

**THE INCENTIVE EFFECTS OF MARGINAL TAX RATES:
EVIDENCE FROM THE INTERWAR ERA**

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ONLINE APPENDIX

DETAILS OF DATA AND COMPUTATIONS

This appendix describes the data available in the *Statistics of Income*, and our procedures for calculating taxable income exclusive of capital gains and losses, marginal rates on non-capital-gains income, and policy-induced changes in marginal rates.

A. The Interwar *Statistics of Income*

As described in the text, the *Statistics of Income* is an annual volume that provides data about each year's tax returns. The *Statistics of Income* divides taxpayers into various ranges of net income. For each income range, there is information about the number of taxpayers with net incomes in that range, their total net income, its breakdown into various categories, and their deductions, taxes, and so on. The income ranges in the *Statistics of Income* do not change over our sample period.¹

Income Data. Figure 1 in the text reproduces a table from a typical volume of the *Statistics of Income* (the one for 1933) showing the number of taxpayers in various income ranges and their net incomes. Figure A1 reproduces a portion of the table from the same year's volume showing more detailed information about the taxpayers in each range. Income is subdivided into various categories, and there are figures for gross income (the column labeled "Total Income" in the table) and for different types of deductions and exemptions. For simplicity, we show the data just for one income range.

The information provided in the detailed breakdown does not change greatly over our sample period. The amount of detail increases gradually over time; for example, deductions are subdivided more finely in later years. In addition, the information about capital gains and losses that is reported changes as their tax treatment changes.

Part C of this appendix describes how we use the information in Table 7 of the *Statistics of Income* in each year to remove capital gains from the net income figures to obtain estimates of ordinary taxable income. And Section III.C of the paper describes how we use the information in Table 7 to find the capital, entrepreneurial, and labor income components of gross income excluding capital gains and losses. Because the breakdown of non-capital-gains income in Table 7 varies little over our sample period, that procedure changes little. For 1933 (the year shown in Figure A1), we find capital income exclusive of capital gains as the sum of the columns labeled "Rents and

¹ The only exception is that some of the ranges over \$1.5 million are combined in some years for reasons of confidentiality. We therefore aggregate the taxpayers with incomes over \$1.5 million into a single group. These taxpayers always represent less than 1/1000th of 1 percent of the income distribution, and thus are always all in our top percentile group.

royalties,” “Dividends on stocks of domestic corporations,” “Fiduciary,” “Interest on Government obligations not wholly exempt from tax,” and “Other taxable interest.” Entrepreneurial income is the sum of the columns labeled “Business” and “Partnership.” and labor income is the column labeled “Salaries, wages, commissions, fees, etc.”

Tax Code. The *Statistics of Income* also provides a complete description of the tax code. Starting with the 1926 volume, each volume includes tables describing how taxable income was computed and the tax rates at different levels of income from the beginning of the income tax through the year covered by the volume. These volumes also include the forms and instructions that taxpayers used—as well as the complete set of taxpayer instructions and detailed explanatory footnotes concerning both the normal tax and the surtax, which allow us to resolve any ambiguities in the tables and forms. Thus, we can determine exactly what taxes a taxpayer with given amounts of income and deductions would have paid.

Figures A2–A4 show some of this information from the 1933 *Statistics of Income*. Figure A2 shows information about the normal tax, Figure A3 shows information about the surtax, and Figure A4 shows a complete set of income tax forms for households with taxable incomes over \$5000.

B. Overview of Procedures

Income. Obtaining the income data we need for taxpayers in a given range of net income involves two steps. First, and most important, we need to remove capital gains and losses. Second, because we do not want to include income changes that resulted from changes in how taxable income was defined, we need to correct for changes in the definition of taxable income. Throughout our sample period, taxable non-capital-gains income was very similar to net income excluding capital gains and losses, and the definition of the non-capital-gains components of net income did not change. We therefore use net income excluding capital gains and losses—which we refer to as “ordinary taxable income”—as our income measure throughout.

Marginal Rates. To find the marginal rate on non-capital gains income faced by households in a given range of net income, we need to exclude any portion of their net income that was either untaxed or taxed separately. For example, in most of the 1920s capital gains income was taxed at a separate rate, and in much of the 1930s a portion of capital gains income was excluded from taxable income. We can then find the marginal rate that applied to the relevant level of taxable income.

The personal income tax in the interwar era had two components: a “normal” tax and a “surtax.” Normal tax rates were low, typically on the order of 4 percent, relatively stable, and only slightly graduated. Surtax rates, in contrast, were often very high, volatile, and extremely progressive. In all of our analysis, we look at the combined effects of the two components to measure marginal rates.

Policy-Induced Changes. A key input into our analysis is the change in marginal rates that was the result of policy (rather than of economic developments changing households’ incomes, and thus moving them into different tax brackets). To find the policy-induced change in marginal rates in year t , we compute marginal rates on year $t - 1$ income using the definition of taxable income and the tax rates that were in effect in year t and compare them with the marginal rates implied by the definition of taxable income and the tax rates that were in effect during year $t - 1$.

Interpolation. The *Statistics of Income* reports the number of households for various ranges of net income. Those ranges, however, do not correspond exactly to the groups we want to use in our statistical work. To address this issue, we model high incomes as following a Pareto distribution. We fit a Pareto

distribution to the ranges of net income at the top of the income distribution for each year, and assume that incomes within each range follow this distribution. This allows us to find the total ordinary taxable income of each percentile group and group's weighted average log after-tax share.

C. Capital Gains Corrections

As described in the text, our focus is on taxable income exclusive of capital gains and losses. The *Statistics of Income*, however, groups taxpayers according to their total taxable income (referred to as “net income” in the *Statistics of Income*). We therefore need to subtract capital gains (and add capital losses) from the figures for total taxable income. Because both the tax code and the data on capital gains and losses in the *Statistics of Income* change over our sample period, our procedure for doing this is slightly different in different years.

1918–1921. We estimate ordinary taxable income by subtracting “Profits from sales of real estate, stock, bonds, etc.” from net income. The *Statistics of Income* for these years does not report the net capital losses of taxpayers who had net losses. As a result, although taxpayers could deduct these losses in computing net income, we are unable to add them back into the net income figures. Thus, our estimates for this period correspond to ordinary taxable income minus net capital losses. In later years when data on net capital losses are available, they are only about 5 percent of net income for high-income taxpayers. Other studies of tax responsiveness also neglect net capital losses (for example, Gruber and Saez, 2002).

1922–1923. The *Statistics of Income* breaks capital gains into short-term and long-term. We subtract both from reported net income. As with 1918–1921, we are unable to add net capital losses back into the net income figures.

1924–1925. We again subtract both short-term and long-term capital gains from net income. However, the resulting concept is slightly different than in earlier years. Starting in 1924, long-term net capital losses could no longer be claimed as a deduction in computing net income, but instead could be claimed as a 12½ percent tax credit. Thus, when we subtract capital gains from net income, the result is ordinary net income less net short-term capital losses (rather than ordinary taxable income less all net capital losses), which is closer to what we want conceptually.

This change means that there is a conceptual discontinuity in our income measure from 1923 to 1924. To prevent it from affecting our results, when we compute the percentage change in income from 1923 to 1924, we use our 1924 income figures minus eight times the 12½ percent tax credit for long-term capital losses. As a result, we are finding the change in a consistent series (ordinary taxable income minus all capital losses).

1926–1933. Starting in 1926, the *Statistics of Income* includes data on net short-term capital losses (which continued to be deductible in computing net income). We therefore subtract both short-term and long-term capital gains from net income as before, and add short-term capital losses.² The resulting measure corresponds to taxable income excluding all capital gains and losses. This change again introduces a discontinuity in our measure. To prevent it from affecting our results, when we compute the percentage change in income from 1925 to 1926, we do not add short-term capital losses to the 1926 income figures.

² Consider, for example, 1933 (for which the relevant information from the *Statistics of Income* is shown in Figure A1). For this year, we compute ordinary taxable income for the taxpayers in a given income range as the net income figure in the final column of Table 7 in the *Statistics of Income*, minus the figures in the two columns under “Profits from sale of real estate, stocks, bonds, etc.,” plus the figure in the column labeled “Net loss from sale of real estate”

1934–1937. We subtract “net capital gain” from net income and add “net capital loss.” As with our figures for 1926–1933, the resulting figures correspond to ordinary taxable income.

1938. Beginning in 1938, some assets were no longer classified as capital assets, and gains and losses on them were treated differently than other capital gains and losses. However, data on these gains and losses are reported in the *Statistics of Income*. We therefore subtract gains on all assets from net income and add losses on all assets (other than short-term losses on assets classified as capital assets, which could not be deducted in computing net income). Again, the resulting figures correspond to ordinary taxable income.

1939–1941. Starting in 1939, short-term losses on assets classified as capital assets from the previous year could be carried forward and deducted against the current year’s capital gains. Since these losses are subtracted in the computation of net income, we add them back in. The remainder of the calculation of ordinary net income is the same as for 1938.

D. Actual and Policy-Induced Changes in Marginal Tax Rates

Knowing a household’s capital gains income and its net income exclusive of capital gains is almost, but not quite, enough to know what its tax liability was, and hence the marginal rate it faced on non-capital-gains income. A household’s computation of both its normal tax and its surtax began with its net income (sometimes, as described above, excluding some or all of capital gains), which equaled gross income less deductions. However, the steps from net income to tax due were slightly different for the two taxes.

For the normal tax, there were several items other than capital gains that received special treatment. A personal exemption and a credit for dependents were subtracted from net income; until 1936, dividends were excluded; and from 1934 to 1941, 10 percent of the first \$14,000 of earned income was also subtracted. Finally, from 1924 to 1931, the normal tax on earned income was reduced by a credit of 25 percent of the normal tax the taxpayer would have had to pay if his or her unearned income was zero. The amount of earned income eligible for the credit varied between \$10,000 and \$30,000. Fortunately for our purposes, however, normal tax rates were low, and the maximum marginal normal rate was reached at relatively low levels of income. We therefore neglect these complications and assume that all taxpayers at the income levels we are considering paid the top marginal normal rate.³

For the surtax, the computation of the tax was simpler. The relevant taxable income was either non-capital-gains income (in the years when capital gains were taxed separately) or non-capital-gains income plus the taxable portion of capital-gains income (in years when some or all of capital gains were taxed with other income).⁴

³ Note that by assuming that taxpayers paid the top marginal normal rate, we are implicitly finding the marginal rate on non-capital gains, non-dividend income. We have also computed the weighted average marginal rate on all non-capital gains income. Using this measure has almost no impact on our results. (Because dividends were a large fraction of capital income, however, in our analysis of the responsiveness of different types of income in Section III.C, we focus on the weighted average marginal rate on each category of income rather than assuming a single marginal rate applied to all categories.)

⁴ Again, consider 1933 as an example. As described in the instructions for Form 1040 (1933 *Statistics of Income*, p. 230), capital gains were taxed at a flat 12.5 percent rate for taxpayers who faced a higher marginal rate on ordinary income—which was true for all the taxpayers we consider. Thus, the taxable income relevant for computing the surtax is net income minus “Profit from sale of real estate, stocks, bonds, etc.—Reported for tax on capital net gain.” The marginal tax rate for a taxpayer for a given amount of income subject to the surtax was the marginal surtax rate on this level of income (shown in the table reproduced in Figure A3) plus 8 percentage points (the maximum marginal normal tax rate).

There were only two minor complications with the surtax. First, starting in 1934, the personal exemption and credit for dependents were subtracted from net income for purposes of the surtax as well as for the normal tax. We have figures on personal exemptions and credits by income range for each year, so we can subtract these from income before finding marginal rates. For high-income taxpayers, the deductions were small relative to income, and so the effects of this adjustment are minor.

Second, from 1924 to 1931, the same 25 percent tax credit on earned income up to some limit that applied to the normal tax also applied to the surtax. Because most high-income taxpayers were beyond the limit, and because the credit reduced marginal rates by no more than a few percentage points for the others, we neglect this complication.

There was also a complication with both the normal tax and the surtax in 1940. The Revenue Act of 1940 imposed a one-time “defense tax.” If Y denotes a taxpayer’s net income and T his or her normal tax plus surtax before the defense tax, the defense tax was $\min\{0.1T, 0.1(Y - T)\}$. Thus, for taxpayers with $Y - T > T$ —that is, taxpayers whose average tax rate was less than 50 percent—the defense tax was $0.1T$, and so raised their marginal rate by 10 percent. For taxpayers whose average tax rate was greater than 50 percent, their defense tax was $0.1(Y - T)$, and so their marginal rate equaled 90 percent of what it otherwise would have been plus 10 percentage points. According to the 1940 *Statistics of Income*, the only income classes where average rates (excluding the defense tax) exceeded 50 percent were those with net incomes of \$250,000 and above. We therefore assume that all taxpayers earning less than \$250,000 paid a defense tax of $0.1T$ and all earning more paid $0.1(Y - T)$. Because very few taxpayers paid $0.1(Y - T)$ (and because even fewer were close to the margin between paying $0.1T$ and $0.1(Y - T)$), the specifics of how we account for the fact that the defense tax was not $0.1T$ for all taxpayers are unimportant.

When legislation changed only tax rates and not the computation of taxable income, finding the policy-induced change in marginal rates at a given level of taxable income is straightforward: the policy-induced change is just the change in the marginal rate at that level of income. When legislation changed how taxable income was computed from year $t - 1$ to year t , the situation is slightly more complicated. Consider a household with a given level of taxable income in year $t - 1$. We need to estimate what the household’s taxable income would have been using the year t definition, and then find what the marginal rate would have been at that level. We discuss each case where the definition of taxable income changed in turn.⁵

1921 to 1922. Beginning in 1922, the normal and surtax rates applied to income excluding capital gains, and capital gains were taxed separately. Thus, to know what the relevant taxable income of a 1921 taxpayer would have been under 1922 rules, we should subtract long-term capital gains from the taxpayer’s 1921 income. Unfortunately, the 1921 *Statistics of Income* does not separate long-term and short-term capital gains. We therefore subtract all capital gains, times the proportion of all capital gains in 1922 that were long term for the taxpayers in the relevant income range. Because capital gains were only a few percent of income in 1921, the effects of this correction are small.

1923 to 1924. Beginning in 1924, long-term capital losses could no longer be deducted from taxable income, but instead resulted in a separate tax credit. The taxable income of a 1923 household under 1924 law therefore equaled its 1923 taxable income plus any long-term capital losses. Since we do not have data on 1923 capital losses, we assume that long-term capital losses as a share of net income for each income range were the same in 1923 as in 1924. We then add the resulting estimates of long-term capital

⁵ As discussed in n. 7 in the paper, as a robustness check we also compute policy-induced changes in a way that involves finding what marginal rates on year t income would have been under the year $t - 1$ tax code. For those calculations, when there were changes in the definition of taxable income we estimate what households’ taxable income would have been under the year $t - 1$ tax code analogously to the procedures described here.

losses in 1923 to the reported 1923 incomes for each range to obtain an estimate of what their taxable income would have been under 1924 law. The effects of this correction are small.

1933 to 1934. There were two changes to how taxable income was calculated in 1934. First, the treatment of long-term capital gains and losses was changed. Rather than being taxed separately, a portion of these gains and losses was included in taxable income, with the fraction varying by the holding period. In addition, the deduction for capital losses (net of any gains) was capped at \$2000. In 1933, short-term capital losses and short-term gains (both of which were included in the computation of income subject to the surtax) were similar in magnitude, and long-term losses were much larger than long-term gains. In 1934, reported capital gains income and deductions for losses were similar in magnitude. That is, in both years capital gains and losses on net had little impact on income subject to the surtax. We therefore make no adjustment for the change in the treatment of gains and losses.

Second, starting in 1934 the personal exemption and credit for dependents could be deducted from income subject to the surtax. In finding the taxable incomes for the purposes of the surtax that 1933 taxpayers would have had under 1934 law, we therefore subtract their exemptions and dependent credits.

1937 to 1938. Starting in 1938, capital gains and losses on assets held more than 18 months were again taxed at a separate rate. Gains on assets held less than 18 months, however, were now entirely included in taxable income, and none of current-year net losses could be deducted in computing net income. The 1937 *Statistics of Income* does not separate capital gains income by holding period. The 1938 *Statistics of Income*, however, separates it according to whether the holding period was more or less than 18 months. To approximate the effect of the change on the relevant taxable income a 1937 taxpayer would have had under the 1938 code, we assume that this division for a given income range was the same in 1937 as in 1938. We assume that half of the long-term capital gains were already excluded in 1937 (the actual fraction varied from 20 to 70 percent depending on the holding period), and that none of the short-term gain was excluded. Since all long-term gains were taxed separately in 1938, this allows us to estimate how much lower a taxpayer's relevant taxable income would have been under the 1938 rules. We also add back in net losses, since these were no longer deductible.

1939 to 1940. The Revenue Act of 1940 lowered all personal exemptions by 20 percent. To find the taxable incomes that 1939 taxpayers would have had under 1940 law, we therefore add back in 20 percent of their personal exemptions. The effects of this adjustment are minor.

1940 to 1941. In 1941, personal exemptions were reduced by an additional 25 percent for joint filers and 6 percent for other taxpayers. 57 percent of the value of all personal exemptions in 1940 was claimed by joint filers (1940 *Statistics of Income*, p. 121). To find the taxable incomes that 1940 taxpayers would have had under 1941 rules, we therefore add back in 17 percent of their personal exemptions. The effects of this adjustment are again minor.

E. Retroactive Changes

If a change to the tax code was enacted near the end of the year or after the end of the year, our baseline measure of tax rates uses the rates that were in effect during the year, not the rates that were applied ex post. For the one case where a change was enacted after mid-year but well before year-end, we try both approaches.

There are five cases of retroactive changes enacted after mid-year. Tax bills enacted in 1919, 1924, and 1926 changed taxes for the previous year; a Congressional resolution enacted on December 16, 1929 changed 1929 taxes; and the Revenue Act of 1941, enacted on September 20, 1941, changed 1941 taxes. Our baseline measures of marginal rates and policy-induced changes in marginal rates use the tax code in

effect during 1918, 1923, 1925, and 1929, and ignore the retroactive changes. The 1941 change, however, was in effect for a non-trivial part of the year, and taxpayers likely knew before the bill was passed that tax rates were likely to be raised. Our baseline measure therefore uses the rates specified by the 1941 act in computing marginal rates. However, we also consider the effects of coding this as no change in rates in 1941. The treatment of 1941 has no important effect on our results. In addition, as described in the paper, we also consider series for marginal rates that use the rates that were applied ex post in all cases.

F. Interpolation and Aggregation to Construct Data for Percentile Groups

To construct figures for different percentile groups rather than for the income ranges in the *Statistics of Income*, we often need estimates of the breakdown of income within a given income range. To derive these estimates, we fit a Pareto distribution for each year to the income ranges at or above the range that includes the return at the 99.95th percentile of the income distribution in that year.⁶ As noted in the text, the information in the *Statistics of Income* is sufficiently detailed that the specifics of the interpolation procedure are not important to the estimates.

We then use the Pareto parameters to construct the data that we need on ordinary taxable incomes by percentile group. Suppose, for example, that 40 percent of the filers in the \$150,000–\$200,000 range are in the top percentile group in some year, and that the estimate of the Pareto parameter for that year is 1.5. Then the assumption that incomes follow a Pareto distribution implies that 43.5 percent of the income of the filers in this range went to those in the top percentile group.

Similarly, we use the Pareto parameters to estimate each percentile group’s income-weighted average log after-tax share and the policy-induced change in a group’s income-weighted average log after-tax share.⁷ For example, consider a case where all households in the \$90,000–\$100,000 range are in the second percentile group. Suppose that 5 percent of the income of the filers in this range was either untaxed or taxed separately, that one marginal rate applied to \$80,000–\$90,000 and a higher one to \$90,000–\$100,000, and that the Pareto parameter for the year is 1.5. Then our assumptions imply that 49.3 percent of the ordinary taxable income of the filers in this range was taxed at the lower marginal rate and 50.7 percent was taxed at the higher rate. This would be one part of the overall weighted average for this percentile group. Similarly, to find the policy-induced change from one year to the next, we find the marginal rate at each level of income under each year’s tax code, weight using the first year’s income

⁶ As described above, we aggregate the taxpayers with incomes over \$1.5 million into a single group.

⁷ To see why the change in the log of the taxable income of a group should be related to the change in the group’s income-weighted log after-tax share, suppose the taxable income of the household at percentile i of the income distribution in year t is given by $\ln y_{it} = \alpha_i + \beta_t + \gamma \ln S_{it} + \varepsilon_{it}$, where S_{it} is the household’s after-tax share. Then $\ln y_{i,t+1} - \ln y_{it} = \tilde{\beta}_{t+1} + \gamma(\ln S_{i,t+1} - \ln S_{it}) + \tilde{\varepsilon}_{i,t+1}$ (where $\tilde{\beta}_{t+1} \equiv \beta_{t+1} - \beta_t$, $\tilde{\varepsilon}_{i,t+1} \equiv \varepsilon_{i,t+1} - \varepsilon_{it}$). This in turn implies $y_{i,t+1} - y_{it} \cong y_{it}[\tilde{\beta}_{t+1} + \gamma(\ln S_{i,t+1} - \ln S_{it}) + \tilde{\varepsilon}_{i,t+1}]$. Thus, summing over members of the percentile group being considered, and letting Y_t be the total taxable income of the group, we have:

$$\begin{aligned} \frac{\sum_i (y_{i,t+1} - y_{it})}{Y_t} &\cong \sum_i \left(\frac{y_{it}}{Y_t} \right) y_{it} [\tilde{\beta}_{t+1} + \gamma(\ln S_{i,t+1} - \ln S_{it}) + \tilde{\varepsilon}_{i,t+1}] \\ &= \gamma \sum_i \frac{y_{it}}{Y_t} (\ln S_{i,t+1} - \ln S_{it}) + v_{t+1}, \end{aligned}$$

where $v_{t+1} \equiv \tilde{\beta}_{t+1} + \sum_i \left(\frac{y_{it}}{Y_t} \right) \tilde{\varepsilon}_{i,t+1}$. This in turn implies the posited relationship:

$$\ln Y_{t+1} - \ln Y_t \cong \gamma \left(\sum_i \frac{y_{it}}{Y_t} \ln S_{i,t+1} - \sum_i \frac{y_{it}}{Y_t} \ln S_{it} \right) + v_{t+1}.$$

distribution, and find the difference.

The Pareto distribution function is

$$(A1) \quad F(Y) = 1 - \left(\frac{k}{Y}\right)^\theta \quad \text{for } Y \geq k.$$

Let L_i and H_i denote the bottom and top of income range i , and assume that $L_i > k$. The probability that a return falls in range i is

$$(A2) \quad P_i = \left(\frac{k}{L_i}\right)^\theta - \left(\frac{k}{H_i}\right)^\theta.$$

Thus, the likelihood function is

$$(A3) \quad L = \left(\prod_{i=1}^M P_i^{N_i}\right) \frac{N!}{N_1! N_2! \dots N_M!},$$

where M is the number of income ranges, N_i is the number of returns in range i , and N is the total number of returns in the sample we are considering. The log likelihood function is therefore

$$(A4) \quad \ln L = K + \sum_i^M N_i \ln P_i,$$

where $K \equiv \ln(N!) - \sum_{i=1}^M \ln(N_i!)$. Note that K does not depend on the parameters of the distribution.

We estimate the model by maximum likelihood for each year. The number of income ranges in the sample varies from 13 to 18. The estimates of θ (which is the parameter relevant to the interpolation) range from 1.41 in 1929 to 2.01 in 1920. These estimates are similar to other estimates for income distributions. The estimates are extremely precise: the standard error for the estimate of θ is always less than 0.001.

G. Approximation Errors

The calculations described in this appendix are clearly not exact. Most importantly, we assume that quantities that we need to subtract from net income, such as capital gains, are a constant proportion of income within each income range. To understand this assumption, consider again the example where 5 percent of the income of the taxpayers in the \$80,000-\$90,000 range was either untaxed or taxed separately. Our assumption would be that this 5 percent figure applied to each household in this income range.

As Barro and Sahasakul (1983) observe in a different context, the aggregates derived from this procedure will be reasonably accurate either if the quantities we need to subtract from net income do not vary greatly as a share of income among members of the group or if the log after-tax share is approximately linear in taxable income over the relevant range. In our case, because the adjustments involve only a moderate fraction of net income, and because the log after-tax share fell fairly steadily with income, the approximation errors are likely to be small. And because the actual changes in marginal rates in this period were so large, even moderate errors would have little impact on our estimates.

As a check on our calculations, we have computed the implications of our assumptions for the amount of taxes paid by the households in selected income ranges for certain years. We find that the

calculations match actual taxes paid quite well, sometimes remarkably so.⁸

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⁸ The largest discrepancies we have found involve the normal tax before 1936. The discrepancies appear to stem from the fact that dividends were exempt from the normal tax until 1936, and some high-income households had sufficiently high deductions and low non-dividend income that excluding only a portion of their dividend income was enough to reduce their normal tax liability to zero. Thus, our estimates appear to overstate average marginal rates for these years. But, since marginal normal tax rates were low and most high-income households paid some normal tax, the errors appear small.

Figure A1
Sample Table with Income Details from the *Statistics of Income, 1933*

TABLE 7.—Individual returns for 1933 by net income classes, showing sources of income and deductions, and net income

[Money figures and net income classes in thousands of dollars]

[For text defining certain items and describing methods of tabulating and estimating data, see pp. 1-5]

Net income classes	Sources of income						
	Salaries, wages, commissions, fees, etc.	Business	Partnership ¹	Profit from sale of real estate, stocks, bonds, etc.		Rents and royalties	Dividends on stock of domestic corporations
				Reported for tax on capital net gain ²	All other		
Under 5 (est.).....	5,551,709	1,009,108	201,794	-----	110,880	323,740	359,180

TABLE 7.—Individual returns for 1933 by net income classes, showing sources of income and deductions, and net income—Continued

[Money figures and net income classes in thousands of dollars]

Net income classes	Sources of income—Continued					Deductions	
	Fiduciary ¹	Interest on Government obligations not wholly exempt from tax ⁴	Other taxable interest	Other income	Total income	Net loss from sale of real estate, stocks, bonds, etc., other than reported for tax credit on capital net loss ²	Net loss from business
Under 5 (est.).....	93,333	-----	530,001	97,541	8,286,286	212,822	35,193

TABLE 7.—Individual returns for 1933 by net income classes, showing sources of income and deductions, and net income—Continued

[Money figures and net income classes in thousands of dollars]

Net income classes	Deductions—Continued						Net income
	Net loss from partnership	Interest paid ⁵	Taxes paid ⁵	Contributions	All other	Total	
Under 5 (est.).....	14,838	299,209	306,180	141,032	415,891	1,425,166	6,861,120

Figure A2
Sample Table from the *Statistics of Income, 1933* Showing Information about the Normal Tax

A.—Individuals required to file returns, personal exemption, credit for dependents, and normal tax rates under the Revenue Acts of 1913 to 1932, inclusive, and certain tax provisions of the National Industrial Recovery Act

Revenue Act	Applicable to citizens and residents of the United States						Applicable to citizens and residents of the United States				Applicable to nonresident aliens ¹			
	Income year	Individuals required to file returns ²				Personal exemption and credit for dependents ³			Net income subject to normal tax ⁶	Normal tax rate (per-cent)	Personal exemption			Normal tax rate ⁶ (per-cent)
		Married and living with husband or wife ⁴		Single, or married and not living with husband or wife		Married and living with husband or wife, or head of family ⁷	Single, or married and not living with husband or wife, and not head of family ⁷	Credit for dependents ⁸			Married and living with husband or wife, or head of family ⁷	Single, or married and not living with husband or wife, and not head of family ⁷	Credit for dependents ⁸	
		Net income ⁵	Gross income regardless of amount of net income	Net income ⁵	Gross income regardless of amount of net income									
1913 (Oct. 3, 1913).....	Mar. 1, 1913, to Dec. 31, 1915.	\$3,000		\$3,000		\$4,000	\$3,000	None	All.....	1	None	None	None	1
1916 (Sept. 8, 1916; amended Mar. 3 and Oct. 3, 1917).	1916.....	3,000		3,000		4,000	3,000	None	All.....	2	\$4,000	\$3,000	None	2
1917 (Oct. 3, 1917).....	1917.....	2,000		1,000		2,000	1,000	\$200	First \$2,000.....	2	None	None	None	2
	1918.....	2,000		1,000		2,000	1,000	200	Balance over \$2,000.....	4				
1918 (Feb. 24, 1919).....	1919, 1920.....	2,000		1,000		2,000	1,000	200	First \$4,000.....	6	(⁹)	(⁹)	(⁹)	12
	1921.....	2,000		1,000		2,000	1,000	200	Balance over \$4,000.....	12	(⁹)	(⁹)	(⁹)	8
1921 (Nov. 23, 1921).....	1922.....	2,000	\$5,000	1,000	\$5,000	11 2,500	1,000	400	First \$4,000.....	4	1,000	1,000	12 None	13 8
	1923 ¹⁰								Balance over \$4,000.....	8				
1924 (June 2, 1924).....	1924.....	2,500	5,000	1,000	5,000	2,500	1,000	400	First \$4,000.....	2	1,000	1,000	(12)	13 6
	1925.....								Second \$4,000.....	4				
1926 (Feb. 26, 1926).....	1926.....	3,500	5,000	1,500	5,000	3,500	1,500	400	Balance over \$8,000.....	6	1,500	1,500	(12)	13 5
	1927.....								First \$4,000.....	3 1/2				
	1928.....								Second \$4,000.....	5	1,500	1,500	(12)	13 5
	1929.....								Balance over \$8,000.....	5				
1928 (May 29, 1928).....	1929.....	3,500	5,000	1,500	5,000	3,500	1,500	400	First \$4,000.....	14 1/2	1,500	1,500	(12)	13 14 4
	1930.....								Second \$4,000.....	14 4				
	1931.....								First \$4,000.....	13 1/2	1,500	1,500	(12)	13 5
	1932.....								Second \$4,000.....	3				
1932 (June 6, 1932).....	1932, 1933.....	2,500	5,000	1,000	5,000	2,500	1,000	400	Balance over \$8,000.....	5	1,000	1,000	(12)	13 8
									First \$4,000.....	4				
									Balance over \$4,000.....	8				

Figure A3
Sample Table from the *Statistics of Income, 1933* Showing Information about the Surtax

B.—Individual surtax rates under the Revenue Acts of 1913 to 1932, inclusive

Net Income		Revenue Act							
Exceeding	Equaling	1913		1916		1917		1918	
		On incomes for Mar. 1, 1913-Dec. 31, 1915	Total	On incomes for 1916	Total	On incomes for 1917	Total	On incomes for 1918, 1919, and 1920, and Act of 1921 on incomes for 1921	Total
Thousands of dollars		Rate (percent)	Total	Rate (percent)	Total	Rate (percent)	Total	Rate (percent)	Total
5	5					1	\$10	1	\$10
6	7.5					2	25	2	40
7.5	8					3	35	3	50
8	10					4	75	4	110
10	12					5	135	5	190
12	12.5					6	150	6	215
12.5	13					7	170	7	240
13	14					8	210	8	290
14	15					9	250	9	350
15	16					10	300	10	410
16	18					11	400	11	550
18	20					12	500	12	710
20	22	1	\$20	1	\$20	13	600	13	890
22	24	1	40	1	40	14	820	14	1,090
24	26	1	60	1	60	15	950	15	1,210
26	28	1	80	1	80	16	1,140	16	1,550
28	30	1	100	1	100	17	1,300	17	1,810
30	32	1	120	1	120	18	1,460	18	2,090
32	34	1	140	1	140	19	1,620	19	2,390
34	36	1	160	1	160	20	1,780	20	2,710
36	38	1	180	1	180	21	1,940	21	3,050
38	40	1	200	1	200	22	2,100	22	3,410
40	42	1	220	1	240	23	2,340	23	3,790
42	44	1	240	2	280	24	2,580	24	4,190
44	46	1	260	2	320	25	2,820	25	4,610
46	48	1	280	2	360	26	3,060	26	5,050
48	50	1	300	2	400	27	3,300	27	5,510
50	52	2	340	2	440	28	3,540	28	5,960
52	54	2	380	2	480	29	3,780	29	6,400
54	56	2	420	2	520	30	4,020	30	6,860
56	58	2	460	2	560	31	4,260	31	7,320
58	60	2	500	2	600	32	4,500	32	7,780
60	62	2	540	3	660	33	4,840	33	8,260
62	64	2	580	3	720	34	5,180	34	8,760
64	66	2	620	3	780	35	5,520	35	9,270
66	68	2	660	3	840	36	5,860	36	9,800
68	70	2	700	3	900	37	6,200	37	10,340
70	72	2	740	3	960	38	6,540	38	10,900
72	74	2	780	3	1,020	39	6,880	39	11,470
74	76	2	820	3	1,080	40	7,220	40	12,060
76	78	3	860	3	1,140	41	7,560	41	12,660
78	80	3	900	3	1,200	42	7,900	42	13,280
80	82	3	950	3	1,260	43	8,240	43	13,910
82	84	3	1,010	4	1,320	44	8,580	44	14,560
84	86	3	1,070	4	1,380	45	8,920	45	15,220
86	88	3	1,130	4	1,440	46	9,260	46	15,900
88	90	3	1,190	4	1,500	47	9,600	47	16,600
90	92	3	1,250	4	1,560	48	9,940	48	17,320
92	94	3	1,310	4	1,620	49	10,280	49	18,060
94	96	3	1,370	4	1,680	50	10,620	50	18,820
96	98	3	1,430	4	1,740	51	10,960	51	19,600
98	100	3	1,490	4	1,800	52	11,300	52	20,400
100	150	4	1,550	4	2,000	53	11,640	53	21,220
150	200	4	3,850	5	4,500	54	11,980	54	22,060
200	250	4	5,550	6	7,500	55	12,320	55	22,920
250	300	4	7,550	7	11,000	56	12,660	56	23,800
300	400	5	10,050	8	15,000	57	13,000	57	24,700
400	500	6	15,050	9	24,000	58	13,340	58	25,620
500	750	6	20,050	9	33,000	59	13,680	59	26,560
750	1,000	6	35,050	10	58,000	60	14,020	60	27,520
1,000	1,500	6	50,050	10	83,000	61	14,360	61	28,500
1,500	2,000	6	80,050	11	138,000	62	14,700	62	29,500
2,000		6	110,050	12	198,000	63	15,040	63	30,520
		6		13		64		64	

Net income		Revenue Act							
Exceeding	Equaling	1921		1924		1926		1932	
		On incomes for 1922 and 1923 ¹	Total	On incomes for 1924	Total	On incomes for 1926, 1927, and Act of 1928 on incomes for 1928, 1929, 1930, and 1931	Total	On incomes for 1932 and 1933	Total
Thousands of dollars		Rate (percent)	Total	Rate (percent)	Total	Rate (percent)	Total	Rate (percent)	Total
5	5								
6	7.5								
7.5	8								
8	10								
10	12								
12	12.5								
12.5	13								
13	14								
14	15								
15	16								
16	18								
18	20								
20	22								
22	24								
24	26								
26	28								
28	30								
30	32								
32	34								
34	36								
36	38								
38	40								
40	42								
42	44								
44	46								
46	48								
48	50								
50	52								
52	54								
54	56								
56	58								
58	60								
60	62								
62	64								
64	66								
66	68								
68	70								
70	72								
72	74								
74	76								
76	78								
78	80								
80	82								
82	84								
84	86								
86	88								
88	90								
90	92								
92	94								
94	96								
96	98								
98	100								
100	150								
150	200								
200	250								
250	300								
300	400								
400	500								
500	750								
750	1,000								
1,000	1,500								
1,500	2,000								
2,000									

Figure A4
Income Tax Forms and Schedules from the *Statistics of Income, 1933*

INDIVIDUAL INCOME TAX RETURN
FOR NET INCOMES FROM SALARIES OR WAGES OF MORE THAN \$5,000
AND INCOMES FROM BUSINESS, PROFESSION, RENTS, OR SALE OF PROPERTY
For Calendar Year 1933

File This Return With the Collector of Internal Revenue for Your District on or Before March 15, 1934
PRINT NAME AND ADDRESS PLAINLY BELOW

(Name)
(Street and number, or rural route)

Do Not Write in These Spaces

File Code
Serial Number
District
(Cashier's Stamp)
Cash Check M.O. Cert. of Ind.
First Payment

INCOME

1. Salaries, Wages, Commissions, Fees, etc. (State name and address of employer) Amount received Tax thereon paid

2. Income (or Loss) from Business or Profession (From Schedule A)

3. Interest on Bank Deposits, Notes, Corporation Bonds, etc. (except interest on tax-free covenant bonds)

4. Interest on Tax-free Covenant Bonds Upon Which a Tax was Paid at Source

5. Income (or Loss) from Partnerships, Syndicates, Pools, etc. (State name, address, and kind of business)

6. Income from Fiduciaries (State name and address)

7. Rents and Royalties (From Schedule B)

8. (a) Profit from Sale of Stocks and Bonds held two years or less (From Schedule C (a))
(b) Profit or Loss from Sale of Other Assets held two years or less (From Schedule C (b))
(c) Profit or Loss from Sale of Capital Assets (if not reported as Item 30) (From Schedule C (c))

9. Taxable Interest on Liberty Bonds, etc. (From Schedule D)

10. Dividends on Stock of: (a) Domestic Corporations subject to taxation under Title I of 1932 Act
(b) Domestic Corporations not subject to taxation under Title I of 1932 Act
(c) Foreign Corporations

11. Other Income (State nature) (Use separate schedule, if necessary)

12. TOTAL INCOME IN ITEMS 1 TO 11

DEDUCTIONS

13. Interest Paid

14. Taxes Paid (Explain in Schedule E)

15. Losses by Fire, Storm, etc. (Explain in Table at foot of page 2)

16. Bad Debts (Explain in Schedule E)

17. Contributions (Explain in Schedule E)

18. Other Deductions Authorized by Law (Explain in Schedule E)

19. TOTAL DEDUCTIONS IN ITEMS 13 TO 18

20. NET INCOME (Item 12 minus Item 19)

COMPUTATION OF TAX (See Instruction 23)

21. Net Income Subject to Tax (Item 20 above) etc. (Item 9)

22. Less: Interest on Liberty Bonds, etc. (Item 9)

23. Dividends (Item 10 (a))

24. Personal Exemption

25. Credit for Dependents

26. Total of Items 22 to 25

27. Balance subject to Normal Tax (Item 21 minus 26)

28. Amount taxable at 4% (not over \$4,000)

29. Amount taxable at 8% (Item 27 minus 28)

30. Amount of Capital Net Gain or Loss (if not reported in Item 8 (c)) (From Schedule C (c))

31. Normal Tax (6% of Item 25)

32. Normal Tax (6% of Item 29)

33. Surtax on Item 20 (See Instruction 23)

34. Tax on Net Income (total of Items 31 to 33)

35. Adjustment for Capital Gain or Loss (25% of Item 30)

36. Total Tax (total of or difference between Items 34 and 35)

37. Less: Income Tax Paid at Source (5% of Item 20)

38. Income Tax Paid to a foreign country or U.S. possession

39. Balance of Tax (Item 36 minus Items 37 and 38)

AFFIDAVIT

I swear (or affirm) that this return, including the accompanying schedules and statements, has been examined by me, and to the best of my knowledge and belief is a true and complete return, made in good faith, for the taxable year stated, pursuant to the Revenue Act of 1932 and the National Industrial Recovery Act and the Regulations issued thereunder.

(See Instruction 27) (If return is made by agent, the reason therefor must be stated on this line)

Sworn to and subscribed before me this _____ day of _____, 1934.

(Signature of officer administering oath) (This) (Address of agent)

NOTARIAL SEAL

An amended return must be marked "Amended" at top of return. Checks and drafts will be accepted only if payable at par.

