Excerpt from
Individual Income Tax Shares and Average Tax Rates, Tax Years 1916–1950*

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The annual Statistics of Income (SOI) publications are an invaluable source of information on the U.S. economy. The first SOI report (released in 1918) focused on returns filed for 1916, and it also contained aggregate information (but not data distributed by income size class) for 1913 through 1915 [1]. Thus, the data published in SOI cover the entire 75-year period of the modern income tax [2]. In view of this long history, it seemed worthwhile to try to analyze the published SOI volumes as if they constituted a time-series data base. To this end, a series of articles is planned for the *SOI Bulletin.* The series will include:

- An initial re-examination of the 1916 to 1950 period, presented in this article;
- A brief look at the 1951 to 1986 period, to be presented in the upcoming Spring *SOI Bulletin;*
- An overall look at the entire 1916 to 1987 period, to appear in the Fall 1989 or Winter 1989-1990 *SOI Bulletin.*

Subsequent articles may also be produced, as appropriate.

The principal focus of the first two articles will be on two important and closely related measures of the taxation of different income groups:

- *Average Income Tax Rates*—the Federal income tax liability for a group as a percentage of the reported income of *that* group; and
- *Income Tax Shares*—the Federal income tax liability for a group as a percentage of total Federal income tax liability for *all* groups.

(See the Data Limitations and Definitions Section for explanations of other terminology.) To derive these two measures, the original Statistics of Income publications for 1916 through 1986 were "dusted off" and information for each year on the number of returns, income and tax by income size class was entered onto a computer file [3]. A principal goal of this historical treatment is to provide previously published data that would otherwise be difficult to find or inconvenient to use. There are plans, for example, to make all of the data produced available on tapes or on floppy disks.

The information presented here does suffer from a number of limitations. Some of these limitations have been mitigated, as noted in the Data Preparation section and some are still being addressed; other issues may best be left to scholars outside the Internal Revenue Service. Reports on the progress of their work will appear in subsequent issues of the *Bulletin* [4].

It must be remembered that the SOI data used for this study were prepared over a more than 70-year period by many different people, almost none of whom envisioned the demands that a time-series analysis would place on their work. Under these circumstances, the results expected from this effort are modest; nonetheless, the data set could ultimately be very valuable to many researchers and policy analysts.

This article is organized into five sections. Perhaps the most important of these is the extensive set of basic tables that have been prepared. To guide the reader in their use, a synopsis of the individual income tax law changes over the 1916 to 1950 period (Exhibit A) is provided. Introducing these major pieces of the article are an overview of the preparation of the data, a brief review of a portion of the results obtained and a short discussion of data limitations and definitions of terms.

OVERVIEW OF DATA PREPARATION

Historically, SOI data have been tabulated for use in SOI publications and, except for a few (mainly recent) experiments, these data have not been retained in an electronic medium [5]. The first step to take, therefore, was to go back to the original published SOI volumes, retrieve the information needed (including corrections entered by hand on the file copies) and computerize it. The data were then subjected to a number of adjustments designed to overcome some of the problems inherent in using annual cross-sections in a time-series context. These adjustments included transforming the data from current to constant dollars, standardizing the coverage of each year and standardizing the income size classes.

Constant Dollars

To eliminate the influence of the inflation (and deflation) in pn prices over the period, all money amounts in this study

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are presented in 1986 dollars, unless otherwise noted. The Consumer Price Index (CPI) was employed to convert the data to 1986 dollars [6] (see Figure A).

Figure A.—Consumer Price Index, 1986 = 100

Year	Index	Year	Index
1916	10.0	1934	12.2
1917	11.7	1935	12.5
1918	13.7	1936	12.6
1919	15.8	1937	13.1
1920	18.3	1938	12.8
1921	16.3	1939	12.7
1922	15.3	1940	12.8
1923	15.6	1941	13.4
1924	15.6	1942	14.9
1925	16.0	1943	15.8
1926	16.1	1944	16.0
1927	15.8	1945	16.4
1928	15.6	1946	17.8
1929	15.6	1947	20.4
1930	15.2	1948	22.0
1931	13.9	1949	21.7
1932	12.5	1950	22.0
1933	11.8		

Source: Bureau of Labor Statistics, as cited in U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*. The index for 1967 = 100 was converted so that 1986 = 100.

The CPI was chosen over other price indices, in part, because it appeared to be the only readily available series covering the years prior to 1929 [7]. The CPI was selected for other reasons as well. It is probably the most widely used source of information on changes in the prices of consumer goods and services. Also, the change in the CPI over time is a more appropriate measure of inflation (or deflation) from year to year than the year-to-year change in the Personal Consumption Expenditure Deflator, another well-known index [8]. While the focus of the current research is on a CPI-based analysis, an analysis of the sensitivity of these estimates to the use of alternative price indices will be included in the third paper in this series [9].

Filing Requirements

The comparability of tax return data over time is eroded by numerous legal and economic developments occurring between 1916 and 1950. Perhaps the most apparent of these is the fluctuation of the income tax filing requirement (see Figure B).

At the beginning of the period, returns were required if net incomes were above a certain value. For married couples filing joint returns, this level was set at $3,000 in current dollars ($30,000 in 1986 dollars). At the onset of World War I in 1917, the net income filing requirement for joint returns was dropped to $2,000 in current dollars ($17,094 in 1986 dollars), where it remained through 1923.

Figure B.—Income Tax Return Filing Requirements in 1986 Dollars, Tax Years 1916-1950

Year	Married Filing Jointly		Single	
	Net Income	Gross Income[1]	Net Income	Gross Income
	(1)	(2)	(3)	(4)
1916	$30,000	N/A	$30,000	N/A
1917	17,094	N/A	8,547	N/A
1918	14,599	N/A	7,299	N/A
1919	12,658	N/A	6,329	N/A
1920	10,929	N/A	5,464	N/A
1921	12,270	$30,675	6,135	$30,675
1922	13,072	32,680	6,536	32,680
1923	12,821	32,051	6,410	32,051
1924	16,026	32,051	6,410	32,051
1925	21,875	31,250	9,375	31,250
1926	21,739	31,056	9,317	31,056
1927	22,152	31,646	9,494	31,646
1928	22,436	32,051	9,615	32,051
1929	22,436	32,051	9,615	32,051
1930	23,026	32,895	9,868	32,895
1931	25,180	35,971	10,791	35,971
1932	20,000	40,000	8,000	40,000
1933	21,186	42,373	8,475	42,373
1934	20,492	40,984	8,197	40,984
1935	20,000	40,000	8,000	40,000
1936	19,841	39,683	7,937	39,683
1937	19,084	38,168	7,634	38,168
1938	19,531	39,063	7,813	39,063
1939	19,685	39,370	7,874	39,370
1940	N/A	15,625	N/A	6,250
1941	N/A	11,194	N/A	5,597
1942	N/A	8,054	N/A	3,356
1943	N/A	7,595[2]	N/A	3,165
1944	N/A	3,125	N/A	3,125
1945	N/A	3,049	N/A	3,049
1946	N/A	2,809	N/A	2,809
1947	N/A	2,451	N/A	2,451
1948	N/A	2,727	N/A	2,727
1949	N/A	2,765	N/A	2,765
1950	N/A	2,727	N/A	2,727

[1] For 1944 and after, this filing criterion applies to income earned by either spouse; prior to 1944, the net income and gross income filing thresholds were applied to the combined income of the couple.
[2] Or $3,949 earned by one spouse only, for purpose of the victory tax.
N/A—not applicable.
NOTE: For corresponding current dollar thresholds, see the Synopsis of Law Section (Exhibit A).

In 1921, however, a filing requirement based on gross income was also imposed. This additional criterion was set much higher than the net income requirement (at $5,000 in current dollars from 1921 through 1939, which averaged $35,475 in 1986 dollars). Net income filing levels varied prior to World War II, partly in response to the relative prosperity of the 1920's (when they were raised) and to the Great Depression (when they were lowered).

In 1940, steps were taken to begin expanding the coverage of the income tax and to simplify the filing requirements. For example, the net income requirement was eliminated altogether and the gross income level for joint returns was lowered to $2,000 in current dollars ($15,625 in 1986 dollars). This trend of lowering the gross income filing limit continued through 1944, when it stood at $500 in current dollars ($3,125 in 1986 dollars), regardless of marital status. For 1948 this level was raised to $600 in current dollars ($2,727 in 1986 dollars), where it was to stay until 1970 [10].

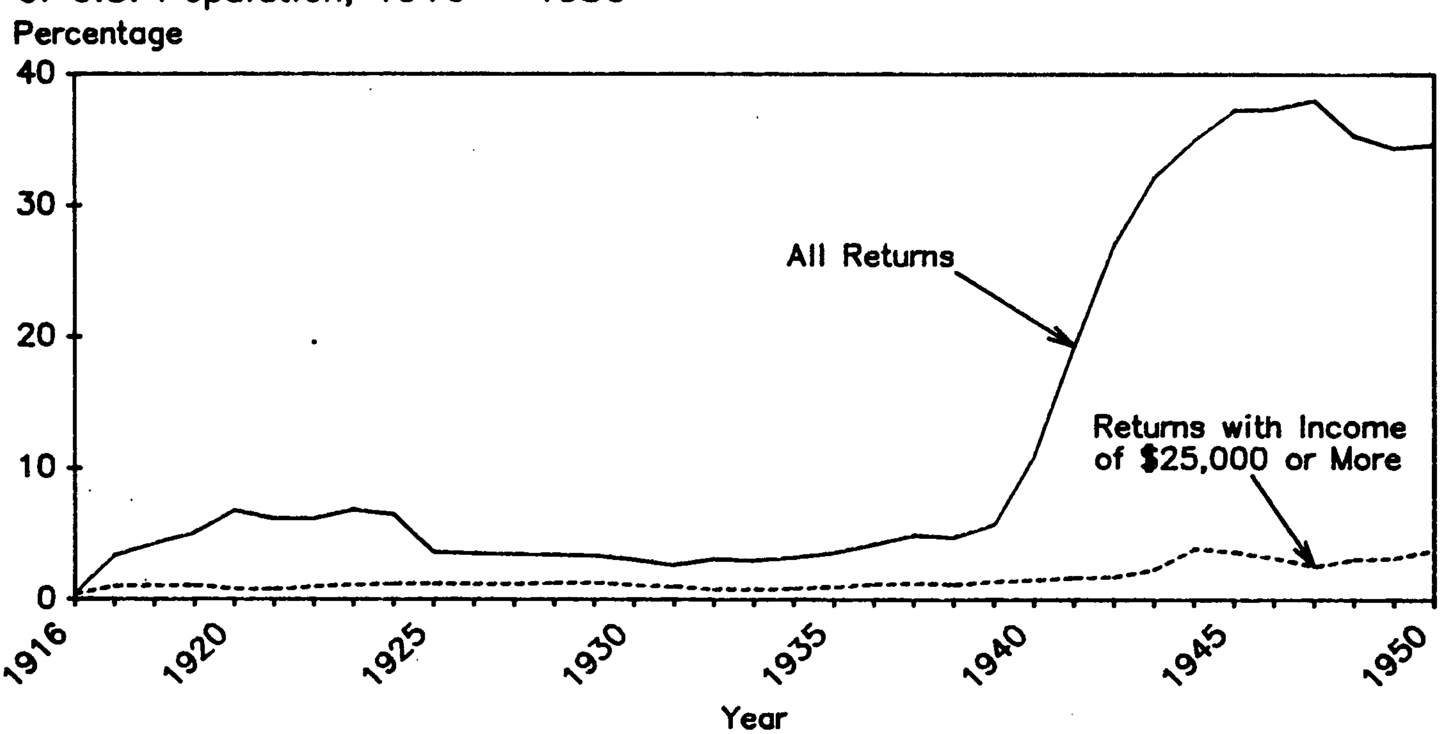
Constant Coverage

From this discussion of filing requirements, it is evident that during the early years of the Federal income tax, only fairly affluent individuals filed returns. Indeed, it really was not until World War II that the income tax became a "mass" tax (see Figure C). The number of returns filed, expressed as a percentage of the U.S. population, fluctuated between 0.42 percent and 6.88 percent in the first 20 years of the period. In 1939, the ratio of returns to population stood at 5.8 percent [11]. During World War II, though, it rose dramatically and, after the War, it continued to climb, reaching a high of over 38 percent for 1947 [12]. Data for the period prior to 1940, therefore, are really not comparable to information for 1940 and thereafter.

As a first step in adjusting for the effects of the variation in the filing threshold, attention is confined to returns with income of $25,000 or more in 1986 dollars [13]. This relatively high level is a compromise of sorts. For two of the years (1916 and 1931), the net income threshold for joint returns is actually above $25,000, slightly in 1931 and significantly in 1916 [14].

The introduction of a common artificial filing threshold indexed to inflation has definite benefits in increasing year-to-year comparability. It also has the additional feature of straightening out the trend line, as shown in Figure C, and defining a more constant percentage of the U.S. population to study (especially in the pre-1940 period). There are some disadvantages to this approach too. The

Figure C
All Returns and Returns with Income of $25,000 or More as Percentages of U.S. Population, 1916 – 1950



primary one is that, even with this change, it is not possible to look at exactly the same part of the income distribution in every year.

Limiting the analysis just to returns with $25,000 or more in constant 1986 dollars is not entirely satisfactory since there are changes in real income over the period. A better basis for study would be returns that represent a constant portion (i.e., the top 1 percent) of the income distribution for each year. Pechman [15], for example, in his analysis of the post World War II period, examined constant percentiles of the U.S. population by relating data on the number of returns filed and the number of exemptions claimed (an indication of the number of individuals represented by the returns) to the U.S. Census Bureau information on families and unrelated individuals [16]. Pechman and others have also related income data from tax returns to aggregate personal income data produced by the Bureau of Economic Analysis [17].

The largest problem in extending Pechman's approach to the data presented here is that the Census Bureau and Bureau of Economic Analysis series do not begin until after World War II; hence, these series will have to be estimated for earlier years before they can be applied to the older income tax data. Current SOI efforts to do this will be discussed in the third article of this series.

Baseline Comparisons

Confining analysis just to returns with income of $25,000 or more in 1986 dollars does result in a loss of data. For an initial look at the 1916 to 1950 period, this is not a serious omission, especially prior to 1940. For example, the aggregate income reported by this group tracks other economic time series very closely, notably the Gross National Product (GNP) series shown in Figure D [18]. (Incidentally, notice that two different scales are used in the graph. The scale on the left axis, which ranges from 0 to $300 billion dollars, is for income from the returns and the scale on the right axis, which ranges from 0 to $1,500 billion, is for GNP.) For most of the pre-1940 period, returns with income of $25,000 and above in 1986 dollars accounted for 90 percent or more of the Federal individual income tax liability reported (see Figures E and F). During the World War II years, however, a sharp drop occurred in the percentage of total tax liability accounted for by this group. Even so, it still stood at roughly 60 percent in the late 1940's. Except for 1916, though, the $25,000 plus group at no time constituted a majority of returns filed and, after 1939, was never again to constitute more than half of the income reported. (1916 is not shown in Figure E; all returns filed for 1916 have income of over $25,000 in 1986 dollars.)

Tax rates are shown in two different ways in Figures G and H. Figure G compares average tax rates for all returns with average tax rates for returns having income of $25,000 or more. The graph shows that the overall patterns are quite similar; however, there are greater rises in average tax rates for the $25,000 group during periods of tax rate increases and steeper drops in periods of tax rate decreases. The difference in rates varies from 0.70 percent to 5.72 percent in the 1917 to 1940 period. In the later period, the difference in the average tax rates for the two groups is much greater, ranging from 7.81 percent in 1949 to 14.96 percent in 1943.

Figure H, which shows how tax rates changed at the margin, largely explains why the average tax rates behave as they do. The marginal normal tax and surtax rates are low and relatively flat from 1916 to 1940. Both rates were raised during World War II; however, the increase in marginal surtax rates, which were applied to higher incomes, was much greater. Figures G and H show that in general, average rates declined after 1943, although marginal surtax rates did not. This is due in part to the change in the income concept which occurred in 1944. AGI, applicable in 1944 and thereafter, is a broader concept than net income, which is applicable to data for 1916 through 1943. The average tax rate data in Figure G also reflect statutory reductions in combined normal tax and surtax or limitations on the combined taxes in effect for 1923, 1940 and 1944 through 1950; the marginal rates shown in Figure H do not reflect these reductions and limitations and so are slightly overstated for those years. This is particularly significant in explaining the drop in average tax rates occurring between 1947 and 1948 [19].

Constant Size Classes

The current dollar income size classes used in the SOI publications over the years varied considerably, as the distribution of income changed and the coverage of the U.S. population grew. To treat the entire collection of information in a uniform way, a method had to be used to bring the different size classes into alignment. A relatively sophisticated technique was developed especially for adjusting the published size classes and corresponding aggregates to new common constant and current dollar size classes or to classes defined by fixed percentiles. While it is beyond the scope of the current discussion to explain the interpolation technique in detail, at least two observations should be made:

- The procedure uses all of the existing published information (before returns with income of less than $25,000 in 1986 dollars are dropped) and perfectly fits a smooth curve to it so that new statistical data can be obtained at any point, regardless of where the original size classes were placed.

- Recent SOI research and prior results with the interpolation method being used provide evidence on the

Figure D
Aggregate Income of Returns with Income of $25,000 or More
Compared to Gross National Product (GNP),
in Billions of 1986 Dollars, 1916 – 1950

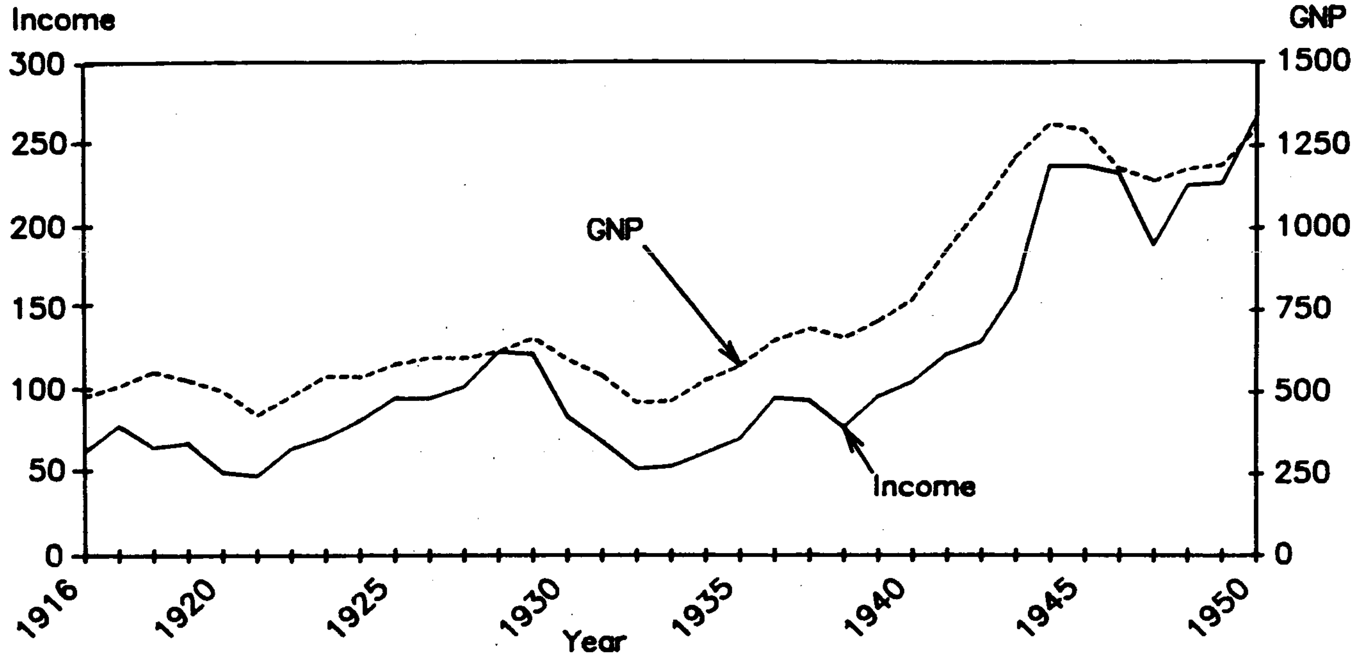


Figure E
Returns with Income of $25,000 or More as a Percentage of Total Returns:
Number, Income and Federal Income Tax, 1917 – 1950

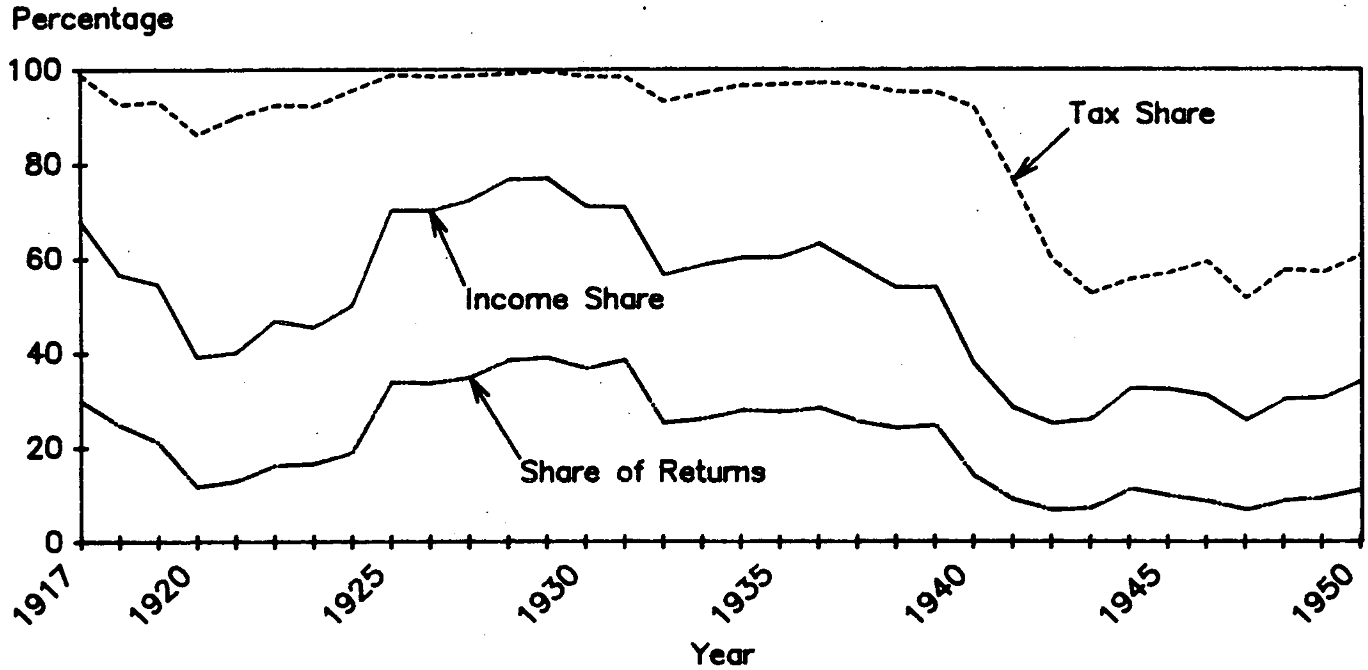


Figure F.—Number of Returns, Income and Federal Income Tax for All Returns and for Returns with Income of $25,000 or More, Tax Years 1916-1950

[Money amounts are in thousands of 1986 dollars]

Tax year	All returns			Returns with income of $25,000 or more		
	Number	Income	Federal income tax	Number	Income	Federal income tax
1916	429,401	63,285,233	1,742,110	429,401	63,285,233	1,742,110
1917	3,472,890	116,687,034	5,771,359	1,039,939	79,262,611	5,707,313
1918	4,425,114	116,238,241	8,231,547	1,088,142	65,729,460	7,611,418
1919	5,332,760	125,692,981	8,035,633	1,126,152	68,412,748	7,487,529
1920	7,259,944	129,702,891	5,874,612	845,294	50,604,900	5,064,399
1921	6,662,176	120,105,601	4,413,417	858,958	48,190,115	3,969,455
1922	6,787,481	139,452,373	5,627,824	1,096,551	65,389,500	5,198,177
1923	7,698,321	158,829,910	4,241,449	1,277,331	72,131,039	3,906,361
1924	7,369,788	164,462,519	4,514,519	1,401,885	82,526,321	4,314,416
1925	4,171,051	136,841,100	4,590,969	1,412,304	96,107,503	4,535,197
1926	4,138,092	136,388,236	4,549,509	1,389,218	95,754,882	4,482,275
1927	4,101,547	142,690,449	5,257,209	1,430,996	103,239,147	5,191,472
1928	4,070,851	161,707,224	7,463,167	1,567,243	124,197,168	7,396,152
1929	4,044,327	158,979,077	6,422,679	1,583,251	122,390,023	6,396,740
1930	3,707,509	119,201,546	3,136,283	1,359,949	84,679,225	3,086,864
1931	3,225,924	97,877,669	1,770,698	1,246,059	69,322,835	1,741,877
1932	3,877,430	93,247,272	2,639,696	971,415	52,728,840	2,459,475
1933	3,723,558	93,293,542	3,170,508	967,763	54,719,540	3,010,542
1934	4,094,420	104,891,820	4,191,803	1,142,863	63,171,129	4,051,364
1935	4,575,012	119,278,496	5,259,512	1,258,262	71,880,465	5,089,615
1936	5,413,499	152,699,286	9,635,056	1,536,232	96,512,174	9,364,099
1937	6,350,148	162,126,519	8,714,267	1,610,856	94,581,167	8,427,961
1938	6,150,776	145,788,508	5,672,813	1,475,320	78,265,050	5,398,252
1939	7,570,320	180,621,402	7,015,228	1,871,434	97,542,665	6,670,341
1940	14,598,074	283,669,680	11,257,555	2,011,064	106,603,665	10,331,317
1941	25,770,089	436,770,276	28,473,246	2,275,629	123,489,979	21,790,549
1942	36,456,110	527,447,846	59,215,040	2,413,908	131,136,060	35,376,630
1943	43,506,553	627,910,519	91,452,158	3,152,991	163,075,671	48,133,168
1944	46,919,590	729,467,100	101,352,506	5,238,391	237,897,231	56,448,045
1945	49,750,991	733,543,482	103,965,720	4,843,415	237,257,604	59,211,657
1946	52,600,470	754,662,955	90,314,118	4,478,549	233,097,131	53,640,771
1947	54,799,936	736,741,544	88,609,221	3,638,193	189,670,375	45,665,188
1948	51,745,697	746,244,823	70,188,768	4,555,689	226,287,703	40,441,135
1949	51,301,910	743,655,323	66,996,041	4,764,434	227,475,295	38,255,082
1950	52,655,564	817,611,264	83,522,373	5,786,493	279,879,931	50,865,192

basic soundness of the approach, in part because the use of a strong global distributional assumption is not necessary [20].

(For the mathematically minded, it might be noted in passing that the basic approach taken was to employ "spline fitting" procedures to the tabulated income data. For a recent review of this area of statistical application, see [21].)

Six basic tables were produced using the interpolation approach devised. Of these, Table 1 is the most straightforward. It simply summarizes *in current dollars* the number of returns, income and tax for each year, for all returns, without regard to the $25,000 threshold. This table is what the published Statistics of Income data would have looked like for the 1916 through 1950 period if they had always been tabulated with the *same* current dollar size classes. This table is not particularly useful because of the varying filing requirements over the years. However, it provides an interesting overview of the period and is included for the sake of completeness.

The remaining tables all start out by using the interpolation procedure to separate out what was, for most years, the bulk of the usable portion of the tax return income distribution: returns with income of $25,000 or more in 1986 dollars. This means that for any percentages shown (the top 1 percent of returns, for example), the base is returns with income of $25,000 or more in 1986 dollars. In addition, all money amounts on Tables 2 through 6 are expressed in 1986 dollars. The tables are briefly described below:

- Table 2 shows selected statistics for groups of returns with *constant tax shares* (5 to 50 percent in increments of 5) for each year. These statistics include the number of returns in the group, the percentage of returns (with $25,000 or more) accounted for by the group, income, Federal income tax, mean income before and after tax, the average income tax, the minimum income required for a return to be included in the group, the income share of the group before and after tax, the number of returns per 100,000 of U.S. population, the average income tax rate and the income tax share of the group. All groups are cumulated from the top.

- Table 3 shows the same statistics for groups of returns with *constant income shares* (5 to 50 percent in increments of 5) for each year.

Figure G
Average Tax Rates for All Returns and for All Returns with Income of $25,000 or More, 1916 - 1950

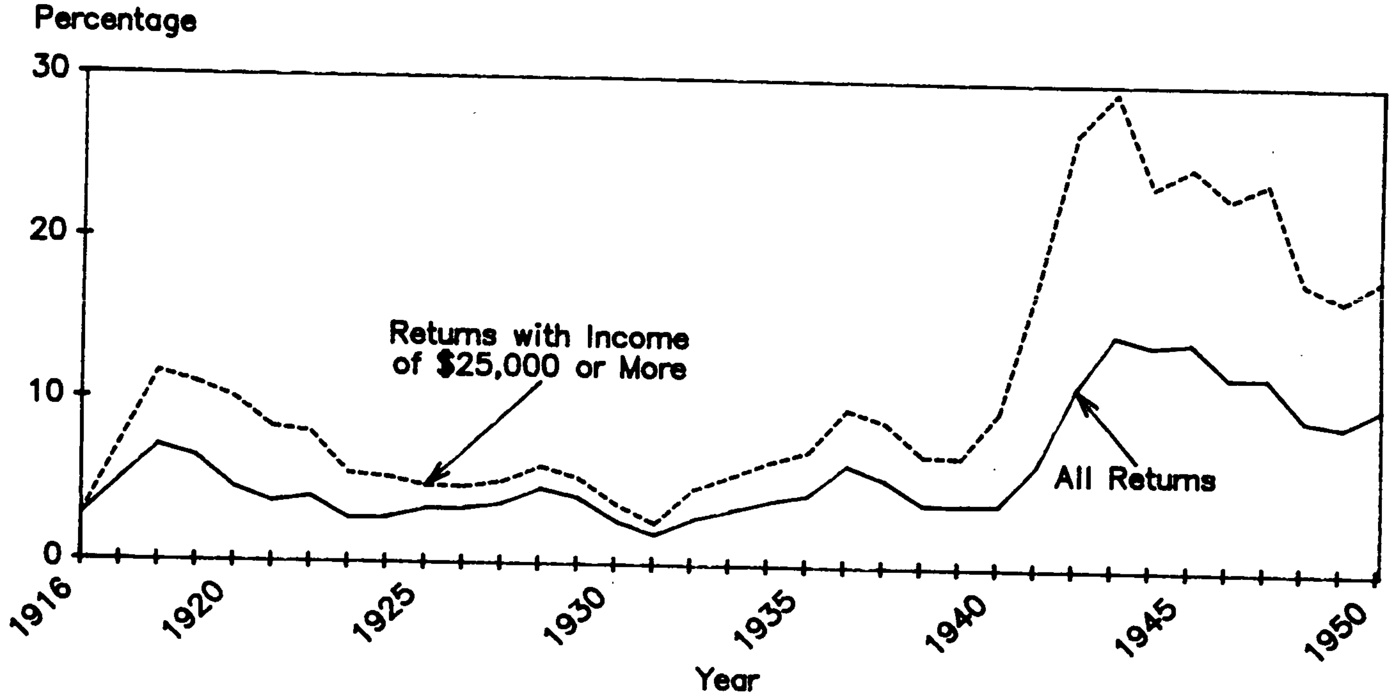
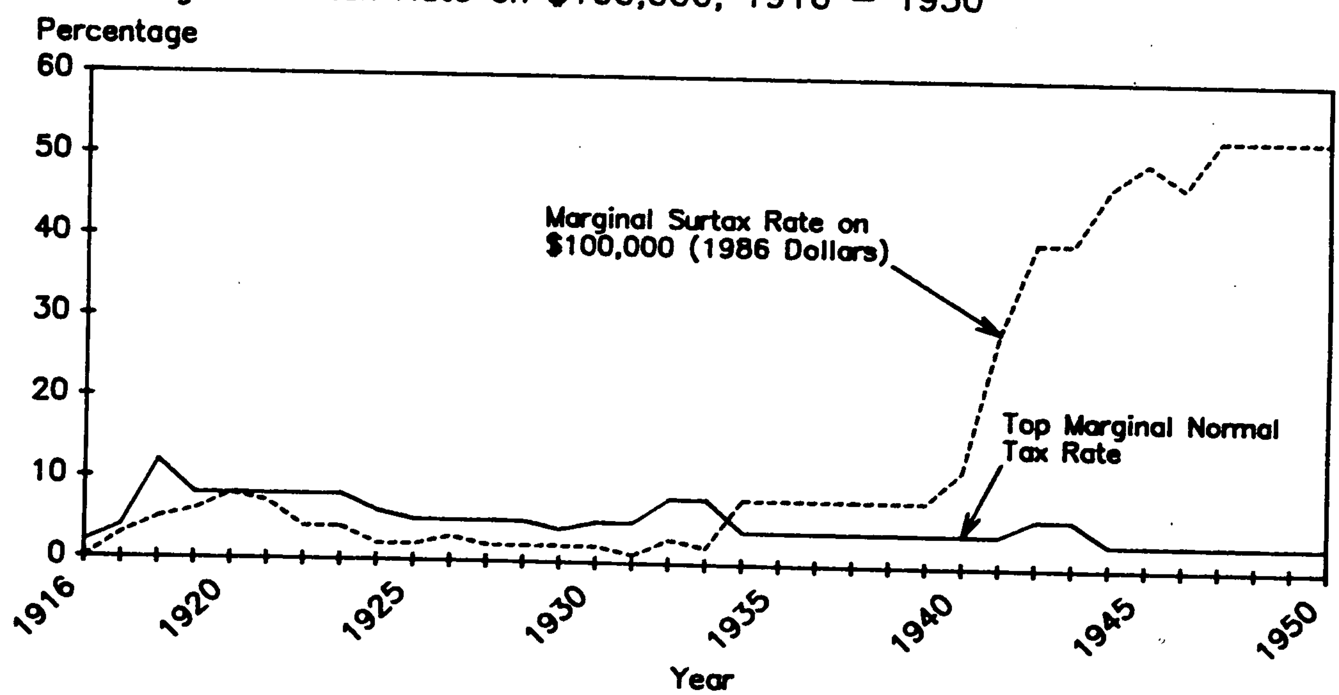


Figure H
Marginal Normal Tax Rate for the Top Normal Tax Bracket and Marginal Surtax Rate on $100,000, 1916 - 1950



- Table 4 shows the same statistics again, this time for *constant percentiles* of returns (1 percent and then 5 to 50 percent in increments of 5) for each year.

- Table 5 consists of the same data tabulated by selected *constant dollar* ($25,000 to $1,000,000) *income size classes.* Part VII of this table may be of particular interest as it shows the statistics for the entire group of returns under consideration: returns with income of $25,000 or more (summarized in Figures E and F above.)

- Table 6 looks at the income and tax data tabulated by selected *constant numbers (10 to 200) of returns for each 100,000 of U.S. population.* That is, it shows the statistics for groups of returns representing selected constant percentages (0.01 to 0.2 percent) of the U.S. population.

These six tables represent the beginning of a thorough re-analysis of the early days of the income tax. The limitations of the data stemming from the use of only returns with $25,000 or more in income have been noted earlier in this section. Other issues are reviewed in the Data Limitations and Definitions Section.

TAX RATES AND TAX SHARES

The basic tables provided in this article contain a gold mine of information. Just one small vein of the research that these data permit is opened up in this section. The main objective here is to guide the reader through one of the basic tables and perhaps provide some interesting observations along the way. This might facilitate analyses of the other tables, which are not permitted in the space available here.

The last panel of Table 6, repeated here as Figure I, is discussed. This panel shows the statistics on the top 200 returns per 100,000 U.S. population. (Again, that the number of returns in the top 200 per 100,000 population group is equal to 0.2 percent of the U.S. population.)

Before going into the details of Figure I, three general points might be made:

- Confining attention to returns constituting a fixed percentage of the total U.S. population may be the best device used in the basic tables to increase year-to-year comparability; even so, difficulties remain. For example, the number of exemptions generally claimed on returns (an indicator of the number of individuals

Figure I.—Top 200 Returns Per 100,000 U.S. Population (Table 6, Part VI)

[All figures are estimates—money amounts are in 1986 constant dollars]

Tax year	Returns: Number	Returns: Percent of total	Net income (thousand dollars)	Federal income tax (thousand dollars)	Mean income: Before tax (dollars)	Mean income: After tax (dollars)	Average income tax (dollars)	Minimum income cutoff (dollars)	Income share: Before tax (percent)	Income share: After tax (percent)	Returns per 100,000 population	Average income tax rate (percent)	Income tax share (percent)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Part VI — Top 200 returns per 100,000 population												
1916	203,922	47.49	53,131,179	1,716,682	260,547	252,128	8,418	64,416	83.96	83.54	200.00	3.23	98.54
1917	206,536	19.86	47,812,162	5,281,043	231,496	205,926	25,570	71,478	60.32	57.82	200.00	11.05	92.53
1918	206,416	18.97	35,039,775	6,670,140	169,753	137,439	32,314	61,327	53.31	48.81	200.00	19.04	87.63
1919	209,028	18.56	35,861,246	6,621,807	171,562	139,883	31,679	65,426	52.42	47.99	200.00	18.47	88.44
1920	212,922	25.19	28,789,379	4,405,814	135,211	114,519	20,692	57,043	56.89	53.54	200.00	15.30	87.00
1921	217,076	25.27	26,940,224	3,522,335	124,105	107,879	16,226	52,838	55.90	52.96	200.00	13.07	88.74
1922	220,098	20.07	34,873,824	4,589,340	158,447	137,595	20,851	61,984	53.33	50.31	200.00	13.16	88.29
1923	223,894	17.53	36,065,097	3,379,599	161,081	145,986	15,095	64,853	50.00	47.91	200.00	9.37	86.52
1924	228,218	16.28	41,256,382	3,996,430	180,776	163,265	17,511	70,395	49.99	47.64	200.00	9.69	92.63
1925	231,658	16.40	51,494,093	4,307,657	222,285	203,690	18,595	80,562	53.58	51.53	200.00	8.37	94.98
1926	234,794	16.90	51,251,270	4,255,537	218,282	200,157	18,125	79,104	53.52	51.49	200.00	8.30	94.94
1927	238,070	16.64	56,482,276	4,954,518	237,251	216,440	20,811	82,205	54.71	52.55	200.00	8.77	95.44
1928	241,018	15.38	70,530,870	7,091,568	292,637	263,214	29,423	90,074	56.79	54.31	200.00	10.05	95.88
1929	243,534	15.38	68,568,430	6,259,323	281,556	255,854	25,702	86,558	56.02	53.72	200.00	9.13	97.85
1930	246,154	18.10	43,769,692	2,944,851	177,814	165,851	11,963	67,931	51.69	50.04	200.00	6.73	95.40
1931	248,080	19.91	34,656,155	1,661,799	139,697	132,999	6,699	58,815	49.99	48.82	200.00	4.80	95.40
1932	249,680	25.70	29,357,463	2,228,461	117,580	108,655	8,925	48,604	55.68	53.97	200.00	7.59	90.61
1933	251,158	25.95	31,421,374	2,796,751	125,106	113,971	11,135	49,435	57.42	55.36	200.00	8.90	92.90
1934	252,748	22.12	32,956,309	3,774,298	130,392	115,459	14,933	55,168	52.17	49.36	200.00	11.45	93.16
1935	254,500	20.23	36,930,083	4,732,646	145,108	126,513	18,596	59,667	51.38	48.21	200.00	12.82	92.99
1936	256,106	16.67	48,370,271	8,565,601	188,868	155,423	33,446	74,870	50.12	45.67	200.00	17.71	91.47
1937	257,650	15.99	44,882,480	7,603,304	174,199	144,689	29,510	71,647	47.45	43.27	200.00	16.94	90.22
1938	259,650	17.60	36,047,702	4,837,611	138,832	120,201	18,631	61,159	46.06	42.83	200.00	13.42	89.61
1939	261,760	13.99	40,425,953	5,851,106	154,439	132,086	22,353	67,924	41.44	38.05	200.00	14.47	87.72
1940	264,914	13.17	43,905,438	9,007,524	165,735	131,733	34,002	72,798	41.19	36.25	200.00	20.52	87.19
1941	267,338	11.75	49,609,474	16,242,864	185,568	124,811	60,758	81,169	40.17	32.81	200.00	32.74	74.54
1942	269,234	11.15	51,867,400	22,957,578	192,648	107,378	85,270	85,236	39.55	30.19	200.00	44.26	64.89
1943	270,214	8.57	55,841,995	27,474,831	206,658	104,980	101,678	95,369	34.24	24.68	200.00	49.20	57.08
1944	267,830	5.11	59,254,525	26,678,757	221,239	121,629	99,611	106,613	24.91	17.95	200.00	45.02	47.26
1945	266,868	5.51	62,541,510	28,130,542	234,354	128,944	105,410	116,214	26.36	19.33	200.00	44.98	47.51
1946	281,372	6.28	64,532,574	26,767,937	229,350	134,216	95,134	115,348	27.68	21.04	200.00	41.48	49.90
1947	288,166	7.92	57,069,054	23,490,480	198,042	116,525	81,517	99,925	30.09	23.32	200.00	41.16	51.44
1948	293,460	6.44	62,649,175	20,498,312	213,485	143,634	69,850	104,854	27.69	22.68	200.00	32.72	50.69
1949	298,608	6.27	60,089,354	18,663,273	201,232	138,731	62,501	99,977	26.42	21.89	200.00	31.06	48.79
1950	303,736	5.25	71,455,191	24,835,203	235,254	153,489	81,766	113,749	25.53	20.36	200.00	34.76	48.83

represented by the returns) may have been changing; this has not been studied as yet.

- Comparisons in the table are all relative to the base of returns with incomes of $25,000 or more. For some statistics like tax shares, this is an extremely important consideration. For others like tax rates, it does not matter at all.

- Finally, the top 200 returns per 100,000 U.S. population constitute a very small fraction of the income distribution and movements in this upper tail may be different from movements elsewhere; hence, any conclusions about this select group may not apply to the population as a whole.

The following is a column-by-column review of Figure I, with comments about some trends and other features of the data.

Number of Returns (Columns 1 and 2).—Over the 1916 to 1950 period, the number of returns in the top 0.2 percent of the U.S. population group grew from about 200,000 for 1916 to just over 300,000 for 1950; that is, by almost exactly 50 percent. While the number of returns in this group (column 1) grew as indicated, the percentage of returns represented (column 2) fell over the period. The biggest drop in the percentage of returns occurred as the United States entered World War I; between 1916 and 1917, tax return filings for this group fell from 47 percent of total returns to about 20 percent of total returns. During most of the period leading up to World War II, the percentage fluctuated between about 15 and 25 percent. In the 1940's, however, this group fell steadily in importance. By 1950, the percentage had dropped to just over 5 percent of all returns with $25,000 or more.

Net Income (Column 3).—This column shows the aggregate income reported for the top 0.2 percent of the U.S. population [22]. A cyclic pattern, similar to that in Figure E, exists in the aggregates; this pattern is tied in part to the rise and fall of GNP over the period.

Federal Income Tax (Column 4).—Unlike income, Federal taxes assessed followed a different pattern, less reflective of general economic circumstances and more indicative of the Federal Government's revenue needs. Several major jumps in Federal income tax are noticeable throughout the period, including from 1916 to 1917, 1927–1928, 1935–1936, 1940–1941, and 1941–1942, with a definite trend towards greater taxation after 1939.

Mean Income (Columns 5 and 6).—This portion of the table shows that mean income before taxes fluctuated quite a bit over the pre-World War II period, but otherwise fell in bad times and rose in good. After factoring in the effects of taxation, however, the data show that mean income for these top 200 returns per 100,000 population look somewhat different. Even though before-tax income was rising, the after-tax income of this group actually fell between 1940 and 1943, because taxes increased (see Figure J). Changes in the progressive tax rate are no doubt responsible for this trend. The trends for incomes before and after tax are very similar until about 1940; then, there is a divergence, which reflects the much steeper tax rates that were introduced during World War II.

Average Income Tax (Column 7).—Like the aggregate Federal income tax presented in column 4, the average income tax of this group varied greatly. The data show that average taxes were very high in the 1917 to 1919 period and rose again steeply just before and during World War II, to a high of $105,000 in 1945. In the intervening years, they were much less; in fact, taxes actually were quite low in some years (averaging $6,699 in 1931). After World War II, however, average taxes fell only slightly, remaining at relatively high levels compared to earlier periods.

Minimum Income Cutoff (Column 8).—Column 8 of Figure I shows the smallest amount of income reported on a return in this group. The minimum income cutoff has some interest in its own right, but its primary value in this table is to relate what is shown here to trends in other tables which focus on the distributions by constant dollar cutoffs (notably Table 5).

Income Shares (Columns 9 and 10).—These columns are not the major focus of Figure I, but rather are included to make it possible to go readily from Table 6 to Table 3, the table that shows data corresponding to a series of income shares held constant over the 1916 to 1950 period.

Returns per 100,000 Population (Column 11).—Column 11 is the item held constant in each part of Table 6. It is included here simply for the sake of completeness.

Average Income Tax Rate (Column 12) and Income Tax Share (Column 13).—The last two columns of this panel are, in many ways, the most important feature of the article (both here and elsewhere in the basic tables). In this particular table, when tax rates and tax shares are seen together, a very strong pattern is apparent (see Figure K). In the early period of the income tax, returns in this group were subjected to very low tax rates; on the other hand, their share of the total tax liability was extremely high. The most extreme case is 1916, when the average tax rate was only 3 percent for the group, even though these returns accounted for 98.5 percent of all the Federal income taxes assessed on returns with income of $25,000 or more in that year. During the World War I years, the tax rates went up to the high teens and the tax shares fell into the high 80's. After the War, tax rates fell and tax shares grew again into

Figure J
Returns Accounting for the Top 0.2 Percent of U.S. Population:
Mean Income in 1986 Dollars, 1916 – 1950

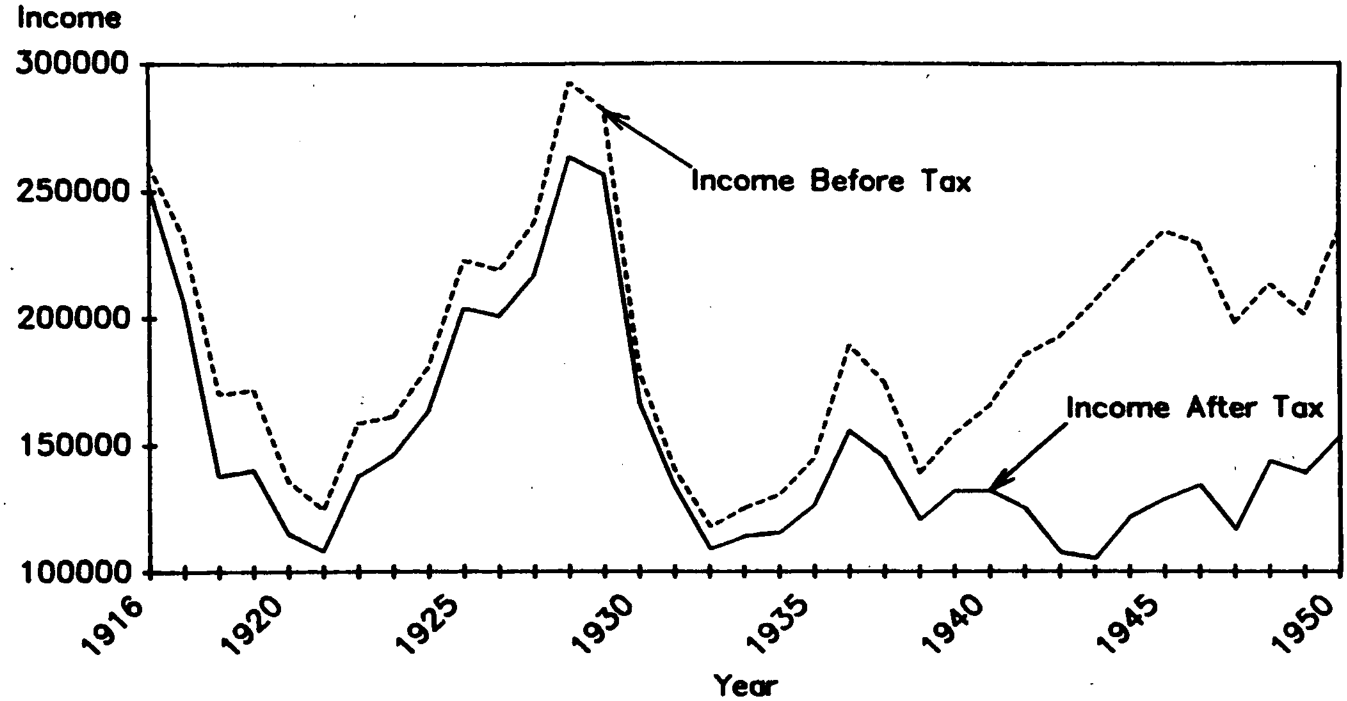
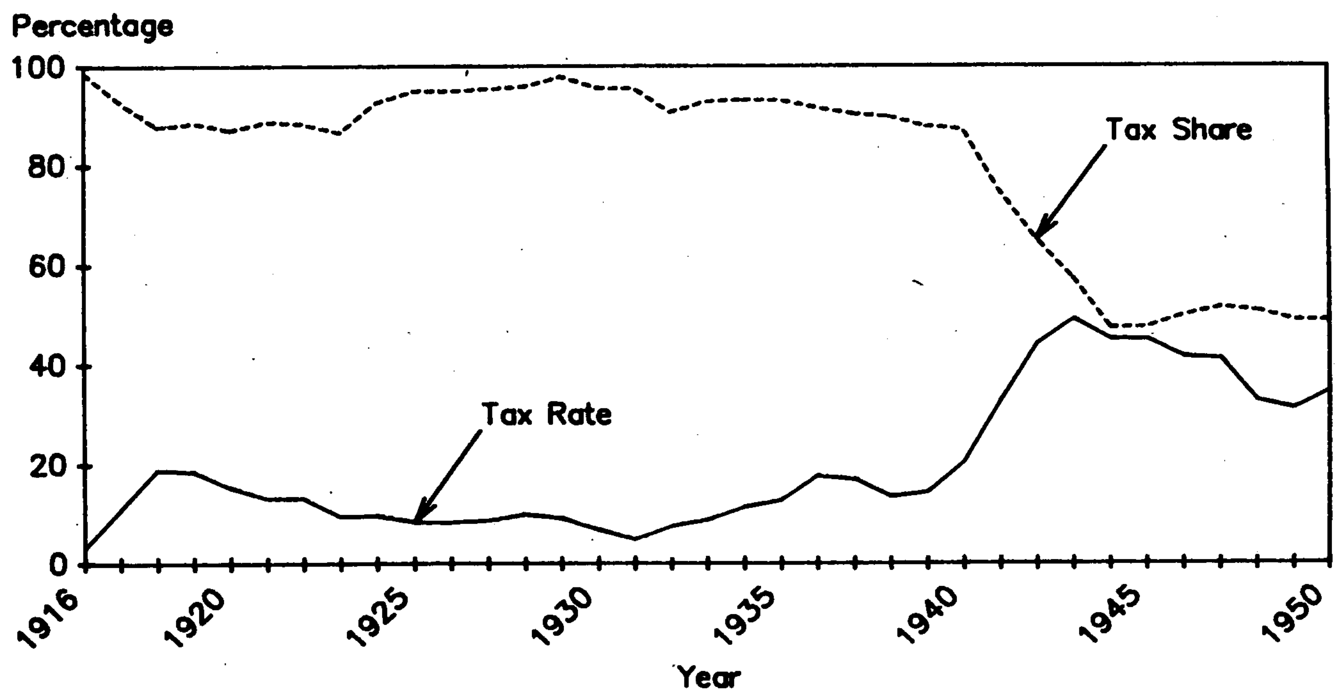


Figure K
Returns Accounting for the Top 0.2 Percent of U.S. Population:
Federal Income Tax Share and Average Income Tax Rate, 1916 – 1950



the 90's. This rough pattern of low rates and high shares continued until just before World War II. During the 1941-1942 period, there were sharp rises in the tax rates accompanied by sharp declines in the tax shares. In the last few years of the 1916 to 1950 period, however, the tax share of this group remained roughly constant (at around 50 percent), while average tax rates fell from around 40 percent in 1943 to 35 percent in 1950.

DATA LIMITATIONS AND DEFINITIONS

Throughout this article, the terminology generally employed is that found in the original *Statistics of Income* publications (from which the results were derived). While this seems appropriate, it can be a source of confusion; for example:

- There have been numerous tax law changes, many of which altered the definitions of apparently identical items from year to year.

- Although generally quite stable, statistical conventions have differed somewhat over time and these differences should be factored into any analyses done.

- Sampling and nonsampling error properties of the data vary over the period, and this requires some consideration as well.

Some of the limitations on the analyses, imposed by the data and statistical methods used, are discussed below. Following that, definitions of terms are provided.

Limitations of Data

Without a doubt, changes in tax laws are the most important factor to consider. It is for this reason that an extensive, but still incomplete, synopsis of the law is provided in Exhibit A. The definitions given below provide only the general framework within which a concept has been used historically. For year-to-year variations, Exhibit A should be consulted.

Statistical conventions were altered over the 1916 to 1950 period. Most of these changes are believed to have only minor impacts. The one exception is the introduction in 1944 of Adjusted Gross Income (AGI) in place of Net Income as a classifier. This was a major change and makes for a break in the series at that point. Footnotes on the treatment of various items in the SOI publications and definitions of AGI and Net Income are also provided in Exhibit A.

In general, the bulk of the statistical information in this article is *not* subject to sampling error. While sampling was introduced very early in the *Statistics of Income* program, it was confined largely to returns with net incomes under $5,000 in current dollars until World War II. Yet by 1950, the last year for which data are included here, sampling was taking place for returns with adjusted gross incomes under $50,000 in current dollars. Even so, the samples were of truly enormous size (about half a million returns in 1950 and even larger in earlier years); thus, this source of error is not likely to be a major factor.

Little is known about the nonsampling errors in the 1916 to 1950 tax data, since almost nothing specific is said about them in the SOI volumes. There are, however, only two major ways in which nonsampling errors can arise: taxpayer mistakes and processing mistakes.

Since the beginning of the Statistics of Income program, the tax returns used have been unaudited. Obvious mathematical errors made by taxpayers have always been corrected, but the results of IRS examinations are not included [23]. Changes in the compliance behavior of taxpayers occur, but (if recent experiences are a guide) in the absence of tax law changes, these tend to be fairly slow movements [24]. On the other hand, when a major tax law change occurs, misreporting by taxpayers can increase for a time until the altered requirements become familiar. The 1940's, like the 1980's, would seem to be such a period, especially since so many people began to file for the first time. The growing complexity of the tax law is still another factor to consider.

As regards processing mistakes, while they undoubtedly arose, most were almost certainly detected and their impact on the data should be limited [25]. Great care has always been taken in SOI statistical processing; indeed, many practices from the 1916 to 1950 era are followed today (albeit in an updated context [26]).

A few additional points should be made before proceeding to the definition of terms. In the reprocessing of the historical SOI data, new errors may have been introduced. For example, it is possible that mistakes were made in transferring the basic printed information to computer tape. This is highly unlikely given the steps taken, but it cannot be ruled out altogether. Secondly, as noted in the Data Preparation section, the use of the CPI to convert from current to constant dollars has arbitrary elements and at least one alternative approach is planned [27]. Finally, the interpolation procedures used to adjust the data are known to be extremely good, but like all such methods may well be improved upon.

Other limitations exist in these data. Since the focus here is on examining tax rates and tax shares, these weaknesses have been touched on only briefly, if at all. A natural extension of the current work, for example, is to look at shifts in the before-tax and after-tax income distributions over time. Changes in the income concept during the 1916 to 1950 period, however, make the data in this article hard to use for that purpose. An attempt at such an analysis will be carried out after adjustments are made to standardize the income concepts applicable in various years [28].

Definition of Terms

Three basic items were obtained from the old SOI volumes: number of returns, income and tax liability, all distributed by size of income. These are defined below.

Returns.—Joint returns for married persons have been allowed since the inception of the income tax. Returns for single persons and married persons filing separately were also provided for. Head of Household returns were not introduced until 1952, however, and returns for surviving spouses were not introduced until 1954 [29]. Filing jointly was not more economical for taxpayers than filing separately, until "income-splitting" was introduced in 1948. As Exhibit A shows, there were many changes in the filing requirements over the 1916 to 1950 period. In addition, as discussed in the Data Preparation Section, the gross income requirement in operation since 1921 makes it hard to use the entire tax return net income (or adjusted gross income) distribution for that period. This is the principal reason that an artificial, indexed filing threshold was introduced and attention confined to returns with $25,000 or more in 1986 dollars [30].

Fiduciary income, accrued to personal trusts and estates, was reported on individual income tax returns from 1916 to 1936. (For 1937, a separate form was introduced for fiduciaries and, beginning with 1938, these returns were tabulated separately from individual returns.) The effect of this convention is to inflate the overall number of "individual" returns by a very small amount. For example, for 1938, the first year for which fiduciary returns are shown separately, there were 200,826 filed, compared to 6,251,009 individual returns. Furthermore, in 1938 at least, there were only 15,956 fiduciary returns above the net income filing requirement in effect for married couples in that year, versus 2,689,311 individual returns.

Prior to 1928, returns filed with deficits in income were not tabulated. To bring the entire time series into better alignment, such returns are omitted from the data provided for all years, although they have been shown in the SOI publications since 1928. To provide an idea of the significance of such returns, they are shown in Figure L as a percentage of total filings.

Income.—The income concept in use over the 1916 to 1950 period changed fairly frequently as the synopsis of law (Exhibit A) illustrates. The treatment of capital gains and losses was altered the most often, although other items of

Figure L.—Returns with Negative Net or Adjusted Gross Income as a Percentage of All Returns Filed, Tax Years 1928–1950

Year	Percent	Year	Percent	Year	Percent
1928	1.8	1936	1.3	1944	0.2
1929	2.2	1937	1.3	1945	0.4
1930	3.8	1938	1.6	1946	0.4
1931	5.4	1939	1.1	1947	0.5
1932	5.1	1940	0.8	1948	0.4
1933	4.3	1941	0.4	1949	1.0
1934	2.5	1942	0.4	1950	0.8
1935	2.0	1943	0.5		

income were included or exempted from time to time as well. Examples of types of income exempted in some years include proceeds of life insurance policies, compensation for injuries or illness, earned income from sources outside the United States, and a variety of payments to military personnel and compensation to State employees. SOI data suggest that the definitional changes that occurred in the gross income concept did not greatly affect the distribution of returns with income in 1986 dollars of $25,000 or more. On the other hand, the tabular convention change that occurred in 1944 had major significance. Prior to 1944, as has already been noted, net income was the classifier employed. For 1944 and later years, adjusted gross income has been used.

Generally speaking, net income equals adjusted gross income less allowable itemized personal deductions. Both concepts include gross income less such items as (1) allowable trade and business deductions; (2) travel, lodging and other reimbursed expenses connected with employment; (3) deductions attributable to rents and royalties; (4) deductions for depreciation and depletion allowable to beneficiaries of property held in trust; and (5) allowable losses from sales of property.

Adjusted gross income is defined at this point. Net income is more refined. Deductions taken in the computation of net income generally include allowable charitable deductions; interest on personal indebtedness; some State and local taxes paid; losses from fire, storm, other casualty or theft; bad debts; gambling losses and alimony paid.

As noted in Exhibit A, beginning with 1941, individuals with income under $3,000 (in current dollars), derived only from salaries, wages, other compensation for services, dividends, interest, annuities, rents and royalties, could use a standard deduction in lieu of itemized deductions; thus, while AGI less the standard deduction might approximate the net income of these individuals, their precise net income was not calculated. (Individuals with income from rents and royalties could not use the standard deduction in 1942 and 1943.) The returns of these individuals were classified by size of gross income on SOI tables and the gross income reported on these returns was tabulated; however, this inconsistency does not affect the data emphasized in this article as all individuals using the standard deduction during 1941 through 1943 had income under $25,000 in 1986 dollars.

In 1944, the availability of the standard deduction was extended to all individuals regardless of the size or source of income and its use became so common that the data tabulated in SOI publications since then have been classified by AGI rather than by net income. By 1950, the standard deduction was used on over 80 percent of all returns filed and on at least 50 percent of returns with AGI of $25,000 or more in 1986 dollars.

In later articles, an attempt to synthetically construct a uniform income classifier for the whole period will be discussed and new data will be presented. For the present, an unavoidable break exists in the series.

Income Tax.—The calculation of Federal income taxes changed repeatedly over the 1916 to 1950 period. Special taxes (the war excess profits tax, the defense tax and the victory tax) were imposed during World Wars I and II. Tax rates and tax brackets were also changed regularly. An alternative tax was introduced to afford a special treatment of capital gain income. Tax credits also began to appear as adjustments to liability. In 1948, "income-splitting" was introduced for married couples filing jointly. Under this provision, couples pay twice the tax computed on one-half of their combined income. Thus, couples who file jointly are generally subjected to lower tax rates than married couples who file separately. For the years 1916 through 1942, tax liability in SOI publications is generally defined as *before* credits. (Credits for capital losses, however, were subtracted from the total tax figures in all applicable years.) For the later years, tax liability is net tax payable *after* tax credits. This difference probably has only a minor impact as there were only a few credits in effect during these years (see Exhibit A, Tax Credits).

In 1943, a new system of current tax payments through withholding from wages and estimated tax payments was implemented. To provide relief to taxpayers who otherwise would have been liable during 1943 for taxes due for both 1942 and 1943, taxpayers could write off all or part of the smaller of the two taxes due. About half of the tax due for 1942 and about 7 percent of the tax due for 1943 was forgiven. These adjustments are not reflected in any of the data presented in this article but will be incorporated into the data to be presented in the third article of this series. See Exhibit A for details on how this forgiveness of tax was accomplished.

NOTES AND REFERENCES

[1] The information for 1913 through 1915 was obtained from: U.S. Department of Treasury, Bureau of Internal Revenue, *Annual Reports of the Commissioner of Internal Revenue,* Fiscal Years 1914-1916. For the most recent report in the series, see U.S. Department of Treasury, Internal Revenue Service, *The Commissioner's and Chief's Counsel's Annual Report,* (Publication 55), 1987.

[2] The Nation's first income tax law was enacted in 1862 (during the Civil War) and was repealed in 1872. The 1894 revival of the income tax was declared unconstitutional in 1895 by the Supreme Court. An excise tax on the income of corporations was in effect from 1909 until 1913. The Sixteenth Amendment, providing for the Federal taxation of individual incomes, was ratified in 1913. The Revenue Act of 1916 included a provision requiring the annual preparation of statistics relevant to the operation of the tax laws.

[3] "Income" is net income for 1916 through 1943 and adjusted gross income (AGI) thereafter. For a discussion of these terms see the Data Limitations and Definitions Section in this article.

[4] Reports on progress by researchers outside of IRS will appear as published results in *Statistics of Income Bulletin* articles or as references to their work in the SOI "Bulletin Board."

[5] An example of such an experiment can be found in the Spring 1987 issue of the *Statistics of Income Bulletin,* where the basic tables are provided on floppy disks. Other important examples include the *Source Book* tabulations of partnerships, sole proprietorships and corporations, described earlier in this issue of the *Bulletin.* Microdata files have been preserved on computer tape for some time (about 30 years). For a description of these files see, for example, Strudler, Michael; Oh, H. Lock and Scheuren, Fritz, "Protection of Taxpayer Confidentiality with Respect to the Tax Model," *American Statistical Association 1986 Proceedings, Section on Survey Research Methods.*

[6] The Consumer Price Index, produced monthly by the Bureau of Labor Statistics, is a Laspeyres index; that is, it is a ratio of incomes needed in different years to purchase the base year's representative group of goods. For a recently published series, see U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1988.*

[7] Just as this article was nearing completion, our colleague, Tom Petska, called our attention to a Bureau of Economic Analysis price deflator dating back to 1909. The use of this index will be explored in later work.

[8] For discussions of various price indices, see Triplett, Jack E., "Reconciling the CPI and the PCE Deflator," *Monthly Labor Review,* U.S. Department of Labor, Bureau of Labor Statistics, September 1981, pp. 12-15; and "Price Index Research and Its Influence on Data: A Historical Review," Berndt, Ernest R., Diewert, W. Erwin and Triplett, Jack E., editors, *National Bureau of Economic Research Studies in Income and Wealth: 50th Anniversary Conference,* University of Chicago Press (in preparation).

[9] For an example of an analysis of the sensitivity of income distribution estimates to the use of various price indices, see: Horrigan, Michael W. and Haugen, Steven E., "The Declining Middle-Class Thesis: A Sensitivity Analysis," *Monthly Labor Review,* U.S. Department of Labor, Bureau of Labor Statistics, May 1988.

[10] Prior to 1944, however, the filing requirement was applicable to the combined net or gross income of a couple filing jointly. For 1944 through 1969, the filing criterion is applied to each spouse's gross income separately; thus a couple could have a combined income greater than the filing threshold but still not be required to file. The result is that each spouse is treated essentially as a single individual in determining whether or not a return must be filed and the effect of the much lower filing requirement (which was $1,200 in 1943 or $7,595 in 1986 dollars) is mitigated. In addition, higher filing requirements were introduced for aged individuals in 1954 and for widowed individuals in 1975. A lower filing requirement applicable to self-employed individuals was introduced in 1951, to facilitate the collection of social security taxes.

[11] That is not to say that in 1939, only 6 percent of Americans were covered by the income tax. A tax return usually represents a household of several individuals, rather than one person. It was estimated that in 1940 about a third of the U.S. population was represented on individual tax returns either as taxpayers, spouses or dependents. By 1946, over 87 percent of Americans were represented on individual tax returns. See Blacksin, Jack and Plowden, Ray, "Statistics of Income for Individuals: A Historical Perspective," *Statistics of Income and Related Administrative Record Research: 1981,* U.S. Department of Treasury, Internal Revenue Service. For U.S. resident population see U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* series P-25, as cited in U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1988,* December 1987.

[12] Actually, that figure of 38 percent for 1947 is a high only for the 1916 to 1950 period; the percentage of returns to population continued to increase after 1949. It stood at a high of 42 percent in 1986.

[13] The amount $25,000 was chosen because it is roughly the lowest level that can serve as an artificial filing requirement common to all the years from 1916 through 1986. There is some difficulty in any use of data below the net income filing requirements established for joint returns (which are greater than or equal to those for other returns), since the distributions will be incomplete. Similarly, because gross income is always greater than or equal to net income, the introduction of a (relatively high) gross income filing requirement in 1921 resulted in the filing of a number of returns with net income below the net income threshold. In other words, there are data available from returns covering the entire net income distribution. However, the percentage of aggregate net income captured from below that income filing requirement is unknown. Because the distributions of net income below the gross income filing requirements (or net income filing requirements if also applicable) are incomplete, they would be difficult to use for this study. It does seem possible with a modest amount of extrapolation, though, to lower the artificial filing threshold to $20,000. To go much beyond that, prior to 1940, would, however, require strong distributional assumptions—a point that will be addressed again in later articles in this series.

[14] The data for 1916 and 1931 shown in this article have not been adjusted for this problem but will be adjusted in later articles in this series.

[15] Pechman, Joseph A., *Federal Tax Policy* (5th edition), The Brookings Institution, 1987. See also, Pechman, Joseph A., *Who Paid the Taxes, 1966-85?,* The Brookings Institution, 1985.

[16] U.S. Department of Commerce, Bureau of the Census, *Money, Income and Poverty in the United States,* Series P-60.

[17] See U.S. Department of Commerce, Bureau of Economic Analysis, "Relationship Between Personal Income and Adjusted Gross Income: Revised Estimates, 1947-83," *Survey of Current Business,* May 1986 and U.S. Department of Commerce, Bureau of Economic Analysis, "Relationship Between Personal Income and Adjusted Gross Income, 1983-85," *Survey of Current Business,* May 1987. For a more recent article on the reconciliation of the Bureau of Economic Analysis measure of personal income with AGI by source of

income, see Park, Thae S. and Reeb, Jane S., "Personal Income and Adjusted Gross Income, 1984–1986," *Statistics of Income Bulletin,* Winter 1988–89, Vol. 8, No. 3.

[18] The aggregate of the income reported on the returns generally increased over the period, as did real GNP. There were, of course, several recessionary periods, the most dramatic of which was the Great Depression. The ratio of mean income from those returns to per capita GNP ranged from about 11:1 to about 15:1 until 1933, when it began to decline. By 1944, the ratio of mean income from this group of returns to per capita GNP was 4.6:1. For GNP estimates, see U.S. Department of Commerce, Bureau of the Census, *Historical Statistics of the U.S., Colonial Times to 1970,* September 1975; U.S. Department of Commerce, Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929–76,* September 1981 and U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1988,* December 1987. These current dollar GNP figures were converted to 1986 dollars using the same CPI-based price index shown in Figure A. This treatment is somewhat unconventional (GNP figures are usually adjusted with an implicit price deflator) and as noted in the Data Preparation Section of this article, the use of alternatve price indices will be explored in the third part of this series.

[19] Net income subject to normal tax is net income less exemptions such as applicable personal exemptions for taxpayers and their dependents, dividends on stock in domestic corporations (through 1935), interest on some U.S. obligations and the earned income "credit" (for 1934 through 1943), as described in Exhibit A. Net income subject to surtax is all net income through 1933 and net income less the personal exemptions for taxpayers and their dependents thereafter. Capital gains could be exempted from both normal tax and surtax and taxed at an alternative rate of 12.5 percent for 1922 through 1933. Net long-term capital gains could be exempted from normal tax and surtax and taxed at alternative rates for 1938 through 1950. This alternative tax is not shown on Figure H, but it is reflected in Figure G and in all other tax data presented. Likewise, the following reductions in tax or limitations on total tax paid are not reflected in the marginal rates presented in Figure H, but are incorporated in all other tax data presented. A war excess profits tax of 8 percent of salaries over $6,000, 8 percent of net income from businesses having no invested capital, and 20 to 60 percent of net income from businesses having invested capital was imposed for 1917. The total tax for 1923 was reduced by a 25 percent credit or refund. The defense tax (essentially 10 percent of the total tax otherwise calculated) was added to the total tax for 1940. For 1943, a victory tax of 5 percent of net income (excluding capital gains or losses and interest on certain U.S. Government obligations but less business-related expenses, the prior-year business loss deduction, alimony paid and a $624 exemption per taxpayer), less certain credits, was imposed. (The forgiveness of some tax in 1942 and 1943, discussed in the Data Limitations and Definitions Section of this article and in Exhibit A, is not reflected in any of the data.) For 1944 and 1945, the combined normal tax and surtax before the subtraction of tax credits was limited to 90 percent of net income. For 1946 and 1947, the normal tax and surtax were computed using the rates shown on Figure H and described in Exhibit A, and then the resulting combined tax was reduced by 5 percent. The combined tax (after the 5 percent reduction but before tax credits) was limited to 85.5 percent of net income. For 1948 and 1949, the normal tax and surtax were computed using the same rates as for 1946 and 1947, but then the first $400 (in current dollars) of the resulting combined normal tax and surtax was reduced by 17 percent; the next $99,600 of tax was reduced by 12 percent and the tax over $100,000 was reduced by 9.75 percent. The total normal tax and surtax (after the reduction but before credits) was limited to 77 percent of net income. For 1950, the normal tax and surtax were again computed using the same marginal tax rates, but then the first $400 of the resulting combined normal tax and surtax was reduced by 13 percent; the next $99,600 of tax was reduced by 9 percent and the tax over $100,000 was reduced by 7.3 percent. The combined normal tax and surtax (after the reduction but before credits) was limited to 80 percent of net income. (For individuals who use the standard deduction, the limitations on the tax described above apply to AGI less the standard deduction.)

[20] Scheuren, Fritz and McCubbin, Janet, "Piecing Together Personal Wealth Distributions," *Statistics of Income and Related Administrative Record Research: 1986–1987,* U.S. Department of the Treasury, Internal Revenue Service, 1987. For earlier results, see Oh, H. Lock and Scheuren, Fritz, "Osculatory Interpolation Revisited," *Statistics of Income and Related Administrative Record Research: 1986–1987,* U.S. Department of the Treasury, Internal Revenue Service, 1987, and Oh, H. Lock, "Osculatory Interpolation with a Monotonicity Constraint," *1977 American Statistical Association Proceedings, Section on Statistical Computing,* 1977.

[21] Ramsay, J. O., "Monotone Regression Splines in Action," *Statistical Science,* Vol. 3, No. 4, 1988.

[22] As noted earlier, income for years prior to 1944 is net income and income for 1944 to 1950 is adjusted gross income.

[23] For information on the additional amount of assessments obtained through auditing, see U.S. Department of Treasury, Internal Revenue Service, *The Commissioner's and Chief Counsel's Annual Report,* Fiscal Year 1987. (This report is available for all earlier years as well.)

[24] For a look at trends of income tax compliance in the United States for selected years 1965–1987, see the following reports: U.S. Department of the Treasury, Internal Revenue Service, *Estimates of Income Unreported on Individual Income Tax Returns,* 1979; U.S. Department of the Treasury, Internal Revenue Service, *Income Tax Compliance Research, Estimates for 1973–1981,* 1983 and U.S. Department of the Treasury, Internal Revenue Service, *Income Tax Compliance Research, Gross Tax Gap Estimates and Projections for 1973–1992,* 1988.

[25] White, Edward, "Descriptive Synopsis of Economic Data Compiled from Federal Income Tax Returns of Individuals and Corporations and Federal Estate Tax Returns and of the History, Scope and Functions of the Statistical Section," reprinted from the original 1933 version in the *Statistics of Income Bulletin,* Fall 1988, Vol. 8, No. 2.

[26] Duncan, Joseph W. and Shelton, William C., *Revolution in United States Government Statistics: 1926–1976,* U.S. Department of Commerce, 1978; Deming, W. Edwards, *Review of the Sampling Procedures Used by the Internal Revenue Service to Produce Statistics of Income from Individual Tax Returns, with Special Emphasis on Achievement of Quality,* prepared for the Internal Revenue Service, U.S. Treasury Department, 1963 (unpublished) and Rosander, A.C., *Applications of Quality Control in the Service Industries,* Marcel Dekker, Inc. and ASQC Quality Press, 1985. For information on more current quality initiatives, see Scheuren, Fritz; Schwartz, Otto and Kilss, Beth, "Statistics from Individual Income Tax Returns: Quality Issues and Budget Cut Impact," *Review of Public Data Use,* Elsevier Science Publishing Co., Inc., December 1984.

[27] For an example of such an alternative approach, see the paper cited in note [9].

[28] As stated elsewhere, this analysis will be presented in a later article in this series, perhaps as early as the Fall 1989 issue of the *Statistics of Income Bulletin.*

[29] Head of Household returns were allowed for tax years beginning after October 31, 1951. Under this new filing classification, heads of households received approximately half of the income-splitting benefits accorded to a married couple. The 1954 Internal Revenue Code extended the full benefits of income splitting to widowed individuals, for two years following the death of a spouse, provided that the surviving spouse had not remarried and had a dependent child or stepchild.

[30] See discussion in note [13].

Individual Income Tax Shares and Average Tax Rates, Tax Years 1916-1950

EXHIBIT A: Highlights of Major Changes in the Individual Income Tax Affecting Statistics of Income Data, by Tax Year, 1916-1950

1916	1917
Income	**Income**
Salaries, wages, and commissions, except compensation of State and local Government employees; profit or loss from sole proprietorships and partnerships; taxable interest; dividends, including stock dividends; income or loss from rents and royalties; income from estates and trusts; taxable pension and annuity income; net gain (in excess of loss) from incidental sales of real estate, stocks, bonds, and certain other property, etc.	Same
Less: Deductions	**Less: Deductions**
Interest paid; personal and nonbusiness property taxes paid; personal bad debts; employee business expense; uninsured personal casualty and theft loss; etc.	Same, except taxes paid excluded prior year's Federal income tax.
—	Charitable contributions (limited to 15 percent of net income before contributions deduction).
Equals: NET INCOME	**Equals: NET INCOME** [1,2]
Net income exempt from normal tax	**Net income exempt from normal tax**
Personal exemption—	**Personal exemption—**
$4,000 for married couples or heads of families; $3,000 for all other taxpayers.	$2,000 for married couples living together, or heads of families; $1,000 for all other taxpayers.
—	$200 per dependent.
Other exemptions—	**Other exemptions—**
Dividends from domestic corporations.	Same
—	"War excess profits tax" paid (see below).
—	Interest on certain U.S. Government obligations.
INCOME TAX [3]	**INCOME TAX** [1,2,3]
Normal tax 2 percent of net income (less exemptions). Surtax on net income over $20,000 ranged from 1 percent of income $40,000 or less to 13 percent of income over $2,000,000.	Normal tax 2 percent of first $2,000 of net income (less exemptions) and 4 percent of the income over $2,000. Surtax on net income over $5,000 ranged from 1 percent of income $7,500 or less to 63 percent of income over $2,000,000. Prior years' surtax rates could apply to dividend income depending on year(s) out of whose corporate profits dividends were paid.
—	"War excess profits tax" 8 percent of salaries over $6,000 and of income over $6,000 from businesses having no invested capital; tax on net income from businesses with invested capital ranged from 20 to 60 percent, depending on size of net income and invested capital.

EXHIBIT A. (Continued)

1916 (cont'd)	1917 (cont'd)
Less: Tax credits	**Less: Tax credits**
Credit for tax withheld by payers of tax-free covenant bond interest.	Same
Equals: Income tax after credits [3]	**Equals: Income tax after credits** [1,2,3]
Filing requirement [4]	**Filing requirement** [4]
Net income $3,000 or more, regardless of marital status. Joint returns for married couples permitted. Income reported on joint returns or on return of either spouse included income of dependent minors, unless dependents met income requirement to file separately.	Net income $2,000 or more for married couples living together; $1,000 for all others. Joint returns for married couples permitted unless either spouse subject to surtax on separate income. Income reporting requirement and conditions for separate reporting by dependent minors meeting net income filing thresholds, same.

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1918	1919
Income	**Income**
Same as 1916, except also included net loss (in excess of gain) from incidental sales of real estate, stocks, bonds, and certain other property; wages excluded compensation for sickness and injury and up to $3,500 in compensation of World War I military personnel.	Same
Less: Deductions	**Less: Deductions**
Interest paid; personal bad debts; employee business expense; casualty and theft loss, same as 1917. Taxes paid same as 1917, except excluded foreign income taxes if claimed as a tax credit (see below).	Same
Charitable contributions, same as 1917.	Same
Equals: NET INCOME [1,5]	**Equals: NET INCOME** [1]
Net income exempt from normal tax	**Net income exempt from normal tax**
Personal exemption—	**Personal exemption—**
Taxpayer exemptions, same as 1917.	Same
Dependent credit, same as 1917.	Same
Other exemptions—	**Other exemptions—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
INCOME TAX [1,3,5]	**INCOME TAX** [1,3]
Normal tax 6 percent of first $4,000 of net income (less exemptions); 12 percent of income over $4,000. Surtax on net income over $5,000 ranged from 1 percent of income $6,000 or less to 65 percent of income over $1,000,000. Maximum surtax on profit from sales of mineral mines and oil and gas wells, 20 percent of sales price. Prior years' surtax rates applicable to dividend income, same. Surtax rates for 1917 applicable to portion of income from partnerships, estates, trusts, and Personal Service Corporations that filed returns for noncalendar years beginning in 1917. (No "war excess profits tax.")	Normal tax 4 percent of first $4,000 of net income (less exemptions) and 8 percent of income over $4,000. Surtax same, including maximum surtax on sales of mineral mines and oil and gas wells. Prior years' surtax rates applicable to certain stock dividends only, but surtax rates for 1918 applicable to portion of income from partnerships, estates, trusts, and Personal Service Corporations that filed returns for noncalendar years beginning in 1918.
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit (for income tax paid to foreign countries or U.S. possessions).	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [1,3,5]	**Equals: Income tax after credits** [1,3]
Filing requirement [4]	**Filing requirement** [4]
Same as 1917, except joint returns for married couples permitted (without limitation).	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1920	1921
Income	**Income**
Same as 1918, except excluded stock dividends.	Same, except excluded pensions and similar compensation from World War I military service.
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1918.	Same, except taxes paid included foreign taxes in excess of foreign tax credit (see below.).
Charitable contributions, same as 1917.	Same
Prior year business net loss carryover.	—
Equals: NET INCOME [1]	**Equals: NET INCOME** [1]
Net income exempt from normal tax	**Net income exempt from normal tax**
Personal exemption—	**Personal exemption—**
Taxpayer exemptions, same as 1917.	$2,500 for married couples living together or heads of families; however, if combined net income exceeded $5,000, exemption limited to $2,000 provided tax did not exceed that computed with an exemption of $2,500 by more than amount of net income over $5,000. $1,000 for all other taxpayers.
Dependent credit, same as 1917.	$400 per dependent.
Other exemptions—	**Other exemptions—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
INCOME TAX [1,3]	**INCOME TAX** [1,3]
Normal tax and surtax, including maximum surtax on sales of mineral mines and oil and gas wells and use of prior year surtax rates for income from partnerships, estates, trusts, or Personal Service Corporations attributed to prior year, same as 1919.	Same
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1918.	Same, except foreign tax credit limited based on ratio of foreign net income to total net income.
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [1,3]	**Equals: Income tax after credits** [1,3]
Filing requirement [4]	**Filing requirement** [4]
Same as 1918.	Net income $2,000 or more or gross income $5,000 or more, regardless of net income, for married couples living together and heads of families; net income $1,000 or more or gross income $5,000 or more, regardless of net income, for all others. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting income filing threshold, same principle as 1916.

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1922	1923
Income	**Income**
Same as 1921, except excluded up to $300 of interest from building and loan associations. Net gain (less loss) from sales of "capital assets" accorded special tax treatment (see below). (Gain from property not considered a "capital asset" taxable as "ordinary" income.) Net capital loss treated as "ordinary" loss deductible from "ordinary" income, but "ordinary" loss not deductible from net capital gain. ("Capital assets" comprised property held over 2 years, for profit or investment, including trade or business assets, except stock in trade or inventory held primarily for sale to customers; excluded property held for personal/family use or consumption.)	Same
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc.; same as 1921.	Same
Charitable contributions, same as 1917.	Same
Prior year business net loss carryover.[6]	Same [6]
Equals: NET INCOME [1,6]	**Equals: NET INCOME [1,6]**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax)—	**Personal exemptions (for normal tax)—**
Taxpayer exemptions, same as 1921.	Same
Dependent credit, same as 1921.	Same
Other exemptions (for normal tax)—	**Other exemptions (for normal tax)—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net capital gain taxable at capital gains rate (see below).	Same
INCOME TAX [1,3]	**INCOME TAX [1,3]**
Normal tax on net income (less exemptions), same as 1921. Surtax on net income (less exemption) over $6,000 ranged from 1 percent of income $10,000 or less to 50 percent of income over $200,000. Net capital gain taxed separately at 12.5 percent, if taxpayer so elected, provided combined normal tax, surtax, and capital gains tax on net income was not less than 12.5 percent of total net income. Maximum surtax on sales of mineral mines and oil and gas wells, 16 percent of sales price. Prior year surtax rates applicable to income from partnerships, estates, or trusts attributed to prior year, same as 1919.	Normal tax and surtax, same as 1922, but total tax then reduced by 25 percent.

EXHIBIT A. (Continued)

1922 (cont'd)	1923 (cont'd)
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1921.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	
Equals: Income tax after credits [1,3]	**Equals: Income tax after credits** [1,3]
Filing requirement [4]	**Filing requirement** [4]
Same as 1921.	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1924	1925–27
Income	**Income**
Same as 1922, except "capital assets" redefined to include assets held for personal/family use or consumption. Included net capital loss only if limitation based on 12.5 percent loss credit did not apply (see below).[7]	Same, except excluded "earned" income from foreign sources by citizens residing abroad more than 6 months.
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; same as 1921.	Same
Charitable contributions, same as 1917.	Same
Prior year business net loss carryover, same as 1922 [6]	Same [6]
Equals: NET INCOME [1,6]	**Equals: NET INCOME [1,6]**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax)—	**Personal exemptions (for normal tax)—**
$2,500 for married couples living together or heads of families; $1,000 for all other taxpayers.	$3,500 for married couples living together or heads of families; $1,500 for all other taxpayers.
Dependent credit, same as 1921.	Same
Other exemptions (for normal tax)—	**Other exemptions (for normal tax)—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net capital gain taxable at capital gains rate, same as 1923.	Same
INCOME TAX [1,3,7]	**INCOME TAX [1,3,7]**
Normal tax 2 percent of first $4,000 of net income (less exemptions); 4 percent of income over $4,000 to $8,000; $8,000; 6 percent of income over $8,000. Surtax on net income (less exemption) over $10,000 ranged from 1 percent of income $14,000 or less to 40 percent of income over $500,000. Net capital gain separately taxed at 12.5 percent, if taxpayer so elected. Capital gains tax applicable if resulting total tax *less* than combined normal tax and surtax on net income including net capital gain; otherwise gain taxable as part of net income subject to normal tax and surtax. For net capital loss, 12.5 percent of the loss was credited against combined normal tax and surtax on net income computed without net capital loss, if tax thus produced was *not less* than tax on net income including net capital loss. Maximum surtax on sales of mineral mines and oil and gas wells, same as 1922; prior year surtax rates applied to income from partnerships, estates, or trusts attributed to prior year, same as 1919.	Normal tax 1.5 percent of first $4,000 of net income (less exemptions); 3 percent of income over $4,000 to $8,000; 5 percent of income over $8,000. Surtax on net income (less exemption) over $10,000 ranged from 1 percent of income $14,000 or less to 20 percent of income over $100,000. Capital gains tax and capital loss credit, maximum surtax on profit from sales of mineral mines and oil and gas wells, same. After 1925, income from partnerships, estates, or trusts with non-calendar year accounting periods was entirely attributed to current year and taxed at current-year tax rates.

EXHIBIT A. (Continued)

1924 (cont'd)	1925-27 (cont'd)
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1921.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Earned income credit equal to 25 percent of normal tax on all net income of up to $5,000 and 25 percent of normal tax on "earned" income up to $10,000; limited to 25 percent of normal tax on total net income.	Earned income credit applied against normal tax on all net income of up to $5,000, and against total tax on "earned" income of up to $20,000; limited to the sum of 25 percent of normal tax on all net income and 25 percent of surtax on "earned" net income.
Equals: INCOME TAX after credits [1,3,7]	**Equals: INCOME TAX after credits** [1,3,7]
Filing requirement [4]	**Filing requirement** [4]
Net income $2,500 or more or gross income $5,000 or more, regardless of net income, for married couples living together and heads of families; for all others, same as 1922. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting income filing threshold, same principle as 1916.	Net income $3,500 or more or gross income $5,000 or more, regardless of net income, for married couples living together and heads of families; net income $1,500 or more or gross income $5,000 or more, regardless of net income, for all others. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting income filing threshold, same principle as 1916.

See footnotes at end of Exhibit.

Individual Income Tax Shares and Average Tax Rates, Tax Years 1916–1950

EXHIBIT A. (Continued)

1928	1929
Income	**Income**
Same as 1925.	Same
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expenses; casualty and theft loss; etc., same as 1921.	Same
Charitable contributions, etc., same as 1917.	Same
Prior year business net loss carryover, same as 1922.[6]	Same [6]
Equals: NET INCOME [6]	**Equals: NET INCOME [6]**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax)—	**Personal exemptions (for normal tax)—**
Taxpayer exemptions, same as 1927.	Same
Dependent credit, same as 1921.	Same
Other exemptions (for normal tax)—	**Other exemptions (for normal tax)—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net capital gain taxed at capital gains rate, same as 1922.	Same
INCOME TAX [3,7]	**INCOME TAX [3,7]**
Same as 1927.	Normal tax 0.5 percent of first $4,000 of net income (less exemptions); 2 percent of income over $4,000 to $8,000; 4 percent of income over $8,000. Surtax and capital gains tax and capital loss credit, same as 1924; maximum surtax on sales of mineral mines and oil and gas wells, same as 1922.
Less: Tax credits [3]	**Less: Tax credits [3,4]**
Foreign tax credit, same as 1921.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Earned income credit same as 1927, except applied against tax on all net income of up to $5,000 and against tax on "earned" net income of up to $30,000; credit limitations, same as 1927.	Same
Equals: INCOME TAX after credits [3,7]	**Equals: INCOME TAX after credits [3,7]**
Filing requirement	**Filing requirement**
Same as 1925.	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1930–31	1932–33
Income	**Income**
Same as 1925.	Same, except excluded net loss (in excess of gain) from sales of stocks and bonds that were not considered "capital assets." Also, included *all* interest from building and loan associations (see 1922).
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1921.	Same, except foreign taxes in excess of foreign tax credit not deductible (full amount deductible if credit not claimed).
Charitable contributions, same as 1917.	Same
Prior year business net loss carryover, same as 1922.[6]	—
Equals: NET INCOME [6]	**Equals: NET INCOME**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax)—	**Personal exemptions (for normal tax)—**
Taxpayer exemptions, same as 1925.	$2,500 for married couples living together or heads of families; $1,000 for all other taxpayers.
Dependent credit, same as 1921.	Same
Other exemptions (for normal tax)—	**Other exemptions (for normal tax)—**
Dividends from domestic corporations, same as 1917.	Same
Interest on certain U.S. Government obligations, same as 1917.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net capital gain taxed at capital gains rate, same as 1922.	Same
INCOME TAX [3,7]	**INCOME TAX [3,7]**
Normal tax 1.5 percent of first $4,000 of net income (less exemptions); 3 percent of income over $4,000 to $8,000; 5 percent of income over $8,000. Surtax, capital gains tax and capital loss credit, same as 1924; maximum surtax on sales of mineral mines and oil and gas wells, same as 1922.	Normal tax 4 percent of first $4,000 of net income (less exemptions); 8 percent of income over $4,000. Surtax on net income (less exemption) over $6,000 ranged from 1 percent of income $10,000 or less to 55 percent of income over $1,000,000. Capital gains tax and capital loss credit, and maximum surtax on sales of mineral mines and oil wells, same.
Less: Tax credits [3]	**Less: Tax credits [3]**
Foreign tax credit, same as 1921.	Same, except maximum credit limited to the lesser of that computed on an "overall" basis and that computed on a "per country" basis.
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Earned income credit, same as 1928.	—

EXHIBIT A. (Continued)

1930-31 (cont'd)	1932-33 (cont'd)
Equals: INCOME TAX after credits [3,7]	**Equals: Income Tax after credits** [3,7]
Filing requirement	**Filing requirement**
Same as 1925.	Net income $2,500 or more or gross income $5,000 or more, regardless of net income, for married couples living together and heads of families; net income $1,000 or more or gross income $5,000 or more, regardless of net income, for all others. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting income filing threshold, same principle as 1916.

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1934–35	1936–37
Income [8]	**Income**
Same as 1932, except "capital assets" redefined to include all property (excluding stock in trade or inventory held primarily for sale to customers), regardless of length of time held. However, gain or loss from sales of assets included in income depended on length of time asset held before sale based on sliding scale, ranging from 30 percent for assets held over 10 years to 100 percent for assets held 1 year or less. (Gain or loss from property not considered a capital asset taxable as "ordinary" income or loss.) Net capital gain was excess of gains plus smaller of net income or $1,000, over capital loss. Net capital loss (in excess of gain) limited to $2,000 ($4,000 on joint returns), deductible from "ordinary" income.[8]	Same
Less: Deductions	**Less: Deductions**
Interest paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1932; taxes paid same, except excluded Federal estate and gift taxes.	Same
Charitable contributions, same as 1917.	Same
Equals: NET INCOME	**Equals: NET INCOME**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax and surtax)—	**Personal exemptions (for normal tax and surtax)—**
Taxpayer exemptions, same as 1932.	Same
Dependent credit, same as 1921.	Same
Other exemptions or credits (for normal tax)—	**Other exemptions or credits (for normal tax)—**
Dividends from domestic corporations, same as 1917.	—
Interest on certain U.S. Government obligations, same as 1917.	Same
Earned income credit equal to 10 percent of all net income up to $3,000, and of earned income up to $14,000, limited to 10 percent of earned net income, but not in excess of 10 percent of all income.	Same
INCOME TAX [3]	**INCOME TAX** [3]
Normal tax 4 percent of all net income (less exemptions). Surtax on net income (less exemptions) over $4,000 ranged from 4 percent of income $6,000 or less to 59 percent of income over $1,000,000. Net capital gains (in excess of losses) taxed at regular normal tax and surtax rates (see above). For 1934, maximum surtax on sales of mineral mines and oil and gas wells, same as 1922.	Normal tax, same. Surtax on net income (less exemptions) over $4,000 ranged from 4 percent of income $6,000 or less to 74 percent of income over 2,000,000. Net capital gains taxed at revised normal tax and surtax rates. Maximum surtax on profit from sales of oil and gas property, 30 percent of sales price.

EXHIBIT A. (Continued)

1934–35 (cont'd)	1936–37 (cont'd)
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1932.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [3]	**Equals: Income tax after credits** [3]
Filing requirement	**Filing requirement**
Same as 1932.	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1938	1939
Income	**Income**
Same as 1934, except "capital assets" redefined to exclude depreciable trade or business assets. (Gain or loss on sales of latter assets fully includable as "ordinary" income or loss). Amount of gain or loss from sales of capital assets taken into account depended on length of time asset held before sale: 100 percent if assets held 18 months or less ("short-term"); or 66.7 percent if assets held over 18 to 24 months, and 50 percent if assets held over 24 months (both defined as "long-term"). Except for real property, net long-term capital loss either deducted, or not deducted and tax reduced by 30 percent of net long-term loss; see below. Net loss from sales of real property limited to $2,000. Net short-term capital loss not deductible currently; amount not in excess of net income carried over and applied against short-term gain of the immediately following year.	Same, except wages included compensation of State and local Government employees. Net short-term capital gain included prior-year net short-term capital loss carried over.
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1934.	Same, except taxes paid excluded social security and employment taxes.
Charitable contributions, same as 1917.	Same
Equals: NET INCOME	**Equals: NET INCOME**
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax and surtax)—	**Personal exemptions (for normal tax and surtax)—**
Taxpayer exemptions, same as 1932.	Same
Dependent credits, same as 1921.	Same
Other exemptions or credits (for normal tax)—	**Other exemptions or credits (for normal tax)—**
Interest on certain U.S. Government obligations, same as 1917	Same
Earned income credit, same as 1934.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net long-term capital gain subject to alternative tax (see below).	Same

EXHIBIT A. (Continued)

1938 (cont'd)	1939 (cont'd)
INCOME TAX [3,7,9]	**INCOME TAX** [3,7,9]
Same as 1936, except short-term capital gain (see below) fully taxable at normal tax and surtax rates. Maximum surtax on sales of oil and gas property, same as 1936. For net long-term capital gain, tax was the *lesser* of normal tax and surtax on total net income including net long-term capital gain, or normal tax and surtax on net income excluding long-term capital gain, plus 30 percent of net long-term capital gain ("alternative tax"). Conversely, for net long-term capital loss, tax was the *greater* of normal tax and surtax on total net income after subtracting net long-term capital loss, or normal tax and surtax on net income before subtracting net long-term capital loss, minus 30 percent of net long-term capital loss ("alternative tax").	Same
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1932.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [3,7,9]	**Equals: Income tax after credits** [3,7,9]
Filing requirement	**Filing requirement**
Same as 1932.	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1940	1941
Income	**Income** [10]
Same as 1939.	Same, except "capital assets" redefined to exclude certain U.S. and State obligations. (Retroactive exclusion from wages of compensation of military enlisted personnel made applicable to 1941; see 1942 and 1943.)[10]
Less: Deductions	**Less: Deductions** [11]
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1939.	Same
Charitible contributions, same as 1917.	Same
Prior-year business net loss carryover [12]	Same
Equals: NET INCOME [12]	**Equals: NET INCOME** [11,12]
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax and surtax)—	**Personal exemptions (for normal tax and surtax)—**
$2,000 for married couples living together or heads of families; $800 for all other taxpayers.	$1,500 for married couples living together or heads of families; $800 for all other taxpayers.
Dependent credits, same as 1921.	Dependent credits same, except credit for one dependent disallowed for certain heads of families.
Other exemptions or credits (for normal tax)—	**Other exemptions or credits (for normal tax)—**
Interest on certain U.S. Government obligations, same as 1917.	Same
Earned income credit, same as 1934.	Same
Certain interest ("dividends") from Federal savings and loan associations.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net long-term capital gain subject to alternative tax, same as 1938 (see below).	Same
INCOME TAX [3,7,9,12]	**INCOME TAX** [3,7,9,10,11,12]
Normal tax, same as 1936. Intermediate surtax rates on income (less exemptions) over $4,000 increased for income between $6,000 and $100,000; highest and lowest rates, same as 1936. "Alternative tax," same as 1938; maximum surtax on sales of oil and gas property, same as 1936.	Normal tax, same. Surtax on *all* net income (less exemptions) ranged from 6 percent of income under $2,000 to 76 percent of income over $2,000,000. Maximum tax on sales of oil and gas property, same. "Alternative tax," same. (No "defense tax.") Elective short-form, 1040A, included "optional tax" look-up tables based on normal tax and surtax rates, marital status, and number of personal exemptions claimed; tax was applied to gross income adjusted for deductions and earned income credit (not reported on Form 1040A). Short-form usable, if gross income (in general, from *other than* capital or noncapital gain on property sales and from *other than* profit from unincorporated businesses or income from estates or trusts) was $3,000 or less.

EXHIBIT A. (Continued)

1940 (cont'd)	1941 (cont'd)
Combined normal tax and surtax (or alternative tax) increased by "defense tax" equal to 10 percent of the combined tax. If combined tax exceeded 50 percent of net income, defense tax limited to 10 percent of amount by which net income exceeded the combined tax.	—
Less: Tax credits [3]	**Less: Tax credits** [3]
Foreign tax credit, same as 1932.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [3,7,9,12]	**Equals: Income tax after credits** [3,7,9,10,11,12]
Filing requirement	**Filing requirement**
Gross income $2,000 or more, regardless of net income, for married couples living together and heads of families; gross income $800 or more for single persons. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting gross income filing threshold, same principle as 1916.	Gross income $1,500 or more, regardless of net income, for married couples living together and filing joint returns; gross income $750 or more for all others. Joint returns for married couples permitted. Income reporting requirement and conditions for separate reporting by dependent minors meeting gross income filing threshold, same principle as 1916.

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1942	1943
Income [10]	**Income** [10]
Same as 1941, except included alimony received; military disability pay excluded, also compensation of military enlisted personnel, up to $250 if single, $300 if married or head of family (1942 and 1943 limitations later rescinded retroactively; exclusion also made applicable to 1941).[10] "Earned" income from foreign sources excluded only for citizens residing abroad over 1 year (see 1926). Treatment of gains and losses from sales of "capital assets" revised: 50 percent of net gain (in excess of net loss) included in income if assets sold held over 6 months (net "long-term" gain), or 100 percent if assets held 6 months or less (net "short-term" gain); portion of combination of net long- and short-term capital loss deducted from "ordinary" income limited to lesser of net income (excluding capital gain or loss) or $1,000. (Net loss in excess of limitation carried over to 5 succeeding years, as necessary; treated as short-term capital loss.) Lump-sum distribution from "qualified" retirement plan taxable as long-term capital gain. "Capital assets" redefined to exclude business real property, but combined gain (less loss) from sales of real and depreciable business property (including standing timber) held over 6 months, plus "involuntary conversions" (by condemnation, fire, theft, etc.) of such property and of capital assets held over 6 months, treated as net long-term capital gain; combined net loss was not treated as net capital loss, was deducted from "ordinary" income and not subject to loss limitation, above. Gains and losses from all other property types or transactions fully included as "ordinary" income or loss.	Same, except short-term capital loss included prior year excess net capital loss carryover; wages excluded military compensation up to $1,500 (1942 and 1943 limitations later rescinded retroactively; exclusion made applicable to 1941).[10] Personal debt treated as capital loss.
Less: Deductions	**Less: Deductions**
Interest and taxes paid; personal bad debts; employee business expense; casualty and theft loss; etc., same as 1939.	Same, except taxes paid excluded Federal excise taxes; no personal bad debt deduction (debt treated as capital loss, see above); gambling losses (not in excess of gains) deductible.
Charitable contributions, (limited to 15 percent of net income before contributions and medical deductions).	Charitable contributions, same.
Prior-year business net loss carryover.[12]	Same [12]
Uninsured medical expenses (in excess of 5 percent of net income before medical deduction, limited to $2,500 for married couples filing jointly and $1,250 for all other taxpayers).	Same

EXHIBIT A. (Continued)

1942 (cont'd)	1943 (cont'd)
Equals: NET INCOME [10,11,12]	**Equals: NET INCOME** [10,11,12]
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax and surtax)—	**Personal exemptions (for normal tax and surtax)—**
$1,200 for married couples living together or heads of families; $500 for all others.	Same
$350 per dependent ($385 on short-form 1040A).	Same
Other exemptions or credits (for normal tax)—	**Other exemptions or credits (for normal tax)—**
Interest on certain U.S. Government obligations, same as 1917.	Same
Earned income credit, same as 1934.	Same
Certain interest ("dividends") from Federal savings and loan associations, same as 1940.	Same
Other exemption (for normal tax and surtax)—	**Other exemption (for normal tax and surtax)—**
Net long-term capital gain (reduced by net short-term capital loss) subject to alternative tax (see below).	Same
INCOME TAX [3,9,10,11,12,13]	**Income Tax** [9,10,11,12,13]
Normal tax 6 percent of net income (less exemptions). Surtax on all net income (less exemptions) ranged from 13 percent of income under $2,000 to 82 percent of income over $200,000. Maximum tax on sales of oil and gas property, same as 1936. Net short-term capital gain (in excess of net long-term capital loss) taxed at normal tax and surtax rates. Under revised "alternative tax," maximum surtax on taxable half of net long-term capital gain (in excess of net short-term capital loss), see above, was 50 percent. "Optional tax" (see 1941) not applicable if gross income included rents or royalties.	Normal tax, surtax, "alternative tax," "optional tax," same as 1942; maximum surtax on oil and gas property, same as 1936.
—	"Victory tax" 5 percent of "victory tax net income" (gross income, in general, excluding capital gains and losses and certain interest on U.S. Government obligations, minus business and certain business-related expenses, prior-years business loss deduction, and alimony paid); minus $624 exemption, per taxpayer ($1,248 for married couples filing jointly, unless net income of one spouse was less than $624, then exemption was $624 plus the net income of such spouse); a credit of 40 percent of tax if married and 25 percent if single (limited to $1,000, if married filing jointly, and $500, if single); and a credit of 2 percent of tax (limited to $100), per dependent. Total victory tax limited to excess of 90 percent of total net income over normal tax and surtax, or "alternative tax," before foreign tax credit and credit for tax withheld on tax-free covenant bond interest.

EXHIBIT A. (Continued)

1942 (cont'd)	1943 (cont'd)
See 1943 for effect on 1942 tax resulting from introduction of new system of current tax payments (during 1943).	New system of current tax payments through tax withholding on wages (and through "estimated tax" payments) implemented during the same time period that tax for 1942 was due. For relief to those otherwise liable during 1943 for taxes due for both 1942 and 1943, tax liabilities for the 2 years were systematically merged. If taxpayer was liable for tax for both years, larger of the two taxes was payable. The smaller of the two could be written off wholly or partly: if smaller tax $50 or less, 100 percent written off; if over $50 to about $67, over 75 but less than 100 percent written off; if over $67, 75 percent written off. For military personnel with 1942 or 1943 service whose 1942 tax was larger, write-off increased by recomputing 1942 tax to eliminate the excess over 1943 that was due to tax on "earned" net income.
Less: Tax credits [3]	**Less: Tax credits**
Foreign tax credit, same as 1932, except credit also allowed for certain income-related foreign taxes.	Same
Credit for tax withheld by payers of tax-free covenant bond interest, same as 1916.	Same
Equals: Income tax after credits [3,9,10,11,12,13]	**Equals: INCOME TAX AFTER CREDITS** [9,10,11,12,13]
Filing requirement [13,14]	**Filing requirement** [13,14]
Gross income $1,200 or more, regardless of net income, for married couples living together and filing joint returns; gross income $500 or more for all others. Income reporting requirement and conditions for separate reporting by dependent minors meeting gross income filing threshold, same principle as 1916.	Same, except that filing requirement also applicable to married couples filing joint returns if combined gross income was less than $1,200, but one spouse had gross income over $624 (because of "victory tax" provisions). Gross income $500 or more for all others. Income reporting requirement and conditions for separate reporting by dependent minors meeting gross income filing threshold, same principle as 1916. Also, filing requirement extended to all with 1942 tax, regardless of 1943 gross income; and to others with refundable tax (due to tax overwithholding on wages or "estimated tax" overpayments).

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1944–45	1946–47
Income [10,12]	**Income** [12]
Same as 1943, except that short-term capital loss included prior years' excess net capital loss carryover; business profit reduced by prior-year business net loss carryover; compensation of military personnel and mustering out payments for military service excluded.[10,12] Also, cutting of timber for sale or other business use could, at taxpayer's option, be treated as sale of capital assets, if timber was previously owned over 6 months; such "sale" included in net gain or loss, real and depreciable business property (see 1942).	Same
Less: Statutory exclusions	**Less: Statutory exclusions**
Employee business expense, etc.	Same
Equals: ADJUSTED GROSS INCOME (AGI) [12]	**Equals: ADJUSTED GROSS INCOME (AGI)** [12]
Less: Itemized deductions	**Less: Itemized deductions**
Interest and taxes paid; casualty and theft loss; etc., same as 1943; employee business expense excluded directly from salary (see above).	Same
Charitable contributions (limited to 15 percent of AGI).	Same
Uninsured medical expenses (in excess of 5 percent of AGI limited to $2,500 for married couples filing jointly and $1,250 for all other taxpayers).	Same
$500 blindness deduction.	Same
—OR—	—OR—
Less: Optional standard deduction [11,14]	**Less: Optional standard deduction** [11,14]
About 10 percent of AGI (if AGI under $5,000, allowed through use of "optional tax" look-up table, described below); $500 if AGI $5,000 or more ("optional tax" table not applicable).	Same
Equals: NET INCOME [10,11,12]	**Equals: NET INCOME** [11,12]
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions	**Personal exemptions**
Exemption (for normal tax)—	**Exemption (for normal tax)—**
$1,000 for married couples filing joint returns if both spouses had AGI $500 or more; if not, exemption was $500, plus lesser of the two AGI's.	—
$500 for all other taxpayers.	—
Exemption (for surtax)—	**Exemption (for surtax)—**
$500 per taxpayer (and spouse).	—
$500 per dependent.	—

EXHIBIT A. (Continued)

1944–45 (cont'd)	1946–47 (cont'd)
Exemption (for normal tax and surtax)—	**Exemption (for normal tax and surtax)—**
—	$1,000 for married couples filing joint returns; $500 for all other taxpayers.
—	$500 per dependent
Other exemption (for normal tax)	**Other exemption (for normal tax)**
Interest on certain U.S. Government obligations (if deductions itemized).	Same
Other exemption (for normal tax and surtax)	**Other exemption (for normal tax and surtax)**
Net long-term capital gain (reduced by net short-term capital loss) subject to alternative tax, same as 1942.	Same
Income tax [9,10,11,12,14]	**Income tax** [11,12,14]
Normal tax 3 percent of net income (less exemptions). Surtax on net income (less exemptions) ranged from 20 percent of income under $2,000 to 91 percent of income over $200,000. Maximum surtax on sales of oil and gas property, same as 1936. Combined tax before credits limited to 90 percent of net income. "Alternative tax," (on net long-term capital gain), same as 1942. (Form W-2, receipt for tax withheld on wages, replaced optional short-form 1040A; W-2 and short-form 1040 included "optional tax" look-up tables that made allowance for 10 percent standard deduction, in addition to marital status, number of exemptions, and normal tax and surtax rates. "Optional tax" usable if AGI under $5,000 consisted of wages subject to tax withholding and up to $100 from interest, dividends, and wages *not* subject to tax withholding.)	Normal tax (after 5 percent statutory reduction) 2.85 percent of net income (less exemptions). Surtax (after 5 percent reduction) on net income (less exemptions) ranged from 16.15 percent of income under $2,000 to 83.6 percent of income over $200,000. Maximum surtax on sales of oil and gas property, same as 1936. Combined tax before credits limited to 85.5 percent of net income. "Alternative tax," same; "optional tax" reflected revised normal tax and surtax rates.
Less: Tax credits	**Less: Tax credits**
Foreign tax credit (if deductions itemized).	Same
Credit for tax withheld by payers of tax-free convenant bond interest (if deductions itemized).	Same
Equals: INCOME TAX AFTER CREDITS [9,10,11,12,14]	**Equals: INCOME TAX AFTER CREDITS** [11,12,14]
Filing requirement	**Filing requirement**
Gross income $500 or more, regardless of net income and marital status, even if joint return filed (so that filing requirement applied to income of each spouse, separately). Taxpayers with refundable tax (due to tax overwithholding on wages or "estimated tax" overpayments), same as 1943. Income reported on joint returns or on return of either spouse excluded income from services of dependent minors not meeting gross income filing threshold.	Same

See footnotes at end of Exhibit.

EXHIBIT A. (Continued)

1948–49	1950
Income [12]	**Income** [12]
Income components about the same as 1947.	Same, except excluded Korean War military compensation (limited to $200 per month for officers).
Less: Statutory exclusions	**Less: Statutory exclusions**
Employee business expense, etc., same as 1944.	Same
Equals: ADJUSTED GROSS INCOME (AGI) [12]	**Equals: ADJUSTED GROSS INCOME (AGI)** [12]
Less: Itemized deductions	**Less: Itemized deductions** [14]
Interest and taxes paid; casualty and theft loss; etc., same as 1944.	Same
Charitable contributions, same as 1944.	Same
Uninsured medical expenses (in excess of 5 percent of AGI limited to $1,250 multiplied by personal exemptions, except for age and blindness (see below), or $5,000 for married couples filing jointly, and $2,500 for all other taxpayers).	Same
—OR—	—OR—
Less: Optional standard deduction [11,14]	**Less: Optional standard deduction** [11,14]
About 10 percent of AGI if AGI under $5,000 allowed through use of tax look-up tables (see 1944); otherwise, lesser of 10 percent of AGI or $1,000, if AGI $5,000 or more; or $500 per spouse for married couples filing separately.	Same
Equals: NET INCOME [11,12]	**Equals: NET INCOME** [11,12]
Net income exempt from normal tax and/or surtax	**Net income exempt from normal tax and/or surtax**
Personal exemptions (for normal tax and surtax)—	**Personal exemptions (for normal tax and surtax)—**
$1,200 for married couples filing joint returns; $600 for all other taxpayers.	Same
$600 per dependent.	Same
$600 per taxpayer if age 65 or over ($600 per spouse on joint returns if both age 65 or over).	Same
$600 per taxpayer if blind ($600 per spouse on joint return if both blind).	Same
Other exemption (for normal tax)	**Other exemption (for normal tax)**
Interest on certain U.S. Government obligations (if deductions itemized), same as 1944.	Same
Other exemption (for normal tax and surtax)	**Other exemption (for normal tax and surtax)**
Net long-term capital gain (reduced by net short-term capital loss) subject to alternative tax, same as 1942.	Same

EXHIBIT A. (Continued)

1948–49 (cont'd)	1950 (cont'd)
Income Tax [11,12,14]	**Income Tax** [11,12,14]
Normal tax 3 percent of net income (minus exemptions). Surtax on net income (minus exemptions) ranged from 17 percent of income under $2,000 to 88 percent of income over $200,000. Maximum surtax on sales of oil and gas property, same as 1936. Combined tax then reduced by 17 percent of first $400 of tax, plus 12 percent of next $99,600 of tax and 9.75 percent of tax over $100,000; combined tax before credits limited to 77 percent of net income. "Alternative tax" (on net long-term capital gain), same as 1942.	Normal tax and surtax, same; maximum surtax on sales of oil and gas property, same. Combined tax effectively reduced by 13 percent of first $400 of tax, 9 percent of next $99,600 of tax, and 7.3 percent of tax over $100,000; combined tax limited to 80 percent of net income. "Alternative tax," (on net long-term capital gain), same. "Income splitting," same. "Optional tax" on short-form 1040 and on Form 1040A reflected normal tax and surtax rate reductions.
"Income splitting" introduced for married couples filing joint returns so that combined normal tax and surtax was reduced to equal twice the tax on 50 percent of combined net income (less exemptions). "Optional tax" reported on short-form 1040 and on Form 1040A (which replaced W-2 tax return) reflected revised normal tax and surtax rates, "income splitting," and revised personal exemptions, and standard deduction.	—
Less: Tax credits	**Less: Tax credits**
Foreign tax credit, (if deductions itemized), same as 1944.	Same
Credit for tax withheld by payers of tax-free covenant bond interest (if deductions itemized), same as 1944.	Same
Equals: INCOME TAX AFTER CREDITS [11,12,14]	**Equals: INCOME TAX AFTER CREDITS** [11,12,14]
Filing requirement	**Filing requirement**
Gross income $600 or more, regardless of net income and marital status, even if joint returns filed (so that filing requirement applied to income of each spouse, separately). Taxpayers with refundable tax (due to tax overwithholding on wages or "estimated tax" overpayments), same. Income reported on joint returns or on return of either spouse excluded income from services of dependent minors not meeting gross income filing threshold, same principle as 1944.	Same

See footnotes on next page.

EXHIBIT A. (Continued)

NOTES AND FOOTNOTES

The purpose of Exhibit A is not to provide an exhaustive review of the tax code as it applied to 1916 through 1950, but to briefly define net income, adjusted gross income, tax and the filing requirements, and to call to the reader's attention changes in the tax law which could affect the statistics presented in this article. The scope of Exhibit A is further described below. Specifically, the Exhibit excludes provisions unique to nonresident aliens and to individuals reporting for a noncalendar year accounting period. It also excludes law changes affecting items underlying certain computations, such as those affecting the amortization and depletion deductions used in computing the unincorporated business profits that were, in turn, reflected in "net income" or "adjusted gross income."

The years for which provisions of law are shown in Exhibit A are directly related to the years for which statistics based on them are presented. If a provision is not reflected in the statistics it is generally not shown. For example, while the law permitted deductions for some years for unincorporated business losses that were "carried back" from a loss year, the deductions based on loss carrybacks are not shown in the Exhibit for the carryback years. This is because Statistics of Income does not include data on carrybacks, the need for which occurs *after* the tax returns used for the statistics have been filed (see also footnotes 3 and 14, below).

In the Exhibit, some liberties have been taken in the terminology used in order to facilitate year-to-year comparisons. However, in equating various tax law provisions from one year to the next, it should be noted that the similarities are only in terms of the law as it is stated in the Exhibit. It was not possible to research all the details of a particular provision in order to determine whether it was completely identical from year to year. To have done so would have also complicated the Exhibit and defeated the purpose for which it was intended, i.e., to provide summarized highlights of the law to assist in interpreting the statistics for each year.

An example of the resulting limitations of the Exhibit is the credit for tax withheld on tax-free convenant bond interest. For most *but not all* years, the credit was based on a 2 percent withholding rate; yet, in the Exhibit, the credit is shown as being the same over time. As another example, for the earlier years and then for the more recent ones, allowable amounts for personal exemptions were based, not only on the dollars amounts stated in Exhibit A, but on the taxpayer's marital status *at year end* (with some variations for the later years). For the intervening years, the allowable exemption amount for years in which a taxpayer changed marital status was determined through a proration based on the number of months in the year under each marital status category. Exhibit A does not recognize differences such as these.

Another limitation is the source of the information. Nearly all of Exhibit A is based on material found in *Statistics of Income* reports for various years, or on the tax return forms or accompanying instructions. A more complete analysis would have required more extensive use of other source materials as well, including the statutes themselves and supporting interpretative reports. Time constraints precluded this and, in addition, it was probably unnecessary given the purpose of the Exhibit.

[1] Statistics for net income (and the resultant tax) for 1917-1925 may exclude dividend and other income attributable to prior years reported on the tax returns for the current years. *Statistics of Income* reports for 1917-1925 do not specifically indicate whether this income and tax are reflected in the data.

[2] Net income statistics for 1917 are before the contributions deduction and are therefore somewhat overstated for this reason. In addition, for 1917 the income tax statistics exclude the tax reported on returns with net income under $2,000. This does not affect the data emphasized in this article, since $2,000 in current dollars ($17,094 in 1986 dollars) falls below the $25,000 cutoff imposed.

[3] Income tax statistics for 1916-1942 are *before* reduction by foreign tax credit and credit for tax withheld at source by payers of tax-free covenant bond interest. For 1924-1931, however, the tax statistics are *after* reduction by the "earned income credit."

[4] Statistics for 1921-1927 exclude returns with gross income $5,000 or more, but with no net income. (The filing requirement should automatically have excluded returns with no net income for tax years before 1921.) As noted in the text, returns with negative net income or negative adjusted gross income are excluded from the statistics presented in this article (see Figure L).

[5] Net income statistics for 1918 exclude the deduction for business net losses "carried back" from 1919. The statistics for the deduction of amounts carried over to 1920 (from 1919) represent the amount remaining after losses were first carried back and deducted on amended returns (which are not used for the statistics). As a result, the 1918 statistics for net income (and tax) are somewhat overstated.

[6] Net income statistics for 1922-1931 indicated are before the deduction for the business net losses

EXHIBIT A. (Continued)

"carried over" from a prior-year. For 1922 through 1930, the deduction represented amounts carried over either 1 or 2 years; for 1931, only 1 year. Loss amounts remaining after the carryover period could not be deducted. Net income is, therefore, overstated for these years. (Totals for this deduction are nevertheless published in *Statistics of Income.*)

[7] To facilitate comparisons with later years, Exhibit A includes the "tax credits" for capital losses for 1924-1933 and 1938-1941 as an adjustment *within* the basic income tax computation (summarized under the heading, "Income tax"), rather than as an adjustment *to* the income tax liability, in the sense that the foreign tax credit was and continues to be. The tax return forms seemed to recognize this ambivalency by also including the capital loss "tax credit" in the tax computation. In any event, the statistics for income tax for the years involved , are after reduction by this "credit."

Changing usage of the term "credit" affects other items as well. In present day terms, the credit for tax withheld by payers of tax-free covenant bond interest is more in the nature of an income tax *payment* reduction than an income tax *liability* reduction. However, it is included as a tax credit in Exhibit A because the tax laws for the years concerned did not distinguish between the two types of "tax credits." (As a general observation, the term "credits" seems to have been more broadly used in the early years than it is today. Besides the several types of "credits" against tax, including those for capital losses, there were also "credits" against income, which under more current laws would more aptly be described as "deductions," "adjustments," or simply as unlabelled offsets or subtractions within a computation. As examples, dependent exemptions were often described as "credits" against net income; and the "earned income credit" for some years was a "credit" against tax, while for others it was a "credit" against net income.

The capital loss "credit," at least on the tax forms, was typically treated simply as an unlabelled subtraction in the computation of tax. Each of these items appears under its proper classification in Exhibit A, regardless of what it is called. In general, the same convention was observed in *Statistics of Income.*)

[8] This increased limitation on net capital loss reported on joint returns was rescinded by 1940 court decree. Because *Statistics of Income* reports are based returns as originally filed, statistics for net income and tax for the years affected are somewhat understated for this reason.

[9] Income tax could be reported on returns with no net income for certain years; these amounts are not reflected in the income tax statistics used for this article. For 1938-1941, it was possible for returns with a net capital loss and no net income, to have "income" subject to the "alternative tax" and, therefore, an income tax. (Such amounts could also be reported for 1942, on the few returns for noncalendar years that began in 1941.) For 1943-1944, it was possible for returns with no net income to show a "victory tax" which was computed on an income base that was somewhat different from that used for the regular income tax. (Such amounts could also be reported for 1944, on the few returns for noncalendar years that began in 1943.) For all of these years, the amounts of tax involved were negligible so that their exclusion from the tables is not a significant limitation of the data.

[10] Because salaries and wages shown in *Statistics of Income* reports for 1941-1944 include compensation of enlisted military personnel that was later excluded, retroactively, statistics for net income and tax for these years, which are based on the tax returns as originally filed, are somewhat overstated.

[11] Starting with 1941, when "optional tax" was used on short forms 1040A (for 1941-1943 and 1948-1950) and 1040 (1944-1950), or on Form W-2 (1944-1947) the tax assumed a "standard deduction" which was built into the tax look-up tables.

Net income statistics for 1941-1943 based on Forms 1040A actually represent gross income (the amount for net income was also reflected in the tax tables). The net income statistics for these 3 years are therefore overstated. This does not, however, affect the data emphasized in this article since no Form 1040A filers had income of $25,000 or more in 1986 dollars. In general, after 1943, net income was computed only for returns with itemized deductions. Also, after 1943, Statistics of Income data are tabulated by size of net income. This change does affect all of the data.

[12] "Net operating loss deduction." Statistics of Income is based on returns as originally filed and so, for 1941 and thereafter, excludes the carryback effect of "unused" business net losses for subsequent years. So-called "net operating losses" of businesses incurred from 1939 on could be "carried back" and deducted from income for the 2 preceding years (but not to years before 1941). If not fully offset against the income of these years, they would be "carried over" and deducted from the income of the 2 succeeding years. Losses remaining after carryback and carryover could not be deducted. Therefore, the statistics for the

EXHIBIT A. (Continued)

deduction represent only amounts carried over, after losses were first carried back and deducted on amended returns. Statistics for net income and adjusted gross income (and for tax) for these years are overstated for this reason.

[13] Notwithstanding the law as outlined in Exhibit A, the income tax data in *Statistics of Income* for 1942 and 1943 that were used for this article represent only the amounts computed on the income for these years. Therefore, they do not take into account the merging of taxes for the 2 years and resultant tax write-downs designed to provide relief from concurrent implementation of tax withholding on wages earned in 1943 (and "estimated tax" payments, also during 1943) and payment in 1943 of tax due for 1942.

[14] For 1942–1943, if one spouse filed a separate return on a short form 1040A, the other spouse was also required to do so. For 1944–1950, if one spouse used the "optional tax" and "standard deduction," the other was also required to do so.

Editors' Note:

The six basic tables described on pages 48 and 50 of this paper have not been reprinted here. The reader is referred to the full paper, including tables, in the *Statistics of Income Bulletin,* Vol. 8, No. 3, 1989, Internal Revenue Service, pp. 1-70.