918	36,341	746	561	
1919-1928	72,160	2,081	1,479	
1929-1938	61,274	3,565	1,516	\$1,781
1939-1948	153,349	4,955	2,592	3,227
(1946-1950)	211,867	7,027	4,317	5,429

^a Stock and mutual companies.

Column

Source

- 1 1869-1938: Simon Kuznets, *National Product since 1869*, National Bureau of Economic Research, 1946, Table II-16. 1939-1950: *National Income Supplement, 1951, Survey of Current Business*, Dept. of Commerce, Table 4.
- 2 1869-1910: Derived from *Spectator Life Insurance Year Book, 1911-1950: Life Insurance Fact Book*, Institute of Life Insurance, 1953, p. 46. To make the two series comparable the figures given in the *Spectator* were adjusted by the ratio of the estimates of life insurance premiums from both series for 1911.
- 3, 4 1899-1949: *Spectator Casualty and Surety Insurance Year Book* and *Spectator Fire and Marine Insurance Year Book*. The estimate for 1899-1908 was based on a nine-year average for 1900-1908 as no figures were available for 1899. There were no data available for casualty insurance premiums in 1912 and for casualty insurance, mutual companies, 1949. Estimates were computed for these years by straight-line interpolation. Beginning with 1950, *Spectator Year Book* no longer published separate volumes on Casualty and Fire and Marine Insurance, replacing them by one volume giving aggregate data covering all forms of insurance of this character.

the percentage had fallen to 3.32 per cent, but if one were to add in all contributions to the federal old age and survivors' insurance and the railroad retirement fund, there would be no drop.

To the 2.6 million persons in business services listed in Table 53, and perhaps half of the 2.0 million persons listed in Table 54, one must add still a third large area of business services—those supplied by governments. The services of government are sometimes rendered directly to business—as in the issuance of corporate

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charters—and sometimes directly to consumers—as in education—but the vast majority of services (like highways and national defense) are rendered to both groups. One very crude estimate for 1936 indicated that 32 per cent of all government services were rendered to business.² Such a figure for 1950, assuming that government employment was roughly proportional to expenditure, would add still another 2.1 million persons to the business services. Even if one refuses to accept this arbitrary division of government activities, it is apparent that the business services are a substantial area of employment.

2. Wholesale Trade

The primary function of trade is to assemble and to distribute goods, without subjecting them to large physical alterations. This physical function entails or is facilitated by a variety of other functions: the collection and distribution of information, the extension of credit and the collection of debts, and the storage of commodities so as to reconcile rates of production and consumption.

If both parties to a trading transaction are businesses, it is wholesale trade; and if one party is a consumer, it is retail trade. But no such clear principle is adhered to in the collection of statistics: for example, the firms selling business supplies to farmers are listed as retailers—presumably because the number of customers and the size of the individual transaction are comparable to those in many retailing industries.

The basic functions of the wholesale trader may be performed by the producer or the retailer, so no sharp institutional boundaries can be drawn between these various groups. In 1939 the Census of Manufactures asked for the first time about the number of employees of manufacturing establishments engaged in “distribution,” and found some 583,000 (out of 10,500,000) employees so engaged. Chain retail stores in that year had 60,800 employees in warehouses performing wholesale functions. If we could measure the employees engaged in wholesaling activities in mining, agriculture, etc., we should probably find that the total number of wholesaling employees outside wholesale trade establishments was at least half the number (1,700,000 in 1939) in wholesale establishments.

² R. W. Nelson and Donald Jackson, “Allocation of Benefits from Government Expenditures,” *Studies in Income and Wealth, Volume Two*, National Bureau of Economic Research, 1938, p. 329.

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THE GROWTH OF WHOLESALE TRADE

Our knowledge of employment in wholesale trade begins as recently as 1929.³ The more than 50 per cent increase in numbers employed by 1948 indicates that wholesale trade has been absorbing a rising fraction of the labor force (see Table 56).

Trade has traditionally been regarded as a handmaiden to agriculture or manufactures, and less care has been taken in preserving its statistical integrity than has been taken in reporting

TABLE 56
Employment and Sales in Wholesale Trade, 1929-1948

<i>Type of Wholesale Establishment</i>	1929	1939	1948
1. Employees^a			
Service and limited function	878,806	948,601	1,507,990
Manufacturers' sales branches	306,878	315,088	501,615
Agents and brokers	104,498	92,522	101,650
Assemblers	116,026	149,180	159,068
Petroleum bulk stations	79,016	99,956	112,466
Total	1,485,224	1,605,347	2,382,789
2. Proprietors^b			
Service and limited function	n.a.	71,924	106,823
Manufacturers' sales branches	n.a.	385	781
Agents and brokers	n.a.	18,603	21,820
Assemblers	n.a.	19,493	10,114
Petroleum bulk stations	n.a.	23,061	23,952
Total	n.a.	133,466	163,490
3. Sales (in millions)			
Service and limited function	\$29,205	\$22,538	\$79,767
Manufacturers' sales branches	16,175	14,254	52,739
Agents and brokers	14,517	11,779	34,610
Assemblers	4,452	2,510	10,958
Petroleum bulk stations	2,390	3,808	10,616
Total	\$66,739	\$54,889	\$188,690

^a Employment figures for 1939 and 1948 are given as of workweek ending nearest November 15.

^b Number of proprietors for 1948 are as of November.

n.a. = not available.

Source: *Census of Distribution, 1930*, Bureau of the Census, Vol. II, Table 4, and *Census of Business, 1948*, Vol. IV, Table 1C.

³ Retail and wholesale trade cannot be reliably separated in the population censuses.

“productive” activities—as is shown, indeed, by the fact that censuses of manufactures started many decades before those in distribution. As a result, the workers who were actually in wholesaling activities have only gradually been distinguished and separately reported. This type of growth of trade is of course a statistical mirage.⁴

The relative growth of wholesale trade has probably been under way for many decades, as part of the process of specialization of functions and organizations that permeates a growing economy. Business enterprises and industries grow so large that they find the organization of production a full-time work, and they delegate to subsidiary or separately organized enterprises the task of distributing the product among buyers.⁵

The growth of “vertical” specialization in manufactures and other commodity-producing industries would also increase wholesale trade. When a range of functions hitherto performed by one industry is divided among two or more, a class of specialists—the wholesalers—may intervene in the transactions. It is a debated question whether there has been any trend in the degree of vertical integration in American manufacturing.⁶ If vertical disintegration has dominated on balance, as I believe, it has tended to increase the area of activity of wholesale trade.

⁴ The instructions to enumerators in the censuses of manufactures of the period near the beginning of the century give some support to the view that wholesale employees were often included in manufacturing. For example, in the census of 1904 the special agents were told:

“Where manufacturing is incident to a mercantile business, the capital, employees, wages, etc. reported on the schedule must pertain only to manufacturing, but where the mercantile . . . is incident to the manufacturing, the report must cover the entire business. . . . the mercantile and manufacturing branches of the business being dependent upon each other, and the accounts are not separable, the report must cover the operations of the entire establishment. . . .” *Census of Manufactures, 1905*, Bureau of the Census, Part I, pars. 82 and 86, pp. 631-632.

Indeed, it is natural to expect that in a period when manufacturing was reported and wholesaling was not, the efforts at comprehensiveness would not be deterred by the fear of over-comprehensiveness, at least to the same extent as when wholesaling was also reported.

⁵ For an elaboration of this argument with respect to underdeveloped economies, see P. T. Bauer and B. S. Yamey, “Economic Progress and Occupational Distribution,” *Economic Journal*, December 1951, pp. 741-756.

⁶ See M. A. Adelman, “Concept and Statistical Measurement of Vertical Integration,” in *Business Concentration and Price Policy*, Princeton University Press for National Bureau of Economic Research, 1955, and G. Stigler, “The Division of Labor Is Limited by the Extent of the Market,” *Journal of Political Economy*, June 1951, p. 185.

Barger's study of trade suggests that employment in distribution (retail and wholesale trade combined) grew three times as fast as employment in the commodity-producing industries (agriculture, manufactures, and mining) from 1869 to 1949.⁷ The movement of all trade can differ substantially from that in wholesale trade, but for the reasons just given it is plausible to assume that employment in wholesale trade also grew relative to employment in the commodity-producing industries. Barger gives several explanations for this comparative trend of employment in "production" and "distribution." Hours fell somewhat more rapidly, and from a somewhat higher level, in trade than in the commodity-producing industries. The share of goods entering distribution has increased, a movement we have already commented upon.

Barger's chief explanation for the more rapid growth of employment in trade, however, is that productivity has increased less rapidly than in the commodity-producing industries. He estimates that output per man-hour grew 2.3 per cent a year in the latter industries, but only 1.0 per cent a year in wholesale-and-retail trade. If one defines productivity as output per unit of labor, the explanation is of course tautologically complete.

But if one defines productivity as output per unit of all inputs, then it is less certain that the growth of productivity in trade, and especially wholesale trade, has been so much slower than that in commodity-producing industries. These latter industries have economized in the use of labor but have been relatively prodigal in the use of capital. It is probable that in trade many of the basic developments of the economy have worked to reduce capital per unit of output.⁸

Inventories are the distinctive form of capital in trade. They will be smaller, the more rapid and economical the methods of transportation and communication, and the great advances in these methods have already been commented upon in Chapter 2. Inventories will also be smaller, the larger the market and the greater the volume of trade, because of the greater stability (of a statistical sort) in the rates of supply and demand. Thus inventories are in smaller ratio to sales in large cities than in small cities, despite the fact that

⁷ Harold Barger, *Distribution's Place in the American Economy since 1869*, Princeton University Press for NBER, 1955, Table 14.

⁸ See Barger's estimates of labor and nonlabor costs in trade; *ibid.*, Appendix Table A-3.

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the variety of goods is greater in large cities. The economies in capital and/or improvement in service have probably been substantial.

THE FUNCTIONS OF THE WHOLESALER

Since the central task of the wholesaler is the assembly and distribution of goods, the importance of his work (measured by the ratio of costs to receipts) will vary with certain characteristics of the buyers and sellers and of the commodities in which he deals. One may suggest several relevant characteristics.

The first characteristic is the number of buyers and sellers with whom the wholesaler deals. The smaller the number—given the volume of sales—the less will be the costs of solicitation, information, closing of transactions, investigation of credit, etc. Therefore we should expect the operating cost ratio of wholesalers to be smaller when they are intermediaries between relatively small numbers of producers and buyers.

The second characteristic is the homogeneity of the commodities handled by the wholesaler. If he must assemble, not merely from many firms but also from many industries, or if he must sell, not merely to many firms but also to many industries, it is probable that his costs will be higher. It is more difficult to keep informed about, and canvass customers in, a series of different markets than to keep informed about, and canvass customers in, a single market.⁹ There will be greater inventory requirements for given fluctuations in sales.

A third characteristic is the correspondence between the time patterns of production and consumption. The more complete this correspondence, the smaller will be the inventory requirements of finished goods. The correspondence is perfect, at one extreme, for made-to-order goods; it is almost perverse in the case of commodities (like used books and stamps) which are no longer produced.

A fourth characteristic is the economic durability of the commodities—the average loss of inventory values due to deterioration of commodities or their markets. Physically perishable commodities such as fish and baked goods and economically perishable ones such as stylish millinery will have high wholesaling costs.

A fifth characteristic is the range of supplementary functions undertaken by the wholesaler. Sometimes the wholesaler will install

⁹ The cost of becoming informed on a market probably bears an inverse relationship to the size of that market, because specialist firms take over the provision of information in large industries.

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or service complicated equipment (such as air conditioning equipment), sometimes he will engage in extensive advertising (as in the case of lumber); sometimes (as a sales agent or factor) he will advance capital to the producer.

Only one of these expectations can be translated into easily observed quantities, and that is the third, which asserts that operating costs will be in a higher ratio to sales if inventories are in a higher ratio to sales. It is confirmed by the 1948 data for wholesalers in forty different lines of consumer goods:¹⁰

<i>Ratio of Annual Sales to Inventory</i>	<i>Average of Operating Expense Ratios (per cent)</i>
2-8	15.8
8-14	14.3
14 and over	10.7

Unfortunately, none of these factors can be called to our assistance in analyzing the trend of employment in wholesaling, for we do not know the changes that have occurred in any of them. One may conjecture that there has been some decline in dealers' stocks because of improved transportation and communication. Conversely, however, the share of "styled" goods may have increased and that of made-to-order goods probably has declined, and these developments would be partly offsetting factors.

THE INDEPENDENT WHOLESALER

Whether wholesaling is undertaken by an independent establishment or by the manufacturer (or retailer) is not directly relevant to employment in wholesaling. Changes in ownership will not affect the nature of many functions undertaken by the wholesaler, and if a given change (say, forward integration by the manufacturer) eliminates some functions such as the manufacturer's selling effort, it normally creates other functions such as the coordination of diverse enterprises. Yet it would be an unusual coincidence if a large change in the role of the independent wholesaler did not have an effect upon employment in wholesaling.

¹⁰ Ratios refer to establishments operated by merchant wholesalers in specific lines of businesses whenever these could be identified as dealing primarily in consumer goods—e.g. canned foods, flour, proprietary medicines, household furniture, etc. See *Census of Business, 1948*, Vol. IV, *Wholesale Trade*, Table 1E.

It is generally believed that the independent wholesaler has been losing ground to both manufacturers and large scale retailers throughout the present century. For the period before 1929, this impression rests chiefly upon various instances of the assumption of wholesaling functions by the manufacturer, and the rise of the large scale retailing units (particularly department and chain stores) that often buy directly from producers. From 1929 to 1948 the development is clearly recorded in the censuses of distribution: sales of manufacturers' branches rose 226 per cent while sales of independent wholesalers rose 173 per cent (in undeflated dollars).

It is evident from Table 56 that sales per employee are larger in manufacturers' sales branches than in independent wholesale establishments, and this is generally true also in individual industries. The difference cannot be interpreted as evidence of greater efficiency of manufacturers' branches because commonly—steel and cement are examples—manufacturers deal directly with large consumers of their products and deal through independent wholesalers in reaching small consumers. But Table 56 also indicates that sales per employee rose more rapidly from 1929 to 1948 in manufacturers' branches than in independent wholesale establishments. This trend may be influenced by a changing distribution of large and small customers of each industry between the two kinds of wholesale outlets, but it may also reflect differences in technical progress.¹¹

The role of the independent wholesaler varies widely among industries: in 1939 he sold nine-tenths of the tobacco products and one-tenth of the women's clothing leaving factories. One possible reason for the decline of his role, therefore, is that those industries

¹¹ An analysis of the ratio of sales to employees by industry reveals that the changing composition of sales by industry had no effect. That is, in 17 industry categories the average ratio of sales per employee in manufacturers' branches to sales per employee in independent wholesale establishments was 1.7 in 1933. In 1948 it would have remained at 1.7 if industry composition alone had affected the ratio.

The 1933 data are the earliest available for individual industries, and with respect to employees they cover only full-time employees. To obtain an approximate estimate of total employees, full-time and part-time, employed in 1933, the number of full-time employees reported for each industry in 1933 was adjusted upward by the ratio of total employees to full-time employees in 1939 (see *Census of Business, 1939*, Vol. II, p. 17). The industries for which calculations were made are those reported in the *Census of Wholesale Distribution, 1933*, Table 3, and *Census of Business, 1948*, Vol. V, *Wholesale Trade*, Table 1E.

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in which the manufacturer undertakes direct distribution have grown relative to those in which the independent wholesaler dominates. This is indeed the case, although to a very minor degree. One may calculate how the share of manufactures sold directly by producers would have varied from 1909 to 1947 if, in each industry, the share had remained at the level of 1939, i.e. if the changing composition of industry outputs alone were taken into account. For the large sample of industries for which this sort of calculation can be made, the percentage of distributed sales handled by manufacturers rose from 59.0 per cent in 1909 to 59.6 per cent in 1939 and thereafter increased slightly to 1947 (see Table 57). It is evident that the declining role of the independent wholesaler is due only in small part to the fact that he has concentrated in relatively slowly growing industries.

TABLE 57

Per Cent of Manufactures Wholesaled by Manufacturers, 1909-1947, Based on Assumption That Manufacturers' Share in Each Industry Was Constant at 1939 Level^a

	PER CENT WHOLESALD BY MANUFACTURERS	
	<i>Including Groceries and Automobiles</i>	<i>Excluding Groceries and Automobiles</i>
1909	59.0	57.5
1929	60.7	60.7
1939	59.6	58.5
1947	...	60.7

^a The share of manufactures wholesaled by manufacturers in 1939 consists of the per cent of manufacturers' distributed sales sold directly by manufacturers' establishments from the plant and through manufacturer-owned wholesale offices to retailers, industrial users, export-direct, and consumers. The estimate of sales wholesaled directly from the plant was obtained from Table 1 of the *Census of Business, 1939*, Vol. V, *Distribution of Manufacturers' Sales*. For the estimate of sales through the manufacturers' wholesale offices it was assumed that these sales were made in the same proportion as those made by manufacturers' sales branches and offices to their customers. The percentage distribution of sales by the latter agencies was derived from data presented in Table 7 of the *Census of Business, 1939*, Vol. II, *Wholesale Trade*. The two estimates were then totaled and the per cent of manufacturers' distributed sales wholesaled by manufacturers in 1939 was computed.

Note: The manufacturing industries included in these calculations accounted for 51 per cent of total distributed sales reported by manufacturing industries in 1939.

Source: *Census of Business, 1939*, Bureau of the Census, Vol. II, Table 7, and Vol. V, Table 1.

There is no shortage of explanations for the decline in the role of the independent wholesaler, and two of these explanations deserve some notice here. The first is that the manufacturers took over wholesaling functions with the development of nationally advertised brands. The independent wholesaler was unwilling to advertise any one brand to that producer's satisfaction. Once the manufacturer had taken over the difficult function of obtaining wide consumer acceptance for his branded commodities, he naturally took over the other wholesaling functions also. And as Kaldor says, "It is probably no exaggeration to say that without the support of large-scale advertising this attempt of manufacturers to release themselves from dependence on the wholesalers' goodwill, by building up consumers' goodwill, could not have succeeded."¹²

Because of limitations of data, all the hypotheses on historical trends in wholesaling must unfortunately be tested by comparisons of different industries at a given time. We may make such a cross-sectional test of whether advertising is related to the decline of the independent wholesaler. The Federal Trade Commission has compiled the ratio of advertising expenditures to net sales for a considerable number of industries in 1940, and we may compare these ratios with the share of the produce wholesaled directly by the manufacturer (see Table 58). No relationship is evident.¹³

Another and more widely held explanation for the independent wholesaler's decline is that the mass retail distributors—chains and mail-order and department stores—have taken over the functions previously performed by the wholesaler, for each unit buys in quantities large enough to permit direct dealing with the manufacturer. A comparison of various kinds of retail business with the shares of manufacturers' output sold directly to independent wholesalers must be very approximate because neither the retail nor the wholesale kinds of business are homogeneous classes. But where at least rough comparisons can be made, again we find no apparent tendency for the independent wholesaler's share to be larger where the chain stores' share is smaller (see Table 59).

The limitations of cross-sectional studies in explaining historical

¹² "The Economic Aspects of Advertising," *Review of Economic Studies*, Vol. XXIII (1), No. 45, p. 18. See also J. B. Jeffreys, *Retail Trading in Britain, 1850-1950*, Cambridge University Press, 1954, p. 12.

¹³ Nor is there any relationship evident when the ratio of advertising plus selling plus delivery costs to net sales is compared with the share of produce wholesaled by the producer.

TABLE 58

Per Cent of Selected Consumer Goods Distributed by Independent Wholesalers and Advertising Expenditures as a Per Cent of Manufacturers' Sales, 1939

<i>Per Cent of Advertising Expenditures to Sales</i>	<i>Number of Industries</i>	<i>Average Per Cent Distributed by Independent Wholesalers</i>
0 to 1.00	4	37.9
1.00 to 2.5	6	30.2
2.5 to 5.0	6	30.9
5.0 to 10.00	4	66.3
10.0 to 15.0	4	32.7
Total	24	

Source: Advertising expenditures from *Report of the Federal Trade Commission on Distribution Methods and Costs*, Federal Trade Commission, Part V, *Advertising as a Factor in Distribution*, 1944, Table 1. Other data from *Census of Business, 1939*, Bureau of the Census, Vol. V, *Manufacturers' Sales*.

TABLE 59

Shares of Retail Sales Made by Chain Stores and Share of Goods Sold by Independent Wholesalers, 1939

<i>Kind of Business</i>	<i>Per Cent of Retail Sales Made by Chain Stores</i> (1)	<i>Independent Wholesalers' Share as Per Cent of Goods Entering into Wholesale Distribution</i> (2)
Farm machinery	4.9	10.0
Automotive (incl. tubes and tires)	6.8	51.9
Shoes	8.3	16.5
Jewelry	9.8	63.7
Optical goods	13.8	59.7
Hardware, paints, etc.	15.8	62.0
Lumber and construction material	19.8	44.3
Radios	29.5	67.7
Beer, wines, and liquors	32.0	75.3
Plumbing and heating equipment	34.2	51.0
Groceries and food	34.6	44.5
Furniture and house furnishings	37.1	31.1
Men's and boys' clothing	37.5	12.9
Books, newspapers, and periodicals	38.3	91.6
Women's and children's clothing	43.0	16.8
Drugs	44.9	62.4
Tobacco	49.8	90.1

Column

Source

- 1 *Census of Business, 1939*, Bureau of the Census, Vol. I, Part 1.
- 2 Based on sales of service and limited-function wholesalers made to retailers as a per cent of total sales made to retailers by service and limited-function wholesalers, manufacturers' sales offices, agents and brokers, assemblers, and manufacturers. *Census of Business, 1939*, Vol. II, Table 7, and Vol. V, Table 1.

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trends, and the deficiencies even in the cross-sectional data, are sufficient bases for not rejecting out of hand either of the foregoing explanations. Indeed the directly observable assumption of wholesaling functions by the large scale retailers is sufficient to show that chain store growth has worked to some extent to reduce the work of the independent wholesaler.

Appendix

Business Services, New York City, 1953

ADVERTISING, PUBLICITY, AND SELLING¹⁴

Advertising Consultants	Fund-Raising Organizations
Advertising Agencies	Graphic Designers
Advertising	Hand Painting
Aerial	Information Bureaus
Direct mail	News Service
Outdoor	Newspaper Feature Syndicate
Transportation	Photographic Advertising
Advertising Artists	Photographic Color Transparencies
Auctioneers	Photo-finishing
Bookbinding, Catalogs	Premium Service
Catalog Preparation Service	Press Clipping Bureaus
Circulation Builders	Press Photo Service
Convention Services	Public Opinion Analysts
Copy Writers	Publicity Service Bureaus
Displays	Radio Audience Analysts
Exposition, convention, counter, window	Sales Contest Organizers
Installation service	Sales Organizations
Display Consultants	Sales Presentations
Distributing Service, Samples,	Show Cards
Circulars	Signs
Expositions	Painters
	Hangers
	Subscription Agencies

GENERAL CONTROLS AND OPERATION

Actuaries	Guards, watchmen
Adding and Calculating Machines, Rental	Investigators
Addressing and Letter Service	Internal frauds
Bookkeeping and Accounting Machines, Rental	Dictating Machine Transcribing
Calculating Service	Editorial Services
Charts	Employment Agencies Office
Circulation Auditors	Farm Management Service
Collection Systems	Fingerprint Experts
Commissary Contractors	Handwriting Analysts
Detective Service	Handwriting and Typewriting, Document Examiners
	Indexing Service

¹⁴ Excluding all wholesaling services.

BUSINESS SERVICES

Inventory Work	Shopping Service, Protective
Lie Detector Laboratories	Statistical Service
Mailing Lists	Stenographers
Mimeographing	Stenotype Reporters
Multigraphing	Tabulating Service
Office and Desk Room Rental	Payrolls, sales analysis
Service	Punched cards tabulating service
Public Accountants	Telephone Secretarial Service
Auditing systems	Time Locks, Rental
Tax service	Translators
Sabotage Prevention Service	Typing Service

INSURANCE AND REAL ESTATE

Appraisers	Marine
Aerial Survey	Plate glass
Building Management	Real estate
Compensation Accident Service	Insurance Inspection Bureaus
Insurance Brokers	Insurance Rating Bureaus
Insurance Companies	Property Tax Matters
Accident	Real Estate Reports
Automobile	Real Estate
Burglary	General
Casualty	Factories
Fire	Commercial property
Health	Lofts, stores
Life	

LEGAL AND FINANCIAL

Banks	Lawyers (cont.)
Commercial	Administrative law
Foreign	Advertising
National	Antitrust
Savings	Appellate work
Trust companies	Aviation
Claim Adjusters	Automobile finance
Collection Agencies	Banking
Commercial Paper, Discounting	Bankruptcy
Copyright Protection	Bond—legal opinions on state,
Credit Adjusters	municipal, corporate, public
Credit Rating and Reporting	authority
Agencies	Commercial
Credit Unions	Construction contracts
Estate Management	Condemnation and certiorari
Financing	Proceedings
Accounts receivable	Consular law
Real estate, chattel mortgages,	Copyrights
notes discounted, etc.	Corporation
Financing Consultants	Damage suits
Investment Advisory Services	Employee profit-sharing and re-
Investment Securities	retirement plans
Lawyers	Estates
Admiralty law	Decedent's estate

BUSINESS SERVICES

Lawyers (cont.)

- Federal administrative law
- Federal trade commission cases
- Financial
- Foreign law
 - Canadian
 - Consultant on Soviet law
 - European
 - Far Eastern
 - Italian and French matters
 - Latin American
 - Polish
- Foreign patent licenses and information agreements
- General practice
- Government relations
- Insurance
 - Accident
 - Fire
 - Health
 - Insurance claims
 - Life
 - Reinsurance
- International law
- Investment banking
- Labor relations
- Legislative and state departments
- Medico-legal matters
- Motion pictures
- Municipal corporations
- Municipal law
- Music
- Negotiable instruments
- Patent

Lawyers (cont.)

- Probate
- Radio
- Railroads
- Real estate
- Reorganization
- Small-loan consumer credit law
- Surety law
- Surrogate's work
- Taxation
 - Inheritance tax law
 - Franchise tax
- Titles
- Trade-Mark
- Trade Union
- Trusts
 - Pension trust
- Unfair Competition Law
- Utilities
 - Public utility law
 - Electric
 - Water power
 - Gas
 - Oil
- Workmen's Compensation
- Notary Public
- Process Servers
- Proxy Solicitors
- Safe Deposit Companies
- Savings and Loan Associations
- Title Companies
- Titles Searched
- Trade-Mark Service

MAINTENANCE AND REPAIRS

- Air Compressors, Repairing
- Air Conditioning Systems, Cleaning
- Aircraft Repairs and Service
- Boilers, Cleaning and Repairing
- Bronze Cleaning
- Brush Cleaning
- Building Cleaning Contractors
- Cesspool Cleaners
- Chimney Cleaners and Repairing
- Coffee Urns, Repairing
- Cooling Towers—Lining and Coating
- Coppersmiths
- Doors, Repairing
- Electric Motors, Repairing
- Elevator Shaft, Cleaning
- Elevator Repairs and Installation
- Engines, Repairing
- Electric Fans, Repairing

- Fire Violations Removed
- Floors
 - Degreasing and cleaning
 - Waxing and polishing
- Furnaces, Cleaning and Repairing
- Incinerators, Repairing
- Janitor Service
- Machine Tools, Rebuilding and Repairing
- Motion Picture Film, Inspecting and Cleaning
- Motor Trucks, Repair and Services
- Office Cleaning Service
- Pipe Cleaning
- Pumps, Repairing
- Refrigeration Service
- Safes, Opening and Repairing
- Saws, Repairing

BUSINESS SERVICES

Sewers, Cleaning
Ship Repairs
Signs, Maintenance and Repair
Slide-Fasteners, Repairing
Steeplejacks
Store-Front Cleaning

Tool Resharpener and
Reconditioning
Ventilating System, Cleaning
Welding
Wheels, Alignment Service
Window Cleaners
Window Repairs

RESEARCH AND PLANNING

Airport Construction Consultants
Architects
Business Counselors
Combustion and Heating Consultants
Communication Consultants
Construction Consultants
Designers
 Clothing, textile
 Showroom and office
 Structural, industrial, etc.
Engineers
 Acoustical
 Aeronautical
 Air conditioning
 Chemical
 Civil
 Electrical
 Gas and oil
 Hydraulic
 Marine
 Mechanical
 Metallurgical
 Mining
 Radio
 Refrigerating
 Safety
 Sanitary
 Structural
 Textile
 Tool
Estate Planning
Experimental Work
Export Counselors
Factory Locating Consultants
Fashion Stylists
Filing Consultants
Fire Protection Consultants
Genealogist Service
Hotel Consultants

Interior Decoration—Office
 Showroom
Labor Relations Consultants
Landscape Architect
Marine Consultants
Market Research and Analysis
Mathematical Research
Motion Picture Consultants
Package Development and Designing
Patent Development, Marketing, and
 Service
Plastics Research
Public Utility Consultants
Publishing Consultants
Reorganization Service
Restaurant Counselors
Sales Promotion Service
Shoe Stylists
Suggestion Systems
Surveyors
 Marine
 City
 Land
Television Program Surveys
Television Station Planning
Television Service Consulting
Testing Laboratories
 Chemical
 Containers
 Electrical
 Food
 Heat insulating materials
 Metallurgical
 Paper and pulp
 Paving and building materials
 Quality control
 Soil
Water Consultants

STORAGE

Fur Storage
Grain Elevators

Motion Picture Film Storage
Office Records

BUSINESS SERVICES

Oil	Merchandise
Warehouses	Steel
Cold storage	Warehouse Representatives
Field	Warehouses, Textile Specialists

TRANSPORTATION AND COMMUNICATION

Car-Leasing Lines	Motor Truck, Rentals
Custom House Broker	Packaging Service
Custom House Broker, Air	Packing and Crating Service
Freight Specialist	Publishers' Shipping Service
Freight	Ship Registers
Forwarding	Steamship Agencies
Domestic	Stevedoring Contractors
International	Surveyor's Cargo
Freight Traffic Service	Trailer Rental Service, Commercial
Messenger Service	Weighing

MISCELLANEOUS SERVICES

Appraisers, Jewelry	Motion Picture Film Editings
Assayers	Photographic—Commercial
Electric Meter Service	Fabric photographic decorating
Employment Agencies	Industrial plant equipment
Hotel	Legal photography
Industrial	Liquor and beer licenses
Restaurant	Photographic lettering
Technical	Photo retouching
Exterminating and Fumigating	Salesmen's photos
Maps—Mounting	Recording Service

Source: All categories except lawyers: *Manhattan Classified Telephone Directory*, 1953. Lawyers: *Martindale-Hubbel Law Directory*, 1952.