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CHAPTER 2

How Fast Did Output Expand?

IN ORDER to explain the growth of distribution's share of the labor force, and also to appraise its performance over the years, we need a measure of distribution's output. This we might identify, for a first approximation, with distribution's input of labor, as in Table 6 above. But to define the services rendered by an industry as equal to the man-hours needed (or at any rate used) to produce such services obviously would beg all the more interesting questions. We need some measure of distribution's services to the public that does more than merely register some of the resources employed to generate such services.

Part Two of this report presents decennial estimates of value added by distribution, measured in current dollars. Were it possible to devise some index to represent value added per unit of net output, i.e. per unit of services rendered by factors within the industry, such an index might be used to convert value added from a current- to a constant-dollar basis and so obtain a measure of the net output of retail and wholesale trade. Unfortunately there appears to be no satisfactory way of performing this deflation. We shall, however, use the above-mentioned value-added figures to reweight our index of goods distributed.

Goods Distributed

Since merchandising's function is to distribute commodities, we might perhaps measure its output by the physical quantum of goods distributed. Such a procedure assumes that the services performed by distribution per unit of goods distributed are always the same. We know that in fact the services furnished the consumer, even in merchandising physically identical goods, have varied widely from time to time and place to place. Therefore the assumption will later be relaxed. The first step, however, is to measure the physical volume of goods distributed.

Commodity Output. First, as a rough estimate and an over-all check, we can examine the combined output of the commodity-producing industries—agriculture, mining, and manufacture. Produc-

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tion indexes for each segment can be readily assembled and are shown on an 1899 base in Table 10. The three indexes are from different sources. To combine them they must be assumed to measure net output in each case, i.e. to be free from duplication. Some trouble was taken to avoid duplication within agriculture¹ and between mining and manufacturing;² while the index for manufacturing, although it measures gross rather than net output, does have an internal weighting system based on value added.³ In combining the indexes for the three sectors, we have used 1899 weights: value of products in the case of agriculture and mining, value added in the case of manufacturing.⁴ This procedure assumes in effect that for the first two sectors the consumption of materials can be neglected and that for manufacturing, gross output moves in the same way as net. It further assumes that no significant changes occurred in the proportionate contributions of other industries, such as transportation and business services, to commodity output. The obvious growth during our period in the use of purchased electricity suggests some upward bias in our measure of the net output of commodities.

The resulting index of commodity production (Table 10), though a useful guide, is not the best measure we can construct of the physical volume of goods flowing through the distribution system.⁵ To understand why this is so, let us break commodity output down, according as it is finished or unfinished and destined for domestic use or for export. Finished commodities are consumer or capital goods that will reach ultimate users without further fabrication. All other goods are unfinished. Throughout this study we shall depart slightly from common usage in that we shall treat all construction materials as finished.

Commodity output consists, then, of the following kinds:

1. Unfinished goods consumed by the commodity industries them-

¹ Harold Barger and Hans H. Landsberg, *American Agriculture, 1899-1939: A Study of Output, Employment and Productivity*, National Bureau of Economic Research, 1942, pp. 12-14.

² Harold Barger and Sam H. Schurr, *The Mining Industries, 1899-1939: A Study of Output, Employment and Productivity*, NBER, 1944, pp. 7-8.

³ Solomon Fabricant, *The Output of Manufacturing Industries, 1899-1937*, NBER, 1940, pp. 23-33.

⁴ The combined index is not much influenced by choice of weight base (see Table 10, note d). On the other hand, if factory output were weighted by value of products instead of value added, the combined index would rise more rapidly. But such treatment would imply duplication.

⁵ Yet commodity output sometimes has been employed for want of a better measure: see Twentieth Century Fund, *Does Distribution Cost Too Much?* 1939, p. 379. Use has even been made of factory output by itself: see R. R. Giffin, "Changing Output per Person Employed in Trade, 1900-1940," *Journal of Marketing*, xii, pp. 242-245 (October 1947) and criticism by Reavis Cox, "The Meaning and Measurement of Productivity in Distribution," *Journal of Marketing*, xiii, pp. 433-441 (April 1948).

Table 10

MEASURES OF OUTPUT, 1869-1949

(1899 = 100 except where percentages are shown)

	1869	1879	1889	1899	1909	1919	1929	1939	1949
Agriculture ^a	42	63	79	100	115	126	145	159	212
Mining ^b	17	31	57	100	184	234	389	366	466
Manufacturing ^c	25	36	66	100	158	222	364	374	604
Total commodity output ^d	31	46	71	100	143	186	281	290	443
Finished goods for domestic use ^e	27	47	70	100	145	197	314	306	460
Finished goods as per cent of commodity output ^f	81	98	94	90	92	88	93	94	91
Finished goods sold through retail stores (input into distribution) ^g	24	45	67	100	145	198	325	327	493
Finished goods sold through retail stores as per cent of all finished goods ^g	65	71	71	75	75	75	77	80	80
Output of finished goods sold through retail stores: Weighted by 1869 distributive margins ^h	22	43	66	100	147	194	319	322	485
Weighted by 1929 distributive margins ^h	23	44	66	100	147	188	302	299	451
Mean = net output of distribution ⁱ	22	44	66	100	147	191	310	311	469

^a Harold Barger and Hans H. Landsberg, *American Agriculture, 1899-1939: A Study of Output, Employment and Productivity*, National Bureau of Economic Research, 1942, p. 253; extrapolated to 1949 by the Bureau of Agricultural Economics index. Data are five-year averages centered on year following that indicated, except for 1869, 1939, and 1949, which are three-year averages.

^b 1899-1939: Harold Barger and Sam H. Schurr, *The Mining Industries, 1899-1939: A Study of Output, Employment and Productivity*, NBER, 1944, p. 14. Extrapolation back to 1869 was based on output of pig iron, mercury, bituminous coal, anthracite, petroleum, phosphate rock, gold, silver, copper, lead, and zinc, as shown in *Historical Statistics of the United States*,

1789-1945, Bureau of the Census, 1949, weighted by mine value in 1899 from Barger and Schurr, *op.cit.*, pp. 305-307. The minerals listed account for about 91 per cent of all minerals for which value data are available for 1899, 1949: Data were extrapolated by Federal Reserve Board index of mineral production.

^c 1899-1939: Solomon Fabricant, *Employment in Manufacturing, 1899-1939: An Analysis of Its Relation to The Volume of Production*, NBER, 1942, p. 331. Extrapolation back to 1869 based on Edwin Frickey, *Production in the United States, 1860-1914*, Harvard University Press, 1947, p. 54. 1949: Data were extrapolated by Federal Reserve Board index of manufacturing production.

^d The three indexes were combined, using as weights the 1899 value of products in agriculture from Barger and Landsberg, *op.cit.*, pp. 372-373; value of products in mining from Barger and Schurr, *op.cit.*, pp. 305-309; and value added in manufacturing from Solomon Fabricant, *The Output of Manufacturing Industries, 1899-1937*, NBER, 1940, p. 638. The combined index is comparatively insensitive to the choice of weight base. Thus if 1939 values are used as weights, the index (1899 = 100) would be unchanged for years 1869-1909 and would rise not quite so fast thereafter:

1919	1929	1939	1949
183	276	285	431

^e Output of finished goods and construction materials and imports of same, in producers' 1913 prices from William H. Shaw, *Value of Commodity Output since 1869*, NBER, 1947, pp. 70-77, together with an allowance for firewood (not included in the Shaw totals). The 1949 figures are extrapolated on the basis of consumer commodities in 1939 prices (*Survey of Current Business*, 1951 National Income Supplement, p. 146).

^f This percentage compares current dollar totals. For agriculture, gross income excluding government payments, from Frederick Strauss and Louis H. Bean, *Gross Farm Income and Indices of Farm Production and Prices in the United States, 1869-1937*, Dept. of Agriculture *Tech. Bull.* 703, 1940, p. 23, extrapolated to 1949 with similar data from *Statistical Abstract of the United States*, Bureau of the Census. For mining, value of products from Barger and Schurr, *op.cit.*, pp. 305-307, extrapolated back to 1869 by output multiplied by price indexes, for fuels and metals respectively, shown in note b, from *Historical Statistics*. For 1949, value of mineral products, "new basis," from *Minerals Yearbook*, Bureau of Mines. For manufacturing, value added from Fabricant, *The Output of Manufacturing Industries extrapolated to 1949* and back to 1869 with similar data in *Statistical Abstract*. For finished commodities, figures for finished commod-

ities and construction materials in current dollars from Shaw, *op.cit.*, pp. 30-69, together with an allowance for firewood; 1949 data extrapolated on basis of consumer commodities in current prices from 1951 National Income Supplement to *Survey of Current Business*.

^g The dollar volume of finished goods and construction materials in 1913 prices (see note e above) was adjusted by minor commodity groups to exclude amounts not sold through retail stores, using ratios shown in Appendix Table B-2. For 1939 and 1949, 1929 ratios were used. Instead of using fixed weights (1913 prices) to combine minor commodity groups, as in the table, we might use the Marshall-Edgeworth formula to compare each pair of years. If this is done, each commodity group is weighted by average prices in the two years compared, and the entire index is a chain of link relatives. The index (1899 = 100) is unchanged for 1869-1909, and for other years reads:

1919	1929	1939	1949
190	290	289	436

I have to thank Mr. John W. Kendrick for this calculation.

^h The dollar volume of finished goods and construction materials in 1913 prices sold through retail stores (see note g above) was multiplied, by minor commodity groups, by ratios of distribution cost to producers' values derived from Table 26. In these calculations, because of the difference in cost of distribution, manufactured and nonmanufactured foods were treated separately according as they were sold through restaurants and bars or through retail stores proper. Otherwise, the minor commodity groups were those distinguished in Appendix Table B-2.

ⁱ If we use the Marshall-Edgeworth formula (see note g above) this line reads 21 for 1869, as shown in the table for 1879-1909, and then:

1919	1929	1939	1949
183	276	275	415

selves (e.g. coal used in manufacturing or gasoline consumed on farms)

2. Unfinished goods going to other industries (e.g. coal used by railroads or gasoline by bus lines)
3. Goods (finished or unfinished) for export
4. Finished goods (including construction materials) for domestic consumption

The intention of our index of total commodity output is to exclude category 1 and instead to measure the sum of 2, 3, and 4.

To what extent are commodities in these various categories handled by distributors? Undoubtedly some goods in all four categories are handled by wholesalers: paper, lumber, chemicals, and semifinished metal products moving from one fabricator to another; and goods destined for public utilities, the service industries or for export; as well as finished goods destined for ultimate consumers. In addition to domestic products, wholesalers may of course handle imported commodities:

5. Imports of unfinished goods
6. Imports of finished goods

The degree to which wholesalers handle unfinished goods is hard to determine. We may notice, however, that wholesalers had sales of about \$9 billion, and agents and brokers another \$4 billion, to industrial consumers in 1929.⁶ These amounts, which no doubt consisted mainly of unfinished goods, compare with a 1929 total of \$43 billion for finished goods (including construction materials) in producers' prices (i.e. before freight charges and distributive markups).

Output of Finished Goods. It is evident that the largest part of the flow of commodities through the distribution system consists of finished goods (including construction materials). We can therefore get somewhat closer to what we want to measure if we take the output of finished goods for domestic use plus the amount imported. Shaw has made such estimates for finished goods in 1913 prices, and these are reproduced in index form in Table 10 under the rubric "Finished goods for domestic use."

Finished-goods output appears to have grown at a slightly more rapid pace than commodity output. It is doubtful if the difference is meaningful, for it may merely represent a declining amount of duplication in the commodity index.⁷

⁶ Theodore N. Beckman and N. H. Engle, *Wholesaling*, Ronald, 1937, p. 181.

⁷ In that case finished goods would be a better measure of commodity output than the index of commodity output shown. Obviously the chance of duplication is greater in measuring all goods than in measuring only finished goods. On the other hand, the difference may be genuine and reflect relatively lower sales of unfinished goods to other industries (e.g. fuel to railroads) or a shift in foreign commerce.

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In basing our estimate of distribution's output on the volume of finished goods, we really are assuming that commodities in categories 4 and 6 above are the only ones handled by distributors. In Part Two when we try to estimate the cost of distribution, we shall find that we are forced to make the same assumption. From the figures just quoted it might be thought that we were thereby failing to cover nearly one-quarter of distributors' services, i.e. net output. The business of distributing unfinished goods is, however, much less important than this. The \$13 billion sales of unfinished goods (which we neglect) includes a value added by distribution of not much more than \$1 billion, whereas we shall estimate the total cost to the consumer of distributing finished goods at around \$20 billion in 1929. It is apparent that our failure to cover distribution of unfinished goods means that in 1929 we neglect some 5 per cent of distributors' activities. While this is a relatively small fraction of distribution's net output, it could lead to a misstatement of the trend in net output if the fraction were to vary sharply over time. Unfortunately we have no means of judging whether or not a shift has occurred in the relative importance of finished and unfinished commodities in the distribution picture. About all that can be said is that a trend toward vertical integration may conceivably have cut the scope for wholesaling in the field of raw materials and semimanufactures. If this should be the case, it would suggest an upward bias in our index of finished goods as a measure of distribution's net output.

Finished Goods Sold through Retail Stores. Just as not all output is finished, so not all finished goods enter the distribution system. We can get still closer to a measure of goods actually distributed if we exclude those finished goods that we know do not pass through the system. Much capital equipment is sold by the producer directly to the ultimate user. Sizable, though diminishing, amounts of consumer goods are consumed by the producers (as food consumed on farms) or are sold by the producers direct to consumers (this is especially true of milk and dairy products). Estimates developed in Part Two enable us to exclude these amounts. Furthermore, some capital goods are sold by wholesalers to enterprises: these fall in the amounts excluded (\$13 billion in 1929) that have already been discussed. Finally, some consumer goods are sold direct by wholesalers, mainly to institutions. The last two categories—wholesalers' sales of finished goods to ultimate users—we are forced for practical reasons to exclude, despite the fact that they do pass through the first (wholesale) stage of the distribution process.

The finished goods remaining after these exclusions may or may not pass through wholesale channels, but all reach the public through

a retail store.⁸ These are the goods we shall discuss, and it is upon these that our preferred measure of net output in distribution will be based. Besides consumables they include construction materials and a wide range of equipment from office machinery to vehicles and farm implements. Wherever a commodity is distributed partly through retail channels and partly otherwise, we shall include only the former portion. As explained, this procedure is only approximately correct because small amounts not sold through retailers may nevertheless be handled by wholesalers. Yet any other decision would make the analysis intolerably complex.

The volume of finished goods sold through retail stores rises somewhat more rapidly than either the output of finished goods or commodity output (Table 10). The reason is plain. Urbanization and larger-scale and more complex fabrication have reduced the points of contact between producer and consumer and raised the fraction of finished output passing through the distribution system. We estimate, for instance, that the fraction of nonmanufactured food products reaching consumers through a retailer rose from 58 per cent to 73 per cent between 1869 and 1929. Information for the early years is shadowy. We have assumed that the amount channeled into distribution rose only where we had some more or less direct evidence. For this reason the percentages of all finished goods that were retailed are probably too high during the early years of the period, and the series for "output of finished goods sold through retail stores" may have a downward bias.

Reweighting by Distribution Cost. The various measures of output so far discussed mostly are weighted by producers' prices.⁹ However, the manufacturing index embodies value-added weights and aggregate value added in manufacturing was used as the weight when manufacturing was combined with the two other commodity industries. The justification for this procedure was the thought that a factory's contribution should be measured by its product minus the cost of materials. Analogous reasoning would suggest that an index of net

⁸ By "retail store" we mean any type of retail dealer, including restaurants, bars, lumber yards, automobile salesrooms, farm-implement dealers, and others not ordinarily thought of as "stores." The definition is substantially that of the 1929 retail census (see Appendix Table B-7).

⁹ The weighting systems in the individual indexes for agriculture, mining, and manufacturing are fairly complex; for the most part Edgeworth decennial link relatives have been used for 1899-1939, and 1899 weights for 1869-1899; the reader is referred to the notes to Table 10. In combining outputs of the three commodity-producing industries, 1899 weights (producers' prices for agriculture and mining, value added for manufacturing) were used. The result is not much affected by choice of weight base (see Table 10, note d). Finished goods are in producers' 1913 prices.

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output in distribution should be weighted by value added here also—i.e. by gross cost of distribution. The margin study (Part Two) furnishes estimates of gross margins, or total spread, by each of twenty-seven commodity groups, and we have used these estimates of value added by distribution to reweight the components of the index for finished goods sold through retail stores (Table 10).

From 1869 to 1909 the margin-weighted finished-goods indexes are practically identical with each other and with finished goods sold through retail stores with its original weights (producers' 1913 prices). From 1909 to 1949 the 1869 margin-weighted index continues to shadow the price-weighted index, but the index based on 1929 margins as weights rises somewhat less rapidly. The divergence results from the laggard growth of foods (with a distribution cost higher in 1929 than in 1869; more food is sold prepared) and the rapid rise of automobiles (margins for vehicles were lower in 1929 than in 1869).

Summary. The results are summarized in the form of average annual percentage rates of change, for each half of the eighty-year period and for the period as a whole, in Table 11. The most striking feature of the table is the much more rapid rate of growth shown for the first than for the second half of the period.

Table 11
THE GROWTH OF OUTPUT, 1869-1949

	<i>Mean Annual</i>		
	<i>Percentage Rate of Change^a</i>		
	<i>1869- 1909</i>	<i>1909- 1949</i>	<i>1869- 1949</i>
Commodity output	+3.8	+2.7	+3.1
Finished goods for domestic use	+4.0	+2.7	+3.2
Finished goods sold through retail stores	+4.3	+2.9	+3.4
Net output of distribution (finished goods reweighted)	+4.5	+2.8	+3.3

^a Obtained by fitting exponential curves by least squares (Glover's method) to the data in Table 10.

Broadly speaking, as we go down the table, rates of growth tend to become higher. Finished goods rose more rapidly than commodity output and a rise occurred in the fraction of all finished goods that entered distribution. Reasons for these trends have already been discussed.

Reweighting input into distribution by distribution cost increases the rate of growth in the first half of the period and in the second half diminishes it. Over the period as a whole the effect of reweighting the index is slight. The growth rates for the net output of distribu-

tion are substantially the same as for the volume of (finished) goods sold by retailers, when measured in constant (producers') prices.

Services Rendered by Distribution

To what extent does our index for the net output of distribution really measure the services rendered by distributors? Can we assume that the service furnished in the process of distributing a fixed volume of goods, weighted by gross margins, does not change over time?

Let us first note once again what the index measures. We may assume that differences between commodity groups in the gross margin or spread reflect costs incurred or service furnished to the public by distributors in the course of handling the goods. For instance, some commodities are cheap to retail, do not require the simultaneous provision of many services, and have low retail margins (e.g. food sold through chain stores); others seem to require much selling and the free provision of ancillary services such as credit, and have high retail margins (e.g. furniture and jewelry).

To the extent that these differences in service furnished to the public show up in differences in distribution cost between our commodity groups, they are considered in our index. An increase in service may reflect a shift in the composition of output—as that from food sold through grocery stores to food sold in restaurants. Similarly a decrease in service occurs when less food is sold by independent grocers (who often deliver and give credit) and more food is sold by chains (which do not furnish these services). We take account of such shifts to the extent that they are reflected in different spreads for the three types of food concerned. Actually the net effect of shifts of this sort during our period does not seem to have been important; shifts from low to high margin commodities seem to have been almost exactly balanced by shifts in the opposite direction. The lift given to the index by such shifts as that toward prepared food is offset, for instance, by the dampening due to the appearance of the automobile, whose distribution cost (percentagewise) is relatively low. Therefore the net-output index grows at roughly the same rate as the volume of goods measured in constant producers' prices (or, for that matter, as the same volume measured in constant retail prices).

Unfortunately this does not dispose of the matter, for changes in service furnished to the public—in the functions performed by distributors—may readily have occurred without being reflected through our commodity classification in the manner indicated. That is to say, the amount of service furnished with a given commodity may have changed. Changes in service within commodity groups, associated with given amounts of a commodity, are not reflected in our index.

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An attempt must therefore be made to assess, albeit in a very rough fashion, the direction and extent of such changes.

Services Furnished and Functions Performed. There certainly is no doubt in the mind of the average store executive that modern customers—especially feminine customers—are far more exigent than were their parents or grandparents. A difference of opinion does indeed exist as to whether the modern shopper's expectations of service have been inflated by the competitive efforts of the stores themselves or should rather be regarded as a reflection of living standards already more luxurious in other directions. That many, if not most, types of stores do, and indeed are forced by their competitors to, give better or more generous service than fifty years ago is well-nigh universally accepted as a fact.

That this impression upon the part of merchants is no illusion can readily be shown. Extensive evidence can easily be assembled to prove that the customer gets more service today than he did in former times. To be sure, quantitative comparisons are hard to make in this area. Moreover, as we shall shortly see, the trend is not uniformly in the direction indicated. Cases can be cited where less service is now offered than formerly. Some functions, too—functions once performed by the merchant—have been shifted back to the manufacturer. Yet when all these qualifications have been made, the conclusion seems warranted that the services performed by distribution—its true net output—rose somewhat more rapidly than did our index.

The expansion of services rendered by distributors is hard to distinguish from, and is often equivalent to, an improvement in their quality. So far as concerns changes in the quality of service, the downward bias in our index is strictly analogous to the downward bias that unmeasured quality changes induce in indexes of manufacturing and perhaps other kinds of output.¹⁰

Let us now review the evidence for the view that on balance distributors' services have expanded. It can conveniently be grouped under several heads: store facilities, service at the point of sale, packaging and minor processing, free home trial of merchandise, return privileges, credit, delivery, and "adjustments."

Store Facilities. Such innovations designed for the public's comfort as air conditioning, concealed lighting, and escalators plainly had no earlier counterpart. Even allowing for changes in standards of elegance, shopping in the airless, ill-lighted and congested aisles of the dry goods store of the 1870's and 1880's may well have exhausted the customer.¹¹ Of not all grocery stores in 1879 could it be

¹⁰ See e.g. Fabricant, *op.cit.*, pp. 37-38.

¹¹ For some illustrated descriptions of store interiors late last century, see Ralph

said that "the predominating odor was a mixture of dried codfish and kerosene oil,"¹² yet the merchandise often was cramped, cluttered, and ill assorted. In the marketing of perishable foodstuffs, mechanical refrigeration has undoubtedly raised the quality of many items purchased.¹³

However, the development of store facilities has not been entirely in one direction. At the turn of the century many department stores offered reading and writing rooms for the use of their customers. The following description relates to Marshall Field's, Chicago, in 1902:

"Wood paneled library and writing rooms fitted with deep, luxurious Oriental rugs and comfortable mahogany and green leather furniture provided the latest thing in comfort. Tired patrons found an unlimited supply of popular magazines and daily newspapers to while away the time; or the maid in constant attendance would, on request, pass out literature and poetry from the large catalogued library. Desks were supplied with an abundance of stationery for writing notes to one's friends."¹⁴

Some of the early department stores even experimented with crèches for shopping mothers:

"In some establishments the nursery is so elaborate as to reach the proportions of a kindergarten school. Experience, however, has taught the undesirability of making the entertainment too attractive. In at least one Chicago House [Field's?] it was found that some mothers did not hesitate to make the playroom accommodations the means of giving them a half holiday without the expense of providing nursemaids for their children. This experience led to the discontinuance of the playroom and the substitution of a day nursery of the simplest kind. The liability of having little foundlings permanently left in their charge has caused the managers of department stores to provide for the exercise of great caution on the part of nurses in charge of baby-rooms. As a rule, infants under six months of age are not received except in circumstances where the mothers are known to be regular customers of the establishment."¹⁵

Such facilities clearly were experimental and perhaps did not

M. Hower, *History of Macy's of New York, 1858-1919*, Harvard University Press, 1943, Chap. VII; *American Grocer*, February 25, 1891 and January 22, 1902.

¹² Reminiscences of one H. E. Lincoln, *Wholesale Grocer News*, September 1928, p. 5.

¹³ Although used somewhat earlier industrially, mechanical refrigeration seems first to have appeared in New York retail meat markets in 1896; its general introduction was greatly hastened by the short ice crop of 1897 and the crop failure on the Hudson in 1898 (*Butchers' Advocate*, 1896-1899, *passim*).

¹⁴ R. W. Twyman, "History of Marshall Field and Company," Ph.D. dissertation, University of Chicago, 1950.

¹⁵ Harlow N. Higinbotham, *Making of a Merchant*, Forbes, 1906, pp. 118-120. One Chicago store is credited with a dental office, another with a savings bank,

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deserve to survive. Yet in the light of the conviction expressed by so many modern merchants that they do more for the customer today than ever before, descriptions of earlier facilities that would be hard to parallel today have an ironical flavor.

Service at Point of Sale. The growth of self-service during our period was a comparatively late development. The first grocery chains, for instance, seem to have realized economies in buying rather than in selling; and the identification of the grocery chain with self-service, even today not always justified, has a relatively short history. Indeed, self-service restaurants probably antedate self-service groceries: we found a reference to a cafeteria in downtown New York as early as 1903, and there certainly were several in Chicago by 1911.¹⁶ The earliest groceries advertising self-service seem merely to have meant that they did not deliver;¹⁷ the first examples of what we should today recognize as a self-service grocery appeared as "cafeteria groceries" or "grocerterias" in California about 1915.¹⁸

If we admit that the self-service store or restaurant dispenses less service than other types of outlet, then we have here to record a decline in service rendered by distribution. For it is obvious that self-service was unknown at the opening of our period, while common observation indicates both its prevalence and its popularity at the present time. Service at the point of sale seems to be a type of service which is rather readily reflected by the pricing process; and it is plain that the consumer, once offered the choice, frequently decided he would prefer not to buy this type of service. The decline in service suggested here is partly reflected in our index because among its components we distinguish between food sold through independents and food sold through chains.

Packaging and Minor Processing. Changes in packaging include better protection against dirt and moisture and the extensive use of transparent coverings that permit examination without damage to the product. Besides special types of packaging, we should not omit the latter-day extravagances of gift wrapping. But the increase in distributors' services is more apparent than real. For while more goods are better packaged, the merchant himself does less packaging today than ever before. More and more packaging has been transferred from retailer or wholesaler to the factory.

At the opening of our period, coffee, sugar, butter, bacon, and

¹⁶ *American Grocer*, June 3, 1903, p. 15; *Hotel Monthly*, May 1911, p. 55; November 1911, pp. 76-77.

¹⁷ E.g. *Grocers' Criterion*, October 14, 1901, p. 10; *American Grocer*, May 5, 1909, p. 17.

¹⁸ *National Hardware Bulletin*, May 1915, p. 83; *Grocers' Magazine*, August 1916, p. 7.

spices were carried loose and packaged by the retailer. Too often he not only packaged the goods, but made the bags in which to package them. In 1897 the day was still remembered when grocery clerks would spend their winter evenings making paper bags.¹⁹ Coffee was probably the first item to be purchased packaged by the retailer, and by 1870 the factory packaging of oatmeal, starch, and spices had begun but was still unusual. The packaging of sugar followed after 1880, but print butter did not appear until around 1900. At this period much of the new packaging was viewed with pride, but the passing of the cracker barrel often was lamented. Even after 1900 much coffee still was sold loose, but Domino sugar in 1902 was already advertised as "never sold in bulk." The packaging of cheese and bacon seems to have begun after 1900.²⁰ The packaging of fresh meat is still a novelty even today. The conservatism of the country general store in these and other matters often was a subject of comment.²¹ Undoubtedly there was a close connection between packaging and the desire to exploit a brand name.²²

Certainly packaging underwent a revolution during our period; it also was transferred from store to factory. To the extent that coffee roasters and spice grinders are treated by us as wholesalers—an unknown extent depending upon census practice—the "factory" where packaging is now performed may still, statistically speaking, be located within the distribution system. Again, much lumber formerly was planed by wholesalers, and now is finished at the factory.²³ But in principle, and to an overwhelming extent in practice, these functions have been transferred from merchandising back to production. In the matter of packaging and minor processing, distribution probably furnishes on balance less service than formerly.

Free Home Trial of Merchandise. Our survey of early merchandising methods disclosed few items sold on a "free trial" basis except pianos and sewing machines, and even here the practice does not seem to have been general prior to World War I. It seems obvious that the growth of "free trial" or "free home demonstration" must have been favored by a high degree of mechanical complication coupled with a relatively high price tag. Such items, which now include nearly the whole range of consumer durables, are of course far commoner today than formerly.²⁴

¹⁹ *American Grocer*, March 3, 1897, p. 7.

²⁰ See *American Grocer*, September 11, 1889, p. 10; January 2, 1901, pp. 30, 42; February 13, 1901, p. 14; July 16, 1902, p. 21; July 23, 1902, p. 8. *Michigan Tradesman*, March 30, 1887, p. 6. *New England Grocer*, July 15, 1904, pp. 10-12; July 26, 1907, p. 22.

²¹ *Twin City Commercial Bulletin*, April 1, 1911, p. 13.

²² *American Grocer*, July 25, 1906, p. 8; *Interstate Grocer*, October 23, 1909.

²³ *American Lumberman*, June 16, 1900; February 2, 1907.

²⁴ Interviewed on retirement, a veteran carriage dealer of Louisville, Ky., had

Return Privileges. The modern willingness of stores to accept the return of merchandise for any reason or for no reason at all may be regarded as a kind of informal "home trial." Certainly there is statistical evidence of a steady rise in the percentage ratio of returns to net sales.²⁵ As early as 1906 the *Crockery and Glass Journal* complained of "the growing practice among shoppers of returning goods" and even of attempts to redeem in one store for a higher price merchandise purchased in another.²⁶ Wanamaker was already claiming in 1900 that he regularly allowed the return of merchandise.²⁷ That the practice dates from even farther back is suggested by the description given by Zola of a Paris dry goods store about 1870.²⁸ Yet however old the practice may be, the striking growth in returns as a percentage of sales shows that the privilege either is more widely offered, or with fewer restrictions, or else is more keenly appreciated than formerly. We must therefore recognize a sizable increase in service at this point.

Credit. The granting of credit is a service that customers have expected—and in large measure obtained—from merchants since time immemorial. Traditionally the wholesaler financed the retailer, and the retailer financed the consumer. The wholesaler occasionally bought from the producer on credit; more commonly, the capital tied up in his credit sales he supplied from his own resources or from a bank. Credit relationships within the distribution system—between wholesaler and retailer—were formalized, at least nominally, at an early date. Common terms were 2 per cent discount within ten days, net cash within thirty days, after which a note was expected. Such arrangements varied from one trade to another and were frequently honored in the breach. Extensive perusal of trade literature suggests

this to say: "The carriage trade has always been quiet and dignified. When we wanted to sell a man a carriage, we approached him quietly, had him call at our showrooms and examine the work, and closed the sale as any other business man would do. In marked contrast are the races and contests of all sorts used to stir up excitement in automobiles, and the way in which dealers ply a prospective buyer with requests for demonstrations, taking him whizzing from one end of the town to the other" (*Carriage Dealers' Journal*, September 1910, p. 114).

²⁵ Marshall Field's ratio was 4.7 per cent in 1873, 7.8 per cent in 1885, 10.5 per cent in 1895, and over 13 per cent in 1905; but Marshall Field's policy was more generous than that of its competitors (Twyman, *op.cit.*, pp. 55–58, 337). Macy's, which only sold for cash, had a much lower, but also rising, ratio: less than 1 per cent in the 1890's and under 2 per cent until 1902 (Hower, *op.cit.*, p. 261). The ratio for department stores as a whole ran between 11 and 12 per cent in the late 1930's and was 9 per cent in 1946 (Harvard Bureau of Business Research, *Operating Expenses in Department and Specialty Stores, Bulletin 126, 1947*).

²⁶ April 10, 1906, p. 20. Surely this practice must be still commoner today!

²⁷ U.S. Industrial Commission, *Report*, Vol. VII, 1901, p. 461.

²⁸ Emile Zola, *Au Bonheur des Dames*, Paris, Charpentier, 1882, Chap. IX. The customer is told: "Prenez toujours, madame: vous nous rendrez l'article, s'il cesse de vous plaire." Although fiction, Zola's account was based on extensive research and, notoriously, he took pride in the accuracy of details.

that long credits from wholesaler to retailer or a recognized willingness to delay settlement are less usual than formerly;²⁹ of course many types of retail business, such as chain and department stores, are wholly independent of wholesale credit.

Credit relationships between wholesaler and retailer influence the relative contributions of each to the value added and net output of distribution as a whole. But in judging trends in distribution's service to the public, we can confine our attention to credit practices in selling goods at retail. The literature suggests that the status of the charge account in the sale of clothing and other soft goods has not greatly altered with time. With groceries—a large slice of consumer spending—the shift from independents that grant credit to chain stores that do not do so has almost certainly diminished the share of credit sales.

The largest changes in our purchasing habits undoubtedly have occurred in the field of durable goods. The "hard goods" of the late nineteenth century—pianos and organs, sewing machines, stoves, furniture, carriages and wagons, and farm implements—were all sold extensively on credit, and indeed in rural areas could never have been sold otherwise. Moreover, very long credits were common, especially in the sale of pianos and farm implements, often extending to two or even three years.³⁰ Such very long credit makes it less surprising that discounts as high as 10 per cent were not unknown when pianos were sold for cash.³¹ In the case of farm implements, the granting of credit was often formalized by the execution of a note, but consumers seem to have bought durables mainly on open-book credit. To be sure, attempts were made in the early eighties by New York merchants to introduce installment contracts in the sale of furniture and pianos,³² but installment selling did not become common until much later. In the old days, then, credit was long and informal, was charged for in the quoted price rather than separately, and was based upon the personal acquaintance of retailer and consumer.

The big change in credit practices in the sale of durables to consumers was undoubtedly occasioned by the advent of the automobile

²⁹ A wholesale grocer recalled somewhat cynically that in 1870 prompt thirty-day customers were considered "gilt-edged," sixty-day settlements were rated "good," ninety-day "fair," and those who took four to six months to pay were considered "doubtful" (*Wholesale Grocer News*, August 1926, p. 7).

³⁰ See, e.g., *Musical Courier*, November 19, 1881, p. 289; *American Furniture Gazette*, July 1896, p. 7; *Music Trade Review*, 1896, 1902, 1903, *passim*; *Farm Implement News*, November 3, 1898, p. 18; and files of the *Implement Trade Journal*.

³¹ *Music Trades*, February 6, 1904, p. 27.

³² *Musical Courier*, November 19, 1881, p. 289; *Music Trade Review*, September 20, 1881, p. 48.

and by the extraordinary rapidity with which its production expanded during the first two decades of this century. Manufacturers found they could sell all they could produce, and dealers all they could secure, upon a cash basis. The industry expanded so rapidly that for many years both groups were continuously short of capital; at moments they even tried to supply themselves with capital from their customers, instead of the other way round, demanding large cash deposits against future delivery in the case of popular car makes. The result was that from the start of manufacture until the World War I automobiles were sold almost exclusively upon a cash basis despite the fact that they were produced by manufacturers and distributed by dealers who were well-accustomed to selling carriages on long credit terms.³³

For many years there was considerable resistance in the trade to the idea of selling automobiles on credit.³⁴ Partly perhaps because of doubts about the security of such credit and partly because of a continued lack of capital, when time sales of automobiles began to be made, they were formalized from the very start in an installment contract carried by an outside financial agency.³⁵ This was in sharp contrast to the open-book credit still common at that time in the sale of other consumer durables. However, the installment contract was to become before long the pattern for financing the sales of other consumer durables also. The services of investigation, credit provision, and collection are of course taken over by someone other than the merchant.

The facts cited—the rise of the cash grocery store, on the one hand, and the transfer of the financing of the sale of durables from the merchant to an outside financial organization, on the other—point strongly to a decline in the relative amount of service furnished by merchants to the public in the form of credit sales.

Delivery. During our entire period the willingness of storekeepers to effect prompt delivery and not to charge (separately) for it has been approved and rewarded by customers. Sharp fluctuations have occurred in delivery practices. The early impact of mail order, for instance, caused metropolitan department stores temporarily to ex-

³³ *Automobile Trade Journal*, 1903–1906, *passim*; May 1913, p. 110B; April 1915, p. 88. *Implement Trade Journal*, January 18, 1913, p. 55.

³⁴ For instance: "Because plows, sewing machines, lawn mowers, pianos, etc. have been sold on credit, is no sign at all that the same thing can be done successfully with automobiles . . . if a man is not in a position to pay cash for a car, he certainly is not in a position to maintain one" (*Automobile Trade Journal*, January 1912, p. 204).

³⁵ See Studebaker's arrangement with Commercial Investment Trust (*Automobile Trade Journal*, March 1916, p. 92) and the early activities of General Motors Acceptance Corp. (*National Petroleum News*, March 7, 1923, p. 27).

tend their zones of free delivery in an age that did not know parcel post.³⁶ But we have failed to observe any clear or decisive trend.

Certainly, stores in large cities laid an emphasis in the 1890's on promptness and frequency of delivery which we do not find today. Certainly, too, they promised feats of same-day service which would set a modern store executive's teeth on edge. Also, the popularity of the cash-and-carry grocery suggests that perhaps less food is sold on a delivered basis than formerly. On the other hand, it may be that delivery services have been increased by the growing importance of "hard" goods whose delivery by the retailer is practically mandatory. We conclude that there is no clear evidence either way for any trend in the amount of delivery service furnished to the public by distribution.

"Adjustments." The growth of the practice of generous return privileges has already been documented. There is little doubt that other adjustments, such as free service and repair, and replacement of parts whether or not defective, have also become more generous. The trend of modern retailing is to charge the expense of adjustments to institutional advertising or to other expenses of creating good-will. We may judge that on the whole service in this regard has increased.

Summary. The general belief among modern store executives, cited at the beginning of this section, that they give the customer far more service in almost every direction than their predecessors of half a century or more ago, is seen to be subject to much qualification. Undoubtedly, store facilities and the physical surroundings of the shopper have been greatly improved and the home trial of merchandise and return privileges vastly expanded; the claims of merchants to furnish more service than formerly in these regards must be allowed. But self-service has diminished the amount of service furnished at the point of sale. With packaging and credit, the situation is still otherwise: we get more of both, but the first is now furnished mainly by the factory and the second increasingly by some outside financial organization, rather than by the retailer. In the matter of delivery our best judgment is that not much has altered. We conclude that distribution probably accompanies the handling of commodities with somewhat more service on the average than in 1869 but that, everything considered, the change is not large. Our index of net output of distribution probably has some downward bias on this account.

³⁶ *Dry Goods Economist*, August 2, 1902, p. 20. The rise of mail-order firms produced some very pretty indignation before their competitors got used to them. "Shall Uncle Sam act as errand and cash boy for them?" asked the *Shoe and Leather Gazette* (November 27, 1902, p. 48); and the *American Lumberman* announced: "In politics we have the anarchist, in religion the free thinker, and in business the mail order house" (May 4, 1907, p. 31).