

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: National Income and Its Composition, 1919-1938, Volume II

Volume Author/Editor: Simon Kuznets, assisted by Lillian Epstein and Elizabeth Jenks

Volume Publisher: NBER

Volume URL: <http://www.nber.org/books/kuzn41-3>

Publication Date: 1946

Chapter Title: Basic Data, Sources and Methods: Trade

Chapter Author: Simon Kuznets, Lillian Epstein, Elizabeth Jenks

Chapter URL: <http://www.nber.org/chapters/c5556>

Chapter pages in book: (p. 715 - 728)

# Trade

## TABLES T 1-T 5

Whenever two entries are made for 1934 the first is comparable with those for preceding years in that the *Statistics of Income* data used are based on the old industrial classification; the second is comparable with those for succeeding years in that the *Statistics of Income* data used are based on the new industrial classification.

Net savings and net income, adjusted, exclude gains and losses from sales of capital assets, 1929-38, and from changes in inventory valuation, 1919-38. Net savings and net income without any specific designation are unadjusted, i.e., include these two types of gain and loss.



## T 1 Gross Income (millions of dollars)

	WHOLESALE (1)	RETAIL (2)	TOTAL (3)
1919	64,094	36,549	100,643
1920	66,070	41,364	107,434
1921	47,566	32,954	80,521
1922	50,270	34,007	84,277
1923	58,938	38,897	97,835
1924	57,964	38,700	96,664
1925	63,061	42,283	105,344
1926	63,795	44,699	108,494
1927	63,484	43,699	107,183
1928	65,475	44,923	110,398
1929	68,950	46,989	115,939
1930	57,174	40,788	97,962
1931	44,405	33,480	77,885
1932	35,941	23,961	59,902
1933	32,151	23,607	55,758
1934	37,445	27,256	64,701
1935	44,877	30,770	75,647
1936	51,562	35,238	86,800
1937	56,458	37,052	93,510
1938	48,335	32,749	81,084

## T 2 Total Payments by Type (millions of dollars)

	WAGES & SALARIES (1)	ENTREP. WITHDR. (2)	DIVIDENDS (3)	INTEREST (4)	PROP. INCOME (5)	PAY. TO INDIVIDUALS (6)
1919	5,430	2,197	400	33.1	433	8,061
1920	6,052	2,594	382	41.7	423	9,070
1921	5,171	2,176	320	40.0	360	7,708
1922	5,682	2,050	302	39.2	341	8,074
1923	6,389	2,072	369	22.0	391	8,853
1924	6,531	2,137	389	30.7	420	9,089
1925	6,986	2,091	440	30.7	470	9,548
1926	7,423	2,133	471	24.6	495	10,053
1927	7,290	2,109	495	30.8	526	9,926
1928	7,521	2,127	499	43.0	542	10,191
1929	8,012	2,231	565	55.6	621	10,865
1930	7,644	2,209	496	68.7	565	10,419
1931	6,644	2,144	386	66.1	452	9,241
1932	5,136	1,948	214	60.5	274	7,359
1933	4,513	1,796	178	49.1	227	6,537
1934	5,293	1,816	275	47.0	322	7,433
1934	5,293	1,816	339	36.3	375	7,486
1935	5,502	1,822	438	32.1	470	7,795
1936	5,848	1,921	669	30.1	699	8,469
1937	6,450	2,048	624	31.5	656	9,155
1938	6,258	2,085	482	31.3	513	8,857

T 3 Net Income Originating (millions of dollars)

	PAY. TO			NET SAVINGS			NET INCOME		NET SAVINGS, ADJUSTED		NET INCOME, ADJ. (9)
	INDIVIDUALS (1)	Entrep. (2)	Corp. (3)	Total (4)	INCOME (5)	Entrep. (6)	Corp. (7)	Total (8)			
1919	8,061	2,426	624	8,050	11,111	1,830	314	2,144	10,205		
1920	9,070	419	8.5	427	9,498	1,491	910	2,401	11,472		
1921	7,708	-458	-462	-920	6,788	1,195	622	1,818	9,527		
1922	8,074	583	306	889	8,964	381	174	555	8,630		
1923	8,853	840	460	1,301	10,154	833	456	1,290	10,143		
1924	9,089	492	305	797	9,886	449	275	724	9,813		
1925	9,548	539	393	933	10,481	364	253	618	10,166		
1926	10,053	368	235	604	10,658	815	646	1,462	11,516		
1927	9,926	290	173	464	10,390	380	261	642	11,568		
1928	10,191	370	278	648	10,840	437	348	785	10,977		
1929	10,865	171	68.8	240	11,105	308	200	508	11,374		
1930	10,419	-553	-640	-1,194	9,225	297	261	559	10,978		
1931	9,241	-846	-985	-1,831	7,410	-2.0	-207	-209	9,031		
1932	7,359	-868	-1,037	-1,906	5,453	-438	-621	-1,060	6,298		
1933	6,537	-141	-266	-408	6,128	-534	-778	-1,312	5,224		
1934	7,433	-27.8	-65.8	-93.6	7,339	-136	-260	-396	7,096		
1934	7,436	-17.9	-100	-118	7,368	-132	-294	-427	7,058		
1935	7,795	-2.3	-71.2	-73.5	7,721	-121	-274	-396	7,899		
1936	8,499	82.4	11.7	94.0	8,563	60.2	-32.0	28.2	8,498		
1937	9,155	43.9	-42.5	1.4	9,156	-28.0	-105	-193	8,901		
1938	8,857	34.9	-29.0	5.8	8,863	182	237	420	9,277		

T 4 Wages and Salaries, and Entrepreneurial Net Income (millions of dollars)

	WAGES AND SALARIES			ENTREPRENEURIAL WITHDRAWALS			ENTREPRENEURIAL	
	Wholesale (1)	Retail (2)	Total (3)	Wholesale (4)	Retail (5)	Total (6)	Net savings (7)	Net income (8)
1919	2,398	3,032	5,430	628	1,569	2,197	2,426	4,623
1920	2,522	3,529	6,052	730	1,864	2,594	419	3,013
1921	2,014	3,157	5,171	525	1,651	2,176	-458	1,718
1922	2,134	3,548	5,682	459	1,591	2,050	583	2,633
1923	2,453	3,936	6,389	459	1,613	2,072	840	2,913
1924	2,444	4,086	6,531	467	1,670	2,137	492	2,629
1925	2,644	4,341	6,986	440	1,650	2,091	539	2,631
1926	2,707	4,716	7,423	460	1,673	2,133	368	2,502
1927	2,742	4,548	7,290	470	1,638	2,109	290	2,399
1928	2,848	4,672	7,521	494	1,633	2,127	370	2,498
1929	3,003	5,008	8,012	531	1,699	2,231	171	2,403
1930	2,863	4,781	7,644	530	1,678	2,209	-553	1,655
1931	2,463	4,181	6,644	509	1,634	2,144	-846	1,298
1932	1,934	3,201	5,136	446	1,502	1,948	-868	1,080
1933	1,714	2,799	4,513	399	1,397	1,796	-141	1,654
1934	2,018	3,275	5,293	409	1,407	1,816	-27.8	1,789
1934	2,018	3,275	5,293	409	1,407	1,816	-17.9	1,798
1935	2,145	3,357	5,502	422	1,399	1,822	-2.3	1,810
1936	2,269	3,579	5,848	446	1,474	1,921	82.4	2,003
1937	2,505	3,944	6,450	475	1,573	2,048	43.9	2,092
1938	2,443	3,814	6,258	482	1,603	2,085	34.9	2,120

## T 5 Persons Engaged (thousands)

	EMPLOYEES				ENTREPRENEURS		
	Wholesale (1)	Retail (2)	Total (3)	Total * (4)	Wholesale (5)	Retail (6)	Total (7)
1919			3,882	3,605	85.8	1,063	1,149
1920			4,269	3,636	86.3	1,093	1,179
1921			3,819	3,564	86.8	1,123	1,210
1922			4,029	3,891	87.3	1,152	1,240
1923			4,370	4,302	87.8	1,182	1,270
1924			4,514	4,390	88.3	1,212	1,300
1925			4,589	4,591	88.8	1,242	1,330
1926			4,729	4,796	89.3	1,271	1,361
1927			4,878	4,922	89.8	1,301	1,391
1928			4,929	4,924	90.3	1,331	1,421
1929	1,560	3,623	5,184	5,184	90.8	1,361	1,452
1930	1,484	3,495	4,980		91.7	1,356	1,448
1931	1,308	3,125	4,433		92.6	1,352	1,444
1932	1,149	2,685	3,833		93.6	1,347	1,440
1933	1,136	2,658	3,794		94.5	1,342	1,436
1934	1,257	2,950	4,207		95.9	1,298	1,394
1935	1,279	2,945	4,224		97.2	1,254	1,351
1936	1,320	3,062	4,383		100	1,289	1,389
1937	1,400	3,210	4,611		102	1,307	1,410
1938	1,352	3,051	4,403		103	1,312	1,416

\* Second estimate.

TABLE T 1

## Gross Income

*Col. 1 Wholesale:* from the *Census of Wholesale Distribution* for 1929 (revised in 1933), 1933, and 1935 we took total sales for each year. To the 1935 total as reported we added data for auxiliary units and chain store warehouses. We classified the 1929 total into perishable, semidurable, and durable commodities including building materials on the basis used in *Commodity Flow and Capital Formation*, Vol. One, and extrapolated each subtotal to 1919 by wholesalers' sales as estimated for that study. Interpolation for intercensal years and extrapolation for 1936-38 are by the sales estimates of the Market Data Section, Marketing Research Division of the Bureau of Foreign and Domestic Commerce (see *Domestic Commerce*).

*Col. 2 Retail:* from the *Census of Retail Distribution* for 1929, 1933, and 1935 we took total sales for each year, excluding restaurants

and eating places which we include in the service industry. We classified the 1929 total into perishable, semidurable, consumers' durable, producers' durable commodities, and building materials on the basis used in *Commodity Flow and Capital Formation*, Vol. One, and extrapolated to 1919 by the series there reported for each subgroup. Interpolation for intercensal years and extrapolation for 1936-38 are by the sales estimates of the Market Data Section, Marketing Research Division of the Bureau of Foreign and Domestic Commerce (see *Domestic Commerce*).

*Col. 3 Total:* sum of col. 1 and 2.

TABLE T 2

## Total Payments by Type

*Col. 1 Wages and salaries:* see Table T 4, col. 3.

*Col. 2 Entrepreneurial withdrawals:* see Table T 4, col. 6.

*Col. 3 Dividends:* net dividends are the difference between total dividends paid and dividends received, both reported for 1922-37 in *Statistics of Income*. The 1938 estimates are extrapolated from 1937 by the corporate sample for the industry. Total dividends paid, 1919-21, are extrapolated from 1922 by the dividend payments of the corporate sample for the industry. Dividends received, 1919-21, are estimated on the assumption that the industrial distribution of dividends received by all corporations, reported in *Statistics of Income*, is the same as in 1922.

*Col. 4 Interest:* net long term interest is the difference between total long term interest paid and interest received on tax-exempt obligations.

Total long term interest, 1922-35, is estimated by multiplying long term debt outstanding by the average interest rate. Long term debt outstanding on December 31, 1921, 1923, 1924, and 1926-35 is from *Statistics of Income*. The 1921 figures are assumed to be complete for the industry. Those for 1923 and 1924 are raised by the ratio of the fair value of the stock of all corporations to the fair value of the stock of corporations reporting assets and liabilities. The 1926-31 figures are raised by the 1931 ratio of compiled receipts of all corporations to the compiled receipts of corporations reporting assets and liabilities. Total figures for 1932-35 also are

obtained by applying, to the figure reported, the compiled receipts ratios for the respective years.

Long term debt in 1934, comparable with 1933 and preceding years, is extrapolated from 1933 by the long term debt of corporations filing unconsolidated returns as reported in *Statistics of Income* and raised by the compiled receipts ratio. The latter applied to the long term debt figure for 1934, comparable with 1935 and later years, yields a comparable 1933 figure. Long term debt as of December 31, 1922 is interpolated by the debt of the corporate sample for the industry; as of December 31, 1925, along a straight line. Year-end figures are averaged to yield the debt outstanding during the year. To the resulting averages the average interest rate of the corporate sample for the industry is applied to yield total long term interest paid. Total interest paid in 1919-21 and in 1936-38 is extrapolated from 1922 and 1935, respectively, by the corporate sample for the industry.

Interest received, 1922-37, is from *Statistics of Income*; for 1919-21, it is estimated on the assumption that the industrial distribution of the total for the respective years, reported in *Statistics of Income*, is the same as in 1922. Interest received in 1938 is assumed to bear the same relation to interest paid as in 1937.

Col. 5 *Property income*: sum of col. 3 and 4.

Col. 6 *Total payments to individuals*: sum of col. 1, 2, and 5.

TABLE T 3

Net Income Originating

Col. 1 *Total payments to individuals*: see Table T 2, col. 6.

Col. 2 *Entrepreneurial net savings*: see Table T 4, col. 7.

Col. 3 *Corporate net savings*: difference between net profits after taxes and total dividends paid (see the notes to Table T 2, col. 3).

Net profits after taxes, 1922-37, are from *Statistics of Income*; for 1919-21, they are the sum of statutory net income (*Statistics of Income*) and dividends and interest received on tax-exempt obligations (see the notes to Table T 2, col. 3 and 4); for 1938 they are extrapolated from 1937 by the corporate sample for the industry.

Col. 4 *Total net savings*: sum of col. 2 and 3.

Col. 5 *Net income originating*: sum of col. 1 and 4.

TABLE T 4

## Wages and Salaries, and Entrepreneurial Net Income

*Col. 1 Wages and salaries, wholesale:* for 1929, 1933, and 1935, from the *Census of Wholesale Distribution*; the 1935 figure is adjusted to include auxiliary units and chain store warehousing. Interpolation for intercensal years and extrapolation for 1936-38 are by the BLS payrolls index.

For 1919-29 the entries are the sum of separate estimates for perishable, semidurable, and durable commodities and building materials, based on the relation of wages and salaries to sales. Regression lines of the change in the ratio of wages and salaries to sales on the percentage change in sales were derived from data on operating cost studies for wholesale produce firms and for Ohio wholesale grocers—the only samples available on this item for wholesale trade. From these regression lines we read the change in the ratio of wages and salaries to sales for the points corresponding to the percentage change in our estimates of sales for the various years. The readings from the two lines are averaged and are used to extrapolate to 1919 the 1929 basic ratio of wages and salaries to sales, computed from the *Census of Wholesale Distribution*, 1929 (revised in 1933). Wages and salaries in each year are the product of this ratio and estimated sales. For the derivation of the sales figures see the notes to Table T 1, col. 1.

*Col. 2 Wages and salaries, retail:* for 1929, 1933, and 1935, from the *Census of Retail Distribution*, adjusted to exclude data reported for restaurants and eating places, which we include in the service industry, and to include salaries paid at central administrative offices. Payrolls for central offices are reported for 1933 and 1935 and estimated for 1929 on the assumption that their ratio to sales of chain stores (those reporting data for central offices) moves similarly to the ratio of other payrolls to total sales. Interpolation for intercensal years and extrapolation for 1936-38 are by the BLS payrolls index.

Wages and salaries in retail trade, 1919-28, are the sum of estimates for (a) perishable, (b) semidurable, (c) consumers' durable, (d) producers' durable, and (e) building materials. The estimates are the product of the volume of sales (see the notes to Table T 1,

col. 2) and the ratio of wages and salaries to sales. For each subgroup the 1929 ratio of wages and salaries to sales is computed from the *Census of Retail Distribution*, and extrapolated for 1926 by the ratio for the sample cities covered in the 1926 *Census of Retail and Wholesale Trade*. A description of the series by which the ratio is extrapolated to 1919 and interpolated between 1926 and 1929 follows for each subgroup. The indexes indicated are derived from various operating cost studies. They are combined, when weighted indexes are used, by means of the 1929 sales figures.

a) *Perishable commodities*: interpolation between 1926 and 1929 is by the weighted average of the ratios of wages and salaries to sales for grocery and drug stores, as is the extrapolation from 1926 to 1924. For the years before 1924 extrapolation is by the ratio for grocery stores.

b) *Semidurable commodities*: interpolation and extrapolation for 1923-29 are by the ratio of wages and salaries to sales for department stores. The 1923 figure is extrapolated to 1920 by the weighted average of the ratios for department and shoe stores; the 1920, to 1919, by the ratio for shoe stores alone.

c) *Consumers' durable commodities*: interpolation and extrapolation for 1920-29 are by the weighted average of the ratios of wages and salaries to sales for department and jewelry stores; for 1919, by the ratio for jewelry stores alone.

d) *Producers' durable commodities*: interpolation and extrapolation for 1920-29 are by the ratio of wages and salaries to sales for hardware stores.

e) *Building materials*: interpolation and extrapolation for 1924-29 are by the weighted average of the ratios of wages and salaries to sales for building materials stores and hardware stores; for 1920-23, by the ratio for hardware stores alone.

Total wages and salaries in 1919 are estimated by applying to the 1920 total the percentage change from 1919 to 1920 in the sum of wages and salaries for the perishable, semidurable, and consumers' durable commodity groups.

Salaries at central administrative offices in the years before 1929 are based on the estimated sales of chain stores and the ratio of payrolls to sales. Chain store sales are based on the ratio to total sales reported for 1920, 1923, 1926, 1927, and 1929 in the *Chain Store Tells Its Story* (Institute of Distribution, Inc., 1940) and in-

terpolated along a straight line for the intervening years. The ratio of payrolls to sales is assumed to move similarly to the ratio of other payrolls to total retail sales.

*Col. 3 Total wages and salaries:* sum of col. 1 and 2.

*Col. 4 Entrepreneurial withdrawals, wholesale:* total withdrawals are estimated by multiplying the number of entrepreneurs (see the notes to Table T 5, col. 5) by their estimated average annual withdrawal. The average withdrawal in 1929 and 1935 is assumed to equal the average salary paid executives as derived from the *Census of Wholesale Distribution*. Interpolation between 1929 and 1935 and extrapolation for 1936-38 are by an index derived by dividing the BLS payrolls index by that of employment. A preliminary estimate of withdrawals, 1919-29, is computed by applying to non-corporate business (see the notes to col. 7) the corporate withdrawal ratio. The withdrawal ratio is the ratio of the sum of dividends paid (see the notes to Table T 2, col. 3) and officers' compensation to gross sales (*Statistics of Income*). Officers' compensation is interpolated for 1925-27 by corporate gross sales. Gross sales for 1922 is extrapolated to 1919 by the gross income series in *Statistics of Income*. The final 1929 total withdrawal figure is extrapolated through 1919 by the preliminary estimate described. Three-year moving averages of the average withdrawal are taken to yield the final average withdrawal for 1920-28. The 1920 average withdrawal is extrapolated to 1919 by the BLS cost of living index.

*Col. 5 Entrepreneurial withdrawals, retail:* obtained by multiplying the number of entrepreneurs (see the notes to Table T 5, col. 6) by their estimated average annual withdrawal. The average withdrawal in 1929 and 1933 is computed from the *Census of Retail Distribution*; for 1935 it is assumed to equal the average annual pay. Interpolation for intercensal years and extrapolation for 1936-38 are by an index derived by dividing the BLS payrolls index by that of employment. Estimates for the years before 1929 are made by the procedure described in the notes to col. 4.

*Col. 6 Total entrepreneurial withdrawals:* sum of col. 4 and 5.

*Col. 7 Entrepreneurial net savings:* product of non-corporate sales and the estimated savings ratio. Non-corporate sales are the difference between total sales and retail and wholesale corporate sales. The total sales series is described in the notes to Table T 1. Retail corporate sales in 1929 are from the *Census of Retail Distribution*.

Corporate sales of restaurants and eating places are deducted from the Census total since we include this field in the service industry. The corporate figure for restaurants is estimated by applying to the total sales figure for restaurants the ratio of corporate to total sales for all trade.

The retail corporate sales figure for 1929 is extrapolated to 1927 and 1933 and from 1935 through 1937 by the gross income of retail corporations as reported in *Statistics of Income*. The 1934 and 1938 figures are assumed to be the same percentage of total retail sales as in 1933 and 1937, respectively.

Wholesale corporate sales, 1927-38, are obtained by applying to total wholesale sales the estimated ratio of corporate to total sales. The ratio for 1929 and 1935 is computed from *Census of Wholesale Distribution* data. For intercensal years it is interpolated along a straight line and for 1936-38 it is kept constant at the 1935 level. For 1927 and 1928 the ratio is assumed to be the same as for 1929.

Total retail and wholesale corporate sales are extrapolated from 1927 to 1921 by *Statistics of Income* gross sales of corporations in trade; and from 1921 to 1919, by their gross income, from the same source.

The separation of total corporate sales in 1923 and 1924 into retail and wholesale is based on the ratio of retail corporate to wholesale corporate sales. The ratio for these years is an extrapolation of the 1930 ratio by the ratio of retail capital stock to wholesale capital stock. The capital stock figures are from capital stock tax returns in *Statistics of Income* for 1923 and 1924, and from the special tabulation of *Statistics of Income* asset and liability data for 1930. Total corporate sales in 1925 and 1926 are separated into retail and wholesale corporate by applying to total corporate sales the ratios of retail corporate and of wholesale corporate to total corporate (obtained by straight line interpolation), the resulting figures being adjusted proportionately to the correct total corporate sales. Retail and wholesale corporate sales for the years before 1923 are estimated by applying, to total corporate sales, the ratios of retail corporate to total retail sales and wholesale corporate to total wholesale sales. The ratios are extrapolated from 1923 on the assumption that the change in the ratio of retail corporate to total retail sales is one-half that for wholesale. The change in the wholesale ratio from 1923 to any of the earlier years is derived

from the following formula ( $a$  being the change in the wholesale ratio): total retail sales  $\times$  (ratio of retail corporate to total retail sales in 1923  $- \frac{1}{2}a$ ) + total wholesale sales  $\times$  (ratio of wholesale corporate to total wholesale sales in 1923  $- a$ ) = total corporate sales. Since all items except  $a$  are available,  $a$  can be found from this single equation. With  $a$  given, the ratios of retail corporate to total retail sales and wholesale corporate to total wholesale sales can be obtained. On the basis of the resulting ratios and total sales, preliminary totals for retail and wholesale corporate are derived and are adjusted on the basis of the ratio of the correct total corporate sales, as estimated above, to the sum of the preliminary estimates.

The net savings ratio is estimated as the ratio, to gross sales of corporations (*Statistics of Income*), of statutory net income before taxes (*Statistics of Income*) plus total interest paid (see the notes to Table T 2, col. 4) minus total dividends paid (see the notes to Table T 2, col. 3). The 1934 ratio comparable with those for preceding years is extrapolated from 1933 by the savings ratio, excluding the interest item, for corporations filing unconsolidated returns, data for which are reported in the 1934 *Statistics of Income*. Net savings in 1938 are extrapolated from 1937 by corporate savings. *Col. 8 Entrepreneurial net income*: sum of col. 6 and 7.

## TABLE T 5

## Persons Engaged

## EMPLOYEES

*Col. 1 Wholesale*: basic data for 1929, 1933, and 1935, from the *Census of Wholesale Distribution* (including auxiliary units and chain store warehouses). Our entries represent full-time employment equivalents. The 1933 estimate is the sum of the number of full-time employees reported and the part-time workers equated to full-time by dividing the part-time payroll, as reported, by the average full-time pay. The ratio of full- to full- and part-time employment is extrapolated from 1933 to 1929 by the corresponding ratio for retail trade (excluding restaurants and eating places). It is applied to the number of full- and part-time employees reported in 1929 to yield the full-time equivalent estimate. The 1935 figure is ob-

tained by dividing the total payroll reported by the estimated average full-time pay which, in turn, is derived by dividing the total payroll by the total number of workers, full- and part-time, and correcting this average by the ratio of the full-time average pay to the full- and part-time average pay for those retailers that report full- and part-time data separately. Interpolation for intercensal years and extrapolation for 1936-38 of the number of employees are by the BLS employment index.

*Col. 2 Retail:* basic data for 1929, 1933, and 1935, from the *Census of Retail Distribution* (excluding restaurants and eating places). The methods used for the 1929 and 1933 estimates, and for the 1935, are the same as for wholesale trade in 1933 and 1935 (see the notes to col. 1). Interpolation for intercensal years and extrapolation for 1936-38 are by the BLS employment index.

*Col. 3 Total:* for 1929 and later years col. 3 is the sum of col. 1 and 2. For earlier years employment is estimated for trade as a whole. The 1926 figure is obtained by dividing the total wage and salary bill (see the notes to Table T 4, col. 3) by the estimated average pay. The average pay in 1926 is extrapolated from 1929 by a weighted index derived from data for Wisconsin (*Wisconsin Labor Market*), for Ohio (BLS Bulletin 613), and for 10 sample cities (1926 *Census of Retail and Wholesale Trade* and 1929 *Census of Retail Distribution*). The weights are the number of employees in 1929. Interpolation between 1926 and 1929 and extrapolation to 1919 is by an employment index based on Wisconsin, Ohio, Pennsylvania, and Iowa data. The weights are the respective employment figures in 1929. The sources for the Wisconsin and Ohio data, covering 1922-29 and 1919-29 respectively, are given above. The Pennsylvania data, 1923-27, are from J. F. Dewhurst's *Employment Fluctuations in Pennsylvania, 1921 to 1927*; the Iowa, 1927-29, from the *Iowa Employment Survey*.

*Col. 4 Total, second estimate:* from data reported in the 1930 *Census of Population*, Vol. V, Ch. 1, the change from 1920 to 1930 in the number in representative occupations is estimated. Salespeople; decorators, etc.; delivery men, stores; floorwalkers, etc.; laborers, porters, and helpers in stores; laborers, coal and lumber yards; fruit and vegetable graders and packers; meat cutters and clerks in stores are included. It is assumed that the proportion of unemployment is the same in 1920 and 1929. The 1929 figure

(col. 3) is extrapolated to 1920 by the percentage change in the representative occupations. Interpolation for 1921-28 and extrapolation to 1919 are by sales of finished commodities, in 1929 prices (*Commodity Flow and Capital Formation*, Vol. One, Table V-7).

#### ENTREPRENEURS

*Col. 5 Wholesale:* from the *Census of Wholesale Distribution* for 1929, 1933, and 1935. The number in 1936-38 is based on the estimate of wholesale establishments prepared by the Bureau of Foreign and Domestic Commerce, Marketing Research Division. Estimates for intercensal years are by straight line interpolation. The 1929 figure is extrapolated to 1919 by the number of wholesale dealers and commercial brokers and commission men. The number as of January 1, 1920 and April 1, 1930 is reported in the 1930 *Census of Population*, Vol. V, Ch. 1. Figures for intercensal years and for 1919 are interpolated and extrapolated along a straight line.

*Col. 6 Retail:* from the *Census of Retail Distribution* for 1929, 1933, and 1935 (excluding restaurants and eating places). The method of interpolation and extrapolation is the same as for col. 5 except for 1936-38, when unpublished BLS estimates of entrepreneurs in retail trade are used as index. The *Census of Population* data, upon which the extrapolating series for 1919-29 is based, are for the number of retail dealers.

*Col. 7 Total:* sum of col. 5 and 6.