Essays on the Revenue Act of 1924

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Economics) in the University of Michigan 2014

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Figure 0.0.1: Accidentally omitted: graduate student. Source: The *Chicago Tribune*, September 3, 1925.

"I wish it to be understood that I have not the slightest prejudice against multi-millionaires. I like them. But I always feel this way when I meet one of them: You have made millions—good; that means you have something in you. I wish you would show it." Theodore Roosevelt (Atwood, 185)

DEDICATION

To Amy

ACKNOWLEDGMENT

I thank Paul Rhode, David Albouy, Martha Bailey, and Joshua Hausman for serving on my committee. Seminar participants at Michigan, the Midwest Economics Association, the Economics and Business History Society, the World Cliometric Congress, the Association for Public Policy and Management, and Nic Duquette provided various helpful comments. Paul Rhode originally informed me of the existence of 1924 tax publicity. I received funding from the Department of Economics, the Office of Tax Policy Research, the Rackham Graduate School, the Economic History Association, and the Michigan Institute for Teaching and Research in Economics.

I also thank friends, family, and fellow graduate students for encouragement, particularly Nic Duquette and perhaps the greatest Southeast Michigan trivia team to ever play the game. The 2014 University of Michigan softball team has inspired me with their perseverance.

Finally, I thank Senator George Norris (R-NE) for insisting on tax publicity, and the conference committee on the Revenue Act of 1924 for including it in the final bill.

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CHAPTER I

Introduction

"The historical and statistical study of tax records falls into a sort of academic no mans land, too historical for economists and too economistic for historians."
Thomas Piketty (2014, 17)

Why study taxes in the Jazz Age? The federal income tax system has undergone numerous changes since the 1920s, the period covered in this study. Recent events have brought this period back into focus. In particular, income inequality in the 1920s and today are frequently noted to be similar. The events leading up to the Great Recession of the late 2000s form an unfortunate parallel with the Roaring Twenties and the Great Depression.

Recently, Alan Krueger described the “Great Gatsby curve” as the positive correlation between after-tax Gini coefficients and economic mobility across countries (Krueger 2012). One of the most popular books of 2014 explores the topic of income and wealth inequality across countries and time periods (Piketty 2014). Piketty warns that increasing wealth inequality, though greatly reduced between 1914 and 1945, is more an element of capitalism than an accident:

> When the rate of return on capital exceeds the rate of growth of output and income, as it did in the nineteenth century and seems quite likely to do again in the twenty-first, capitalism automatically generates arbitrary and unsustainable inequalities (Piketty 2014, 1).

Piketty proposes a global tax on capital and greatly increased progressive income taxes as a remedy.

The Great Recession has left many calling for greater taxation on the "one percent." But nobody seems quite sure of who they are. They might be hardworking people whose ingenuity brought them fame and fortune, like Henry Ford or Steve Jobs. They might be inheritors who have used their advantages to perpetuate their wealth. They might be somewhere in between. This dissertation investigates tax records of the top taxpaying class. I create a new dataset on individuals paying high taxes, and use this data to present demographic statistics and analyze tax response, as well as to comment on several other issues, including the inheritance of high status and the earnings of superstars.

Chapter two describes the Revenue Act of 1924, one of several tax bills in the 1920s that cut tax rates. However, the Revenue Act of 1924 is unique in that it allowed for publicity of name, address, and tax payment. As a result, newspapers print tens of thousands of names, addresses, and tax payments of those filing returns in their area. Newspapers were particularly interested in the highest tax payments. However, a tax payment of any size indicated high status, as only 6.5-7 percent of the population even filed tax returns, and only about 4 percent paid tax on a return (*Statistics of Income*).

I trace the political passage of the Revenue Act of 1924 and its publicity provision. I also investigate the participation of newspapers in major cities in printing names, addresses, and tax payments. I look for the effect of publicity in the distribution of tax returns across income classes and states, and find very little if any effect.

Chapter three presents the description and formation of the data. I present the full documentation of a 40,000 observation dataset on tax payments. I describe how I matched names and payments from 1924 newspapers (for 1923 tax payments) and 1925 newspapers (for 1924 payments) using an automated matching procedure. This task involved combining a dataset of about 20,000 observations in one year with about 30,000 in another. The data covers a set of taxpayers whose names were printed in the *New York Times* in 1924 and 1925. These taxpayers predominantly live in New York City or the surrounding area, but the data for 1924 includes several major cities, while the data for 1923 includes major cities whose collectors allowed newspapers to copy names out of their records. Very often, major cities appear in both years.

Because names and addresses did not appear identically in each year, I used "fuzzy matching," where strings are compared for their similarity. Fuzzy matching is an iterative process with several rounds of hand review and correction. As a contribution to the community, I also release computer code and video tutorials on how to efficiently undertake similar matching procedures. I also discuss using Ancestry.com to find the top 400 taxpayers of 1924 in the 1920 and 1930 US Federal Census of the Population. Finally, I discuss further use of fuzzy matching to link the dataset of 1923-1924 taxpayers to other lists of known wealthy people or individuals with high tax payments. The result of this matching is a 40,411 observation dataset with 200 variables, fully documented in chapter three. I will release this data after a two year embargo.

Chapter four uses the dataset described in chapter three to figure out who the top taxpayers are in 1924. I explicitly list the top ten and top hundred by name. I show a high correlation between income rank and tax payment rank using data from 1928. I present a brief background on the top ten and the share of all federal individual income taxes paid for the top 100. I find the top 400, or the "top 0.001 percent," in US Federal Census of the Population records for 1920 and 1930. These Census records give information on age, marital status, occupation, and in 1930, home value and veteran status. I provide summary statistics on 1924's top 400. I also use datasets on large estates before 1921 and large tax payments from 1928-1934 and 1936-1941 to comment on persistence of high status.

In chapter five, I use the 1923 and 1924 tax payments within New York City and the immediately surrounding area to estimate the elasticity of taxable income (ETI). The elasticity of taxable income, an important parameter in the study of public finance, indicates the response of taxable income, and therefore tax collections, to changes in tax rates. At least two other studies consider the ETI in the same time period using aggregate data and the assumption of rank preservation. I use my data to show that rank preservation is probably a fair assumption. I also compute similar estimates of the ETI using individual level data. I conclude from these two results that these tax data are reliable.

Overall, these new data provide a unique view into the identities of those paying the highest taxes in the US in the 1920s. These data form a valuable contribution to the literature on high incomes in American history.

CHAPTER II

Background

2.1 Introduction

The United States Revenue Act of 1924 significantly altered the federal personal income, estate, and gift tax system of the interwar period. While there were many changes to individual income tax rates, and the introduction of a gift tax, a unique aspect of the law was its new publicity provision. The law required each Collector of Internal Revenue to prepare reports listing the name, address, and tax payment of each tax filer in their district (districts ranged from covering only parts of major cities to covering entire small states), and to make that report open to public inspection. Compliance with that requirement varied, but many collectors released the list to all visitors, regardless of reason; some major newspapers responded by printing the lists in their city. The actions of the Collectors of Internal Revenue and the newspapers were controversial. While the legality of printing the list in the newspaper was questionable, the records exist to this day on microfilm because of that choice.

This chapter seeks to explain how that publicity provision came to be enacted. It also provides a comparison for the tax system of 1924 and 1925 to the tax system that we know today. The federal individual income tax of the 1920s is sometimes called a “class tax” rather than a “mass tax,” meaning that the tax was collected only from very high earners.

2.2 Debate and Passage

2.2.1 Historical Context

A Note on Inflation Adjustments

Throughout this dissertation, I present unadjusted numbers from taxes in the 1920s. I provide the table below as a reference in interpreting the numbers. According to the Bureau of Labor Statistics, the annual average CPI was 17.1 for both 1923 and 1924, and 232.957 in 2013. The ratio of these numbers is 13.62.

	units	1923	1924	2013
CPI	levels	17.2	17.2	229.32
Nominal GDP	millions current dollars	86,238	87,786	16,797,500
Real GDP	millions 2009 dollars	867,213	893,916	15,759,000
NGDP per capita	millions current dollars	770.35	769.32	53,078.54
RGDP per capita	millions 2009 dollars	7,746.6	7,833.9	49,797.0
$1 in 1923	current dollars	$1	-	$13.62
$1 in 1924	current dollars	-	$1	$13.62

Table 2.2.1: Inflation adjustments. Source: *Measuring Worth* (Williamson, 2014) and US Bureau of Labor Statistics (2014)

Tax Collections

First levied in 1913, the income tax underwent substantial changes as it moved into its second decade. By 1924, as figure 2.2.1 shows, the income tax provided just under half of the government's $4 billion annual receipts.[1]

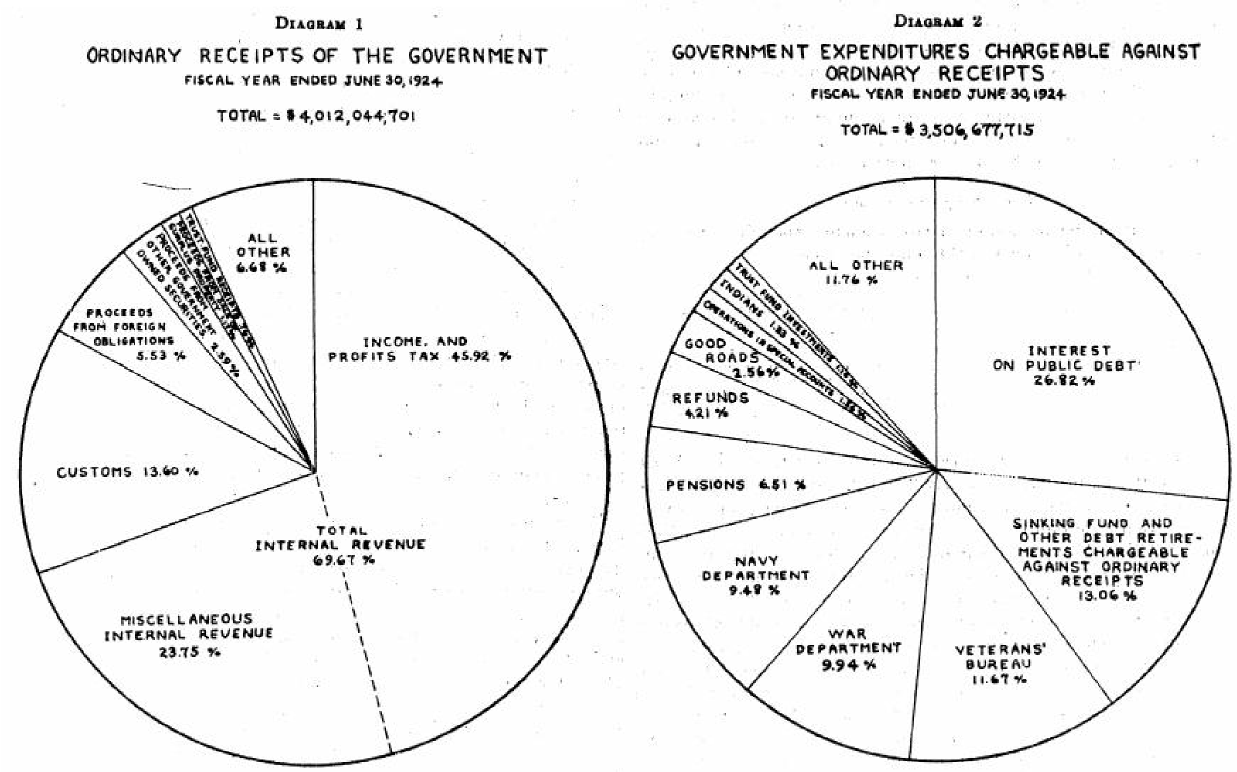


Figure 2.2.1: 1924 government receipts and expenditures (*Annual Report* 1925, 18-19)

Figure 2.2.2 shows that the income tax ballooned in size from 1916 to 1920, and that by 1923 and 1924, it had shrunk to a still elevated level around $2 billion annually.

[1]While the figure includes income and profits tax, there was no profits tax collected in 1923 or 1924. I believe it is only left in for consistency with past annual reports that did include profits tax in the last decade, including the prior year.

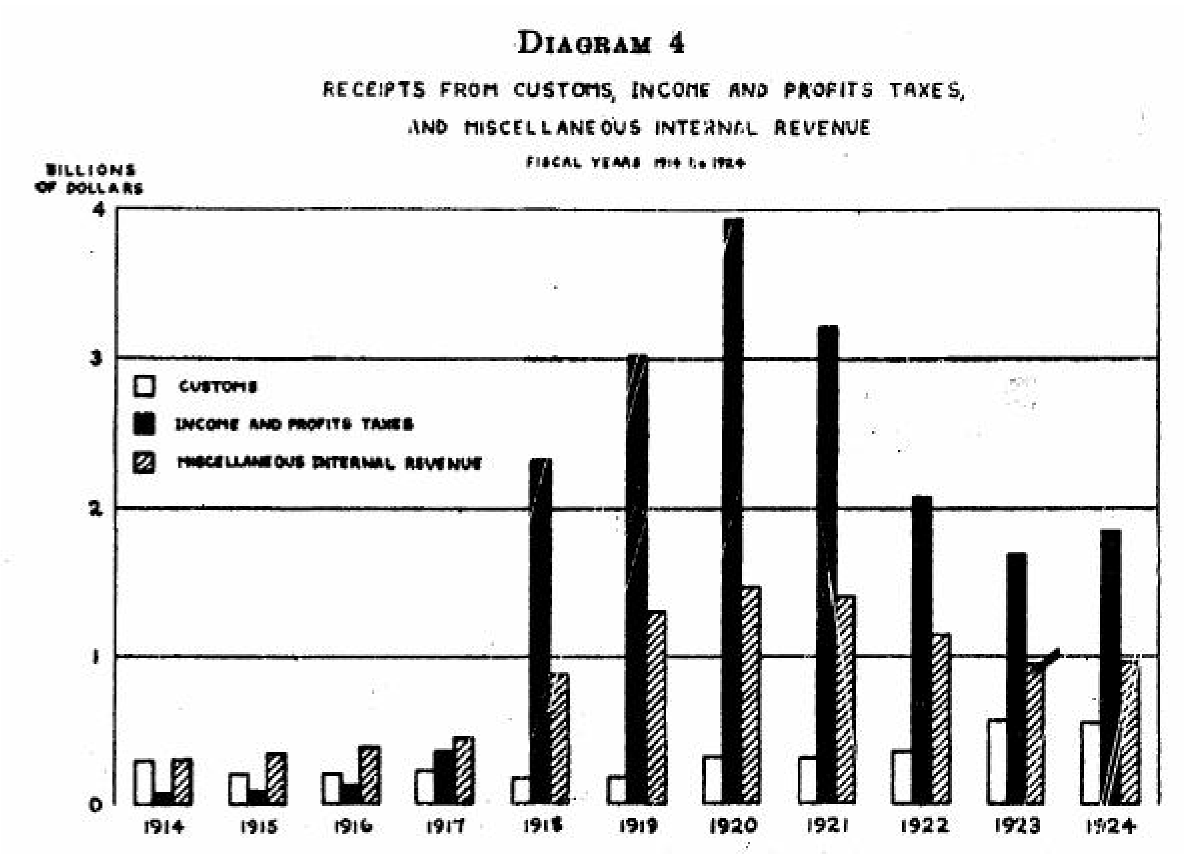


Figure 2.2.2: 1914-1924 government receipts (*Annual Report* 1925, 22)

However, when placed in context with figure 2.2.3, the amount of tax collections seems too low in comparison with spending in prior fiscal years. If the surplus is the distance by which the black bar exceeds the shaded bar, and the deficit is the opposite, then it seems clear that the surplus in the early 1920s is not enough to make any impact on the debt accumulated from the deficits of fiscal years 1918 and 1919.

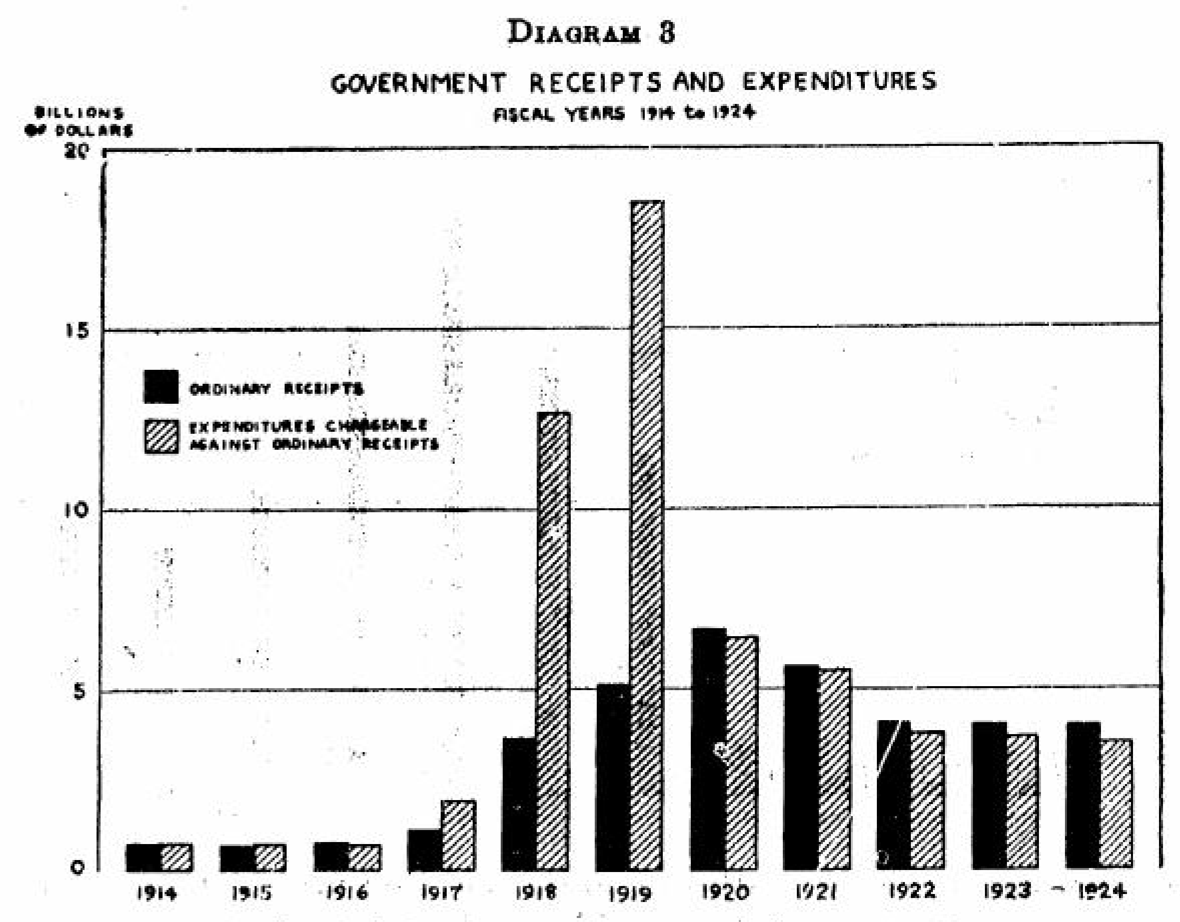


Figure 2.2.3: 1914-1924 government receipts and expenditures (*Annual Report* 1925, 21)

Figure 2.2.4 shows general trends in taxation from 1916-1929 in the United States. The graph presents the statistics on the number of returns, the total taxable income and average per return, and the total tax and average per return. I scale to the 1923 numbers and set 1923's values equal to 100. I present another graph in the appendix showing only the 1920s, to exclude some of the variation from 1916-1919.

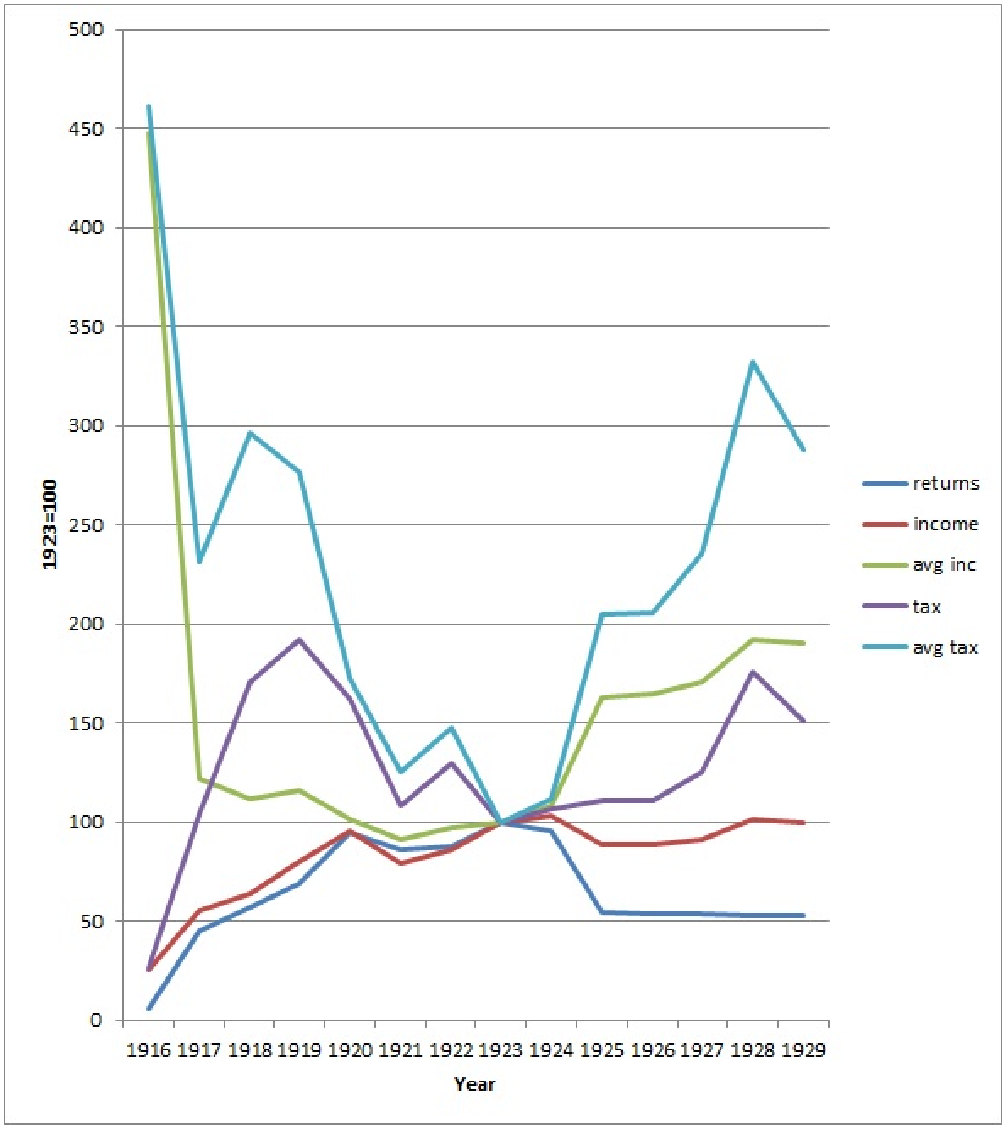


Figure 2.2.4: Returns, income, taxes, and averages, US, 1916-1929. Source: *Statistics of Income*.

Figure 2.2.4 tells a story of early expansion of the income tax. Originally a "class tax," the income tax exemption level fell in the late 1910s and introduced new taxpayers to the revenue system.[2] Taxed income and taxes increase with the number of returns, while the

[2]The minimum level of income at which paying tax is required.

average tax and average income both fall; this makes sense, as those who were newly brought in have lower incomes and pay lower taxes. In 1923-1924, the Republicans began their early successes in revising the tax code more to their liking. The exemption increased for 1925, causing about 45 percent of taxpayers to drop out of the taxpaying class. Average incomes and taxes paid naturally increase dramatically, while the amount of tax paid grew, but stayed relatively steady. This dissertation focuses on this period of early reform of the income tax.

Party Control of Congress

The Revenue Act of 1924 was debated and passed during the 68th United States Congress. At the time of the vote on tax publicity, Republicans held the majority in the Senate, with 51 members, while 43 Democrats served with 2 members of Farmer-Labor (Poole and Rosenthal, 2013). In the House of Representatives, 226 Republicans were in the majority, with 206 Democrats, 2 Farmer-Labor, and 1 Socialist in the minority.

2.2.2 Tax Rhetoric

At the time of its inception in 1913, the income tax had revenue goals as well as social goals. In the opinion of W. E. Brownlee, Cordell Hull (D-TN), the author of the income tax, found that "revenue goals were far less important than the desire to use the tax to advance economic justice" (Brownlee 2000, 41). After enactment, Ways and Means Chairman Claude Kitchin (D-NC) and "the Democrats attacked concentrations of wealth, special privilege, and public corruption" (Brownlee 2000, 43). Other Democratic social goals sought through the income tax were to "break the hold of monopoly power on the stimulating forces of competition" (Brownlee 2000, 45), to pursue the "ideal of using taxation to restructure the economy according to 19th century liberal ideals" (Brownlee 2000, 46), and to structure "wartime public finance based on the taxation of assets that democratic statists regarded as ill gotten and socially hurtful" (Brownlee 2000, 46-47).

These early Democratic achievements occurred just five to ten years before the Republicans began their tax cut plans and some Progressives began pushing for tax publicity. Frequently, the rhetoric surrounding taxes from the Democrats and Progressives in the Republican Party reflects the same vision of using the income tax to advance social goals.

Though nearly ninety years removed from these political battles, the Republican justifications for tax cuts in the 1920s are the same as today's. Treasury Secretary Andrew Mellon was a leading voice for tax cuts within the Coolidge administration. His book, *Taxation: The People's Business*, written in 1924 during his tenure at the Treasury, laid out the case for steep tax rate cuts. Mellon used the familiar arguments that tax cuts may increase revenue, and that government should be run like a business:

> It seems difficult for some to understand that high rates of taxation do not necessarily mean large revenue to the Government, and that more revenue may often be obtained by lower rates ... The same rule applies to all private businesses ... The most outstanding recent example of this principle is the sales policy of the Ford Motor Car Company. Does any one question that Mr. Ford has made more money by reducing the price of his car and increasing his sales than he would have made by maintaining a high price and a greater profit per car, but selling less cars? The Government is just a business, and can and should be run on business principles (Mellon 1924, 16-17).

Mellon also imagined that high tax rates increase the attractiveness of tax avoidance or evasion. He argued this while asserting that the country sat on the right side of the so-called "Laffer curve" (though it did not have that name at the time), coupled with an appeal to common sense:

> Experience has shown that the present high rates of surtax are bringing in each year progressively less revenue to the Government. This means that the price is too high to the large taxpayer and he is avoiding a taxable income by the many ways which are available to him. What rates will bring in the largest revenue to the Government experience has not yet developed, but it is estimated that by cutting the surtaxes in half, the Government, when the full effect of the reduction is felt, will receive more revenue from the owners of large incomes at the lower rates of tax than it would have received at the higher rates. This is simply an application of the same business principle referred to above, just as Mr. Ford makes more money out of pricing his cars at $380 than at $3,000 (Mellon 1924, 17).

Exactly who estimated the effect of a surtax slash, and how, is not known. But despite writing decades before the advent of rigorous empirical public finance analysis, Mellon grasped the theory of tax incidence and its weak relation to tax remittance quite well:

> High taxation, even if levied upon an economic basis, affects the prosperity of the country, because in its ultimate analysis the burden of all taxes rests only in part upon the individual or property taxed. It is largely borne by the ultimate consumer. High taxation means a high price level and high cost of living. A reduction in taxes, therefore, results not only in an immediate saving to the individual or property directly affected, but an ultimate saving to all people in the country. It can safely be said, that a reduction in the income tax reduces expenses not only of the income taxpayers but of the entire 110,000,000 people in the United States (Mellon 1924, 21).

Economists were not in unanimous agreement with Secretary Mellon. Roy Blakey, Professor of Economics, University of Minnesota, covered each new tax bill in the *American Economic Review.* While Mellon argued that surtaxes were just a hair too high and if cut, evasion would swiftly cease, Blakey countered,

> The maximum rate would probably have to be cut to zero before stilling the energetic ingenuity of some legal minds searching for holes, and even then the mere game of it might continue to lead them on (Blakey 1924, 498).

And when tax rates were up for yet another cut in 1926, Blakey sarcastically noted that

> All in all, the Revenue act of 1926 seems to be in line with what the majority of the electorate voted for in the last election, not that all of them knew just what they voted for as well as what they voted against... Mr. Mellon appears to have got himself and us into a vicious circle from which there is no logical escape. The more we reduce tax rates the greater prosperity and the greater the revenue for the government. After the tax rates all reach zero, our revenues will be so great that we can wipe out our billions of debt in a single year,- or could if Mr. Mellon would quit tying us up with long-time maturities, -and our prosperity will be even more than ever the envy of the rest of the world (Blakey 1926, 425).

The Senate was well aware of Mellon's arguments, even in 1921, the first year of Mellon's tenure at the Treasury. Mellon testified to the Finance Committee that high rates do not raise as much as low rates, and some Senators read this into the record from the floor days later:

> Mr. SIMMONS. Mr. President, I wish to ask the Senator- and I did not follow him, perhaps, accurately-did the Secretary, or did he not, advise that we refrain

from certain taxes because of these evasions?

Mr. LA FOLLETTE. He advised that we not only cut the surtaxes down to 32 per cent, but he said we had better cut them down to 25 per cent–

Mr. SIMMONS. Exactly.

Mr. LA FOLLETTE. Because wealth will not pay. We will collect more-that is what it meant-we will collect more at 25 per cent than we will at 32 per cent. There is no question about what he said. I will read his testimony. The Senator from California is anxious that I should take it up a little sooner than I had intended. I was coming to it in an orderly way.

...

Mr. REED. Not only was the suggestion made that the taxes should be reduced in many respects, but the chief reason advanced was that more money would be raised by a lower tax than by the present rates.

Mr. LA FOLLETTE. Yes; because they would not stand the higher tax; they would not pay it. (*Congressional Record* 1921, 7368)

Not only did the senators know that Mellon had this view, but some believed this early supply-side argument to be a "fundamental truth":

Mr. PENROSE. Mr. President, if the Senator will permit me, I do not want to interject myself into this controversy, but I do not hesitate to state that the Secretary of the Treasury will be entirely willing to stand by any statement he has made; that he stated fundamental truths, admitted by every economist and student of these questions, and with a mind undistorted by hysteria or swayed by

> demagogism; and any statement that he has made before the Finance Committee-and I think I heard all of them-he will doubtless be willing to repeat or reaffirm anywhere that the occasion may call for. (*Congressional Record* 1921, 7368)

Tax-exempt securities

In the early years of the federal income tax, there was concern over investment in tax-free securities as a vehicle to escape income taxation. Progressives thought that very wealthy citizens would invest nearly all of their money in state or municipal bonds, and by doing so, avoid the effect of any income tax. It certainly seemed unfair to the progressives that wealthy people could avoid tax; whether they had already paid a hefty tax bill on the income that they were now investing, or the effect of high demand on the return of these bonds, were both irrelevant.

Robert La Follette Sr. (R-WI) proposed an amendment to the Revenue Act of 1921 that would begin to attack the problems he saw in tax-free securities. The amendment required each person with tax-free bonds to report the number and amount that they held, as well as interest on those bonds, on their tax return. The Commissioner of Internal Revenue would then be required to compile this information both in the aggregate as well as classified by type of bond or net income of the owner.

La Follette felt that it was "a fundamental principle of any just system of taxation that wealth shall pay its proportionate share of the burdens of government" (*Congressional Record* 1921, 7364). He stated that so little was known about tax-exempt bonds; that the amount of them in circulation was not known, but estimated to be between $14 and $20 billion.

Nobody in opposition chose to debate this amendment, and it passed, 38-11, with 47 not voting.[3] The Democrats voted 16-0 in favor, with 20 Democrats not voting. The Republicans voted 22-11 in favor, with 27 not voting.

Andrew Mellon did not debate La Follette's arguments regarding fairness. He supported efforts to know more about who holds tax-exempt bonds, but doubted that the rich were holding them in large numbers:

> Generally what is referred to as the chief factor is the investment in tax-free securities. That is not so. The investment in tax-free securities is a large factor, but it is not the leading factor. There are many other methods. For instance, from my knowledge of incomes in business, etc., of individuals, I do not know among them any who to any large extent invest in tax-free securities, for the reason that they have not the free cash with which to do it. They are generally people who are in industrial line of business, and they have to carry on their business, and they need their capital. They can not get it out to invest it in tax-free securities. I do not think that is the largest item.
>
> For instance, I know of a man who has a large income, a very high income. He invested in a piece of real estate. It was coal property. It cost about $4,000,000.
>
> But the point is that in the meantime the Government has relieved him. Instead of paying 6 per cent he is paying 2.5 per cent to carry that property, because the interest he pays is deductible from income, and he gets that deduction which relieves him to that extent.
>
> Senator REED. He does not work his coal field?
>
> Secretary MELLON. No; It is just standing there.

[3] Of course, in the Senate, the majority is the majority of those who are voting, so only 25 votes are needed for passage if 49 are voting (38+11) and the 47 not voting are irrelevant.

> Senator REED. Why could not that be reached by a proper clause in the law?
>
> Secretary MELLON. That could be reached- but you can keep on putting proper clauses in and reaching something and then something else. That is just one instance. There are all kinds of ways, and the people who resort to them are within their rights in doing it. They avoid taxes by making investments. It is human nature, and you can not change human nature. (*Congressional Record* 1921, 7369)

La Follette's reply was that Mellon and Congress should at least try to stop tax avoidance through tax free securities or other means.[4]

The results of this report can be found in the *Statistics of Income* for 1924. 75 people file tax returns with $1 million and over in net income, and those same people have just over $150 million in net income, pay just under $50 million in tax, and have $10 million in interest from tax-exempt bonds. Overall, tax-exempt bonds pay $238 million in interest in 1924 to those filing taxes.

The House Ways & Means Committee held hearings in 1922 on the issue of tax-exempt bonds. The committee faced four resolutions proposing constitutional amendments that would allow for taxation of all securities. In the hearings, it is quite clear that both politicians and economists knew that tax-exempt securities would be highly valued by the wealthy and would pay lower interest rates than taxable securities (Ways and Means 1922, 5). The Ways and Means Committee wrote a new resolution calling for a constitutional amendment after these hearings, and despite the committee's support and the support of several academic

[4]"That attitude, if carried throughout the field of legislation, would mean the end of law and the beginning of anarchy. It would mean that wherever we find an individual or corporation strong enough or cunning enough to evade a law, that law should be repealed, or made so ineffective in its restrictions that the violator would not object to its existence" (*Congressional Record* 1921, 7369)

and professional associations, no such amendment was ever adopted.

2.2.3 Congressional tax rate debate

The early income tax featured both a normal tax and a surtax. The surtax was an additional tax upon net income at specified rates. Most deductions counted against the normal tax obligation but not the surtax obligation. Due to the need for revenues to fund the war effort, the War Revenue Act of October, 1917 greatly increased surtax rates from a maximum of 13 percent to a maximum of 63 percent. This increased surtax was placed most heavily upon incomes in excess of $100,000. In 1918, the surtax rates were increased across the board, but the increase in surtax rates across incomes was made much more linear. The Revenue Act of 1921 was a first attempt at cutting high wartime surtax rates. By 1923, when the Revenue Act of 1921 was still in force, the top surtax rate was 50 percent, and normal tax rates were 4 percent on the first $4000 and 8 percent on incomes above that.

On November 10, 1923, Treasury Secretary Andrew Mellon sent a letter to William Green (R-IA), chairman of the House Ways and Means Committee. The letter outlined Mellon's proposed changes to tax law for what would become the Revenue Act of 1924. Mellon called for a cut in normal tax rates from 4 and 8 percent to 3 and 6 percent, and a cut in surtax rates from 50 percent at the top to 25 percent at the top. Mellon also wanted the surtax rates to start at $10,000 rather than $6,000.

Date in 1924	Event and coverage
Jan. 4	Chairman Green releases Mellon letter; front page coverage
Feb. 5	House Ways and Means Committee approves Mellon plan, front page
Feb. 11	Ways and Means Committee presents four reports on bill, front page
Feb. 15	House Republicans drop Mellon plan, adjust max. surtax rate to 35 percent, front page
Feb. 29	House passes bill (408-8) with 37.5 percent surtax maximum (25 percent cut of all surtax rates), publicity to certain congressional committees (Ways and Means, Finance, and special congressional committees), front page
March 12	Mellon speaks on bill, mentions his opposition to committee publicity, page 4
April 12	Senate Finance Committee Chairman Smoot brings Mellon plan to Senate floor, front page
May 2	Senate votes for complete publicity (Norris amendment), 48-27, front page
May 10	Senate passes bill with 40 percent surtax maximum, front page
May 16	Conference underway, members sworn to secrecy, publicity debated, front page
May 21	Conference agrees on publicity to take the form of lists posted in each collection district of name, address, and payment, and agrees on Senate tax rates, front page
May 22	Mellon disapproves of bill, rumored to encourage veto, Congressional leaders dismiss possibility, front page
May 24	Senate approves conference bill 60-6, front page
May 26	House passes conference bill 376-9, Mellon indicates reluctant acceptance, front page
June 2	Coolidge signs the bill while asking future sessions of Congress to repeal publicity, front page

Table 2.2.2: Newspaper Coverage of Bill in Congress. Source: *The New York Times*, dates in 1924, January 5, February 6, February 12, February 16, March 1, March 13, April 13, May 3, May 11, May 17, May 22, May 23, May 25, May 27, June 3

On January 5, 1924, the *New York Times* devoted three pages, including part of the cover, to explaining Mellon's proposed tax law changes. Also on the cover was a story that

Calvin Coolidge, then president, would refuse to accept any compromise on the surtax rates proposed by Mellon. It seems that Coolidge was satisfied with a small compromise, as he eventually signed a compromise bill on June 2, 1924 that only reduced surtax rates from 50 to 40 percent (maximum). The same article provides a briefing on the deliberations of the House Ways and Means Committee on the previous day. In fact, the *New York Times* frequently covered proceedings in the Congress and occasionally ran the text of proposed new or amended sections in the legislation. Due to this coverage, it seems that high-income taxpayers would have been very aware of proposed tax law changes after early 1924. Coolidge had threatened a veto, but it should be noted that the conference bill passed each house of Congress with more than a 2/3 majority.

Perhaps surprisingly, Coolidge issued a statement along with his signature of the bill that indicated his displeasure with both the surtax rates and "the failure to pass a resolution for a Constitutional amendment to abolish tax-exempt securities" (Blakey and Blakey 1940, 246). Throughout the interwar era, there had been a debate over whether tax evasion was due to high rates or the sheltering of income in tax-exempt securities (it was generally agreed that evasion was rampant). The position of Coolidge's own party and his Treasury secretary was that high rates alone were the cause of evasion. For more on this debate, see Smiley and Keehn (1995).

2.2.4 Publicity debate

Some progressives felt that income tax publicity might lessen income tax evasion. Blakey notes that "[t]he usual discussion of publicity of income tax returns was injected into the debate by Frear. His amendment to make returns public records was defeated" in the House (Blakey and Blakey 1940, 234). The placement of the word "usual" indicates that this was not the first attempt at publicity. While publicity was a feature of the 1909 corporation excise tax, the law also specified that anyone who shared tax return information without authorization from the President would face a fine or jail time (Blakey and Blakey 1940, 54). Immediately after passing his tax-exempt securities amendment, La Follette introduced an amendment "to make returns open to public inspection" during the debate over the Revenue Act of 1921 in the Senate, but it was defeated (Blakey and Blakey, 1940 216). However, "the Senate adopted without any objection the amendment of Norris to provide publicity of income tax returns" (Blakey and Blakey, 1940 242). The Norris amendment called for each return to be a public record. Since the House did pass an amendment "to permit certain committees of Congress to call on the Secretary of the Treasury for returns or for data contained in returns," (Blakey and Blakey, 1940 234) and the Senate bill contained the Norris publicity amendment, the differences had to be resolved in committee. The conference committee bill "followed the House bill for the most part, but added that each collector should prepare and make available for the public a list containing the name, address, and tax of each person making an income tax return" (Blakey and Blakey, 1940 245). Despite veto threats, President Coolidge did sign the bill enacting the tax rates for 1924 and beyond on June 2, 1924.

La Follette felt that tax publicity would have a real and positive effect on the number of tax returns and the amount of income returned. He used the Civil War-era tax system, which featured publicity, as his example, as well as state level evidence from North Carolina:

> In 1870, when the returns were published, the number showing incomes over \$2,000 were 94,887. In 1871, when publicity was prohibited, the number fell to 74,000-that is, from 94,000 to 74,000; then to 72,000 in 1872, and this in spite of the fact that, as shown by individual bank deposits, bank clearings, and so

> forth, 1871. and 1872 were more prosperous years than 1870. Similarly in North Carolina, when the income-tax returns under the State law were published by the Hon. Josephus Daniels in his paper, the News and Observer, the tax collections immediately more than doubled.
>
> With the secrecy of returns, it is impossible to collect the tax efficiently without an extravagantly expensive army of revenue agents and the creation of a system of espionage that would be extremely distasteful to the American people (*Congressional Record* 1921, 7372).

La Follette also pointed out that a high-ranking Treasury official had recently been arrested for accepting a bribe. Senator Augustus Stanley (D-KY) argued that tax secrecy gave bureaucrats power that would certainly be abused.[5] La Follette agreed, even going on to say that publicity "makes the law almost self-administrative" (*Congressional Record* 1921, 7373). There were not many arguments against publicity presented by opponents in 1921. Nonetheless, La Follette's 1921 amendment for tax returns in their entirety to be public records went down, 33-35, with 28 not voting. On this vote, the majority Republicans voted 9 for and 35 against, with 16 not voting, and the Democrats voted 24-0 in favor, with 10 not voting, and two paired yeas (Poole and Rosenthal, 2013).

In 1924, Senator George Norris (R-NE) led the charge for publicity of tax returns, as Senator La Follette was absent due to illness. The majority of discussion in support was that publicity would root out those who were evading taxes, while the majority of discussion in opposition claimed that publicity would cause suspicion, snooping, and general harassment

[5] "To give to any bureau of the Government the right to know and to keep the political sins of powerful citizens is to place in the hands of any man who is desirous or ambitious enough to do it an instrument of political blackmail that in times past has been used by men almost as high in office as the President of the United States himself. That is an open secret" (*Congressional Record* 1921, 7373).

for those with high income taxes. Additionally, opponents argued that publicity would reveal trade secrets and expose vulnerabilities in businesses.

Kenneth McKellar (D-TN) offered a similar amendment, and went immediately on the attack against opponents of publicity. One of McKellar's first remarks was to point out that seven (then eight, then nine) senators who previously voted against publicity lost re-election, while only who voted in favor of publicity lost (*Congressional Record* 1924, 7682). McKellar and Senator George McLean (R-CT) differed on whether other states or nations had publicity of tax returns; both McKellar and McLean offered contradictory information on which nations or US states had publicity (*Congressional Record* 1924, 7683).

McLean argued that since Wisconsin had recently allowed for secrecy in state tax returns, that the votes of the senators of Wisconsin should be a measure of the popularity of publicity in Wisconsin. A reference to the *Congressional Record* from 1921 showed that the Wisconsin senators split their votes on publicity. Norris claimed that due to floor statements, it could be assumed that both Wisconsin senators supported publicity, though both were absent for illness that day (*Congressional Record* 1924, 7687). Senator Royal Copeland (D-NY) summarized the thoughts of several senators when he said that "every official act performed by any governmental body should be an open and public act... there is no reason why any exception should be made as regards income taxes" (*Congressional Record* 1924, 7688). After a long, puzzling, and often nonsensical debate, the Norris amendment for every return to be a public record passed, 48-27, with 21 not voting (*Congressional Record* 1924, 7692). On this vote, the majority Republicans voted 14-25, with 11 not voting, and one paired yea. Democrats voted 32-2 in favor, with 9 not voting. Both Farmer-Labor senators voted in favor (Poole and Rosenthal, 2013).

While the Senate bill made all returns public records, the conference committee bill only allowed for the revelation of names, addresses, and tax payments. This is what allowed for the printing of this information in newspapers that is explored in the later chapters of this dissertation.

The question of publicity was again revisited in 1926. As the Revenue Act of 1926 did not contain publicity when it came out of committee, Senator Norris again floated his public records amendment in identical form. Norris, Clarence Dill (D-WA), and David Reed (R-PA) openly considered the idea that the conference committee included name-address-payment publicity in order to come up with the most unpopular form of publicity possible (*Congressional Record* 1926, 3484). Norris again asserted that publicity would increase revenue, arguing that the amount of taxable income would rise as the number of eyes reviewing the claim rose (*Congressional Record* 1926, 3491). Furthermore, if somebody was not evading taxes, they supposedly had nothing to hide, and that complete public records would help those honest taxpayers to receive refunds where they had made mistakes (*Congressional Record* 1926, 3492). Norris and allies even conceded that the present law of name-address-payment publicity served "no useful purpose" (*Congressional Record* 1926, 3495).[6] Senator Dill spoke at length that the country had "not had real publicity," that "publicity has done no harm," and that "lowering surtaxes lowers receipts from [the] wealthy" (*Congressional Record* 1926, 3512-3513).

After another very lengthy debate, the Norris amendment failed by a vote of 32-49, with

[6] Mr. NORRIS: Mr. President, I want to say a word on that subject. It did not give any real information. I think that is the only objection to it. If the Senator made his return and it showed on the face of it that he paid an income tax of $1,000, that would not be any real information. There is nothing in that information to indicate whether he has covered up anything or whether he has been dishonest or honest. In other words, the information that was given could be used for the purpose of bringing about a misunderstanding on the part of the public because it did not give sufficient information to really tell anything. A man may be a very wealthy man and his income may be very small. He may be perfectly honest and his return will show that he is perfectly honest and square. On the other hand, he may not return nearly all of his property, and if nobody ever has an opportunity to find it out, that situation will never be corrected. That is what I am trying to cure by my amendment. (*Congressional Record* 1926, 3489)

15 not voting. Participation was high on this day, as only seven members did not vote. The Republicans voted 15-33, with four not voting, and four paired votes. The Democrats voted 16-16, with four pairs and three not voting. The one Farmer-Labor senator voted aye. Of the 32 Democrats voting for publicity in 1924, 13 voted for publicity again in 1924, while 10 voted against, with five not in the Senate anymore, two not voting, and two paired votes. Of the two who had voted against publicity in 1924, one was no longer in the Senate, and the other voted against publicity again in 1926. The nine Democrats who did not vote in 1924 split 1-5, with two paired votes and one no longer in the Senate. The explanation here seems to be that the strong Democratic force for publicity vanished by 1926, with only 13 of the original 32 still voting for publicity, and 5 of 6 new members who took a side opting against publicity. Among the 14 Republicans who voted aye in 1924, 10 still vote aye in 1924, one votes against, one pairs a vote, one does not vote, and one is not in the Senate. Of the 25 who voted against publicity in 1924, none vote aye, while 18 remain against, with one not voting, one paired vote, and five no longer in the Senate.

	1924: for	1924: against	paired	not voting	not in Senate	total
1926: for	13	0	0	1	2	16
1926: against	10	1	0	5	0	16
paired	2	0	0	2	0	4
not voting	2	0	0	0	1	3
not in Senate	5	1	0	1	0	7
total	32	2	0	9	3	46

Table 2.2.3: Democrats voting on publicity, 1924 and 1926

	1924: for	1924: against	paired	not voting	not in Senate	total
1926: for	10	0	0	2	3	15
1926: against	1	18	0	4	10	33
paired	1	1	0	0	2	4
not voting	1	1	0	1	1	4
not in Senate	1	5	1	4	0	11
total	14	25	1	11	16	67

Table 2.2.4: Republicans voting on publicity, 1924 and 1926

In total, eleven senators voted for publicity in 1924 and against in 1926. These senators were primarily Southern and Democratic. This group included both senators from Virginia, Mississippi, and North Carolina, as well as one senator from each of Louisiana, Maryland, Georgia, Oklahoma (the Republican, John Harreld), and New York (Royal Copeland). This is the same Royal Copeland who spoke in 1924 very forcefully that every act of government should be public, taxes included.[7] He did appear in the *New York Times* list of taxpayers in both years. In 1923, the newspaper lists Royal S. Copeland at 58 Central Park West with a tax payment of $1,311. In 1924, he appears as R. S. Copeland, at 250 West 57th, and a payment of $1,273.

In the end, the Revenue Act of 1926 contained a provision for publicity that was nearly identical in wording to the 1924 provision, except that it no longer allowed for payments to be publicized. Name and address remained available, but were much less interesting on their own. Therefore, tax publicity was effectively repealed with the Revenue Act of 1926. This was written into the bill's first draft, so there is no floor vote on the question of name-address publicity to compare against tax payment publicity.

The key issue here is what taxpayers knew, and when. The timeline of events in 1924

[7]It is also the same Royal Copeland who graduated from and was professor at University of Michigan Medical School, and served as mayor of Ann Arbor.

indicates that publicity became part of the Senate bill on May 2, 1924. The conference bill also includes publicity and passed in late May, 1924. On June 2, 1924, the Revenue Act of 1924, including publicity, became law. 1924 tax payments were due on March 15, 1925, so taxpayers were aware for about nine months that their name, address, and tax payment would be made public.

2.2.5 The Tax Code in 1924

The early federal personal income tax system featured both a normal tax and a surtax. Despite connotations, the surtax collected orders of magnitude more revenue than the normal tax. The normal tax had three brackets: \$0 to \$4,000, \$4,000 to \$8,000, and over \$8,000, all in amounts over total deductions and credits. The marginal tax rates for these brackets were 2, 4, and 6 percent, respectively. The surtax, however, began at \$10,000 with a marginal tax rate of 1 percent, and increased incrementally to a top rate of 40 percent on net incomes over \$500,000. Surtax brackets up to \$100,000 were usually \$2,000 apart, with an increase of 1 percent for each bracket. The surtax rate at \$100,000 was 37 percent. Additional bracket lines were drawn at \$200,000, \$300,000, and \$500,000.

Net income, defined as gross income minus credits and deductions, was used to compute the tax liability. Gross income included a laundry list of sources, ending with "or gains or profits and income derived from any source whatever" (Revenue Act of 1924). Gross income does not include life insurance, the value of gifts or bequests, interest upon state or local government bonds, or a few other small exemptions. Section 214 of the Revenue Act lists a number of deductions, including charitable contributions, business expenses, interest on debts, percentage depletion for oil and gas wells, depreciation, and government contributions. Section 216 allows additional credits for the normal tax only; these include dividends, interest on federal bonds, and a personal exemption.[8] The personal exemption was $1,000 for a single person, or $2,500 for married couples or heads of households. There was also a $400 credit per dependent. The following table shows the breakdown of returns and net income by family filing status.

	Number, 1923	Number, 1924	Net income, 1923 $	Net income, 1924 $
Joint returns or separate returns of husbands	4,505,729	3,991,551	16,762,983,344	16,695,378,477
percent	58.8	54.3	68.2	65.7
Men, head	413,682	394,201	1,191,732,079	1,227,022,356
percent	5.4	5.4	4.8	4.8
Women, head	157,669	153,279	449,677,714	445,184,828
percent	2.1	2.1	1.8	1.8
Men, other	1,697,031	1,865,258	3,633,625,088	4,223,496,529
percent	22.1	25.4	14.8	16.6
Women, other	718,080	773,314	1,690,728,371	1,883,756,919
percent	9.4	10.5	6.9	7.4
Separate returns of wives	170,573	173,225	849,072,012	955,000,745
percent	2.2	2.4	3.5	3.8
Total	7,662,764	7,350,828	24,577,818,608	25,429,839,854

Table 2.2.5: Tax returns and income by filing status

The gift tax was introduced in 1924, but repealed in the next tax bill in 1926. Levied over fifteen brackets, the gift tax started at 1 percent for gifts up to $50,000, slowly increased to a marginal rate of 6 percent on gifts over $250,000, and increased from there to a marginal rate of 40 percent on gifts over $10 million. In addition to a repeal in 1926, the Revenue Act of 1926 retroactively refunded about half of the gift taxes paid.

[8]The term "credit" here has the same connotation as today's "deduction"; in other words, it is not subtracted from the tax liability, but subtracted from the taxable income.

The estate tax featured the same rates in 1924 as the gift tax, but with a $50,000 exemption. Similarly to the gift tax, the estate tax was greatly reduced and rebated in 1926. The brackets of this ex-post rebate were also the same as the gift tax's ex-post revision. However, the estate tax continues to be levied into the future from 1926, unlike the gift tax.

Taxes were due on March 15 of the following year, so in this case, 1923 and 1924's taxes would have been due on March 15 of 1924 and 1925, respectively. Additionally, taxpayers were allowed to pay in four quarterly installments, without interest. There was no withholding in this period, except for a small number of nonresident aliens.

Tax Complexity

The IRS form 1040 of today bears a striking resemblance to the 1040 collected by the Bureau of Internal Revenue in 1924 and 1925. The familiar numbered lines and sometimes unexplained arithmetic manipulation are ubiquitous. The first page (of two) appears in the appendix.

However, the key insight into the complexity of the tax code in 1924 and 1925 is the length of the instructions. While today's 1040 has over 200 pages of instructions, with frequent references to IRS publications for even further explanation, the instructions in 1924 were only two pages. Those two pages were certainly typed with small font, but the clarity of the language is hard to dispute. The first of two pages appears in the appendix.

2.2.6 Timeline

A timeline of the passage of the Revenue Act of 1924 appears earlier. By early 1924, particularly February 29, when the House voted 408-8 on the Revenue Act of 1924, it was clear that tax rates will be substantially lower in 1924 than they were in 1923. In early May, the

Senate passed a similar bill, and by early June, the bill had become law.

As mentioned previously, taxes are paid differently in this time period. There was no broad withholding in 1924; income was earned during the year, the tax bill was calculated after the conclusion of the full year, and the first of four interest free installments was due on March 15. When taxpayers read on March 1, 1924 that the House voted to cut surtax rates by 25 percent, they know that the tax rate on their previous two months and upcoming ten months of income will very likely be reduced. They also know that it does not affect the payment that is due in two weeks, on March 15, 1924, on 1923's taxes.

When they read about tax publicity passing through the Senate on May 2, 1924, they are not aware of whether it applies to the payments that they made by March 15, 1924, for 1923's taxes. But they were certainly not aware of tax publicity at all when they made tax payments by March 15, 1924. For the first four months of 1924, they very likely do not anticipate that their name, address, and tax payment will be made public. For the month of May, they may anticipate that their information will be made public, and by June 2, 1924, upon the bill's signing, they definitely know that their information will be made public. If a taxpayer wanted to manipulate their 1924 income due to publicity, then they only had the last seven to eight months of 1924 to do so- not the whole year. Taxpayers very likely could not manipulate their 1923 income due to publicity.

Throughout 1925, newspaper readers are seeing stories about the unpopularity of tax disclosure. Republicans are determined to overturn publicity at their first opportunity. They do so in February, 1926. If a taxpayer was choosing to file a 1925 tax return in March, 1926 with a lower (or higher) tax payment due to publicity, then (at least) two things are possible. The first is that the taxpayer's true income was unaffected, and so the 1925 tax return is treated the same in the end as any other year's tax return. This might happen if the taxpayer always planned to amend the return with the true income after newspapers had finished printing tax information; there is some anecdotal evidence for this. If, however, the taxpayer's true income was affected by disclosure, then 1925 tax information is affected by publicity even though the information was never revealed.

2.3 Publication

The Revenue Act of 1924, section 257(b) reads that

> The Commissioner shall as soon as practicable in each year cause to be prepared and made available to public inspection in such manner as he may determine, in the office of the collector in each internal-revenue district and in such other places as he may determine, lists containing the name and the post-office address of each person making an income-tax return in such district, together with the amount of the income tax paid by such person.

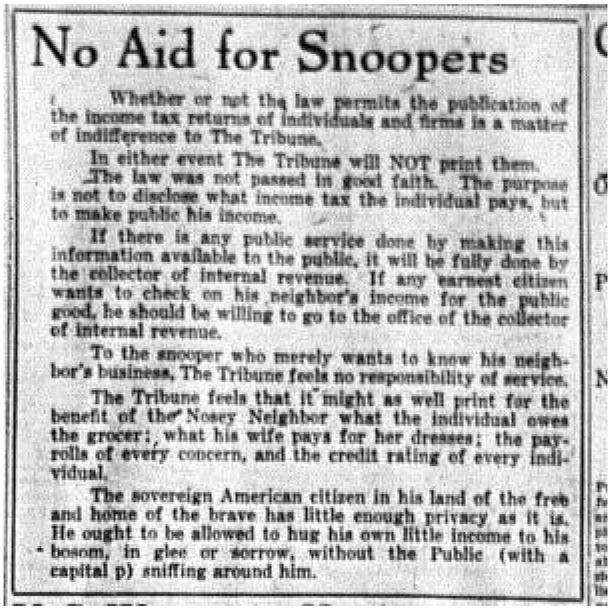
while section 3167 reads that

> it shall be unlawful for any person to print or publish in any manner whatever not provided by law any income return, or any part thereof or source of income, profits, losses, or expenditures appearing in any income return; and any offense against the foregoing provision shall be a misdemeanor and be punished by a fine not exceeding $1,000 or by imprisonment not exceeding one year, or both, at the discretion of the court.

Interpretation and compliance with these provisions varied by local Bureau of Internal Revenue collection offices. In October 1924, several local Collectors of Internal Revenue (heads of local offices of the Bureau of Internal Revenue, predecessor to the IRS) ordered their staffs to make their records available for public inspection. Some other Collectors forbade their staffs from opening books to inspection, while others required a legitimate reason for inspection. A frequent method of enforcing the "good reason" standard was to require the inquirer to provide both a name and a correct address for any income tax payer that they sought information on. In this way, inquiries for "all names with over $1,000 in tax payments" and the like could be easily refused. In some cases, lists were allowed to be copied in their entirety, while in others, copying any information whatsoever was prohibited.

In October 1924, major newspapers, including the *New York Times*, *New York Herald Tribune*, *Chicago Tribune*, *Washington Post*, and many others, began running lists of tens of thousands of names, addresses, and 1923 tax payments for both individuals and corporations. Despite confusion at the time, this was probably expected, since Coolidge noted his displeasure with the publicity provision in his response to the new law, and the text was printed in major newspapers (*New York Times*, June 3, 1924). Major newspapers again ran tens of thousands of names and addresses, this time with 1924 tax payments, in September of 1925. A contemporary account of the mayhem can be found in Atwood (1926).

Not all newspapers were eager to print names. The *Minneapolis Morning Tribune* was one which fervently opposed publicity. On their front page of October 25, 1924, a box appeared at the top with the heading, "No Aid for Snoopers." Stating that legal permission for printing tax payments is "a matter of indifference", they boldly note that the *Minneapolis Morning Tribune* "will NOT print them."



No Aid for Snoopers

Whether or not the law permits the publication of the income tax returns of individuals and firms is a matter of indifference to The Tribune.

In either event The Tribune will NOT print them.

The law was not passed in good faith. The purpose is not to disclose what income tax the individual pays, but to make public his income.

If there is any public service done by making this information available to the public, it will be fully done by the collector of internal revenue. If any earnest citizen wants to check on his neighbor's income for the public good, he should be willing to go to the office of the collector of internal revenue.

To the snooper who merely wants to know his neighbor's business, The Tribune feels no responsibility of service.

The Tribune feels that it might as well print for the benefit of the Nosey Neighbor what the individual owes the grocer; what his wife pays for her dresses; the payrolls of every concern, and the credit rating of every individual.

The sovereign American citizen in his land of the free and home of the brave has little enough privacy as it is. He ought to be allowed to hug his own little income to his bosom, in glee or sorrow, without the Public (with a capital p) sniffing around him.

Figure 2.3.1: *Minneapolis Morning Tribune* states that they will not run names to avoid helping the "snoopers."

The *Tribune* held to its moral high ground in 1925 and refrained again from printing names. However, it is certainly curious that the *Tribune* printed the names and contribution amounts of many local charitable givers just mere inches to the left of its "No Aid for Snoopers" box. Not only that, but the *Tribune* and papers like it would often run information on the dates, locations, and attendance of private high society parties, the dates that young students would leave for college, every marriage license filing, and the passengers arriving and departing in local harbors. Certainly newspapers provided plenty of information for "snoopers" aside from tax payments.

The legality of newspaper publishing remained unclear until May 1925, after the books for 1923 taxes had closed to public view. Commissioner of Internal Revenue David Blair did not order the local Collectors to either open or close their books to public inspection. Attorney General Harlan Stone, along with Assistant Attorney General James Beck, stated that they would take a test case on publicity to the federal court system, and that in the meantime, newspapers publishing tax payment information did so at their own risk. This was enough of a scare to keep many newspapers from publishing information.

The Justice Department chose the *Kansas City Star* and *Baltimore Post* as their targets, despite many better funded newspapers volunteering to be defendants. The Supreme Court sided with the newspapers, 8-0, with Harlan Stone, at this point elevated to Associate Justice, recusing himself from both cases. In brief, the Court's argument noted that obtaining tax information at the Collector office was in fact a "manner provided by law," and that arguments about the relative wisdom of publicity or secrecy were to be settled by Congress. This case, *United States v. Dickey*, argued April 16 and 17, 1925, and decided May 25, 1925, came too late to allow newspapers which had played it safe to run any names and tax payments from 1923, as the books were no longer open. But there was certainly far more newspaper printing of tax information in September 1925 than the previous year. In addition, the Collector offices were under pressure to cooperate with journalists seeking names. The picture below from the *Baltimore Post* of September 2, 1925, succinctly shows the new attitude toward newspaper publication in 1925.[9]

[9] The caption reads: "An elaborate organization was built by The Post to give its readers the most complete list of income tax payments published in Baltimore. Photo shows a temporary office, with special telephone wires running directly to The Post Building, which was opened at 35 S. Gay-st. Sheets of payments copied from the U. S. internal revenue books by a staff of Post reporters were rushed to this office by messenger boys and then, after inspection, relayed to The Post Building by telephone and messengers. The Post published more returns and published them earlier than any other Baltimore paper yesterday. This service will be continued for several days.

BALTIMORE DAILY POST

How Returns Were Gathered

An elaborate organization was built by The Post to give its readers the most complete list of income tax payments published in Baltimore. Photo shows a temporary office, with special telephone wires running directly to The Post Building, which was opened at 35 S. Gay-st. Sheets of payments copied from the U. S. internal revenue books by a staff of Post reporters were rushed to this office by messenger boys and then, after inspection, relayed to The Post Building by telephone and messengers.

The Post published more returns and published them earlier than any other Baltimore paper yesterday.

This service will be continued for several days.

832.55; Albert G. Lann, 4107 Walrad-st, $2,745.97. | Baltimore-st, $2,716.27; John F.

Figure 2.3.2: *Baltimore Post* reporters in the Collector's office.

While the first year of inspection was marked by confusion and an inconsistent national interpretation of the publicity clauses, the experience with publicity in 1925 was much smoother. This may provide an explanation for why more taxpayer names appeared in newspapers in 1925 than 1924, though the number of taxpayers paying above certain thresholds used by the newspapers was lower.

I searched Library of Congress records for newspapers in the top 50 cities by 1920 Census population, and reviewed those newspapers in the appropriate date range to see if they printed names and tax payments. In the appendix, I present a complete table of those newspapers, with information on whether they print names and payments in each year, whether the payments are local or only in other cities, whether the paper takes an ideological stance against printing names or the Collector's office in that town does not release them, and the political affiliation of the newspaper. I also present figures on the division of newspapers by affiliation and printing names in each year. In general, about half of the newspapers that did not print names in 1924 (of 1923 taxpayers) began to print them in 1925, while nearly all newspapers that printed names in 1924 printed again in 1925. Papers identified as Independent, Ind. Dem., or Democratic were much more likely to run names than those affiliated as Republican or Ind. Rep. However, there is not a large and random sample of newspapers in each city; in most cities, there are only a small number of newspapers on file, and those affiliations may be correlated with the availability of names and tax payments at the local level.

Table 2.3.1: Newspaper disclosure

	city: by 1920 Census population	newspaper	1922 Ayer affiliation	1923: print lo-cal?	1923: print other?	print in 1924?	1923: why not?
1	New York	*Times*	Ind. Dem.	y	y	y	
1	New York	*Herald Tribune*	Ind. Rep.	y	y	y	
2	Chicago	*Tribune*	Ind. Rep.	y	y	y	
3	Philadelphia	*Evening Bulletin*	Ind. Rep.	y	y	n	
3	Philadelphia	*America*	Ukrainian	n	n	n	
3	Philadelphia	*Inquirer*	Republican	n	n	n	
3	Philadelphia	*North American*	Progressive	n	n	n	
3	Philadelphia	*Public Ledger*	Independent	n	n	n	
3	Philadelphia	*Record*	Ind. Dem.	n	n	n	
4	Detroit	*Free Press*	Independent	n	n	n	
4	Detroit	*News*	Independent	n	n	n	
5	Cleveland	*Plain Dealer*	Ind. Dem.	n	n	y	Collector
5	Cleveland	*Press*	Independent	n	n	n	Collector
6	St Louis	*Post Dispatch*	Independent	n	y	y	
6	St Louis	*Globe Democrat*	Republican				
7	Boston	*Daily Advertiser*	none	n	n	n	Collector
7	Boston	*Daily Globe*	Independent	n	y	y	Collector
7	Boston	*Herald*	Ind. Rep.	n	n	n	Collector
7	Boston	*Post*	Ind. Dem.	n	n	n	Collector
7	Boston	*Sunday Advertiser*	none	n	n	n	Collector

7	Boston	*Evening Transcript*	Ind. Rep.	n	n	n	Collector
8	Baltimore	*Post*	not listed	y	y	y	
8	Baltimore	*American*	Ind. Rep.	n	n	n	
8	Baltimore	*Sun*	Ind. Dem.	n	n	y	
8	Baltimore	*Evening Sun*	Ind. Dem.	n	n	y	
8	Baltimore	*News*	Independent				
9	Pittsburgh	*Courier*	Independent	n	n	n	
9	Pittsburgh	*Post*	Democratic	n	n	y	Collector
10	Los Angeles	*Times*	Ind. Rep.	y	y	n	
10	Los Angeles	*Herald*	Independent	n	n	n	
11	Buffalo	*Morning Express*	Ind. Rep.	n	y	y	
12	San Francisco	*Chronicle*	Independent	y	y	y	
12	San Francisco	*Examiner*	Independent	y	y	y	
12	San Francisco	*Commercial News*	Commercial	n	n	n	
13	Milwaukee	*Journal*	Independent	n	n	y	
13	Milwaukee	*Sentinel*	Republican	n	n	y	
14	Washington DC	*Post*	Independent	y	y	y	
15	Newark NJ	*New York Times*	Ind. Dem.	y	y	y	
16	Cincinnati	*Enquirer*	Democratic	n	n	y	
16	Cincinnati	*Commercial Tribune*	Republican	n	n	n	
17	New Orleans	*Item*	Ind. Dem.	n	n	n	

17	New Orleans	*States*	Democratic	n	n	n	
17	New Orleans	*Times Picayune*	Ind. Dem.	n	n	y	
18	Minneapolis	*Journal*	Ind. Rep.	n	y	n	
18	Minneapolis	*Morning Tribune*	Republican	n	n	n	ideological
19	Kansas City	*Star*	Independent	y	y	y	
20	Seattle	*Post-Intelligencer*	Independent	y	y	y	
20	Seattle	*Daily Times*	Independent	n	n	y	
21	Indianapolis	*News*	Independent	n	n	y	
21	Indianapolis	*Star*	Ind. Rep.	n	n	n	Collector
22	Jersey City, NJ	*New York Times*	Ind. Dem.	y	y	y	
23	Rochester	*Democrat and chronicle*	Republican	n	y	n[10]	
23	Rochester	*Times-Union*	Independent	n	n	y	
24	Portland	*Oregon Daily Journal*	Independent	n	y	n	Collector
24	Portland	*Oregonian*	Ind. Rep.	n	y	n	Collector
25	Denver	*Rocky Mountain News*	Independent	y	y	y	
25	Denver	*Rocky Mountain Herald*	Republican	n	n	n	
26	Toledo	*News-Bee*	Independent	y	y	y	
27	Providence	*Journal*	Independent	y	y	y	

[10] The *Rochester Democrat and Chronicle* is the only paper to run names in 1924, but not run names in 1925 for ideological reasons.

27	Providence	*Evening Bulletin*	Independent	y	y	y	
28	Columbus	*Evening Dispatch*	Independent	n	n	y	
28	Columbus	*Ohio State Journal*	Republican	n	n	y	
29	Louisville	*Courier-Journal*	Democratic	n	n	n	Collector
29	Louisville	*Times*	Democratic	n	n	y	Collector
30	St. Paul	*Pioneer Press*	Ind. Rep.	n	n	n	ideological
31	Oakland, CA	No paper					
32	Akron, OH	No paper					
33	Atlanta	*Constitution*	Democratic	n	n	y	
33	Atlanta	*Journal*	Democratic	n	n	y	
34	Omaha	*Morning World-Herald*	Independent	n	n	y	
35	Worcester, MA	No paper					
36	Birmingham, AL	*Age-Herald*	Democratic	n	n	y	
37	Syracuse	*Post-Standard*	Republican	n	n	y	ideological
38	Richmond	*Times-Dispatch*	Democratic	n	n	y	
39	New Haven	*Journal Courier*	Independent	n	n	n	ideological
40	Memphis	*Commercial Appeal*	Democratic	n	n	y	
41	San Antonio	*Express*	Ind. Dem.	n	n	y	
42	Dallas	*Morning News*	Ind. Dem.	n	n	n	

43	Dayton, OH	No paper					
44	Bridgeport, CT	No paper					
45	Houston	*Post-Dispatch*	not listed	n	n	n	
46	Hartford	*Courant*	Republican	y	y	y	
46	Hartford	*Times*	Ind. Dem.	n	n	y	
47	Scranton, PA	No paper					
48	Grand Rapids	*Herald*	Ind. Rep.	n	n	y	
49	Paterson, NJ	No paper					
50	Youngstown, OH	No paper					

Table 2.3.2: Disclosure by state.

state	city	Local disclosure[11]	State disclosure[12]	Papers eager to disclose[13]
AL	Birmingham, AL	n	0	0
CA	Los Angeles	y	2	2
CO	Denver	y	2	2
CT	Hartford	y	2	2
DC	Washington DC	y	2	2
GA	Atlanta	n	0	0
IL	Chicago	y	2	2
IN	Indianapolis	n	0	0
KY	Louisville	n	0	0
LA	New Orleans	n	0	0
MA	Boston	n	0	1
MD	Baltimore	y	2	2
MI	Detroit	n	0	0
MN	Minneapolis	n	0	1
MO	Kansas City	y	2	2
NE	Omaha	n	0	0
NJ	Newark NJ	y	2	2
NY	New York	y	2	2
OH	Toledo	y	1	1
OR	Portland	n	1	1
PA	Philadelphia	y	1	1
RI	Providence	y	2	2
TN	Memphis	n	0	0

[11] Yes for any paper with disclosure of local payments.

[12] 0 if no disclosure of any local payments in the state. 1 if some, but not all, large cities in state have local disclosure. 2 if all large cities in state have local disclosure.

[13] 0 if no paper in state discloses any names. 1 if papers in state disclose only out of state names. 2 if papers disclose in-state names.

TX	San Antonio	n	0	0
VA	Richmond	n	0	0
WI	Milwaukee	n	0	0
WA	Seattle	y	2	2

	print in 1924	percent	do not print in 1924	percent
print local in 1923	16	88.9	2	11.1
percent	37.2		5.9	
do not print local in 1923	27	45.8	32	54.2
percent	62.8		94.1	

Table 2.3.3: Number of newspapers printing tax payments in 1923 and 1924

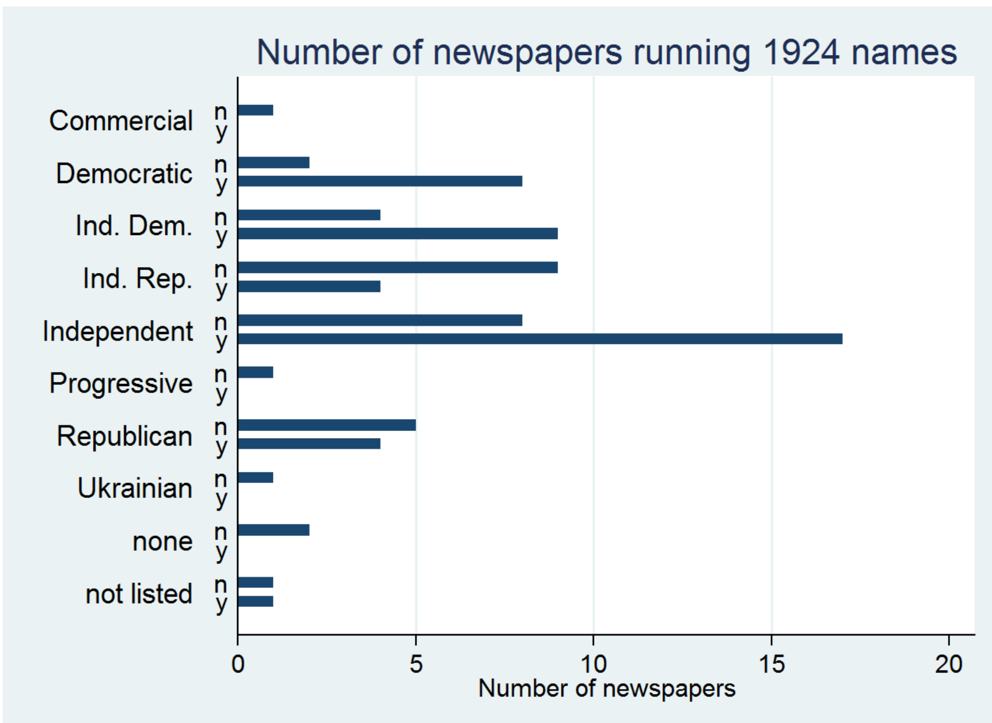


Figure 2.3.3: Newspapers printing 1924 payments by affiliation

Interest in the lists

While many newspapers were diligent in preparing lists of names to run, there are reports that curious citizens showed up at the Collectors' offices as well. *The New York Times* claimed on October 25, 1924 that newspaper reporters dominated the early turnout in New York offices after the first day of inspection. On October 26, the *New York Times* reported that less than a dozen individuals showed up at the Custom House and at the Third District office. Of those who did show up, the newspaper said that there were five women seeking information on the incomes of their current or future husbands. There was also a story of investment bankers scanning the newspaper lists from 9 to 11 in the morning for a list of business prospects.

The *Baltimore American*, on the other hand, noted that the Collector of Internal Revenue's office in Baltimore was "swamped" within an hour of opening on the first day of publicity (*Baltimore American*, October 25, 1924). Galen Tait, the Baltimore Collector of Internal Revenue, was clearly not amused with the proceedings in his office. According to the October 27, 1924 *Baltimore Sun*, Tait placed information seekers into four categories, ordered in terms of his perceived legitimacy of their claims on information. Tait viewed family and government agents as the most legitimate, along with lawyers and bankers involved with particular clients. The least legitimate included salespeople or business competitors. Tait stated that only the first group was likely to see any information, and that he reserved the right to compile his own list of those who sought information with the name that they investigated, and to make that list public to newspapers (*Baltimore Sun*, October 27, 1924).

Other cities' Collectors also required information to be requested by name and address, to prevent the curious and to keep the workload in the office down. Mabel Reinecke, Chicago's Collector, instituted such a rule after 300 people visited the office and 5,000 called in with requests (*Minneapolis Morning Tribune*, October 26, 1924). While most newspapers reported that there were at least a handful of businessmen or wives seeking information at the offices, the story in the *San Francisco Chronicle* of October 26, 1924, tells a different story.

> Despite the fact that income tax files... have been thrown open to the public for the past two days, no private citizen has attempted to pry into the index of the

> financial standing of his neighbor, according to Collector John P. McLaughlin.
>
> So far there have been a few timid telephone calls from anonymous sources, in which the Collector has been asked "how one may go about finding out how much income tax was paid by such and such a person?" but otherwise the public is not as curious as it is accused of being, McLaughlin said.

Many newspapers printed editorials taking sides on tax publicity. The *Baltimore Post* compiled a set of newspaper editorials by political leanings of the newspaper, and not surprisingly, the Democratic newspapers were fine with publicity, while the Republican papers fiercely opposed it. Perhaps the most entertaining editorial came from the *Minneapolis Morning Tribune*, which dripped with sarcasm on October 25, 1924. The editorial pointed out the positive outcome that gossip would become more accurate, and went on to call for a constitutional amendment abolishing all privacy, and a switch of "national bird" from the bald eagle to the goldfish, since their opinion was that everybody had been placed in a glass bowl.

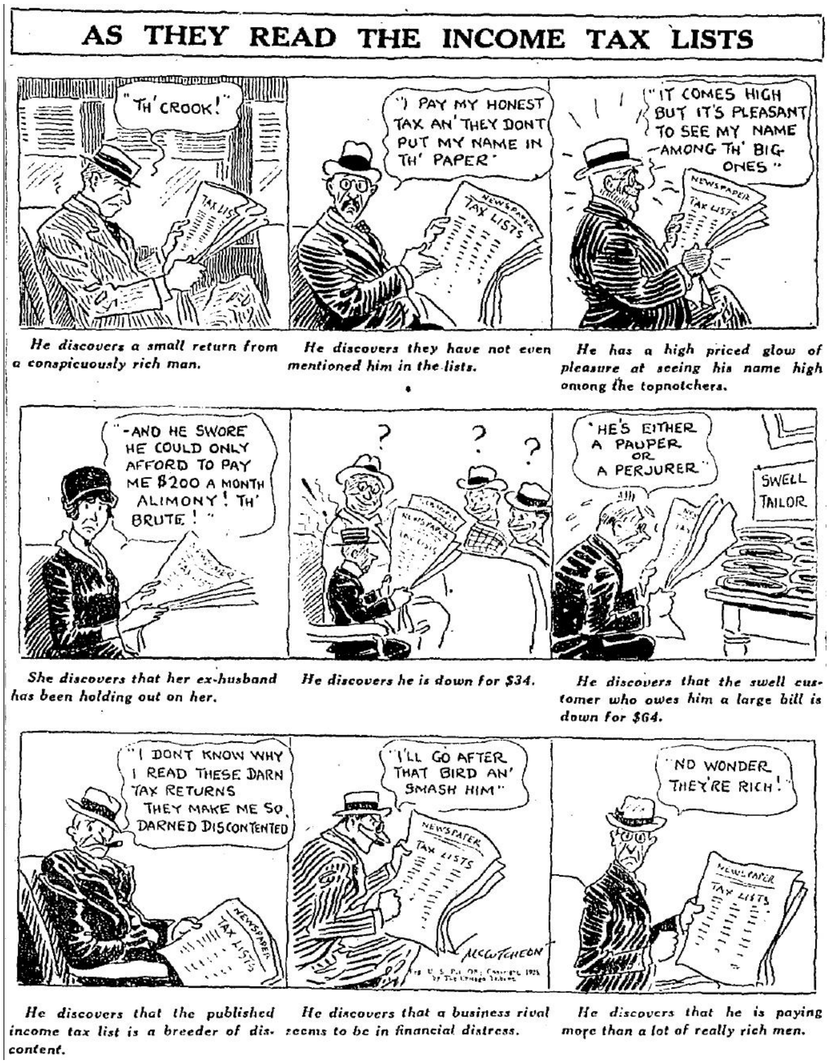


Figure 2.3.4: One of many cartoons appearing in the *Chicago Tribune*, a paper which ran thousands of names. (*Chicago Tribune*, 9/2/1925)

2.4 The Effect of Disclosure

The literature on the effect of disclosure of income tax information is not very deep. A 2013 paper by Hasegawa, Hoopes, Ishida, and Slemrod noted that "the academic literature has extensively examined tax disclosure and privacy... However, this analysis... has proceeded in the complete absence of empirical evidence about what the effects of income tax disclosure might be... we know essentially nothing about the impact of tax disclosure rules on taxpayer behavior" (Hasegawa et al., 2013). The paper analyzes the distribution of taxpayers around a disclosure threshold in Japan, before and after the phaseout of disclosure rules. The results show that there is bunching immediately beneath the disclosure threshold, meaning that individuals and corporations underreport their tax liabilities to avoid disclosure. A review of financial statements shows no evidence of a decline in corporate income over the same period. Of course, this underreporting of income is the exact opposite outcome than what is claimed earlier by La Follette and others. This result is, in the opinion of the authors, "the first evidence regarding taxpayer response to a system of income tax disclosure" (Hasegawa et al., 2013).

I examine trends in the number of taxpayers by state level of disclosure. Using the categories in section 3 of this chapter, I present statistics on the number individuals filing a taxable return, as well as the number of individuals filing at levels of income above \$15,000, \$20,000, \$100,000, and \$1 million. High disclosure states also happen to be high income states; the levels of disclosure in states cannot be considered random.

We should look for effects of disclosure in 1925, and possibly in 1926, but not in any other year. Figure 2.4.1 shows that high disclosure states are also states that pay a lot in taxes. Figure 2.4.2 shows that the effect of disclosure on the total number of taxable returns is small, as the red and blue lines both drop about as much, and the difference in their changes since 1924 appear small and persistent through the 1920s.

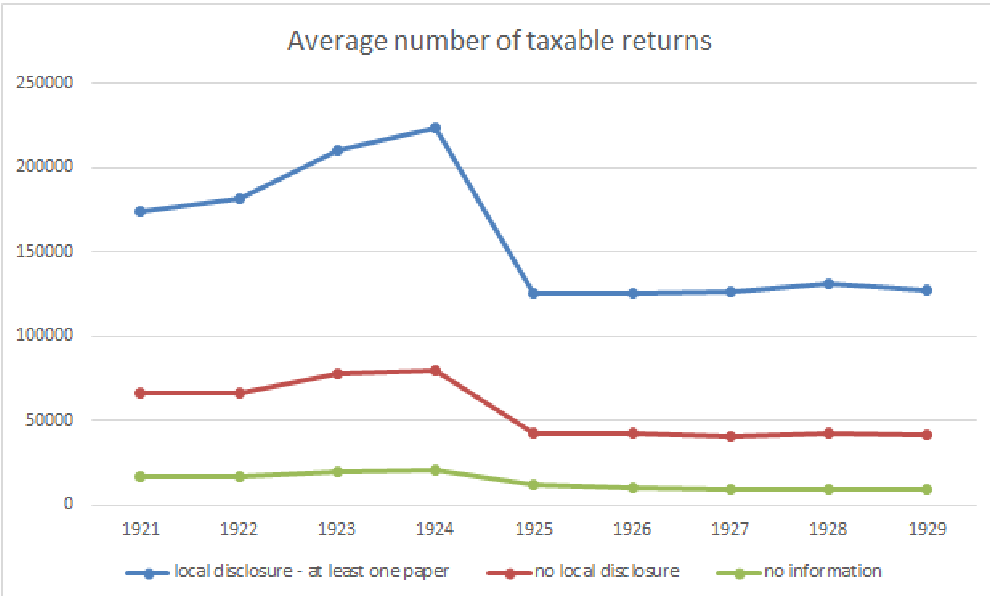


Figure 2.4.1: Number of taxable returns in states with high and low disclosure

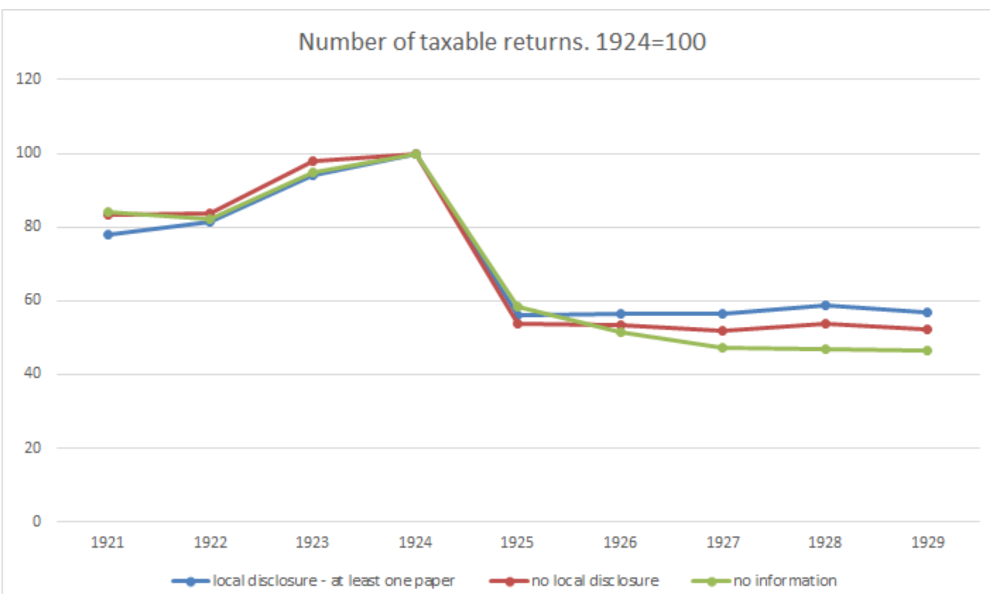


Figure 2.4.2: Number of taxable returns in states with high and low disclosure, scaled

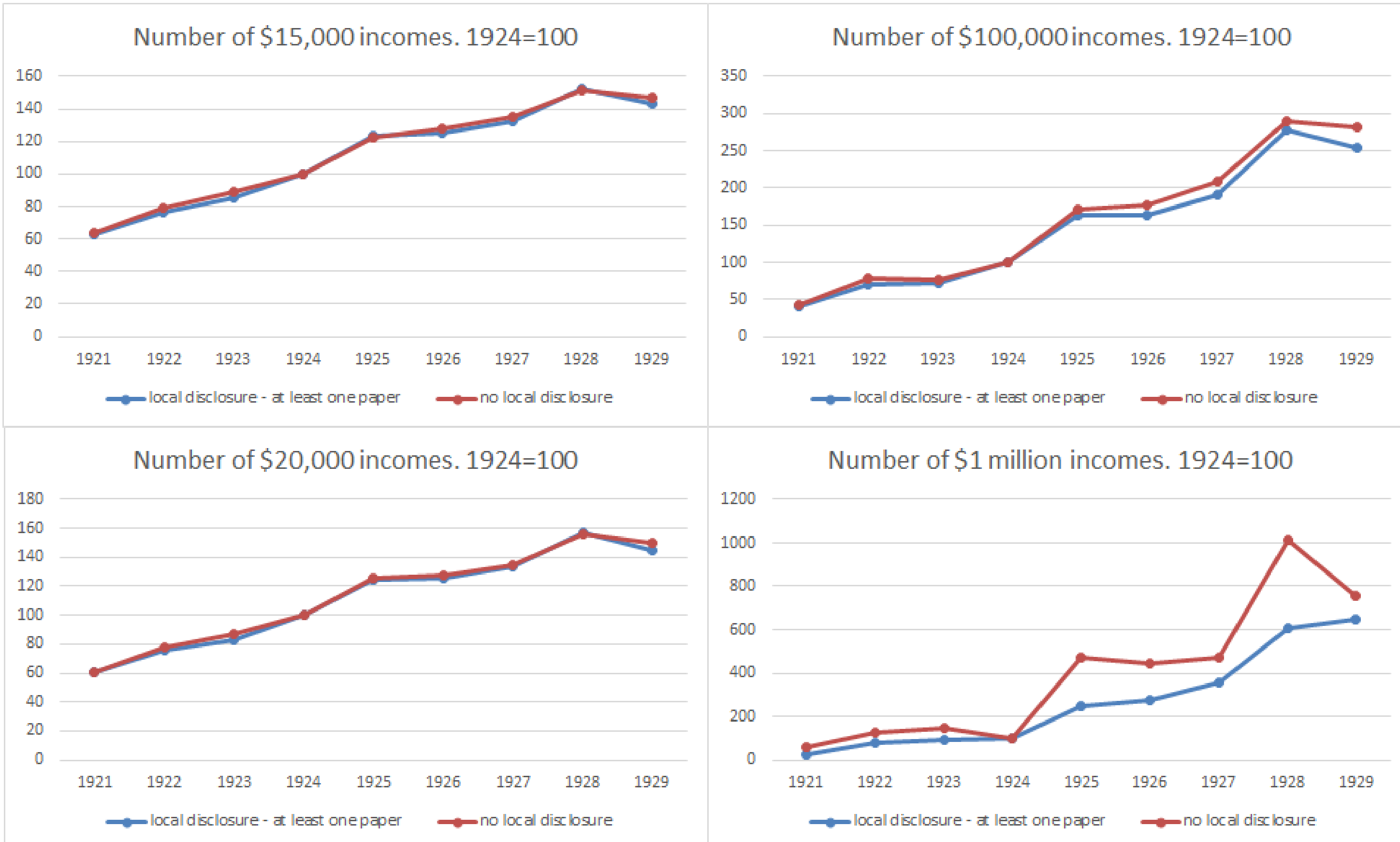


Figure 2.4.3: Number of taxable returns at various levels

Figure 2.4.3 shows the trends in the number of taxpayers at incomes above \$15,000, \$20,000, \$100,000, and \$1 million. The only graph that shows any large difference in trends is the graph of million-dollar incomes. However, the number of million-dollar incomes in nondisclosure states is only seven in 1924, so percent changes from this small level will always be large. If this effect were not attributable to small base size, then it appears that disclosure is pushing the number of million-dollar incomes claimed down. This would confirm the findings of Hasegawa et al. A small effect can be seen in the graph of \$100,000 incomes, where the blue line and red line seem to move together until 1925, when the blue line runs below the red line. This again would be evidence that high disclosure states have slightly fewer filers than can be expected. However, I can think of no reason that the trend would persist, in either the \$100,000 or \$1 million case, through 1929. I am therefore skeptical that there is any effect of disclosure on income tax payments.

Additional graphs examining other measures of disclosure, and finding similar results, can be found in the appendix.

2.4.1 Evidence of Income Shading

The *Kansas City Star* of September 2, 1925 mentioned a Treasury statement from the previous day. According to the *Star*, the Treasury

> pointed out that the amounts shown on the tax lists are the amounts of tax declared to be due by taxpayers... and may be subject to adjustments and revisions. In an effort to escape widespread publicity, many corporations and large individual taxpayers are submitting "minimum returns" until after the time limit for publicity has expired, when they will amend their claims with additional taxes.

While I have not been able to find this Treasury statement in print, it is unclear if the Treasury knew precisely how many taxpayers were doing this at the time. Given that the time period for publicity had started only the previous day, nobody would have filed their amended return yet if this was the plan. The previous year also may not provide much guidance, as newspaper publicity was a surprise for many in late October of 1924, and certainly publicity was not even law at the time the first tax payment was due. Thus, 1923's taxpayers would most likely not have revised their payments downward to begin with, and 1924's may have, but the number who adjusted upward would not have been known yet.

2.5 Conclusion

The Revenue Act of 1924 included a publicity provision that provides a unique window into the income distribution of the period. The Revenue Act of 1924 occurred during a time of Republican control, and steady declines in tax rates through the 1920s. Newspapers took advantage of publicity by printing lists of names, addresses, and tax payments for individuals and corporations in their city and sometimes beyond. In the first year, this was a shock to almost all parties, but the second year was more organized, and the tax lists are more reliable in the second year as a result. The inclusion of publicity in the tax code does not seem to have affected the distribution of returns.

CHAPTER III

Data Assembly

3.1 Introduction

A unique publicity provision in the Revenue Act of 1924 allowed newspapers to print tens of thousands of names, addresses, and tax payments over a two year period. In this chapter, I discuss the assembly of a dataset from newspaper microfilm images. I assess the accuracy of the tax information that appears in newspapers. I outline the matching procedure for individuals and their 1923 tax payments with their corresponding entry in the next year. I also contribute computer code and video tutorials on automated matching for use by other scholars. I include documentation of 200 variables in the resulting dataset, which will be released for public use after a two year embargo.

3.2 Data Source

Data come from newspaper records from the period October 24, 1924 to November 20, 1924, and September 1 through 20, 1925. New York comes from the *New York Times*, and

Chicago data comes from the *Chicago Tribune*. Additional records from the *Washington Post* have been tabulated, but not included in any analysis to date. Income tax payments that appeared in 1924 newspapers were from incomes in calendar year 1923, and payments in 1925 newspapers were from calendar year 1924 incomes.

<table>
<tr><th></th><th>New York, 1923</th><th>New York, 1924</th><th>Chicago, 1923</th><th>Chicago, 1924</th></tr>
<tr><td>total</td><td>27,540</td><td>44,692</td><td>6,089</td><td>13,279</td></tr>
<tr><td>individual</td><td>18,150</td><td>29,921</td><td>4,954</td><td>12,077</td></tr>
<tr><td>w/address</td><td>16,001</td><td>28,651</td><td>29</td><td>12,681</td></tr>
<tr><td>corporation</td><td colspan="2">12,798</td><td>811</td><td>469</td></tr>
<tr><td>estate</td><td colspan="2">824</td><td colspan="2">190</td></tr>
<tr><td>duplicate</td><td colspan="2">5,939</td><td>149</td><td>98</td></tr>
<tr><td>other cities</td><td>1,310</td><td>3,290</td><td>282</td><td>666</td></tr>
<tr><td>w/address</td><td>538</td><td>1,504</td><td>0</td><td>0</td></tr>
</table>

Table 3.2.1: Summary statistics, number of records by year and city

By law, the Collectors of Internal Revenue were required to make the name, address, and income tax payment of anybody filing a return in their district available to inspection. The *New York Times* and *Chicago Tribune* usually printed the name and address of each taxpayer with their payment. In New York, the address sometimes did not appear. In Chicago, the address appeared in 1925 but not in 1924. The names were sometimes full first and last names with a middle initial, but sometimes just first initials and a last name.

THE NEW YORK TIMES, THURSDAY, SEPTEMBER 3, 1925.

tan Contributions to New York's Big Sh

NEW YORK CITY

Second District

INDIVIDUALS

J

Johnston, C. Noel, 18 Wash Sq.. 2,330
Johnston, J. Herbert............ 2,206
Jacoby, Arthur, 170 B'way..... 1,645
Joseph, Gertrude S., 80 B'way.. 542
Jackson, Henry A., 309 E. 22d.. 2,100
Jackson, Louis, 170 Broadway.. 5,727
Jaskow, Samuel, 170 Broadway 10,999
Jewett, Edward H., 245 E. 61st. 1,686
Johnston, C. J., 111 Broadway. 667
Johnston, Albert W., 111 B'way 22,245
Jones, Stewart H., 2 Rector St. 41,103
Jaretzki, Alfred, 49 Wall St. 146,618
Jones, Chas. H., 404 Scotland Road, So. Orange, N. J....... 1,016
Joy, Benjamin, 16 Wall St..... 2,417
Joseph, George E., 165 B'way.. 2,999
Jarvie, Amelia F. G., 66 B'way 751
Jones, Albert E., 140 B'way.... 4,089
Jarvis, David W., 34 Thomas.. 2,914
Jones, Raymond E., 231 Upper Mountain Av., Upper Montclair, N. J.................... 3,610
Jennings, Laura H., 100 B'way 8,889
Jennings, F. B. (estate of), 100 Broadway 7,030
Johnston, R. W., 30 Broad St.. 1,664
Jacob, B. A., Jr., 93 Worth St.. 7,830
Jones, L. R., 47 Hillcrest Av., Summit, N. J.................. 2,038
Jackson, Jos., 445 Prod. Exch.. 569
Jenks, Jeremiah W., 13 Astor Pl 1,660
Jewett, Milford E., Forest Hills Inn, Forest Hills, N. Y....... 2,002

Kortenbeutel, F., 80 Maiden L. 6,025
Klingenstein, Jos., 168 W. 86th 18,382
Krauss, J., Chappaqua, N. Y. 1,162
Kieger, Emil L., 324 W. 81st.... 598
Kahn, Leon S., 252 W. 12th.... 1,206
Kennedy, E. B., 400 Park Av. 118,366
Kerrigan, Esther S., 22 William 30,848
Kearney, A., 480 Broome........ 230
Klingenstein, E. A., 168 W. 86th 1,559
Klingenstein, C., 315 Cent.Pk.W. 6,472
Klein, William, 120 Broadway.. 3,401
Kutisker, Morris, 1,815 7th Av 1,110
Kittredge, G. W., 592 N. Bway. 73,753
Keim, Frederick, 25 W. 45th.. 1,076
Kip, Frederic E., 38 E. 25th... 809
Kenib, H., 255 W. 90th......... 1,347
Kelly, Nicholas, 78 Irving Place 2,556
Kastenbaum, Herman, 80 West. 12,607
King, Virginia P., 21 Park Row 1,491
Kimball, Walter G., 60 Bway.. 1,549
King, Arklay, 49 Wall 1,033
H. K. Knapp, 61 Bway......... 14,532
Klee, Leon, 70 Worth 1,681
Kohn, Samuel, 424 Bway........ 791
Kimball, M. C., Palace Blvd., Bayside 1,354
Kempner, A. W., 96 Pearl 1,596
Kahn, Addie W., Cold Spring Harbor 81,038
Kohnstamm, Joseph, 87 Park Pl. 3,263
King, Bertha, 61 Bway.......... 8,423
Knott, L. H., 36 Washington Sq. 686
Kruger, F. P., 8,539 104, Richmond Hill 1,519
Kip, W. V. B., 550 Park Av... 12,845
King, Mary C., 43 Cedar 1,449

NEW YORK CITY

Second District

INDIVIDUALS

Lissberger, Henry, 233 Bway... 731
Lustberg, M., 305 West End Av. 11,494
Leveen, E. P., 752 Bway........ 1,988
Lidgerwood, J. G., 96 Liberty... 2,179
Lindley, M. G., 138 East 36th.. 1,629
Lowinson, L., 600 West End Av. 1,055
Ledyard, L. C., Room 2501, 14 Wall 116,771
Lavery, M. A., 66 Bway........ 36,209
Lewine, Jerome, 60 Beaver..... 46,522
Lichtenstein, G. P., 345 W. 14th. 4,038
Lint, M. M., 154 Nassau........ 1,993
Levy, Leo, 110 William......... 937
Lyman, H., 55 Bway........... 1,584
Lauria, T., 238 Thompson...... 1,739
Lynn, P. P., 40 5th Av......... 28,729
Lahn, Jacob, 588-590 9th Av..... 584
Little, E. N., 55 Park Av...... 2,409
Leary, H. B., 55 Bway......... 4,448
Levy, C. S., 42 Bway.......... 2,901
Lord, J. B., 35 Wall........... 3,798
Langenbach, Edwin, 52 William 844
Laidlaw, Robt. R., 26 Broadway 16,403
Liebovitz, Simon, 31 W. 89th... 8,493
Larkin, Jas. J., 36 Gramercy Pl. 909
Lane, Alfred L., 41 Harrison... 928
Laidlaw, Jas. L., 26 Broadway 44,740
Lewis, H. L. D., 725 Lexington Av. 2,002
Loeb, Eda K., 927 7th Av...... 12,756
Lissberger, Edmund, 16 E. 71st. 861
Leonard, C. R., 111 Broadway.. 19,208
Levy, Isaac H., 37 Wall........ 2,503
Leon, Rene, 178 E. 70th......... 3,212
Lawrence, A.H., Englewood,N.J. 2,920
Lee, Edward B., 71 Broadway 3,781

Mitchell, H. B., 37 5th Av...... 1,304
Merges, Francis, 100 Maiden La 1,240
Murphy, John J., 149 Bway..... 8,130
Mallinson, L. V., 270 Park Av.. 10,896
Manowitch, A., Oak, Cedarhurst 1,153
Mosgeim, G., care United Toilet Goods Co., 19 W. 18th......... 20,251
McCauley, J. M., 2,210 Schenectady Av., Bklyn............... 493
Maurice, C. A., Sr., 217 Bway.. 570
Mosheim, A., 81 Harrison, E. Orange, N. J.................. 2,141
May, Morris, 212 5th Av........ 2,128
Mills, Wm. M., 786 5th Av...... 3,198
McQueen, D. P., care Farmers Loan & Trust, 22 William..... 518
Maxwell, Howard W., 25 Bway. 60,874
Moran, James, 19 Union Sq. W. 809
Munger, Jessie, 29 Bway........ 53,069
Mortimer, Stanley, 4 E. 75th... 23,628
McNeil, James, 215 E. 18th...... 2,601
McAlpin, Emma R., 25 Bway.. 84,351
Mattison, Jos., 395 Palisade Av., Yonkers 1,748
Meinhard, Morton H., 215 4th Av 2,917
Morris, Richard L., 52 Bway.... 15,448
McLaughlin, Mary W.,80 Church 2,380
McKee, H. S., 2d., 30 Broad.... 1,078
Maurer, L. L., 110 W. 75th.... 775
Marquis, L. J., Alamac Hotel, 71st & Bway.................... 1,826
Mindlin, Harris, 130 William.... 3,487
Mahoney, F. C., 470 Audubon Av 149
Mayer, Max M., 16 Wall........ 1,561
Manning, Jos. J., 66 Bway...... 81,315
McCall, C. H., care McClave &

Figure 3.2.1: *New York Times* 1924 tax payments excerpt from September 3, 1925. Most payments are above $500, with addresses. Some entries give full names while some only have initials.

The Revenue Act of 1924 included a one time 25 percent rebate on 1923's taxes, after they had been paid. The *Chicago Tribune* claimed multiple times that they ran the numbers post-deduction, while the *New York Times* claimed multiple times that they ran them pre-deduction. When the *Chicago Tribune* ran New York numbers, they said that the New York office's numbers are not adjusted for the 25 percent deduction.

The *New York Times* included all payments over $500 in local tax collection districts, though there are selected payments under $500 of notable people. The *Chicago Tribune* runs every payment that they found. Lists sometimes were accompanied by articles that described the high taxpayers found in lists at the Collector's office the previous day, often with their industry or family details.

Using data from the *New York Times*, I have constructed a dataset of just over 10,000 individuals whose entries can be considered matches between the two years. After removing duplicates, estates, corporations, and people outside the New York area, there are 18,150 records in 1923 and 29,921 records in 1924. Of these, 11,774 match. The address field is given in 16,001 of 18,150 records in 1923, and in 28,651 of 29,921 records from 1924. I do not perform any data analysis with the 824 estates or 12,798 corporations. In other cities, there are 713 matches out of 1310 (1923) and 3290 (1924) entries. Address is given for 538 (1923) and 1504 (1924) of them.

Since the dataset is new and since newspaper editors may have been swayed to exclude certain records from their lists, I will compare the dataset against aggregate statistics presented in the *Statistics of Income*. I will also present information that determines how well-preserved the rank of each taxpayer is. This will be important in determining how important the assumption of rank preservation is in studies with aggregate data.

Some perspective on the size of the sample can be gained by comparing the number of returns with more than $20,000 of income in the sample against the number in New York or the whole United States. In 1923, the sample has 7,486 individuals with over $20,000 in income. New York had 20,647, and the USA had 80,783. In 1924, the sample has 7,987 individuals with over $20,000 in income. New York had 25,969, and the USA had 96,434. The sample therefore contains a number roughly equivalent to 1/3 of the number of filers in New York in each year and 1/12 of the number of filers in the country.

The next piece of information that describes whether the sample is representative is the number of filers in each income group relative to the total number of filers in each income group. Appendix figures in section C.2 show probability densities for both years with a minimum cutoff of $20,000. In general, the sample underestimates up to about $40,000 and overestimates at higher incomes, but the sample is roughly consistent with the aggregate data.

3.3 Assessing Data Accuracy

C. Wright Mills criticized the accuracy of the newspaper tax payment lists:

> The release of this data was so administratively sloppy that one paper published data about a man whom another paper ignored, some errors were printed, and in some cases all journalists missed the names of people who were known to have paid large taxes (There were, of course, some wealthy people whose entire income was tax free) (Mills 1963, 376).

To investigate these claims, I checked a selection of entries from the *New York Herald Tribune* (*NYHT*). I checked the first individual (non-corporate) payment over $500 under each letter appearing in the Second District in October 1924 and the Third District in September 1925. I also gathered all six-figure tax payments from the first page of September 1925's high tax payment list. I present the comparisons of the *New York Times* (*Times*) and *New York Herald Tribune* numbers in tables.

Name, in *NYHT*	*Times* payment	*NYHT* payment	difference
A. C. Veatch	3735	3755	
Barron, Jane M.		2422	not in *Times*
C. S. Goldsborough	1267	1267	
Carl L. Otto	1314	1314	
Catherine Townsend	2640	2640	
Charles H. Amerling	5895	5895	
Ernest E. Quantrell	6124	6124	
Ethel Zabriskie	4664	4664	
Frank A. Harden	1525	1525	
Frederick A. Welman	7439	7439	
Friedman, Henry A.	1751	1751	
Herbert Stern	1110	1110	
Hope Dillon	1964	1964	
Isidor Calef	1028	1028	
Joseph Yurkowitz	1161	1161	
Martin E. Untermeyer	3323	3323	
Moritz Neuberger	1722	1722	
Nathan J. Levine	1529	1529	
Philip L. Morrison	1404	1404	
Ralph Pulitzer jr	4035	4035	
Raymond Burnham	1449	1449	
Robert C. Rathbone	2748	2748	
William Adams Kissan	1085	1085	
William Ewald	7441	7441	
William F. Irwin	1053	7053	1/7 mixup

Table 3.3.1: *New York Herald Tribune* and *New York Times* 1923 tax lists comparison

Name, in *NYHT*	*Times* payment	*NYHT* payment	difference
Airey, Richard	77318	77318	
Bacon, George W.	18212	18212	
Church, George W.	47333	47338	3/8 mixup
Dixon, William J.	1809	1809	
Eaton, Charles A.	1075	1075	
Flagg, W. Allston	1940	1940	
Gardner, Jennie Bell	2529	2529	
Hoagland, Raymond	12468	12468	
Ingle, John jr	1579	1579	
Jones, Rodney Wilcox	2696	2696	
Klauder, Murray	1342	1342	
Levine, Arthur J.	2946	2946	
Marston, Hunter S.	7187	7187	
Nicoll jr., De Lancey	950	950	
O'Keefe, Timothy	4286	4286	
Potter, Edwin A. jr.	7385	7305	
Quicke, Rose G. L.	13032	13032	
Robinson, Ruth E.	2476	2475	last digit
Schubert, William H.	5490	5494	last digit
Tailer, Catherine Harding	1131	1131	
Utard, Emile	12635	12635	
Van Huekelom, Katharine W.	771	771	
Watson, Charles H.	1813	1813	
Zabriske, George A.	21486	21486	
Zborowski, Louis	6185	6185	
Zimmer, Edward	4400	4410	next to last digit

Table 3.3.2: *New York Herald Tribune* and *New York Times* 1924 tax lists comparison

Table 3.3.3: *New York Herald Tribune* and *New York Times* 1924 high tax lists comparison

Name, in *Times*	*Times* payment	*NYHT* payment	difference
Rockefeller, J. D., Junior	6277669	6277669	
Ford, Henry	2608808	2608806	6/8 mixup
Ford, Edsel	2158055	2158055	
Mellon, Andrew W.	1882600	1882609.25	0/9 mixup
Whitney, Payne	1676626	1676559	last 3 digits
Mellon, R. B.	1180099	1180699.64	0/6 mixup
Dodge, Mrs. Anna Thompson	993028	993028	
Vanderbilt, F. W.	772986	792986	7/9 mixup
Ryan, Thos. F.	791851	791851	
Baker, George F., Junior	783408	783406	6/8 mixup
Astor, Vincent	642600	642600	
Duke, J. B.	641250	641250	
Morgan, J. P.	574379	574379	
Foster, H.	569895	569989.7	5/9 mixup, 8/9 transpose
Johnson, Eldridge		542627	not in *Times*
Timken, H. H.	540336	540336.49	
Lamont, Thomas W.	480747	480747	
Warburg, F. M.	471404	471404	
Schiff, Mortimer L.	459410	459410	
Kahn, Otto H.	391776	391776	
Cochran, Alex. Smith	271542	371542.54	first digit wrong
Gary, Elbert H.	322680	322680	
Mackay, Clarence H.	320449	320449	
Wood, William M.	229971	299971.29	
Friedsam, M.	292396	292396	
Mitchell, S. Z.	283903	283903	
Baruch, B. M.	268142	268142.89	
Bedford, E. T.	235390	235390	
Ward, William B.	208586	208586	
Wiggin, Albert H.	204013	204013	
Burden, Florence V.		203654	not in *Times*
Steuer, Max D.	198455	198455	
Kresge, S. S.	188068	188608	0/6 transpose

Fairbanks, Douglas	182190	182190	
Dupont, T. C.	181164	181164.49	
Ehret, G., Senior	158445	158445.14	
Harkness, Edith H.	155411	155411	
Harkness, W. H.	134126	134126	
Depew, Chauncey M.	125920	125920.4	
Cravath, Paul D.	124570	124570	
Vanderbilt, H. A.	94107	114951.25	*NYHT* is sum of payments[14]

Differences in the numbers are usually minor, appearing towards the end of the string. Some first digits are wrong, but that is a rare mistake. Of the 24 entries checked for 1923, all but two align perfectly; one is missing and one has a first digit discrepancy. The correlation coefficient between the payment listed in the *New York Herald Tribune* and the *New York Times* is 0.8387, but increases to 1.0000 when dropping the observation with a first digit discrepancy. Of the 68 entries checked for 1924, one is missing in the *New York Times*, and the correlation coefficient for the rest is 0.9999.

Only three people of 94 searched cannot be found in the *New York Times* list. The opposite question, which is, is the list of top payments in the *New York Times* also contained within the *New York Herald Tribune*, cannot be answered as easily. While plenty of six-figure tax payments found in the *New York Times* do not appear in the *New York Herald Tribune* high payment box on September 2, 1925, they certainly may appear on the following days. I cannot answer this question easily without typing the full set of *New York Herald Tribune* tax lists, which would be a truly voluminous task.

The three observations missing from the *New York Times* is actually a maximum number of possible missing entries. During the data assembly process, some entries were illegible in

[14]the *New York Herald Tribune* runs the sum of the payments on a trust fund and regular income that appear in the *New York Times*

microfilm and do not appear in my *New York Times* dataset.

3.4 Matching

Once newspaper images were typed, the next task was to match the name, address, and 1923 tax payment information to the corresponding name, address, and tax payment information for 1924. Entries for names, addresses, and payments could not be merged on exact string matches in all cases. While exact string matching does return a large number of matches (surprisingly, around 10 percent of the entries in Chicago and New York each), many more can be obtained with "fuzzy" merging. I use the algorithm "RECLINK" by Michael Blasnik, available on RePEc (Blasnik 2010), which computes the distance between any two strings by counting the number of changes necessary to transform string one into string two. For each string in 1923, RECLINK finds the closest fitting string in 1924 and matches it, provided that the closest string in 1924 is above some minimum threshold of closeness.[15] RECLINK also first finds any exact matches between datasets, and also ignores any entries in a specified "exclude file." I also standardized names and addresses to the extent that it was clear to do so; names were inverted to appear as "Last, First," "Jas." in the name field became "James", and "B'way" became "Broadway" in the address field, among many other changes.[16]

Entries in New York often contained addresses in both years, while in Chicago, address is nearly never provided in 1923. In New York, I began by only considering entries where an address was provided in each year. Therefore, the match process for New York first found matches with the exact name and exact address string in each year. Then, I allowed address to "fuzzy" match, but name was still required to exactly match. In the second

[15] Though the default threshold is 0.6 on a 0-1 scale, most matches below 0.9 were incorrect.
[16] A tutorial and link to the do-file are on my YouTube channel: https://www.youtube.com/user/dsmarcin.

round, this allowed something like "MacMillan, Howard J.", "137 W 86th" to match to "MacMillan, Howard J.", "173 W 86th", or "137 86th St", or other small variants of "137 W 86th". These matches were reviewed individually by hand for accuracy. In each stage, there were both numerous false matches and numerous matches. The third round required the address to match exactly, but allowed the name to vary slightly. Matches were again reviewed, and finally, the last round allowed for a fuzzy match on both name and address. I again reviewed the matches individually, before I relaxed the requirement that address appear, and I repeated the same order of four fuzzy merges again. Removing the requirement that an address be present meant that in exact address matching, both address strings were empty. With fuzzy address matching, one address string would be empty and one would be present; anything with an address string in both years would have been a previously considered, and rejected, match candidate. After each round, confirmed matches were added to the "exclude file," and therefore removed from consideration in subsequent rounds.

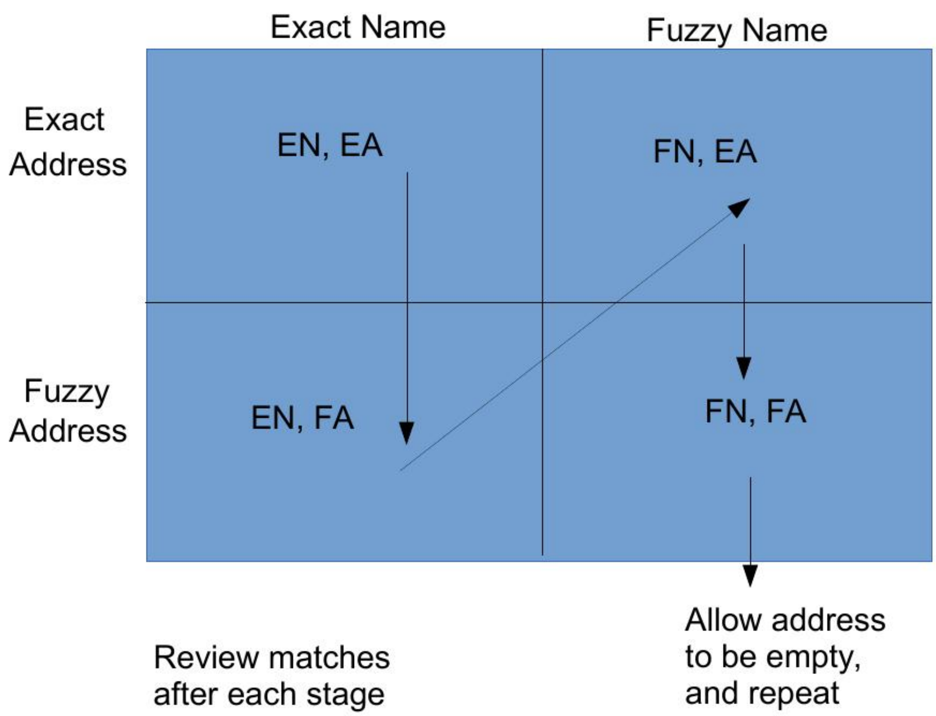


Figure 3.4.1: Flowchart showing matching procedure

I preferred this procedure because it removes all exact name matches before considering any fuzzy matches. Additionally, it removes those exact name matches with an exact address match before attempting a fuzzy address match. In this way, I avoided several incorrect fuzzy matches when an exact match was present.

After these eight rounds of fuzzy matching, I then sorted the complete database of all entries, matched and unmatched, descending by payment in each year. In this way, it was extremely easy to find numerous false non-matches among the higher payment entries. Often, this resulted from two people with the same last name matching incorrectly against a family member. For example, "McCormick, Ethan F." and "McCormick, Edith N." might match incorrectly to "McCormick, E.N." and "McCormick, Eth. F." due to the way RECLINK computes closeness and only reports the one closest match. This is also more difficult with common last names like Smith. Though each match and non-match was reviewed by hand, errors may persist, and they may persist at lower payment levels for innocuous reasons (example, if there is only "Smith, J." in 1923, but "Smith, J.F.," "Smith, E.J.," "Smith, J.D.," "Smith, J.S.," and "Smith, J.T." in 1924, I cannot match to any Smith in 1924 with much certainty).

In some cases, matches were reviewed with the tax payments in mind. For example, "Gilbert, J.O." with a payment in the tens of thousands in 1923 and "Gilbert, James O." with payment of $532 in 1924 might not be matched, while the same names with payments in the tens or hundreds of thousands in each year would be matched. In this way, the matching criterion may bias the results; however, since one regression throws out large outliers where the computed taxable incomes vary by a factor of 10, those matches would have been dropped in that computation anyway.

The following heat map shows the persistence of high incomes among returns in the sample. Returns are separated into deciles, and the color and number of each box indicate how many in each decile in 1923 are matched to each decile, or are unmatched, in 1924. The graph shows strong support for the idea of rank preservation. Certainly, in each decile, any individual who can be found in the other year is most likely to be in the same or adjacent decile. Additionally, the higher one is in the tax payment distribution, the more likely they are to appear in both years.

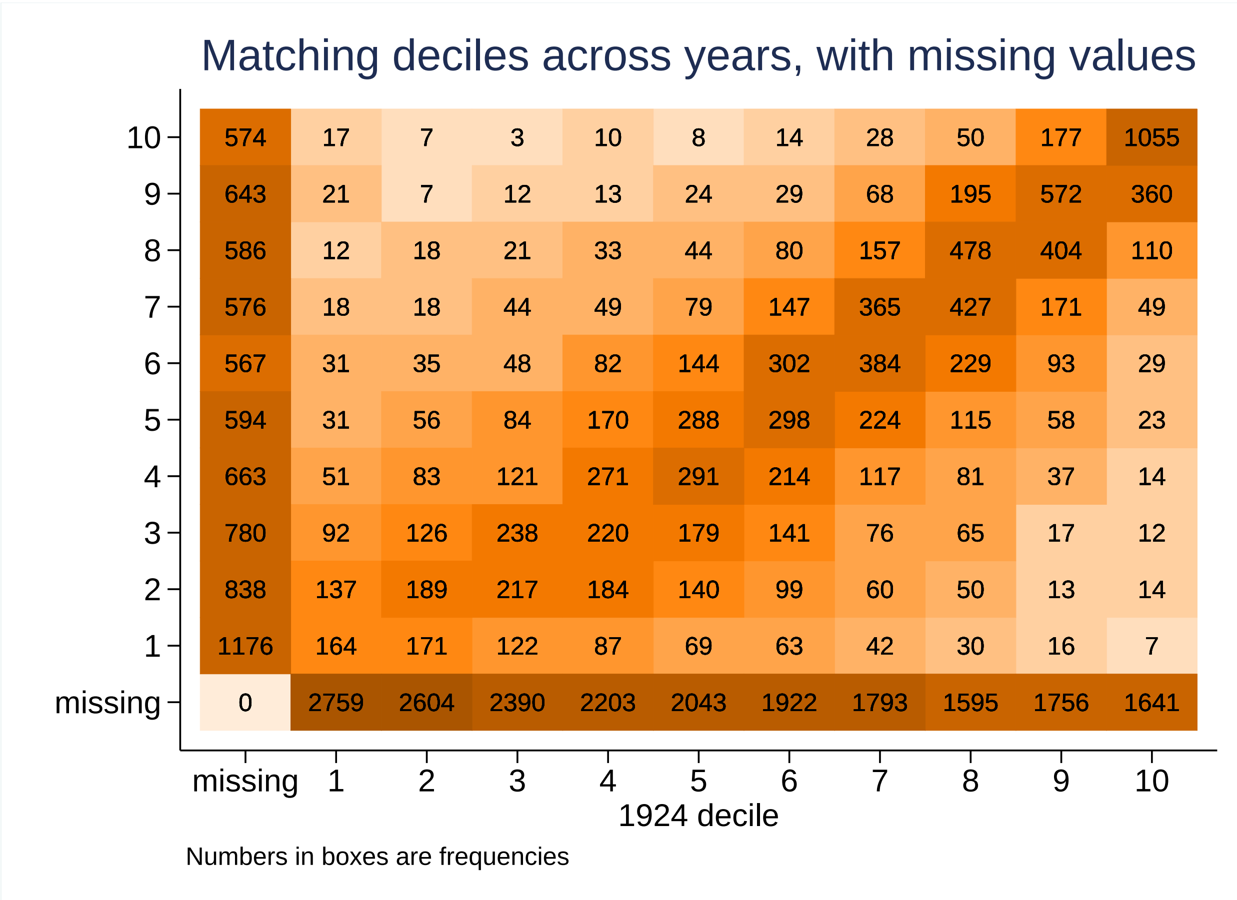


Figure 3.4.2: Taxpayers matched by decile in each year. Low deciles (1, 2, ...) are low tax payments.

In Chapter IV, I link again to other lists, including Forbes' rich lists, lists of large estates, and other lists of tax payments. I repeat the RECLINK procedure to fuzzy match the combined 1923-1924 tax payment dataset to other lists.

3.4.1 Matching Procedure Tutorials

As a byproduct of this matching process, I created video tutorials ("screencasts") to share this knowledge with the economic history and general economics communities. There is a playlist of tutorials on:

- Excel string manipulation[17]
- STATA string manipulation[18]
- The RECLINK procedure[19]

All videos can be found on my YouTube page.[20] The code for name substitutions, address substitutions, and name inversion can be found on my website.[21]

Name Inversion

My name inversion code can take a variable that is mixed "First Last" and "Last, First" and standardize all entries as "Last, First." This code was written to accommodate the majority of *New York Times* tax payment entries, and may not generalize well to other lists that have substantial differences. The code will succeed when a name entry appears as "Last, First Mi., extraneous information," but will sometimes fail if a name appears as "First Mi. Last, extraneous information."[22] The code accommodates a number of words that tend to appear after commas (estate, deceased, and wife, care, junior, senior, among others) and will process those correctly.[23] The code can easily be modified to correctly process commonly appearing words in extraneous information that appears after commas. For instance, if a dataset frequently contained ", manager", then the word "manager" could be treated the

[17] https://www.youtube.com/playlist?list=PL_rBtSh1CLjjMDhW8mYR5VlmqnPk41j6W
[18] http://www.youtube.com/playlist?list=PL_rBtSh1CLjgkS61eLOJPEbX0ZMorvyLO
[19] https://www.youtube.com/playlist?list=PL_rBtSh1CLjh0RZtjq7FbauYUJNeC_ZGm
[20] https://www.youtube.com/user/dsmarcin
[21] www.umich.edu/~dmarcin/code
[22] The successes come from the times that words that appear commonly after the comma are explicitly handled by the code, and the failures are the remainder.
[23] example: "James Harris, factory foreman" will not invert to "Harris, James," but "Harris, James, factory foreman" will, as will "James Harris, estate" and "James Harris, and wife."

same way as "estate," "and wife," and others in the code to avoid this common problem. For extraneous information that only happens a small percentage of the time, it is probably best to correct by hand. A useful way to catch these errors is to sort the name field, or the resulting last name and first name, by descending string length. Then names that are most likely to be errors appear at the top.

3.5 Data Documentation

The assembled dataset has 40,411 observations and 200 variables. I list the variables here, with a brief description of each.

Table 3.5.1: Variables in dataset with descriptions

variable	description
name	taxpayer's name in 1923 tax list, or name in external dataset if no 1923 record
uname	taxpayer's name in 1924 tax list
address	taxpayer's address in 1923 tax list
uaddress	taxpayer's address in 1924 tax list
payment1923	tax payment in 1923 list
nyhtname23	name of taxpayer in *New York Herald Tribune*, 1923
nyht23	tax payment in 1923 *NYHT*
payment1924	1924 tax payment
nyhtname24	1924 name in *NYHT*
nyht24	1924 payment in *NYHT*
district1923	tax Collector district within New York, 1923
city1923	city if outside New York, 1923
district24	tax Collector district within New York, 1924
city1924	city if outside New York, 1924
corp1923	C if corporation in 1923
source1923	date and page of *New York Times* record, 1923
anychangemade23	indicates any change from data typing service records: n name, a address, p payment, 1923
notes23	indicates duplicate or conflicting observations, 1923
idmaster	uniquely identifies 1923 tax records
oldpay23	string variable of payment in newspaper, includes illegibles or nontaxables, 1923
myscore	match score from RECLINK, from merge of 1923 and 1924 lists
idusing	uniquely identifies 1924 tax records
corp1924	C if corporation in 1924
source24	date and page of *New York Times* record, 1924
anychangemade24	indicates any change from data typing service records: n name, a address, p payment, 1924
notes24	indicates duplicate or conflicting observations, 1924
oldpay24	string variable of payment in newspaper, includes illegibles or nontaxables, 1924
censusnotes	any biographical information discovered on person in 1924's top 400 to help with matching
address1920	1920 Census address
sons1920	1920 Census number of sons

daughters1920	1920 Census number of daughters
servants1920	1920 Census number of servants
headhouse1920	1920 Census, household status (head, wife, son, etc)
homeown1920	1920 Census homeownership, O own, R rent, Un unknown
mortgage1920	1920 Census mortgage information, O own, F free
sex1920	1920 Census sex, M male F female
color1920	1920 Census color, all W for white
age1920	1920 Census age, as string, includes missing. See realage1920 for numeric.
marital1920	1920 Census marital status. D divorced, S single, M married, W widowed, Un unknown
immigyear1920	1920 Census year of immigration
natoralien1920	1920 Census alien or naturalized
naturyear1920	1920 Census year of naturalization. Sometimes is before the immigration year and can't be trusted. Also often conflicts with the years given in 1930 by the same people.
inschool1920	1920 Census, whether in school.
canread1920	1920 Census, whether can read.
canwrite1920	1920 Census, whether can write.
birthplace1920	1920 Census birthplace of person
mothtong1920	1920 Census mother tongue
patbirth1920	1920 Census paternal birthplace
pattongue1920	1920 Census paternal language
matbirth1920	1920 Census maternal birthplace
mattongue1920	1920 Census maternal language
engspeak1920	1920 Census whether English speaker
profession1920	1920 Census self reported profession
industry1920	1920 Census self reported industry
salarytype1920	1920 Census salary type, OA for own account, Em employed, W wage worker, S salaried worker
sector1920	1920 Census, sector, my description given profession & industry
occup1920	1920 Census occupation, my match to Census broad categories
address1930	1930 Census address
sons1930	1930 Census number of sons
daughters1930	1930 Census number of daughters
servants1930	1930 Census number of servants

homeown1930	1930 Census homeownership, O own, R rent, Un unknown
rentorvalue1930	1930 Census home value or monthly rent
radio1930	1930 Census, R for household owns radio
liveonfarm1930	1930 Census, yes for families on farms
sex1930	1930 Census sex
color1930	1930 Census color
age1930	1930 Census age, as string. See realage1930 for numeric values.
marital1930	1930 Census marital status
ageatfirstmarriage1930	1930 Census age at first marriage
inschool1930	1930 Census, whether in school
canreadwrite1930	1930 Census, whether can read/write
birthplace1930	1930 Census birthplace of person
patbirth1930	1930 Census father's birthplace
matbirth1930	1930 Census mother's birthplace
langspokenbeforeusa1930	1930 Census language spoken at home
yearimmig1930	1930 Census year of immigration
naturalized1930	1930 Census whether naturalized
canspeakenglish1930	1930 Census whether an English speaker
occupation1930	1930 Census occupation, self reported
industry1930	1930 Census industry, self reported
sector1930	1930 Census sector, my description given occupation & industry
occup1930	1930 Census occupation, my match to Census broad categories
employed1930	1930 Census, whether employed on last working day
veteran1930	1930 Census, whether a veteran
war1930	1930 Census, war served in. WW world war, Sp Spanish American, Husband WW for husband indicates WW veteran status
kleinlastname	Last name in Klein's list of large estates
idcensus	uniquely identifies those who appear in either 1923 or 1924 *New York Times* tax lists
kleinscore	match score from merge operation between Klein list and *NYT* list
idklein	uniquely identifies observations in Klein
estatesize	size of estate from Klein
parenssection	separates any information in parentheses in Klein list
commasection	separates any information after comma in Klein list

withoutcomma	the name, without extraneous information, in the Klein list
kleinmerge	klein merge code, 1 for master only (*NYT* tax lists), 3 for match
forbesmmafirstname	first name from Forbes's Men Making America
forbesmmascore	Forbes Men Making America merge closeness score
forbesmmalastname	last name from Forbes's Men Making America
idforbesmma	uniquely identifies Forbes MMA entries
where_born	Forbes MMA birthplace
parentsstatus	Forbes MMA wealth of parents
age1921	Forbes MMA age in 1921
began	Forbes MMA first job
chiefsuccess	Forbes MMA industry of person's success
forbesmmamerge	Forbes MMA merge code, 1 for master only, 3 for match
forbesrichlastname	Forbes rich list last name
forbesrichfirstname	Forbes rich list first name
forbesrichscore	Forbes rich list merge closeness score
idforbesrichlist	Forbes rich list unique identifier
forbesrichname	Forbes rich list name
estimatedfortune	Forbes rich list estimated fortune
yearlyincome	Forbes rich list yearly income
chiefsource	Forbes rich list chief source of income/wealth
forbesrichmerge	Forbes rich list merge code
rumlonelastname	Morgenthau memo top 10 salary list last name
rumlonescore	Morgenthau memo top 10 salary list closeness score
rumlonefirstname	Morgenthau memo top 10 salary list first name
idrumlone	Morgenthau memo top 10 salary list unique identifier
salary1941	Morgenthau memo top 10 salary list salary for 1941
totalincome1941	Morgenthau memo top 10 salary list total income for 1941
tax1941	Morgenthau memo top 10 salary list total tax for 1941
ni1941aftertax	Morgenthau memo top 10 salary list net income after tax for 1941
rumlonemerge	Morgenthau memo top 10 salary list merge code
rumltwolastname	Morgenthau memo top 100 income list last name
rumltwofirstname	Morgenthau memo top 100 income list first name
rumltwoscore	Morgenthau memo top 100 income list closeness score
idrumltwo	Morgenthau memo top 100 income list unique identifier
ni1936	Morgenthau memo top 100 income list net income for 1936, within 1941's top 10

ni1937	Morgenthau memo top 100 income list net income for 1937, within 1941's top 10
ni1938	Morgenthau memo top 100 income list net income for 1938, within 1941's top 10
ni1939	Morgenthau memo top 100 income list net income for 1939, within 1941's top 10
ni1940	Morgenthau memo top 100 income list net income for 1940, within 1941's top 10
ni1941	Morgenthau memo top 100 income list net income for 1941, within 1941's top 10
rumlcancel	Morgenthau memo top 100 income list, tax liability cancelled under Ruml plan
remainingtax	Morgenthau memo top 100 income list, tax liability remaining under Ruml plan
rumltwomerge	Morgenthau memo top 100 income list merge code
manipname	name for manipulation & isolation of first/last name, usually generated from the longer of name and uname
lastname	last name isolated from manipname (see nameclean.do, or YouTube tutorial)
firstname	first name isolated from manipname
klauslastname	Wealth by Reputation memo last name
klausfirstname	Wealth by Reputation memo first name
klausmiddle	Wealth by Reputation memo middle initial or name
klausscore	Wealth by Reputation memo closeness score
idklaus	Wealth by Reputation memo unique identifier
klausdistrict	Wealth by Reputation memo taxpayer district
klausstate	Wealth by Reputation memo taxpayer state
klausother_ex_trust	Wealth by Reputation memo taxpayer Jr., D for deceased or Trust
klausspouse	Wealth by Reputation memo spouse name
klausnetinc1928	Wealth by Reputation memo 1928 net income
klaustax1928	Wealth by Reputation memo 1928 tax
efftaxrate1928	Wealth by Reputation memo tax over net income 1928
totaltax1928	Wealth by Reputation memo Python generated total tax, 1928
cgtax1928	Wealth by Reputation memo Python generated capital gains tax, 1928
nrmtax1928	Wealth by Reputation memo Python generated normal tax, 1928

srtax1928	Wealth by Reputation memo Python generated surtax, 1928
cg1928	Wealth by Reputation memo Python generated capital gains total, 1928
ni_noCG_1928	Wealth by Reputation memo Python generated total net income without capital gains, 1928
klausni1929	Wealth by Reputation memo 1929 net income
klaust1929	Wealth by Reputation memo 1929 tax
klausni1930	Wealth by Reputation memo 1930 net income
klaust1930	Wealth by Reputation memo 1930 tax
klausni1931	Wealth by Reputation memo 1931 net income
klaust1931	Wealth by Reputation memo 1931 tax
klausni1932	Wealth by Reputation memo 1932 net income
klaust1932	Wealth by Reputation memo 1932 tax
klausni1933	Wealth by Reputation memo 1933 net income
klaust1933	Wealth by Reputation memo 1933 tax
klausni1934	Wealth by Reputation memo 1934 net income
klaust1934	Wealth by Reputation memo 1934 tax
klausrank	Wealth by Reputation memo list order, sometimes is missing for names with multiple entries
klausmerge	Wealth by Reputation memo merge code
_mergeklein	identifies those unmatched in Klein estate list
_mergeforbesrich	identifies those unmatched in Forbes rich list
_mergeforbesmma	identifies those unmatched in Forbes Men Making America list
_mergerumlone	identifies those unmatched in Morgenthau Top 10 salary list
_mergerumltwo	identifies those unmatched in Morgenthau Top 100 income list
_mergeklaus	identifies those unmatched in Wealth by Reputation list
homeval	numeric value of home value or rent, 1930 census
marriedage	numeric value of 1930 census age at first marriage
realage1920	numeric value of 1920 census age
realage1930	numeric value of 1930 census age
realimmigyear1920	numeric value of 1920 census immigration year
realimmigyear1930	numeric value of 1930 census immigration year
deciles1923	decile of 1923 tax payment, 1 low, 10 high
deciles1924	decile of 1924 tax payment, 1 low, 10 high
censuspct	decile within 1924's top 400 (1-40: 10, 361-400:1)
censusfound1920	whether found in census in 1920

censusfoundwdiedby1930	whether found in census in 1930, also an indication if person is confirmed dead before 1930
inny23	whether in New York in 1923 tax list
inny24	whether in New York in 1924 tax list
diedby1930	whether dead by 1930 (missing only means not confirmed)
censusfound1930	whether found in census in 1930, regardless of whether confirmed dead before 1930
rank1924	descending rank of taxpayer in 1924
rank1923	descending rank of taxpayer in 1923
pcttaxpaid1923	percent of total US tax paid in 1923
cmltax1923	cumulative percent through this person of US tax paid in 1923
pcttaxpaid1924	percent of total US tax paid in 1924
cmltax1924	cumulative percent through this person of US tax paid in 1924
klausni1928rank	rank of individual in Wealth by Reputation, 1928 net income
klaustax1928rank	rank of individual in Wealth by Reputation, 1928 tax

3.5.1 Data Availability

All data and documentation will be made available after a two year embargo. I will consider co-authorship requests during the embargo.

3.6 Conclusion

This chapter describes the assembly of a new dataset based primarily on names, addresses, and high tax payments that appeared in the *New York Times* in 1923 and 1924. The data is well documented; all observations can be traced back to their original newspaper sheet. I compare the data against aggregate statistics and other newspapers and find that it withstands a reasonable amount of scrutiny. I describe the automated matching procedure and provide guidance to other researchers attempting similar work. The data form a valuable contribution to the study of high incomes in American history.

CHAPTER IV

Who are the top 400?

4.1 Introduction

The Revenue Act of 1924 provided for publicity and open inspection of income tax returns in the United States. While only in effect for two years, this provision gives us a unique window into the identities of high-income individuals. Major newspapers ran name, address, and tax payment for tens of thousands of high-income individuals. I link this data to the 1920 and 1930 Census, as well as five lists of high-income and high-wealth Americans. In doing so, I offer descriptive statistics of the high-income group that are rarely, if ever, publicly available.

The second chapter describes the Revenue Act of 1924, how it came to be, the context of its passage, and the tax system that it implemented. This chapter describes data on the highest tax payments appearing in public lists, and the identities of those who paid them. I attempt to determine how many of the fortunes were self-made or inherited by consulting lists of families with large estates in the preceding decades.

4.2 Literature

Data on high-income Americans may be hard to come by, but the literature is filled with studies of unspecified methodologies on their identities and demographics.

BC Forbes, in *Men Who are Making America*, compiles a series of short biographies of extremely successful men (Forbes 1926). While the sample is certainly not scientific, Forbes praises all of the men as extremely industrious. He notes that they are nearly all over the age of 50, and says this implies that vast fortunes must be earned through hard work over decades. This argues against the work of Klein and Lundberg noted in the previous chapter. Klein (1921) finds that those known to be wealthy or to be the heirs of large estates held large controlling interests in domestic industries. Lundberg (1939) analyzes 1923-24 newspaper tax lists for the presence of wealthy family surnames. Forbes argues for self-made fortunes while Klein and Lundberg assert that wealth, power, and privilege are inherited.

C. Wright Mills (1963) compiles a list of wealthy Americans with $30 million fortunes. He considers 275 individuals of his own choosing; he calls them the 90 richest of 1900, the 95 richest of 1925, and the 90 richest of 1950. Mills does not reveal who is on his list, but he does give general information on them.[24] Among his sources are Lundberg (1939) and Myers (1936). Mills also raises issues with the quality of 1924-1925 tax payment lists; these are addressed in the previous chapter.

Edward N. Wolff uses Federal Reserve survey data to provide demographic data on the rich in the US for 1983 and 1992 (Wolff 2000). The *Survey of Consumer Finances*, administered to a representative sample, plus a high-income supplement, allows Wolff to describe both the high-income and high-wealth group. Wolff provides information on age, education, marital status, race, employment, industry, and occupation. He is able to do this for both

[24] For example, he gives the region of their birthplace, their median age, and their class background.

1983 and 1992, and to view changes between those two surveys. He finds that the high-income and high-wealth groups are much more highly educated than the general population, and that 98 percent of the rich are non-Hispanic whites, despite only 75 percent of the population fitting that category at the time. Employment dropped sharply among the non-elderly wealthy, from 86 to 77 percent over the time period studied, and retirement increased from 4 to 10 percent. Employees in finance, insurance, real estate, farming, mining, and business services were overrepresented among the rich, while other occupations including manufacturing and transportation were underrepresented. Wolff presents many fascinating statistics on the rich that can be duplicated with Census data on the large taxpayers of the 1920s.

Jon Bakija, Adam Cole, and Bradley Heim use confidential US Treasury data to determine the occupations of the top 1 percent of the income distribution from 1979 to 2005 (Bakija et al. 2012). The authors find that in 2004, nearly 20 percent of the top 0.1 percent by income have occupations in finance or are executives at financial firms. About 6 percent are lawyers and 3 percent are in entertainment. When analyzing data from the full period of 1979 to 2005, they find that the share of occupations in finance grew dramatically, but other occupations remained mostly stable.

The IRS makes data tables available on top wealth holders by size of net worth, age, and state with data from the Personal Wealth Study, going as far back as 1989.[25]

4.3 Inequality and mobility

A growing literature examines income inequality and social mobility in the United States over the 20th century. A recent study by Chetty et al. studies American intergenerational mobility in the latter part of the 20th century (Chetty et al. 2014). Using de-identified tax

[25] http://www.irs.gov/uac/SOI-Tax-Stats-Personal-Wealth-Statistics

data, the authors compute the correlation between parent and child income percentile ranks. They conclude that there is no difference in mobility, but that the stakes are higher in the "birth lottery" since income inequality has increased. Clark et al. use the rarity of surnames in lists of people of high status to compute social mobility across nations and centuries (Clark et al. 2014). They find a relatively constant correlation between parent and child high status of about 0.75 to 0.85, regardless of country or time period.

A monograph from the US Temporary National Economic Committee gives a multitude of figures on concentration of income from 1918 to 1937. From 1918 to 1924 and 1930 to 1937, the share of income earned by the top 1 percent fluctuated between 12 and 14 percent. However, from 1925 to 1929, this share fluctuated between 16 and 19 percent (Concentration 1941, 16). The minimum net income to be in the top 1 percent was $7,045, and 429,280 people were in that class. To be a member of the top 1/100 of 1 percent, the minimum net income was $118,400, and a total of 4,293 people ranked there (Concentration 1941, 28-29).

In *Striking it Richer: The Evolution of Top Incomes in the United States*, Emmanuel Saez (2012) provides evidence that the shares of income accruing to the top percentiles of US families in the present day are similar to the levels seen in the 1920s. The top decile, both including and excluding capital gains, hovered between 40 and 50 percent both now and in the 1920s, but stayed between 30 and 35 percent for almost the entire span from 1940 to 1980. Meanwhile, around 20 percent of total income accrued to the top 1 percent in the 1920s and today, while that figure was below 15 percent from the early 1940s to the late 1980s. The top 0.01 percent had an even more stark difference, with 3 to 6 percent of total income accruing to them in the 1920s and today, but only around 1 percent between 1940 and 1980.

Lynn Karoly (1994) examined the link between changing inequality and tax policy that may accelerate changes in *Trends in income inequality: the impact of, and implications for, tax policy*. Karoly used data from the US Census Current Population Survey from 1970 to 1990 to analyze changes in the Gini coefficient of pre-tax income. Karoly found, however, that tax policy did not contribute very much to changes in income inequality in the USA from 1970 to 1990. In addition, she found that attempts to institute a more progressive tax system could not be enough to offset the gains in inequality.

Ferdinand Lundberg explored the "golden dynasties" who wield power and influence in early 20th century America (Lundberg, 1939). Similarly, in *Dynastic America and Those Who Own It*, Henry Klein (1921) noted the sizes of large estates in the years preceding 1921. Klein concluded that the majority of wealth in America is inherited, not earned. If true, these books argue against the applicability of the lessons of the 1920s to current tax policy if today's fortunes are self-made (certainly true for Gates, Buffett, and numerous corporate executives).

4.4 Data

I use the New York Times list of 1923 and 1924 taxpayers described in chapters two and three. I link this to several new sources. First is the 1920 and 1930 US Federal Census of the Population individual level observations. I manually searched for these records through Ancestry.com. There are advantages to searching for high-income taxpayers. Due to their enormous fame, these people often appear in encyclopedias with birth dates and locations. Additionally, the 1920 and 1930 Census have occupation information, as well as the number of servants living in the household. The 1930 Census also has the value of the home. Due to these additional pieces of information, I can match around 70 percent of the top 400 taxpayers to their Census records.

I also link to a list of large estates up to 1921. The list that I use claims to be a complete list of estates over $10 million and a partial list of estates over $5 million (Klein 1921). I match on last name only between the newspaper tax dataset and this list of large estates.

I link to BC Forbes's *Men Who Are Making America* (Forbes 1926) which contains a list of 50 wealthy industrialists, giving information on age, parents' social status, and industry sector of chief success. I also use the first Forbes "rich list" (Forbes 1918), which also gives industry sector, as well as an indication of who is both wealthy and famous.[26]

I link to *Wealth by Reputation*, a Treasury report prepared by Samuel Klaus, a Treasury analyst, under the supervision of Robert Jackson (Klaus 1935). Jackson, the general counsel at the Bureau of Internal Revenue, sought to know how much income was controlled by powerful corporate executives, so he had Klaus prepare a report of about 200 taxpayers with net income and tax from 1928 to 1934.[27] These taxpayers represent some combination of who is thought to be powerful and who has high income. It is not explained how these specific 200 came to be included, but certainly they are among the elite. They almost certainly are not the precise top taxpayers in any year from 1928-1934 or even the combination of those years.

I also link to a memo prepared by Treasury Secretary Henry Morgenthau in 1941 (*Tax Notes* 1996). During a debate over the treatment of 1941's taxes when bringing withholding into existence, President Franklin Roosevelt wanted to know which taxpayers would most benefit from a partial or complete forgiveness of 1941's taxes. FDR explicitly asked for a memo without names, but received a memo with the names and incomes of the top 10

[26] As I will show later, some names in the newspapers are surprising to editors and readers. It is possible that some high-income people might be relatively anonymous. Based on my experience matching records to the Census, I think that this is rare.

[27] Jackson was later the Attorney General, and Associate Justice of the Supreme Court.

salaried employees in 1941. Morgenthau included another table with the top 100 net incomes in 1941, with net incomes also given for 1940. For the top 10 on this list, he included net incomes back to 1936.

The linking of these datasets to the newspaper tax lists provides a unique look at incomes and mobility across decades and generations. I start by looking to the past from the perspective of 1924. I see whose last name matches the last name of a large estate in recent times, which gives an idea of who is inheriting wealth from an earlier generation (but not necessarily who is not). Looking forward from 1924, I start with tax paid in 1923 and 1924, and add net income and tax paid from 1928 to 1934, as well as 1940 and 1941, with a few observations of 1936 to 1939. John D. Rockefeller Jr. appears in every one of these years, and Edsel Ford appears as well with income too low to be reported from 1932 to 1934. Many others that were not in 1941's top ten were in the top 100, and so span the full length of the period, including Doris Duke and Henry Ford.

The number of matches is listed in table 4.4.1. Match rates to the 1920 and 1930 Census are low for the total dataset by design; I only looked for matches in the top 400, so the match rates in the total dataset only reflect searches among the top 400 payments in 1924.[28]

[28]Matches outside of the top 400 represent a few insurance matches beyond 400.

	in top 100	in top 200	in top 400	total
number	100	200	400	40411
1920 census (percent of group)	73 (73)	152 (76)	291 (73)	293 -
1930 census (percent of group)	69 (69)	133 (67)	266 (67)	270 -
1920 and 1930 (percent of group)	54 (54)	110 (55)	217 (54)	219 -
Klein estates (percent of group)	26 (26)	44 (22)	87 (22)	3759 (9)
Forbes MMA (percent of 30)	8 (16)	12 (24)	16 (32)	31 (62)
Forbes Rich (percent of 50)	9 (30)	12 (40)	15 (50)	20 (67)
1928-1934 Treasury (percent of 208)	27 (13)	36 (17)	53 (25)	111 (53)
1940-41 Salaried (percent of 10)	0 (0)	0 (0)	0 (0)	2 (20)
1940-41 Top 100 (percent of 100)	7 (7)	11 (11)	17 (17)	39 (39)

Table 4.4.1: Number of observations matched across data sources

name	observations	dates	description
1920 US Federal Census of Population	top 400 of 1924	1920	Census of population, contains demographic and occupation information
1930 US Federal Census of Population	top 400 of 1924	1930	Census of population, contains demographic and occupation information
Klein estates from *Dynastic America*	239	by 1921	Estates over $5 million by name, no other information given
Forbes *Men who are Making America*	50	1921	Wealthy industrialists with their ages, approximate wealth, industries
Forbes first rich list	30	1918	Forbes first estimate of those with wealth over $5 million
Wealth by Reputation Treasury memo	208	1928-1934	List of high incomes and taxes paid, by name, 1928-1934. Inclusion on the list is due to some combination of income and prestige.
1940-41 Morgenthau memo, part one	10	1941	Top 10 salaries, by name, for tax year 1941
1940-41 Morgenthau memo, part two	100	1936-1941	Top 100 incomes, by name, for 1941, with incomes for 1940 also given. For 1941's top 10, the memo also gives incomes for 1936-1939, and more detailed information on income.

Table 4.4.2: Data descriptions

4.4.1 Census matching success

Table 4.4.1 shows that the rate of matching to the Census in 1920 only, 1930 only, and both years is roughly the same for the top 100, 200, and 400. I explore this more in this section. I divide the top 400 into deciles of 40 each and examine the match rates in each decile. I also compare match rates against whether the individual lived in the New York area according to the newspaper tax lists. Finally, I compare the ages of those that I find in 1920 against whether I can match them in 1930. In this last case, I also examine the ages of those that died before 1930, according to encyclopedia entries.

It is hard to see any pattern in match rates by decile within the top 400 for either the 1920 or 1930 Census. There may be a slight increase in match rates for the 1920 Census near the top, but it is slight. The match rate is higher for those living outside the New York area in both 1920 and 1930, but again, not drastically. The match rates also appear nearly identical for those that appear in both 1923 and 1924, and those that only appear in 1924. The age graph matches intuition perfectly. Those that died by 1930 are on average the oldest in 1920, and those that cannot be found in 1930, but are not confirmed to have died before 1930, are next oldest (of course, they may have died, as I do not have a death date on everybody, which I believe explains the increase). Those that can be found in both 1920 and 1930 are the youngest, on average, of the three groups.

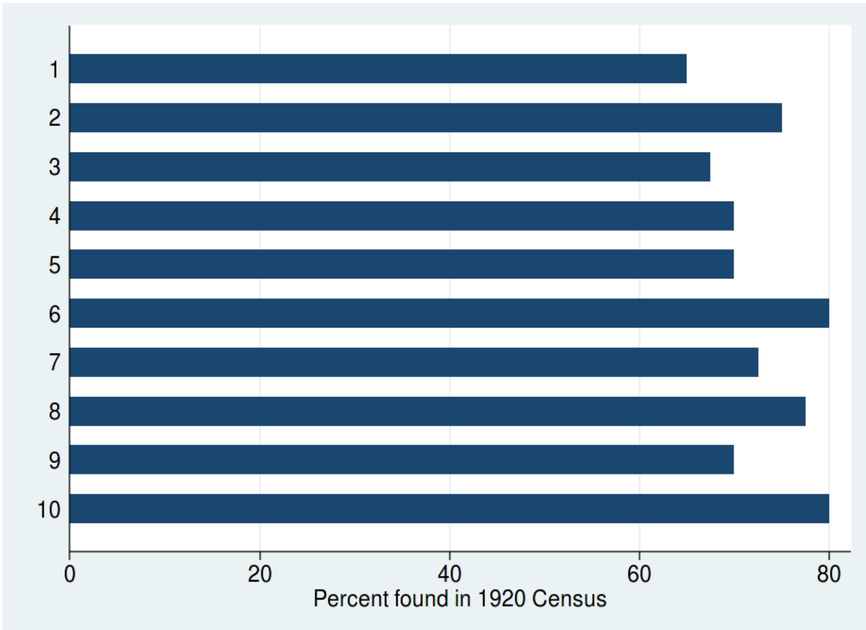


Figure 4.4.1: Matching totals by decile within the top 400, 1920 Census

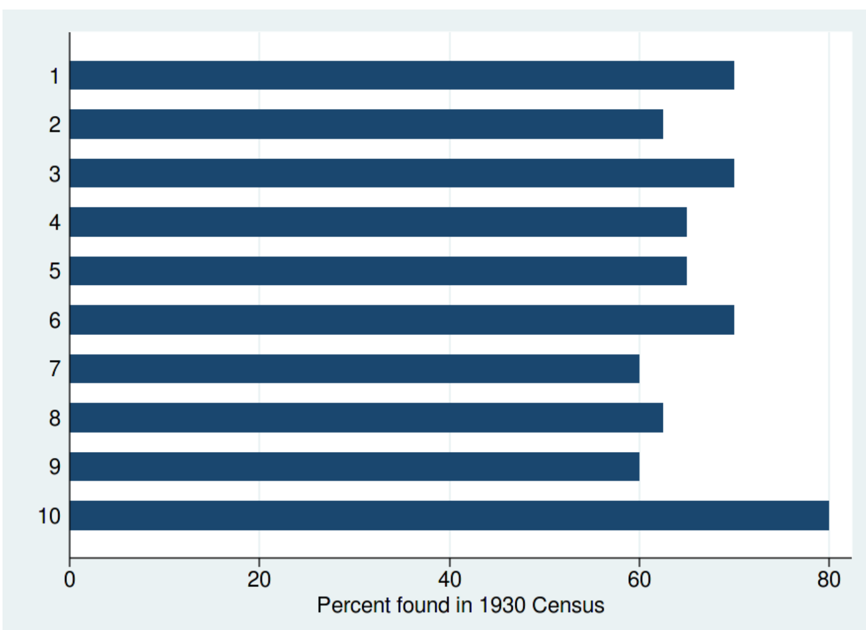


Figure 4.4.2: Matching totals by decile within the top 400, 1930 Census

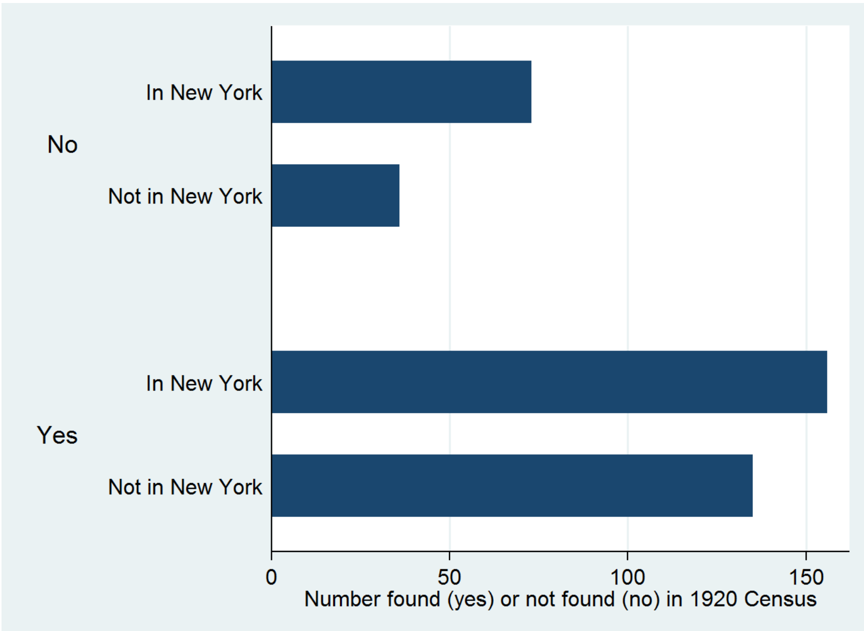


Figure 4.4.3: Matching totals by New York residency, 1920 Census

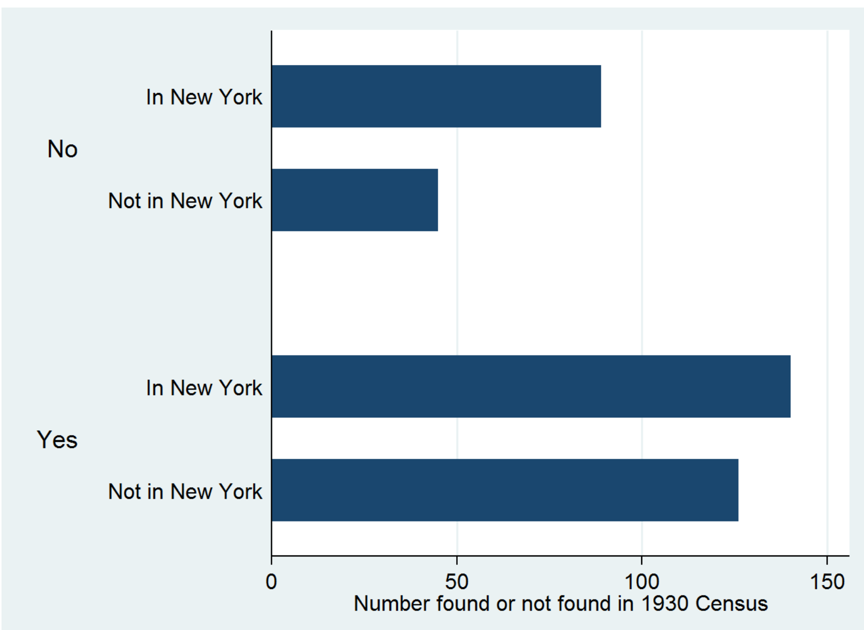


Figure 4.4.4: Matching totals by New York residency, 1930 Census

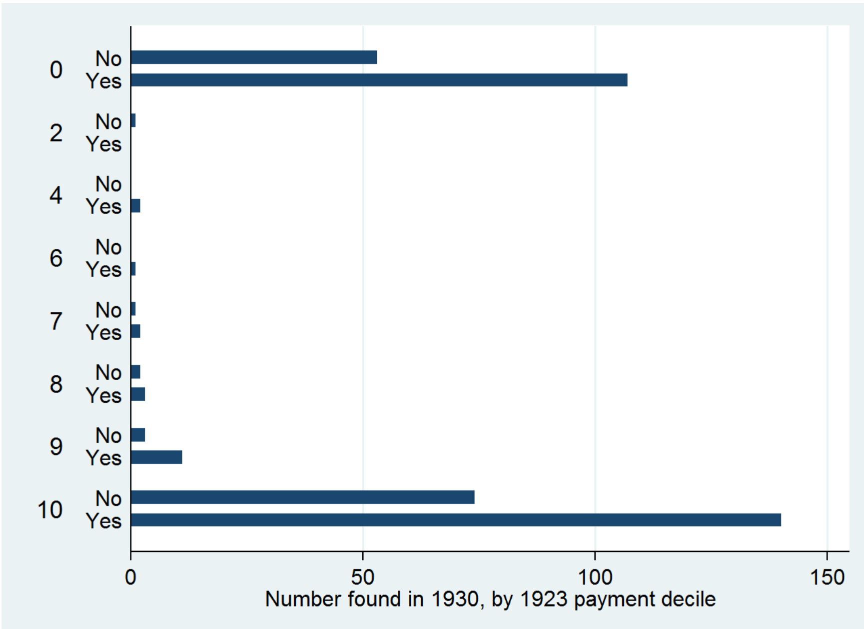


Figure 4.4.5: Matching totals for 1930 Census by decile of 1923 tax payment

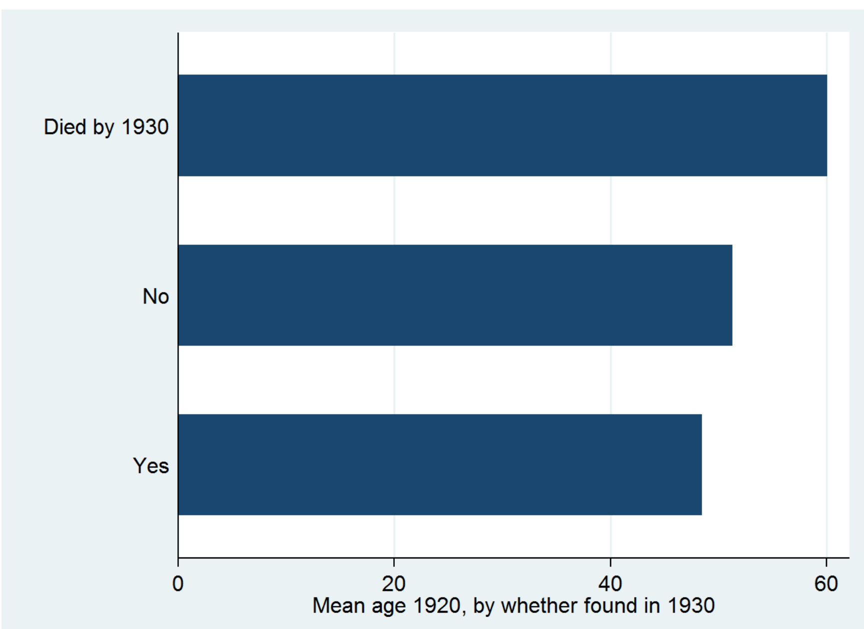


Figure 4.4.6: Mean age in 1920 Census by whether found in 1930 Census, or known to have died

4.4.2 Correlation of tax payment and income

In the main year of interest, 1924, I have information on the tax payment, but not the income of the individual. I attempt to show that the ordering of tax payments and the ordering of incomes is very similar. I use 1928-1934 data on top taxpayers to compare the ranks of the top incomes and the top taxpayers. In years most likely to be unaffected by the Great Depression, 1928 and 1934, the Spearman's rank correlation coefficient is very high. Years between 1929 and 1933 are highly likely to be affected by prior year losses, which would affect the relationship between stated income in a given year and the tax liability owed in that year. I present the results in Table 4.4.3. The correlation coefficient of the values of net income and tax in 1928, rather than their ranks, is 0.9936.

year	N	Spearman's
1928	164	0.9851
1929	149	0.9431
1930	118	0.9348
1931	80	0.9749
1932	79	0.8639
1933	83	0.9154
1934	76	0.9977

Table 4.4.3: Spearman's rank correlation coefficient between taxes paid and net income, 1928-1934 top taxpayers

I also show the top 30 individual incomes of 1928, connected with their tax payments in 1928, in Figure 4.4.7. The two left columns indicate the names of the top 30 taxpayers, adjacent to their net incomes. The thin blue lines connect the ranked net incomes with the ranked tax payments. Most lines are relatively flat and none move more than a handful of spots. The number one and number two incomes are the number one and two tax payments, in order, and the top 5 incomes are the top 5 tax payments, though not in order.

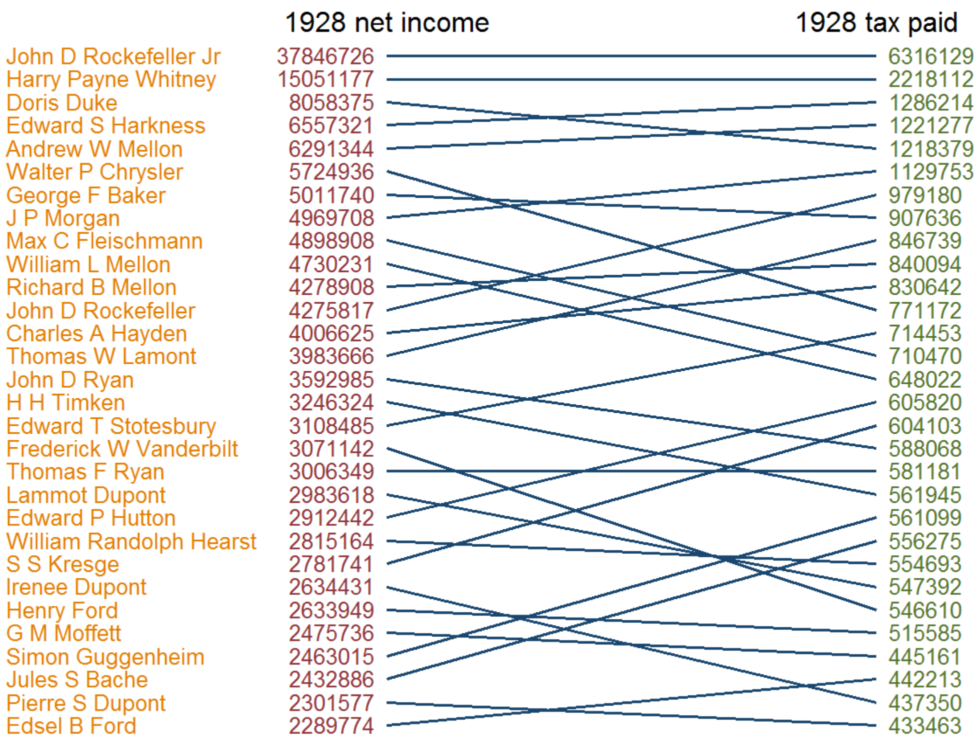


Figure 4.4.7: 1928 net incomes and taxes, linked

4.5 The Top Taxpayers

4.5.1 Distribution and Pareto coefficient

In 1923, John D. Rockefeller, Jr. paid 0.84 percent of all federal individual income taxes, while he paid 0.89 percent of all federal individual income taxes for 1924. The top 100 paid just under 6 percent of taxes in 1923 and about 7.5 percent in 1924. The top 400 paid about 10 percent of federal individual income taxes in 1923, and 13.5 percent in 1924.

Figure 4.5.1 shows each individual's percent of total federal individual income taxes in each year, as well as the cumulative distribution through that person, in each year. I also fit a Pareto distribution to the tax payments of the top 400 in each year. In 1923, payments follow a Pareto distribution with coefficient 1.504 and standard error 0.0752. In 1924, payments follow a Pareto distribution with coefficient 1.591 and standard error 0.0795.

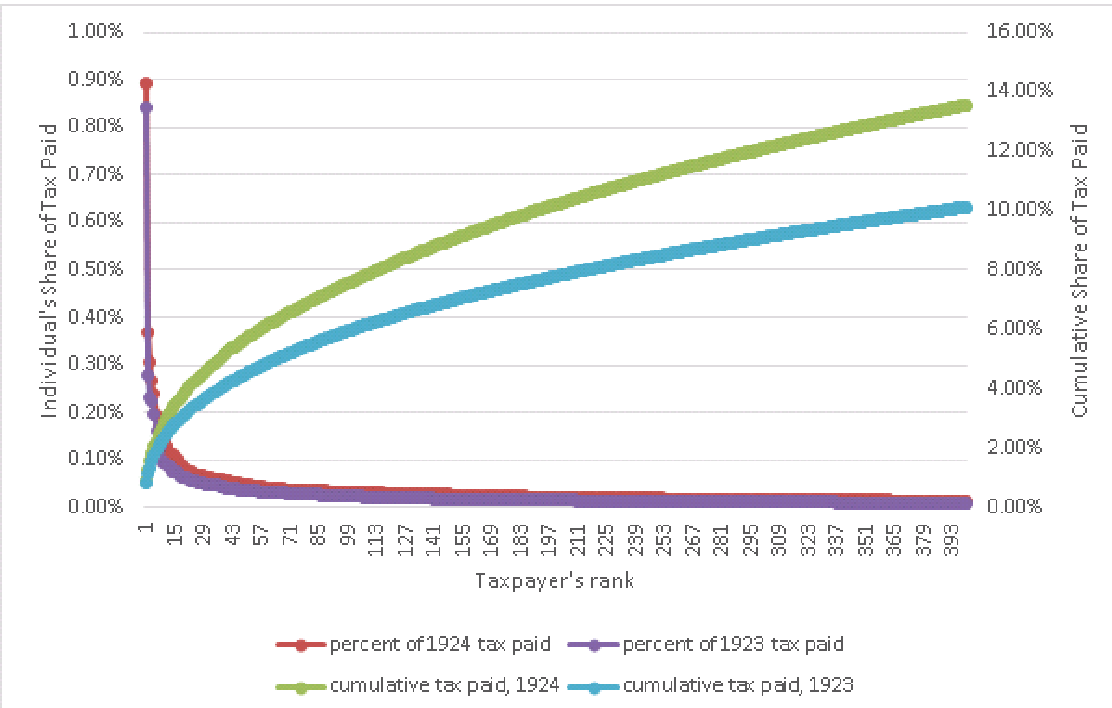


Figure 4.5.1: Percent of taxes paid by the top 400 in 1923 and 1924

Given that the term “top 1 percent” has become extremely popular, I compute the share of taxpaying units held by the top 400. Piketty and Saez (2003) give the number of taxpaying units in the US in 1923 and 1924 as 44,409,000 and 45,384,000, respectively. If each were rounded to 40 million, then the top 400 in each year would be one one-hundred-thousandth of the population, or one one-thousandth of a percent. This would be the 0.001 percent. The precisely computed numbers in each year are 0.00090 percent for 1923 and 0.00088 percent for 1924.

4.5.2 The Top Ten

I present the top ten taxpayers in both 1923 and 1924 in order, with the industries that they are most well known for, and amassed their fortunes in, as well as a small amount of biographical information. Not surprisingly, most of the top ten remain famous to this day, and seven appear on both top ten lists.

Rank, 1923	Name	Tax	Industry	Short Biography
1	John D. Rockefeller, Jr.	$7,435,169	Oil	Head of Standard Oil, son of JD Rockefeller, founder
2	Henry Ford	$2,467,946	Auto	Auto executive
3	Payne Whitney	$2,041,951	Oil	full name William Payne Whitney, partial heir to Payne and Whitney fortunes
4	Edsel Ford	$1,984,254	Auto	Son of Henry Ford
5	Edward Harkness	$1,755,259	Oil	Son of Stephen Harkness, original partner in Standard Oil
6	Anna Harkness	$1,422,676	Oil	Wife of Stephen Harkness, mother of Edward Harkness
7	Andrew Mellon	$1,173,988	Banking, aluminum	Secretary of Treasury, financed Alcoa
8	William Wrigley, Jr.	$1,154,420	Gum	Chewing gum manufacturer
9	T. W. Lamont	$847,820	Banking	JP Morgan partner, advisor to Wilson, Hoover, FDR
10	Julius Fleischmann	$827,384	Yeast	Inherited Fleischmann's Yeast, later Mayor of Cincinnati

Table 4.5.1: Top ten taxpayers, 1923

Rank, 1924	Name	Tax	Industry	Short Biography
1	John D. Rockefeller, Jr.	$6,277,669	Oil	Head of Standard Oil, son of JD Rockefeller, founder
2	Henry Ford	$2,608,808	Auto	Auto executive
3	Edsel Ford	$2,158,055	Auto	Son of Henry Ford
4	Andrew Mellon	$1,882,600	Banking, aluminum	Secretary of Treasury
5	Payne Whitney	$1,676,626	Oil	full name William Payne Whitney, partial heir to Payne and Whitney fortunes
6	Edward Harkness	$1,351,708	Oil	son of Stephen Harkness, original partner in Standard Oil
7	R. B. Mellon	$1,180,099	banking	brother of Andrew Mellon
8	Clinton H. Crane	$1,066,716	naval architecture, mining	Naval architect and head of family mining business
9	Anna Harkness	$1,061,537	Oil	Wife of Stephen Harkness, mother of Edward Harkness
10	Anna Thompson Dodge	$993,028	Auto	widow of Horace Dodge, auto executive

Table 4.5.2: Top ten taxpayers, 1924

4.5.3 The Top Hundred

The top one hundred taxpayers in each year are also presented in the appendix, with their tax payments and their rank in the other year. I also present their share of total federal income tax paid for the year, as well as the cumulative percent of all federal tax paid through that person. While the rest of the top 100 may not be household names to this day, at the time, they were certainly extremely well known as wealthy people.

4.5.4 The Top 400

I provide summaries of Census data for the top 100, 200, and 400 taxpayers for 1924. The 1920 and 1930 Census contains information on age, gender, race, children, servants, immigration status, marital status, homeownership, occupation, and industry. The 1930 Census also provides information on veteran status, home value, and whether the household owns a radio or lives on a farm. This information can be compared against averages found in Manhattan, New York City, New York state, and the country in the 1920 and 1930 Census.

As noted previously, I can link 73 of the top 100, 152 of the top 200, and 291 of the top 400 to the 1920 Census. I can link 69 of the top 100, 133 of the top 200, and 266 of the top 400 to the 1930 Census. I can link 54 of the top 100, 110 of the top 200, and 217 of the top 400 to both. I can also establish from other biographical information that 43 of the top 400 died before 1930 and another three had left the country.

Age, sex, race

The mean and median ages in 1920 are around 50 years old for the top 100, 200, and 400. Doris Duke is the youngest member at six years of age, while there are five over the age of 80. In 1930, the mean and median are again relatively steady around 58 years, for each of the top 100, 200, and 400. Doris Duke is again the youngest, at 17, while three others, all heirs (Timken, Vanderbilt, Harkness) are in their 20s. The next youngest in the top 100 is Edsel Ford, who is 36. Ellen Browning Scripps is oldest at 93, and Henry C. Phipps and George F. Baker, are also 90 or older.

In all divisions of the top 400, the vast majority (around 80 percent) are male. All persons are white in each year. In the 1920 and 1930 Census, the male/female split is almost exactly 50/50 in both years at the New York City borough, city, New York state, and national level.

White is also the overwhelming majority race on all four levels. The age distribution of the top 400 skews much older than the Census population at all geographic levels.

		in top 100	in top 200	in top 400
age, 1920	mean	49.9	49.4	50.3
	median	49	49	50
	st dev	13.7	13.0	13.0
	min	6	6	6
	max	80	85	85
age, 1930	mean	57.7	57.0	58.4
	median	58	57.5	58
	st dev	12.6	12.4	12.5
	min	17	17	17
	max	90	90	93
sex, 1920	female	20.5	17.8	18.2
(percent)	male	79.5	82.2	81.8
sex, 1930	female	20.3	15.8	17.0
(percent)	male	79.7	84.2	83.0
color, 1920	white	100	100	100
color, 1930	white	100	100	100

Table 4.5.3: Demographic statistics, 1920 and 1930

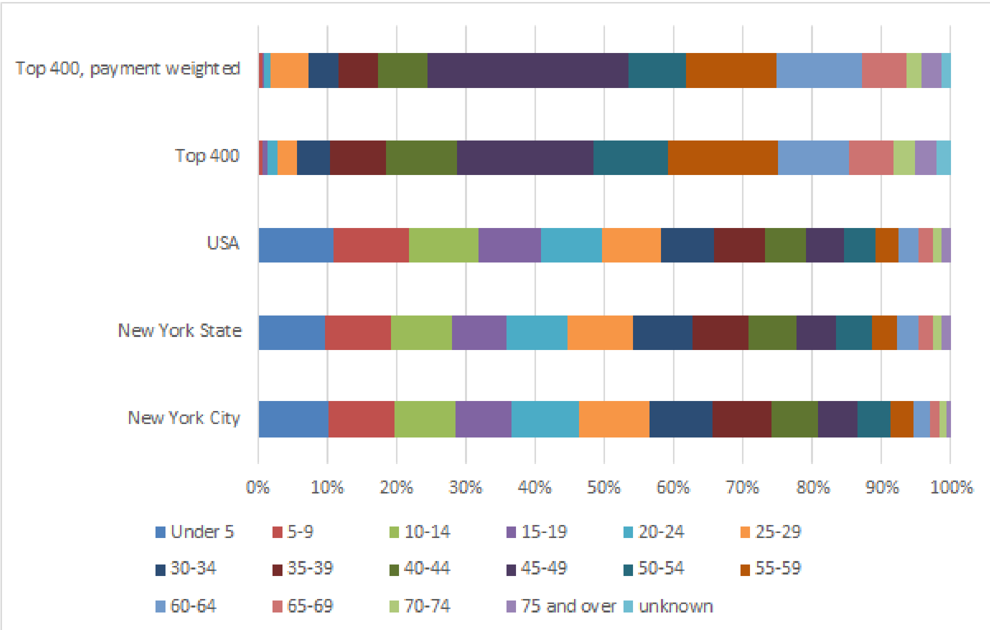


Figure 4.5.2: Age distribution, 1920

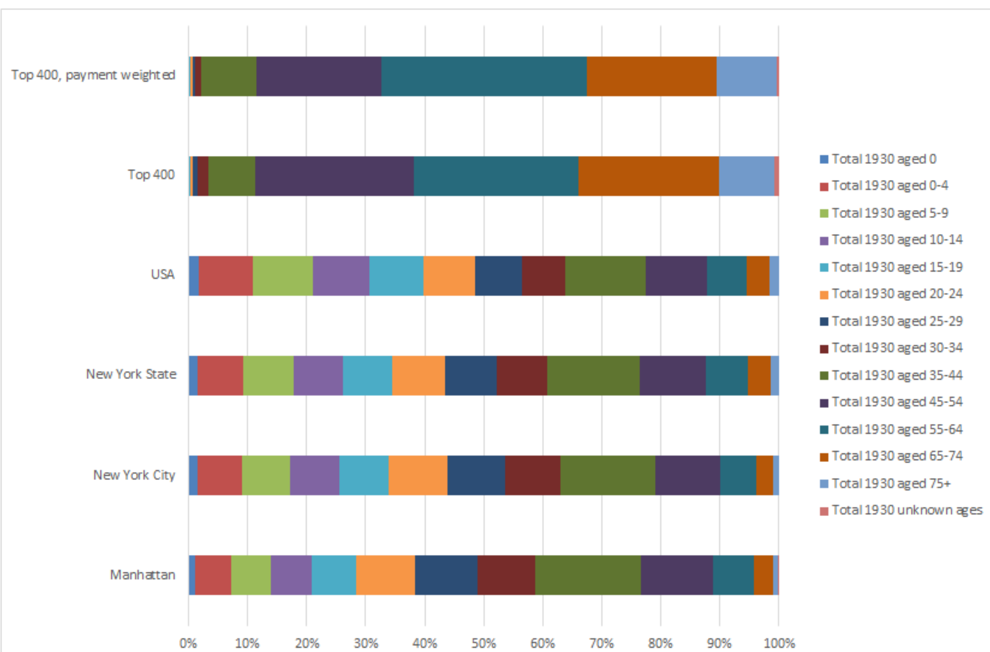


Figure 4.5.3: 1930 ages, all

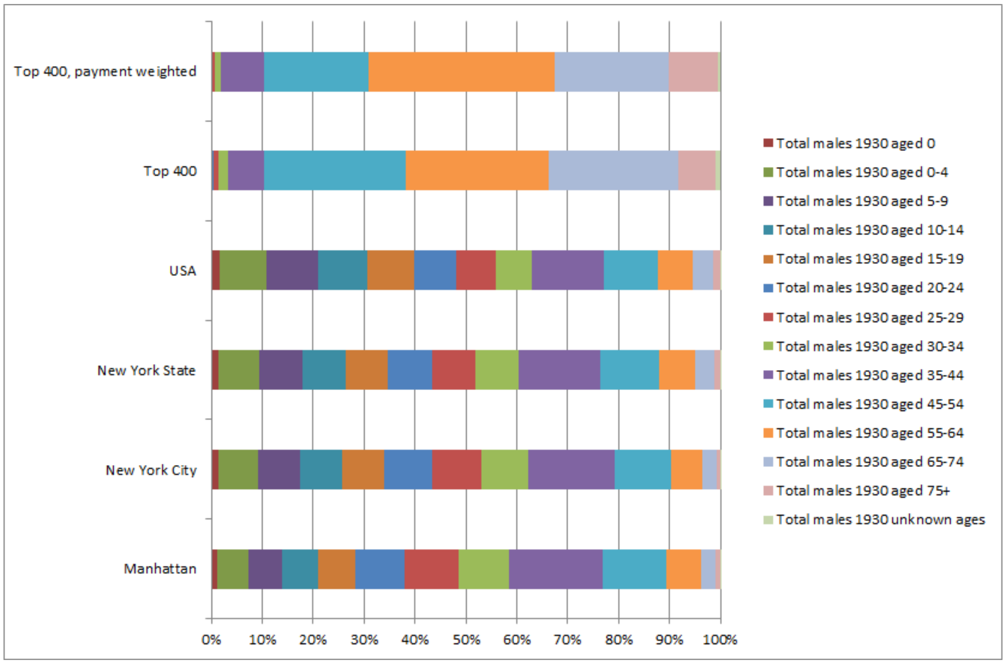


Figure 4.5.4: 1930 ages, males

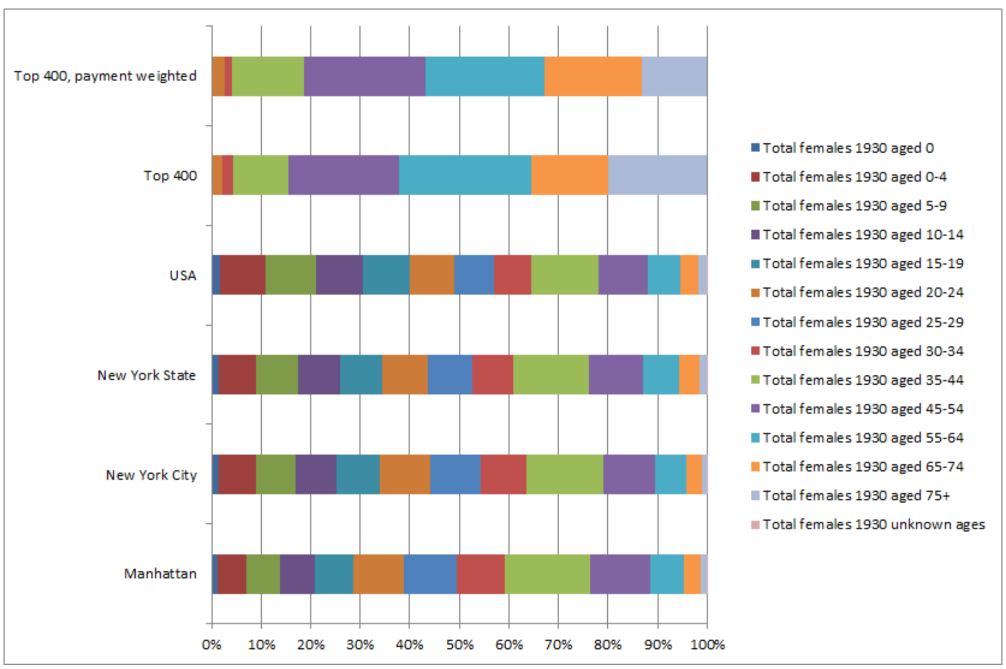


Figure 4.5.5: 1930 ages, females

Marital status, children, servants, homeownership

Most of the top taxpayers are married. The next most prevalent status is single, then widowed, then divorced. Each of these appear in very few records compared to those indicating marriage. They overwhelmingly claim status as the head of household, with a moderate number reporting as the wife of the head of household. Very few are daughters or sons of the head of household, and one is an insane patient (Stanley McCormick). The top taxpayers also predominantly own homes, rather than renting. They usually own their homes free of any mortgage.

The age at first marriage is also reported in 1930. The median is 27 years for the top 100, 200, and 400, and the mean age hovers around 28 in each set.

The mean home value in the top 100 is over $400,000, while just above $350,000 and $275,000 for the top 200 and 400, respectively. The median home value is $250,000, $200,000, and $150,000 for the top 100, 200, and 400 respectively. Fifteen of the top 400 live in homes valued at $1 million or more, with Richard B. Mellon leading the way in a $3 million house on Fifth Avenue in Pittsburgh. The median home value at this time in Manhattan is $20,000, while it is $4,778 for the US as a whole. The wealthy who rent predominantly pay more than $100 monthly, when Manhattan median rent is $43.64, and US median rent is $27.15.

The average number of children is less than one son and less than one daughter per entry (about 0.8 for each in 1920, and about 0.6 for each in 1930). However, this certainly does not imply that the wealthy have only that many children. To be recorded, the children had to be in the household at that time. As the individuals observed are usually older, they may have much older children who do not live in the household any longer.

The wealthy did not hold back in hiring servants. The top 400 had over five servants on average in both years, and Eleanor W. Dixon had 44 servants in 1930. The most servants in

1920 worked for Otto H. Kahn, who employed a total of 22.

Compared against Census averages, the top 400 are more often married. They own homes rather than renting far more often, especially compared against Manhattan, where it is extremely rare to own a home. As the chart of home values shows, those that own homes in Manhattan usually own homes valued at more than $10,000.

		top 100	top 200	top 400
marital, 1920	divorced	2.7	2.0	1.4
(percent)	married	83.6	85.5	84.9
	single	8.2	7.2	7.2
	unknown	1.4	0.7	0.3
	widowed	4.1	4.6	6.2
marital, 1930	divorced	2.9	1.5	1.5
(percent)	married	78.3	82.7	79.6
	single	5.8	6.0	7.2
	unknown	0	0	0
	widowed	13.0	9.8	11.7
household status, 1920	boarder	0	0	0.3
(percent)	brother	1.3	0.7	0.7
	brother-in-law	0	0	0.3
	daughter	1.3	1.3	1.0
	head of household	79.5	83.6	82.8
	insane	1.3	0.7	0.3
	lodger	1.3	0.7	1.0
	son	0	0.7	1.4
	wife	15.0	12.5	12.0
mortgage, 1920	free	88.9	87.0	85.8
(percent)	mortgage	5.6	8.4	9.3
	unknown	5.6	4.7	5.9

Table 4.5.4: Marital status, household status, homeownership

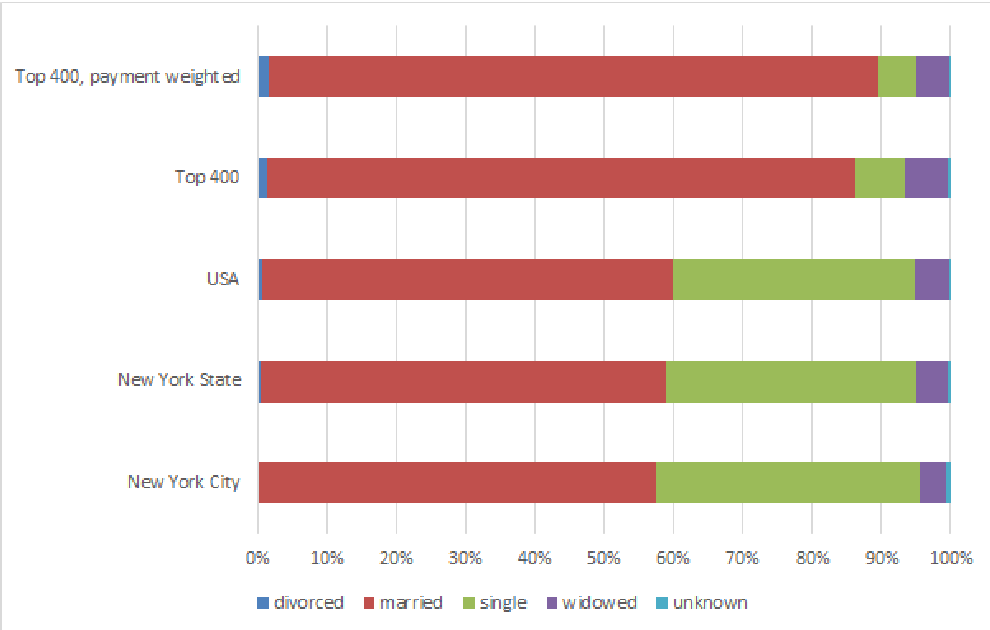


Figure 4.5.6: 1920 marital status

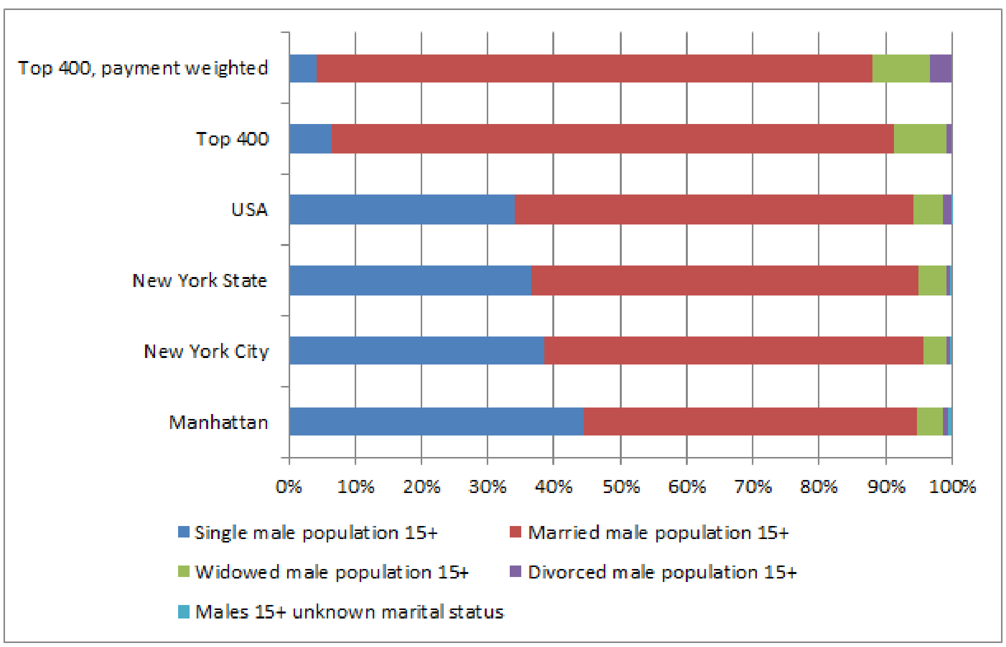


Figure 4.5.7: 1930 marital status, males

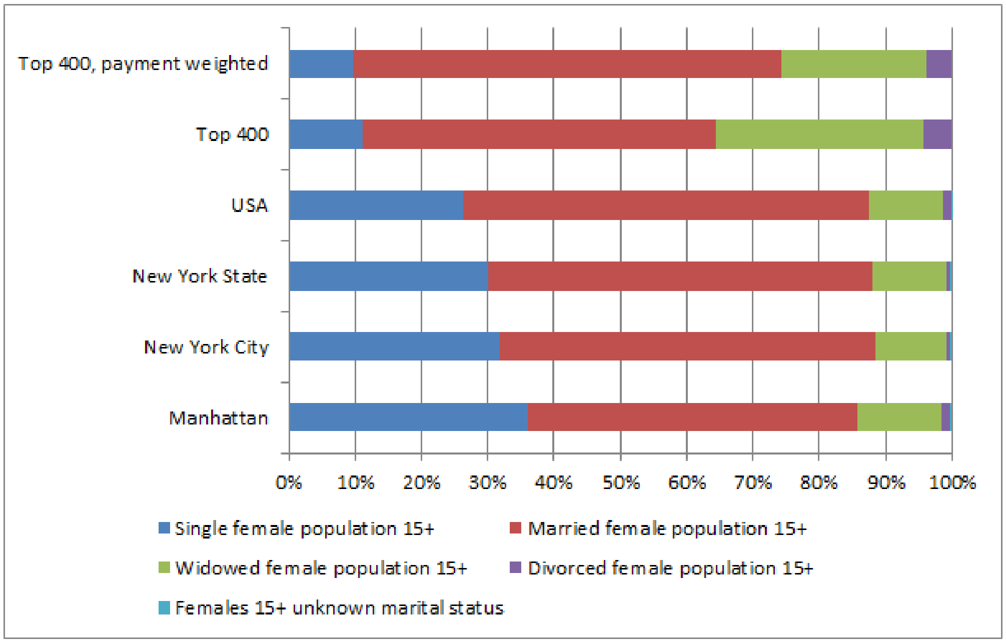


Figure 4.5.8: 1930 marital status, females

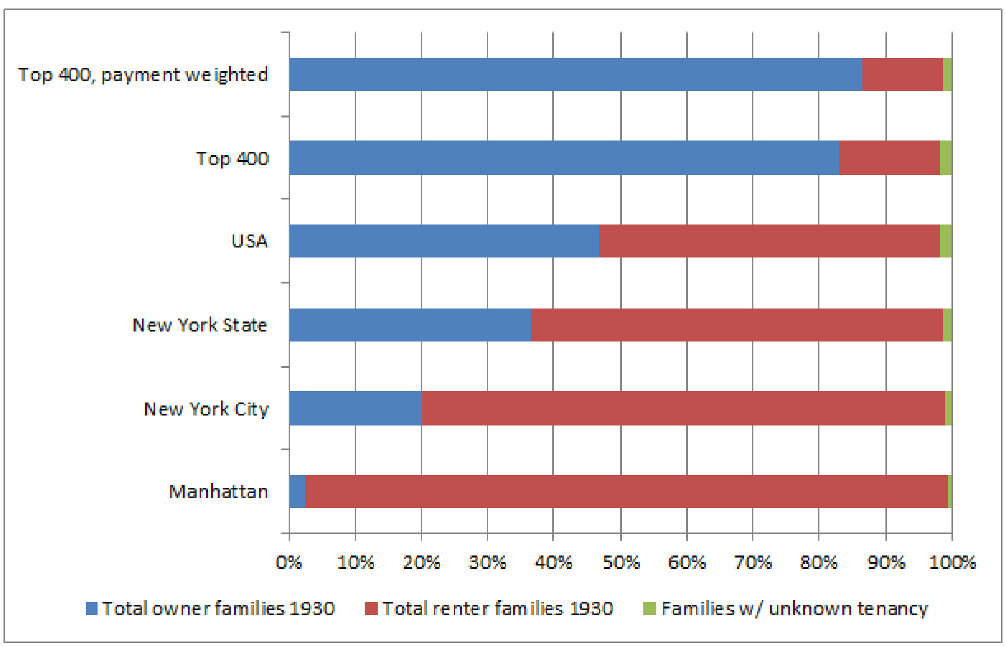


Figure 4.5.9: 1930 homeowner/renter distribution

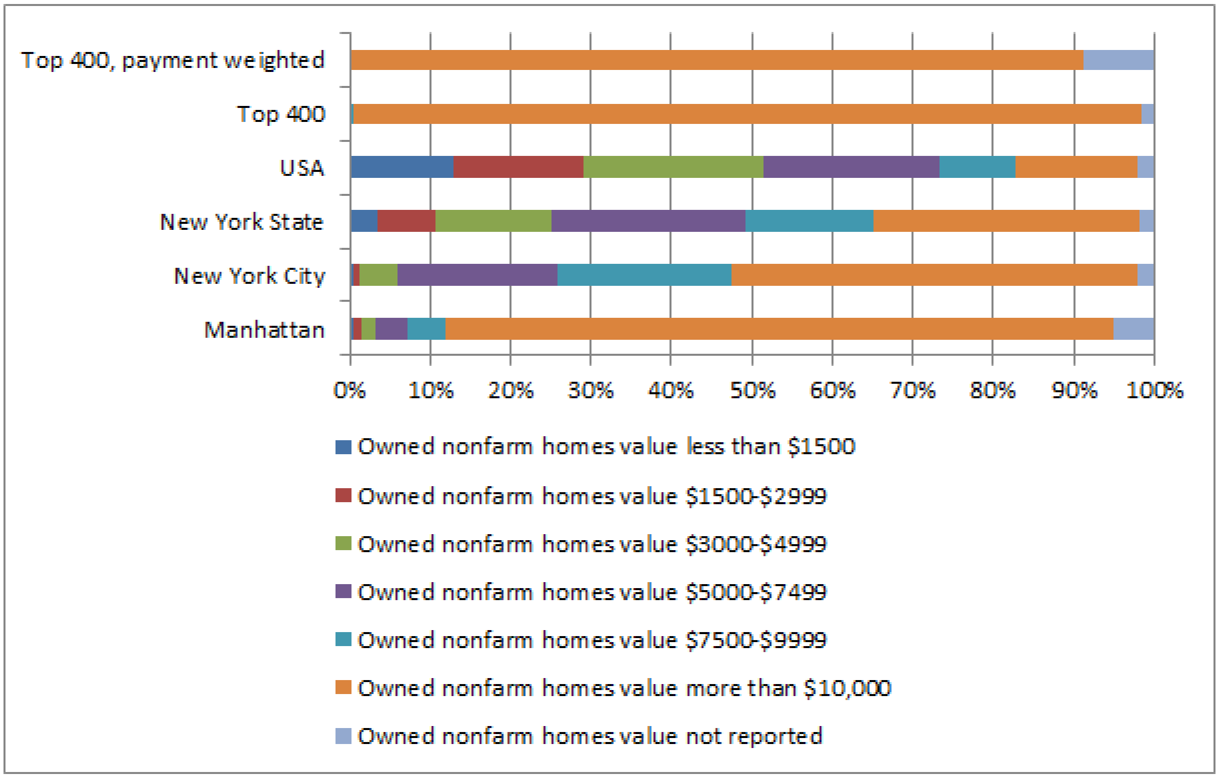


Figure 4.5.10: 1930 home values

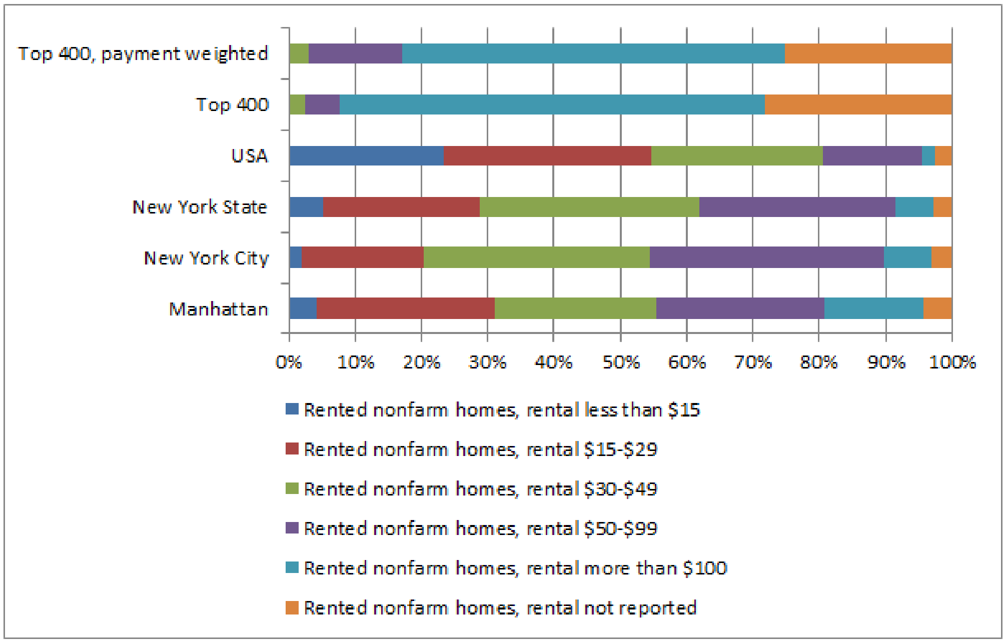


Figure 4.5.11: 1930 rents

Birthplaces and Immigration

By far, most of the top 400 were born in New York, with 76 claiming it as their birthplace in 1920 and 67 in 1930. Pennsylvania, Illinois, Massachusetts, and Ohio each have more claiming that as their birthplace than the leading foreign countries, England and Germany. 9 and 11 people claim birth in England and Germany respectively, and in 1930, those numbers are 9 and 7. Germany is certainly a leader among the birthplaces of parents. There were 33 fathers and 32 mothers born in Germany in the 1920 Census, and in 1930 these numbers are 30 and 26. 39 fathers and 37 mothers were reported with German as a first language in 1920; this question was not asked in 1930.

Of those identifying as immigrants in 1920, 23 report being naturalized, and 2 are aliens. In 1930, 18 are naturalized and 2 are aliens. In 1920, of the top 400, regardless of immigration status, 14 report German as their mother tongue, 1 reports Scotch, and the rest do not report or report English. In 1930, 7 chose German as their language before living in America, and the rest report English or do not report.

The Census information shows that Germany and England are among the countries with the most immigrants to the USA. However, countries like Italy and Russia also supply many immigrants to the USA, but are vastly underrepresented or not present in the top 400.

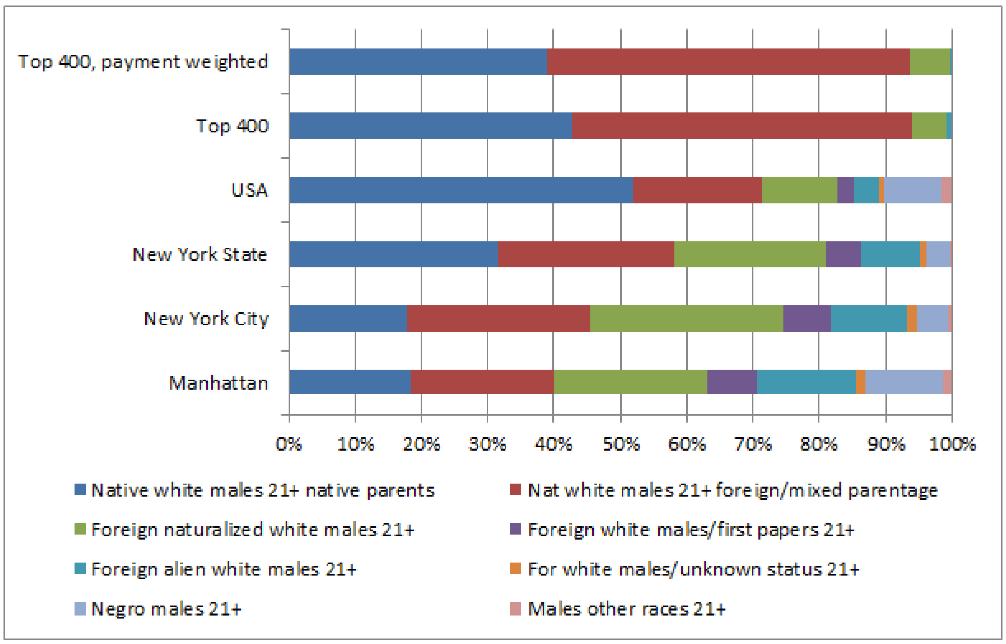


Figure 4.5.12: 1930 native/foreign and race statistics, males

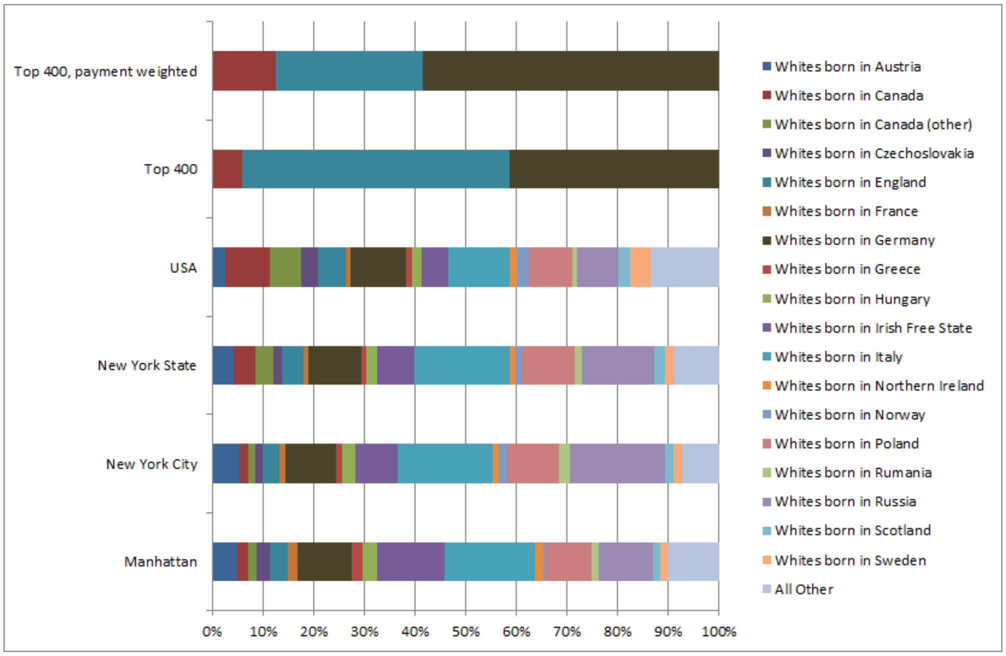


Figure 4.5.13: 1930 countries of origin (white immigrants only)

Occupations

Occupations and industries are self-reported in each year of the Census, with little to no standardization by the enumerator. The data, without any adjustment, clearly shows that banking is the most common response to both industry and occupation. Based on the responses to each question, I assign each member of the top 400 a "sector" variable in each year. I report these results in tables below. The most common occupation sector is "none", presumably by those who are retired, while banking and finance (counted separately for those who indicated work in finance, stocks and bonds, or brokerages), manufacturing, and retailing are other large sectors.

Sector	1920	percent	1930	percent
Architecture	1	0.4	2	0.8
Art	0	0	1	0.4
Auto	10	3.4	9	3.5
Banking	39	13.5	39	14.9
Business	1	0.4	0	0
Capitalist	1	0.4	2	0.8
Communications	1	0.4	1	0.4
Education	1	0.4	2	0.8
Engineering	2	0.7	3	1.2
Entertainment	2	0.7	1	0.4
Executive	0	1	1	0.4
Farming	3	5.2	2	0.8
Finance	15	4.5	14	5.4
Food Processing	13	1.4	8	3.1
Government	4	0.4	4	1.5
Housewife	1	0	0	0
Lawyer	14	4.8	12	4.6
Lumber	1	0.4	2	0.8
Management	2	0.7	1	0.4
Manager Of Estate	1	0.4	0	0
Manufacturer	40	13.8	33	12.6
Medical	4	1.4	2	0.8
Mining	5	1.7	5	1.9
Oil	4	1.4	4	1.5
Publishing	7	2.4	6	2.3
Railroad	4	1.4	4	1.5
Real Estate	6	2.1	4	1.5
Religion	1	0.4	1	0.4
Retail	20	6.9	15	5.8
Textiles	9	3.1	7	2.7
Tobacco	4	1.4	3	1.2
Transportation	1	0.4	0	0
Utilities	4	1.4	3	1.2
None	68	23.5	70	26.8

Table 4.5.5: Occupation Sectors for the top 400

I repeat the analysis for the Census occupation classifications, though I do not find these as enlightening as my own classifications. In the Census classifications, all bankers, retailers, and brokers are classified under "trade," while lawyers and newspaper publishers fall under "professional services."

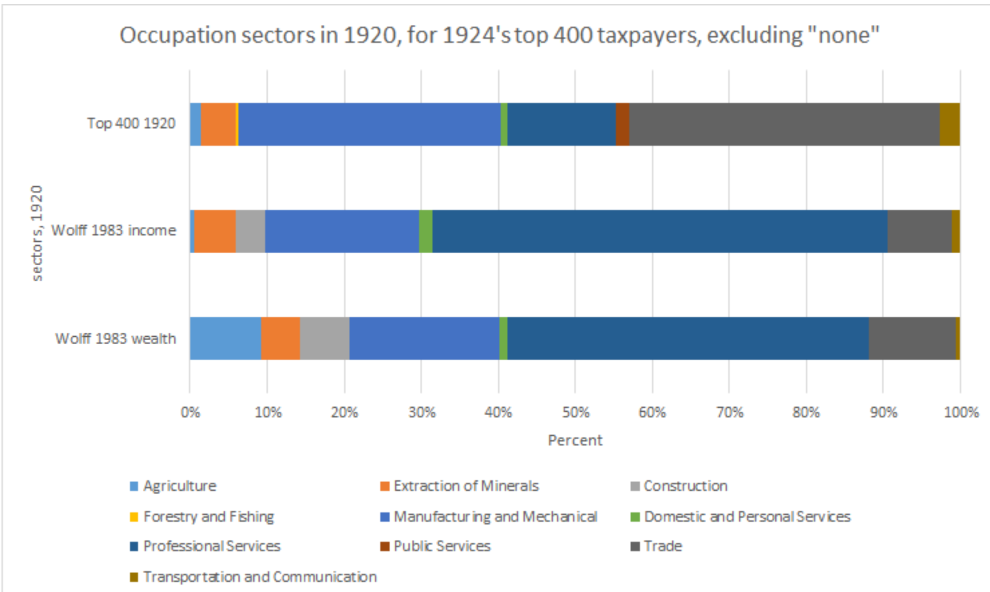


Figure 4.5.14: Occupations of the top 400, 1920

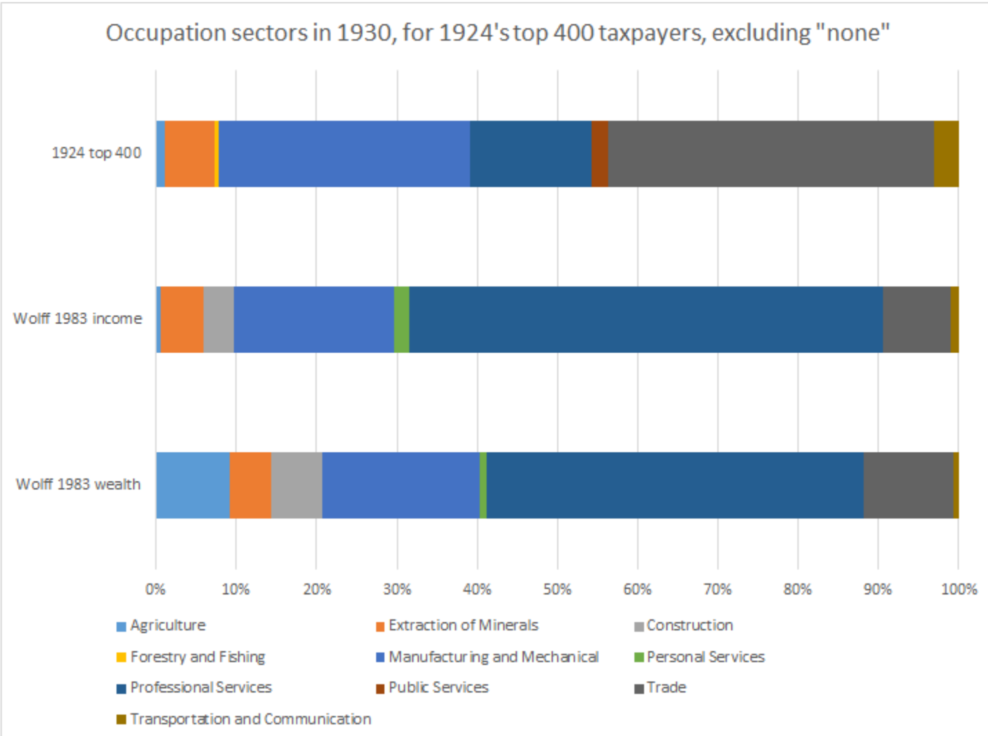


Figure 4.5.15: Occupations of the top 400, 1930

Veterans

Veteran status is rare among the top taxpayers. Among the top 100, four are World War veterans, four are wife of a World War veteran, and one (Bernard Baruch) reports working on the Peace Conference. Another seven World War veterans appear in ranks 101-200, and two Spanish-American war veterans are in ranks 201-400, along with eighteen more World War veterans and another wife of a World War veteran. Overall, there are 5 wives of World War veterans, 2 Spanish-American war veterans, one Peace Conference worker, and 29 World War veterans. Of course, this is limited by the observation that the age distribution is higher for the top 400 than for the general population. Many of the top 400 were simply too old to serve in World War I.

Persistence over time

The existence of Treasury memos for 1928-1934 and 1936-1941 gives an opportunity to look at persistence of high income over time. There are 207 records of high net incomes and tax payments from 1928-1934 in a memo by Samuel Klaus (Klaus 1935). These are not necessarily the top 200 incomes or taxes in any particular year, nor the sum of those years. Therefore, I will refer to them as the "elite 200" rather than the "top 200" for this period. These 207 records represent 197 individuals, after trust funds are removed.[29] Of these 197, I can find 27 in the top 100, 36 in the top 200, and 53 in the top 400, and 111 overall. 86 of them cannot be found in 1923-1924 data.

There are 11 names reported among the top 10 (two are married and filed jointly) salaried workers for 1941. Of these, only two match to 1923/1924, and neither one in the top 400. These two are Eugene Grace and Nicholas Schenck. Eugene Grace was president of Bethlehem Steel but apparently worked his way to the top from working as a crane operator (*Dictionary of American Biography* 1928). Nicholas Schenck was a movie entrepreneur who also seemed to build his business empire from scratch (*American National Biography* 1999).

Of the top 100 net incomes in 1941, regardless of salary, seven can be found in the top 100, 11 in the top 200, 17 in the top 400, and 39 overall. Of course, this means that 61 can not be found in 1923/1924. Again, the result must be carefully stated: about 40 percent of the top 100 (much more exclusive than the top 5 percent) in 1941 were also in the top 5 percent in 1924.

Unsurprisingly, persistence appears higher for time periods that are closer together. A majority of those in the Klaus data can be found in 1923-1924, but only about 40 percent

[29] Doris Duke is the main offender here, as she is listed once as an individual and also has four trust funds listed.

can be found in 1941's top 100. However, if the data was more comparable, i.e., if the 1941 data was 1941's top 200 (to be closer to 197) instead of the top 100, perhaps the match rate would be substantially higher.

4.5.5 Surprising Members

Certainly, the press had some idea of the famous and wealthy names that they might come across in the tax lists. There were also names that surprised them. On September 2, 1925, the *St. Louis Post-Dispatch* provided a list of 159 individuals with over $25,000 in income who paid no federal income tax.[30] The *New York Times* and *Chicago Tribune* also made note of nontaxable returns found in the Collectors' books, but did not ever devote an entire section to listing them all together.

On Tuesday, October 28, 1924, the *Seattle Post-Intelligencer* mentioned that the leading Northern California taxpayer was a complete unknown:

> [M]uch to the surprise of bankers and newspapers, Leonard Howarth, of Tacoma and Santa Rosa, Calif., was revealed as leading the ranks ... with an income tax payment of $116,061.78.
>
> Inquiry further revealed the fact yesterday that Howarth's business associates are chiefly in Tacoma, that they are few, and that these few are the only people who know Howarth, his history, and his remarkable financial genius.
>
> Howarth... retains his mastery over finance and divides his time between a bachelor life of no social activities in his two sumptuous homes and his many corporate

[30] While the Collectors were not supposed to let income information be seen, I believe that they did organize their books by level of income. My best guess is that the Collector's office had a book composed entirely of individuals with over $25,000 in income, but did not disclose the amount of income for any particular one of them.

affiliations.

The *Seattle Post-Intelligencer* was perhaps equally surprised (enough to run an article in both years) that a woman was the top Seattle taxpayer in each year; Mrs. Harriet W. Rhodes paid $85,327.05 in 1923 and $24,683.58 in 1924.

Garland Kent provides the best rags-to-riches story in the dataset. In the 1920 Census, he appears as a poor unmarried farmer in Justice, Texas. After not appearing in tax data for 1923, he appears for 1924 with the second highest tax in the Dallas district (there are only two districts in Texas). By 1930, he is married with a son and daughter, and lives in a $50,000 house with a servant. His self-reported occupation and industry has changed from general farming to a producer in the oil business. It seems that Mr. Kent struck oil on his farm and quickly turned into a millionaire.

Bootleggers

The *Philadelphia Inquirer* wrote that several taxpayers on a Washington list "are known to have been tried and convicted for violation of the Volstead act" (September 3, 1925). The *New York Times* cited an auditor at the Second District office who claimed that bootleggers paid $1.5 million (September 6, 1925):

> Mr. Fowler said that one bootlegger took all his books to the income-tax offices, showed just how much money he had made during 1924 on illicit liquor deals, and had applied for deductions for losses incurred through the theft of liquor by "hijackers." His case has not yet been decided.

The *Chicago Tribune* claimed that successful gamblers and bootleggers filed tax returns under fictitious names:

> A Chicago gambler hit on the idea of using a fictitious name, but before he tried it he made a few inquiries. He admitted that he had experienced a good year and had a fat account in a loop bank, but didn't want to be a goldfish... For the purpose of collecting an income tax, Uncle Sam is not much concerned what name a taxpayer uses if he kicks in. (September 6, 1925)

The *Washington Post* summarized the situation in this way: "Either they are fairly honest or they felt that the enforcement of the income tax is effective and that of the Volstead law is not" (September 10, 1925). This runs against the common perception that bootleggers did not pay their taxes, exemplified by Al Capone's income tax evasion conviction.

African-American wealth

The *Pittsburgh Courier* investigated the tax payments of the "Harlem 400." The *Courier* reported the tax payments of 24 prominent individuals in New York, claiming, "The most astounding fact recently disclosed about the colored Harlem millionaires is that there aren't any" (November 29, 1924). Upon further investigation, the paper concluded that the "Harlem 400" was not very wealthy at all, at least based on their income tax payments, and stated "that the 'colored millionaire' was completely punctured by the actual figures from Collector Chas. W. Anderson's books" (December 20, 1924). The *Courier* wrote that there was only one real millionaire that stood up to scrutiny. Terry Holding Company's $4,615 payment represented "the highest amount paid by any New York Negro concern and represents an income of approximately $80,000 net" (December 20, 1924).

4.5.6 Inheritance or earning

I attempt to determine which taxpayers attained their status by their own fortune or by the fortune of their ancestors. I link the taxpayer list to a list of large estates until 1921. I merge only on last name. This creates some problems among the top 400 for the Fords (the auto fortune and the plate glass fortune are separate), and throughout the dataset for those with common last names (Smith, Davis, Green, Brown). In the top 400, though, some last names that are rare do indicate an inherited fortune (Vanderbilt, Guggenheim, Harkness, Juilliard).

26 in the top 100, 44 in the top 200, and 87 of the top 400 can be matched on exact last name to a large estate. This rate is fairly constant around 20-25 percent. However, seven of the top ten are linked to a large estate.[31] The most common occurring of these names is Ford, from Edward Ford's plate glass empire, but he is incorrectly linked to Henry and Edsel Ford. He is, however, correctly linked to other Fords in the Toledo area who are involved in the plate glass industry. The Whitneys appear 4 times in the top 400, but no other last name appears more than 3 times, with most occurring just once.

29 of the 239 large estates do not match to anybody in the data (even outside the top 400) on exact last name. But 3,759 of 40,411 total observations can be linked to a large estate, and very frequently each estate is linked more than once. Overall, just over ten percent of large estates do not seem to appear in the next generation, and just under ten percent of next generation observations can be linked back to a large estate in a previous generation. This does seem to indicate a large amount of turnover at the very top, but many people could be linked to wealthy families without an estate crossing the $10 million threshold for

[31] The seven are Henry and Edsel Ford, Payne Whitney, Anna and Edward Harkness, Clinton Crane, and Anna Thompson Dodge. Of these, the Fords are self-made (though Edsel is wealthy due to his still-living father's fortune), but the Harknesses and Anna Dodge are widows and/or heirs.

inclusion in Klein. Klein's list should be interpreted carefully, as a measure of estates that are extremely large, and only inclusive of those with ancestors who died in the time period before 1921. For example, John D. Rockefeller, Jr., is not linked to any large estate, though he owes his fortune to his still living and still earning father. The others in the top ten who cannot be linked to any past large estate are brothers Andrew and Richard Mellon, who definitely came from wealthy origins. Really, the only person in the top 10 who made their own fortune is Henry Ford.

4.5.7 Wealthy families

Gary Becker (1973) introduces the theory of assortative mating, that is, marriage between two people who both have high levels of a particular trait, like earnings or education. Greenwood et al. (2014) test the theory of assortative mating in the US from 1960-2005. They find that assortative mating has risen and that it has a large effect on income inequality.

The top end of the 1924 tax list gives some indication of intermarriage between wealthy families. Certainly the Rockefeller daughters married into other rich families like the McCormicks and the Prentices. But many women in the data appear to be wealthy only from inheriting from their parents or husbands. Some, like Kate Wilson (Taylor) Winthrop, have higher incomes than their still-living husbands. However, if married taxpayers filing jointly only appear in the newspaper under one spouse's name, this may obscure marriages between wealthy families. Overall, the data does not lend itself to determining the heritage of each taxpayer and their spouse.

It is much easier to use this data to determine the family relationships between those in the top 400. Several father-son pairs appear, including the Rockefellers, Fords, and Harknesses. There are also sets of siblings. The Havemeyer siblings, Electra Webb, Adaline Frelinghuysen, and Horace Havemeyer, occupy spots 47, 49, and 51 in 1924. Brothers Stephen and Jesse Metcalf are in 69th and 70th place. It is not clear whether such similar incomes result from an inheritance in that tax year, a dividend, or income from a family business.

4.5.8 A Superstar Economy?

Sherwin Rosen (1981) introduced the economics of superstars. He theorizes that while entertainers do not face changes in demand curves, there are changes in technology that affect supply. Radio, television, and recording give performances the qualities of club or public goods. Rosen rejects that inflation alone can explain high superstar earnings, and predicts that "cable, video cassettes, and home computers" will increase the superstar share of earnings even more (Rosen 1981, 857).[32]

Entertainers and sports stars do not occupy many spots at the top of the tax payment lists. The only actor in the list seems to be Douglas Fairbanks, at rank 150. George Herman "Babe" Ruth paid $3,433 in 1924 taxes, good enough to place him behind about 10,000 other wealthy New Yorkers. He does not appear in 1923. Boxer William Harrison "Jack" Dempsey paid $90,831 in 1923, but only $267 in 1924.[33] He ranked around 350th in 1923, which is quite high, but still lower than many lawyers, bankers, and inheritors.

The entertainment weekly *Variety* ran names and tax payments of individuals and corporations that it considered to be in the entertainment business in both 1924 and 1925. I compile the top 25 in each year in tables below. I also give an occupation for each. In most cases, those dominating the top of the list are theater owners, film producers, or other executives or professionals in the entertainment industry. Superstars like actors or professional

[32]I believe what Rosen is suggesting here is that though the nominal incomes have clearly increased to previously unheard-of numbers, the real incomes have also increased.

[33]It seems Dempsey boxed in 1923, but did not box in 1924, so his income would have been much lower.

athletes do not frequently appear in the top 25. On the overall list of taxpayers, the highest "superstar," Douglas Fairbanks, ranks 88th in 1923 and 150th in 1924. However, Al Jolson ranks 866th in 1923 and Harold Lloyd is 2015th in 1924. Each appears in 25th place on the *Variety* list in one of the two years, and Jolson is the 5th actor or athlete in 1923, while Lloyd is the 8th actor or athlete in 1924. It appears that superstars did not often outrank bankers or executives in income. By 1941, there is some possibility that this has changed, as Charlie Chaplin appeared on the Morgenthau memo as 1941's 11th highest taxpayer.

The results lend some support to Rosen's hypothesis. While radio and film have helped some attain superstar status by 1924, the *Variety* lists show that only a handful of entertainers can earn more than a New York lawyer or banker. Superstars today seem to occupy much more of the top income classes, and this would support Rosen's idea that the superstar class takes a higher share of income over time with changes in technology. Changes in technology are probably only part of the story, since the procedure of projecting a movie onto a theater screen has hardly changed since 1924, as earnings seem to have greatly increased. This increase seems much larger than the increase in the size of the audience due to television and home video. Instead, aspects of institutions like the studio system or the design of sports contracts must also matter.[34]

[34]The studio system was a system of vertically integrated film producers, distributors, and exhibitors that the US Supreme Court found anticompetitive in *US v. Paramount Pictures* (1948). The reserve clause allowed the first baseball team to sign a player to sign him indefinitely, thus suppressing salaries. It was challenged in *Flood v. Kuhn* (1972) and replaced by free agency through collective bargaining.

rank	last	first	payment	city	occupation
1	Mackay	Clarence H	488353	New York	finance
2	Ryan	Thomas Fortune	475416	New York	finance
3	Hancock	G Allan	449292	Los Angeles	oil
4	Mclean	Edward B	422849	Washington DC	publisher
5	Steur	Max D	279226	New York	lawyer
6	Ramish	Adolph	252301	Los Angeles	theater owner, oil tycoon
7	Fairbanks	Douglas	225769	Los Angeles	actor
8	Pulitzer	Herbert	198371	New York	publisher
9	Kahn	Otto H	184984	New York	finance
10	Hanna	H M Jr	155867	Pittsburgh	oil, coal, steel
11	Hanna	L C Jr	152155	Pittsburgh	oil, coal, steel
12	Juilliard	F J A	148334	New York	merchant
13	Hertz	John	100258	Chicago	theater owner
14	Albee	Edward F	94989	New York	theater owner
15	Dempsey	Jack (Wm Harrison)	90831	New York	boxer
16	Cohan	George M	87656	New York	actor, playwright, composer
17	Pulitzer	Ralph	83619	New York	publisher
18	Kearns	Jack	71657	New York	boxing manager
19	Bowman	John Mce.	69658	New York	hotel owner
20	Lasky	Jesse	62866	Los Angeles	film producer
21	Moreno	Daisy C	59154	Los Angeles	wife of actor
22	Nichols	Ann	52673	New York	playwright
23	Meighan	Thomas	51239	New York	actor
24	Laemmle	Carl	50249	New York	film producer
25	Jolson	Al	45070	New York	actor/singer

Table 4.5.6: *Variety* top 25, 1923 tax payments

rank	last	first	payment	city	occupation
1	Mclean	Edward B	281125	Washington DC	publisher
2	Steuer	Max D	198455	New York	lawyer
3	Fairbanks	Douglas	182190	Los Angeles	actor
4	Lasker	A D	122004	Chicago	advertiser
5	Ochs	Adolph	66394	New York	publisher
6	Albee	Edward F	61735	New York	theater owner
7	Laemmle	Carl	59862	New York	film producer
8	Swanson	Gloria	57625	Los Angeles	actress
9	Moreno	Daisy C	55219	Los Angeles	oil heiress, wife of Antonio Moreno
10	Scribner	Charles	53662	New York	publisher
11	Lasky	Jesse L	48592	Los Angeles	film producer
12	Rogers	Saul E	46399	New York	lawyer for film company
13	Zukor	Adolph	44540	New York	film producer
14	Hearst	William R.	42239	New York	publisher
15	Nichols	Anne	41425	New York	playwright
16	Cruze	James	40353	Los Angeles	actor/director
17	Gish	Lillian	36967	New York	actress
18	Mcginley	Walter T	36025	Los Angeles	theater owner and oil tycoon
19	Pickford	Mary	34387	Los Angeles	actress
20	Pickford	Charlotte	34267	Los Angeles	actress
21	Jolson	Al	33744	New York	actor/singer
22	Lauder	E G Jr	33225	New York	doctor
23	Harris	John P	31289	Pittsburgh	theater owner
24	Day	Joseph P	28517	New York	real estate
25	Lloyd	Harold C	28151	Los Angeles	actor

Table 4.5.7: *Variety* top 25, 1924 tax payments

4.6 Conclusion

Despite privacy issues surrounding individual tax payments, at least three lists of high-income taxpayers exist in the period 1923-1941. I find 1924's top 400 taxpayers in the 1920 and 1930 US Federal Census, with a relatively high match rate for the period, though this is aided by the fame of the individuals. This chapter presents demographic statistics from those Censuses. Unsurprisingly, the rich are rich, and they own expensive houses and employ several servants each on average. They have an average age in their 50s through the 1920s. They usually did not serve in wars, but this may be have been limited by their ages. They also frequently work in banking and finance, with executives in automotive-related businesses and other manufacturers also making large fortunes.

The rich enjoy some level of persistence of high incomes over time. Nine of the top ten in 1924 came from wealthy parents, and sometimes built even larger fortunes. About ten percent of individuals in the 1923 and 1924 tax lists share a last name with somebody who died and left a large (over $10 million) estate. About 90 percent of individuals who died leaving a large estate share their last name with somebody in the 1923-1924 tax list. About half of those who appear in the "elite 200" in 1928-1934 also appear in the 1923-1924 tax lists. About 40 percent of those who appear in the top 100 in 1941 also appear in the 1923-1924 tax lists.

CHAPTER V

Tax Cuts and Response

5.1 Introduction

The federal personal income tax had a turbulent early history. At its inception in 1913, marginal rates ranged from 1 to 7 percent. World War I pushed the rates as high as 77 percent in 1918, and interwar tax cuts reduced the highest marginal rate to 24 percent by 1929. In the 1920s, Republican presidents and their Secretary of the Treasury, Andrew Mellon, planned and passed a series of tax cuts through Congress. These bills, the Revenue Acts of 1921, 1924, and 1926, each cut normal tax and surtax rates on individual ordinary income. Several studies debate the effect of these tax cuts on revenue collections.

This paper examines an interesting and understudied chapter in the interwar period. A provision for public inspection of income tax returns became law in June 1924. Before its amendment (and effective repeal) in 1926, major newspapers across the country ran tens of thousands of names, addresses, and tax payments for the tax years 1923 and 1924. The Revenue Act of 1924 also cut marginal tax rates across the board. Thus, a unique opportunity exists to match individual taxpayers across two years and two rate structures and examine response using the elasticity of taxable income with respect to the marginal net-of-tax rate (ETI). Using data from the *New York Times*, I have constructed a dataset of just over 10,000 individuals whose entries can be considered matches between the two years.

Many papers in the public finance literature estimate the elasticity of taxable income (ETI). The ETI basically tells you what will happen to the government's tax revenue when it changes its marginal tax rates. This is one of the most important questions in public finance, if, after all, the goal is to gain a set amount of revenue for the government at a minimal efficiency cost. If the government cuts marginal tax rates by 5 percent, the ETI will tell you the effect on tax receipts.

For a mental example, I recommend thinking of a tax system with just a few brackets and rates, and hypothetical tax cuts that affect all marginal rates the same, proportionally. Remember that a tax rate cut is actually an increase in the net-of-tax rate, and also remember that the ETI measures the change in taxable income, not the change in tax receipts. Then, in the example I recommend, you can picture tax receipts as the product of tax rates and taxable income (really, some vector of each of these). In my simple example, I want you to picture all tax rates changing proportionally equally; when that is true, the effective tax rate will make an equal proportional change.

If tax receipts go up when the net-of-tax rate goes up, then we are on the right side of the infamous "Laffer curve." If tax receipts go down when the net-of-tax rate goes up, we are on the left side. The first situation is a positive ETI greater than one. The second situation is an ETI between 0 and 1. If the ETI is close to 1, then the government will see very similar revenues from any (small) change in tax rates. But if the ETI is positive and close to 0, then income is not very responsive to changes in the tax rate, and as a result, tax receipts will fall almost proportionally to the changes in tax rates. In this last case, remember that income will not change much, but of course, tax receipts are the tax rate (which is changed) times taxable income (not much changed), so the source of the changes in receipts comes almost entirely from the change in the tax rate.

The economist must perform some minor transformations to compute the numbers correctly. The marginal tax rate cut of 5 percent needs to be translated into a percent change in the marginal net-of-tax rate. The marginal net-of-tax rate will be the "take home" part of income after taxes. If a marginal tax rate is 40 percent, the corresponding marginal net-of-tax rate is 60 percent. And if that marginal tax rate was cut from 40 percent to 35 percent, then the marginal net-of-tax rate climbs from 60 percent to 65 percent. The percent change is then 5 percent divided by 60 percent, giving a percent increase in the marginal net-of-tax rate of about 8.3 percent.[35]

5.2 Background

5.2.1 Literature

An excellent summary of the theory and evidence in ETI research is found in Goolsbee et al. (1999). The ETI is a measure of total response to tax rate changes, regardless of the cause. The measure should not be construed to mean anything more than it does. For instance, taxable income is a function of both real income and deduction choices, among other things, so implications for economic growth, broadly defined, are very limited. Generally speaking, more recent work estimating the ETI has been able to use confidential panel data, but attempts to analyze the ETI in historical periods must rely on aggregate data. Goolsbee et al.

[35] I use the original net of tax rate as the base in this example for simplicity, but in practice, the literature uses logarithms.

(1999) estimates the ETI around the 1924 tax cuts using data from the *Statistics of Income*. Through different estimation procedures and different comparison groups, he computes an overall ETI around 0.5 and difference-in-difference ETIs from 0.6 to 1.2. However, in other periods of tax cuts or tax increases that Goolsbee analyzes, he finds estimates of the ETI that are near zero or negative. Feldstein (1995) uses a panel of 4,000 taxpayers around the Tax Reform Act of 1986 to estimate an ETI of at least 1. Auten and Carroll (1999) use the *Statistics of Income* Individual Income Tax Files to create a dataset of 15,579 households in 1985 and 1989. Their range of assumptions gives ETIs ranging from 0.4 to 0.7, and usually around 0.6. Gruber and Saez (2002) use a panel from 1979-1990 to estimate an overall ETI of 0.4, but an ETI of 0.57 for those with incomes greater than $100,000, and an ETI less than a third as large for the complement. In particular, they found that those who itemize show larger responses.

Smiley and Keehn (1995) study the tax cuts of the 1920s and determine that overall tax revenue increased after and because of tax cuts. This hints at an ETI of greater than 1, but their analysis uses the number of taxpayers as the dependent variable rather than the amount of taxable income. In a forthcoming paper analyzing the aggregate data from the *Statistics of Income*, David and Christina Romer find an ETI around 0.2 with a t-statistic over 6 for the period from 1919 to 1941. For the restricted sample period from 1923 to 1932, they find an ETI around 0.38 (Romer and Romer).

	Time Period	additional info	Low Est.	High Est.
Goolsbee	1922-1926	comparison groups or regression	0.53	1.2
Romer & Romer	1919-1941	full interwar period	0.2	0.31
Romer & Romer	1919-1929, 1923-1932	pre-depression or stable policy	0.198	0.378
Smiley & Keehn	1915-1929	elasticity of number of filers	implied ETI>1	implied ETI>1

Table 5.2.1: Estimated ETIs in previous studies

This paper will fall in the same period that Smiley and Keehn, Romer and Romer, and Goolsbee analyze, but will make a contribution with a new dataset that includes individual taxpayers who can be followed between two years.

5.2.2 Other changes in the Revenue Act of 1924

Chapter two features a longer discussion of the tax code of the 1920s, and changes in 1924. A brief summary of changes follows here.

- All taxes owed for tax year 1923 are subject to a 25 percent rebate, described below.

- Earned income is introduced as an adjustment. Earned income is taxed at a 25 percent lower rate (e.g., a marginal rate of 30 instead of 40). Earned income is defined as the first $5,000 of income, or $10,000 for those with incomes over $10,000. For those with incomes between $5,000 and $10,000, earned income is defined as at least $5,000.

- A small loophole regarding capital net losses is closed. Previously, capital net losses could be deducted from ordinary income or capital gains income, while capital gains were taxed at the 12.5 percent capital gains rate. Closing the loophole means that no less tax can be paid than what would be paid if capital gains and losses worked to cancel each other out (rather than having capital net losses reduce a larger surtax rate).

- The gift tax is introduced (but repealed and retroactively rebated in the Revenue Act of 1926).
- The Board of Tax Appeals is given independence from the US Treasury, instead of its previous location at the Bureau of Internal Revenue, predecessor of the IRS.
- Assorted other tax changes include, for example, the repeal of a candy tax and soft drink tax.[36]

Ex-post adjustment

The Revenue Act of 1924 included a one time 25 percent rebate on 1923's taxes, after they had been paid. The *Chicago Tribune* claims multiple times that they run the numbers post-deduction, while the *New York Times* claims multiple times that they run them pre-deduction. When the *Chicago Tribune* runs New York numbers, they say that the New York office's numbers are not adjusted for the 25 percent deduction.

[36]

"Numerous excise taxes are reduced or repealed. Among the taxes repealed are those on telephone and telegraph messages, candy, soft drinks, inexpensive jewelry, certain sporting and traveling goods, certain furnishings and fixtures, admissions costing 50 cents or less, truck chassis sold for $1,000 or less, automobile truck and wagon bodies sold for $200 or less, and stamp taxes on promissory notes. Taxes upon tires, inner tubes and accessories, except when sold to manufacturers, are reduced from 5 per cent to 2 1/2 per cent, but taxes upon automobiles other than those mentioned above are not changed. The heavy taxes upon tobacco and manufactures thereof are unchanged." (Blakey 1924, 476-477)

To correctly analyze behavioral response (those taxpayers did not know a year in advance that the tax rates would all be cut 25 percent after the fact), the payments in 1923 must be adjusted up by 1/3 to what they originally thought they were paying. It is not clear if the 1924 numbers are the tax payments after the 1923 rebate or before, but in analyzing New York tax payments, I trust the statements of both the *Tribune* and *Times* that the numbers are from before the change.

5.3 Data

5.3.1 Source

In October 1924, major newspapers, including the *New York Times*, *New York Herald Tribune*, *Chicago Tribune*, *Washington Post*, and many others named in chapter two, began running lists of tens of thousands of names, addresses, and tax payments for both individuals and corporations. Despite confusion at the time, this was probably expected, since Coolidge noted his displeasure with the publicity provision in his response to the new law, and the text was printed in major newspapers (*New York Times*, June 3, 1924). Major newspapers again ran tens of thousands of names, addresses, and tax payments in September of 1925. A contemporary account of the mayhem can be found in Atwood (1926). I have digitized the *New York Times* records, and over 27,000 entries resulted from the fall 1924 lists (tax year 1923) and over 44,000 entries came from the fall 1925 lists (tax year 1924). I matched these using the RECLINK command in STATA (available from RePEc). Using RECLINK, I matched progressively on exact name and address, exact name and fuzzy address, fuzzy name and exact address, and fuzzy name and address. Entries were then checked by hand. A more detailed description of the matching process is in the data appendix. Computer code is available by request.

After removing duplicates, estates, corporations, and people outside the New York area, there are 18,150 records in 1923 and 29,921 records in 1924. Of these, 11,774 match. The address field is given in 16,001 of 18,150 records in 1923, and in 28,651 of 29,921 records from 1924. I do not perform any data analysis with the 824 estates or 12,798 corporations. In other cities, there are 713 matches out of 1310 (1923) and 3290 (1924) entries. Address is given for 538 (1923) and 1504 (1924) of them.

In Chicago, after removing duplicates, estates, corporations, and people outside the Chicago area, there are 4,954 records in 1923 and 12,077 records in 1924. Of these, 1,555 match. The address field is almost never given in 1923 but almost always given in 1924. I do not perform any data analysis with the 190 estates or 1,280 corporations. William Wrigley, Jr., is the largest taxpayer in 1923 at $836,665, but he pays only around $2,000 in 1924 (the newspapers explain that Wrigley had a large, one time capital gain in 1923). 1924's highest is 1923's second highest, Richard T. Crane, Jr. Four members of the McCormick family appear in the top 10.

For the rest of the chapter, I focus on payments within the New York area printed in the *New York Times.* I do this to avoid any discrepancies between papers in printing decisions, particularly with respect to the 25 percent rebate on 1923 taxes. This is not as large of an issue in chapter four, since I focus in that case on large tax payments in only the second year, rather than a change between years, and there is no rebate in the second year.

Computing Taxable Income

I have computed taxable income in two ways. The first assumes personal exemptions only were claimed, and deduces taxable income based on the assumption that all tax paid was on ordinary income. The second uses the *Statistics of Income* for years 1923 and 1924, which present fairly detailed aggregate statistics by income bracket. I have used these numbers to determine how much the average taxpayer in each bracket paid in normal tax and surtax, how many deductions were claimed, and how much income was from capital gains rather than ordinary income. I computed the average tax paid and average net income and interpolated these numbers for all matches in my sample. Throughout the chapter, I refer to the first measure as the taxable income, and the second measure as the imputed taxable income. Additionally, for the first method, I computed the marginal tax rate faced by each taxpayer on their last dollar of taxable income. I also computed what the marginal tax rate would have been in each year if the laws of the other year had been in effect. In other words, for a taxpayer in 1923 with an estimated taxable income of $6,000, I assigned both the marginal tax rate determined by the Revenue Act of 1921 and the Revenue Act of 1924. By this method, I hope to avoid spurious correlations that can easily result from analysis of across-the-board tax cuts.

Interestingly, the numbers for taxable incomes align quite well when using either method of income computation. While one might not expect the first method (which assumes only personal exemptions, no deductions, and all ordinary income) to match very well, it is possible that the use of exemptions and the shifting of income toward capital gains may offset each other and the estimated taxable income is accurate. However, even if this were true, the marginal tax rate computed by the first method would not be accurate. The large share of capital gains in this case would imply a lower surtax rate than if all income were ordinary..

Newspapers often printed a table for translating the tax payments in their pages to taxable incomes. This formula is uniform across newspapers and corresponds exactly to the

1923 and 1924 rate schedule on ordinary income with the standard deduction.

5.3.2 Sample characteristics

Since the dataset is new and since newspaper editors may have been swayed to exclude certain records from their lists, I will compare the dataset against aggregate statistics presented in the *Statistics of Income*. I will also present information that determines consistency of the rank of each taxpayer. This will be important in determining how important the assumption of rank preservation is in studies with aggregate data.

Some perspective on the size of the sample can be gained by comparing the number of returns with more than $20,000 of income in the sample against the number in New York or the whole United States. In 1923, the sample has 7,486 individuals with over $20,000 in income. New York had 20,647, and the USA had 80,783. In 1924, the sample has 7,987 individuals with over $20,000 in income. New York had 25,969, and the USA had 96,434. The sample therefore contains a number roughly equivalent to 1/3 of the number of filers in New York in each year and 1/12 of the number of filers in the country.

The next piece of information that describes whether the sample is representative is the number of filers in each income group relative to the total number of filers in each income group. Appendix figures in section C.2 show probability densities for both years with a minimum cutoff of $20,000. In general, the sample underestimates up to about $40,000 and overestimates at higher incomes, but the sample is roughly consistent with the aggregate data.

5.3.3 Rank Preservation

Rank preservation is an important assumption in analyzing the ETI with aggregate data. Aggregate data does not identify the taxpayers in each income class, so other studies, especially those covering the 1920s, will often use rank preservation. Usually, the aggregate data on income is mapped to a Pareto distribution, and each ranked taxpayer can be assigned an income. When analyzing behavioral response, it is necessary to follow taxpayers across years. Rank preservation allows for the nth ranked taxpayers in each year to be linked together. If rank preservation is not a valid assumption, then estimates from studies based upon it may not be reliable.

I use my 1923-1924 tax payment dataset to compute the ranks of each individual based on their taxable income in each year. The rank 1 is the largest tax payment in each year, while higher deciles (i.e. 10 is higher than 1) correspond to larger payments and incomes. Note that it does not matter whether I use payment data or computed taxable income since my formulas are linear, monotone transformations of payment data, so the ranks will be the same no matter which measure is used. To simplify the presentation of tens of thousands of observations, I group the taxpayers into deciles in each year. I also note if they are in the dataset in one year and missing in the other.

I present taxpayers by their decile in each year in Figure 5.3.1. Perfect rank preservation would be a set of solid orange boxes from the bottom left to the top right with white boxes everywhere else. The data here are scattered across the grid, but most taxpayers stay in the same decile or a similar decile; off diagonal boxes tend to shade much lighter than the diagonal boxes. Boxes are shaded darker towards the upper right of the heat map. This indicates that taxpayers at the top are more likely to stay near their own decile than those farther down the distribution.

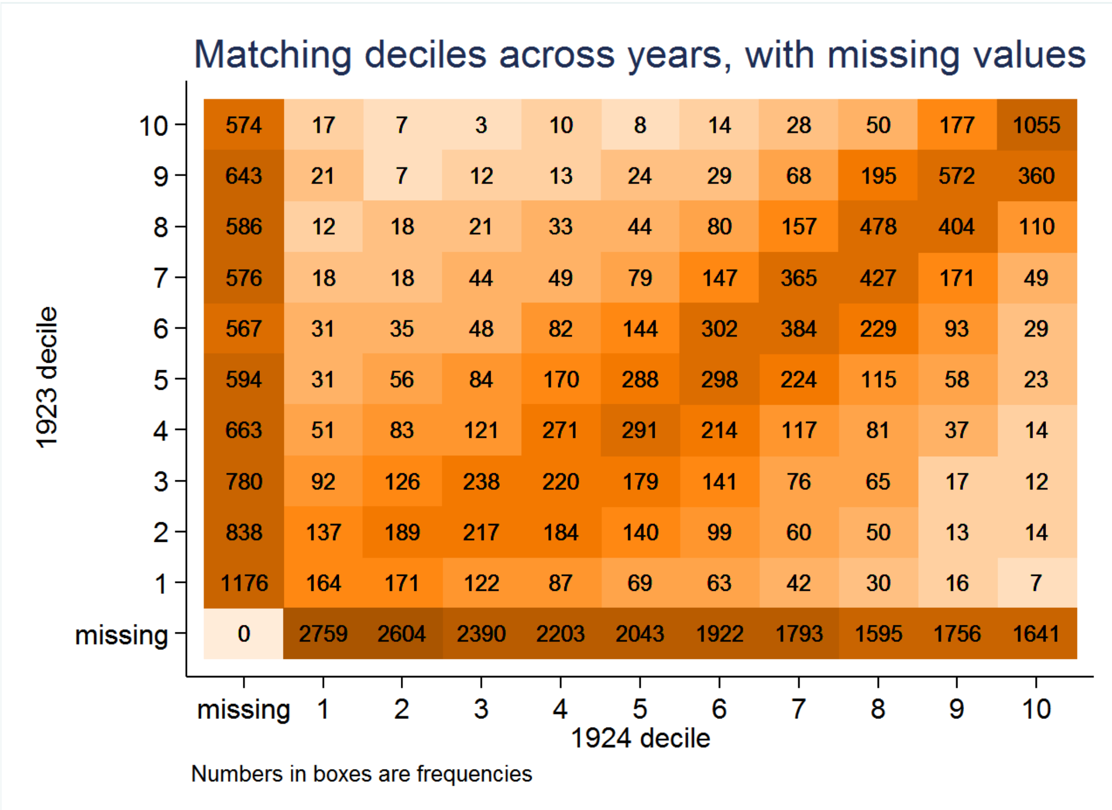


Figure 5.3.1: Number of individuals by decile and year

The one alarming trend is that the number of missing taxpayers is quite high regardless of decile in either year. This is particularly true for those who appear in 1924 but not 1923. Of course, as the number of records in the newspaper was much higher in 1924, this is to be expected. Only about 27,000 entries appeared in 1923, while about 44,000 appeared in 1924. Therefore, automatically, about 17,000 of those 44,000 people will not be matched.[37] Certainly, those who go from any decile to missing have experienced a larger drop in income or tax payment than those who drop to the lowest decile. For those people, rank preservation is certainly not true. Generally speaking, though, the payments, and therefore incomes, of

[37] The number will not be exactly that due to duplicates, corporations, estates, etc., but will still be a large fraction of those appearing in 1924.

those at the top are consistent between the years. Heatmaps showing row and column percentages can be found in the appendix.

Due to the chaotic origin of tax publicity, newspaper reporters were not as prepared to print tens of thousands of names in 1924 as they were in 1925. The number of names printed in the second year is substantially higher than the first and far outpaced the growth in taxpayers who paid more than $500 in tax. It is very possible, perhaps even likely, that the newspapers were overwhelmed and left off a number of 1923's taxpayers who would then appear again in 1924. If this is the case, then support for rank preservation is even stronger than what I have shown here, and studies of the ETI which rely on rank preservation may rest on fairly strong foundations after all.

5.4 Analysis

5.4.1 Response regardless of tax rate

Before computing a complicated statistic, I first present percent changes of each individual's tax payment. I computed the ratio of 1924 tax to 1923 tax as tax24/tax23.

Figure 5.4.1 will set our expectations for the elasticity of taxable income. If in general, individuals pay the same amount in tax (distribution centered about 1), then the ETI is likely about equal to 1; that is, the large cut in tax rates must have been accompanied by an increase in taxable incomes of approximately the same percent. If, however, individuals see a 25 percent cut in taxes and their tax payments decrease by about 25 percent, then the ETI is close to 0; that is, there has been no response. If taxes are cut by about 25 percent, but tax payments decrease by less than 25 percent, then the ETI is probably somewhere between zero and one.

What we see in figure 5.4.1 is a large group of individuals whose tax payment in 1924 is 50-70 percent the size of their payment in 1923. This is somewhat surprising; the tax cut of 1924 was intended to be stimulative, resulting in higher incomes. Instead, the effect shown in figure 5.4.1 is that while tax rates declined by about 25 percent across the board, tax payments declined by even more than that. This prepares us for a small or perhaps negative elasticity of taxable income.

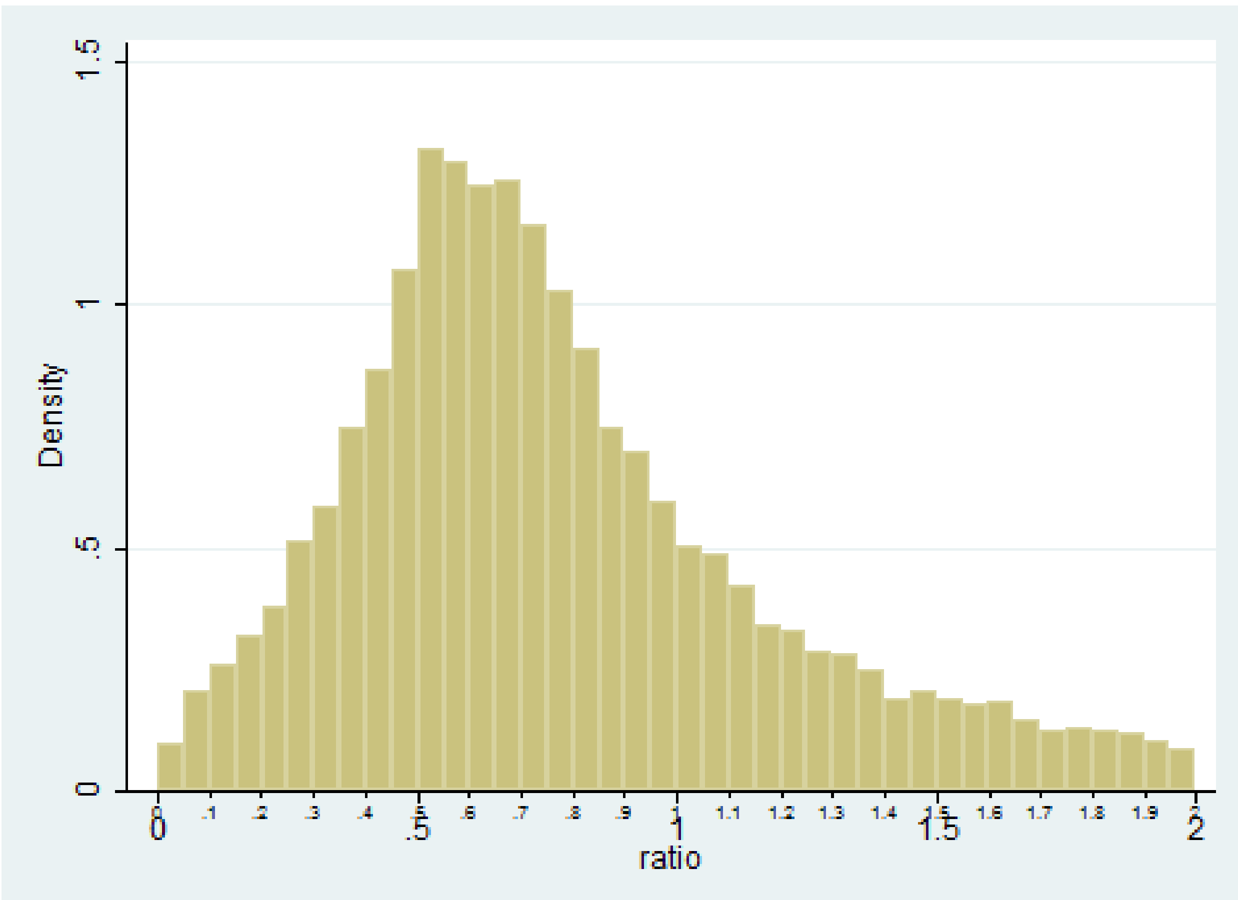


Figure 5.4.1: Histogram: New York 1924 payments divided by 1923 payments.

Table 5.4.1 presents statistics on the number of returns, taxable returns, total income, and total tax paid in the United States for 1923 and 1924. The tax for 1923 is adjusted up by 1/3; this accounts for the *Statistics of Income* reporting the final amount, post-rebate. Table 5.4.1's implications for the ETI are quite different. While tax rates were cut about 25 percent, tax collections went down only 20 percent. We also see that income grew by just over 3 percent. Of course, these two statistics support each other; the rise in income is certainly part of the reason that tax collections did not fall the full 25 percent, and the tax collections falling only 20 percent indicates that taxable incomes must have risen.

The implications for the ETI here are slightly different from those of figure 5.4.1. Taxes were cut in 1924 by about 25 percent, and incomes rose, but not anywhere near 25 percent. From this, we expect that the ETI will be positive, but small.

	returns	Taxable returns	income	tax
1923	7,698,321	4,270,121	24,840,137,364	884,868,673
1924	7,369,788	4,489,698	25,656,153,454	704,265,390
change	-328,533	219,577	816,016,090	-180,603,283
percent	-4.27	5.14	3.29	-20.41

Table 5.4.1: 1923 and 1924 aggregate tax information

5.4.2 The ETI

To compute the elasticity of taxable income, Gruber and Saez (2002) recommend, and I use, the regression

$$log(z_2/z_1) = \alpha_0 + \zeta log[(1-T_2')/(1-T_1')] + \eta log[(z_2 - T_2(z_2))/(z_1 - T_1(z_1)] + \alpha_1 log(z_1) + \epsilon$$

where z_i is the taxable income in year i, $T_i(z_j)$ is the total tax paid, with the income tax rules of year i and the income of year j, and T_i' is the marginal tax rate in year i.

I use the standard instruments in the literature. Instruments are necessary because of the progressivity of the tax code. When there is a positive shock to income that is not explained by any variable, then $\epsilon > 0$, and therefore the tax rate will increase automatically. This will lead to a correlation with both $log[(1-T'_2)/(1-T'_1)]$, the log change in marginal net-of-tax rates,[38] and $log[(z_2 - T_2(z_2))/(z_1 - T_1(z_1)]$, the log change in after-tax income.[39] Let T'_p equal the predicted marginal tax rate in year 2 if income is unchanged. Then the instruments $log[(1-T'_p)/(1-T'_1)]$, the log change in marginal net-of-tax rates if the law changes and income does not, and $log[(z_1 - T_2(z_1))/(z_1 - T_1(z_1)]$, the log change in after tax income if the law changes and income does not, will isolate the change in the tax laws by assuming income is unchanged between the two years.

I use the payments in each year to compute taxable income in the same year, as well as the marginal tax rate in both years. I use 1923 payments to compute 1923 income, and the 1923 marginal tax rate. I then use the 1923 computed income to calculate the hypothetical marginal tax rate in 1924 if income had been unchanged. It is standard in the literature to use these simulated instruments, though their validity is debated; see Weber (2013).[40]

[38] An unexplained positive shock to income will increase the tax rate (for at least some people), and the ratio changes as a result.

[39] An unexplained positive shock to income will increase after-tax income as long as the marginal tax rate is less than 100 percent.

[40] Perhaps the term "instrument" should be saved for situations where the instrument is not simulated, but I keep the terminology from the literature.

While Weber prefers the Fixed-Bracket Average Treatment Effect to measure response, that approach is impractical here due to the much larger number of tax brackets in the 1920s, relative to the modern system. In the 1920s, the only taxpayers who would stay within the same bracket year to year were the handful at the very top.

	Log change, TI	Log change, TI	Log change, TI	Log change, TI
Log change, net-of-tax rate	0.080	0.288	0.387	0.586
	(0.071)	(0.088)**	(0.127)**	(0.164)**
Log change, after-tax income	0.577	0.610	1.426	1.525
	(0.061)**	(0.055)**	(0.053)**	(0.057)**
Log of 1923 taxable income	-0.106	-0.094	-0.026	
	(0.013)**	(0.011)**	(0.013)	
Constant	1.111	0.978	-0.045	-0.436
	(0.140)**	(0.119)**	(0.188)	(0.058)**
R^2	0.76	0.74	0.98	0.96
N	11,744	11,489	509	509
IV	Yes	Yes	Yes	Yes
Outliers Dropped		Yes		
Top 500			Yes	Yes

* $p < 0.05$; ** $p < 0.01$

Figure 5.4.2: Summary of New York regression results

The results of these regressions are reported in figure 5.4.2. The regression above with instrumental variables for New York returns an elasticity of taxable income of 0.080, with a standard error of 0.071.

When outliers with enormous percent changes in taxable income (greater than a multiple of 10 difference) are removed, the estimate changes to 0.288, statistically significantly different from zero at the 1 percent level with a standard error of 0.088 and R^2 of 0.74. When looking at only the top 500 taxpayers in each year, the elasticity rises to 0.387 with a standard error of 0.127. Dropping the log of first year taxable income increases the estimate even further, to 0.586, with a standard error of 0.164.

5.4.3 High R^2 in Elasticity of Taxable Income Estimation

In the regressions without instrumental variables, the R^2 appears as 1 in the table of results. The R^2 is actually rounded from 0.99 or higher, and is not the result of pure collinearity due to generated variables. In this section, I show why the R^2 is so high. Begin with the standard equation in the literature,

$$\begin{aligned} log(z_2/z_1) = & \alpha_0 + \zeta log[(1 - T_2')/(1 - T_1')] \\ & + \eta log[(z_2 - T_2(z_2))/(z_1 - T_1(z_1)] \\ & + \alpha_1 log(z_1) + \epsilon \end{aligned}$$

Consider the left side, and the second independent variable. Use the logarithm identities $log(a * b) = log(a) + log(b)$ and $log(a/b) = log(a) - log(b)$ to rearrange:

$$\begin{aligned} log(z_2) - log(z_1) = & \alpha_0 + \zeta[log(1 - T_2') - log(1 - T_1')] \\ & + \eta[log(z_2 - T_2(z_2)) - log(z_1 - T_1(z_1)] \\ & + \alpha_1 log(z_1) + \epsilon \end{aligned}$$

Factor out $z_1$and z_2 from the right side logarithms, and use the multiplication identity:

$$\begin{aligned} log(z_2) - log(z_1) = & \alpha_0 + \zeta[log(1 - T_2') - log(1 - T_1')] \\ & + \eta[(log(z_2) + log(1 - T_2(z_2)/z_2)) \\ & - (log(z_1) + log(1 - T_1(z_1)/z_1))] \\ & + \alpha_1 log(z_1) + \epsilon \end{aligned}$$

Combine the $log(z_i)$ terms on the right to get:

$$\begin{aligned} log(z_2) - log(z_1) =& \alpha_0 + \zeta[log(1 - T_2') - log(1 - T_1')] \\ &+ \eta[log(z_2) - log(z_1)] \\ &+ \eta[log(1 - T_2(z_2)/z_2) - log(1 - T_1(z_1)/z_1)] \\ &+ \alpha_1 log(z_1) + \epsilon \end{aligned}$$

Look at $log(1-T_2(z_2)/z_2))$. Since $T_2(z_2)$ is the tax paid on an income of z_2, then $T_2(z_2)/z_2$ is taxes paid as a fraction of income. Then $1 - (T_2(z_2)/z_2)$ is after-tax income as a fraction of pre-tax income.

In the case of a progressive income tax system and tax cuts across all brackets, then $[log(1-T_2(z_2)/z_2)) - log(1-T_1(z_1)/z_1))]$, which represents the log change in after-tax income as a fraction of pre-tax income, is strongly negatively correlated with the left side, $log(z_2) - log(z_1)$. The reasoning here is straightforward. Take a base year income, marginal tax rate, and average tax rate to be given. Also assume that there is a tax reform that cuts all marginal tax rates. The key insight is that the progressivity of the income tax implies that an increase in income causes an increase in the marginal tax rate (weakly)[41] and an increase in the average tax rate (always)[42].

Now consider three cases: no change in income, an increase in income, and a decrease in income, all relative to the base year. In the case of no change in income (the "first case"), $log(z_2) - log(z_1)$ is zero. Because of a tax cut in all marginal rates, $[log(1 - T_2(z_2)/z_2)) -$

[41] This is only not true if an individual stays within the same marginal tax rate bracket.

[42] This is true even within the same bracket, since the marginal is higher than the average, and pulls the average up. Even in the lowest bracket, the existence of an exemption allows for the marginal to be always higher than the average.

$log(1 - T_1(z_1)/z_1))]$ will be small and positive; the after-tax share of income in the second year must be larger than in the first year due to the tax cut, so the difference in their logs will be positive. Now consider the case of a decrease in income. Then $log(z_2) - log(z_1)$ is negative, and therefore smaller than in the first case. But the after-tax share of income is larger than in the first case due to the progressivity of the income tax, and so, $[log(1 - T_2(z_2)/z_2)) - log(1 - T_1(z_1)/z_1))]$ is larger than in the first case. In the case of an increase in income, $log(z_2) - log(z_1)$ is positive, and therefore larger than in the first case. But the after-tax share of income is smaller than in the first case due to the progressivity of the income tax, and so, $[log(1 - T_2(z_2)/z_2)) - log(1 - T_1(z_1)/z_1))]$ is smaller than in the first case. Since the hypothetical tax cut here affects all tax brackets, then this logic holds regardless of the chosen starting income.

In that case, which is true for the Revenue Act of 1924, the coefficient η will estimate the changes in the left side of the equation, $log(z_2) - log(z_1)$, due to itself, $log(z_2) - log(z_1)$, plus a term, $[log(1 - T_2(z_2)/z_2)) - log(1 - T_1(z_1)/z_1))]$, with which it is correlated. In this dataset, $log(z_2) - log(z_1)$ and $[log(1 - T_2(z_2)/z_2)) - log(1 - T_1(z_1)/z_1))]$ have a correlation coefficient of -0.8523, while $log(z_2) - log(z_1)$ and $log[(z_2 - T_2(z_2))/(z_1 - T_1(z_1)]$ have a correlation coefficient of 0.9959.

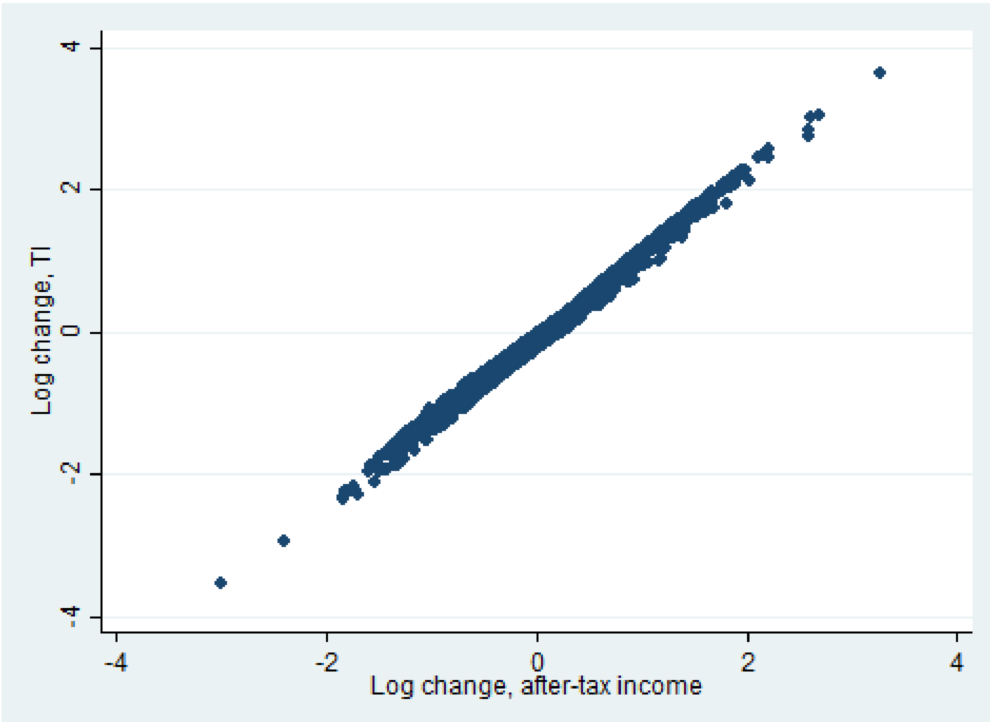


Figure 5.4.3: Scatterplot showing strong positive correlation in left side and dependent variable

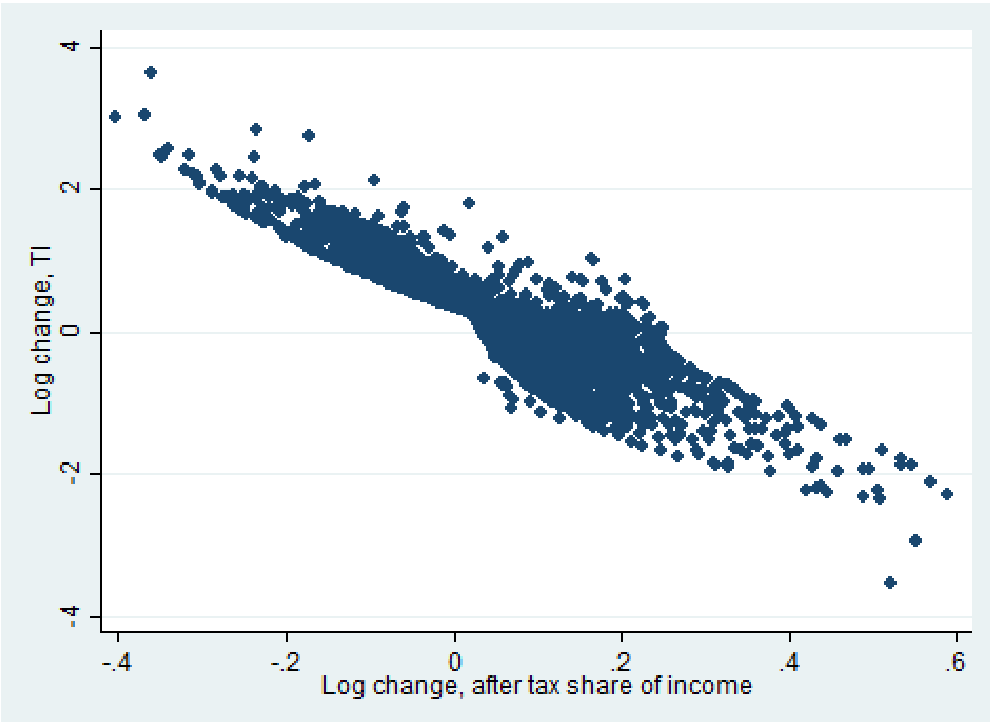


Figure 5.4.4: Scatterplot showing strong negative correlation between left side and after-tax share of income

5.4.4 Staying in the sample

The newspapers frequently mentioned that high-income people were upset that their names, addresses, and tax payments are running in the newspaper along with their addresses and tax payments. Since these people were quite rich, and potentially very powerful and angry, there is some chance that they could have encouraged the newspaper to not run their name in the second year. I run a logit model to see if there is any relationship between showing up in the second year and income in the first year. I set an indicator variable equal to one if present in 1923 and 1924. The indicator equals zero if present in 1923 but absent in 1924. There is a positive relationship between the log of income in year 1 and appearing in the data in year 2 (coefficient: 0.543, standard error 0.026), statistically significant at the 99.999 percent level. In short, taxpayers can not opt out that easily.

This confirms a trend seen in the deciles heatmap. Though there are many missing observations in one of the two years, these people are more often found near the bottom of the distribution in the year that I observe them.

5.5 Conclusion

The publicity of income tax returns in 1923 and 1924 provides a unique opportunity to analyze individual taxpayer behavior in the interwar period. Using a sample of 11,774 matched taxpayers in New York, I have computed the elasticity of taxable income and found it to be largely consistent with past estimates. Results are usually on the lower end of the range of previous estimates from postwar time periods, but correspond almost exactly to estimates during the interwar time period. Results from a regression approach for New York are around 0.080 to 0.586, with the most trusted estimates at 0.288 and 0.387.

These elasticity estimates agree with estimates by Goolsbee, as well as Romer and Romer. I update table 1 from the literature review as table 3, with estimates from this paper included. This paper's estimates overlap very well with the Romer and Romer estimates, and the high end of this paper's range corresponds to the low end of Goolsbee's range. Estimates in this paper are far lower than those implied by Smiley and Keehn, though their research design is not directly comparable. Additionally, the similarity of ETI estimates in this chapter to estimates in the literature show that the data do not suffer from large abnormalities.

	Time Period	additional info	Low Est.	High Est.
Goolsbee	1922-1926	comparison groups or regression	0.53	1.2
Romer & Romer	1919-1941	full interwar period	0.2	0.31
Romer & Romer	1919-1929, 1923-1932	pre-depression or stable policy	0.198	0.378
Smiley & Keehn	1915-1929	elasticity of number of filers	implied >1	implied >1
Marcin	1923-1924	all matches	0.08	0.58
Marcin	1923-1924	outliers dropped or top 500	0.28	0.38

Table 5.5.1: Estimated ETIs in previous studies

This study has also analyzed the assumption of rank preservation and found it to be a fair assumption, though it is more appropriate at high incomes than overall. Rank preservation could be stronger if the samples in this dataset in each year were closer in size. Previous studies of the elasticity of taxable income that relied on rank preservation might be on strong theoretical foundations. The empirical foundations also appear to be strong, since this paper does not use rank preservation and computes similar estimates to two previous papers that do use rank preservation in a similar time period.

APPENDICES

APPENDIX A
Appendix to Chapter II

A.1 Trends in taxation

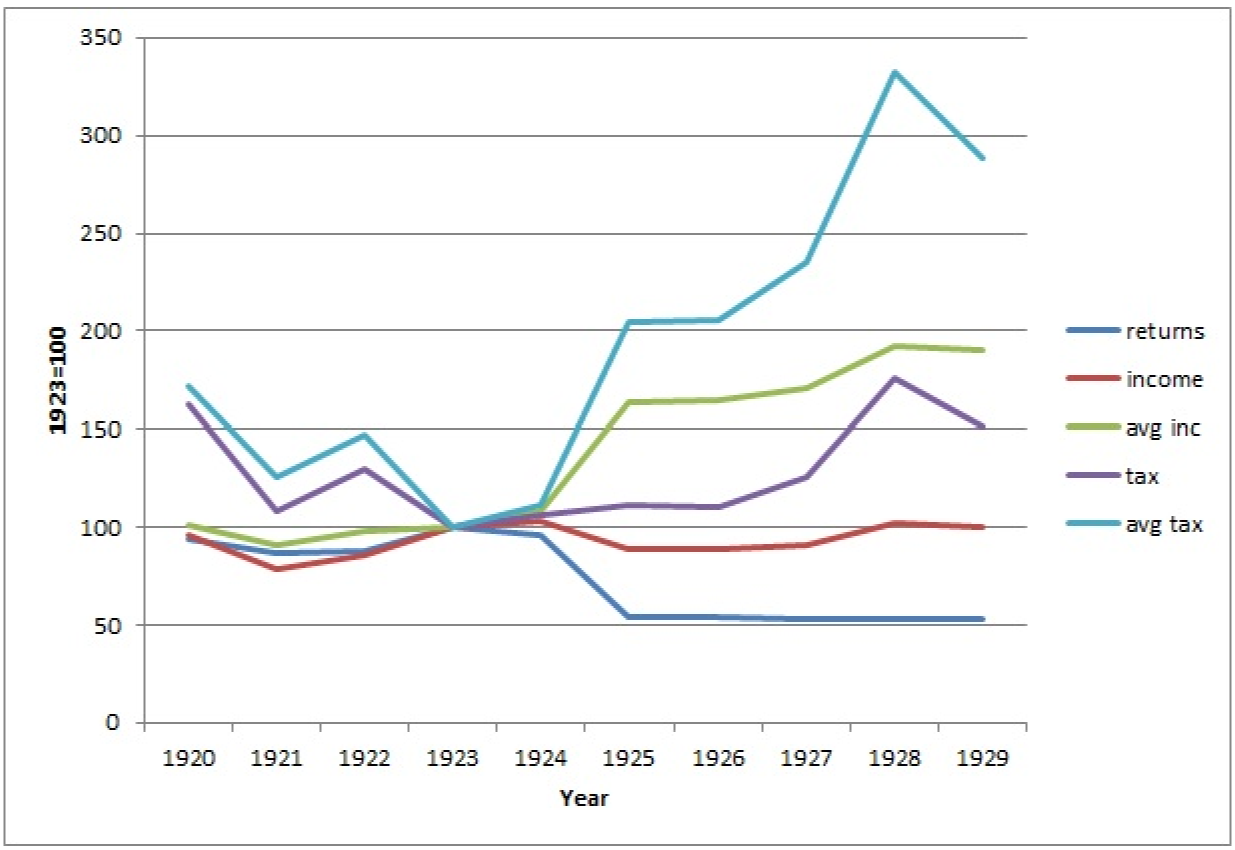


Figure A.1.1: Taxation statistics, 1920-1929. Source: *Statistics of Income*

A.2 Newspapers and disclosure

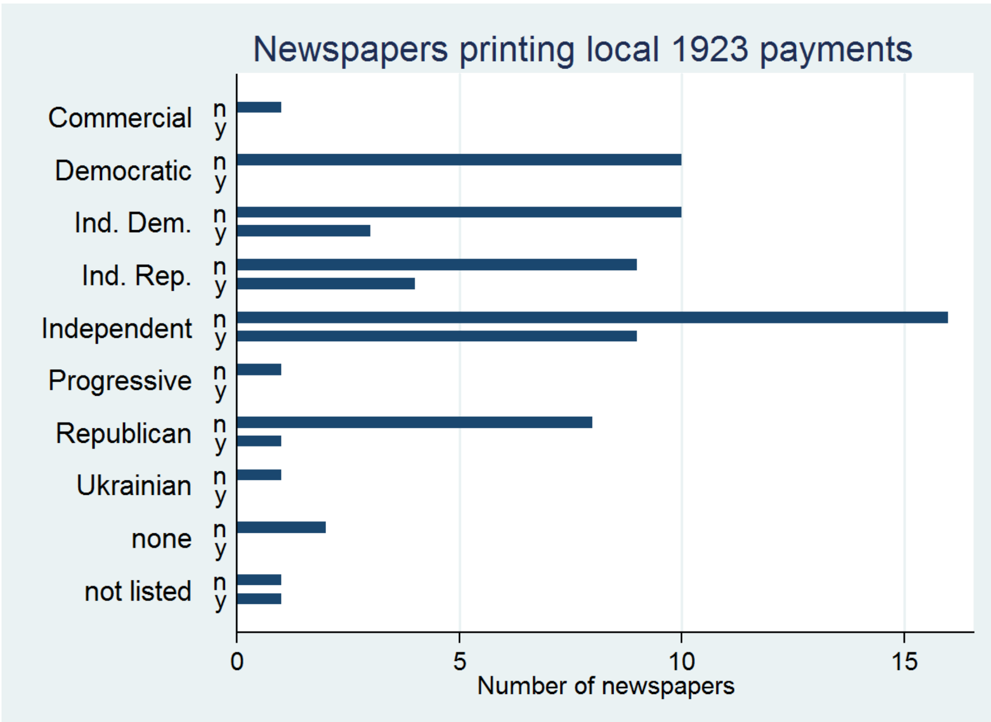


Figure A.2.1: Newspapers running local payments by affiliation

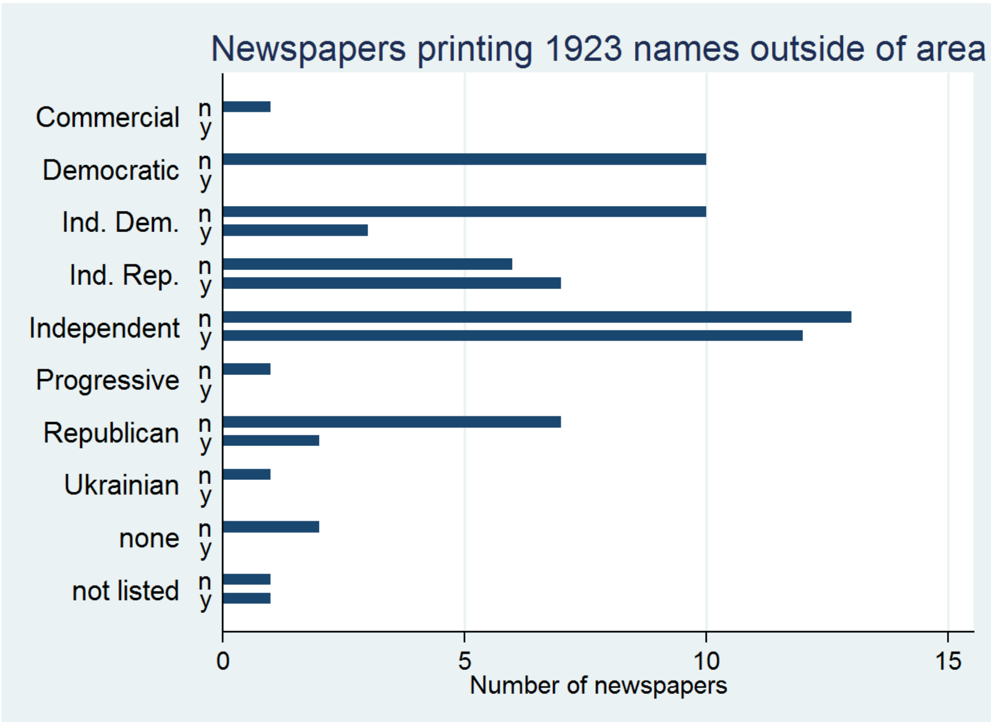


Figure A.2.2: Newspapers running out of town payments by affiliation

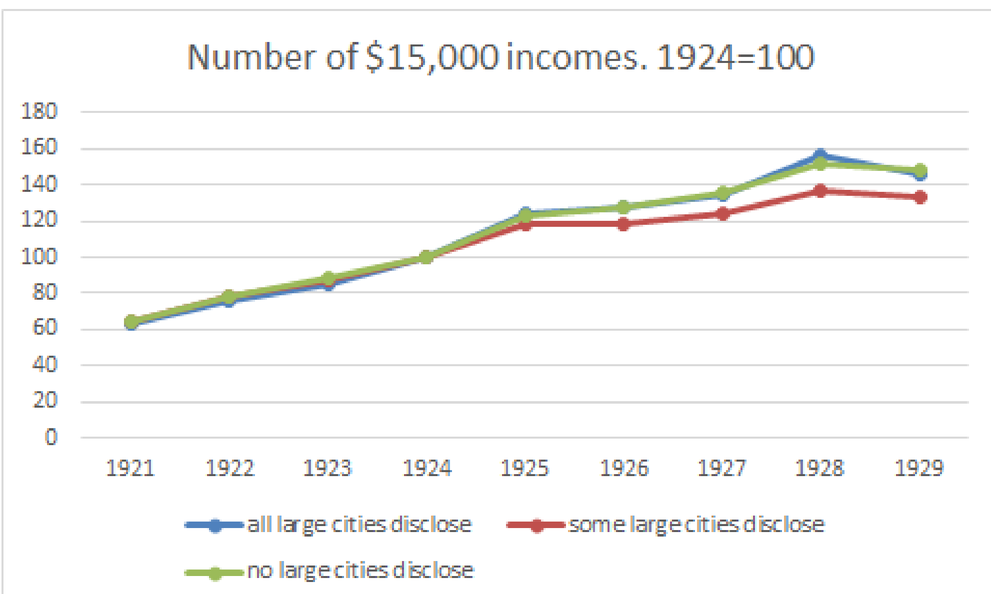


Figure A.2.3: $15,000 incomes by level of disclosure

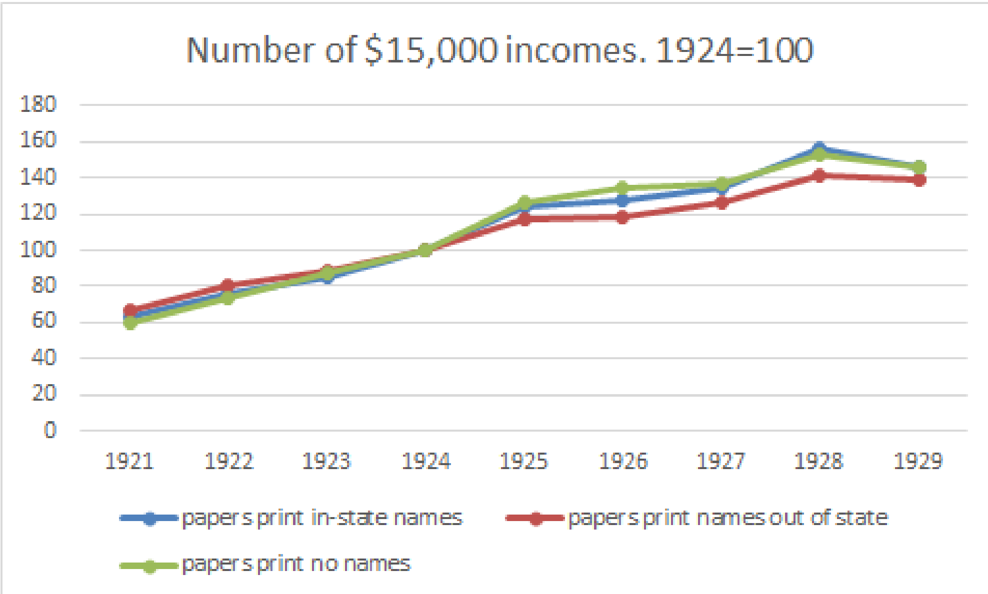


Figure A.2.4: $15,000 incomes by level of disclosure

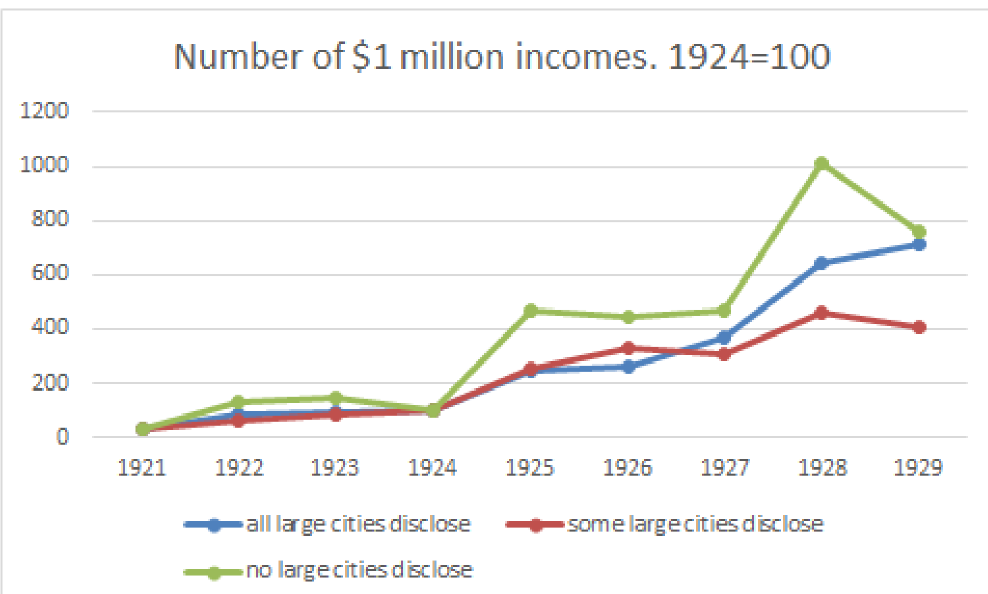


Figure A.2.5: $15,000 incomes by level of disclosure

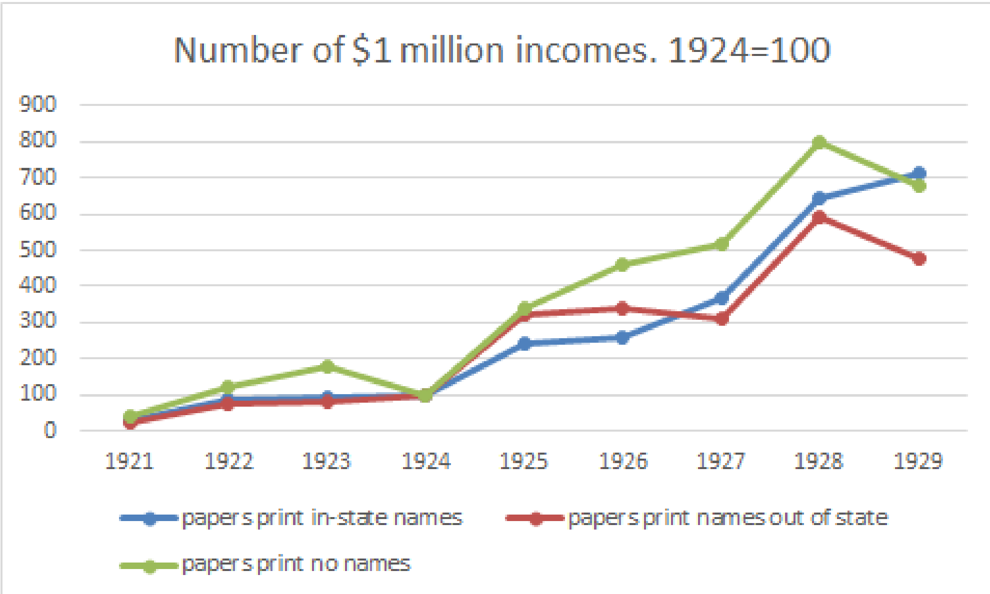
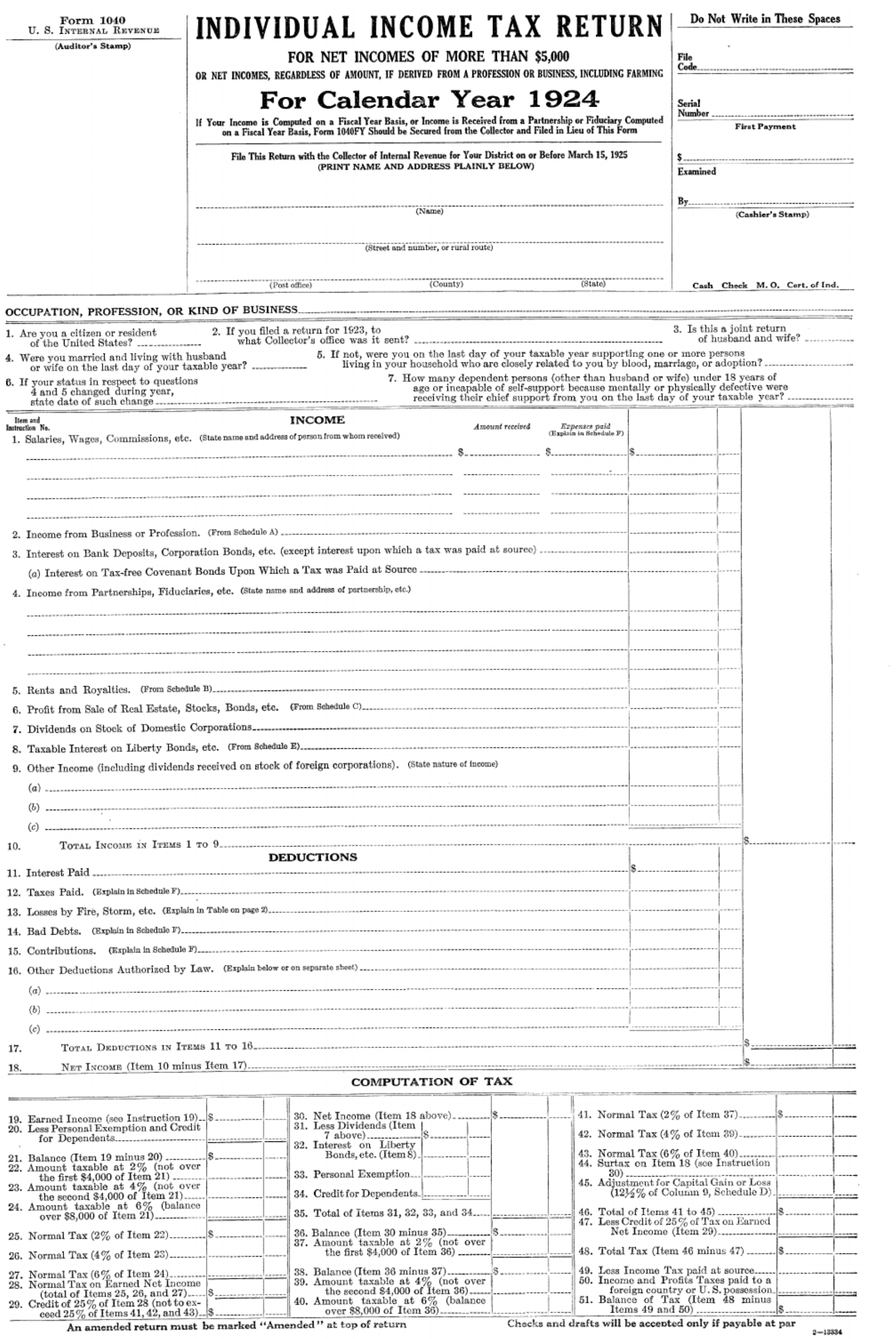


Figure A.2.6: $15,000 incomes by level of disclosure

A.3 1924 tax forms and instructions



Form 1040
U. S. Internal Revenue
(Auditor's Stamp)

INDIVIDUAL INCOME TAX RETURN

FOR NET INCOMES OF MORE THAN $5,000
OR NET INCOMES, REGARDLESS OF AMOUNT, IF DERIVED FROM A PROFESSION OR BUSINESS, INCLUDING FARMING

For Calendar Year 1924

If Your Income is Computed on a Fiscal Year Basis, or Income is Received from a Partnership or Fiduciary Computed on a Fiscal Year Basis, Form 1040FY Should be Secured from the Collector and Filed in Lieu of This Form

File This Return with the Collector of Internal Revenue for Your District on or Before March 15, 1925
(PRINT NAME AND ADDRESS PLAINLY BELOW)

(Name)

(Street and number, or rural route)

(Post office) (County) (State)

Do Not Write in These Spaces

File Code

Serial Number

First Payment

$

Examined

By

(Cashier's Stamp)

Cash Check M. O. Cert. of Ind.

OCCUPATION, PROFESSION, OR KIND OF BUSINESS

1. Are you a citizen or resident of the United States?
2. If you filed a return for 1923, to what Collector's office was it sent?
3. Is this a joint return of husband and wife?
4. Were you married and living with husband or wife on the last day of your taxable year?
5. If not, were you on the last day of your taxable year supporting one or more persons living in your household who are closely related to you by blood, marriage, or adoption?
6. If your status in respect to questions 4 and 5 changed during year, state date of such change
7. How many dependent persons (other than husband or wife) under 18 years of age or incapable of self-support because mentally or physically defective were receiving their chief support from you on the last day of your taxable year?

Item and Instruction No.

INCOME

	Amount received	Expenses paid (Explain in Schedule F)	
1. Salaries, Wages, Commissions, etc. (State name and address of person from whom received)	$	$	$
2. Income from Business or Profession. (From Schedule A)			
3. Interest on Bank Deposits, Corporation Bonds, etc. (except interest upon which a tax was paid at source)			
(a) Interest on Tax-free Covenant Bonds Upon Which a Tax was Paid at Source			
4. Income from Partnerships, Fiduciaries, etc. (State name and address of partnership, etc.)			
5. Rents and Royalties. (From Schedule B)			
6. Profit from Sale of Real Estate, Stocks, Bonds, etc. (From Schedule C)			
7. Dividends on Stock of Domestic Corporations			
8. Taxable Interest on Liberty Bonds, etc. (From Schedule E)			
9. Other Income (including dividends received on stock of foreign corporations). (State nature of income) (a) (b) (c)			
10. Total Income in Items 1 to 9			$

DEDUCTIONS

11. Interest Paid	$	
12. Taxes Paid. (Explain in Schedule F)		
13. Losses by Fire, Storm, etc. (Explain in Table on page 2)		
14. Bad Debts. (Explain in Schedule F)		
15. Contributions. (Explain in Schedule F)		
16. Other Deductions Authorized by Law. (Explain below or on separate sheet) (a) (b) (c)		
17. Total Deductions in Items 11 to 16		$
18. Net Income (Item 10 minus Item 17)		$

COMPUTATION OF TAX

19. Earned Income (see Instruction 19) $
20. Less Personal Exemption and Credit for Dependents
21. Balance (Item 19 minus 20) $
22. Amount taxable at 2% (not over the first $4,000 of Item 21)
23. Amount taxable at 4% (not over the second $4,000 of Item 21)
24. Amount taxable at 6% (balance over $8,000 of Item 21)
25. Normal Tax (2% of Item 22) $
26. Normal Tax (4% of Item 23)
27. Normal Tax (6% of Item 24)
28. Normal Tax on Earned Net Income (total of Items 25, 26, and 27) $
29. Credit of 25% of Item 28 (not to exceed 25% of Items 41, 42, and 43) $
30. Net Income (Item 18 above) $
31. Less Dividends (Item 7 above) $
32. Interest on Liberty Bonds, etc. (Item 8)
33. Personal Exemption
34. Credit for Dependents
35. Total of Items 31, 32, 33, and 34
36. Balance (Item 30 minus 35) $
37. Amount taxable at 2% (not over the first $4,000 of Item 36)
38. Balance (Item 36 minus 37) $
39. Amount taxable at 4% (not over the second $4,000 of Item 36)
40. Amount taxable at 6% (balance over $8,000 of Item 36)
41. Normal Tax (2% of Item 37) $
42. Normal Tax (4% of Item 39)
43. Normal Tax (6% of Item 40)
44. Surtax on Item 18 (see Instruction 30)
45. Adjustment for Capital Gain or Loss (12½% of Column 9, Schedule D)
46. Total of Items 41 to 45) $
47. Less Credit of 25% of Tax on Earned Net Income (Item 29)
48. Total Tax (Item 46 minus 47) $
49. Less Income Tax paid at source
50. Income and Profits Taxes paid to a foreign country or U. S. possession
51. Balance of Tax (Item 48 minus Items 49 and 50) $

An amended return must be marked "Amended" at top of return

Checks and drafts will be accepted only if payable at par

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Figure A.3.1: First of two pages of 1040, tax year 1924.

INSTRUCTIONS

The Instruction Numbers on this Page Correspond with the Item Numbers on the First Page of the Return

1. INCOME FROM SALARIES, WAGES, COMMISSIONS, ETC.

Enter as Item 1 on page 1 of the return, all salaries or other compensation credited by or received from outside sources. Use a separate line for each entry, giving the information requested.

Any amount claimed as deduction for necessary expenses against salaries, etc., such as traveling expenses, while away from home in the pursuit of a trade or business, should be fully explained in Schedule F, page 2 of the return, or on an attached statement. Traveling expenses ordinarily include expenditures for railroad fares, meals, and lodging.

2. INCOME FROM BUSINESS OR PROFESSION

If you owned a business, or practiced a profession on your own account, fill in Schedule A on page 2 of the return, and enter the net income (or loss) as Item 2 on page 1 of the return.

This schedule should include income derived from the following sources: (*a*) Sale of merchandise, or products of manufacturing, mining, construction, and agriculture; (*b*) Business service, such as amusements, hotel and restaurant service, livery and garage service, laundering, storage, transportation, etc.; and (*c*) Professional service, such as dentistry, law, or medicine. In general, report any income in the earning of which you incurred expenses for material, labor, supplies, etc.

Farmer's income schedule.—If you are a farmer or rent your farm out on shares and keep no books of account, or keep books on a cash basis, obtain from the Collector, and attach to this return, Form 1040 F, Schedule of Farm Income and Expenses, and enter the net farm income as Item 2, page 1 of this return. If your farm books of account are kept on an accrual basis, the filing of Form 1040 F is optional. Income from salaries, interest, rents, and sales of property, should be included in Items 1, 3, 5, and 6, respectively, on this return.

Installment sales.—If you have used the installment method in computing income from installment sales, you must attach to your return a schedule showing separately for the years 1921, 1922, 1923, and 1924 the following information: (*a*) Gross sales; (*b*) Cost of goods sold; (*c*) Gross profits; (*d*) Percentage of profits to gross sales; (*e*) Amount collected; and (*f*) Gross profit on amount collected.

Kind of business.—Describe the business or profession in the space provided at the top of page 1, as "grocery," "retail clothing," "drug store," "laundry," "doctor," "lawyer," "farmer," etc.

Total receipts from business or profession.—Enter on Line 1 of Schedule A the total receipts from sales or services, less any discounts or allowances from the sale price or service charge.

Inventories.—If engaged in a trade or business in which the production, purchase, or sale of merchandise is an income-producing factor, secure from the Collector of Internal Revenue and file as a part of this return a *Certificate of Inventory, Form 1126.*

Salaries.—Enter on Line 10 all salaries and wages not included as "Labor" on Line 2, except a salary for your own services or the services of your dependent minor children, or husband or wife if a joint return is filed.

Interest.—Enter on Line 11 interest on business indebtedness to others. Do not include interest to yourself on capital invested in or advanced to the business.

Taxes.—Enter on Line 12 taxes on business property or for carrying on business. Do not include taxes assessed against local benefits of a kind tending to increase the value of the property assessed, as for paving, sewers, etc., nor Federal income taxes.

Losses by fire, storm, etc.—Enter on Line 13 losses of business property arising from fire, storm, or other casualty, or theft, not compensated for by insurance or otherwise and not made good by repairs claimed as a deduction. Explain this deduction in the table provided therefor at the foot of page 2, giving the information requested.

Bad debts.—Enter on Line 14 debts, or portions thereof, arising from sales or services that have been reflected in income, which have been definitely ascertained to be worthless and have been charged off within the year, or such reasonable amount as has been added to a reserve for bad debts within the year.

A debt previously charged off as bad, if subsequently collected, must be returned as income for the year in which collected.

Depreciation, obsolescence, and depletion.—Enter on Line 15 the amount claimed as depreciation by reason of exhaustion, wear and tear of property used in the trade or business, or as obsolescence or depletion, and explain in the table at the foot of page 2 how this amount was determined by giving the information requested. If obsolescence is claimed, explain why useful life is less than actual life.

The amount of depreciation for 1924 on property acquired by purchase should be determined upon the basis of the original cost (not replacement cost) of the property and the probable number of years remaining of its useful life, except if the property was purchased prior to March 1, 1913, it will be computed on the fair market value of such property as of that date or its original cost, whichever is greater. If a return is made on the basis of a fiscal year, the amount of depreciation for 1923 should be determined in the same manner, except if the property was purchased prior to March 1, 1913, it will be computed on the fair market value of such property as of that date. See Articles 161 to 171 of Regulations 65.

In case the property was acquired in any other manner than by purchase, or if a deduction is claimed on account of depletion of mines, oil or gas wells, or timber, see Article 1602 of Regulations 65.

Do not claim any deduction for depreciation in the value of a building occupied by you as a dwelling, or of other property held for use, nor for land (exclusive of improvements thereon), nor on stocks, bonds, and like securities.

Rent, repairs, and other expenses.—Enter on Line 16 rent on business property in which you have no equity, ordinary repairs to keep the property in a usable condition, and other necessary business expenses not classified above, such as heat, light, and fire insurance. Do not include rent for a dwelling occupied by you for residential purposes, the cost of business equipment or furniture, expenditures for replacements, or for permanent improvements to property, nor personal living and family expenses.

Deficit.—If the amount to be entered on Line 19 shows a deficit, such amount should be preceded by a minus sign or written with red ink.

3. INTEREST ON BANK DEPOSITS, ETC.

Enter as Item 3 all interest received or credited to your account during the taxable year on bank deposits, notes, mortgages, and corporation bonds, except interest on bonds upon which a tax was paid at the source. Interest on bonds is considered income when due and payable.

3a. INTEREST ON TAX-FREE COVENANT BONDS

Enter as Item 3a all interest received or credited to your account on corporation bonds containing a tax-free covenant, in connection with which you filed a white Ownership Certificate, Form 1000, not claiming exemption.

The tax of 2 per cent paid at the source by the debtor corporation on the amount of such interest should be entered as Item 49 on Form 1040, or Item 68 on Form 1040 FY.

4. INCOME FROM PARTNERSHIPS, FIDUCIARIES, ETC.

Enter as Item 4 income of an estate or trust, and your share (whether received or not) in the profits of a partnership, except (*a*) where the tax or reduction on account of the share of net gain or loss derived from the sale of capital assets is computed as provided in Instruction 6a, such net gain or loss shall be reported separately in Schedule D, and (*b*) that the share of the profit which consisted of dividends on stock of domestic corporations, and the taxable interest on obligations of the United States, shall be included in Items 7 and 8, respectively, on page 1 of the return.

Enter in Item 1 your share of the earned income from a partnership.

If the taxable year on the basis of which you file your return fails to coincide with the annual accounting period of the partnership or fiduciary, then you should include in your return your distributive share of the net profits for such accounting period, ending within your taxable year, and in such case your return shall be filed on Form 1040 FY instead of Form 1040 (see Instruction 19).

5. INCOME FROM RENTS AND ROYALTIES

Fill in Schedule B, giving the information requested.

If you received property or crops in lieu of cash rent, report the income as though the rent had been received in cash. Crops received as rent on a crop-share basis should be reported as income for the year in which disposed of (unless your return shows income accrued).

Enter as depreciation the amount of wear and tear, obsolescence, or depletion sustained during the taxable year 1924, and explain in table at foot of page 2.

Other expenses, such as interest, taxes, fire insurance, fuel, light, labor, and other necessary expenses of this character should be itemized.

6. PROFIT FROM SALE OF REAL ESTATE, BONDS, ETC.

Describe the property briefly in Schedule C, and state the actual price received, or the fair market value of the property received in exchange. Expenses connected with the sale may be deducted in computing income.

Enter the original cost of the property, and if it was acquired prior to March 1, 1913, the fair market value as of that date. Attach statement explaining how value as of March 1, 1913, was determined. If the property was acquired in any other manner than by purchase, see Articles 1591 to 1601 of Regulations 65.

Enter as depreciation the amount of wear and tear, obsolescence, amortization, or depletion previously allowed with respect to such property since date of acquisition, or since March 1, 1913, if the property was acquired before that date.

Subsequent improvements include expenditures for additions, improvements, and repairs made to restore the property or prolong its useful life. Do not deduct ordinary repairs, interest, or taxes in computing gain or loss.

In the case of sales of stocks and bonds, deductions should not be taken in columns 4 and 7 for "Depreciation" and "Subsequent improvements." No loss shall be recognized in any sale or other disposition of shares of stock or securities where you have acquired substantially identical property within 30 days before or after the date of such sale, unless you are a dealer in stock or securities.

In case the amount to be entered as Item 8 is a deductible loss, such amount should be preceded by a minus sign or written with red ink.

6a. CAPITAL NET GAIN OR LOSS

If desired, the capital net gain derived from the sale or exchange of capital assets may be computed separately and a tax of 12½ per cent paid on such income in lieu of the regular normal tax and surtax. The term "capital net gain" means the excess of the total amount of capital gain over the sum of (*a*) the capital deductions and capital losses, plus (*b*) the amount, if any, by which the ordinary deductions exceed the gross income computed without capital gain.

In case a capital net loss is sustained from the sale or exchange of capital assets, the total normal tax and surtax computed on the basis of the ordinary net income shall be reduced by 12½ per cent of such capital net loss; but in no case shall the tax computed in this manner be less than the total normal tax and surtax that would be imposed without the benefit of this provision. The term "capital net loss" means the excess of the sum of the capital losses plus the capital deductions over the total amount of capital gain.

The term "capital assets" means property held by the taxpayer for more than two years (whether or not connected with his trade or business), but does not include stock in trade of the taxpayer or other property of a kind which would properly be included in the inventory of the taxpayer if on hand at the close of the taxable year, or property held by the taxpayer primarily for sale in the course of his trade or business.

Fill in Schedule D in accordance with Instructions 6 for Schedule C, if the tax is computed under this provision, and enter 12½ per cent of the capital net gain or loss as Item 45 on Form 1040, or Item 59 on Form 1040 FY. In case of a capital net loss, the amount of such loss and the credit claimed should be preceded by a minus sign or written with red ink. (See articles 1651 to 1654 of Regulations 65.)

7. DIVIDENDS

Report as Item 7 the amount received as dividends (*a*) from a domestic corporation other than a corporation entitled to the benefits of Section 262 of the Revenue Act of 1924 and other than a corporation organized under the China Trade Act, 1922, or (*b*) from a foreign corporation when it is shown to the satisfaction of the Commissioner that more than 50 per cent of the gross income of such foreign corporation for the three-year period ending with the close of its taxable year preceding the declaration of such dividends (or for such part of such period as the corporation has been in existence) was derived from sources within the United States, including your share of such dividends received on stock owned by a partnership, or an estate or trust.

8. INTEREST ON LIBERTY BONDS, ETC.

Schedule E should be filled in if you own any of the obligations or securities enumerated in column 1. Enter in column 2 all interest received or credited to your account during the year on these obligations, including your share of such interest received from a partnership, or an estate or trust, and enter in column 3 the principal amounts of the various obligations owned. Interest on all coupons falling due within the taxable year will be considered as income for the year.

If the obligations specified on lines (*d*) and (*e*) are owned in excess of the exemptions, or any on line (*f*) are owned, columns 5 and 6 should be filled in, and the total of column 6 entered as Item 8 on page 1 of the return.

9. OTHER INCOME

Enter all other taxable income for which no place is provided elsewhere on page 1 of the return, together with any dividends specifically excluded from Item 7.

10. TOTAL INCOME

Enter the net amount of Items 1 to 9, inclusive, after deducting any expenses reported in Item 1, and losses in Items 2, 4, 5, and 6.

11. INTEREST PAID

Enter as Item 11 interest paid on personal indebtedness as distinguished from business indebtedness (which should be deducted under Schedules A or B). Do not include interest on indebtedness incurred or continued to purchase or carry obligations or securities (other than obligations of the United States issued after September 24, 1917, and originally subscribed for by you) the interest upon which is wholly exempt from taxation.

12. TAXES PAID

Enter as Item 12 personal taxes and all taxes on property not used in business or profession, paid during the year, not including those assessed against local benefits of a kind tending to increase the value of the property. Do not include taxes imposed by Section 600 of the Act upon sales by the manufacturer, Federal income taxes, taxes imposed upon your interest as shareholder of a corporation, which are paid by the corporation without reimbursement from you, nor income and profits taxes claimed as a credit in Item 50, page 1 of Form 1040, or Item 69 on Form 1040 FY, with Form 1116 attached to the return.

Any deduction on account of taxes should be fully explained in Schedule F.

13. LOSSES BY FIRE, STORM, ETC.

Enter as Item 13 losses of property not connected with your trade, business, or profession, sustained during the year from fire, storm, shipwreck, or other casualty, or from theft, which were not compensated for by insurance or otherwise. (See Section 214 (*a*) 6 of the Revenue Act of 1924 and Article 141 of Regulations 65.)

Explain losses claimed in the table provided therefor on page 2 of the return.

14. BAD DEBTS

Enter as Item 14 all bad debts other than those claimed as a deduction in items above. State in Schedule F, (*a*) of what the debts consisted, (*b*) when they were created, (*c*) when they became due, and (*d*) how they were actually determined to be worthless.

15. CONTRIBUTIONS

Enter as Item 15 contributions or gifts made within the taxable year to any corporation, or trust, or community chest, fund, or foundation, organized and operated exclusively for religious, charitable, scientific, literary, or educational purposes, or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private stockholder or individual. The amount claimed shall not exceed 15 per cent of your net income computed without the benefit of this deduction.

Fiduciaries filing this return for estates in the process of administration are allowed, in lieu of this deduction, that provided in Section 219 (*b*) 1 of the Revenue Act of 1924.

List names of organizations and amounts contributed to each in Schedule F.

16. OTHER AUTHORIZED DEDUCTIONS

Enter any other authorized deductions for which no place is provided elsewhere on page 1 of the return. Do not deduct losses incurred in transactions which were neither connected with your trade or business, nor entered into for profit.

If this return is filed for an estate in the process of administration, there may be deducted the amount of any income properly paid or credited to beneficiaries.

Any deduction claimed should be explained in the space provided.

17. TOTAL DEDUCTIONS

Enter as Item 17 the total of Items 11 to 16, inclusive. This amount should not include any deduction claimed in Schedule A.

18. NET INCOME

Enter as Item 18 the net income, which is obtained by deducting Item 17 from Item 10.

If your income is computed on the basis of a fiscal year, or income is received from a partnership or an estate or trust which makes its return on the basis of a fiscal year, the return shall be made on Form 1040 FY, and the income taxable at the 1923 and 1924 rates entered in columns 1 and 2, respectively, on page 1 of the return.

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Figure A.3.2: First of two pages of 1040 instructions, tax year 1924.

APPENDIX B
Appendix to Chapter IV

B.1 Additional Graphs

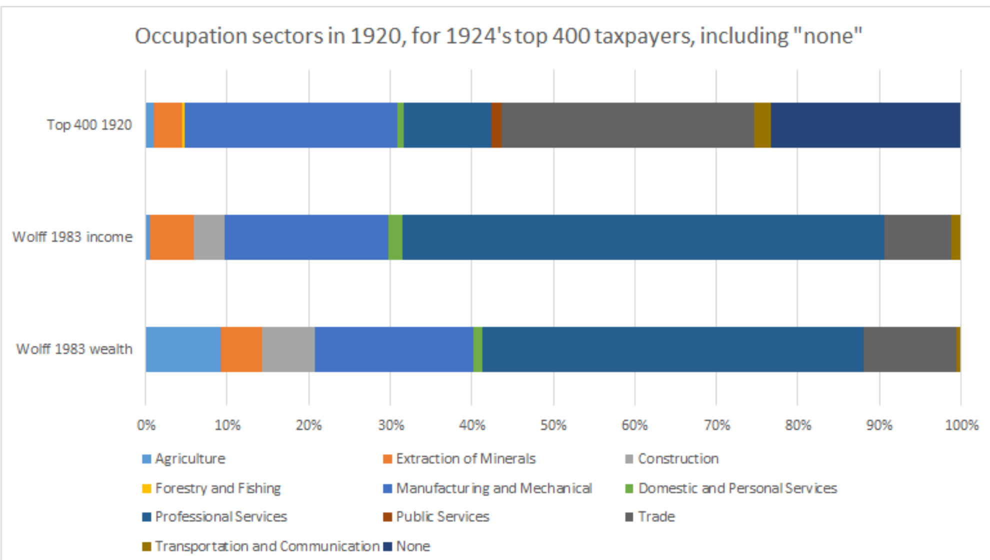

Figure B.1.1: 1920 occupations, including "none"

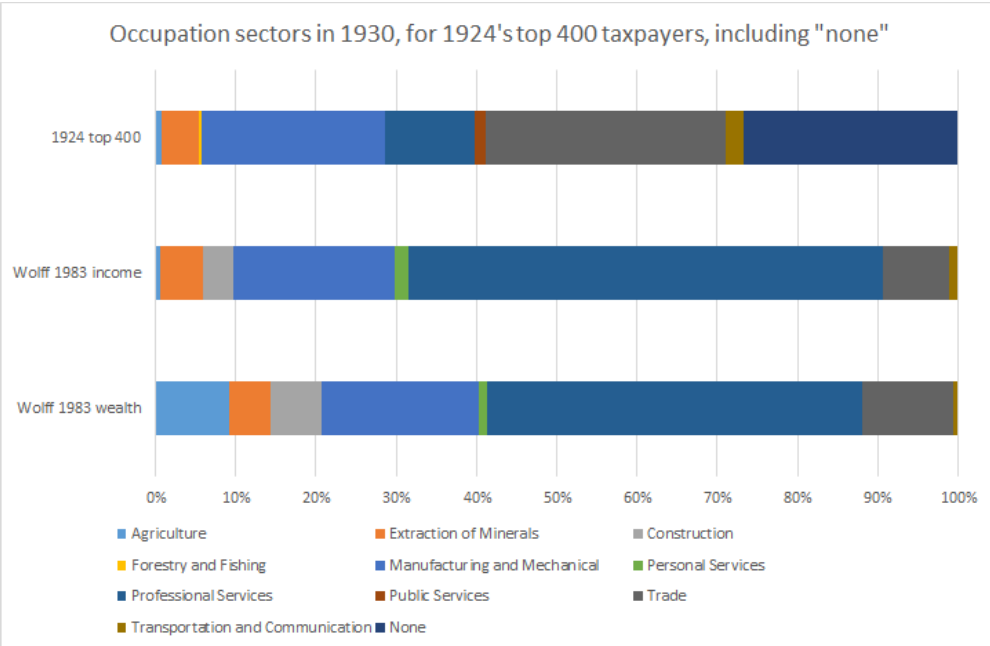

Figure B.1.2: 1930 occupations, including “none”

B.2 The Top 100

Table B.2.1: 1923's top taxpayers

Rank, 1923	name	Payment	City	percent of 1923 tax payments	cumulative percent	Rank, 1924
1	Rockefeller, John D. Junior	7435169	New York	0.84%	0.84%	1
2	Ford, Henry	2467946	Detroit	0.28%	1.12%	2
3	Whitney, Payne	2041951	New York	0.23%	1.35%	5
4	Ford, Edsel	1984254	Detroit	0.22%	1.57%	3
5	Harkness, Edward S.	1755259	New York	0.20%	1.77%	6
6	Harkness, Anna M.	1422676	New York	0.16%	1.93%	9
7	Andrew W. Mellon	1173988	Pittsburgh	0.13%	2.07%	4
8	William Wrigley Junior	1154420	Chicago	0.13%	2.20%	unlisted
9	Lamont, T. W.	847820	New York	0.10%	2.29%	26
10	Fleishmann, Julius	827384	New York	0.09%	2.39%	unlisted
11	Vanderbilt, Frederick W.	809129	New York	0.09%	2.48%	15
12	Johnson, Eldridge	783000	Camden, N. J.	0.09%	2.57%	unlisted
13	Miner, W. H.	782640	New York	0.09%	2.65%	1441
14	Baker, George F. Junior	678664	New York	0.08%	2.73%	14
15	Fleischmann, Max C.	677586	Chicago	0.08%	2.81%	37
16	Baker, George F.	660371	New York	0.07%	2.88%	12
17	Curtis, Cyrus H. K.	586655	Philadelphia	0.07%	2.95%	unlisted

18	Guggenheim, Simon	565751	New York	0.06%	3.01%	1292
19	Guggenheim, S. R.	564704	New York	0.06%	3.08%	208
20	William M. Wood	562443	Boston	0.06%	3.14%	97
21	James, Arthur Curtiss	558113	New York	0.06%	3.20%	24
22	Weber, Orlando F.	532170	New York	0.06%	3.26%	38
23	Holmes, B. F.	503815	New York	0.06%	3.32%	78
24	Mackay, Clarence H.	488353	New York	0.06%	3.37%	53
25	Ryan, Thos. F.	475416	New York	0.05%	3.43%	13
26	Gary, E. H.	473364	New York	0.05%	3.48%	52
27	Alta Rockefeller Prentice	461804	New York	0.05%	3.53%	42
28	G. Allan Hancock	449293	New York	0.05%	3.59%	21
29	Taft, Charles P. and wife	440729	Cincinnati	0.05%	3.63%	unlisted
30	Doris Duke	438536	New York	0.05%	3.68%	79
31	McLean, Edward B.	422849	Washington	0.05%	3.73%	62
32	Boldt, George C., Junior	418333	New York	0.05%	3.78%	822
33	Straight, Dorothy W.	416375	New York	0.05%	3.83%	289
34	Nash, C. W.	410148	Milwaukee	0.05%	3.87%	30
35	Winthrop, Kate W.	408999	New York	0.05%	3.92%	54
36	Huntington, Arabella D.	407019	New York	0.05%	3.97%	103
37	Sanford, John	390507	New York	0.04%	4.01%	27

38	Walters, Henry	386827	Washington	0.04%	4.05%	unlisted
39	Rogers, Henry H.	373297	New York	0.04%	4.10%	unlisted
40	Brown, M. Bayard	368632	New York	0.04%	4.14%	unlisted
41	Friedsam, Michael	358044	New York	0.04%	4.18%	59
42	Warburg, Felix M.	353883	New York	0.04%	4.22%	28
43	Hayden, Charles	352652	New York	0.04%	4.26%	34
44	R. B. Mellon	348646	Pittsburgh	0.04%	4.30%	7
45	Guggenheim, Murry	346949	New York	0.04%	4.34%	990
46	Metcalf, Jesse H.	330726	Providence, R. I.	0.04%	4.37%	70
47	Cochran, Alex Smith	328068	New York	0.04%	4.41%	66
48	Blumenthal, George	327827	New York	0.04%	4.45%	36
49	Harkness, Edith H.	327738	New York	0.04%	4.48%	187
50	Cochran, Gifford A.	326995	New York	0.04%	4.52%	173
51	Rice, E. E. (Mrs. Dr. A. H.)	325961	Providence, R. I.	0.04%	4.56%	unlisted
52	Astor, Waldorf	325550	New York	0.04%	4.59%	635
53	Carson, Pirie	324040	Chicago	0.04%	4.63%	unlisted
54	Metcalf, S. O.	306614	Providence, R. I.	0.03%	4.67%	69
55	Wilks, H. S. A. H. G.	301577	New York	0.03%	4.70%	126
56	S. R. Guggenheim	300259	New York	0.03%	4.73%	unlisted
57	Crane, Richard T., Junior	294992	Chicago	0.03%	4.77%	33
58	Patterson, Elinor M.	288432	Chicago	0.03%	4.80%	106
59	Astor, Vincent	285801	New York	0.03%	4.83%	17

60	Clark, Robert S.	283836	New York	0.03%	4.86%	118
61	Gould, Frank J.	283693	New York	0.03%	4.90%	133
62	McCormick, Stanley	282778	Chicago	0.03%	4.93%	80
63	Steuer, Max D.	279226	New York	0.03%	4.96%	129
64	Duke, James B.	277301	New York	0.03%	4.99%	18
65	Schiff, Mortimer L.	275849	New York	0.03%	5.02%	31
66	Ladd, Kate	269964	New York	0.03%	5.05%	unlisted
67	Norman, J. F.	268496	New York	0.03%	5.08%	157
68	Guggenheim, Daniel	267236	New York	0.03%	5.11%	386
69	George A. Ellis Junior	266863	New York	0.03%	5.14%	unlisted
70	Palmer, Edgar	265332	New York	0.03%	5.17%	83
71	Taylor, Henry R.	262851	New York	0.03%	5.20%	unlisted
72	Maloney, Thomas J.	259926	New York	0.03%	5.23%	164
73	Charles C. Stilliman	258942	New York	0.03%	5.26%	149
74	Underwood, John T.	258617	New York	0.03%	5.29%	147
75	Ogden L. Mills	257450	New York	0.03%	5.32%	43
76	Thompson, Mary G.	253549	New York	0.03%	5.35%	104
77	Coward, John M.	252341	New York	0.03%	5.38%	74
78	Bingham, H. P.	250694	New York	0.03%	5.41%	113
79	Garver, John A.	249346	New York	0.03%	5.43%	283
80	James H. Lockhart	246695	Pittsburgh	0.03%	5.46%	122
81	Bok, Edward W.	246504	Philadelphia	0.03%	5.49%	unlisted
82	Belding, M. M.	243681	New York	0.03%	5.52%	204

83	Bedford, Edward T.	242274	New York	0.03%	5.54%	92
84	Mitchell, Charles E.	237395	New York	0.03%	5.57%	142
85	Stillman, James A.	233067	New York	0.03%	5.60%	171
86	Dommerich, Otto L.	231902	New York	0.03%	5.62%	unlisted
87	W. L. Mellon	225835	Pittsburgh	0.03%	5.65%	161
88	Douglas Fairbanks	225769	New York	0.03%	5.68%	150
89	Griggs, Maitland F.	223364	New York	0.03%	5.70%	unlisted
90	Hellum, Peter E.	222014	Chicago	0.03%	5.73%	unlisted
91	Burden, Florence V.	221316	New York	0.03%	5.75%	unlisted
92	Whitney, Gertrude V.	217638	New York	0.02%	5.78%	unlisted
93	Katharine McCormick	217617	Chicago	0.02%	5.80%	95
94	McCormick, Mary V.	217261	Chicago	0.02%	5.82%	128
95	McKenuey, Henry O.	216208	New York	0.02%	5.85%	886
96	Faulkner, Edward D.	213647	New York	0.02%	5.87%	450
97	Coffin, Joel S.	213294	New York	0.02%	5.90%	154
98	Braman, C. A.	213039	New York	0.02%	5.92%	5516
99	William Ziegler Junior	209765	New York	0.02%	5.94%	346
100	B. F. Jones Junior	208211	Pittsburgh	0.02%	5.97%	99

Table B.2.2: 1924's top 100 taxpayers

Rank, 1924	Name	Payment	City	percent of 1924 tax payments	cumulative percent	Rank, 1923
1	Rockefeller, J. D., Junior	6277669	New York	0.89%	0.89%	1
2	Ford, Henry	2608808	Detroit	0.37%	1.26%	2
3	Ford, Edsel	2158055	Detroit	0.31%	1.57%	4
4	Mellon, Andrew W.	1882600	Pittsburgh	0.27%	1.84%	7
5	Whitney, Payne	1676626	New York	0.24%	2.07%	3
6	Harkness, Edward S.	1351708	New York	0.19%	2.27%	5
7	Mellon, R. B.	1180099	Pittsburgh	0.17%	2.43%	44
8	Crane, Clinton H.	1066716	New York	0.15%	2.58%	3278
9	Harkness, Anna M.	1061537	New York	0.15%	2.74%	6
10	Dodge, Mrs. Anna Thompson	993028	Detroit	0.14%	2.88%	unlisted
11	Field, Marshall 2	915959	Chicago	0.13%	3.01%	418
12	Baker, George F.	792076	New York	0.11%	3.12%	16
13	Ryan, Thos. F.	791851	New York	0.11%	3.23%	25
14	Baker, George F., Junior	783408	New York	0.11%	3.34%	14
15	Vanderbilt, F. W.	772986	New York	0.11%	3.45%	11
16	Berwind, Edward J.	722103	New York	0.10%	3.55%	1470
17	Astor, Vincent	642600	New York	0.09%	3.65%	59
18	Duke, J. B.	641250	New York	0.09%	3.74%	64
19	Morgan, J. P.	574379	New York	0.08%	3.82%	314
20	Foster, H.	569895	Columbus	0.08%	3.90%	unlisted

21	Hancock, G. Allan	543726	Los Angeles	0.08%	3.98%	28
22	Cutten, Arthur C.	540500	Chicago	0.08%	4.05%	unlisted
23	Timken, H. H.	540336	Columbus	0.08%	4.13%	unlisted
24	James, Arthur C.	521388	New York	0.07%	4.20%	21
25	Leach, Agnes B.	485526	New York	0.07%	4.27%	4334
26	Lamont, Thomas W.	480747	New York	0.07%	4.34%	9
27	Sanford, John	473422	New York	0.07%	4.41%	37
28	Warburg, F. M.	471404	New York	0.07%	4.48%	42
29	Hutton, M. P.	461192	New York	0.07%	4.54%	unlisted
30	Nash, C. W.	459776	Milwaukee	0.07%	4.61%	34
31	Schiff, Mortimer L.	459410	New York	0.07%	4.67%	65
32	Goelet, R. V.	455116	New York	0.06%	4.74%	1671
33	Crane, Richard T., Junior	434457	Chicago	0.06%	4.80%	57
34	Hayden, Charles	427979	New York	0.06%	4.86%	43
35	Patten, James A.	425348	Chicago	0.06%	4.92%	159
36	Blumenthal, George	415621	New York	0.06%	4.98%	48
37	Fleischmann, Max C.	409274	Chicago	0.06%	5.04%	15
38	Weber, Orlando F.	406382	New York	0.06%	5.09%	22
39	Kahn, Otto H.	391776	New York	0.06%	5.15%	unlisted
40	Steele, Charles	390749	New York	0.06%	5.21%	257
41	Fisher, Fred J.	383478	Detroit	0.05%	5.26%	unlisted
42	Prentice, A. Rockefeller	378506	New York	0.05%	5.31%	27
43	Mills, Ogden	372947	New York	0.05%	5.37%	75
44	Fisher, Charles T.	369306	Detroit	0.05%	5.42%	unlisted

45	Whitney, H. P., and wife	358823	New York	0.05%	5.47%	1178
46	Blossom, Elizabeth	356539	Cleveland	0.05%	5.52%	unlisted
47	Webb, Electra H.	330580	New York	0.05%	5.57%	109
48	Marks, Arthur H.	327733	New York	0.05%	5.61%	unlisted
49	Frelinghuysen, A. H.	325929	New York	0.05%	5.66%	119
50	Brewer, Joseph H.	325846	Grand Rapids	0.05%	5.71%	unlisted
51	Havemeyer, H.	323100	New York	0.05%	5.75%	unlisted
52	Gary, Elbert H.	322680	New York	0.05%	5.80%	26
53	Mackay, Clarence H.	320449	New York	0.05%	5.84%	24
54	Winthrop, Kate W.	317634	New York	0.05%	5.89%	35
55	Ward, George S.	316593	New York	0.04%	5.93%	125
56	Shedd, John G.	307153	Chicago	0.04%	5.98%	103
57	Cochran, Thomas	296729	New York	0.04%	6.02%	468
58	Mather, Samuel	295809	Cleveland	0.04%	6.06%	unlisted
59	Friedsam, M.	292396	New York	0.04%	6.10%	41
60	Morrow, Dwight W.	290344	New York	0.04%	6.14%	unlisted
61	Mitchell, S. Z.	283903	New York	0.04%	6.18%	344
62	McLean, Edward B.	281125	Washington DC	0.04%	6.22%	31
63	Porter, William H.	280387	New York	0.04%	6.26%	461
64	Higgins, E.	279265	New York	0.04%	6.30%	234
65	Keiser, George	273133	Chicago	0.04%	6.34%	unlisted
66	Cochran, Alex. Smith	271542	New York	0.04%	6.38%	47

67	Cyrus H. McCormick	269036	Chicago	0.04%	6.42%	128
68	Baruch, B. M.	268142	New York	0.04%	6.46%	850
69	Metcalf, S. O.	266109	Providence	0.04%	6.50%	54
70	Metcalf, Jesse H.	265593	Providence	0.04%	6.53%	46
71	Prentiss, Elizabeth B.	262427	Cleveland	0.04%	6.57%	unlisted
72	Dupont, William	261610	Wilmington	0.04%	6.61%	unlisted
73	Rice, Eleanore E.	259457	Providence	0.04%	6.64%	unlisted
74	Coward, J. M.	256796	New York	0.04%	6.68%	77
75	Ritter, William McC.	255729	Washington Dc	0.04%	6.72%	unlisted
76	Bok, Mary Louise	255331	Philadelphia	0.04%	6.75%	unlisted
77	Hine, Francis L.	252681	New York	0.04%	6.79%	1024
78	Holmes, F. B.	252623	New York	0.04%	6.82%	23
79	Duke, Doris, J. B.	252421	New York	0.04%	6.86%	30
80	McCormick, Stanley	251643	Chicago	0.04%	6.90%	62
81	Fisher, Lawrence	250803	Detroit	0.04%	6.93%	unlisted
82	Simmons, Zalmon G.	250379	Hartford	0.04%	6.97%	unlisted
83	Palmer, Edgar	250022	New York	0.04%	7.00%	70
84	Dobbs, Samuel C.	247046	Atlanta	0.04%	7.04%	unlisted
85	Dixon, Eleanor W.	245471	Philadelphia	0.03%	7.07%	unlisted
86	Hanauer, Jerome J.	245162	New York	0.03%	7.11%	289
87	Pitcairn, Theo	244789	Philadelphia	0.03%	7.14%	unlisted
88	Reynolds, W. N.	243385	Raleigh	0.03%	7.18%	unlisted
89	Mackey, F. J.	242634	Chicago	0.03%	7.21%	unlisted
90	Pitcairn, Raymond	237595	Philadelphia	0.03%	7.25%	unlisted

91	Ford, James B.	236064	New York	0.03%	7.28%	unlisted
92	Bedford, E. T.	235390	New York	0.03%	7.31%	83
93	McCormick, Edith Rockefeller	234816	Chicago	0.03%	7.35%	195
94	Stone, F. A.	234444	New York	0.03%	7.38%	unlisted
95	McCormick, Katharine M.	233871	Chicago	0.03%	7.41%	93
96	Crawford, George W.	231122	Pittsburgh	0.03%	7.44%	unlisted
97	Wood, William M.	229971	Boston	0.03%	7.48%	20
98	Wilson, C. S.	229851	New York	0.03%	7.51%	unlisted
99	Jones, B. F., Junior	229136	Pittsburgh	0.03%	7.54%	100
100	Delafield, L. L.	228230	New York	0.03%	7.58%	unlisted

APPENDIX C
Appendix to Chapter V

C.1 Matching heatmaps

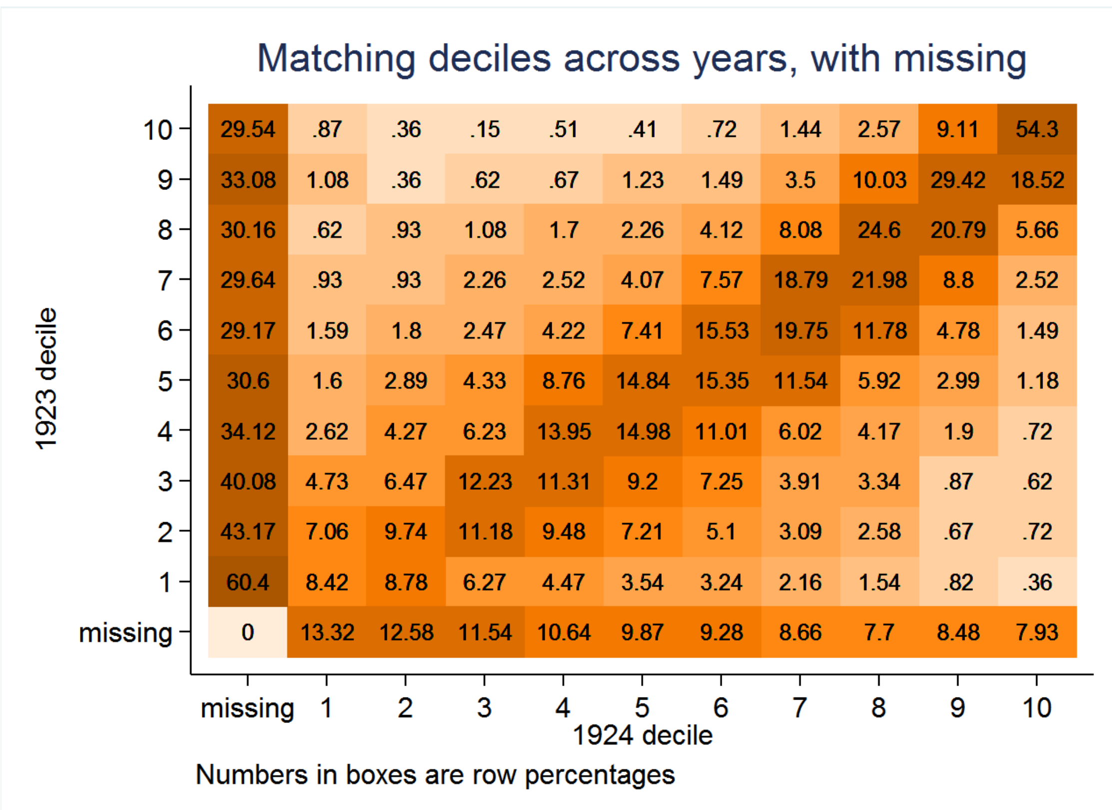

Figure C.1.1: Heatmap with row percentages

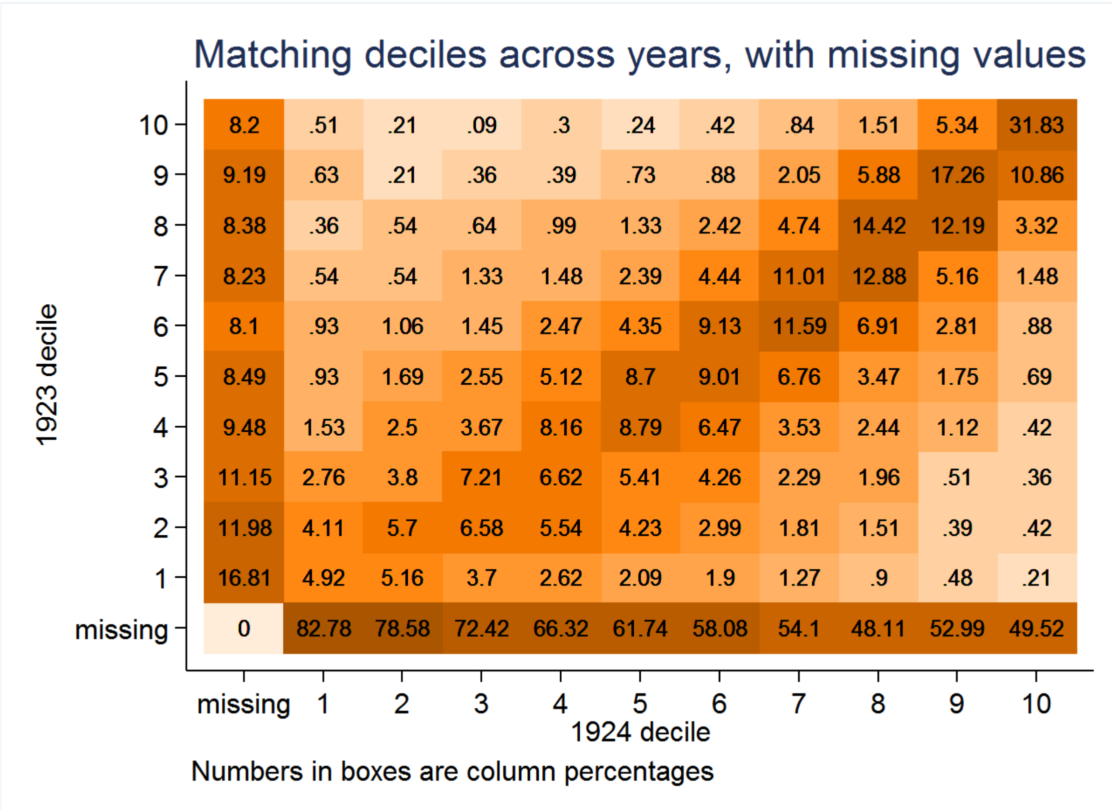

Figure C.1.2: Heatmap with column percentages

C.2 Graphs

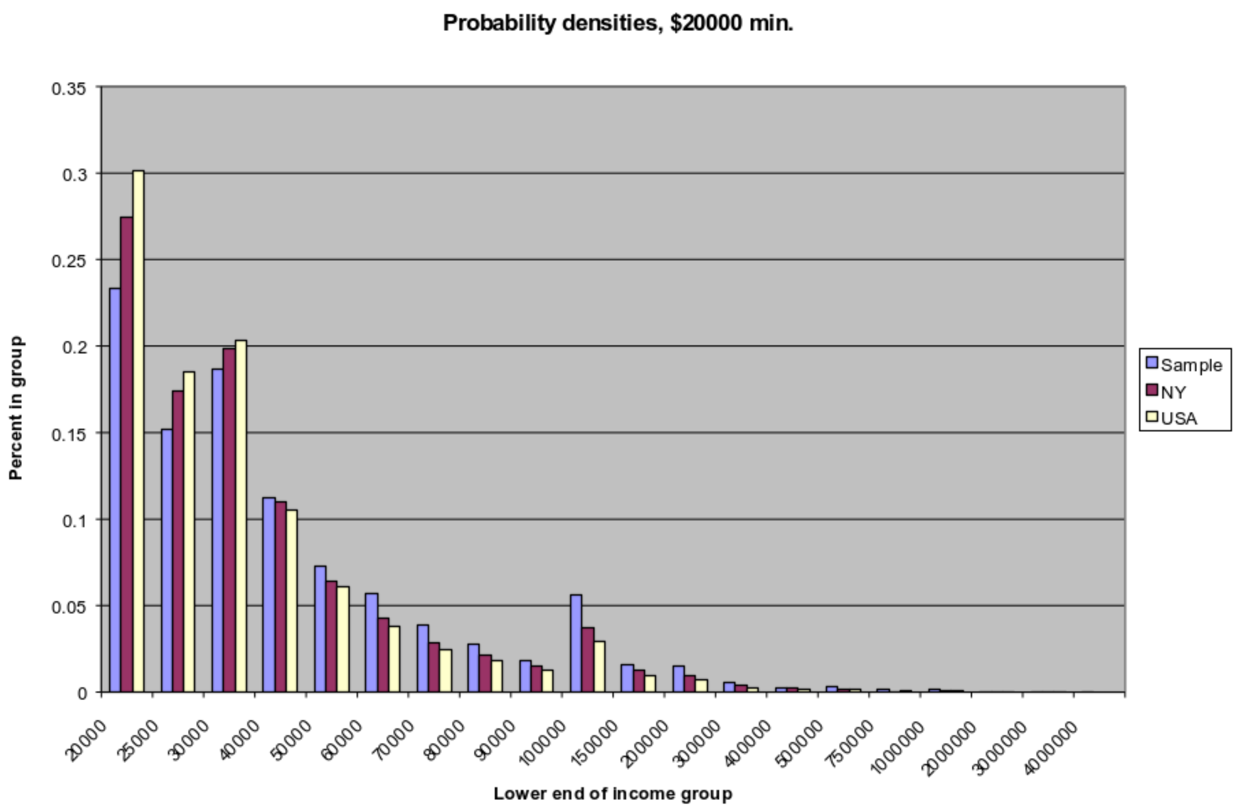

Figure C.2.1: Probability density function, 1923 taxpayers, $20,000 minimum income

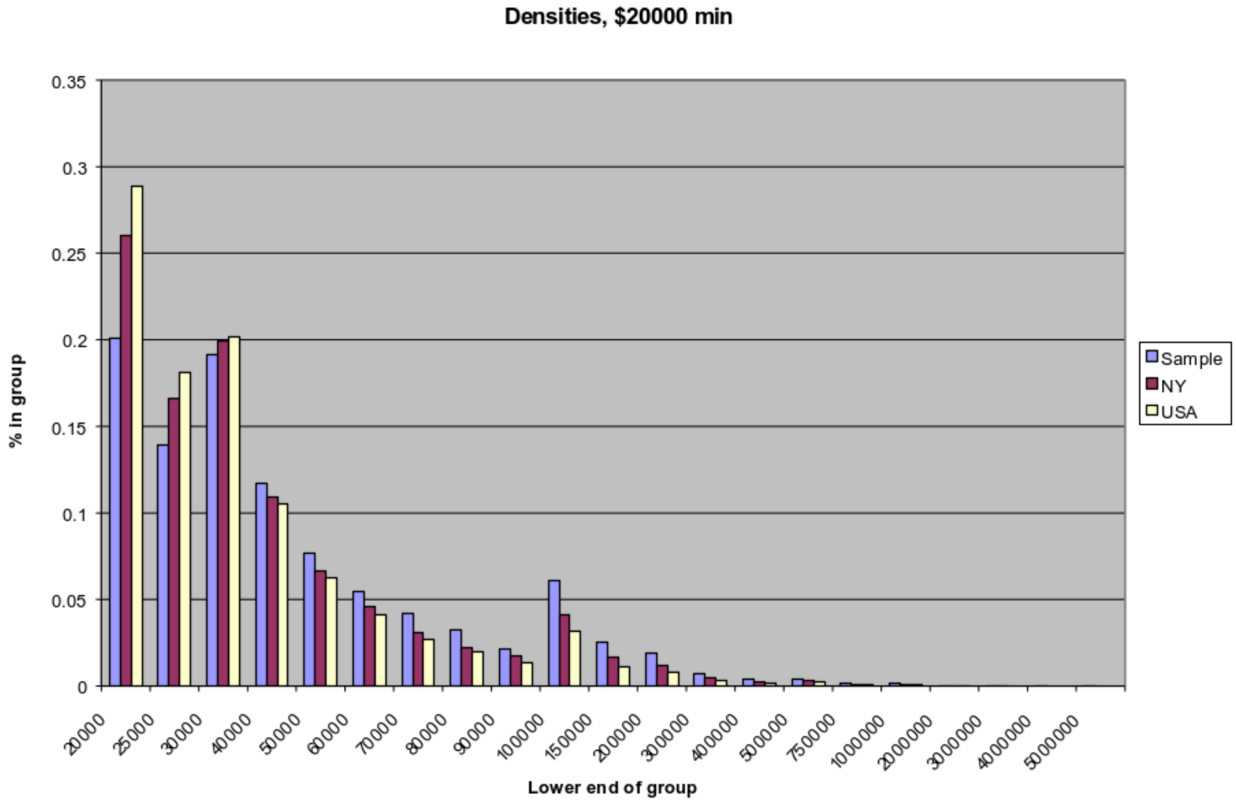

Figure C.2.2: Probability density function, 1924 taxpayers, $20,000 minimum income

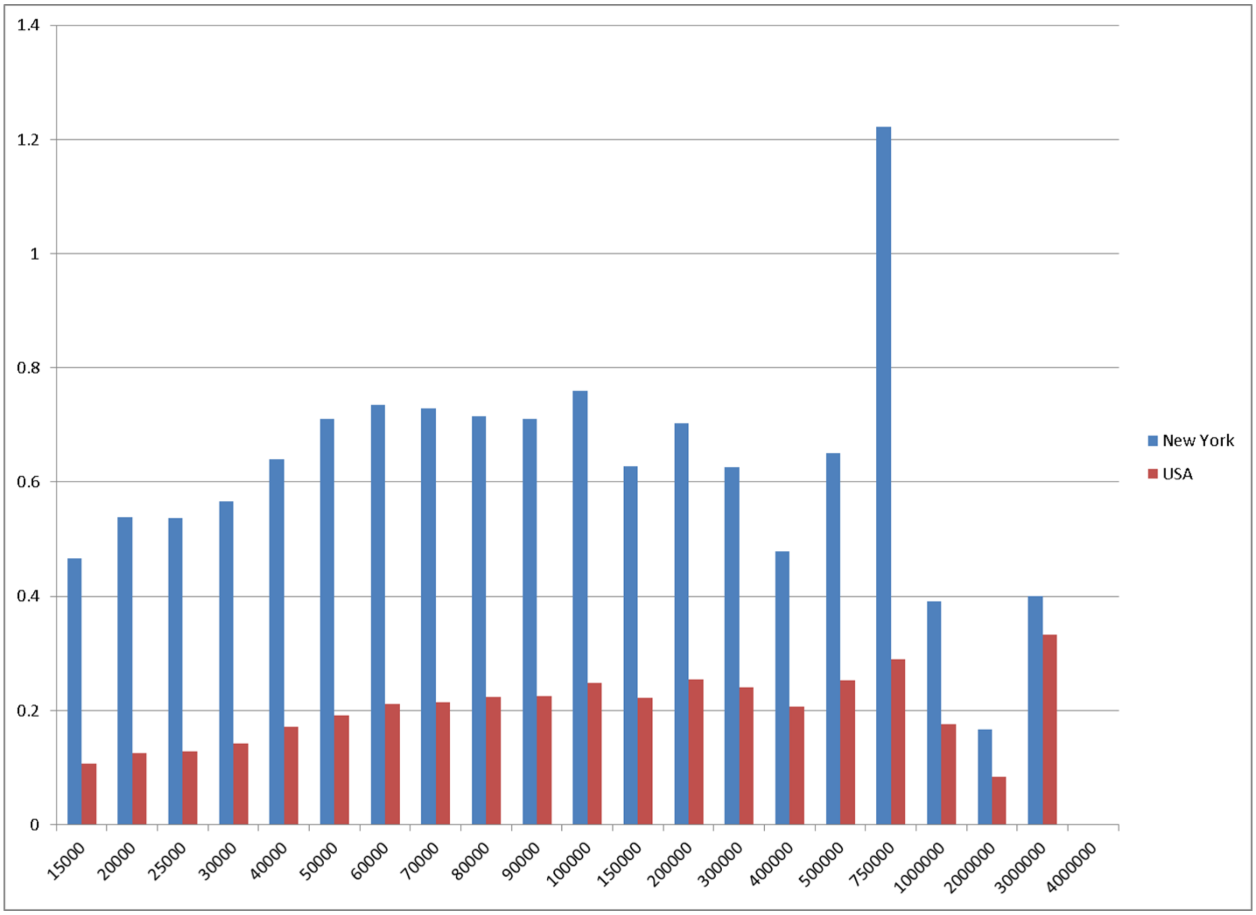

Figure C.2.3: The percent of New York income tax filers and US filers in each income class who are found in the dataset in 1923.

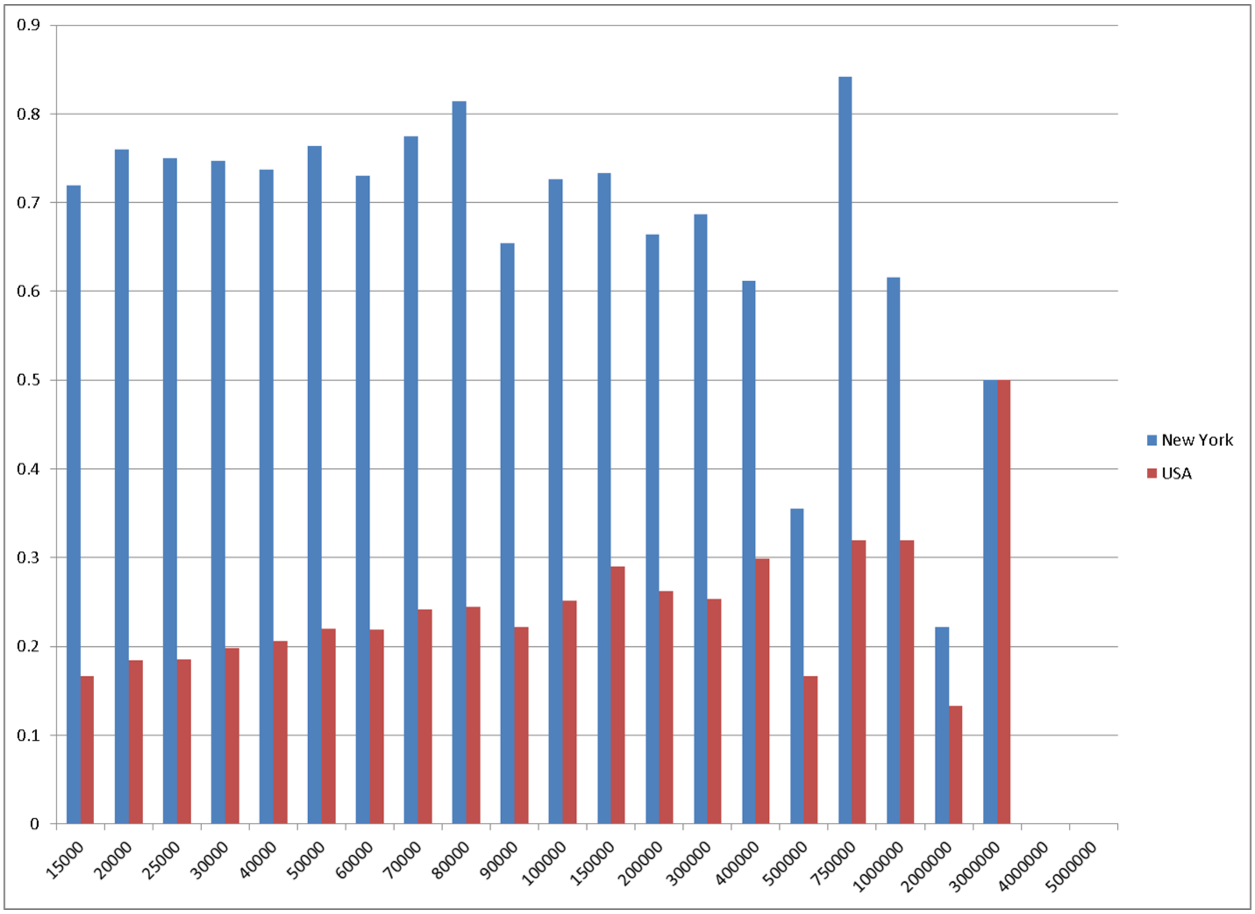

Figure C.2.4: The percent of New York income tax filers and US filers in each income class who are found in the dataset in 1924.

C.3 Regression results

	Log change, TI	Log change, TI	Log change, TI	Log change, TI
Log change, net-of-tax rate	-0.339	0.080	-0.395	-0.819
	(0.004)**	(0.071)	(0.003)**	(0.056)**
Log change, after-tax income	1.056	0.577	1.045	0.407
	(0.001)**	(0.061)**	(0.001)**	(0.078)**
Log of 1923 taxable income	-0.010	-0.106		
	(0.000)**	(0.013)**		
Constant	0.073	1.111	-0.021	0.099
	(0.005)**	(0.140)**	(0.000)**	(0.015)**
R^2	1.00	0.76	1.00	0.77
N	11,744	11,744	11,744	11,744
IV	No	Yes	No	Yes

* $p < 0.05$; ** $p < 0.01$

Figure C.3.1: First regression table. No outliers dropped.

	Log change, TI	Log change, TI	Log change, TI	Log change, TI
Log change, net-of-tax rate	-0.337	0.288	-0.393	-0.539
	(0.004)**	(0.088)**	(0.003)**	(0.027)**
Log change, after-tax income	1.050	0.610	1.039	0.509
	(0.001)**	(0.055)**	(0.001)**	(0.058)**
Log of 1923 taxable income	-0.009	-0.094		
	(0.000)**	(0.011)**		
Constant	0.070	0.978	-0.021	0.067
	(0.004)**	(0.119)**	(0.000)**	(0.010)**
R^2	1.00	0.74	1.00	0.80
N	11,489	11,489	11,489	11,489
IV	No	Yes	No	Yes

* $p < 0.05$; ** $p < 0.01$

Figure C.3.2: Second regression table. Outliers dropped. Outliers may not be inconveniently large discrepancies in numbers, but may actually be parents incorrectly linked to their children.

	Log change, TI	Log change, TI	Log change, TI	Log change, TI
Log change, net-of-tax rate	-0.220	0.387	-0.373	0.586
	(0.018)**	(0.127)**	(0.026)**	(0.164)**
Log change, after-tax income	1.146	1.426	1.153	1.525
	(0.004)**	(0.053)**	(0.007)**	(0.057)**
Log of 1923 taxable income	-0.074	-0.026		
	(0.003)**	(0.013)		
Constant	0.780	-0.045	-0.085	-0.436
	(0.033)**	(0.188)	(0.009)**	(0.058)**
R^2	1.00	0.98	1.00	0.96
N	509	509	509	509
IV	No	Yes	No	Yes

* $p < 0.05$; ** $p < 0.01$

Figure C.3.3: Third regression table. Analysis on only those who appear in the top 500 in either year.

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Chicago Tribune
Cincinnati Commercial Tribune
Cincinnati Enquirer
Cleveland Plain Dealer
Cleveland Press
Columbus Evening Dispatch
Columbus Ohio State Journal
Dallas Morning News
Detroit Free Press
Detroit News
Grand Rapids Herald
Hartford Courant
Hartford Times
Houston Post-Dispatch
Indianapolis News
Indianapolis Star
Kansas City Star
Los Angeles Herald
Los Angeles Times
Louisville Courier-Journal
Louisville Times
Memphis Commercial Appeal
Milwaukee Journal
Milwaukee Sentinel
Minneapolis Journal
Minneapolis Morning Tribune
New Haven Journal Courier
New Orleans Item
New Orleans States
New Orleans Times Picayune
New York Herald Tribune
New York Times
Omaha Morning World-Herald
Oregon Daily Journal
Philadelphia America
Philadelphia Evening Bulletin
Philadelphia Inquirer

Philadelphia North American
Philadelphia Public Ledger
Philadelphia Record
Pittsburgh Courier
Pittsburgh Post
Portland Oregonian
Providence Evening Bulletin
Providence Journal
Richmond Times-Dispatch
Rochester Democrat and Chronicle
Rochester Times-Union
Rocky Mountain Herald
Rocky Mountain News
San Antonio Express
San Francisco Chronicle
San Francisco Commercial News
San Francisco Examiner
Seattle Daily Times
Seattle Post-Intelligencer
St Louis Globe Democrat
St Louis Post Dispatch
St. Paul Pioneer Press
Syracuse Post-Standard
Toledo News-Bee
Washington Post