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PART FOUR

Basic Data, Sources, and Methods

PART FOUR presents, in sections devoted to major industrial groups, our estimates in detail. Notes to the tables give the sources and the methods by which the data were combined or adjusted to obtain the estimates. In both tables and notes the order is more or less the same for all major industrial divisions. First are estimates of gross income, but only when data are easily accessible. No effort has been made to derive a comprehensive estimate of gross income comparable to that of net income originating. For most major groups the table on gross income is followed by a table giving estimates of total payments originating in the broad industrial group as a whole. Next two sets of estimates of net savings of corporations and of entrepreneurs are given: one unadjusted, the other adjusted for gains and losses from sales of capital assets and for the effects of changing valuation of inventories. The sum of these savings and total payments to individuals is net income originating in the broad industrial group as a whole.

Whenever a broad industrial group can be subdivided, types of income for which more detailed estimates are possible are presented by minor industrial divisions. The order for each minor industrial group is net income originating, wages, salaries, employee compensation, entrepreneurial withdrawals, dividends, interest, property income, corporate net savings, and entrepreneurial net savings. In the last tables are estimates of the number of employees, converted to equivalents of full-time employment, and of the number of entrepreneurs, for both the broad industrial group as a whole and those subdivisions that can be measured separately.

The tables present the components of total national income

and two closely related items—gross income and number of persons engaged. Other subsidiary data and some detailed estimates for a few industries or years are presented in Part Five which, in a sense, is an appendix to Part Four.

The discussion in the notes to the numbered columns of each table varies in detail with the variety of our sources, the complexity of the method, and the extent to which a procedure has already been used and described elsewhere. For one industrial group, agriculture, our notes are especially brief, because we have taken over for most years the estimates prepared by the Department of Agriculture, Bureau of Agricultural Economics, and to describe at length its methods and original data seemed unnecessary. Several procedures used fairly uniformly for the various industrial groups were discussed in Part Three and are not referred to in Part Four: (1) the adjustment of business savings for gains and losses from sales of capital assets, effects of changing valuation of inventories, and the disparity between depreciation charges on cost and reproduction bases (discussed in Ch. 8, Sec. 2 D; subsidiary data presented in Part Five, Tables IV, VII, and VIII); (2) the preparation of two sets of estimates of dividends, interest, and net savings for 1934 (discussed in Ch. 8, Sec. 1 B); (3) the methods of interpolation and extrapolation (discussed in Ch. 11, Sec. 2).

A clear understanding of the methods and characteristics of the estimates can be gained only by reading the notes in Part Four in conjunction with the discussion in Part Three and the subsidiary data in Part Five. Even these do not always give a reader a complete description of how some estimates were derived. Practical considerations forbade this elaboration which would have entailed a description not only of the actual procedures but also of alternatives that were tried and discarded, as well as the presentation in much greater detail of the various subsidiary data and devices used. Instead we confine ourselves to a statement of our essential procedures and of our basic sources.

Agriculture

TABLES A 1 - A 3

A 1 Gross Income and Payments to Other Industries (millions of dollars)

	GROSS INCOME ³	CURRENT EXPEND. ^{2,4}	DECREASE		TAXES ⁴	SHORT TERM INT. ⁴	PAY. TO OTHER INDUSTRIES (7)	NET INCOME (8)
			IN VALUE OF LIVESTOCK (3)	NET RENT TO NON-FARMERS (4)				
1919	17,472	4,176	596	1,113	352	373	6,610	10,862
1920	15,805	4,552	474	801	438	463	6,728	9,077
1921	10,606	3,313	347	578	496	334	5,068	5,538
1922	10,902	3,197	299	632	509	404	5,041	5,861
1923	11,907	3,280	301	688	513	396	5,178	6,729
1924	12,532	3,528	284	729	514	363	5,418	7,114
1925	13,421	3,653	302	654	514	352	5,475	7,946
1926	13,076	3,742	342	594	521	343	5,542	7,534
1927	13,114	3,723	384	687	535	327	5,656	7,458
1928	13,402	4,089	442	655	550	336	6,072	7,330
1929	13,646	3,944	435	648	562	349	5,938	7,708
1930	11,153	3,626	352	476	567	318	5,339	5,814
1931	8,264	2,865	243	286	546	283	4,223	4,041
1932	6,286	2,352	182	190	493	248	3,465	2,821
1933	6,905 ¹	2,285	144	273	429	220	3,351	3,554
1934	8,350 ¹	2,430	203	382	392	194	3,601	4,749
1935	9,443 ¹	2,690	299	500	389	185	4,063	5,380
1936	10,457 ¹	2,930	345	525	396	172	4,368	6,089
1937	11,118 ¹	3,312	366	593	403	170	4,844	6,274
1938	10,016 ¹	3,056	336	562	415	190	4,559	5,457

¹ Including rental and benefit payments amounting to \$131 million in 1933, \$447 million in 1934, \$573 million in 1935, \$287 million in 1936, \$367 million in 1937, and \$482 million in 1938.

² Including depreciation on buildings and machinery.

³ Including rental value of operators' homes.

⁴ Including expenses of non-farmer landlords.

A 2 Net Income Originating by Type (millions of dollars)

	WAGES (1)	ENTREP. WITHDR. (2)	DIVIDENDS (3)	INT. ON MTGE. (4)	PAY. TO INDI- VIDUALS (5)	NET SAVINGS (6)	ENTREP. NET INCOME (7)	NET INCOME (8)
1919	1,515	6,699	16	357	8,587	2,275	8,974	10,862
1920	1,780	7,749	16	430	9,975	-898	6,851	9,077
1921	1,150	5,316	16	490	6,981	-1,443	3,873	5,538
1922	1,122	5,120	16	510	6,768	-907	4,213	5,861
1923	1,219	5,630	16	509	7,374	-645	4,985	6,729
1924	1,224	5,745	15	487	7,471	-357	5,388	7,114
1925	1,243	5,806	18	459	7,526	420	6,226	7,946
1926	1,326	5,859	16	448	7,649	-115	5,744	7,534
1927	1,280	5,828	29	445	7,582	-124	5,704	7,458
1928	1,268	5,832	25	442	7,567	-237	5,595	7,330
1929	1,284	5,899	12	436	7,631	77	5,976	7,708
1930	1,134	5,579	7	429	7,149	-1,335	4,244	5,814
1931	847	4,541	14	419	5,821	-1,780	2,761	4,041
1932	584	3,502	6	400	4,492	-1,671	1,831	2,821
1933	517	3,166	0.02	362	4,045	-491	2,675	3,554
1934	558	3,500	17	334	4,409	340	3,840	4,749
1935	639	3,775	19	308	4,741	639	4,414	5,380
1936	690	4,028	37	289	5,044	1,045	5,073	6,089
1937	794	4,546	32	278	5,650	624	5,170	6,274
1938	758	4,492	22	268	5,540	-83	4,409	5,457

A 3 Persons Engaged (thousands)

	EMPLOYEES			ENTREPRENEURS (4)
	Wage earners	Salaried	Total	
	(1)	(2)	(3)	
1919	1,996	95	2,091	6,393
1920	2,048	96	2,144	6,406
1921	1,957	88	2,045	6,443
1922	1,958	78	2,036	6,400
1923	1,914	71	1,985	6,328
1924	1,883	62	1,945	6,319
1925	1,876	59	1,935	6,313
1926	1,974	62	2,036	6,252
1927	1,910	65	1,975	6,216
1928	1,895	68	1,963	6,229
1929	1,899	72	1,971	6,234
1930	1,789	74	1,863	6,286
1931	1,688	71	1,759	6,406
1932	1,550	66	1,616	6,569
1933	1,526	64	1,590	6,691
1934	1,476	61	1,537	6,741
1935	1,559	59	1,618	6,771
1936	1,581	56	1,637	6,776
1937	1,624	56	1,680	6,788
1938	1,619	56	1,675	6,836

The preponderant part of the basic materials used in preparing the estimates of net income originating in agriculture is taken from *Income Parity for Agriculture*, a study by the Department of Agriculture, Bureau of Agricultural Economics. Its estimates are *tentative* and subject to revision. In the specific notes below, BAE data are so specified and the description of their derivation can be obtained from the Bureau of Agricultural Economics. All *other* estimates are described fully.

TABLE A 1

Gross Income and Payments to Other Industries

Col. 1 Gross income: (BAE) sum of cash income, farm value of products consumed, government benefit payments, and rental value of operators' homes.

Col. 2 Current expenditures: (BAE) cost of feed, seed, and fertilizer; livestock purchases; operation of automobiles, trucks and tractors; cotton ginning, binder twine, containers, insecticides; veterinary service and medicine, horseshoeing, electricity, insurance, irrigation and drainage, grazing, and toll for sugar crops, and also the estimated depreciation on buildings and machinery.

Col. 3 Decrease in value of livestock on farms: the figures for 1919-34 are published in *Capital Consumption and Adjustment*, by Solomon Fabricant (National Bureau of Economic Research, 1938). Estimates for later years were made by methods similar to those outlined there.

Col. 4 Net rent paid to non-farmer landlords: (BAE) a net figure after expenses have been deducted. Since expenses paid by non-farmer landlords are included in the totals for the various expense items (col. 2, 5, and 6), only net rent is shown as an additional expense of farmers.

Col. 5 Taxes: (BAE)

Col. 6 Short term interest: (BAE) mortgage interest paid by non-farmer landlords included as well as short term interest paid by farmers. The BAE in its current work does not separate mortgage interest into that paid by farmers and by non-farmers. We have assumed that one-fourth is paid by non-farmers (see *Crops and Markets*, Sept. 1936).

Col. 7 Total payments to other industries: sum of col. 2-6.

Col. 8 Net income originating: difference between col. 1 and 7.

TABLE A 2

Net Income Originating by Type

Col. 1 Wages: (BAE data published in *Income Parity for Agriculture*, Part II, Sec. 1) allowance for board and other perquisites included.

Col. 2 Entrepreneurial withdrawals: a preliminary figure is derived

by multiplying the number of farmers including salaried employees (see the notes to Table A 3) by the average annual wage without board; the product is raised by 22 per cent to allow for unpaid family labor. The resulting estimate in turn is raised by 25 per cent to allow for the difference in expenditure levels between farm operators and hired men. The second adjustment factor is derived from data in Department of Agriculture Bulletin 1466, *The Farmer's Standard of Living*, and in Iowa Agricultural Experiment Station Bulletin 237, *Cost of Living on Iowa Farms*, both of which give expenditure figures for farm operators and for farm hired men. The final estimates of per capita withdrawals are, on the whole, confirmed by the *Study of Consumer Purchases* (WPA), which collected data on farmers' incomes and expenditures.

Col. 3 Dividends: difference between total dividends paid and dividends received. Both are reported for 1926-37 in the special tabulation by minor industrial divisions of *Statistics of Income* data. The 1938 estimate is extrapolated from 1937 by a corporate sample for the industry. The 1926 figures are extrapolated to 1922 by total dividends paid and dividends received by agriculture and related industries, as recorded in *Statistics of Income*. Net dividends in 1919, 1920, and 1921 are assumed to be the same as in 1922.

Col. 4 Interest: (BAE) see the notes to Table A 1, col. 6.

Col. 5 Total payments: sum of col. 1-4.

Col. 6 Net savings: difference between net income originating (Table A 1, col. 8) and total payments (col. 5, above).

Col. 7 Entrepreneurial net income: sum of col. 2 and 6.

Col. 8 Net income originating: sum of col. 5 and 6.

TABLE A 3

Persons Engaged

Col. 1 Wage earners: number obtained by dividing the total cash wage bill plus allowance for board by the average annual wage without board. Annual wage rates are from *Agricultural Statistics, 1939*.

Col. 2 Salaried employees: number for 1930 is from the 1930 *Census of Population*, Vol. V, Ch. 7. It is extrapolated for all other years by the number of managers and foremen. Basic data for the number of managers and foremen are reported for 1910, 1920, and 1930

in the occupation statistics of the *Census of Population*. Interpolation between these years and extrapolation of the 1930 figures are by the number of managed farms. The number of managed farms in 1910, 1920, 1925, 1930, and 1935 is reported in the *Census of Agriculture*. Interpolation is along a straight line and it is assumed that the average annual decline from 1935 to 1936 is the same as from 1930 to 1935. The 1937 and 1938 figures are assumed to be the same as the 1936.

Col. 3 Employees: sum of col. 1 and 2.

Col. 4 Entrepreneurs: the number of all farms, January 1, is published by the BAE in *Income Parity for Agriculture*, Part V, Sec. 1. By subtracting our estimates of the number of managed farms (see the notes to col. 2) we obtain the number of owners and tenants. Annual figures are averages of year-end figures.