TOP INCOMES OVER THE 20TH CENTURY

A Contrast Between Continental European and English-Speaking Countries

Edited by A. B. ATKINSON & T. PIKETTY

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Income and Wage Inequality in the United States, 1913–2002[1]

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5.1 INTRODUCTION

According to Kuznets' influential hypothesis, income inequality should follow an inverse-U shape along the development process, first rising with industrialization and then declining, as more and more workers join the high productivity sectors of the economy (Kuznets 1955). Today, the Kuznets curve is widely held to have doubled back on itself, especially in the United States, with the period of falling inequality observed during the first half of the twentieth century being succeeded by a very sharp reversal of the trend since the 1970s. This does not imply however that Kuznets' hypothesis is no longer of interest. One could indeed argue that what has been happening since the 1970s is just a remake of the previous inverse-U curve: a new industrial revolution has taken place, thereby leading to increasing inequality, and inequality will decline again at some point, as more and more workers benefit from the new innovations.

  To cast light on this central issue, we build new homogeneous series on top shares of pre-tax income and wages in the United States covering the 1913–2002 period. These new series are based primarily on tax returns data published annually by the Internal Revenue Service (IRS) since the income tax was instituted in 1913, as well as on the large micro-files of tax returns released by the IRS since 1960. First, we have constructed annual series of shares of total income accruing to various upper income groups fractiles within the top decile of the income distribution. For each of these fractiles, we also present the shares of each source of income such as wages, business income, and capital income. Kuznets (1953) did produce a number of top income shares series covering the 1913–48 period, but tended to under-estimate top income shares, and the highest group analysed by Kuznets is the top percentile.[2] Most importantly, nobody has

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[1] This chapter is a longer and updated version of Piketty and Saez (2003). We thank Tony Atkinson for very helpful and detailed comments. We thankfully acknowledge financial support from the MacArthur Foundation, the Alfred P. Sloan Foundation, and NSF Grant SES-0134946.

[2] Analysing smaller groups within the top percentile is critical because capital income is extremely concentrated.

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attempted to estimate, as we do here, homogeneous series covering the entire century.[3] Second, we have constructed annual 1927–2002 series of top shares of salaries for the top fractiles of the wage income distribution, based on tax returns tabulations by size of salaries compiled by the IRS since 1927. To our knowledge, this is the first time that a homogeneous annual series of top wage shares starting before the 1950s for the United States has been produced.[4]

Our estimated top shares series display a U-shaped over the century and suggest that a pure Kuznets mechanism cannot account fully for the facts. We find that top capital incomes were severely hit by major shocks in the first part of the century. The post-First World War depression and the Great Depression destroyed many businesses and thus reduced significantly top capital incomes. The wars generated large fiscal shocks, especially in the corporate sector that mechanically reduced distributions to stockholders. We argue that top capital incomes were never able to fully recover from these shocks, probably because of the dynamic effects of progressive taxation on capital accumulation and wealth inequality. We also show that top wage shares were flat from the 1920s until 1940 and dropped precipitously during the war. Top wage shares have started to recover from the Second World War shock in the late 1960s, and they are now higher than before the Second World War. Thus the increase in top income shares in the last three decades is the direct consequence of the surge in top wages. As a result, the composition of income in the top income groups has shifted dramatically over the century: the working rich have now replaced the coupon-clipping rentiers. We argue that both the downturn and the upturn of top wage shares seem too sudden to be accounted for by technical change alone. Our series suggest that other factors, such as changes in labour market institutions, fiscal policy, or more generally social norms regarding pay inequality may have played important roles in the determination of the wage structure. Although our proposed interpretation for the observed trends seems plausible to us, we stress that we cannot prove that progressive taxation and social norms have indeed played the role we attribute to them. In our view, the primary contribution of this chapter is to provide new series on income and wage inequality.

One additional motivation for constructing long series is to be able to separate the trends in inequality that are the consequence of real economic change from those that are due to fiscal manipulation. The issue of fiscal manipulation has recently received much attention. Studies analysing the effects of the Tax Reform Act of 1986 (TRA86) have emphasized that a large part of the response observable in tax returns was due to income shifting between the corporate sector and the individual sector (Slemrod 1996; Gordon and Slemrod 2000). We do not deny that fiscal manipulation can have substantial short-run effects, but we argue that

[3] Feenberg and Poterba (1993, 2000) have constructed top income share series covering the 1951–95 period, but their series are not homogeneous with those of Kuznets. Moreover, they provide income shares series only for the top 0.5%, and not for other fractiles.

[4] Previous studies on wage inequality before 1945 in the United States rely mostly on occupational pay ratios (Williamson and Lindert 1980; Goldin and Margo 1992; and Goldin and Katz 1999).

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most long-run inequality trends are the consequence of real economic change, and that a short-run perspective attributes improperly some of these trends to fiscal manipulation.

The chapter is organized as follows: Section 5.2 describes our data sources and outlines our estimation methods; in Section 5.3 we present and analyse the trends in top income shares, with particular attention to the issue of top capital incomes; Section 5.4 focuses on trends in top wages shares; and Section 5.5 offers concluding comments and proposes an international comparison. All series and complete technical details about our methodology are gathered in the appendices of the chapter.

5.2 DATA AND METHODOLOGY

Our estimations rely on tax returns statistics compiled annually by the Internal Revenue Service since the beginning of the modern US income tax in 1913. Before 1944, because of large exemptions levels, only a small fraction of individuals had to file tax returns and therefore, by necessity, we must restrict our analysis to the top decile of the income distribution.[5] Because our data are based on tax returns, they do not provide information on the distribution of individual incomes within a tax unit. As a result, all our series are for tax units and not individuals.[6] A tax unit is defined as a married couple living together (with dependents) or a single adult (with dependents), as in the current tax law. The average number of individuals per tax unit decreased over the century but this decrease was roughly uniform across income groups. Therefore, if income were evenly allocated to individuals within tax units,[7] the time series pattern of top shares based on individuals should be very similar to that based on tax units.

Tax units within the top decile form a very heterogeneous group, from the high middle class families deriving most of their income from wages to the super-rich living off large fortunes. More precisely, we will see that the composition of income varies substantially by income level within the top decile. Therefore, it is critical to divide the top decile into smaller fractiles. Following Piketty (2001), in addition to the top decile (denoted by P90–100), we have constructed series for a number of higher fractiles within the top decile: the top 5% (P95–100), the top

[5] From 1913 to 1916, because of higher exemption levels, we can only provide estimates within the top percentile.

[6] Kuznets (1953) decided nevertheless to estimate series based on individuals not tax units. We explain in Piketty and Saez (2001) why his method produced a downward bias in the levels (though not in the pattern) of top shares.

[7] Obviously, income is not earned evenly across individuals within tax units, and, because of increasing female labour force participation, the share of income earned by the primary earner has certainly declined over the century. Therefore, inequality series based on income earned at the individual level would be different. Our tax returns statistics are mute on this issue. We come back to that point when we present our wage estimates.

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1% (P99–100), the top 0.5% (P99.5–100), the top 0.1% (P99.9–100), and the top 0.01% (P99.99–100). This also allows us to analyse the five intermediate fractiles within the top decile: P90–95, P95–99, P99–99.5, P99.5–99.9, P99.9–99.99. Each fractile is defined relative to the total number of potential tax units in the entire US population. This number is computed using population and family census statistics (US Department of Commerce, Bureau of Census 1975; and Bureau of Census 1999) and should not be confused with the actual number of tax returns filed. In order to get a more concrete sense of size of income by fractiles, Table 5.1 displays the thresholds, the average income level in each fractile, along with the number of tax units in each fractile all for 2000.

We use a gross income definition including all income items reported on tax returns and before all deductions: salaries and wages, small business and farm income, partnership and fiduciary income, dividends, interest, rents, royalties, and other small items reported as other income. Realized capital gains are not an annual flow of income (in general, capital gains are realized by individuals in a lumpy way) and form a very volatile component of income with large aggregate variations from year to year depending on stock price variations. Therefore, we focus mainly on series that exclude capital gains.[8] Income, according to our

Table 5.1 Thresholds and average incomes in top income groups in US, 2000

Percentile threshold (1)	Income threshold (2)	Income groups (3)	Number of tax units (4)	Average income in each group (5)
		Full population	133,589,000	$42,709
Median	$25,076	Bottom 90%	120,230,100	$26,616
Top 10%	$87,334	Top 10–5%	6,679,450	$100,480
Top 5%	$120,212	Top 5–1%	5,343,560	$162,366
Top 1%	$277,983	Top 1–0.5%	667,945	$327,970
Top .5%	$397,949	Top 0.5–0.1%	534,356	$611,848
Top .1%	$1,134,849	Top 0.1–0.01%	120,230	$2,047,801
Top .01%	$5,349,795	Top 0.01%	13,359	$13,055,242

Notes: Computations based on income tax return statistics. Income defined as annual gross income reported on tax returns excluding capital gains and all government transfers (such as social security, unemployment benefits, welfare payments, etc.) and before individual income taxes and employees' payroll taxes. Amounts are expressed in current 2000 dollars. Col. (2) reports the income thresholds corresponding to each of the percentiles in col. (1). For example, an annual income of at least $87,334 is required to belong to the top 10% tax units, etc.

Sources: Table 5A.0 and Table 5A.4, row 2000.

[8] In order to assess the sensitivity of our results to the treatment of capital gains, we present additional series including capital gains (see below). Details on the methodology and complete series are presented in appendix. The denominator for the series including capital gains in our first working paper Piketty and Saez (2001) included only capital gains going to the top 10% tax units. In this final version, we include instead all capital gains in the denominator for the series including capital (see Appendix 5A for a more detailed discussion).

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definition, is computed before individual income taxes and individual payroll taxes but after employers' payroll taxes and corporate income taxes.[9]

The sources from which we obtained our data consist of tables displaying the number of tax returns, the amounts reported, and the income composition, for a large number of income brackets (US Treasury Department, Internal Revenue Service 1916–2002). As the top tail of the income distribution is very well approximated by a Pareto distribution, we use simple parametric interpolation methods to estimate the thresholds and average income levels for each of our fractiles. We then estimate shares of income by dividing the income amounts accruing to each fractiles by total personal income computed from National Income Accounts (Kuznets 1941, 1945; and US Department of Commerce 2000).[10] Using the published information on composition of income by brackets and a simple linear interpolation method, we decompose the amount of income for each fractile into five components: salaries and wages, dividends, interest income, rents and royalties, and business income.

We use the same methodology to compute top wage shares using published tables classifying tax returns by size of salaries and wages. In this case, fractiles are defined relative to the total number of tax units with positive wages and salaries estimated as the number of part-time and full workers from National Income Accounts (US Department of Commerce 2000) less the number of wives who are employees (estimated from US Department of Commerce, Bureau of Census 1975 and Bureau of Census 1999). The sum of total wages in the economy used to compute shares is also obtained from National Income Accounts (US Department of Commerce 2000).

The published IRS data vary from year to year and there are numerous changes in tax law between 1913 and 2002.[11] To construct homogeneous series, we make a number of adjustments and corrections. Individual tax returns micro-files are available since 1960.[12] They allow us to do exact computations of all our statistics for that period and to check the validity of our adjustments. Kuznets (1953) was not able to use micro-files to assess possible biases in his estimates due to his methodological assumptions.[13]

Our method differs from the recent important studies by Feenberg and Poterba (1993, 2000) who derive series of the income share of the top 0.5%[14] for 1951 to 1995. They use total income reported on tax returns as their denominator and the total adult population as their base to obtain the number of tax units

[9] Computing series after individual income taxes is beyond the scope of the present chapter but is a necessary step to analyse the redistributive power of the income tax over time, as well as behavioural responses to individual income taxation.

[10] This methodology using tax returns to compute the level of top incomes, and using national accounts to compute the total income denominator is standard in historical studies of income inequality. Kuznets (1953), for instance, adopted this method.

[11] The most important example is the treatment of capital gains and the percentage of these gains that are included in the statistics tables.

[12] These data are known as the Individual Tax Model files. They contain about 100,000 returns per year and largely oversample high incomes, providing a very precise picture of top reported incomes.

[13] In particular the treatment by Kuznets of capital gains produces a downward bias in the level of his top shares.

[14] They also present incomplete series for the top 1%.

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corresponding to the top fractiles.[15] Their method is simpler than ours but cannot be used for years before 1945 when a small fraction of the population filed tax returns.

5.3 TOP INCOME SHARES AND COMPOSITION

Trends in Top Income Shares

The basic series of top income shares are presented in Table 5A1. Figure 5.1 shows that the income share of the top decile of tax units from 1917 to 2002 is U-shaped. The share of the top decile fluctuated around 40 to 45% during the interwar period. It declined substantially to about 30% during the Second World War, and then remained stable at 31 to 32% until the 1970s when it increased again. By the mid-1990s, the share had crossed the 40% level and is now at a level close to the pre-war level, although a bit lower. Therefore, the evidence suggests that the twentieth century decline in inequality took place in a very specific and brief time interval. Such an abrupt decline cannot easily be reconciled with a Kuznets type process. The smooth increase in inequality in the last three decades is more consistent with slow underlying changes in the demand and supply of factors, even though it should be noted that a significant part of the gain is concentrated in 1987 and 1988 just after the Tax Reform Act of 1986 which sharply cut the top marginal income tax rates (we will return to this issue).

Looking at the bottom fractiles within the top decile (P90–95 and P95–99) in Figure 5.2 reveals new evidence. These fractiles account for a relatively small fraction of the total fluctuation of the top decile income share. The drop in the shares of fractiles P90–95 and P95–99 during the Second World War is less extreme than for the top decile as a whole, and they start recovering from the World War shock directly after the war. These shares do not increase much during the 1980s and 1990s (the P90–95 share was fairly stable, and the P95–99 share increased by about 2 percentage points while the top decile share increased by about 10 percentage points).

In contrast to P90–95 and P95–99, the top percentile (P99–100 in Figure 5.2) underwent enormous fluctuations over the twentieth century. The share of total income received by the top 1% was about 18% before the First World War, but only about 8% from the late 1950s to the 1970s. The top percentile share declined during the First World War and the post-war depression (1916–20), recovered during the 1920s boom, and declined again during the Great Depression (1929–32, and 1936–38) and the Second World War. This highly specific timing for the pattern of top incomes, composed primarily of capital income (see below), strongly suggests that shocks to capital owners between 1914

[15] This method is not fully satisfactory for a long-run study as the average number of adults per tax unit has decreased significantly since the Second World War.
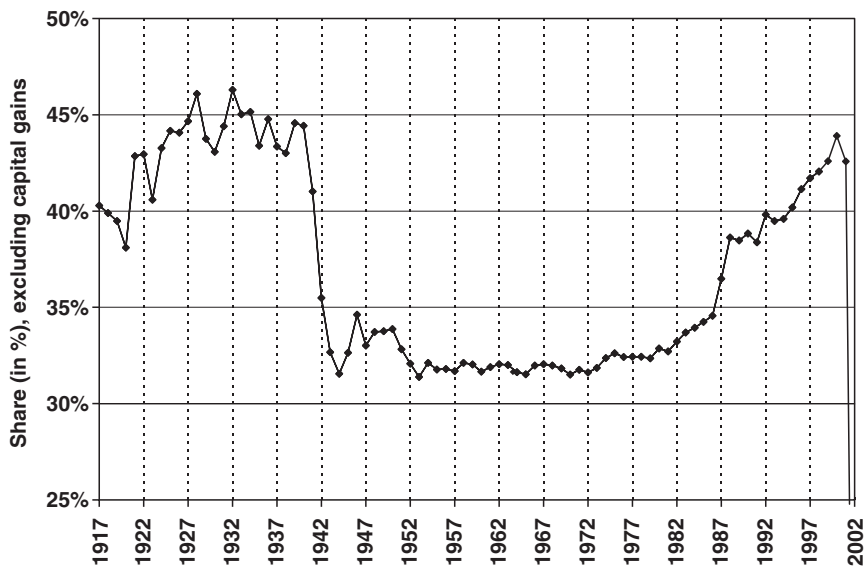
Figure 5.1 The top decile income share, US 1917–2002

Note: Income is defined as market income but excludes capital gains.
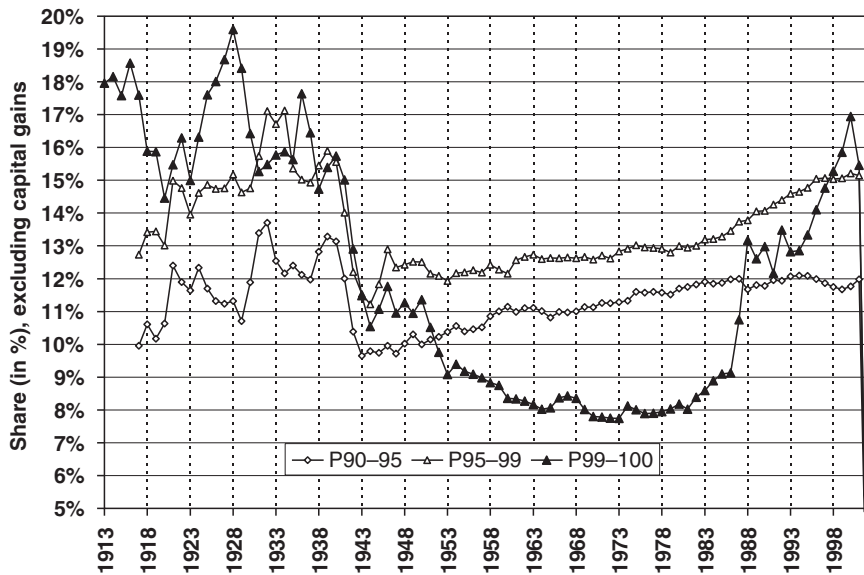*Source*: Table 5A.1, col. P90–100.

Figure 5.2 The income shares of P90–95, P95–99, and P99–100 in US, 1913–2002

Note: Income is defined as market income but excludes capital gains.
Source: Table 5A.1, col. P90–95, P95–99, P99–100.

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and 1945 (Depression and Wars) played a key role. The depressions of the interwar period were far more profound in their effects than the post-Second World War recessions. As a result, it is not surprising that the fluctuations in top shares were far wider during the interwar period than in the decades after the war.[16]

Figure 5.2 shows that the fluctuation of shares for P90–95 and P95–99 is exactly opposite to the fluctuation for P99–100 over the business cycle from 1917 to 1939. As shown below, the P90–95 and P95–99 incomes are mostly composed of wage income while the P99–100 incomes are mostly composed of capital income. During the large downturns of the interwar period, capital income sharply fell while wages (especially for those near the top), which are generally rigid nominally, improved in relative terms. On the other hand, during the booms (1923–29) and the recovery (1933–36), capital income increased quickly, but as prices rose, top wages lost in relative terms.[17]

The negative effect of the wars on top incomes is due in part to the large tax increases enacted to finance them. During both wars, the corporate income tax (as well as the individual income tax) was drastically increased and this reduced mechanically the distributions to stockholders.[18] National Income Accounts show that during the Second World War, corporate profits surged, but dividend distributions stagnated mostly because of the increase in the corporate tax (who increased from less than 20% to over 50%) but also because retained earnings increased sharply.[19]

The decline in top incomes during the first part of the century is even more pronounced for higher fractiles within the top percentile, groups that could be expected to rely more heavily on capital income. As depicted in Figure 5.3, the income share of the top 0.01% underwent huge fluctuations during the century. In 1915, the top 0.01% earned 400 times more than the average; in 1970, the average top 0.01% income was 'only' 50 times the average; in 2002, they earned about 300 times the average income.

Our long-term series place the TRA 1986 episode in a longer term perspective. Feenberg and Poterba (1993, 2000), looking at the top 0.5% income shares series ending in 1992 (and 1995 respectively), argued that the surge after TRA86 appeared permanent. However, completing the series up to 2002 shows that the significant increase in the top marginal tax rate, from 31 to 39.6%, enacted in 1993 did not prevent top shares from increasing sharply up to year 2000.[20] From

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[16] The fact that top shares are very smooth after 1945 and bumpy before is therefore not an artefact of an increase in the accuracy of the data (in fact, the data are more detailed before the Second World War than after), but reflects real changes in the economic conditions.

[17] Piketty (2001, 2003, Chapter 3 in this volume) shows that exactly the same phenomenon is taking place in France at the same period.

[18] During the First World War, top income tax rates reached 'modern' levels above 60% in less than two years. As was forcefully argued at that time by Mellon (1924), it is conceivable that large incomes found temporary ways to avoid taxation at a time where the administration of the Internal Revenue Service was still in its infancy.

[19] Computing top shares for incomes before corporate taxes by imputing corporate profits corresponding to dividends received is an important task left for future research (see Goldsmith et al. 1954 and Cartter 1954 for such an attempt around the World War II period). See also the discussion of the UK case in Chapter 4.

[20] Slemrod and Bakija (2000) pointed out that top incomes have surged in recent years. They note that tax payments by taxpayers with AGI above US$200,000 increased significantly from 1995 to 1997.
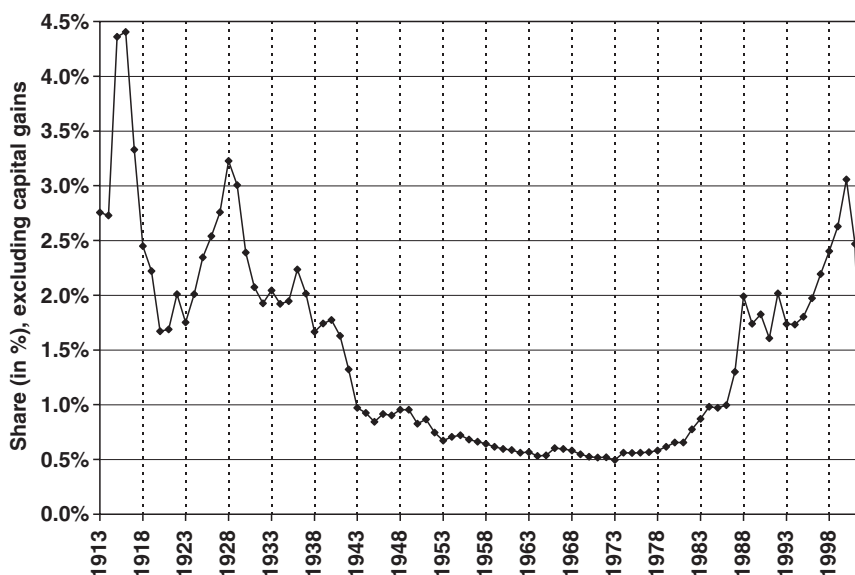
Figure 5.3 The top 0.01% income share, US 1913–2002

Note: Income is defined as market income but excludes capital gains.
Source: Table 5A.1, col. P99.99–100.

that perspective, looking at Figures 5.2 and 5.3, the average increase in top shares from 1985 to 1994 is not significantly higher than the increase from 1994 to 2000 or from 1978 to 1984. As a result, it is possible to argue that TRA86 produced no permanent surge in top income shares, but only a transitory blip. The analysis of top wage shares in Section 5.4 will reinforce this interpretation. In any case, the pattern of top income shares cannot be explained fully by the pattern of top income tax rates. Saez (2004) analyses in much more detail the links between top income shares and marginal tax rates for the period 1960–2000.

The drop in top incomes shares from 2000 to 2002, concentrated exclusively among the top 1% is also remarkable. This later phenomenon is likely due to the stock-market crash which reduced dramatically the value of stock-options and hence depressed top reported wages and salaries.[21] The series including realized capital gains display an even larger fall (see Figure 5A.2 in Appendix 5A).

The Secular Decline of Top Capital Incomes

To demonstrate more conclusively that shocks to capital income were responsible for the large decline of top shares in the first part of the century, we look at the composition of income within the top fractiles. Table 5A.7 reports the

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[21] Because stock-options are reported as wage income only when exercised, our income measure (even excluding capital gains) is contaminated by stock-market fluctuations in the recent decades. Ideally, one would want to include in wage income only the Black-Scholes value of stock-options at the moment they are granted. The difference between the exercise profit and the Black-Scholes value (which is zero in expectation) should be conceptually considered as a capital gain.

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composition of income in top groups for various years from 1916 and 1999.
Figure 5.4 displays the composition of income for each fractile in 1929 (Panel A)
and 1999 (Panel B). As expected, Panel A shows the share of wage income is a
declining function of income and that the share of capital income (dividends,
interest, rents, and royalties) is an increasing function of income. The share of
entrepreneurial income (self-employment, small businesses, and partnerships) is
fairly flat. Thus, individuals in fractiles P90–95 and P95–99 rely mostly on labour
income (capital income is less than 25% for these groups) while individuals in the
top percentile derive most of their income in the form of capital income.
Complete series in Piketty and Saez (2001) show that the sharply increasing
pattern of capital income is entirely due to dividends. This evidence confirms
that the very large decrease of top incomes observed during the 1914–45 period
was to a large extent a capital income phenomenon.

One might also be tempted to interpret the large upturn in top income shares
observed since the 1970s as a revival of very high capital incomes, but this is not
the case. As shown in Panel B, the income composition pattern has changed
drastically between 1929 and 1999. In 1999, the share of wage income has
increased significantly for all top groups. Even at the very top, wage income
and entrepreneurial income form the vast majority of income. The share of
capital income remains small (less than 25%) even for the highest incomes.
Therefore, the composition of high incomes at the end of the century is very
different from those earlier in the century. Before the Second World War, the
richest Americans were overwhelmingly rentiers deriving most of their income
from wealth holdings (mainly in the form of dividends).

Occupation data by income bracket were published by the IRS in 1916 only.
Those statistics classified tax returns into 36 different occupations by brackets of
income. We have combined these 36 occupations into four groups: salaried pro-
fessions, independent professions, business owners, and capitalists and rentiers.
The salaried professions are those who receive salaries such as teachers, civil
servants, engineers, corporation managers, and officials. These individuals presum-
ably derive an important part of their income in the form of wages and salaries.
Independent professions are self-employed individuals or individuals working in
partnerships such as lawyers, doctors, etc. Business owners are merchants, hotel
proprietors, manufacturers, etc. These two groups presumably derive most of
their incomes in the form of business income. Finally capitalists and rentiers are
bankers, brokers, and those who classify themselves as ‘capitalists: investors and
speculators’,[22] and presumably derive most of their income in the form of capital
income. It is possible, especially at the very top, for some individuals to be classified
in more than one group. We present in Table 5.2 the distribution of these four
occupation groups by fractiles within the top percentile.[23] This table confirms

[22] At the very top, ‘capitalists: investors and speculators’ form the overwhelming majority of our
capitalist and rentier group.
[23] We have added a fractile for the top 0.001% (top 400 taxpayers in 1916) to emphasize how the
very top is composed overwhelmingly of ‘capitalists’.

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Panel A: 1929

Panel B: 1999
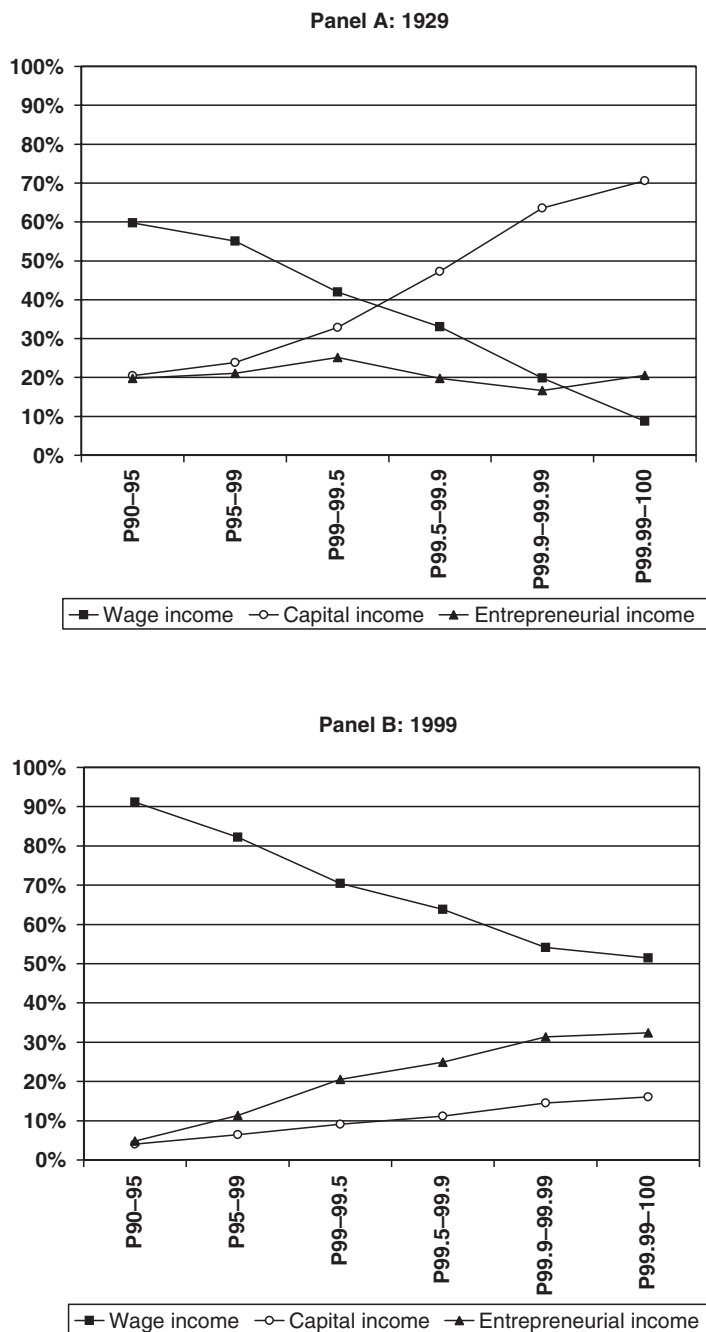
Figure 5.4 Income composition of top groups within the top decile in US, 1929 and 1999

Note: Capital income dose not include copital gains.
Source: Table 5A.7, rows 1929 and 1999.

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our previous results: the share of the salaried occupation declines steadily within the top percentile from 28% to less than 10% at the very top. The share of independent professions also declines from 20% to 5%. The share of business owners is first increasing (from 30% to 40%) and declining slightly at the very top. The share of capitalists increases sharply especially at the very top where 95% of the top 400 taxpayers fall into this category. This table shows clearly that top corporate executives at the beginning of the century were only a tiny minority within the top taxpayers. In contrast, in 1999, more than half of the very top taxpayers derive the major part of their income in the form of wages and salaries. Thus, today, the 'working rich' celebrated by *Forbes Magazine* have overtaken the 'coupon-clipping rentiers'.

The dramatic evolution of the composition of top incomes appears robust and independent from the erratic evolution of capital gains excluded in Figures 5.1 to 5.4. Tables 5A.2 and 5A.3 display the top income shares including realized capital gains. In Table 5A.2, in order to get around the lumpiness of realizations, individuals are ranked by income *excluding* capital gains but capital gains are added back to income to compute shares. In Table 5A.3, individuals are ranked by income including capital gains and capital gains are added back to income to compute shares. The denominator for those series includes all realized capital gains.[24] As depicted for the top 1% on Figure 5A.2, these additional series show that including capital gains does not modify our main conclusion that very top

Table 5.2 Shares of each occupation within the top 1% in US, 1916

Fractiles (1)	Number of tax units (2)	Salaried Professions (3)	Independent Professions (4)	Business Owners (5)	Capitalists and Rentiers (6)
P99–99.5	198,950	30.5%	19.0%	30.3%	20.2%
P99.5–99.9	159,160	22.1%	14.0%	35.8%	27.9%
P99.9–99.99	35,811	16.2%	8.0%	39.7%	45.2%
P99.99–99.999	3,581	12.0%	5.1%	42.6%	65.4%
P99.999–100	398	8.0%	3.1%	33.2%	94.6%

Notes: Salaried professions defined as accounting profession (accountants, statisticians, actuaries, etc.), engineers, clergymen, public service: civil and military, teachers, corporation officials, and all other employees. Independent professions defined as architects, artists, authors, clergymen, lawyers and judges, medical profession, theatrical profession, all other professions, profession not stated, commercial travelers, and sportsmen. Business owners defined as farmers, hotel proprietors and restaurateurs, insurance agents, labor skilled and unskilled, lumbermen, manufacturers, merchants and dealers, mine owners and operators, saloon keepers, theatrical business owners, all other business, and business not stated. Capitalists and rentiers defined as bankers, real-estate brokers, stock and bond brokers, insurance brokers, all other brokers, and capitalists: investors and speculators.

Source: Computations based on interpolations from *Statistics of Income*, 1916. table 6c, pp. 126–37.

[24] In contrast, the first working paper Piketty and Saez (2001) included in the denominator for the series including capital gains, only realized capital gains going to the top 10% tax units. We have modified the denominator definition so that one can compute the concentration of realized capital gains (such as the fraction of all capital gains going to the top 10% or top 1% tax units) with our new series. The change in levels of the series are very small, however, because in general 75 to 90% of all realized capital gains go to the top 10% (see Appendix 5A for more details).

income shares dropped enormously during the 1914–1945 period before increasing steadily in the last three decades.[25]

The decline of the capital income share is a very long-term phenomenon and is not limited to a few years and a few thousands tax units. Figure 5.5 shows a gradual secular decline of the share of capital income (excluding again capital gains realizations) and dividends in the top 0.5% fractile from the 1920s to the 1990s: capital income made about 55% of total income in the 1920s, 35% in the 1950s–60s, and 15% in the 1990s. Sharp declines occurred during the First World War, the Great Depression, and the Second World War. Capital income recovered only partially from these shocks in the late 1940s and started a steady decline in the mid-1960s. This secular decline is entirely due to dividends: the share of interest, rent, and royalties has been roughly flat while the dividend share has dropped from about 40% in the 1920s, to about 25% in the 1950s and 1960s, to less than 10% in the 1990s.[26]

Most importantly, the secular decline of top capital incomes is due to a decreased concentration of capital income rather than a decline in the share of capital income in the economy as a whole. As displayed in Figure 5.6, the National
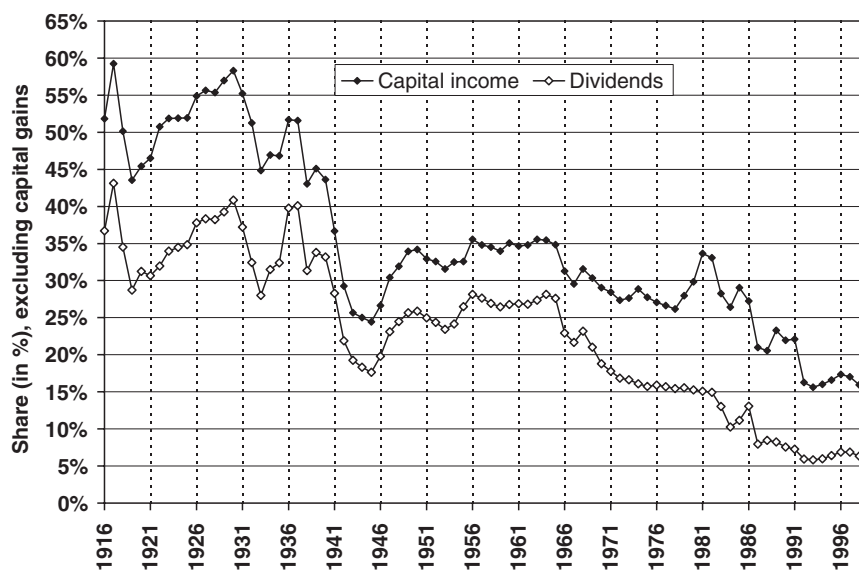
Figure 5.5 The capital income share in the top 0.5% in US, 1916–99

Note: Series display the share of capital income (excluding capital gains) and dividends in total income (excluding capital gains) for the top 0.5% income quantile.

Source: Table 5A.7, column P99.5–100

[25] It is interesting to note, however, that during the 1960s, when dividends were strongly tax disadvantaged relative to capital gains, capital gains do seem to represent a larger share in top incomes than during other periods such as the 1920s or late 1990s that also witnessed large increases in stock prices.

[26] Tax statistics by size of dividends analyzed in Piketty and Saez (2001) confirm a drastic decline of top dividend incomes over the century. In 1998 dollars, top 0.1% dividends earners reported on average about US$500,000 of dividends in 1927 but less than US$240,000 in 1995.

A. Factor shares in the corporate sector

B. The capital income share in the personal income sector
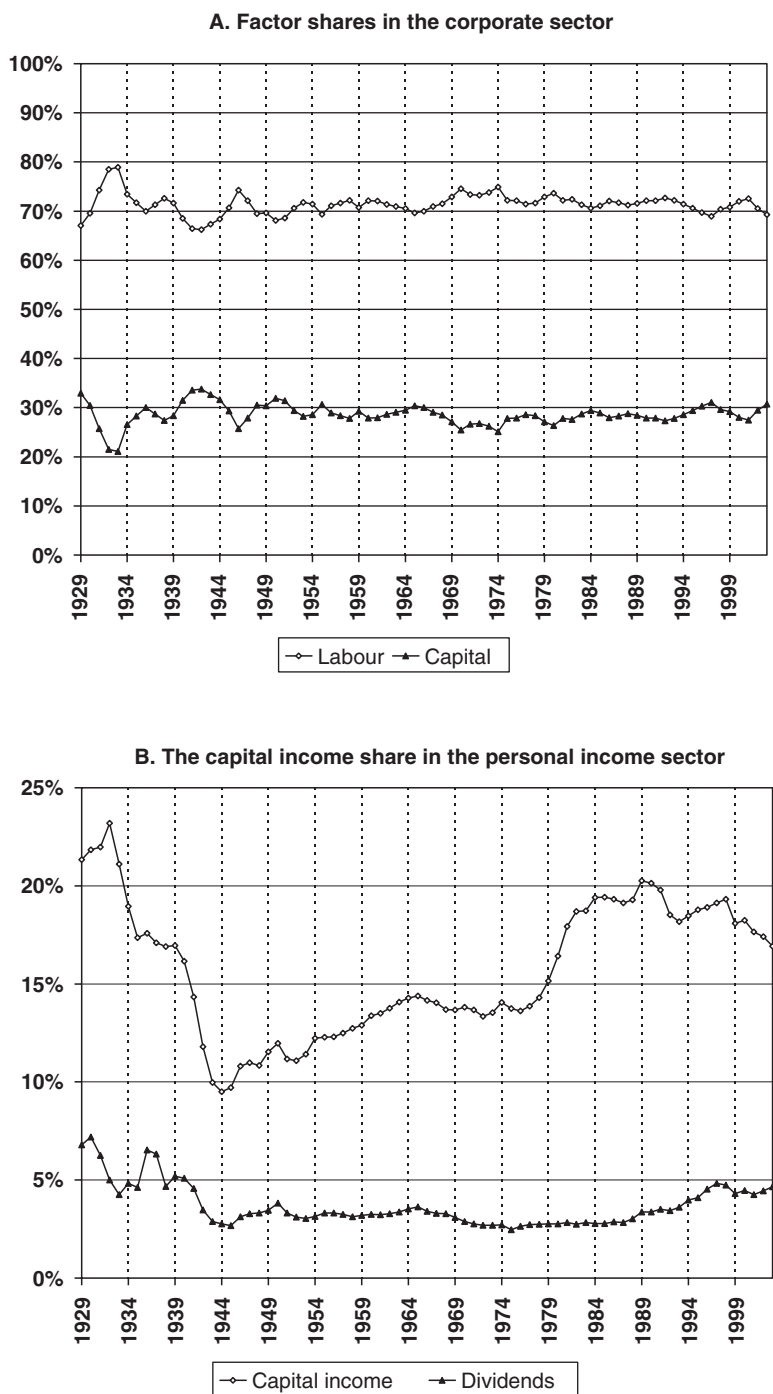
Figure 5.6 Capital income in the corporate and personal sector, US 1929–2003

Notes: Panel A from NIPA Table 1.14; consumption of fixed capital and net interest have been included in the capital share. Panal B from NIPA Table 2.1; capital income includes dividends, interest, and rents.

Source: Authors' computations based on National Income and Product Accounts.

Income Accounts series show that the aggregate capital income share has not declined over the century. As is well known, factor shares in the corporate sector have been fairly flat in the long-run with the labour share around 70–75%, and the capital share around 25–30% (Panel A). The share of capital income in aggregate personal income is about 20% both in the 1920s and in the 1990s (Panel B). Similarly, the share of dividends was around 5% in the late 1990s and only slightly higher (about 6–7%) before the Great Depression. This secular decline is very small compared to the enormous fall of top capital incomes.[27] Contrarily to a widely held view, dividends as a whole are still well and alive.[28]

It should be noted, however, that the ratio of total dividends reported on individual tax returns to personal dividends in National Accounts has declined continuously over the period 1927–95, starting from a level close to 90% in 1927, declining slowly to 60% in 1988, and dropping precipitously to less than 40% in 1995. This decline is due mostly to the growth of funded pension plans and retirement saving accounts through which individuals receive dividends that are never reported as dividends on income tax returns. For the highest income earners, this additional source of dividends is likely to be very small relative to dividends directly reported on tax returns.

Estate tax returns statistics (available since the beginning on the estate tax in 1916) are an alternative important source of data to analyse the evolution of large fortunes.[29] Kopczuk and Saez (2004) used those data, recently compiled in electronic format by the IRS for most of the period, to construct top wealth shares for the period 1916–2000 using the estate multiplier method. Figure 5.7 displays the top 0.1% share series from Kopczuk and Saez (2004). It shows that the top 0.1% has indeed dropped drastically from over 20% in the early part of the century to around 7.5% in the 1970s. In contrast to top income shares, the increase in wealth concentration has been modest since the 1970s: the top 0.1% wealth share has increased modestly to around 9–10% by 2000. This evidence is consistent with our previous results on the decline in top capital incomes over the century. There is a concern that estate tax avoidance and evasion might bias downward wealth concentration estimated using the estate multiplier technique. The most popular forms of estate tax avoidance involve setting up trusts whereby wealthy individuals can pass substantial wealth to the next generations with modest gift tax liability and while keeping some control over assets. Tax statistics on trusts, analysed in Kopczuk and Saez (2004), show, however, that capital income earned through all trusts is relatively modest and has actually declined in relative terms over the century. Thus, adding back all trust wealth to top wealth

[27] The share of dividends in personal income starts declining in 1940 because the corporate income tax increases sharply and permanently, reducing mechanically profits that can be distributed to stockholders.

[28] As documented by Fama and French (2000), a growing fraction of firms never pay dividends (especially in the new technology industries, where firms often make no profit at all), but the point is that total dividend payments continue to grow at the same rate as aggregate corporate profits.

[29] In particular, capital gains not realized before death are never reported on income tax returns, but are included in the value of assessed estates.

Income and Wage Inequality
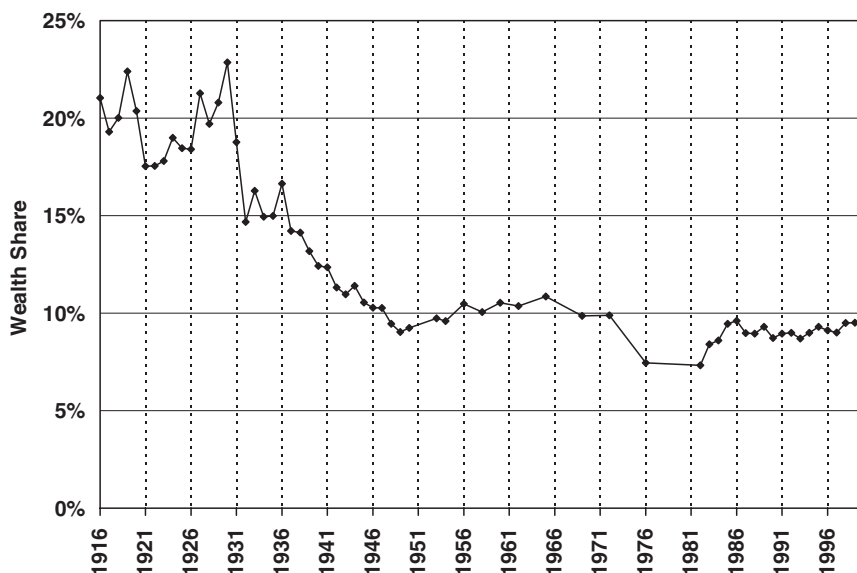
Figure 5.7 The top 0.1% wealth share in US, 1916–2000

Notes: Top wealth shares are estimated from estate tax returns using the estate multiplier method.
Source: Kopczuk and Saez 2004: Table 3, col. Top 0.1%.

holders would not affect the pattern of top wealth shares constructed in Kopczuk and Saez (2004).

Proposed Interpretation: The Role of Progressive Taxation

How can we explain the steep secular decline in capital income concentration? It is easy to understand how the macro-economic shocks of the Great Depression and the fiscal shocks of the World Wars have had a negative impact on capital concentration. The difficult question to answer is why large fortunes did not recover from these shocks. The most natural and realistic candidate for an explanation seems to be the creation and the development of the progressive income tax (and of the progressive estate tax and corporate income tax). The very large fortunes that generated the top 0.01% incomes observed at the beginning of the century were accumulated during the nineteenth century, at a time where progressive taxes hardly existed and capitalists could dispose of almost all their income to consume and to accumulate.[30] The fiscal situation faced by capitalists in the twentieth century to recover from the shocks incurred during the 1914–45 period has been substantially different. Top tax rates were very high from the end of the First World War to the early 1920s, and then continuously from 1932 to the

[30] During the nineteenth century, the only progressive tax was the property tax, but its level was low (see Brownlee 2000 for a detailed description).

mid-1980s. Moreover, the United States has imposed a sharply progressive estate tax since 1916, and a substantial corporate income tax ever since the Second World War.[31] These very high marginal rates applied to only a very small fraction of taxpayers, but created a substantial burden on the very top income groups (such as the top 0.1% and 0.01%) composed primarily of capital income. In contrast to progressive labour income taxation, which simply produces a level effect on earnings through labour supply responses, progressive taxation of capital income has cumulative or dynamic effects because it reduces the net-return on wealth which generates tomorrow's wealth.

It is difficult to prove in a rigorous way that the dynamic effects of progressive taxation on capital accumulation and pre-tax income inequality have the right quantitative magnitude and account for the observed facts. One would need to know more about the savings rates of capitalists, how their accumulation strategies have changed since 1945. The orders of magnitude do not seem unrealistic, especially if one assumes that the owners of large fortunes, whose pre-tax incomes were already severely hit by the pre-war shocks, were not willing to reduce their consumption to very low levels. Piketty (2001, 2003) provides simple numerical simulations showing that for a fixed saving rate, introducing substantial capital income taxation has a tremendous effect on the time needed to reconstitute large wealth holdings after negative shocks. Moreover, reduced savings in response to a reduction in the after-tax rate of return on wealth would accelerate the decrease in wealth inequality. Piketty (2003) shows that in the classic dynastic model with infinite horizon, any positive capital income tax rate above a given high threshold of wealth will eventually eliminate all large wealth holdings without affecting, however, the total capital stock in the economy.

We are not the first to propose progressive taxation as an explanation for the decrease in top shares of income and wealth. Lampman (1962) did as well and Kuznets (1955) explicitly mentioned this mechanism as well as the shocks incurred by capital owners during the 1913–48 period, before presenting his inverted U-shaped curve theory based on technological change. Explanations pointing out that periods of technological revolutions such as the last part of the nineteenth century (industrial revolutions) or the end of the twentieth century (computer revolution) are more favourable to the making of fortunes than other periods might also be relevant.[32] Our results suggest that the decline in income tax progressivity since the 1980s, the reduction in the tax rate for dividend income in 2003, and the projected repeal of the estate tax by 2011 might in a few decades produce again levels of wealth concentration similar to those of the beginning of the twentieth century.[33]

[31] From 1909 (first year the corporate tax was imposed) to the beginning of the Second World War, the corporate tax rate was low, except during the First World War.

[32] DeLong (1998) also points out the potential role of anti-trust law. According to DeLong, anti-trust law was enforced more loosely before 1929 and since 1980 than between 1929 and 1980.

[33] The tax cut on dividend income of 2003 generated a surge in dividend initiations among publicly traded companies (Chetty and Saez 2004). Microsoft, for example, started paying dividends in 2003 and made a huge special dividend distribution in 2004. William Gates, founder of the company and

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5.4 TOP WAGE SHARES

Table 5B.2 displays top wage shares from 1927 to 2002 constructed using IRS
tabulations by size of wages. There are three caveats to note about these long-term
wage inequality series. First, self-employment income is not included in wages and
therefore our series focus only on wage income inequality. As self-employment
income has been a decreasing share of labour income over the century, it is
conceivable that the pool of wage and salary earners has substantially evolved
overtime, and that total labour income inequality series would differ from our
wage inequality series. Second and relatedly, large changes in the wage force due to
the business cycle and wars might affect our series through compositional effects
because we define the top fractiles relative to the total number of tax units with
positive wage income. As can be seen in column (1) of Table 5B.1, the number of
tax units with wages declined during the Great Depression due to high levels of
unemployment, increased sharply during the Second World War because of the
increase in military personnel, and decreased just after the war. We show in
Appendix 5B that these entry effects do not affect top shares when the average
wage of the new entrants is equal to about 50% of the average wage. This
condition is approximately satisfied for military personnel in the Second World
War and thus top wage shares including or excluding military personnel during
The Second World War are almost identical. Third, our wage income series are
based on the tax unit and not the individual. As a result, an increase in the
correlation of earnings across spouses, as documented in Karoly (1993), with no
change in individual wage inequality, would generate an increase in tax unit wage
inequality.[34]

Figure 5.8 displays the wage share of the top decile and Figure 5.9 displays the
wage shares of the P90–95, P95–99, and P99–100 groups from 1927 to 2002. As
for overall income, the pattern of top decile wage share over the century is also
U-shaped. There are, however, important differences that we describe below. It
is useful to divide the period from 1927 to 2002 into three sub-periods: the
pre-Second World War period (1927–40); the war and post-war period
(1941–69); and the last three decades (1970–2002). We analyse each of these
periods in turn.

richest American person, earned US$3600 million from Microsoft dividends in 2004: by far the largest
income ever earned in any single year in the United States. It remains to be seen whether this reform
will affect significantly the composition of top reported incomes. It will certainly be a useful test of the
magnitude of fiscal manipulation effects.

[34] This point can be analysed using the Current Population Surveys available since 1962 which
allow the estimation of wage inequality series both at the individual and tax unit level. In Canada, it is
possible to construct top income shares both at the family and individual level since 1982. Those series,
presented in Saez and Veall (Chapter 4) show that the upward trend in top income shares is almost
identical at the individual and family suggesting that the secondary earner effect cannot explain the
surge in top income shares.
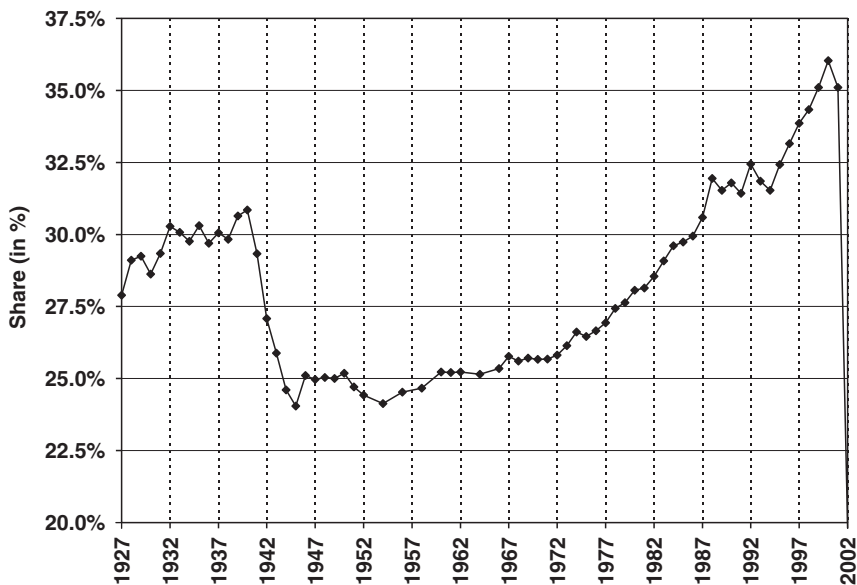
Figure 5.8 The top decile wage income share, US 1927–2002

Notes: Wage income includes bonuses, and profits from exercised stock options.
Source: Table 5B.2, col. P90–100.
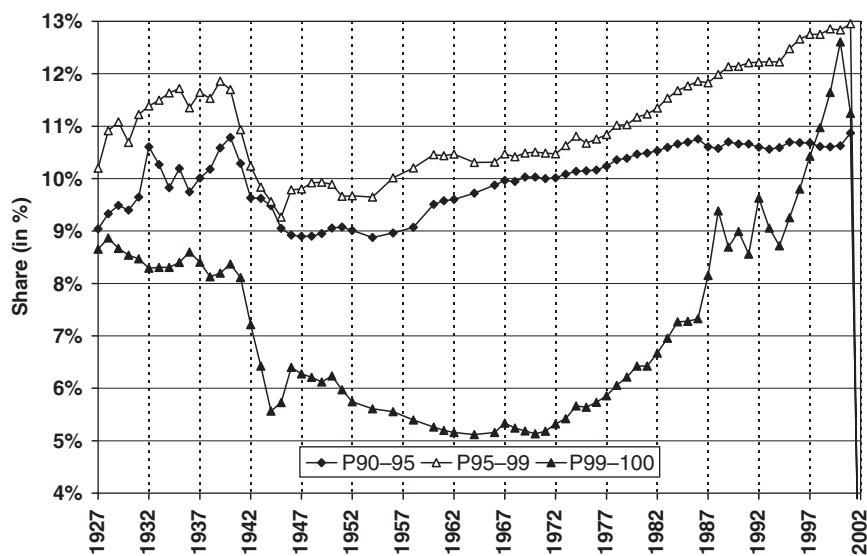
Figure 5.9 Wage income shares for P90–95, P95–99, and P99–100 in US, 1927–2002

Note: Wage income includes bonuses, and profits from exercised stock options.
Source: Table 5B.2, col. P90–95, 95–99, P99–100

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Wage Inequality Stability Before the Second World War

Top wage shares display a striking stability from 1927 to 1940. This is especially true for the top percentile. In contrast to capital income, the Great Depression did not produce a reduction in top wage shares. On the contrary, the high middle class fractiles benefited in relative terms from the Great Depression. Even though the IRS has not published tables on wage income over the period 1913–26, we can use an indirect source of evidence to document trends in top wage shares. Corporation tax returns require each corporation to report separately the sum of salaries paid to its officers. This statistic, compensation of officers, is reported quasi-annually by the IRS starting in 1917. We report in Figure 5.10 the total compensation of officers reported on corporate tax returns divided by the total wage bill in the economy from 1917 to 1960 along with the shares of the P99.5–100 and P99–99.9 wage groups which are close in level to the share of officer compensation. From 1927 to 1960, officer compensation share and these fractiles shares track each other relatively closely. Therefore, the share of officer compensation from 1917 to 1927 should be a good proxy as well for these top wage shares. This indirect evidence suggests that the top share of wages was also roughly constant, or even slightly increasing from 1917 to 1926.

Previous studies have suggested that wage inequality has been gradually decreasing during the first half of the twentieth century (and in particular during the inter-war period) using series of wage ratios between skilled and unskilled
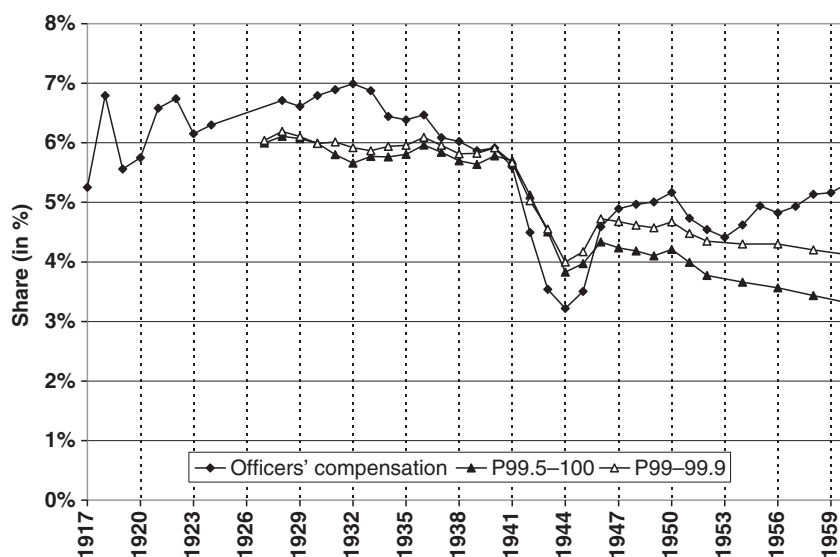
Figure 5.10 Shares of officers' compensation and wage shares, P99.5–100 and P99–99.9 in US, 1917–60

Source: Officers compensation from Authors' computations based on corporate income tax returns (Table 5B.1, col Officers compensation, and Table 5B.2, col. P99.5–100, and P99–99.5+P95.5–99.9)

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occupations (see, e.g., Keat 1960; Williamson and Lindert 1980). However, it is important to recognize that a decrease in the ratio of skilled over unskilled wages does not necessarily imply an overall compression of wage income inequality, let alone a reduction in the top wage shares. Given the continuous rise in the numerical importance of white collar jobs, it is natural to expect that the ratios of high-skill wages to low-skill wages would decline over time, even if wage inequality measured in terms of shares of top fractiles of the complete wage distribution does not change.[35] Goldin and Katz (1999) have recently presented new series of white-collar to blue-collar earnings ratios from the beginning of the twentieth century to 1960, and they find that the decrease in pay ratio is concentrated only in the short periods of the two World Wars. Whether or not the compression of wages that occurred during the First World War was fully reversed during the 1920s in the United States is still an open question.[36]

Sharp Drop in Inequality During the Second World War with no Recovery

In all of our wage shares series, there is a sharp drop during the Second World War from 1941 to 1945.[37] The higher the fractile, the greater is the decrease. The share of P90–95 declines by 16% between 1940 and 1945, but the share of the top 1% declines by more than 30%, and the top 0.1% by almost 35% during the same period (Table 5B.2). This sharp compression of high wages can fairly easily be explained by the wage controls of the war economy. The National War Labour Board, established in January 1942 and dissolved in 1945, was responsible for approving all wage changes and made any wage increase illegal without its approval. Exceptions to controls were more frequently granted to employees receiving low wages.[38] Lewellen (1968) has studied the evolution of executive compensation from 1940 to 1963 and his results show strikingly that executive salaries were frozen in nominal terms from 1941 to 1945 consistent with the sharp drop in top wage shares that we find.

The surprising fact, however, is that top wage shares did not recover after the war. A partial and short-lived recovery can be seen for all groups, except the very top. But the shares never recover more than one third of the loss incurred during the Second World War. Moreover, after a short period of stability in the late 1940s,

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[35] For instance, Piketty (2001) reports a long-run compression (both from 1900 to 1950 and from 1950 to 1998) of the ratio of the average wage of managers over the average wage of production workers in France, even though wage inequality (measured both in terms of top fractiles wage shares and in terms of P90/P10-type ratios) was constant in the long-run.

[36] Tax return data available for France make it possible to compute wage inequality series starting in 1913 (as opposed to 1927 in the United States). By using these data, Piketty (2001, 2003 and Chapter 3 in this volume) found that wage inequality in France (measured both in terms of top wage shares and in terms of P90/P10 ratios) declined during the First World War but fully recovered during the 1920s, so that overall wage inequality in 1930 or 1940 was the same as in 1913. Another advantage of the French wage data is that it always based upon individual wages (as opposed to total tax unit wages in the United States).

[37] Note that for fractiles below the top percentile, the drop starts from 1940 to 1941.

[38] See Goldin and Margo (1992) for a more detailed description.

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a second phase of compression takes place in the top percentile. This compression phase is longer and most pronounced the higher the fractile. While the fractiles P90–95 and P95–99 hardly suffer from a second compression phase and start recovering just after the war, the top group shares experience a substantial loss from 1950 to the mid-1960s. The top 0.1% share for example declines from 1.6% in 1950 to 1.1% in 1964 (Table 5B.2).

The overall drop in top wage shares, although important, is significantly lower than the overall drop in top income shares. The top 1% income share dropped from about 18–19% before the First World War and in the late 1920s to about 8% in the late 1950s (Figure 5.2), while the top 1% wage share dropped from about 8.5% in the 1920s to about 5% in the late 1950s (Figure 5.9). This confirms that capital income played a key role in the decline of top income shares during the first half of the century.

The Increase in Top Shares Since the 1970s

Many studies have documented the increase in inequality in the United States since the 1970s (see, e.g., Katz and Murphy 1992). Our evidence on top shares is consistent with this evidence. After the Second World War compression, the fractiles P90–95 and P95–99 recovered slowly and continuously from the 1950s to the 1990s, and reached the pre-Second World War level in the beginning of the 1980s. As described above, the recovery process for groups within the top percentile did not begin until the 1970s and was much faster. In accordance with results obtained from the March Current Population Surveys (Katz and Murphy 1992; Katz and Autor 1999), we find that wage inequality, measured by top fractile wage shares, starts to increase in the early 1970s. This is in contrast with results from the May Current Population Surveys (DiNardo et al. 1996) suggesting that the surge in wage inequality is limited to the 1980s.

From 1970 to 1984, the top 1% share increased steadily from 5% to 7.5% (Figure 5.9). From 1986 to 1988, the top shares of wage earners increased sharply, especially at the very top (for example, the top 1% share jumps from 7.5% to 9.5%). This sharp increase was documented by Feenberg and Poterba (1993) and is certainly attributable at least in part to fiscal manipulation following the large top marginal tax rate cuts of the Tax Reform Act of 1986 (see the discussion in Section 5.3 above). However, from 1988 to 1994, top wage shares stay on average constant,[39] but increase very sharply from 1994 to 2000 (the top 1% wage share increases from 8.7% to 12.6%). While everybody acknowledges that tax reforms can have large short-term effects on reported incomes due to retiming, there is a controversial debate on whether changing tax rates can have permanent effects on the level of reported incomes. Looking at long-time series up to 2001 casts doubts on the supply-side interpretation that tax cuts can have lasting effects on reported wages.

[39] One can note the surge in high wages in 1992 and the dip in 1993 and 1994 due to retiming of labour compensation in order to escape the higher rates enacted in 1993 (see Goolsbee 2000).

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Part of the recent increase in top wages is due to the development of stock-options that are reported as wages and salaries on tax returns when they are exercised. Stock-options are compensation for labour services but the fact that they are exercised in a lumpy way may introduce some upward bias in our annual shares at the very top (top 0.1% and above). To cast additional light on this issue and on the timing of the top wage surge, we look at CEO compensation from 1970 to 2003 using the annual surveys published by *Forbes Magazine* since 1971. These data provide the levels and composition of compensation for CEOs in the 800 largest publicly traded US corporations. Figure 5.11 displays the average real compensation level (including stock-option exercised) for the top 100 CEOs from the Forbes list, along with the compensation of the CEO ranked 100 in the list, and the salary plus bonus level of the CEO ranked 10 (in terms of the size of salary plus bonus). As a comparison, we also report the average wage of a full-time worker in the economy from National Income Accounts. Consistent with the evolution of top wage shares, average CEO compensation has increased much faster than average wage since the early 1970s. Therefore, the increase in pay gap between top executives and the average worker cannot be attributed solely to the tax episodes of the 1980s.

Thus, by the end of the century, top wage shares are much higher than in the interwar period. These results confirm that the rise in top income shares and the dramatic shift of income composition at the top documented in Section 5.3 are mainly driven by the surge in top wages during the last three decades.
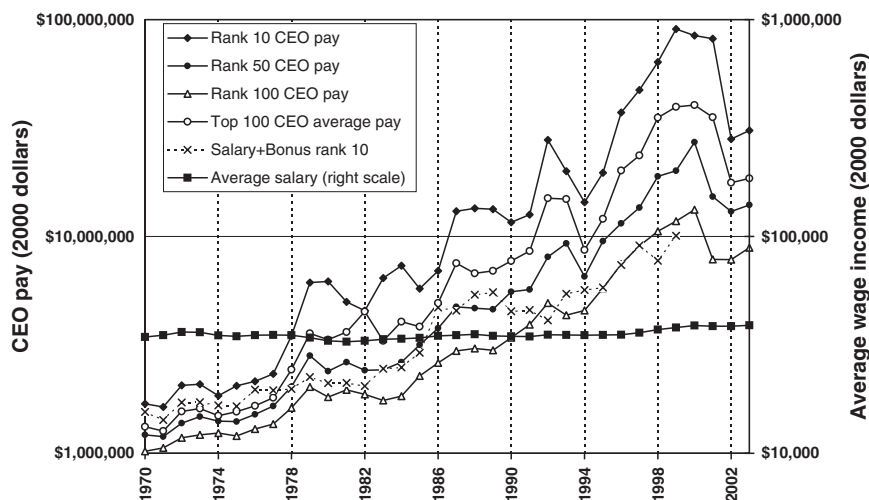
Figure 5.11 CEO pay vs. average wage income, US 1970–2003

Notes: The average wage income (right scale) is estimated as the total wages and salaries from National Income and Produts Accounts divided by the total number of full-time equivalent employees. CEO pay includes salary, bonus, and profits from exercised stock-options. All estimates are expressed in 2000 dollars using the official CPI.

Source: Table 5B.4, logarithmic scales.

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Proposed Interpretation

The pattern of top shares over the century is striking: most of the decline from 1927 to 1960 took place during the four years of the Second World War. The extent of that decline is large, especially for very high wages. More surprisingly, there is no recovery after the war. We are of course not the first ones to document compression in wages during the 1940s. The Social Security Administration (US Bureau of Old-Age 1952) showed that a Lorenz curve of wages for 1949 displays much more equality than one for 1938. In a widely cited paper, Goldin and Margo (1992), using Census micro-data for 1940 and 1950, have also noted that the ratios P90/P10 and P50/P10 declined sharply during that decade. Our annual series allow us to conclude that most of the decline in top wage shares took place during the key years of the war with no previous decline in inequality before and no recovery afterwards.

The compression of wages during the war can be explained by the wage controls of the war economy, but how can we explain the fact that high wage earners did not recover after the wage controls were removed? This evidence cannot be immediately reconciled with explanations of the reduction of inequality based solely on technical change as in the famous Kuznets' process. We think that this pattern of evolution of inequality is additional indirect evidence that non-market mechanisms such as labour market institutions and social norms regarding inequality may play a role in the setting of compensation at the top. The Great Depression and the Second World War have without doubt had a profound effect on labour market institutions and more generally on social norms regarding inequality. During this period, the income tax acquired its modern form, and its top marginal tax rates were set very high, in excess of 80%. It is conceivable that such large income tax rates discouraged corporations from increasing top salaries. During that period, large redistributive programmes such as Social Security, and Aid for Families with Dependent Children were initiated. These strongly redistributive policy reforms show that American society's views on income inequality and redistribution greatly shifted from 1930 to 1945. It is also important to note that unionization increased substantially from 1929 to 1950 and that unions have been traditionally in favour of wage compression. In that context, it is perhaps not surprising that the high wages earners who were the most severely hit by the war wage controls were simply not able, because of social, fiscal, and union pressure, to increase their salaries back to the pre-war levels in relative terms.[40]

Similarly, the huge increase in top wage shares since the 1970s cannot be the sole consequence of technical change. First, the increase is very large, and concentrated among the highest income earners. The fractiles P90–95 and P95–99 experienced a much smaller increase than the very top shares since the 1970s. Second, such a large change in top wage shares has not taken place in most European countries and Japan which experienced the same technical change as the United States. For example, Piketty (2001, 2003) documents no change in top

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[40] Emphasizing the role of social norms and unionization is of course not new and has been pointed out as important elements explaining the wage compression of the 1940s and 1950s by several studies (Phelps Brown 1977; Goldin and Margo 1992; and Goldin and Katz 1999). Moreover, as emphasized by Goldin and Margo (1992) and Goldin and Katz (1999), it is possible that the large increase in the supply of college graduates contributed to make the drop in top wage shares persistent.

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wage shares in the last decades in France. DiNardo et al. (1996) argue that changes in institutions such as the minimum wage and unionization account for a large part of the increase in US wage inequality from 1973 to 1992. As emphasized by Acemoglu et al. (2001), it is possible that these changes in institutions have been triggered by previous technological changes making it impossible to sustain previous labour market arrangements (see also Acemoglu 2002). It seems unlikely, however, that changes in unionization or the minimum wage can explain the surge in very top wages. The marginal product of top executives in large corporations is notoriously difficult to estimate, and executive pay is probably determined to a significant extent by herd behaviour. Changing social norms regarding inequality and the acceptability of very high wages might partly explain the rise in US top wage shares observed since the 1970s.[41]

5.5 CONCLUSION

This chapter has presented new homogeneous series on top shares of income and wages from 1913 to 2002. Perhaps surprisingly, nobody had tried to extend the pioneering work of Kuznets (1953) to more recent years. Moreover, important wage income statistics from tax returns had never been exploited before. The large shocks that capital owners experienced during the Great Depression and the Second World War seem to have had a permanent effect: top capital incomes are still lower in the late 1990s than before the First World War. We have tentatively suggested that steep progressive taxation, by reducing the rate of wealth accumulation, has prevented the large fortunes to recover fully yet from these shocks. The evidence for wage series shows that top wage shares were flat before the Second World War and dropped precipitously during the war. Top wage shares have started recovering from this shock only since the 1970s but are now higher than before the Second World War.

   To what extent is the US experience representative of other developed countries' long run inequality dynamics? It is interesting to compare the US top income share series with comparable series constructed for France by Piketty (2001 and Chapter 3 in this volume), and for the United Kingdom by Atkinson (Chapter 4).[42] There are important similarities between the American, French, and British pattern of the top 0.1 percent income share displayed on Figure 5.12.[43] In all three countries, top income shares fell considerably during the

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[41] It is quite telling to read in the recent survey of Hall and Murphy (2004), two prominent and conservative researchers in this field, that their best explanation for the surge in stock-option compensation was that 'boards and managers falsely perceive stock options to be inexpensive because of accounting and cash-flow considerations'.

[42] See Lindert (2000) and Morrisson (2000) for recent surveys.

[43] Due to very high starting point of supertax in the United Kingdom, Atkinson was not able to compute top decile or even top percentile series covering the entire century (only the top 0.1% and higher fractiles series are available for the entire century for all three countries).
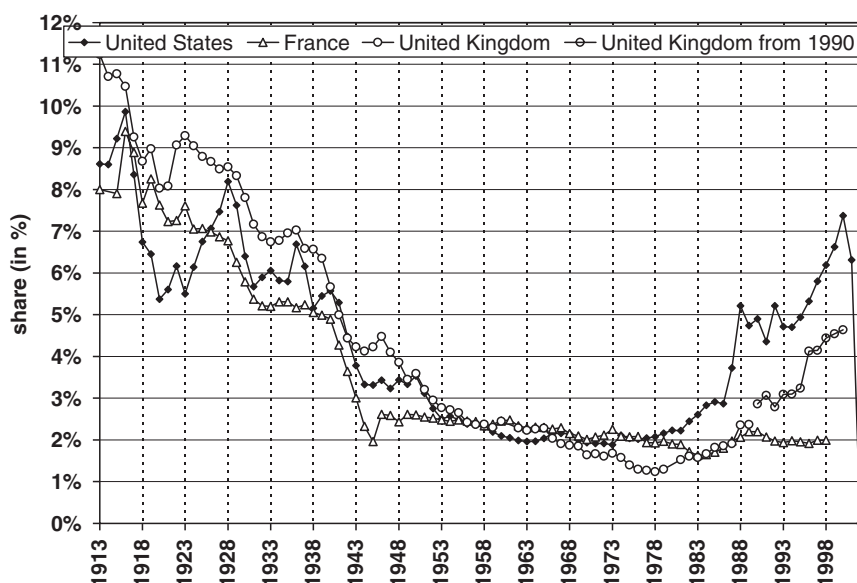
Figure 5.12 Top 0.1% income shares in the US, France, and the UK, 1913–98

Notes: In all three countries, income is defined berfore invdividual taxes and excludes capital gains. The unit is the in family as the current US tax law except for the UK from 1990.

Sources: US: Table 5A.1, column P99.9–100. France: computations based on income tax returns by Piketty 2001*b*: table A1, col. P.99.9–100. UK: computations based on income tax returns by Atkinson: chap. 4, table 4.1; values for 1987 to 1993 obtained by Pareto extrapolation. There is a discontinuity after 1989 in the UK series due to switch from tax unit to indivdual basis.

1914–45 period, and they were never able to come back to the very high levels observed at the eve of the First World War. It is plausible to think that in all three countries, top capital incomes have been hit by the depression and wars shocks of the first part of the century and could not recover because of the dynamic effects of progressive taxation on capital. Piketty (2001) also shows that in France, there was no spontaneous decline of top wage shares before the Second World War. In France, top wage shares declined during the First World War, but they quickly recovered during the 1920s and were stable until the Second World War.

Some important differences need however to be emphasized. First, the shock of the Second World War was more pronounced in France and in the United Kingdom than in the United States. This is consistent with the fact that capital owners suffered from physical capital losses during the war in Europe, while there was no destruction on US soil.[44] Second, the Second World War wage

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[44] Estate tax data also show that the fall in top estates was substantially larger in France (see Piketty (2001).

compression was very short-lived in France, while it had long lasting effects in the United States. In France, wage inequality, measured both in terms of top wage shares and in terms of interdecile ratios appears to have been extremely stable over the course of the twentieth century. The US history of wage inequality looks very different from that in France: the war compression had long-lasting effects, and then wage inequality increased considerably since the 1970s, which explains the US upturn of top income shares since the 1970s.[45] The fact that France and the United States display such diverging trends is consistent with our interpretation that technical change alone cannot account for the US increase in inequality.

These diverging trends in top wages over the past 30 years explain why the income composition patterns of top incomes look so different in France and in the United States at the end of the century. In France, top incomes are still composed primarily of dividend income, although wealth concentration is much lower than what it was one century ago. In the United States, due to the very large rise of top wages since the 1970s, the coupon-clipping rentiers have been overtaken by the working rich. Such a pattern might not last for very long because our proposed interpretation also suggests that the decline of progressive taxation observed since the early 1980s in the United could very well spur a revival of high wealth concentration and top capital incomes during the next few decades.

APPENDIX 5A: INCOME INEQUALITY SERIES

This appendix describes the series of shares of top income fractiles that we have constructed using tax return data. The US income tax started in 1913 and 2002 is the most recent year for which data are available. Starting in 1916, the Internal Revenue Service (IRS) has published detailed statistical tables on tax returns in *Statistics of Income: Individual Income Tax Returns* (the tables for 1913–15 were published in the *Annual Reports of the Commissioner of Internal Revenue*). These annual 1913–2002 tables provide information on the number of tax returns, and the amounts reported for each source of income, for a large number of income brackets.[46] Starting in 1960, the IRS has constructed large micro-files of tax returns oversampling high incomes. These micro-files were constructed annually since 1966,[47] and they are publicly

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[45] The United Kingdom also experienced an increase in top shares in the last two decades but more modest than in the United States.

[46] For 1913–15, the tables only provide information on the number of tax returns for a large number of income brackets.

[47] No micro-file is available for 1961, 1963, and 1965, and the micro-files for 1960, 1962, and 1964 do not include as many tax return variables as the files for the following years (this applies in particular to the 1960 file). Therefore we have mostly relied on published tables for the 1960–65 period (the 1960, 1962, and 1964 have been used for consistency checks only).

available until 1999. These annual 1966–99 micro-files allow us to check that our methods using published tables provide accurate results.

Computing Total Number of Tax Units and Total Income

The total number of tax units in the US population (had everybody been required to file a tax return), displayed in column (1) of Table 5A.0, has been computed using census data on the marital structure of the population: it is defined as the sum of the total number of married men; the total number of widowed and divorced men and women; and the total number of single men and women aged 20 or over.[48] Income fractiles are defined with respect to this total number of tax units. For instance, in 2002, with a total number of tax units equal to 139.703 million, there are 13.9703 million tax units in the top decile, 1.39703 million tax units in the top percentile, etc. Our theoretical definition of tax units implicitly assumes that married women never file separate returns (in practice, the number of married women filing separate returns is positive but fairly small (about 1% of all returns in 1998). Before 1948, however, married couples with two earners had interest in filing separately because there was a single schedule that applied to all tax units (married filing jointly, married filing separately, or singles). As a result, the number of returns for married women filing separately was higher (around 5–6%). We did correct for this in our income series so as to make sure that there is no discontinuity between 1947 and 1948.[49]

Table 5A.0 also indicates the total number of tax returns actually filed (column (2)), as well as the fraction of tax units filing a tax return (column (3)). Since 1944, the vast majority of tax units have been filing tax returns, and the fraction of tax units actually filing has generally been around 90–95%. But before the Second World War, due to large exemption levels, this fraction was usually around 10–15%. The top decile is therefore the biggest fraction for which we can construct homogeneous estimates for the entire period, and this is why we limit our analysis to the top decile of the income distribution. In the early years of the income tax, from 1913 to 1916, the exemptions were even higher and we have to restrict the estimates to the top percentile.

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[48] The marital structure data for pre-1970 censuses were taken from *Historical Statistics of the US—Colonial Times to 1970* (US Department of Commerce 1975); the marital structure data for 1980, 1990, 2000, estimated from Census data, are reported in *Statistical Abstract of the US*. Intercensal years were interpolated by assuming that the average size of tax units follows linear intercensal trends. We checked the accuracy of our procedure by computing the total number of individuals represented on tax returns and by dividing this number by total US population, and we found virtually the same pattern for this ratio as for the (total number of tax returns)/(total number of tax units) ratio.

[49] The magnitude of the correction was computed by using IRS tables by filling status. In effect, our 1913–47 top income levels and top shares series were adjusted upwards by about 2.5% in order to correct for this 'married women' bias. We made a similar correction for our wage series.

Total income for the entire population has been computed by using national accounts. We call tax return gross income the gross income definition reported on tax returns less capital gains realizations. Tax return gross income is defined as Adjusted Gross Income (AGI) plus adjustments less capital gains included in AGI. During the post-Second World War period, the ratio between total tax return gross income reported on tax returns and total personal income estimated in national accounts has been trending downward (from about 75–80% in the late 1940s to about 65–70% in the 1990s). This trend is due for the most part to the growth of non-taxable government transfers (non-taxable health care benefits, non-taxable and partially non-taxable social security benefits, etc.) because the ratio between total tax return gross income reported on tax returns and total personal income minus transfers estimated in national accounts has been fairly stable since the late 1940s (around 75–80%).[50] The total income series (excluding capital gains) reported in Table 5A.0 (column (4)) was constructed as follows. For the 1944–2002 period, we have adjusted upwards the total tax return gross income series so as to take into account the fact that a small fraction of tax units did not file tax returns. We have imputed to non-filers a fixed fraction of filers' average income (50% in 1944–45, and 20% thereafter). The resulting series fluctuates between 77% and 83% of total personal income (minus transfers), and is about 2–3% higher than total tax return gross income.[51, 52] For the 1913–43 period, our total income series (excluding capital gains) is equal to exactly 80% of total personal income (minus transfers).[53]

[50] In addition to non-taxable government transfers, non-taxable personal income includes imputed rent; interest and dividends received by pension plans, life insurance carriers and non-profit institutions; non-taxable employer and employee contributions to pension plans, health insurance, day care, etc.; capital and inventory adjustments (NIPA capital consumption is generally smaller than IRS capital consumption, so that NIPA entrepreneurial income is generally larger than IRS entrepreneurial income); etc. See Park (2000) for a detailed description of the differences between NIPA personal income and individual tax return income.

[51] Except in 1944–45, where it is about 11–13% higher (because of the lower fraction of tax units actually filing).

[52] We chose not to take a fixed fraction of 1944–2002 personal income (minus transfers) for the following reason: although our resulting series is about 80% of personal income (minus transfers) all along the 1944–2002 period (with no trend), there exists a number of short-run fluctuations that cannot be fully accounted for by changes in the fraction of tax units actually filing (for instance, tax return gross income grows less than personal income in the mid-1980s, and catches up in the late 1980s).

[53] Official NIPA personal income series start in 1929 (we have used the latest NIPA series released on www.bea.doc.gov), and we have completed the NIPA series by linking it to the 1913–29 personal income series published by Kuznets (1941, 1945). Note that the total income series used by Kuznets (1953) to compute top income shares over the 1913–48 period is higher than ours: his only adjustment to personal income is imputed rent (see Kuznets 1953: 570–7), which seems insufficient to us. For instance, in 1948, Kuznets' total income denominator is equal to current US$202 billion, although total 1948 tax return gross income is equal to current US$161 billion (about 80% of US$202 billion), which seems implausible: this would imply that non-filers have higher average incomes than filers.

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Average income per tax unit (Table 5A.0, column (5)) was computed by dividing our total income series (Table 5A.0, column (4)) by the total number of tax units (Table 5A.0, column (1)). (See also Figures 5A.0 and 5A.1 for further data on average income in the US.)

We have also computed a total income series (including capital gains) (Table 5A.0, column (6)) by adding to column (4) the total, pre-exclusion amount of all capital gains reported on tax returns. For the period 1944–2002, over 80% of tax units file so we assume that non-filers do not realize significant capital gains. For the period 1916 to 1943, as the fraction of filers is smaller, we assume that capital gains realized by the top 10% taxpayers (ranked by net taxable income) represents 90% of all realized capital gains in the US economy. The 90% fraction has been chosen based on 1944, year for which the top 10% realized 89% of all capital gains.[54] This denominator including capital gains differs slightly from the denominator used in the working paper version Piketty and Saez (2001). In the working paper version, we included in the denominator only realized capital gains reported by the top 10% taxpayers (ranked by income including the taxable portion of capital gains). The difference between the two denominators is small because capital gains are extremely concentrated, even today. For example, in 2000, the top 10% taxpayers reported almost 90% of all capital gains. We decided to change our denominator definition because including all capital gains is a more natural definition which does artificially inflates top income shares. Our new series
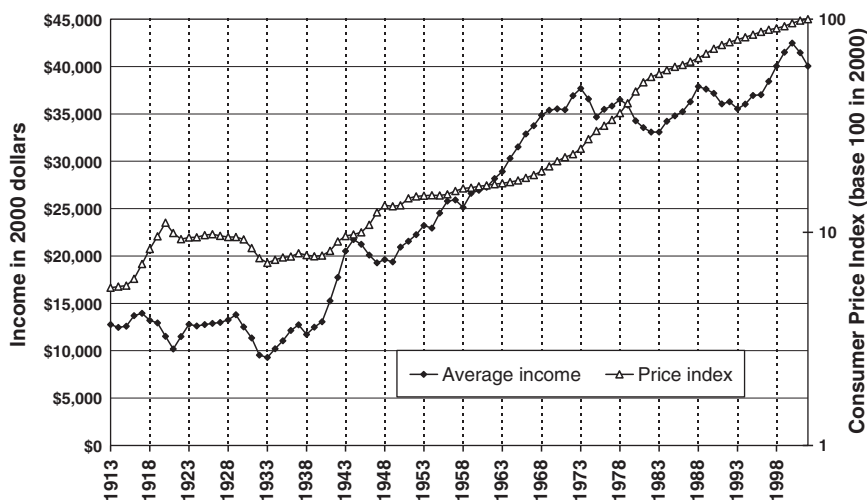
Figure 5A.0 Average real income and consumer price index, US 1913–2002

Source: Table 5A.0, col. average income (in real 2000 dollars) and CPI (base 100 in 2002)

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[54] Note that we have no capital gains estimates for 1913–15 because capital gains are not reported separately in tax statistics for those years.

Table 5A.0 Reference totals for tax units and income, US 1913–2002

	Tax units			Income (excluding capital gains)		Income (including capital gains)		Inflation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	N. tax units	N. tax returns		Total income	Average income	Total income	Average	
Year	(thousands)	(thousands)	(2)/(1)(%)	(millions 2000 $	(2000 $)	(millions 2000 $	income (2000 $)	CPI (p(2000)/p(n))
1913	37,701	358	0.9	480,989	12,758	480,989	12,758	17.4076
1914	38,513	358	0.9	480,268	12,470	480,268	12,470	17.1843
1915	39,154	337	0.9	492,960	12,590	492,960	12,590	17.0141
1916	39,790	437	1.1	544,831	13,693	553,553	13,912	15.8124
1917	40,387	3,473	8.6	563,361	13,949	568,293	14,071	13.4688
1918	40,451	4,425	10.9	534,260	13,208	538,204	13,305	11.4726
1919	41,052	5,333	13.0	530,830	12,931	541,556	13,192	9.9848
1920	41,909	7,260	17.3	483,394	11,534	493,204	11,768	8.6225
1921	42,835	6,662	15.6	436,067	10,180	440,448	10,282	9.6556
1922	43,543	6,787	15.6	500,266	11,489	511,119	11,738	10.3048
1923	44,409	7,698	17.3	567,487	12,779	580,180	13,065	10.1226
1924	45,384	7,370	16.2	572,981	12,625	590,120	13,003	10.1024
1925	46,190	4,171	9.0	589,131	12,754	623,808	13,505	9.8560
1926	46,940	4,138	8.8	604,950	12,888	633,270	13,491	9.7584
1927	47,723	4,102	8.6	619,649	12,984	654,680	13,718	9.9474
1928	48,445	4,071	8.4	641,912	13,250	699,281	14,435	10.0785
1929	49,085	4,044	8.2	678,079	13,814	730,578	14,884	10.0785
1930	49,750	3,708	7.5	622,694	12,516	638,963	12,843	10.3369
1931	50,462	3,226	6.4	573,062	11,356	579,333	11,481	11.3343
1932	51,117	3,877	7.6	488,247	9,551	489,986	9,586	12.6358
1933	51,757	3,724	7.2	481,465	9,302	489,582	9,459	13.3148
1934	52,430	4,094	7.8	535,684	10,217	541,223	10,323	12.8770
1935	53,147	4,575	8.6	587,946	11,063	600,025	11,290	12.5630
1936	53,844	5,413	10.1	653,771	12,142	677,698	12,586	12.4386
1937	54,539	6,350	11.6	694,447	12,733	702,905	12,888	12.0063
1938	55,342	6,204	11.2	648,171	11,712	659,318	11,913	12.2389
1939	56,181	7,633	13.6	701,067	12,479	710,908	12,654	12.4127
1940	57,115	14,665	25.7	746,234	13,065	755,548	13,229	12.2898
1941	57,392	25,855	45.0	876,435	15,271	887,597	15,465	11.7045
1942	57,736	36,538	63.3	1,024,331	17,742	1,032,062	17,875	10.5732

(*contd.*)

Table 5A.0 (*Contd.*)

	Tax units			Income (excluding capital gains)		Income (including capital gains)		Inflation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	N. tax units (thousands)	N. tax returns (thousands)	(2)/(1)(%)	Total income (millions 2000 $	Average income (2000 $)	Total income (millions 2000 $	Average income (2000 $)	CPI (p(2000)/p(n))
1943	58,250	43,602	74.9	1,195,041	20,516	1,212,209	20,811	9.9653
1944	58,656	46,920	80.0	1,274,511	21,728	1,291,884	22,025	9.7987
1945	58,997	49,933	84.6	1,252,872	21,236	1,292,804	21,913	9.5784
1946	59,297	52,817	89.1	1,191,811	20,099	1,246,245	21,017	8.8280
1947	60,118	55,099	91.7	1,159,544	19,288	1,192,865	19,842	7.7168
1948	60,825	52,072	85.6	1,193,880	19,628	1,225,113	20,141	7.1585
1949	61,537	51,814	84.2	1,193,117	19,389	1,215,829	19,758	7.2308
1950	62,446	53,060	85.0	1,306,832	20,927	1,348,169	21,589	7.1592
1951	63,060	55,447	87.9	1,359,720	21,562	1,398,741	22,181	6.6350
1952	63,684	56,528	88.8	1,416,803	22,247	1,448,725	22,749	6.4922
1953	64,273	57,838	90.0	1,492,937	23,228	1,518,893	23,632	6.4407
1954	64,928	56,747	87.4	1,489,846	22,946	1,532,226	23,599	6.4086
1955	65,589	58,250	88.8	1,608,893	24,530	1,669,241	25,450	6.4344
1956	66,257	59,197	89.3	1,709,657	25,803	1,765,867	26,652	6.3393
1957	66,947	59,825	89.4	1,734,734	25,912	1,776,949	26,542	6.1190
1958	67,546	59,085	87.5	1,697,095	25,125	1,748,198	25,882	5.9581
1959	68,144	60,272	88.4	1,813,114	26,607	1,886,603	27,686	5.9108
1960	68,681	61,028	88.9	1,850,218	26,939	1,911,403	27,830	5.8177
1961	69,997	61,499	87.9	1,907,985	27,258	1,995,257	28,505	5.7601
1962	71,254	62,712	88.0	2,008,327	28,185	2,072,856	29,091	5.6975
1963	72,464	63,943	88.2	2,095,244	28,914	2,167,476	29,911	5.6299
1964	73,660	65,376	88.8	2,231,772	30,298	2,320,506	31,503	5.5577
1965	74,772	67,596	90.4	2,356,222	31,512	2,468,342	33,011	5.4648
1966	75,831	70,160	92.5	2,494,332	32,893	2,601,147	34,302	5.3107
1967	76,856	71,652	93.2	2,594,491	33,758	2,736,936	35,611	5.1611
1968	77,826	73,729	94.7	2,713,379	34,865	2,893,175	37,175	4.9530
1969	78,793	75,834	96.2	2,789,058	35,397	2,928,049	37,161	4.6993
1970	79,924	74,280	92.9	2,840,171	35,536	2,921,141	36,549	4.4375
1971	81,849	74,576	91.1	2,900,416	35,436	3,012,203	36,802	4.2505

1972	83,670	77,573	92.7	3,088,464	36,913	3,229,936	38,603	4.1187
1973	85,442	80,693	94.4	3,220,561	37,693	3,351,334	39,224	3.8782
1974	87,228	83,340	95.5	3,190,566	36,577	3,286,127	37,673	3.4939
1975	89,127	82,229	92.3	3,089,082	34,659	3,179,647	35,675	3.2025
1976	91,048	84,670	93.0	3,230,625	35,482	3,343,465	36,722	3.0269
1977	93,076	86,635	93.1	3,335,715	35,839	3,455,478	37,125	2.8422
1978	95,213	89,771	94.3	3,476,330	36,511	3,602,376	37,835	2.6414
1979	97,457	92,694	95.1	3,502,365	35,938	3,673,430	37,693	2.3732
1980	99,625	93,902	94.3	3,412,997	34,258	3,568,200	35,816	2.0910
1981	101,432	95,396	94.0	3,403,601	33,555	3,550,100	35,000	1.8957
1982	103,250	95,337	92.3	3,415,200	33,077	3,569,826	34,574	1.7850
1983	105,067	96,321	91.7	3,476,227	33,086	3,689,704	35,118	1.7297
1984	106,871	99,439	93.0	3,658,188	34,230	3,887,076	36,372	1.6584
1985	108,736	101,660	93.5	3,783,643	34,797	4,059,326	37,332	1.6007
1986	110,684	103,045	93.1	3,901,038	35,245	4,424,003	39,970	1.5709
1987	112,640	106,996	95.0	4,084,958	36,266	4,294,283	38,124	1.5163
1988	114,656	109,708	95.7	4,343,915	37,887	4,570,601	39,864	1.4566
1989	116,759	112,136	96.0	4,392,120	37,617	4,596,001	39,363	1.3899
1990	119,055	113,717	95.5	4,423,995	37,159	4,576,567	38,441	1.3187
1991	120,453	114,730	95.2	4,343,984	36,064	4,471,262	37,120	1.2655
1992	121,944	113,605	93.2	4,424,533	36,283	4,566,536	37,448	1.2287
1993	123,378	114,602	92.9	4,383,859	35,532	4,551,275	36,889	1.1929
1994	124,716	115,943	93.0	4,493,765	36,032	4,655,489	37,329	1.1626
1995	126,023	118,218	93.8	4,655,920	36,945	4,845,250	38,447	1.1310
1996	127,798	120,351	94.2	4,731,676	37,025	5,005,670	39,169	1.0980
1997	129,532	122,422	94.5	4,976,817	38,421	5,357,449	41,360	1.0733
1998	131,720	124,771	94.7	5,274,544	40,044	5,744,141	43,609	1.0564
1999	133,233	127,075	95.4	5,531,113	41,514	6,070,064	45,560	1.0337
2000	134,473	129,374	96.2	5,712,243	42,479	6,326,982	47,050	1.0000
2001	137,088	130,255	95.0	5,684,503	41,466	6,000,676	43,772	0.9723
2002	139,703	130,201	93.2	5,594,026	40,042	5,822,191	41,675	0.9572

Notes: Tax units estimated as sum of married men, divorced and widowed men and women, and single men and women aged 20 and over. Before 1944, total income (excluding capital gains) is defined as 80% of personal income minus transfers from national accounts. From 1944 on, total income is defined as total adjusted gross income less realized capital gains, taxable SS and UI benefits and adding back all adjustments to gross income. Income of non-filers is imputed as 20% of average income (50% in 1944–45). Income including capital gains is defined as total income including 100% of capital gains reported on tax returns (from 1944 on) and assuming that the top 10% taxpayers earn 90% of all realized capital gains (before 1944). Piketty and Saez (2001) included only capital gains going to the top 10% in col. (7). Consumer Price Index (CPI-U) is the official CPI index from *Economic Report of the President*.

Source: Population and tax units estimates based on census and current population surveys (*Historical Statistics of the United States*, and *Statistical Abstract of the United States*).

Income and Wage Inequality
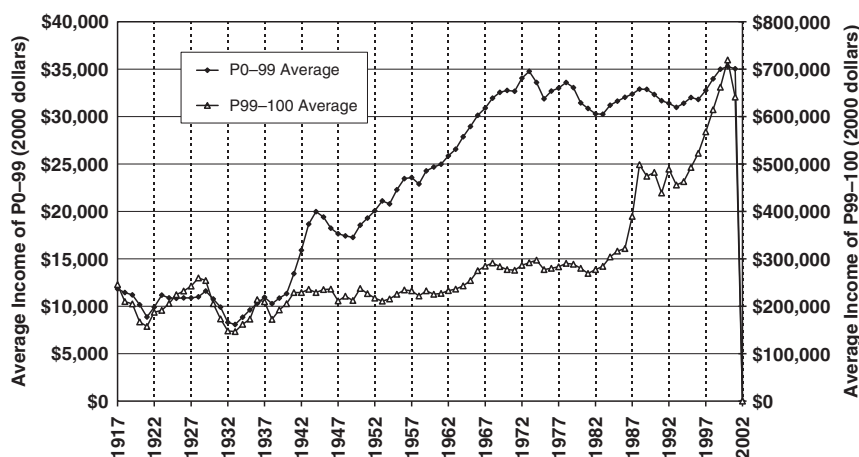
Figure 5A.1 Average real income of bottom 99% and top 1% in US, 1917–2002

Notes: Bottom 99% have stagnated from 1973 to 2000): (1) Income is defined as market income (excluding realized capital gains) and excludes all transfers such as Social Security benefits, unemployment insurance, welfare assistance etc. The importance of transfers has grown overtime. They represent in 2000 about 15% of personal income and aruond 10% in 1973, and only 1–2% before 1930. (2) The unit is the tax unit (such as couple and dependets, or a head of household with dependents, or a single person). The number of invdividuals per tax unit has declined overtime from 2.5 in the 1973 to 2.1 in 2000 but the number of adults (aged 20 +) per tax unit has only declined from 1.6 to 1.5 from 1973 to 2000. A tax unit is smallar than a household (a household is defined as all individuals living in the same unit such as two roommates, etc.) In 2000, there were 134.5 million tax units but only 104.7 million households in the United States. Therefore, average household income is about 28% higher than average tax unit income. (3) All nominal income are deflated using the official Consumer Price Index (CPI-U). It has been recognized that the CPI-U understates inflation and new CPI series (CPI-U-RS) have been created for the period 1967–2002 displaying 15% less infaltion (and hence 15% more real income growth) for the period 1967 to 2002 and about 13% more real growth from 1973 to 2000.

In sum, from 1973 to 2000, the average income of the bottom 99% would have grown by about 40% in real terms insetead of stagnating (as displayed on the figure above) if we had included all transfers (+7% effect), used the CPI-V-RS (+13% effect) and especially defined income per capita (+20% effect). Under those assumptions, the average income of the top 1% would have grown by a factor 3.3 instead of a mere 2.5 (as in figure above).

The finding that top 1% incomes have done so much better than the bottom 99% since 1973 is therefore largely independent of those assumptions above.

Source: Table 5A.4, columns P0-90, P90–95, P95–99, and P99–100.

can also be used to estimate the evolution of capital gains concentration over time. The corresponding average income series is reported in column (7).

Note that all money amounts in current dollars were converted in 2000 dollars by using the CPI series reported on column (8) of Table 5A.0 (this series was used to convert all current dollars series computed in this chapter into 2000 dollars series, so that interested readers can easily compute current dollars series).[55]

We have made no adjustment for changes in the size of tax units. This is unlikely to affect our results in a significant way. The average size of tax units was

[55] This CPI series was constructed by linking the 1913–70 CPI series (all items) published in *Historical Statistics of the US—Colonial Times to 1970* (US Department of Commerce 1975) and the 1970–2002 CPI series (all items) published in the *Economic Report of the President* (US Government Printing Office 2004).

much larger in the 1910s (nearly 2.6) than in the 1990s (less than 2.1),[56] but published IRS tables and IRS micro-files show that this secular decline had approximately the same magnitude for all income brackets. Note that Kuznets (1953) did attempt to make adjustments for tax unit size: Kuznets' 1913–48 top income shares series are based on individuals and not tax units. As the published IRS tables are based on tax units and not individuals, Kuznets divided the total income reported in each income bracket by the total number of individuals represented by all tax returns in that bracket. This process would generate substantial re-ranking, as a tax return of a widow with no dependents reporting US$10,000 would be replaced by an individual with US$10,000 of income while a family of four with US$10,000 of income would be replaced by four identical individuals with US$2,500 of income each. However, Kuznets did not correct for the re-ranking and thus misclassified in the top shares large families with high total income but moderate income per capita. As a result, the shares estimated by
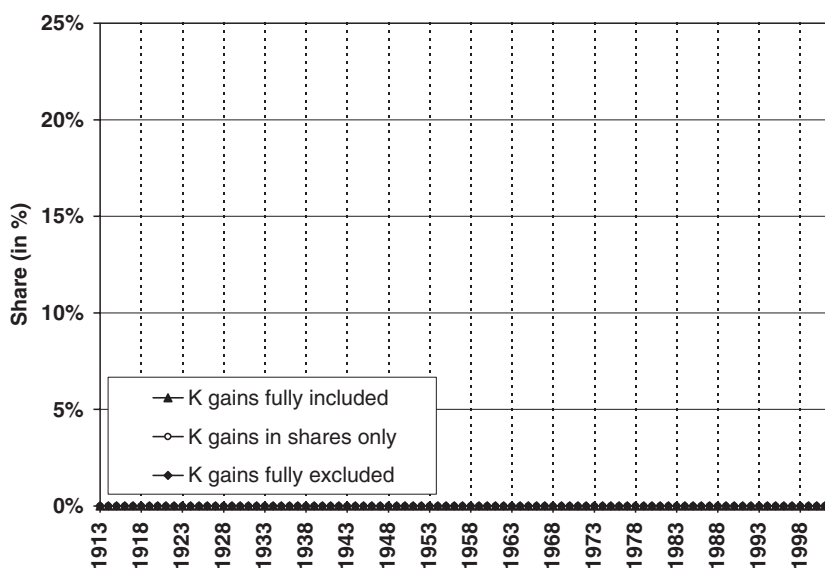
Figure 5A.2 Top 1% income shares in US: the role of capital gains, 1913–2002

Notes: The series K gains fully included are based on income including capital gains (both in ranking and for estimating top shares). The series K gains in shares only are based on ranking by income excluding capital gains but include capital gains in shares. The series K gains fully excluded are based on income excluding capital gains (both in ranking and for estimating top shares)

Sources: Table 5A.1, 5A.2, and 5A.3, column P99–100.

[56] Average tax unit size declined between the 1910s and the 1940s (from 2.6 to 2.3), increased between the 1940s and the 1960s (from 2.3 to 2.6), and declined between the 1960s and the 1990s (from 2.6 to 2.1).

Table 5A.1 Top fractiles income shares (excluding capital gains) US, 1913–2002 (fractiles are defined by total income (excluding capital gains))

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1913			17.96	14.73	8.62	2.76			3.23	6.11	5.86
1914			18.16	15.08	8.60	2.73			3.08	6.48	5.87
1915			17.58	14.58	9.22	4.36			3.00	5.36	4.86
1916			18.57	15.60	9.87	4.40			2.97	5.74	5.46
1917	40.29	30.33	17.60	14.23	8.36	3.33	9.95	12.74	3.37	5.88	5.03
1918	39.90	29.30	15.88	12.39	6.74	2.45	10.61	13.41	3.50	5.64	4.29
1919	39.48	29.31	15.87	12.23	6.45	2.22	10.17	13.44	3.63	5.78	4.23
1920	38.10	27.47	14.46	10.95	5.37	1.67	10.63	13.01	3.51	5.58	3.70
1921	42.86	30.46	15.47	11.60	5.60	1.69	12.40	14.98	3.87	6.00	3.91
1922	42.95	31.05	16.29	12.38	6.17	2.01	11.90	14.76	3.92	6.21	4.16
1923	40.59	28.95	14.99	11.32	5.50	1.75	11.64	13.96	3.67	5.82	3.75
1924	43.26	30.93	16.32	12.42	6.14	2.01	12.34	14.61	3.90	6.28	4.13
1925	44.17	32.47	17.60	13.41	6.75	2.35	11.70	14.86	4.19	6.66	4.41
1926	44.07	32.75	18.01	13.75	7.07	2.54	11.32	14.74	4.26	6.68	4.53
1927	44.67	33.43	18.68	14.33	7.47	2.76	11.23	14.75	4.35	6.86	4.71
1928	46.09	34.77	19.60	15.17	8.19	3.23	11.32	15.17	4.42	6.98	4.97
1929	43.76	33.05	18.42	14.21	7.62	3.01	10.71	14.63	4.20	6.59	4.62
1930	43.07	31.18	16.42	12.42	6.40	2.39	11.89	14.76	4.01	6.02	4.01
1931	44.40	31.01	15.27	11.32	5.68	2.07	13.39	15.74	3.95	5.65	3.60
1932	46.30	32.59	15.48	11.55	5.90	1.93	13.71	17.11	3.93	5.65	3.97
1933	45.03	32.49	15.77	11.78	6.05	2.04	12.54	16.72	3.99	5.72	4.01
1934	45.16	32.99	15.87	11.80	5.82	1.92	12.16	17.13	4.07	5.97	3.90
1935	43.39	30.99	15.63	11.67	5.80	1.95	12.40	15.36	3.96	5.87	3.85
1936	44.77	32.65	17.64	13.37	6.69	2.23	12.12	15.02	4.27	6.68	4.45
1937	43.35	31.38	16.45	12.42	6.16	2.02	11.97	14.93	4.04	6.25	4.15
1938	43.00	30.18	14.73	10.82	5.16	1.67	12.82	15.45	3.91	5.66	3.49
1939	44.57	31.29	15.39	11.37	5.45	1.74	13.28	15.89	4.03	5.91	3.71
1940	44.43	31.29	15.73	11.66	5.57	1.77	13.14	15.55	4.07	6.09	3.80
1941	41.02	29.02	15.01	11.15	5.29	1.63	12.00	14.01	3.86	5.86	3.66
1942	35.49	25.11	12.91	9.60	4.48	1.32	10.39	12.20	3.31	5.12	3.16
1943	32.67	23.02	11.48	8.43	3.78	0.97	9.65	11.54	3.06	4.65	2.81
1944	31.55	21.76	10.54	7.60	3.33	0.92	9.79	11.22	2.94	4.28	2.40

Year											
1945	2.47	4.55	3.20	11.83	9.74	0.84	3.32	7.87	11.07	22.90	32.64
1946	2.52	4.85	3.48	12.90	9.96	0.92	3.43	8.28	11.76	24.66	34.62
1947	2.33	4.47	3.25	12.35	9.72	0.90	3.24	7.71	10.95	23.30	33.02
1948	2.48	4.59	3.24	12.43	10.02	0.95	3.44	8.03	11.27	23.70	33.72
1949	2.38	4.43	3.18	12.52	10.30	0.95	3.34	7.77	10.95	23.46	33.76
1950	2.70	4.60	3.22	12.51	10.00	0.83	3.53	8.14	11.36	23.87	33.87
1951	2.25	4.29	3.11	12.15	10.15	0.87	3.12	7.41	10.52	22.67	32.82
1952	2.01	4.05	2.95	12.09	10.23	0.75	2.76	6.81	9.76	21.85	32.07
1953	1.83	3.76	2.82	11.93	10.37	0.67	2.51	6.26	9.08	21.01	31.38
1954	1.86	3.90	2.92	12.17	10.56	0.71	2.57	6.47	9.39	21.56	32.12
1955	1.77	3.80	2.90	12.20	10.39	0.72	2.49	6.28	9.18	21.38	31.77
1956	1.70	3.76	2.94	12.26	10.46	0.68	2.38	6.14	9.09	21.35	31.81
1957	1.70	3.72	2.90	12.19	10.52	0.66	2.36	6.08	8.98	21.17	31.69
1958	1.65	3.65	2.89	12.43	10.85	0.64	2.29	5.94	8.83	21.26	32.11
1959	1.58	3.71	2.85	12.28	11.01	0.62	2.19	5.90	8.75	21.02	32.03
1960	1.50	3.42	2.84	12.15	11.15	0.60	2.10	5.52	8.36	20.51	31.66
1961	1.47	3.36	2.93	12.57	10.99	0.59	2.05	5.41	8.34	20.91	31.90
1962	1.42	3.42	2.87	12.67	11.10	0.56	1.98	5.40	8.27	20.94	32.04
1963	1.40	3.37	2.83	12.73	11.11	0.57	1.96	5.33	8.16	20.90	32.01
1964	1.44	3.36	2.69	12.60	11.02	0.53	1.97	5.33	8.02	20.62	31.64
1965	1.50	3.38	2.64	12.63	10.82	0.54	2.04	5.42	8.07	20.70	31.52
1966	1.55	3.43	2.78	12.62	10.99	0.60	2.15	5.59	8.37	20.99	31.98
1967	1.56	3.47	2.80	12.65	10.97	0.60	2.16	5.63	8.43	21.07	32.05
1968	1.56	3.43	2.77	12.62	11.01	0.58	2.15	5.58	8.35	20.98	31.98
1969	1.45	3.30	2.71	12.66	11.14	0.55	2.00	5.30	8.02	20.68	31.82
1970	1.41	3.22	2.65	12.58	11.13	0.53	1.94	5.16	7.80	20.39	31.51
1971	1.40	3.21	2.66	12.71	11.26	0.52	1.91	5.12	7.79	20.50	31.75
1972	1.40	3.18	2.66	12.62	11.25	0.52	1.92	5.10	7.75	20.37	31.62
1973	1.39	3.18	2.67	12.83	11.28	0.50	1.89	5.07	7.74	20.57	31.85
1974	1.54	3.30	2.71	12.91	11.32	0.56	2.11	5.41	8.12	21.04	32.36
1975	1.48	3.27	2.70	13.02	11.60	0.56	2.04	5.31	8.01	21.03	32.62
1976	1.46	3.21	2.66	12.96	11.57	0.56	2.02	5.23	7.89	20.85	32.42
1977	1.48	3.21	2.65	12.93	11.60	0.57	2.04	5.25	7.90	20.83	32.43
1978	1.50	3.22	2.65	12.91	11.58	0.58	2.08	5.30	7.95	20.86	32.44
1979	1.54	3.23	2.65	12.80	11.52	0.62	2.16	5.38	8.03	20.83	32.35
1980	1.58	3.28	2.67	12.99	11.70	0.65	2.23	5.51	8.18	21.17	32.87

(contd.)

Table 5A.1 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1981	32.72	20.97	8.03	5.42	2.23	0.66	11.75	12.94	2.60	3.20	1.57
1982	33.22	21.40	8.39	5.73	2.45	0.77	11.82	13.01	2.66	3.28	1.68
1983	33.69	21.79	8.59	5.94	2.61	0.87	11.91	13.19	2.66	3.33	1.74
1984	33.95	22.10	8.89	6.22	2.83	0.98	11.85	13.21	2.67	3.39	1.85
1985	34.25	22.38	9.09	6.39	2.91	0.97	11.87	13.28	2.70	3.48	1.94
1986	34.57	22.59	9.13	6.38	2.87	1.00	11.98	13.46	2.75	3.51	1.87
1987	36.48	24.49	10.75	7.76	3.73	1.30	11.99	13.74	2.98	4.04	2.43
1988	38.63	26.95	13.17	9.96	5.21	1.99	11.68	13.78	3.20	4.75	3.22
1989	38.47	26.66	12.61	9.37	4.74	1.74	11.81	14.05	3.24	4.63	3.00
1990	38.84	27.05	12.98	9.71	4.90	1.83	11.78	14.07	3.27	4.82	3.07
1991	38.38	26.43	12.17	8.90	4.36	1.61	11.95	14.26	3.27	4.54	2.75
1992	39.82	27.88	13.48	10.11	5.21	2.02	11.94	14.40	3.37	4.90	3.20
1993	39.48	27.41	12.82	9.45	4.72	1.74	12.07	14.59	3.37	4.74	2.98
1994	39.60	27.50	12.85	9.45	4.70	1.73	12.09	14.65	3.40	4.74	2.97
1995	40.19	28.11	13.33	9.87	4.94	1.80	12.08	14.77	3.47	4.93	3.14
1996	41.14	29.15	14.10	10.48	5.32	1.97	11.99	15.05	3.62	5.16	3.35
1997	41.70	29.83	14.77	11.12	5.80	2.19	11.87	15.07	3.65	5.31	3.61
1998	42.06	30.31	15.28	11.60	6.19	2.40	11.75	15.04	3.68	5.41	3.79
1999	42.59	30.91	15.85	12.14	6.63	2.63	11.68	15.06	3.71	5.51	4.00
2000	43.91	32.15	16.94	13.10	7.37	3.06	11.76	15.21	3.84	5.73	4.31
2001	42.58	30.61	15.46	11.76	6.31	2.47	11.98	15.15	3.70	5.45	3.84
2002	41.87	29.75	14.67	11.07	5.81	2.25	12.12	15.09	3.60	5.26	3.56

Notes: Taxpayers are ranked by gross income (excluding capital gains and government transfers). Income is defined as market income but excludes capital gains. The Table reports the percentage of total income accruing to each of the top groups. P90–100 denotes to top decile, P90–95 denotes the bottom half of the top decile, etc.

Source: Computations by authors on tax return statistics.

Table 5A.2 Top fractiles (defined excluding capital gains) income shares (including capital gains), US 1913–2002 (fractiles are defined by total income (excluding capital gains))

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1913			17.96	14.73	8.62	2.76			3.23	6.11	5.86
1914			18.16	15.08	8.60	2.73			3.08	6.48	5.87
1915			17.58	14.58	9.22	4.36			3.00	5.36	4.86
1916			18.89	15.93	10.13	4.51			2.95	5.81	5.61
1917	40.43	30.57	17.72	14.32	8.39	3.33	9.87	12.85	3.40	5.93	5.06
1918	40.08	29.48	15.99	12.45	6.74	2.44	10.61	13.49	3.54	5.70	4.30
1919	39.92	29.79	16.15	12.42	6.51	2.22	10.13	13.64	3.74	5.91	4.29
1920	38.69	28.02	14.68	11.04	5.35	1.65	10.66	13.35	3.64	5.69	3.70
1921	43.08	30.72	15.62	11.68	5.61	1.68	12.37	15.10	3.94	6.07	3.93
1922	43.21	31.45	16.65	12.67	6.35	2.09	11.76	14.80	3.98	6.32	4.26
1923	40.98	29.32	15.28	11.57	5.65	1.83	11.65	14.04	3.72	5.91	3.83
1924	43.66	31.39	16.80	12.82	6.38	2.10	12.26	14.59	3.98	6.45	4.28
1925	44.55	33.24	18.62	14.33	7.37	2.63	11.32	14.62	4.29	6.96	4.74
1926	44.35	33.28	18.70	14.40	7.55	2.79	11.07	14.58	4.31	6.85	4.76
1927	44.96	34.02	19.49	15.13	8.08	3.05	10.94	14.53	4.36	7.05	5.04
1928	46.27	35.58	21.09	16.66	9.34	3.73	10.69	14.48	4.43	7.33	5.60
1929	43.97	33.78	19.76	15.55	8.77	3.61	10.20	14.02	4.20	6.78	5.16
1930	43.24	31.46	16.72	12.70	6.64	2.53	11.78	14.75	4.01	6.06	4.11
1931	44.40	31.10	15.39	11.44	5.77	2.13	13.31	15.70	3.95	5.67	3.64
1932	46.36	32.66	15.56	11.64	5.96	1.95	13.70	17.10	3.93	5.68	4.01
1933	45.17	32.76	16.09	12.09	6.29	2.14	12.41	16.67	4.00	5.80	4.15
1934	45.17	33.11	16.00	11.92	5.89	1.93	12.07	17.11	4.08	6.03	3.96
1935	43.54	31.34	15.97	11.97	5.96	1.98	12.20	15.37	3.99	6.01	3.99
1936	45.15	33.22	18.16	13.83	6.92	2.25	11.93	15.06	4.34	6.91	4.66
1937	43.54	31.59	16.67	12.58	6.23	2.03	11.95	14.93	4.08	6.35	4.21
1938	43.13	30.41	15.02	11.08	5.36	1.80	12.72	15.39	3.94	5.73	3.56
1939	44.75	31.53	15.64	11.57	5.56	1.77	13.23	15.89	4.07	6.01	3.78
1940	44.56	31.50	15.95	11.84	5.68	1.82	13.06	15.54	4.11	6.16	3.86
1941	41.17	29.25	15.23	11.34	5.43	1.71	11.92	14.02	3.89	5.91	3.72
1942	35.60	25.28	13.06	9.72	4.57	1.37	10.32	12.22	3.34	5.15	3.20

(*contd.*)

Table 5A.2 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1943	32.98	23.38	11.78	8.67	3.93	1.03	9.60	11.60	3.12	4.73	2.90
1944	31.85	22.12	10.81	7.82	3.46	0.98	9.74	11.31	2.99	4.36	2.48
1945	33.24	23.63	11.61	8.32	3.59	0.95	9.61	12.02	3.30	4.72	2.65
1946	35.28	25.38	12.23	8.67	3.71	1.05	9.89	13.15	3.56	4.96	2.66
1947	33.38	23.73	11.25	7.97	3.44	1.00	9.65	12.48	3.29	4.53	2.44
1948	34.08	24.14	11.57	8.29	3.62	1.03	9.94	12.57	3.29	4.67	2.58
1949	34.00	23.77	11.19	7.98	3.48	1.02	10.23	12.58	3.21	4.50	2.46
1950	34.41	24.41	11.91	8.56	3.82	0.92	10.00	12.50	3.35	4.74	2.90
1951	33.18	23.17	10.98	7.79	3.37	0.97	10.00	12.20	3.19	4.43	2.40
1952	32.35	22.22	10.13	7.13	2.98	0.83	10.13	12.09	3.00	4.14	2.15
1953	31.60	21.31	9.37	6.53	2.69	0.75	10.28	11.94	2.85	3.83	1.95
1954	32.53	22.20	9.92	6.92	2.89	0.83	10.33	12.29	2.99	4.03	2.07
1955	32.52	22.21	9.92	6.92	2.93	0.88	10.31	12.28	3.00	3.99	2.05
1956	32.24	21.92	9.68	6.75	2.79	0.82	10.31	12.24	2.93	3.96	1.97
1957	32.03	21.65	9.42	6.52	2.66	0.77	10.37	12.24	2.90	3.86	1.89
1958	32.46	21.84	9.35	6.45	2.63	0.76	10.62	12.49	2.90	3.82	1.87
1959	32.56	21.95	9.49	6.62	2.66	0.78	10.61	12.45	2.87	3.96	1.88
1960	32.19	21.30	9.01	6.15	2.52	0.76	10.89	12.29	2.86	3.63	1.76
1961	32.56	21.84	9.24	6.32	2.65	0.82	10.73	12.59	2.93	3.66	1.84
1962	32.44	21.56	8.92	6.06	2.44	0.73	10.88	12.64	2.86	3.62	1.71
1963	32.48	21.56	8.86	6.00	2.41	0.73	10.92	12.70	2.87	3.59	1.67
1964	32.73	21.84	9.10	6.16	2.48	0.76	10.89	12.74	2.94	3.68	1.73
1965	32.85	22.00	9.30	6.33	2.62	0.82	10.85	12.70	2.97	3.71	1.80
1966	32.82	22.08	9.42	6.48	2.75	0.83	10.74	12.66	2.94	3.73	1.92
1967	33.39	22.66	9.83	6.81	2.87	0.84	10.73	12.83	3.02	3.94	2.04
1968	33.59	22.86	10.07	7.03	3.00	0.87	10.72	12.79	3.04	4.03	2.13
1969	32.92	22.08	9.40	6.54	2.79	0.87	10.84	12.68	2.86	3.75	1.92
1970	31.91	20.97	8.44	5.71	2.29	0.66	10.94	12.53	2.73	3.42	1.62
1971	32.42	21.39	8.65	5.86	2.38	0.69	11.03	12.73	2.79	3.48	1.69
1972	32.45	21.40	8.70	5.89	2.39	0.72	11.05	12.70	2.81	3.50	1.68
1973	32.27	21.22	8.34	5.59	2.19	0.60	11.05	12.88	2.75	3.40	1.59
1974	32.55	21.40	8.53	5.75	2.31	0.64	11.15	12.87	2.78	3.45	1.67

Year											
1975	32.75	21.33	8.37	5.61	2.23	0.64	11.42	12.96	2.75	3.38	1.59
1976	32.63	21.24	8.33	5.60	2.24	0.65	11.39	12.91	2.72	3.36	1.59
1977	32.69	21.27	8.36	5.63	2.27	0.65	11.42	12.91	2.73	3.37	1.62
1978	32.63	21.23	8.36	5.64	2.28	0.65	11.40	12.87	2.72	3.37	1.63
1979	33.01	21.77	9.00	6.24	2.74	0.90	11.24	12.77	2.76	3.50	1.85
1980	33.54	22.10	9.15	6.36	2.77	0.87	11.44	12.95	2.79	3.59	1.89
1981	33.32	21.82	8.93	6.22	2.72	0.86	11.50	12.89	2.71	3.49	1.86
1982	34.27	22.75	9.76	6.97	3.28	1.13	11.52	12.99	2.79	3.68	2.15
1983	34.98	23.46	10.28	7.41	3.54	1.24	11.53	13.17	2.88	3.87	2.30
1984	35.33	23.84	10.63	7.79	3.87	1.38	11.50	13.21	2.84	3.92	2.48
1985	35.97	24.46	11.09	8.17	4.07	1.42	11.51	13.36	2.92	4.10	2.65
1986	37.86	26.63	13.14	9.99	4.89	1.94	11.23	13.49	3.16	5.09	2.96
1987	37.30	25.57	11.75	8.64	4.25	1.50	11.74	13.82	3.11	4.39	2.74
1988	39.78	28.41	14.65	11.30	6.10	2.39	11.37	13.75	3.35	5.20	3.71
1989	39.34	27.80	13.81	10.44	5.47	2.10	11.55	13.98	3.38	4.97	3.37
1990	39.38	27.81	13.81	10.46	5.40	2.08	11.57	14.00	3.35	5.06	3.32
1991	38.78	26.98	12.72	9.38	4.67	1.72	11.80	14.26	3.34	4.71	2.95
1992	40.31	28.56	14.22	10.78	5.67	2.20	11.75	14.34	3.45	5.11	3.47
1993	40.05	28.22	13.68	10.25	5.27	1.97	11.83	14.54	3.43	4.98	3.30
1994	40.13	28.23	13.65	10.17	5.18	1.93	11.91	14.58	3.47	4.99	3.24
1995	40.94	29.09	14.35	10.76	5.51	2.00	11.85	14.74	3.59	5.25	3.50
1996	42.39	30.72	15.73	11.94	6.30	2.40	11.67	14.99	3.78	5.64	3.90
1997	43.34	31.89	16.82	12.96	7.08	2.66	11.45	15.07	3.86	5.88	4.42
1998	44.01	32.67	17.56	13.63	7.53	2.89	11.34	15.10	3.94	6.10	4.63
1999	44.80	33.52	18.29	14.28	7.96	3.08	11.28	15.23	4.01	6.31	4.88
2000	45.64	34.46	19.36	15.32	8.81	3.58	11.18	15.10	4.04	6.51	5.23
2001	43.91	32.27	17.17	13.32	7.37	2.90	11.63	15.10	3.85	5.95	4.47
2002	43.07	31.19	16.09	12.34	6.66	2.60	11.87	15.10	3.76	5.67	4.07

Notes: Taxpayers are ranked by gross income (excluding capital gains and government transfers).
Income to compute shares is defined as market income and includes capital gains. The Table reports the percentage of total income accruing to each of the top groups. P90–100 denotes to top decile, P90–95 denotes the bottom half of the top decile, etc. Those series differ slightly from Table A2 in Piketty and Saez (2001) because of the difference in the denominator: The denominator we use includes all capital gains while the denominator in Piketty and Saez (2001) included only capital gains going to the top 10%.

Source: Computations by authors on tax return statistics.

Table 5A.3 Top fractiles (defined including capital gains) income shares (including capital gains), US 1913–2002 (fractiles are defined by total income (including capital gains))

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1913			17.96	14.73	8.62	2.76			3.23	6.11	5.86
1914			18.16	15.08	8.60	2.73			3.08	6.48	5.87
1915			17.58	14.58	9.22	4.36			3.00	5.36	4.86
1916			19.31	16.37	10.51	4.78			2.94	5.86	5.73
1917	40.51	30.64	17.74	14.34	8.40	3.37	9.87	12.90	3.39	5.94	5.04
1918	40.11	29.49	15.96	12.43	6.72	2.45	10.61	13.53	3.53	5.71	4.26
1919	40.32	30.17	16.41	12.64	6.63	2.29	10.15	13.76	3.77	6.01	4.34
1920	39.01	28.32	14.83	11.14	5.36	1.66	10.69	13.49	3.69	5.79	3.69
1921	43.18	30.80	15.64	11.70	5.60	1.69	12.38	15.17	3.94	6.10	3.91
1922	43.72	31.94	17.06	13.06	6.64	2.27	11.78	14.89	4.00	6.42	4.36
1923	41.46	29.78	15.64	11.91	5.91	2.00	11.68	14.13	3.73	6.00	3.91
1924	44.41	32.11	17.42	13.40	6.79	2.32	12.29	14.69	4.02	6.61	4.46
1925	46.35	35.01	20.24	15.86	8.52	3.31	11.34	14.77	4.38	7.34	5.21
1926	45.71	34.61	19.91	15.55	8.46	3.36	11.10	14.70	4.36	7.09	5.09
1927	46.67	35.69	21.03	16.60	9.25	3.75	10.98	14.67	4.43	7.34	5.50
1928	49.29	38.56	23.94	19.40	11.54	5.02	10.73	14.62	4.54	7.86	6.52
1929	46.71	36.48	22.35	18.07	10.91	4.99	10.23	14.13	4.29	7.15	5.92
1930	43.87	32.06	17.22	13.20	7.07	2.84	11.80	14.84	4.02	6.13	4.23
1931	44.54	31.23	15.50	11.57	5.89	2.25	13.31	15.73	3.93	5.67	3.64
1932	46.37	32.67	15.56	11.62	5.97	1.99	13.70	17.11	3.93	5.65	3.98
1933	45.60	33.19	16.46	12.46	6.61	2.34	12.42	16.73	4.00	5.86	4.26
1934	45.78	33.71	16.40	12.30	6.13	2.07	12.07	17.32	4.10	6.17	4.06
1935	44.49	32.28	16.68	12.63	6.39	2.19	12.21	15.61	4.04	6.24	4.20
1936	46.59	34.64	19.29	14.86	7.57	2.54	11.96	15.35	4.43	7.29	5.03
1937	44.23	32.27	17.15	13.02	6.49	2.17	11.96	15.12	4.13	6.53	4.32
1938	44.07	31.34	15.75	11.78	5.88	2.19	12.73	15.59	3.98	5.89	3.69
1939	45.52	32.28	16.18	12.06	5.87	1.96	13.24	16.10	4.12	6.19	3.91
1940	45.29	32.22	16.48	12.33	6.01	2.04	13.07	15.74	4.14	6.33	3.96
1941	41.93	29.99	15.79	11.86	5.81	1.98	11.94	14.21	3.92	6.06	3.83
1942	36.13	25.80	13.43	10.07	4.81	1.55	10.32	12.37	3.36	5.26	3.27

1943	33.69	24.08	12.31	9.15	4.26	1.24	9.61	11.77	3.16	4.88	3.03
1944	32.51	22.77	11.28	8.26	3.76	1.16	9.75	11.48	3.02	4.50	2.59
1945	34.42	24.79	12.52	9.14	4.16	1.26	9.63	12.28	3.38	4.98	2.90
1946	36.70	26.77	13.28	9.61	4.39	1.47	9.93	13.49	3.66	5.22	2.92
1947	34.35	24.68	11.96	8.61	3.92	1.30	9.67	12.72	3.34	4.70	2.61
1948	35.01	25.06	12.24	8.90	4.06	1.31	9.96	12.81	3.34	4.85	2.75
1949	34.75	24.51	11.73	8.48	3.83	1.24	10.25	12.78	3.25	4.64	2.59
1950	35.56	25.53	12.82	9.37	4.39	1.22	10.03	12.71	3.45	4.98	3.17
1951	34.22	24.20	11.79	8.53	3.89	1.28	10.02	12.41	3.26	4.64	2.61
1952	33.21	23.07	10.79	7.74	3.43	1.09	10.14	12.28	3.05	4.31	2.34
1953	32.31	22.01	9.90	7.02	3.06	0.97	10.29	12.11	2.88	3.97	2.09
1954	33.64	23.30	10.77	7.71	3.49	1.17	10.34	12.52	3.06	4.22	2.32
1955	33.94	23.60	11.06	7.96	3.71	1.32	10.34	12.54	3.10	4.25	2.40
1956	33.46	23.13	10.67	7.70	3.49	1.20	10.34	12.45	2.97	4.22	2.29
1957	32.99	22.60	10.16	7.23	3.18	1.05	10.38	12.44	2.93	4.05	2.13
1958	33.56	22.93	10.21	7.27	3.22	1.08	10.63	12.72	2.94	4.05	2.14
1959	34.00	23.39	10.65	7.72	3.45	1.19	10.61	12.74	2.93	4.27	2.26
1960	33.48	22.57	10.03	7.13	3.25	1.17	10.90	12.54	2.91	3.88	2.07
1961	34.25	23.50	10.64	7.66	3.65	1.38	10.75	12.86	2.98	4.01	2.27
1962	33.70	22.81	9.95	7.06	3.19	1.16	10.90	12.86	2.89	3.86	2.03
1963	33.78	22.84	9.92	7.00	3.15	1.15	10.94	12.93	2.92	3.85	2.00
1964	34.42	23.50	10.48	7.39	3.37	1.30	10.92	13.02	3.09	4.01	2.07
1965	34.78	23.88	10.89	7.73	3.66	1.49	10.90	12.98	3.17	4.07	2.17
1966	33.67	22.92	10.18	7.22	3.39	1.29	10.75	12.74	2.96	3.83	2.10
1967	34.44	23.70	10.74	7.67	3.68	1.42	10.74	12.96	3.06	4.00	2.26
1968	34.85	24.15	11.21	8.14	4.02	1.61	10.70	12.94	3.07	4.12	2.41
1969	33.93	23.08	10.35	7.45	3.69	1.56	10.85	12.73	2.91	3.75	2.14
1970	32.63	21.66	9.03	6.25	2.78	1.00	10.96	12.64	2.77	3.48	1.78
1971	33.34	22.26	9.40	6.56	2.99	1.11	11.08	12.86	2.84	3.58	1.87
1972	33.59	22.52	9.64	6.78	3.13	1.18	11.07	12.88	2.86	3.65	1.95
1973	33.33	22.21	9.16	6.30	2.76	0.94	11.12	13.05	2.86	3.54	1.82
1974	33.31	22.12	9.12	6.31	2.73	0.88	11.19	13.00	2.82	3.58	1.85
1975	33.43	21.98	8.87	6.07	2.56	0.85	11.45	13.11	2.80	3.50	1.72
1976	33.41	21.97	8.86	6.07	2.59	0.86	11.44	13.11	2.79	3.47	1.73
1977	33.58	22.12	9.03	6.22	2.71	0.92	11.46	13.10	2.81	3.51	1.78
1978	33.49	22.04	8.95	6.16	2.65	0.86	11.45	13.09	2.79	3.51	1.79

(*contd.*)

Table 5A.3 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P90–95 (7)	P95–99 (8)	P99–99.5 (9)	P99.5–99.9 (10)	P99.9–99.99 (11)
1979	34.21	22.93	9.96	7.11	3.44	1.37	11.28	12.97	2.85	3.67	2.07
1980	34.63	23.17	10.02	7.15	3.41	1.28	11.47	13.15	2.87	3.74	2.13
1981	34.54	23.04	10.02	7.23	3.57	1.37	11.51	13.02	2.78	3.67	2.20
1982	35.33	23.83	10.80	7.97	4.18	1.73	11.50	13.04	2.83	3.79	2.44
1983	36.38	24.85	11.56	8.63	4.62	1.88	11.53	13.30	2.92	4.01	2.74
1984	36.74	25.29	11.99	9.04	4.98	2.15	11.45	13.30	2.95	4.06	2.83
1985	37.56	26.12	12.67	9.63	5.32	2.24	11.44	13.45	3.04	4.31	3.08
1986	40.63	29.49	15.92	12.62	7.40	3.34	11.14	13.57	3.30	5.22	4.05
1987	38.25	26.54	12.66	9.45	4.90	1.91	11.71	13.88	3.21	4.55	2.99
1988	40.63	29.29	15.49	12.09	6.80	2.86	11.34	13.80	3.40	5.29	3.94
1989	40.08	28.55	14.49	11.08	6.00	2.45	11.54	14.06	3.41	5.08	3.54
1990	39.98	28.41	14.33	10.94	5.82	2.33	11.57	14.08	3.39	5.12	3.49
1991	39.55	27.72	13.36	9.99	5.12	1.96	11.82	14.36	3.38	4.86	3.17
1992	40.82	29.06	14.67	11.20	6.03	2.46	11.76	14.39	3.47	5.17	3.57
1993	40.68	28.83	14.24	10.78	5.73	2.32	11.85	14.60	3.46	5.05	3.41
1994	40.78	28.89	14.23	10.73	5.70	2.29	11.89	14.66	3.50	5.03	3.41
1995	41.59	29.75	14.98	11.39	6.13	2.43	11.85	14.77	3.59	5.27	3.69
1996	43.19	31.54	16.57	12.82	7.19	3.04	11.65	14.97	3.75	5.63	4.15
1997	44.33	32.90	17.88	14.06	8.13	3.50	11.43	15.02	3.82	5.93	4.62
1998	45.25	33.99	19.03	15.13	8.97	3.91	11.26	14.96	3.89	6.16	5.06
1999	46.32	35.10	19.98	15.99	9.59	4.20	11.23	15.11	4.00	6.39	5.39
2000	47.61	36.61	21.52	17.46	10.88	5.07	11.00	15.08	4.07	6.58	5.80
2001	44.82	33.35	18.22	14.32	8.37	3.70	11.47	15.13	3.90	5.95	4.67
2002	43.67	31.96	16.81	12.99	7.32	3.13	11.71	15.15	3.81	5.68	4.18

Notes: Taxpayers are ranked by gross income including capital gains (excluding government transfers). Income to compute shares is defined as market income and includes capital gains. The Table reports the percentage of total income accruing to each of the top groups. P90–100 denotes to top decile, P90–95 denotes the bottom half of the top decile, etc. Those series differ slightly from Table A2 in Piketty and Saez (2001) because of the difference in the denominator. The denominator we use includes all capital gains while the denominator in Piketty and Saez (2001) included only capital gains going to the top 10%.

Source: Computations by authors on tax return statistics.

Table 5A.4 Top fractiles income levels (excluding capital gains), US 1913–2002 (fractiles are defined by total income (excluding capital gains)) (incomes are expressed in 2000 $)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1913			229,136	375,763	1,099,313	3,514,871				82,509	194,875	830,918			65,620	107,611	340,199	1,430,935
1914			226,433	376,107	1,072,853	3,403,375				76,758	201,921	813,906			60,670	100,774	325,982	1,422,412
1915			221,308	367,086	1,160,746	5,489,423				75,528	168,665	679,759			51,143	97,313	358,638	1,819,678
1916			254,314	427,310	1,350,988	6,031,517				81,318	196,391	830,930			61,351	109,622	411,436	2,253,327
1917	56,197	84,628	245,496	397,107	1,165,846	4,646,110	9,642	27,766	44,411	93,885	204,923	779,150	22,138	30,659	75,688	122,701	425,860	1,942,778
1918	52,703	77,391	209,779	327,164	890,343	3,233,426	9,186	28,015	44,294	92,393	186,370	630,001	23,439	31,315	75,621	117,439	363,036	1,469,057
1919	51,052	75,793	205,175	316,384	834,536	2,870,852	9,054	26,310	43,447	93,965	186,846	608,278	22,180	30,634	76,851	119,524	381,136	1,356,444
1920	43,946	63,369	166,776	252,678	619,561	1,928,130	8,253	24,524	37,517	80,874	160,957	474,164	22,514	27,272	65,965	105,351	301,810	979,440
1921	43,632	62,011	157,516	236,155	570,306	1,719,633	6,746	25,252	38,135	78,877	152,617	442,603	22,085	27,548	64,994	100,286	281,703	901,008
1922	49,344	71,353	187,183	284,382	708,705	2,308,517	7,602	27,334	42,396	89,984	178,301	530,948	23,500	30,534	72,771	113,957	328,103	1,042,358
1923	51,869	73,986	191,567	289,392	703,327	2,238,328	8,790	29,751	44,590	93,742	185,908	532,771	25,251	34,368	75,142	119,098	335,753	1,025,279
1924	54,621	78,093	205,989	313,515	775,194	2,536,010	8,310	31,149	46,119	98,463	198,095	579,548	26,246	35,140	78,947	125,086	355,210	1,170,760
1925	56,332	82,816	224,515	342,164	861,187	2,991,027	8,267	29,849	47,392	106,865	212,409	624,538	26,908	35,107	84,772	133,296	371,004	1,234,448
1926	56,795	84,421	232,127	354,354	910,927	3,271,908	8,367	29,169	47,494	109,901	215,211	648,595	26,231	34,059	88,016	137,074	381,973	1,314,427
1927	57,995	86,817	242,533	372,209	970,267	3,581,252	8,344	29,173	47,889	112,856	222,695	680,158	26,717	34,930	90,013	139,501	391,000	1,461,038
1928	61,075	92,147	259,690	402,145	1,085,422	4,273,879	8,305	30,003	50,261	117,234	231,326	731,149	27,473	36,156	92,635	140,549	398,849	1,663,634
1929	60,450	91,309	254,433	392,693	1,052,917	4,152,319	9,016	29,591	50,528	116,173	227,637	708,540	26,821	35,783	93,212	141,408	375,522	1,497,802
1930	53,913	78,054	205,556	310,840	801,269	2,989,874	8,265	29,771	46,179	100,271	188,233	558,091	26,425	33,794	82,484	123,812	330,914	1,179,656
1931	50,428	70,437	173,419	257,194	644,492	2,355,785	7,331	30,419	44,692	89,643	160,370	454,348	26,121	32,777	74,729	110,152	275,828	972,445
1932	44,224	62,258	147,842	220,620	563,177	1,840,081	5,964	26,190	40,862	75,065	134,980	421,299	17,916	30,599	63,929	91,812	242,064	912,951
1933	41,885	60,440	146,707	219,140	563,212	1,901,983	5,940	23,330	38,874	74,275	133,122	414,460	17,426	28,102	62,184	89,323	233,920	875,641
1934	46,136	67,422	162,128	241,043	595,014	1,963,627	6,510	24,849	43,746	83,212	152,550	442,946	21,113	29,926	69,207	102,300	276,580	941,704
1935	48,004	68,567	172,890	258,213	641,286	2,153,159	7,265	27,441	42,486	87,567	162,445	473,300	23,187	32,904	72,540	106,916	290,011	1,026,737
1936	54,362	79,298	214,150	324,653	811,982	2,712,649	7,788	29,426	45,585	103,648	202,820	600,797	25,038	35,694	84,469	128,939	365,151	1,321,440
1937	55,195	79,910	209,463	316,165	784,504	2,566,386	8,369	30,479	47,522	102,762	199,081	586,517	26,534	35,625	84,458	129,458	362,903	1,238,572
1938	50,363	70,699	172,511	253,364	603,841	1,951,770	7,743	30,027	45,246	91,659	165,744	454,071	25,992	34,524	76,791	112,612	287,396	864,334
1939	55,616	78,083	192,084	283,647	680,206	2,172,855	8,032	33,149	49,583	100,521	184,508	514,356	29,310	38,703	84,011	123,701	322,147	1,060,151
1940	58,045	81,759	205,572	304,721	728,164	2,317,863	8,431	34,332	50,806	106,423	198,860	551,531	32,521	38,311	88,255	134,219	350,361	1,119,860
1941	62,657	88,624	229,185	340,492	807,738	2,487,704	10,508	36,657	53,483	117,879	223,680	621,075	33,642	41,539	96,381	149,724	394,831	1,228,466
1942	62,970	89,089	228,963	340,462	794,303	2,344,902	13,220	36,856	54,120	117,464	227,001	622,015	34,226	41,518	95,294	149,818	395,821	1,214,441
1943	67,025	94,458	235,618	345,851	776,171	1,995,521	15,918	39,592	59,168	125,385	238,271	640,688	34,952	45,285	101,798	160,607	409,838	1,063,653

(contd.)

Table 5A.4 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1944	68,551	94,555	228,989	330,430	722,999	2,007,911	17,130	42,547	60,946	127,548	232,288	580,231	38,163	45,257	104,782	158,588	388,225	1,077,031
1945	69,324	97,276	235,109	334,206	704,797	1,794,265	16,483	41,373	62,818	136,011	241,558	583,745	36,765	44,856	111,865	171,054	385,720	942,331
1946	69,575	99,119	236,412	332,868	689,817	1,841,828	15,160	40,032	64,795	139,956	243,630	561,816	35,841	45,834	115,557	172,562	384,820	933,052
1947	63,682	89,878	211,274	297,319	624,090	1,741,470	14,891	37,486	59,530	125,228	215,626	499,936	33,151	41,805	103,859	153,757	339,895	872,865
1948	66,187	93,021	221,205	315,070	674,642	1,872,216	14,455	39,353	60,975	127,339	225,177	541,578	34,872	45,541	105,841	159,286	362,917	982,569
1949	65,462	90,979	212,230	301,302	646,954	1,850,519	14,269	39,945	60,667	123,159	214,889	513,224	35,458	46,375	102,007	151,059	345,651	949,269
1950	70,883	99,913	237,737	340,503	739,114	1,730,493	15,377	41,854	65,457	134,970	240,850	628,961	38,315	47,664	109,696	169,176	382,547	850,449
1951	70,768	97,764	226,800	319,585	672,119	1,865,510	16,095	43,771	65,506	134,015	231,452	539,520	39,208	48,240	112,813	163,618	364,032	956,134
1952	71,356	97,207	217,097	302,911	613,117	1,659,022	16,791	45,505	67,235	131,282	225,360	496,906	41,885	51,443	111,623	164,547	341,772	854,558
1953	72,891	97,592	210,936	290,952	582,169	1,562,420	17,710	48,189	69,256	130,920	218,147	473,252	43,152	52,916	112,143	161,222	328,227	783,254
1954	73,701	98,946	215,474	296,887	588,872	1,619,721	17,307	48,456	69,815	134,061	223,890	474,334	43,389	52,952	114,157	163,664	330,869	793,588
1955	77,936	104,879	225,196	308,337	610,082	1,767,643	18,596	50,994	74,799	142,055	232,901	481,464	46,348	57,888	119,965	171,144	332,290	816,406
1956	82,070	110,168	234,474	317,071	614,872	1,757,602	19,551	53,973	79,091	151,877	242,621	487,902	48,280	60,403	128,267	174,215	344,427	822,401
1957	82,108	109,698	232,738	315,086	611,297	1,718,166	19,668	54,518	78,938	150,389	241,033	488,312	49,338	61,267	126,950	174,446	349,011	836,867
1958	80,682	106,832	221,944	298,599	576,050	1,614,126	18,952	54,533	78,054	145,288	229,237	460,708	49,353	61,550	123,540	166,936	329,444	790,031
1959	85,231	111,882	232,755	313,983	583,035	1,639,471	20,093	58,581	81,664	151,528	246,720	465,653	52,196	66,041	131,822	185,339	336,636	774,633
1960	85,283	110,513	225,121	297,463	564,770	1,606,587	20,457	60,053	81,861	152,779	230,636	449,013	53,145	60,897	130,664	171,842	322,380	760,141
1961	86,943	113,976	227,266	294,894	559,716	1,600,147	20,626	59,910	85,653	159,638	228,689	444,112	53,493	66,683	134,693	167,999	312,850	744,612
1962	90,316	118,056	233,196	304,353	559,229	1,582,943	21,282	62,577	89,271	162,038	240,635	445,483	56,466	69,202	138,709	180,559	326,335	735,796
1963	92,553	120,832	236,053	308,206	567,744	1,642,330	21,843	64,273	92,027	163,899	243,322	448,346	58,304	72,208	140,356	182,815	331,025	750,780
1964	95,862	124,969	243,016	323,177	596,572	1,609,724	23,014	66,755	95,458	162,856	254,828	484,000	60,834	72,836	141,138	190,541	337,960	723,597
1965	99,320	130,459	254,146	341,710	641,959	1,694,924	23,978	68,181	99,537	166,582	266,648	524,962	62,588	76,540	143,784	199,261	347,474	729,812
1966	105,198	138,099	275,257	367,448	708,577	1,983,286	24,859	72,296	103,810	183,066	282,165	566,943	65,302	80,616	156,320	215,278	388,463	901,232
1967	108,180	142,276	284,422	380,067	729,172	2,013,564	25,489	74,084	106,739	188,776	292,791	586,461	66,464	82,344	161,554	220,447	397,851	926,701
1968	111,507	146,267	291,189	388,989	748,008	2,027,641	26,349	76,747	110,037	193,389	299,234	605,827	69,149	85,095	166,653	222,221	409,986	897,699
1969	112,637	146,403	283,795	375,464	708,356	1,936,693	26,815	78,871	112,056	192,126	292,242	571,874	71,189	88,067	165,256	223,220	386,676	823,209
1970	111,987	144,899	277,317	366,451	688,605	1,866,840	27,041	79,074	111,795	188,182	285,913	557,690	71,352	88,771	162,919	220,267	394,825	885,756
1971	112,523	145,260	275,908	363,076	678,395	1,835,753	26,871	79,787	112,598	188,740	284,246	549,800	71,796	89,440	164,494	218,164	384,949	850,452
1972	116,730	150,377	286,225	376,433	707,106	1,921,141	28,044	83,083	116,415	196,017	293,765	572,213	75,074	92,513	170,935	226,166	399,314	879,542
1973	120,066	155,074	291,819	382,247	711,023	1,866,633	28,540	85,058	120,888	201,392	300,053	582,622	76,472	95,408	176,515	231,870	412,007	941,876
1974	118,363	153,893	297,141	395,705	770,643	2,059,178	27,490	82,834	118,080	198,577	301,970	627,472	74,726	95,148	173,514	230,550	452,041	1,084,508
1975	113,062	145,743	277,477	367,973	706,365	1,939,902	25,948	80,381	112,810	186,981	283,375	569,305	72,381	90,350	163,281	217,724	405,028	971,625
1976	115,026	147,933	279,928	371,201	716,457	1,993,880	26,644	82,119	114,934	188,656	284,887	574,521	74,006	92,112	164,832	218,316	406,247	993,887
1977	116,242	149,328	283,098	376,426	731,688	2,029,207	26,905	83,156	115,885	189,770	287,610	587,519	74,816	93,310	165,621	219,708	411,622	995,550

1978	118,443	152,340	290,359	387,171	759,157	2,119,679	27,408	84,547	117,835	193,547	294,175	607,988	76,053	94,588	169,213	224,190	426,111	1,080,089
1979	116,242	149,715	288,665	387,043	775,484	2,211,325	27,015	82,769	114,978	190,287	289,933	615,946	74,663	92,580	165,014	220,046	417,859	1,000,177
1980	112,592	145,047	280,121	377,266	764,353	2,243,291	25,555	80,137	111,278	182,977	280,494	600,027	72,337	89,561	159,550	211,339	407,446	1,073,110
1981	109,784	140,725	269,318	363,944	746,722	2,201,109	25,086	78,844	108,577	174,693	268,250	585,124	71,071	88,316	152,839	199,979	393,534	1,038,057
1982	109,875	141,540	277,513	379,191	810,478	2,562,559	24,544	78,209	107,547	175,835	271,369	615,803	70,568	86,910	152,699	199,288	396,572	1,156,024
1983	111,471	144,164	284,303	392,828	863,050	2,883,399	24,376	78,777	109,129	175,778	275,273	638,567	70,976	87,729	152,581	200,027	400,455	1,281,305
1984	116,201	151,274	304,179	425,592	968,648	3,357,544	25,122	81,128	113,048	182,767	289,828	703,215	72,799	90,755	158,720	208,356	426,435	1,464,608
1985	119,184	155,730	316,460	445,045	1,012,869	3,376,919	25,420	82,639	115,548	187,874	303,089	750,197	73,881	92,421	163,609	212,480	466,297	1,474,672
1986	121,837	159,226	321,762	449,732	1,010,667	3,513,740	25,624	84,447	118,592	193,792	309,498	732,548	75,332	93,779	165,738	215,503	413,283	1,446,071
1987	132,307	177,624	389,719	563,004	1,351,289	4,718,208	25,594	86,991	124,600	216,435	365,932	977,187	77,183	96,546	183,174	253,797	583,952	1,995,591
1988	146,343	204,197	498,794	754,884	1,975,094	7,540,601	25,836	88,489	130,548	242,704	449,831	1,356,704	78,167	99,541	201,118	292,472	760,032	2,990,710
1989	144,715	200,599	474,405	705,082	1,782,874	6,547,060	25,717	88,831	132,148	243,727	435,634	1,253,520	78,206	100,903	202,677	294,367	726,568	2,634,026
1990	144,315	201,061	482,388	721,904	1,820,223	6,784,079	25,253	87,569	130,729	242,872	447,325	1,268,683	77,162	99,591	201,580	297,867	741,897	2,779,977
1991	138,416	190,630	438,800	641,998	1,571,340	5,798,855	24,691	86,201	128,588	235,603	409,662	1,101,616	76,571	99,785	195,893	282,697	661,106	2,518,315
1992	144,472	202,320	489,090	733,778	1,891,764	7,317,678	24,262	86,625	130,627	244,402	444,281	1,288,884	76,215	98,895	202,907	300,790	744,084	2,998,135
1993	140,286	194,797	455,562	671,691	1,675,601	6,173,997	23,892	85,774	129,606	239,434	420,713	1,175,780	75,625	97,891	202,010	285,984	685,509	2,518,817
1994	142,676	198,198	463,088	680,867	1,695,219	6,241,652	24,183	87,153	131,975	245,309	427,279	1,190,060	76,477	99,872	206,507	292,539	696,932	2,591,735
1995	148,483	207,678	492,645	729,004	1,824,680	6,658,985	24,552	89,288	136,436	256,286	455,085	1,287,535	78,043	102,274	213,522	306,873	734,783	2,864,031
1996	152,456	216,066	522,516	776,977	1,972,879	7,314,462	24,214	88,847	139,453	268,055	478,002	1,379,369	77,137	104,412	225,096	330,718	827,931	3,335,778
1997	160,446	229,572	567,998	855,386	2,232,665	8,443,807	24,888	91,318	144,966	280,610	511,066	1,542,538	79,481	107,270	234,125	347,216	909,273	3,784,581
1998	169,153	243,830	614,527	932,992	2,491,037	9,664,282	25,781	94,477	151,156	296,061	543,481	1,694,009	81,980	111,576	247,662	367,829	968,584	4,299,189
1999	177,799	258,069	661,857	1,013,732	2,766,792	10,973,158	26,483	97,527	157,123	309,980	575,467	1,854,974	84,381	115,473	258,610	385,486	1,045,718	4,764,927
2000	186,525	273,121	719,642	1,112,934	3,130,905	12,984,220	26,474	99,930	161,490	326,358	608,445	2,036,067	86,855	119,567	276,476	395,987	1,128,348	5,318,430
2001	176,566	253,816	641,006	975,304	2,616,972	10,240,364	26,455	99,315	157,019	306,713	564,889	1,769,898	86,552	118,096	260,685	376,326	1,016,167	4,293,265
2002	167,661	238,267	587,339	886,198	2,326,405	8,995,161	25,862	97,056	150,998	288,479	526,146	1,585,453	84,550	114,341	245,807	355,883	925,821	3,834,838

Table 5A.5 Top fractiles (defined excluding capital gains) income levels (including capital gains), US 1913–2002 (fractiles are defined by total income (excluding capital gains)) (incomes are expressed in 2000 $)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1913			229,136	375,763	1,099,313	3,514,871				82,509	194,875	830,918			65,620	107,611	340,199	1,430,935
1914			226,433	376,107	1,072,853	3,403,375				76,758	201,921	813,906			60,670	100,774	325,982	1,422,412
1915			221,308	367,086	1,160,746	5,489,423				75,528	168,665	679,759			51,143	97,313	358,638	1,819,678
1916			262,786	443,365	1,408,801	6,280,941				82,207	202,006	867,452			62,021	112,757	429,520	2,346,510
1917	56,895	86,025	249,334	402,963	1,180,335	4,682,948	9,690	27,766	45,198	95,706	208,619	791,156	22,138	31,203	77,156	124,915	432,422	1,958,182
1918	53,328	78,435	212,704	331,243	897,387	3,246,678	9,217	28,220	44,867	94,166	189,707	636,355	23,610	31,720	77,072	119,542	366,697	1,475,077
1919	52,668	78,609	213,105	327,650	858,958	2,930,300	9,142	26,728	44,985	98,559	194,824	628,809	22,531	31,718	80,608	124,628	394,000	1,384,532
1920	45,528	65,958	172,733	259,853	629,111	1,940,072	8,318	25,097	39,265	85,613	167,539	483,449	23,041	28,542	69,830	109,659	307,719	985,506
1921	44,301	63,169	160,582	240,218	577,044	1,726,455	6,777	25,433	38,816	80,945	156,011	449,332	22,243	28,040	66,698	102,517	285,986	904,582
1922	50,722	73,829	195,425	297,466	745,203	2,451,870	7,704	27,616	43,430	93,384	185,532	555,573	23,742	31,279	75,520	118,579	343,320	1,107,086
1923	53,535	76,618	199,690	302,267	738,738	2,385,736	8,898	30,452	45,850	97,114	193,149	555,738	25,846	35,339	77,844	123,737	350,226	1,092,800
1924	56,765	81,640	218,505	333,516	829,498	2,728,054	8,458	31,891	47,423	103,494	209,520	618,548	26,871	36,134	82,981	132,300	379,113	1,259,418
1925	60,171	89,779	251,458	387,140	995,396	3,552,963	8,610	30,563	49,359	115,775	235,076	711,222	27,552	36,565	91,840	147,521	422,499	1,466,369
1926	59,831	89,798	252,291	388,414	1,018,187	3,757,620	8,648	29,864	49,175	116,168	230,971	713,806	26,856	35,265	93,035	147,112	420,377	1,509,552
1927	61,682	93,340	267,435	415,119	1,108,836	4,179,841	8,687	30,024	49,816	119,752	241,689	767,613	27,496	36,337	95,513	151,400	441,275	1,705,243
1928	66,785	102,703	304,441	481,024	1,347,623	5,388,947	8,884	30,866	52,269	127,859	264,374	898,588	28,264	37,600	101,031	160,629	490,188	2,097,681
1929	65,450	100,543	294,042	463,021	1,305,723	5,372,428	9,557	30,357	52,168	125,063	252,345	853,867	27,516	36,944	100,344	156,757	452,545	1,937,914
1930	55,541	80,820	214,683	326,296	853,204	3,250,099	8,419	30,262	47,355	103,070	194,569	586,882	26,861	34,654	84,787	127,980	347,986	1,282,328
1931	50,975	71,398	176,743	262,752	662,523	2,447,354	7,397	30,552	45,062	90,735	162,809	464,209	26,236	33,049	75,639	111,827	281,815	1,010,244
1932	44,439	62,618	149,177	223,056	570,909	1,867,562	5,975	26,260	40,978	75,298	136,092	426,837	17,965	30,686	64,127	92,568	245,246	926,586
1933	42,726	61,980	152,222	228,722	594,944	2,027,035	6,008	23,472	39,419	75,723	137,167	435,823	17,532	28,496	63,396	92,037	245,977	933,213
1934	46,632	68,352	165,176	246,107	608,301	1,996,360	6,563	24,912	44,146	84,244	155,559	454,072	21,166	30,200	70,066	104,317	283,528	957,402
1935	49,162	70,768	180,273	270,387	673,349	2,230,319	7,370	27,555	43,392	90,160	169,646	500,353	23,284	33,606	74,688	111,655	306,587	1,063,531
1936	56,825	83,623	228,613	348,071	870,492	2,836,955	7,970	30,027	47,375	109,154	217,466	651,996	25,549	37,096	88,956	138,250	396,268	1,381,995
1937	56,118	81,437	214,823	324,377	803,412	2,610,920	8,425	30,800	48,091	105,270	204,618	602,578	26,813	36,051	86,520	133,059	372,841	1,260,064
1938	51,377	72,453	178,959	264,054	638,040	2,139,428	7,837	30,301	45,827	93,864	170,557	471,219	26,229	34,968	78,638	115,881	298,250	947,438
1939	56,631	79,792	197,895	292,688	703,164	2,244,365	8,099	33,470	50,267	103,103	190,069	531,920	29,594	39,237	86,168	127,430	333,148	1,095,041
1940	58,943	83,328	211,029	313,371	751,332	2,411,151	8,498	34,557	51,403	108,688	203,881	566,908	32,734	38,761	90,133	137,608	360,129	1,164,932
1941	63,674	90,468	235,526	350,735	839,401	2,638,071	10,596	36,832	54,203	120,317	228,568	639,548	33,803	42,098	98,374	152,996	406,575	1,302,719

1942	63,645	90,387	233,432	347,491	816,147	2,443,503	13,283	36,906	54,625	119,373	230,327	635,330	34,273	41,905	96,843	152,013	404,294	1,265,508
1943	68,633	97,318	245,192	360,655	818,068	2,147,117	16,042	39,947	60,350	129,730	246,302	670,396	35,266	46,189	105,325	166,020	428,842	1,144,457
1944	70,159	97,421	238,003	344,515	761,831	2,153,564	17,250	42,898	62,275	131,491	240,186	607,194	38,477	46,244	108,021	163,980	406,266	1,155,159
1945	72,838	103,559	254,423	364,421	787,418	2,074,565	16,731	42,116	65,844	144,426	258,672	644,402	37,425	47,017	118,785	183,173	425,799	1,089,541
1946	74,144	106,703	257,136	364,459	780,605	2,210,569	15,452	41,584	69,094	149,813	260,422	621,720	37,232	48,875	123,696	184,456	425,852	1,119,854
1947	66,231	94,177	223,300	316,211	682,534	1,981,598	15,068	38,284	61,897	130,388	224,630	538,193	33,856	43,467	108,139	160,178	365,905	993,223
1948	68,650	97,261	233,120	333,792	728,884	2,082,649	14,624	40,039	63,297	132,448	235,019	578,465	35,480	47,275	110,088	166,247	387,636	1,093,008
1949	67,182	93,931	221,142	315,417	688,036	2,013,332	14,395	40,432	62,128	126,868	222,262	540,781	35,890	47,492	105,078	156,243	364,211	1,032,788
1950	74,280	105,397	257,205	369,655	824,214	1,989,191	15,603	43,163	67,445	144,756	256,015	694,772	39,513	49,112	117,649	179,828	422,575	977,586
1951	73,587	102,805	243,521	345,663	746,698	2,145,234	16,312	44,369	67,627	141,378	245,404	591,305	39,744	49,802	119,012	173,481	398,973	1,099,502
1952	73,594	101,106	230,506	324,348	678,895	1,891,628	16,968	46,081	68,756	136,665	235,711	544,147	42,416	52,607	116,200	172,105	374,264	974,373
1953	74,665	104,724	221,513	308,479	636,377	1,766,505	17,856	48,606	70,526	134,548	226,505	510,808	43,526	53,886	115,250	167,398	354,274	885,563
1954	76,774	104,788	233,986	326,632	683,006	1,955,530	17,555	48,761	72,488	141,339	237,539	541,615	43,662	54,980	120,355	173,641	377,801	958,119
1955	82,753	113,031	252,560	352,224	746,255	2,243,984	18,954	52,474	78,149	152,895	253,716	579,841	47,694	60,480	129,120	186,439	400,187	1,036,409
1956	85,916	116,854	258,073	359,839	743,150	2,186,056	19,869	54,979	81,549	156,307	264,011	582,828	49,180	62,281	132,008	189,574	411,439	1,022,878
1957	85,004	114,945	249,968	345,867	705,712	2,032,352	19,898	55,063	81,190	154,069	255,906	558,307	49,832	63,015	130,056	185,210	399,039	989,898
1958	84,021	113,045	241,999	333,973	680,360	1,964,980	19,215	54,998	80,806	150,024	247,377	537,624	49,774	63,720	127,567	180,146	384,445	961,756
1959	90,134	121,517	262,825	366,559	736,362	2,145,675	20,473	58,751	86,190	159,091	274,108	579,771	52,348	69,701	138,401	205,914	419,136	1,013,809
1960	89,574	118,535	250,766	342,500	701,916	2,112,445	20,773	60,612	85,478	159,032	252,647	545,190	53,640	63,588	136,012	188,241	391,433	999,483
1961	92,823	124,481	263,510	360,035	756,007	2,327,714	21,085	61,165	89,723	166,986	261,042	581,373	54,614	69,852	140,892	191,765	409,541	1,083,179
1962	94,361	125,415	259,427	352,368	709,442	2,131,880	21,605	63,308	91,912	166,485	263,099	551,394	57,125	71,250	142,516	197,415	403,919	990,957
1963	97,159	128,985	265,033	358,674	719,554	2,187,492	22,187	65,333	94,974	171,392	263,454	556,450	59,265	74,520	146,773	201,698	410,841	999,998
1964	103,115	137,620	286,795	388,281	782,627	2,387,216	23,374	68,609	100,327	185,309	289,695	604,339	62,523	76,551	160,596	216,612	421,989	1,073,092
1965	108,435	145,255	307,132	417,929	864,793	2,710,798	24,445	71,614	104,786	196,335	306,213	659,681	65,739	80,576	169,465	228,828	436,645	1,167,233
1966	112,573	151,491	323,161	444,652	943,508	2,863,106	25,207	73,655	108,574	201,671	319,938	730,220	66,530	84,316	172,207	244,097	500,338	1,301,034
1967	118,903	161,401	350,115	485,353	1,023,385	2,985,831	25,938	76,406	114,222	214,877	350,845	805,335	68,547	88,117	183,890	264,157	546,333	1,374,167
1968	124,859	169,991	374,392	522,979	1,115,264	3,238,804	26,913	79,727	118,890	225,804	374,908	879,315	71,834	91,942	194,586	278,419	595,065	1,433,918
1969	122,328	164,123	349,332	485,940	1,035,337	3,224,924	27,265	80,534	117,820	212,724	348,591	792,050	72,689	92,598	182,974	266,261	535,549	1,370,784
1970	116,622	153,298	308,397	417,105	835,803	2,430,007	27,352	79,946	114,523	199,689	312,430	658,670	72,138	90,937	172,881	240,696	466,315	1,152,961
1971	119,310	157,403	318,454	431,555	875,425	2,550,252	27,267	81,217	117,141	205,354	320,587	689,333	73,082	93,049	178,974	246,057	482,645	1,181,460
1972	125,265	165,228	335,883	454,907	924,122	2,768,467	28,576	85,302	122,564	216,858	337,603	719,195	77,079	97,399	189,108	259,916	501,884	1,267,467
1973	126,587	166,466	327,157	438,208	858,315	2,346,731	29,044	86,707	126,293	216,107	333,181	692,935	77,955	99,673	189,413	257,471	490,017	1,184,127
1974	122,623	161,244	321,314	433,425	868,973	2,398,643	27,818	84,003	121,226	209,203	324,538	699,009	75,782	97,683	182,799	247,780	503,577	1,263,295
1975	116,836	152,159	298,475	400,436	795,491	2,294,180	26,244	81,513	115,580	196,514	301,672	628,970	73,400	92,569	171,606	231,782	447,476	1,149,070
1976	119,839	155,998	305,741	411,497	823,771	2,391,699	26,980	83,681	118,562	199,985	308,428	649,557	75,413	95,020	174,731	236,356	459,305	1,192,187

(contd.)

Table 5A.5 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1977	121,357	157,933	310,508	418,376	841,544	2,403,200	27,318	84,780	119,789	202,640	312,585	668,026	76,277	96,453	176,853	238,787	468,026	1,179,034
1978	123,457	160,631	316,292	427,097	861,066	2,449,179	27,797	86,283	121,716	205,487	318,604	684,609	77,615	97,703	179,652	242,808	479,812	1,247,986
1979	124,429	164,099	339,086	470,443	1,034,589	3,387,913	27,532	84,760	120,352	207,729	329,407	773,108	76,459	96,907	180,140	250,004	524,479	1,532,344
1980	120,141	158,320	327,843	455,823	991,654	3,130,942	25,951	81,962	115,940	199,863	321,865	753,955	73,984	93,313	174,274	242,509	511,971	1,497,730
1981	116,629	152,759	312,583	435,165	952,798	3,005,874	25,522	80,498	112,803	190,002	305,757	724,679	72,562	91,754	166,233	227,940	487,394	1,417,589
1982	118,494	157,328	337,350	481,632	1,134,852	3,917,846	24,900	79,660	112,323	193,068	318,327	825,631	71,877	90,770	167,665	233,773	531,700	1,767,423
1983	122,848	164,737	361,088	520,204	1,243,658	4,369,283	24,840	80,958	115,650	201,972	339,340	896,367	72,941	92,970	175,319	246,582	562,126	1,941,592
1984	128,514	173,391	386,610	566,365	1,406,602	5,036,777	25,619	83,637	120,086	206,854	356,306	1,003,249	75,051	96,406	179,638	256,147	608,378	2,197,114
1985	134,286	182,603	414,137	610,274	1,519,764	5,305,168	25,996	85,968	124,720	218,000	382,901	1,099,164	76,857	99,758	189,844	268,432	683,204	2,316,722
1986	151,341	212,872	525,308	798,253	1,955,294	7,737,890	26,740	89,809	134,763	252,363	508,993	1,312,783	80,115	106,566	215,830	354,412	740,636	3,184,510
1987	142,220	194,938	447,960	658,457	1,618,437	5,733,615	26,224	89,502	131,682	237,463	418,462	1,161,195	79,410	102,034	200,970	290,230	693,913	2,425,063
1988	158,574	226,475	584,131	900,815	2,431,659	9,521,255	26,432	90,673	137,061	267,448	518,104	1,643,926	80,097	104,507	221,622	336,861	920,934	3,776,266
1989	154,866	218,821	543,733	821,574	2,153,283	8,260,655	26,249	90,911	137,593	265,891	488,647	1,474,686	80,038	105,060	221,107	330,188	854,762	3,323,443
1990	151,379	213,819	530,859	804,110	2,075,261	7,996,387	25,674	88,939	134,559	257,608	486,322	1,417,358	78,369	102,508	213,810	323,835	828,838	3,276,756
1991	143,951	200,288	472,063	696,296	1,732,134	6,370,799	25,125	87,615	132,344	247,830	437,337	1,216,727	77,827	102,700	206,059	301,795	730,188	2,766,697
1992	150,967	213,915	532,672	807,265	2,122,134	8,235,400	24,626	88,020	134,226	258,079	478,547	1,442,883	77,442	101,619	214,262	323,989	832,989	3,374,136
1993	147,749	208,209	504,799	756,192	1,944,380	7,260,930	24,311	87,289	134,062	253,406	459,145	1,353,653	76,961	101,257	213,798	312,109	789,214	2,962,255
1994	149,810	210,736	509,356	759,299	1,932,148	7,213,916	24,607	88,884	136,082	259,413	466,087	1,345,285	77,996	102,980	218,379	319,109	787,836	2,995,451
1995	157,412	223,689	551,805	827,281	2,116,761	7,702,273	24,999	91,134	141,660	276,328	504,911	1,496,149	79,657	106,189	230,220	340,472	853,836	3,312,749
1996	166,032	240,637	615,949	935,674	2,468,155	9,387,860	24,747	91,435	146,800	296,225	552,553	1,529,369	79,342	108,649	242,587	373,377	987,042	4,193,838
1997	179,255	263,814	695,737	1,072,268	2,927,347	10,993,941	25,566	94,696	155,823	319,205	608,396	1,827,953	82,355	113,160	258,602	403,599	1,135,882	4,951,048
1998	191,922	284,932	765,980	1,188,385	3,282,773	12,619,715	26,670	98,921	164,680	343,575	664,680	2,020,368	85,646	118,869	277,803	437,293	1,229,557	5,644,573
1999	204,106	305,439	833,140	1,300,810	3,627,442	14,031,014	27,589	102,755	173,525	365,288	719,152	2,472,768	88,944	124,559	294,948	467,738	1,349,227	6,220,532
2000	214,745	324,311	910,985	1,441,728	4,145,448	16,848,012	27,875	105,179	177,642	380,246	765,803	2,734,013	91,417	128,686	313,128	479,886	1,467,650	6,901,066
2001	192,183	282,513	751,604	1,166,531	3,227,309	12,700,382	26,884	101,852	165,241	336,679	651,338	2,174,710	88,763	122,696	280,245	423,505	1,210,132	5,324,626
2002	179,479	259,994	670,767	1,028,267	2,777,336	10,821,981	25,925	98,964	157,301	313,266	590,999	1,883,509	86,211	117,851	261,498	393,105	1,069,905	4,613,653

Table 5A.6 Top fractiles (defined including capital gains) income levels (including capital gains), US 1913–2002 (fractiles are defined by total income (including capital gains)) (incomes are expressed in 2000 $)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1913			229,136	375,763	1,099,313	3,514,871				82,509	194,875	830,918			65,620	107,611	340,199	1,430,935
1914			226,433	376,107	1,072,853	3,403,375				76,758	201,921	813,906			60,670	100,774	325,982	1,422,412
1915			221,308	367,086	1,160,746	5,489,423				75,528	168,665	679,759			51,143	97,313	358,638	1,819,678
1916			268,648	455,526	1,462,782	6,651,574				81,770	203,712	886,250			61,691	113,709	438,828	2,484,976
1917	56,999	86,233	249,583	403,634	1,182,195	4,735,238	9,678	27,766	45,395	95,531	208,994	787,413	22,138	31,339	77,015	125,139	430,377	1,980,047
1918	53,363	78,482	212,369	330,751	893,633	3,265,367	9,213	28,243	45,011	93,986	190,031	630,107	23,629	31,821	76,924	119,746	363,097	1,483,568
1919	53,184	79,593	216,488	333,444	874,581	3,016,350	9,085	26,774	45,370	99,532	198,160	636,606	22,571	31,989	81,404	126,762	398,886	1,425,190
1920	45,914	66,666	174,524	262,272	630,462	1,956,974	8,275	25,161	39,701	86,776	170,224	483,072	23,099	28,860	70,779	111,417	307,480	994,092
1921	44,400	63,348	160,795	240,569	576,014	1,736,074	6,765	25,453	38,986	81,021	156,707	447,118	22,260	28,163	66,760	102,974	284,577	909,622
1922	51,321	74,996	200,227	306,552	778,887	2,669,472	7,638	27,647	43,688	93,902	188,468	568,822	23,769	31,465	75,939	120,455	351,507	1,205,339
1923	54,167	77,805	204,363	311,143	771,649	2,610,263	8,828	30,530	46,165	97,583	196,016	567,358	25,912	35,581	78,221	125,574	357,549	1,195,646
1924	57,741	83,509	226,547	348,489	882,495	3,023,058	8,350	31,973	47,749	104,605	214,987	644,654	26,941	36,382	83,871	135,752	395,114	1,395,608
1925	62,602	94,562	273,407	428,404	1,151,173	4,471,377	8,340	30,642	49,851	118,410	247,711	782,261	27,623	36,929	93,930	155,450	464,699	1,845,415
1926	61,668	93,395	268,594	419,511	1,141,208	4,538,410	8,444	29,941	49,596	117,677	239,086	763,741	26,925	35,566	94,244	152,281	449,785	1,823,220
1927	64,021	97,924	288,429	455,365	1,269,489	5,150,164	8,427	30,118	50,298	121,493	251,834	838,302	27,582	36,688	96,902	157,755	481,912	2,101,104
1928	71,146	111,330	345,567	560,032	1,665,877	7,252,662	8,399	30,962	52,771	131,101	283,571	1,045,123	28,351	37,961	103,593	172,292	570,124	2,823,143
1929	69,523	108,603	332,700	537,804	1,624,393	7,427,510	9,105	30,442	52,578	127,597	266,156	979,602	27,593	37,235	102,378	165,336	519,184	2,679,212
1930	56,339	82,360	221,207	339,176	908,581	3,653,395	8,330	30,317	47,649	103,238	196,825	603,601	26,909	34,870	84,925	129,464	357,899	1,441,449
1931	51,139	71,710	177,932	265,565	676,601	2,583,034	7,379	30,567	45,155	90,299	162,807	464,775	26,248	33,116	75,276	111,826	282,158	1,066,251
1932	44,448	62,628	149,111	222,825	572,208	1,907,006	5,974	26,268	41,007	75,398	135,479	423,897	17,970	30,707	64,212	92,151	243,557	946,156
1933	43,136	62,784	155,700	235,812	625,148	2,217,493	5,962	23,487	39,555	75,587	138,478	448,221	17,544	28,595	63,283	92,917	252,975	1,020,897
1934	47,261	69,603	169,263	253,839	632,696	2,140,166	6,493	24,919	44,689	84,687	159,124	465,199	21,172	30,571	70,433	106,708	290,475	1,026,368
1935	50,233	72,898	188,273	285,276	721,682	2,470,168	7,251	27,568	44,054	91,271	176,174	527,406	23,294	34,119	75,609	115,952	323,163	1,177,904
1936	58,644	87,194	242,767	374,019	952,179	3,193,027	7,768	30,094	48,301	111,514	229,480	703,196	25,606	37,821	90,879	145,887	427,386	1,555,452
1937	57,006	83,176	221,022	335,700	837,012	2,802,363	8,326	30,835	48,715	106,345	210,372	618,640	26,844	36,520	87,403	136,801	382,779	1,352,457
1938	52,508	74,685	187,696	280,583	700,972	2,614,426	7,711	30,332	46,432	94,808	175,486	488,366	26,256	35,429	79,430	119,230	309,103	1,157,789
1939	57,597	81,690	204,681	305,153	742,985	2,484,501	7,992	33,505	50,942	104,209	195,695	549,483	29,625	39,765	87,093	131,202	344,148	1,212,205
1940	59,916	85,251	217,981	326,304	794,397	2,703,403	8,390	34,582	52,068	109,658	209,280	582,286	32,758	39,263	90,938	141,252	369,898	1,306,131

(contd.)

Table 5A.6 (*Contd.*)

	P90–100 (1)	P95–100 (2)	P99–100 (3)	P99.5–100 (4)	P99.9–100 (5)	P99.99–100 (6)	P0–90 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1941	64,847	92,767	244,130	366,898	897,998	3,057,784	10,467	36,851	54,927	121,362	234,122	658,022	33,821	42,660	99,228	156,713	418,319	1,509,979
1942	64,580	92,248	240,044	359,896	860,095	2,763,140	13,179	36,912	55,299	120,191	234,847	648,646	34,279	42,422	97,507	154,996	412,768	1,431,050
1943	70,111	100,235	256,168	380,744	887,131	2,570,373	15,877	39,987	61,252	131,592	254,148	700,104	35,301	46,879	106,837	171,309	447,846	1,370,062
1944	71,608	100,279	248,459	363,737	827,161	2,564,195	17,089	42,937	63,234	133,181	247,881	634,157	38,512	46,956	109,409	169,233	424,306	1,375,419
1945	75,432	108,664	274,258	400,483	911,398	2,768,459	16,443	42,199	67,266	148,032	272,755	705,058	37,499	48,033	121,751	193,145	465,879	1,453,968
1946	77,131	112,505	279,042	404,047	923,006	3,095,444	15,120	41,757	70,871	154,038	274,307	681,625	37,386	50,131	127,184	194,290	466,884	1,568,123
1947	68,153	97,933	237,211	341,823	777,448	2,586,425	14,855	38,373	63,113	132,599	232,917	576,450	33,935	44,321	109,973	166,087	391,915	1,296,376
1948	70,522	100,930	246,584	358,530	816,764	2,629,464	14,416	40,115	64,516	134,637	243,971	615,353	35,548	48,186	111,907	172,580	412,355	1,379,985
1949	68,660	96,835	231,699	334,941	756,994	2,454,907	14,231	40,486	63,119	128,457	229,427	568,337	35,938	48,250	106,395	161,280	382,770	1,259,304
1950	76,779	110,250	276,766	404,582	947,870	2,633,441	15,326	43,308	68,621	148,949	268,760	760,584	39,646	49,968	121,058	188,780	462,602	1,294,201
1951	75,898	107,361	261,452	378,369	862,937	2,841,560	16,055	44,436	68,838	144,534	257,227	643,090	39,804	50,694	121,668	181,839	433,914	1,456,392
1952	75,552	104,958	245,477	351,983	779,860	2,476,115	16,751	46,145	69,828	138,971	245,014	591,388	42,475	53,427	118,161	178,898	406,757	1,275,440
1953	76,347	104,042	234,000	331,897	721,990	2,284,623	17,669	48,653	71,552	136,103	234,374	548,364	43,567	54,670	116,582	173,214	380,321	1,145,300
1954	79,377	109,959	254,243	364,027	823,817	2,758,102	17,266	48,795	73,888	144,458	249,080	608,896	43,692	56,042	123,011	182,078	424,732	1,351,342
1955	86,371	120,103	281,413	405,284	945,454	3,350,570	18,552	52,639	79,776	157,541	270,242	678,218	47,844	61,740	133,043	198,583	468,083	1,547,498
1956	89,182	123,274	284,429	410,653	929,161	3,191,824	19,506	55,090	82,986	158,205	281,026	677,754	49,280	63,378	133,611	201,792	478,451	1,493,488
1957	87,560	119,996	269,697	383,748	844,929	2,794,568	19,614	55,124	82,570	155,646	268,453	628,303	49,887	64,086	131,387	194,291	449,067	1,361,150
1958	86,863	118,676	264,141	376,228	832,986	2,799,000	18,899	55,049	82,309	152,053	262,039	614,540	49,821	64,906	129,292	190,823	439,446	1,369,966
1959	94,141	129,512	294,781	396,817	904,214	3,306,007	20,027	58,770	88,195	162,332	295,262	693,889	52,365	71,323	141,221	221,805	501,635	1,562,054
1960	93,162	125,649	279,264	427,230	955,101	3,269,832	20,374	60,674	87,246	161,711	269,967	641,368	53,695	64,903	138,303	201,146	460,486	1,547,089
1961	97,642	133,980	303,310	436,485	1,040,790	3,940,196	20,550	61,305	91,648	170,135	285,408	718,634	54,738	71,351	143,549	209,666	506,233	1,833,531
1962	98,039	132,689	289,452	410,512	929,244	3,376,697	21,196	63,389	93,498	168,391	280,829	657,305	57,198	72,479	144,147	210,718	481,503	1,569,582
1963	101,053	136,656	296,611	418,619	940,967	3,428,683	21,755	65,451	96,667	174,604	288,033	664,554	59,372	75,849	149,523	216,408	490,656	1,567,400
1964	108,444	148,072	330,124	465,317	1,062,433	4,102,226	22,782	68,815	102,559	194,931	316,038	724,678	62,711	78,255	168,936	236,310	506,017	1,844,017
1965	114,817	157,639	359,558	510,030	1,206,617	4,916,568	23,735	71,996	107,159	209,086	335,883	794,400	66,089	82,401	180,471	251,000	525,816	2,117,009
1966	115,501	157,240	349,030	495,244	1,161,215	4,424,520	24,881	73,763	109,292	202,816	328,751	798,626	66,627	84,874	173,185	250,821	547,209	2,010,562
1967	122,662	168,813	382,378	546,621	1,309,431	5,043,803	25,520	76,510	115,422	218,135	355,919	894,500	68,640	89,043	186,679	267,978	606,822	2,321,306
1968	129,545	179,562	416,838	605,136	1,495,501	6,003,507	26,393	79,527	120,243	228,540	382,545	994,611	71,654	92,988	196,944	284,091	673,091	2,657,937

Year																		
1969	126,086	171,567	384,676	553,392	1,372,627	5,790,370	26,848	80,605	118,289	215,959	348,583	881,767	72,754	92,966	185,756	266,255	596,212	2,461,250
1970	119,249	158,351	329,865	456,938	1,014,360	3,641,285	27,060	80,148	115,472	202,792	317,582	722,480	72,320	91,691	175,568	244,666	511,490	1,727,674
1971	122,686	163,824	345,902	483,114	1,099,541	4,098,663	26,892	81,548	118,304	208,691	329,007	766,306	73,381	93,973	181,883	252,519	536,538	1,898,795
1972	129,653	173,859	372,049	523,469	1,206,681	4,548,099	28,089	85,448	124,311	220,629	352,666	835,412	77,211	98,787	192,397	271,513	582,985	2,082,224
1973	130,743	174,260	359,385	494,519	1,082,604	3,692,491	28,582	87,226	127,978	224,250	347,498	792,617	78,421	101,003	196,550	268,534	560,507	1,863,177
1974	125,484	166,649	343,669	475,196	1,027,806	3,310,904	27,500	84,319	122,394	212,142	337,043	774,129	76,066	98,624	185,367	257,328	557,694	1,743,756
1975	119,273	156,838	316,535	432,948	914,897	3,020,203	25,973	81,708	116,913	200,122	312,461	680,974	73,576	93,637	174,756	240,071	484,475	1,512,708
1976	122,701	161,389	325,388	445,722	952,837	3,157,853	26,662	84,013	120,389	205,054	318,943	707,836	75,712	96,485	179,159	244,414	500,515	1,574,091
1977	124,680	164,275	335,061	461,622	1,005,331	3,429,012	26,949	85,084	121,579	208,500	325,695	736,033	76,550	97,895	181,968	248,802	515,673	1,682,308
1978	126,694	166,746	338,643	466,224	1,001,858	3,240,098	27,437	86,643	123,772	211,062	332,315	753,164	77,939	99,354	184,526	253,257	527,859	1,651,001
1979	128,956	172,869	375,334	535,883	1,296,356	5,174,683	27,029	85,042	122,253	214,785	345,765	865,430	76,714	98,438	186,259	262,419	587,110	2,340,496
1980	124,043	165,957	358,916	512,105	1,221,163	4,571,874	25,518	82,129	117,717	205,728	334,840	848,862	74,135	94,744	179,387	252,285	576,417	2,187,021
1981	120,901	161,253	350,593	506,330	1,248,158	4,780,492	25,047	80,549	113,918	194,856	320,873	855,676	72,609	92,660	170,480	239,210	575,498	2,254,510
1982	122,159	164,788	373,259	550,773	1,443,749	5,994,492	24,493	79,530	112,670	195,744	327,530	938,111	71,760	91,050	169,989	240,531	604,136	2,704,242
1983	127,765	174,546	405,792	606,168	1,622,741	6,616,748	24,293	80,983	116,734	205,416	352,025	1,067,851	72,963	93,842	178,308	255,800	669,667	2,940,306
1984	133,613	183,942	436,072	657,538	1,811,708	7,832,766	25,053	83,284	120,910	214,606	368,996	1,142,701	74,734	97,067	186,370	265,270	692,943	3,416,764
1985	140,222	195,000	472,957	718,651	1,985,322	8,348,097	25,337	85,444	125,511	227,262	401,983	1,278,347	76,389	100,390	197,910	281,810	794,578	3,645,544
1986	162,393	235,722	636,202	1,009,000	2,956,924	13,367,774	25,512	89,064	135,602	263,403	522,019	1,800,163	79,450	107,230	225,272	363,483	1,015,602	5,501,476
1987	145,808	202,353	482,731	720,421	1,867,701	7,273,277	25,826	89,262	132,259	245,041	433,601	1,267,081	79,198	102,481	207,384	300,730	757,189	3,076,271
1988	161,961	233,516	617,620	964,018	2,710,338	11,411,233	26,056	90,405	137,490	271,222	527,438	1,743,572	79,860	104,834	224,750	342,930	976,756	4,525,859
1989	157,784	224,745	570,230	872,200	2,361,548	9,662,422	25,925	90,823	138,374	268,260	499,863	1,550,340	79,961	105,657	223,078	337,767	898,612	3,887,405
1990	153,670	218,391	550,843	841,413	2,238,989	8,970,255	25,420	88,948	135,278	260,273	492,019	1,491,070	78,378	103,056	216,021	327,628	871,943	3,675,827
1991	146,794	205,817	495,953	741,341	1,901,607	7,264,551	24,809	87,772	133,283	250,565	451,274	1,305,724	77,966	103,428	208,333	311,412	783,597	3,154,834
1992	152,872	217,681	549,391	838,760	2,258,666	9,223,700	24,414	88,062	134,754	260,021	483,784	1,484,773	77,479	102,020	215,875	327,535	857,173	3,779,053
1993	150,081	212,722	525,181	795,078	2,113,979	8,550,902	24,052	87,441	134,607	255,284	465,353	1,398,765	77,095	101,668	215,383	316,328	815,516	3,488,527
1994	152,234	215,705	531,261	801,392	2,129,232	8,565,994	24,338	88,763	136,816	261,129	469,432	1,414,036	77,890	103,536	219,824	321,399	828,098	3,556,878
1995	159,913	228,726	575,950	876,093	2,356,191	9,360,209	24,721	91,099	141,920	275,807	506,069	1,577,967	79,626	106,385	229,786	341,253	900,529	4,025,828
1996	169,185	247,078	649,082	1,004,351	2,816,838	11,905,656	24,398	91,291	146,577	293,814	551,229	1,806,969	78,689	107,271	243,771	368,390	1,006,194	4,851,818
1997	183,349	272,179	739,565	1,162,990	3,361,037	14,486,989	25,158	94,520	155,332	316,139	613,478	2,124,820	81,703	111,896	262,325	400,358	1,154,919	5,813,676
1998	197,309	296,436	829,725	1,319,827	3,910,927	17,052,937	26,141	98,181	163,115	339,623	672,053	2,450,704	84,589	117,054	276,921	433,208	1,289,992	6,819,331
1999	211,050	319,783	910,397	1,456,773	4,370,622	19,136,970	26,821	102,315	172,130	364,023	728,310	2,729,917	87,709	121,667	296,915	464,442	1,423,342	7,630,696
2000	223,991	344,460	1,012,584	1,642,549	5,117,680	23,869,868	26,848	103,522	177,429	382,619	773,766	3,034,104	89,977	127,532	313,698	482,906	1,547,553	8,752,114
2001	196,202	291,999	797,527	1,253,989	3,663,411	16,197,967	26,438	100,405	165,617	341,065	651,633	2,270,683	87,502	121,936	282,273	426,049	1,233,967	6,080,951
2002	181,991	266,374	700,436	1,082,943	3,048,937	13,048,843	25,646	97,608	157,859	317,928	591,445	1,937,837	85,030	117,230	263,800	396,027	1,083,908	5,086,546

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Kuznets are lower than ours in levels.[57] Note however that the pattern over years is reassuringly almost identical.[58]

Finally, it is important to keep in mind that tax units are smaller than households. In 1998, there were approximately 1.3 tax units per household (on average), i.e, 131 millions tax units vs. 101 millions households.[59] This means that incomes per household are in 1998 about 30% larger than incomes per tax units (on average). For instance, average income per tax unit was less than US$39,000 in 1998 (see Table 5A.0, column (5)), while average household income was about US$51,000.[60] Note, however, that this is unlikely to affect top shares in a significant way (assuming that the average number of households per tax units is approximately the same for all income brackets).

Computing Top Fractiles Income Shares

We have constructed 3 sets of top income shares series that treat differently realized capital gains. In variant 1 (Table 5A.1), we exclude completely capital gains: tax returns are ranked by income excluding capital gains, and top fractiles incomes exclude capital gains. Income shares were computed by using the total income (excluding capital gains series) series (Table 5A.0, column (4) and (5)). In variant 2 (Table 5A.2), tax returns are ranked by income excluding capital gains, but we add back the average capital gains accruing to each fractile when we compute top fractiles incomes. Income shares were computed by using the total income (including capital gains series) series (Table 5A.0, column (6) and (7)). Finally, in variant 3 (Table 5A.3), we include capital gains both when we rank tax returns and when we compute top fractiles incomes. Income shares were computed by using the total income (including capital gains series) series (Table 5A.0, column (6) and (7)). The concept of capital gains used to compute top

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[57] This is amplified by the fact that Kuznets' total income denominator is slightly higher than ours (see above), and by the way Kuznets treated capital gains (see below).

[58] Our methodology also differs from that used by Feenberg and Poterba (1993, 2000) to compute their 1951–95 top income shares series: Feenberg and Poterba choose as base year 1989, and then compute the number of tax returns who are in the top 0.5% of the tax return distribution for that year, and use the US adult population series to compute the number of 'top income recipients' tax returns for other years. This methodology is innocuous in the short run, but can produce important biases in the long run because the average tax unit size declines over time, and this is also true if one looks at the average number of adults per tax unit. Note also that Feenberg and Poterba simply use total AGI as their total income denominator.

[59] The average number of tax units per household declined from about 1.7 in the 1910s to about 1.2–1.3 in the early 1980s, and increased somewhat since then.

[60] Average household income was about US$52,000 in 1998 according to the Current Population Survey (CPS) (cf. 'Money Income in the United States 1999', *Current Population Report P60–209* (September 2000). Note that total CPS income is virtually identical to our total income denominator (CPS income does include a number of cash transfers that are excluded by our tax income concept, but CPS income probably suffers from under-reporting at the top).

fractiles incomes in variants 2 and 3 and to rank tax returns in variant 3 is always 'full capital gains', i.e., total pre-exclusion capital gains (see below). Whether one should use variants 1, 2, or 3 is a matter of perspective. In the text of this chapter, we have focused on variant 1 series, so as to get rid of the very strong short-term volatility induced by capital gains. If one wants to include capital gains, then variant 2 series are probably the most meaningful series from an economic viewpoint: capital gains are typically very lumpy (they are realized once every few years), so that ranking tax returns by income including capital gains leads to artificially overestimate very top income levels. Note that variant 1 top income shares are always below variant 2 top income shares, and that variant 2 top income shares are always below variant 3 top income (see Figure 5A.2).

The top fractiles incomes series reported on Tables 5A.4, 5A.5, and 5A.6 were constructed as follows. For the 1966–99 period, the series were computed directly from the IRS micro-files. The micro-files easily allow us to rank tax returns by income excluding capital gains (variants 1 and 2) or by income including full capital gains (variant 3) and to compute top fractiles incomes without capital gains (variant 1) or with full capital gains (variants 2 and 3). For the 1913–65 and 2000–02 periods, the series were estimated from the published IRS tables using the Pareto interpolation technique described in Appendix 5C, according to the following methodology (all computations are available from the authors upon request):

1. Published IRS tables rank tax returns by net income (1913–43) or by AGI (1944–2002). These tables use a large number of income brackets (the thresholds P90, P95, P99, P99.5, P99.9, and P99.99 are usually very close to one of the income bracket thresholds), and one can use standard Pareto interpolation techniques in order to estimate the top fractiles income thresholds and income levels of the tax unit distribution of net income (1913–43) and AGI (1944–65 and 2000–02). We also did the same computations for the 1966–95 period in order to compare the series estimated from Pareto interpolation with the series computed from micro-files, and we found that both series never differ by more than 1% (the gap is usually less than 0.1%).

2. For a number of years before the Second World War, the filing threshold is so high that less than 10% of tax units actually file returns (see Table 5A.0, column (3)). However, the filing threshold for singles is substantially lower than the filing threshold for married households. Thus from 1917 on, it is always the case than more than 10% of single tax units are actually filing returns, although for some years less than 10% of married tax units are filing returns. As a result, the number of married tax units in the bottom brackets is too low for some years and needs to be adjusted upward. This problem of missing returns is especially acute for years 1925 to 1931. We adjusted for missing married returns using a simple extrapolation method, based on the assumption that marital ratios (i.e. ratios of married tax units to single men not head of households tax units) across income brackets is constant over

years.[61] We have done some sensitivity analysis using both years 1924 and 1932 as the base year. The alternative multipliers we obtain with year 1924 instead of year 1932 are close and the final series estimates of shares and income levels for the bottom fractile P90–95 are almost identical. Our final estimates are obtained using a moving average of the multipliers based on years 1924, and 1932.[62]

3. The 1913–65 and 2000–02 raw series obtained from Pareto interpolation were corrected in various ways. First, the raw series were adjusted upwards in order to include net income deductions (1913–43) and AGI adjustments (1944–65 and 2000–02) (AGI adjustments were also included in the 1966–99 micro-files computations). In practice, AGI adjustments (IRA contributions, moving expenses adjustment, self-employment tax, etc.) are pretty small (about 1% of AGI, up to 4% in the mid-1980s), and their importance declines with income within the top decile. Net income deductions for the period 1913–43 (charitable gifts, interest paid, local taxes, etc.) are higher (about 10% of net income), and their importance increases with income within the top decile (up to 15–20% for fractile P99.99–100). We adjust our raw series for threshold levels and average income in each fractile using multiplicative factors so that our new series correspond to the level of gross income (before adjustment or deductions) reported in the published tables for each fractile.[63]

4. Next, and most importantly, corrections need to be made to the 1913–65 and 2000–02 raw series in order to ensure that capital gains are properly taken into account. The tax treatment of capital gains has changed many times since 1913: from 1913 to 1933, 100% of capital gains were included in net income (there was no capital gains exclusion); from 1934 to 1937, 70% of capital gains were included in net income (i.e., 30% of capital gains were excluded); from 1938 to 1941, 60% of capital gains were included in net income (i.e., 40% of capital gains were excluded); from 1942 to 1978, 50% of capital gains were included in net income (1942–43) or in AGI (1944–78) (i.e., 50% of capital gains were excluded); from 1979 to 1986, 40% of capital gains were included in AGI (i.e., 60% of capital gains were excluded); from 1987 on, 100% of capital gains were included in AGI (there

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[61] More precisely, we assume that the ratio of marital ratios over two adjacent brackets is constant from year to year. We can successfully test this assumption comparing these ratios for years with low filing thresholds and where missing returns is not an issue. Thus we use the closest years for which the filing threshold is low enough so that all the married tax units with income in that particular income bracket file a return to compute these marital ratios. We then extrapolate the marital ratio for a year with high filing threshold in a low bracket using the bracket just above for that year and the marital ratios for the year with complete returns. We compute then the expected number of married tax units in each bracket in high filing threshold years. We obtain thus the missing number of returns in each bracket or equivalently a multiplier factor by which we must adjust the actual number of returns to obtain the real number of tax units. We use the same multiplier factors to adjust the dollar amounts reported in each bracket.

[62] For example, for year 1925, our multiplier is (6/7)*multiplier 1924 + (1/7)*multiplier 1932, etc.

[63] In principle, going from net income (or AGI) to gross income might induce reranking. However, using the micro-files for 1966–99, we have checked that this reranking has small effects on our final results and thus we do not attempt any correction for that re-ranking effect.

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was again no capital gains exclusion).[64] In order to compute 'variant 1' series from the raw series, one could simply deduct for each fractile the share of capital gains estimated from IRS composition tables. This is the method Kuznets (1953) adopted in order to compute his 1913–48 series.[65] The problem is that IRS tables rank tax returns by net income or AGI (including the post-exclusion amount of capital gains), and that re-ranking can be substantial at the very top: in the extreme case where very top incomes of the net income or AGI distribution are only made of capital gains, then the deduction of capital gains would lead to the conclusion that the very top incomes of the distribution of income (excluding capital gains) are equal to 0. Kuznets did not try to correct for re-ranking, which means that his estimates of top income shares are biased downward.[66] The micro-files allowed us to compute the magnitude of the corrections that one needs to apply in order to obtain unbiased 'variant 1' series: the corrections are negligible for fractiles P90–95 and P95–99, but the income levels of fractiles P99–99.5 and P99.5–99.9 need to be increased by about 1%, the income level of fractiles P99.9–99.99 needs to be increased by about 2%. Most importantly, the top fractile P99.99–100 requires a more complicated correction method. We increase the income level of fractile P99.99–100 by about 40% of the capital gains share computed for that fractile.[67] These corrections coefficients were obtained from comparing micro-file unbiased estimates from the period 1966–99 to estimates obtained from published tables. For the period 1966–99, the correction coefficients are extremely stable (in spite of the huge variations in capital gains share), and it seems reasonable to use them for the 1913–65 and 2000–02 periods. Finally, one can compute 'variant 2' series from these unbiased 'variant 1' series using our capital gains shares series by fractiles of income excluding capital gains (see Table 5A.8 below; these capital gains series also illustrate the importance of re-ranking at the very top).

5. The construction of 'variant 3' series from raw series raises similar issues. For the 1913–33 and 2000–02 period (when there was no capital gain exclusion), there is no re-ranking issue. But for the 1934–65, one cannot simply add to the raw series the excluded amount of capital gains for each fractile: this addition alters the ranking of tax returns, and ignoring this re-ranking issue would lead to 'variant 3' series that are downwardly biased. The micro-files

[64] These exclusion rates actually applied to long term capital gains only, and the definition of 'long-term' capital gains (6 months, 12 months or 18 months) has changed many times (from 1934 to 1941, there were several exclusion rates, and the 30% and 40% figures that we use for our estimation are the approximate average exclusion rates over all capital gains). We did use all the relevant information given in IRS tables and in the micro-files in order to compute the exact exclusion rates for each fractile. In practice however, the vast majority of capital gains always falls under the most favourable tax regime, so that the exclusion rates given above apply to most capital gains.

[65] Kuznets decided to exclude completely capital gains from his series, and he started by deducting capital gains from net income and AGI for each income bracket before applying Pareto interpolation techniques (Kuznets did not try to compute series including capital gains).

[66] See above for other problems explaining why Kuznets' estimates are biased downward.

[67] For instance, in 1995, when the capital gains share is 38.4% for fractile P99.99–100 (see Table 5A.8 below), the correction coefficient is about 15,4% ($0.4 \times 38.4 = 15.4$).

allowed us to compute the magnitude of the corrections that one needs to apply in order to obtain unbiased 'variant 3' series: the corrections are negligible for fractile P90–95, but the income levels of fractiles P95–99 and P99–99.5, need to be increased by about 1%, the income level of fractiles P99.5–99.9 and P99.9–99.99 need to be increased by about 2%, and the income level of fractile P99.99–100 need to be increased by about 4% (irrespective of the capital gains share). These corrections coefficients were again obtained from the analysis of micro-files over the period 1966–99. This analysis showed that applying the simple correction rule described above gave excellent results for all years 1966–99, and it seems reasonable to use the same rule for the 1913–65 and 2000–02 periods. Note that the corrections required are smaller than the corrections coefficients associated to 'variant 1' series (especially at the very top): that is, re-ranking is more important when one goes from ranking by income including post-exclusion capital gains to ranking by income excluding completely capital gains than when one goes from ranking by income including the taxable fraction of capital gains to ranking by income including full capital gains.

Computing Top Fractiles Income Composition

We have also constructed top fractiles income composition series (Table 5A.7 and Table 5A.8). The composition series reported in Table 5A.7 indicate for each income fractile the fraction of total income (excluding capital gains) that comes from the various types of income (excluding capital gains). We consider 5 types of income: wage income; entrepreneurial income; dividends; interest; and rents. Wage income includes wages and salaries as well as pensions and annuities.[68] Entrepreneurial income includes business, farm, partnerships and small corporations (S corporations) income. Dividends include general dividends and dividends received through partnerships and fiduciaries.[69] Interest includes taxable interest only.[70] Rents include rents, royalties, and fiduciary income. We have excluded from these composition series a number of small income categories such as alimony, taxable social security benefits, taxable unemployment insurance benefits, 'other income', etc. Taken all together, these small categories never make more 2% of the total income of the top decile (they usually make less than 1%),

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[68] The share of pensions and annuities in total AGI has increased continuously from less than 1% in the 1960s to more than 6% in the late 1990s, but it has always been less than for 4% for the top decile and less than 2% for the top percentile.

[69] From 1936 to 1953, dividends from tax statistics do not include dividends distributed to partnerships and fiduciaries. This discontinuity was relatively easy to correct: dividends distributed to partnerships and fiduciaries display a very stable pattern (in particular, the 1936 downward jump in the pattern of dividend share by income fractile is virtually the same as the 1954 upward jump), and we simply added them back to the dividends total. Similarly, dividends and interest are lumped together by tax statistics in 1944–45, but this was easy to correct for because the pattern of interest share by income fractile was very stable at that time.

[70] Data on tax-exempt interest are scarce and incomplete, and we did not attempt to take tax-exempt interest into account.

Table 5A.7 Income composition by fractiles of total income, US 1916–1999 (wage income, entrepreneurial income, dividends, interest, and rents are expressed in % of total income (excluding capital gains) of each fractile)

P90–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1916					
1917					
1918	46.1	25.8	14.4	8.0	5.6
1919	47.7	28.3	12.1	7.1	4.8
1920	52.0	22.4	13.8	7.4	4.4
1921	58.0	17.6	11.9	7.4	5.0
1922	54.3	19.1	12.6	7.7	6.3
1923	45.6	24.3	14.0	8.3	7.7
1924	44.3	25.1	13.8	8.6	8.3
1925	43.2	25.7	14.8	8.3	8.1
1926	43.2	23.7	16.7	8.6	7.8
1927	44.2	22.5	17.2	9.0	7.1
1928	45.5	20.9	18.2	8.9	6.4
1929	45.2	20.2	19.0	8.8	6.8
1930	49.1	15.8	19.1	9.4	6.6
1931	51.6	14.0	18.1	9.6	6.7
1932	58.1	11.3	15.4	8.9	6.3
1933	59.0	15.6	11.7	8.0	5.7
1934	60.2	15.4	12.4	6.5	5.5
1935	60.0	15.9	12.5	6.0	5.6
1936	56.5	17.0	15.7	4.7	6.1
1937	59.6	15.8	15.7	3.8	5.0
1938	63.1	16.6	11.5	3.9	4.9
1939	62.4	16.8	12.8	3.4	4.6
1940	63.4	16.8	12.7	2.8	4.3
1941	61.4	20.9	11.5	2.3	3.9
1942	60.1	25.4	8.9	1.8	3.7
1943	57.0	30.0	7.9	1.6	3.5
1944	61.1	27.6	6.9	1.5	2.9
1945	57.4	31.3	6.8	1.5	3.0
1946	54.0	33.6	7.8	1.5	3.1
1947	56.4	30.3	8.5	1.4	3.3
1948	59.7	27.0	8.6	1.4	3.3
1949	62.9	23.1	8.9	1.6	3.6
1950	63.1	23.0	8.9	1.5	3.5

P95–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1916					
1917	31.4	31.4	23.5	7.7	5.9
1918	38.2	28.2	19.0	9.0	5.7
1919	39.4	31.7	15.8	8.2	5.0
1920	44.7	25.4	17.1	8.2	4.7
1921	49.0	20.5	16.4	8.7	5.4
1922	45.7	21.6	16.9	8.8	7.0
1923	39.6	25.4	17.8	9.1	8.0
1924	39.4	25.7	17.4	9.2	8.3
1925	39.3	26.0	18.3	8.6	7.9
1926	39.1	24.2	20.3	8.8	7.6
1927	39.8	22.8	21.0	9.4	7.0
1928	40.6	21.4	22.2	9.3	6.5
1929	40.4	20.7	23.0	9.1	6.8
1930	44.5	15.6	23.8	9.5	6.6
1931	47.2	13.8	22.4	9.9	6.7
1932	53.2	11.4	18.8	9.9	6.8
1933	53.8	15.7	15.1	8.8	6.6
1934	52.9	16.3	16.7	7.6	6.5
1935	52.4	17.3	16.9	6.8	6.6
1936	48.0	18.5	21.5	5.0	6.9
1937	53.8	16.8	20.3	3.9	5.2
1938	58.2	17.4	15.3	4.0	5.1
1939	56.4	18.4	16.6	3.7	5.0
1940	55.2	19.6	16.9	3.4	5.0
1941	52.2	24.7	15.6	2.8	4.7
1942	52.0	29.9	11.8	2.3	4.0
1943	47.7	36.2	10.6	2.0	3.6
1944	48.9	36.0	9.6	1.9	3.6
1945	45.2	39.8	9.4	1.9	3.6
1946	43.4	40.6	10.5	1.9	3.6
1947	45.9	36.6	11.7	1.8	4.0
1948	49.1	33.4	11.9	1.7	4.0
1949	53.0	28.5	12.3	1.9	4.3
1950	52.7	28.8	12.3	1.9	4.3

P99–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1916					
1917	19.5	32.8	32.4	9.3	6.0
1918	24.4	22.2	37.3	11.4	4.6
1919	27.6	26.7	29.8	10.9	5.0
1920	28.7	31.8	24.9	10.2	4.4
1921	32.1	26.6	27.3	9.6	4.4
1922	35.5	22.5	26.4	10.2	5.4
1923	32.0	22.1	27.4	10.5	8.0
1924	32.2	20.9	29.0	9.9	8.0
1925	31.4	22.3	29.0	9.8	7.5
1926	29.7	23.7	29.5	9.5	7.5
1927	29.4	21.3	32.2	9.9	7.2
1928	29.2	20.7	32.8	10.3	7.0
1929	28.4	21.3	32.9	10.5	6.7
1930	32.4	20.3	33.8	10.4	7.0
1931	37.0	15.5	34.9	10.3	6.9
1932	43.3	14.3	31.4	10.5	6.9
1933	44.3	12.2	27.1	10.4	6.9
1934	42.6	16.6	23.2	9.5	6.5
1935	41.7	17.1	26.1	7.8	6.3
1936	36.1	18.4	26.6	6.8	6.4
1937	36.3	19.0	33.7	4.8	6.4
1938	42.3	18.4	34.0	4.9	6.4
1939	39.5	20.1	26.2	5.2	6.3
1940	39.4	21.2	28.2	4.7	6.3
1941	38.4	22.4	27.9	4.1	6.2
1942	35.7	28.9	24.3	3.2	5.3
1943	30.0	37.8	19.0	2.8	4.7
1944	30.8	46.6	16.8	2.5	4.1
1945	29.7	46.8	15.7	2.4	4.2
1946	31.5	48.7	15.0	2.4	4.2
1947	34.4	45.2	16.6	2.4	4.2
1948	35.1	37.6	19.2	2.2	4.8
1949	37.6	33.3	20.1	2.5	4.9
1950	36.0	34.6	21.1	2.5	5.5

P99.5–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1916					
1917	16.5	31.7	36.7	9.5	5.6
1918	21.7	19.0	43.1	12.0	4.1
1919	25.7	24.2	34.5	11.3	4.3
1920	26.0	30.4	28.7	10.8	4.0
1921	28.8	25.8	31.2	10.0	4.2
1922	31.5	22.0	30.7	10.7	5.2
1923	28.0	21.2	31.9	10.9	8.0
1924	28.1	20.0	34.0	10.1	7.8
1925	27.6	20.5	34.5	10.1	7.3
1926	25.9	22.2	34.8	9.8	7.3
1927	25.7	19.4	37.8	10.1	7.0
1928	25.3	19.1	38.3	10.5	6.8
1929	24.2	20.2	38.2	10.7	6.4
1930	27.8	18.9	39.3	10.8	6.9
1931	31.6	13.9	40.9	10.6	6.9
1932	36.7	13.1	37.2	10.9	7.1
1933	37.9	12.1	32.4	11.3	7.5
1934	36.3	17.2	28.0	10.1	6.8
1935	35.7	16.8	31.5	8.8	6.6
1936	30.7	17.4	32.4	7.7	6.7
1937	31.7	17.6	39.8	5.4	6.5
1938	37.9	16.8	40.1	5.0	6.5
1939	35.1	19.0	31.4	5.3	6.4
1940	35.4	19.8	33.8	4.9	6.4
1941	35.2	21.0	33.2	4.2	6.3
1942	32.7	28.1	28.3	3.1	5.3
1943	31.9	38.0	21.9	2.8	4.6
1944	28.1	47.0	19.2	2.5	3.9
1945	27.4	46.9	18.3	2.5	4.2
1946	29.3	48.2	17.7	2.6	4.2
1947	31.9	44.1	19.8	2.5	4.3
1948	32.4	35.7	23.1	2.3	5.0
1949	34.4	31.6	24.5	2.3	5.1
1950	32.7	33.1	25.7	2.6	5.7

(contd.)

Table 5A.7 (*Contd.*)

Year	P90–100					P95–100					P99–100					P99.5–100				
	Wage	Entrep.	Divid.	Interest	Rents	Wage	Entrep.	Divid.	Interest	Rents	Wage	Entrep.	Divid.	Interest	Rents	Wage	Entrep.	Divid.	Interest	Rents
1951	64.0	22.5	8.6	1.5	3.4	53.4	28.5	12.1	1.8	4.1	37.1	34.4	20.9	2.4	5.3	33.8	33.3	25.0	2.4	5.5
1952	65.7	21.6	8.0	1.5	3.2	55.7	27.3	11.2	1.9	3.9	37.7	34.4	20.0	2.5	5.4	34.7	32.7	24.4	2.6	5.6
1953	68.2	19.9	7.4	1.5	3.0	58.1	25.7	10.5	1.9	3.8	40.4	32.7	19.1	2.6	5.2	37.5	31.0	23.4	2.7	5.5
1954	67.0	20.5	7.7	1.5	3.3	58.3	25.1	10.9	1.8	3.9	39.4	32.9	19.8	2.9	5.0	36.4	31.1	24.1	3.0	5.3
1955	67.6	20.4	8.0	1.5	2.5	60.0	24.4	10.9	1.7	2.9	39.2	33.2	21.4	2.9	3.4	36.8	30.6	26.5	3.0	3.1
1956	67.0	20.8	7.9	1.5	2.8	58.6	25.3	11.1	1.9	3.2	39.3	32.0	21.6	2.9	4.2	36.4	28.1	28.1	3.0	4.4
1957	67.9	19.7	8.3	1.9	2.2	57.5	25.4	11.8	2.4	2.9	40.2	31.8	21.1	3.1	3.9	36.5	28.7	27.6	3.2	4.0
1958	68.9	19.1	7.8	2.0	2.2	58.5	24.7	11.3	2.6	2.9	40.8	31.6	20.2	3.3	4.0	37.1	28.3	26.9	3.5	4.1
1959	68.6	19.2	8.1	2.2	2.0	57.5	25.4	11.6	2.8	2.7	40.6	32.2	20.0	3.5	3.7	36.6	29.4	26.4	3.7	3.9
1960	70.1	17.7	7.8	2.3	2.1	59.0	23.7	11.4	3.0	2.8	42.5	30.1	19.7	3.8	4.0	38.2	26.7	26.8	4.0	4.3
1961	70.6	17.6	7.4	2.5	1.9	61.1	22.9	10.5	3.1	2.5	42.0	30.9	19.7	3.9	3.5	37.8	27.6	26.9	4.1	3.7
1962	70.7	17.5	7.2	2.7	1.8	61.0	22.9	10.3	3.3	2.4	42.1	30.8	19.4	4.3	3.4	38.1	27.1	26.8	4.4	3.6
1963	70.8	17.0	7.4	3.1	1.7	61.5	22.1	10.4	3.7	2.2	42.4	29.9	19.9	4.6	3.2	37.9	26.6	27.3	4.8	3.4
1964	69.0	18.4	8.0	3.3	1.3	59.8	23.6	11.0	3.9	1.7	42.7	28.5	21.8	4.7	2.4	37.6	27.0	28.1	4.8	2.5
1965	68.1	19.4	7.8	3.5	1.2	59.9	23.9	10.7	4.0	1.5	42.3	28.8	21.9	4.9	2.1	37.5	27.7	27.6	5.0	2.2
1966	69.9	18.0	6.9	3.4	1.7	60.2	23.7	9.9	4.0	2.2	40.9	32.6	18.5	4.9	3.2	37.2	31.6	22.9	4.9	3.5
1967	70.3	18.0	6.7	3.6	1.5	60.9	23.6	9.4	4.2	1.9	41.8	33.1	17.5	5.0	2.7	38.0	32.5	21.7	5.0	2.8
1968	70.8	17.3	6.7	3.8	1.4	61.2	22.8	9.5	4.5	1.9	42.0	31.5	18.3	5.4	2.7	37.3	31.1	23.2	5.6	2.8
1969	72.2	16.5	6.1	3.8	1.3	63.3	21.9	8.6	4.5	1.7	43.9	31.1	16.6	5.9	2.5	39.9	29.7	21.0	6.5	2.8
1970	73.7	15.2	5.6	4.2	1.3	65.2	20.2	7.9	5.0	1.8	45.6	30.0	14.9	6.5	2.9	41.0	30.0	18.8	7.0	3.2
1971	74.8	14.3	5.1	4.4	1.3	66.3	19.2	7.4	5.3	1.8	47.6	28.8	14.0	6.8	3.0	42.5	29.1	17.8	7.2	3.5
1972	74.6	14.5	5.1	4.4	1.4	66.2	19.3	7.2	5.3	2.0	49.3	27.2	13.6	6.6	3.2	46.2	26.4	16.9	7.0	3.5
1973	73.2	15.4	5.1	4.8	1.5	64.9	20.2	7.1	5.7	2.1	49.1	27.2	13.3	7.1	3.2	45.7	26.7	16.6	7.5	3.5
1974	72.7	14.9	5.2	5.4	1.8	64.8	19.5	7.0	6.3	2.4	49.4	26.2	12.9	7.9	3.6	45.6	25.5	16.1	8.6	4.2
1975	75.5	13.0	4.9	5.0	1.6	68.1	17.1	6.8	5.8	2.3	52.9	23.4	12.7	7.3	3.7	49.7	22.6	15.7	7.7	4.3
1976	76.1	12.4	4.9	5.1	1.5	69.2	16.2	6.8	5.8	2.0	54.7	22.0	12.8	7.0	3.6	52.0	20.9	15.9	7.0	4.2
1977	76.6	11.9	5.0	5.1	1.4	69.8	15.6	6.9	5.7	1.9	56.1	21.0	12.8	6.7	3.4	53.3	20.1	15.7	6.9	4.0
1978	76.9	11.9	4.9	5.0	1.4	70.5	15.2	6.7	5.7	1.9	58.1	19.6	12.4	6.5	3.4	55.0	18.9	15.4	6.7	4.0
1979	77.5	10.6	4.9	5.7	1.3	71.0	13.6	6.8	6.7	1.9	59.0	17.0	12.5	8.0	3.5	56.3	15.7	15.6	8.3	4.1
1980	78.1	8.3	5.1	7.2	1.3	72.3	10.3	7.0	8.4	1.9	60.5	13.3	12.5	10.0	3.6	57.7	12.5	15.3	10.3	4.3
1981	79.0	5.7	5.0	9.3	1.1	73.8	6.8	6.9	10.8	1.7	62.7	7.8	12.4	13.3	3.7	59.8	6.6	15.1	14.0	4.6
1982	79.4	5.1	5.3	9.0	1.2	73.9	6.5	7.2	10.5	1.9	62.6	8.2	12.3	12.9	3.9	59.3	7.6	14.9	13.1	5.0
1983	81.0	5.9	4.6	7.7	0.8	76.4	7.3	6.3	8.8	1.3	65.5	9.8	11.0	10.7	3.0	61.8	10.0	13.0	11.3	3.9
1984	80.6	6.2	4.1	8.6	0.6	75.5	7.7	5.6	10.1	1.1	66.1	9.9	8.9	12.4	2.7	63.5	10.0	10.3	12.9	3.2
1985	80.3	6.6	4.2	8.3	0.6	75.2	8.4	5.7	9.6	1.2	63.6	11.0	9.6	12.3	3.4	59.3	11.7	11.2	13.2	4.7
1986	81.2	7.1	4.6	6.9	0.2	76.4	8.8	6.1	8.1	0.6	65.7	11.1	10.8	10.6	1.7	61.5	11.3	13.1	11.7	2.5

P99.9–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1987	79.5	9.7	4.0	6.7	0.1
1988	76.3	12.3	4.3	6.8	0.3
1989	75.0	12.5	4.2	7.9	0.5
1990	75.6	12.3	3.9	7.6	0.6
1991	76.2	12.5	3.7	7.0	0.7
1992	78.1	13.0	3.3	4.8	0.9
1993	78.8	13.1	3.2	3.9	1.0
1994	77.9	14.1	3.2	3.7	1.1
1995	77.3	13.7	3.5	4.3	1.2
1996	77.6	14.4	3.1	3.8	1.1
1997	77.1	14.7	3.2	3.8	1.2
1998	76.9	14.7	3.4	3.7	1.3
1999	77.0	15.1	3.1	3.5	1.2
1916	10.2	28.3	47.3	9.6	4.6
1917	15.4	16.0	52.7	12.9	3.1
1918	19.2	22.5	42.7	12.4	3.2
1919	19.0	30.7	35.4	11.6	3.3
1920	21.1	25.5	39.2	10.5	3.7
1921	23.1	21.7	39.9	10.9	4.5
1922	20.0	20.0	41.4	10.9	7.6
1923	20.2	17.7	44.7	10.1	7.3
1924	20.1	17.2	45.8	10.2	6.6
1925	18.7	20.2	45.3	9.5	6.4
1926	18.1	16.3	49.8	9.7	6.1
1927	17.6	16.9	49.8	9.8	5.8
1928	16.6	20.3	47.9	10.1	5.1
1929	15.9	18.0	49.6	10.6	5.8
1930	19.1	10.7	53.8	10.1	6.2
1931	21.8	10.4	50.4	10.6	6.8
1932	25.7	10.4	44.9	11.4	7.6
1933	27.0	16.6	39.5	10.2	6.6
1934	26.0	13.6	45.4	8.6	6.3
1935	25.3	14.9	46.0	7.4	6.4
1936	21.1	14.5	53.5	4.9	6.0
1937	22.6	12.5	54.3	4.4	6.2

P90–95

Year	Wage	Entrep.	Divid.	Interest	Rents
1987	74.2	12.5	5.1	7.9	0.4
1988	70.5	15.5	5.3	8.0	0.7
1989	68.8	15.9	5.2	9.1	0.9
1990	69.8	15.7	4.7	8.8	1.0
1991	70.1	16.0	4.5	8.2	1.1
1992	72.6	16.7	4.0	5.4	1.3
1993	73.4	16.8	3.8	4.5	1.4
1994	72.0	18.2	3.9	4.4	1.6
1995	71.6	17.6	4.2	5.0	1.6
1996	71.7	18.6	3.7	4.4	1.6
1997	71.5	18.8	3.8	4.3	1.6
1998	71.3	18.7	4.1	4.3	1.7
1999	71.6	19.1	3.7	4.0	1.6
1916					
1917					
1918	67.9	18.5	2.5	5.6	5.5
1919	71.2	18.2	2.2	4.0	4.4
1920	73.2	15.3	2.6	5.3	3.6
1921	79.0	10.8	1.4	4.6	4.1
1922	75.7	12.9	1.8	4.9	4.7
1923	61.8	21.8	2.8	6.5	7.1
1924	58.1	23.5	3.0	7.2	8.2
1925	56.0	24.6	3.4	7.4	8.6
1926	56.9	22.2	4.6	7.8	8.5
1927	59.0	21.3	4.5	7.8	7.4
1928	61.2	20.2	4.5	7.8	6.3
1929	59.7	19.8	5.8	7.7	7.0
1930	61.2	18.1	5.4	8.8	6.4
1931	62.6	16.4	5.6	8.7	6.7
1932	71.4	12.1	4.7	6.6	5.1
1933	71.5	16.2	2.3	5.9	4.1
1934	74.5	15.0	3.4	3.8	3.4
1935	73.8	15.0	3.2	4.2	3.8
1936	72.2	15.9	3.3	4.0	4.6
1937	74.0	13.6	4.3	3.5	4.6

P95–99

Year	Wage	Entrep.	Divid.	Interest	Rents
1987	61.2	17.8	8.0	11.3	1.7
1988	56.9	22.5	8.5	10.5	1.6
1989	52.9	23.8	8.2	12.8	2.2
1990	54.1	24.0	7.5	12.1	2.3
1991	53.1	24.8	7.3	12.4	2.4
1992	58.6	25.1	5.9	7.9	2.5
1993	58.7	25.7	5.8	6.8	3.0
1994	54.7	29.3	6.0	6.9	3.1
1995	55.7	27.8	6.4	7.4	2.8
1996	55.5	29.6	5.6	6.5	2.7
1997	56.1	29.3	5.6	6.3	2.7
1998	56.9	28.9	5.5	5.9	2.8
1999	58.1	28.6	5.1	5.7	2.6
1916					
1917	41.3	44.4	4.1	2.6	7.7
1918	50.7	29.8	6.2	6.9	6.4
1919	52.1	31.5	4.8	5.9	5.7
1920	58.6	24.1	5.6	6.8	4.9
1921	62.8	18.7	6.0	7.2	5.4
1922	60.5	21.1	5.3	7.1	6.0
1923	48.0	29.9	5.8	8.3	7.9
1924	48.5	29.2	4.7	8.5	9.1
1925	50.5	28.5	5.2	7.5	8.3
1926	51.0	27.3	6.0	7.7	8.0
1927	53.0	25.3	6.4	8.3	7.1
1928	55.5	21.5	8.8	7.9	6.2
1929	55.1	21.1	9.7	7.7	6.5
1930	57.7	15.7	11.4	8.8	6.4
1931	58.3	14.3	11.3	9.4	6.6
1932	64.6	11.7	8.9	8.2	6.7
1933	65.6	16.1	4.7	6.8	6.8
1934	65.9	16.5	5.0	5.9	6.6
1935	66.2	17.0	5.0	5.2	6.6
1936	63.4	18.6	6.9	3.7	7.4
1937	71.6	15.1	6.5	2.9	4.0

(contd.)

Table 5A.7 (*Contd.*)

	P90–100						P95–100						P99–100						P99.5–100				
	Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents
1938	29.4	15.6	44.2	4.8	6.0	1938	18.9	9.5	63.6	3.4	4.6	1938	74.0	14.9	3.0	3.6	4.6	1938	72.1	15.0	5.8	3.1	4.0
1939	26.5	15.2	47.7	4.4	6.1	1939	16.3	8.1	67.8	3.1	4.7	1939	76.0	13.2	4.5	2.7	3.7	1939	71.3	15.8	6.2	2.8	3.8
1940	27.2	16.5	46.6	3.7	6.0	1940	16.3	9.4	66.9	2.7	4.6	1940	81.9	10.4	3.2	1.6	2.8	1940	69.9	17.0	6.5	2.7	3.9
1941	28.0	25.1	39.1	2.8	5.1	1941	16.8	19.4	57.4	2.2	4.2	1941	83.3	12.0	1.6	1.0	2.0	1941	65.7	20.6	7.1	2.5	4.1
1942	25.3	39.4	28.8	2.4	4.2	1942	13.3	42.3	39.3	1.9	3.2	1942	79.5	14.7	2.1	0.7	3.0	1942	68.4	21.9	4.6	1.8	3.3
1943	21.2	46.8	25.9	2.4	3.7	1943	11.5	44.8	38.3	2.3	3.1	1943	78.8	15.7	1.7	0.6	3.2	1943	65.0	26.0	4.4	1.5	3.2
1944	22.1	45.7	25.7	2.5	4.1	1944	12.5	39.6	41.8	2.5	3.6	1944	87.9	9.1	0.8	0.7	1.6	1944	65.6	26.0	4.0	1.5	3.0
1945	21.8	45.6	25.7	2.7	4.2	1945	13.4	35.0	44.5	3.1	3.9	1945	85.8	11.4	0.7	0.6	1.6	1945	59.5	31.6	4.4	1.5	3.1
1946	23.9	38.7	30.0	2.9	4.5	1946	15.1	24.4	52.5	3.6	4.4	1946	80.0	16.3	1.3	0.6	1.8	1946	54.0	36.4	5.0	1.5	3.1
1947	25.7	30.9	35.4	2.6	5.4	1947	15.0	17.1	59.6	3.0	5.3	1947	81.4	15.2	1.0	0.5	1.8	1947	56.0	34.2	5.1	1.4	3.3
1948	26.1	29.2	36.8	2.5	5.5	1948	15.6	17.1	59.4	2.7	5.2	1948	84.5	12.3	0.9	0.6	1.7	1948	61.5	29.5	4.6	1.3	3.1
1949	28.0	24.8	38.6	2.7	6.0	1949	17.0	13.6	61.4	2.7	5.4	1949	85.3	10.8	1.2	0.8	1.9	1949	66.3	24.3	4.7	1.4	3.3
1950	25.2	26.7	39.4	2.7	6.1	1950	11.9	15.0	64.7	2.6	5.8	1950	86.4	10.0	1.0	0.7	1.8	1950	66.6	24.0	4.7	1.4	3.3
1951	27.3	26.8	37.5	2.5	5.8	1951	15.4	15.0	61.6	2.3	5.6	1951	87.6	9.1	0.9	0.6	1.7	1951	67.2	23.5	4.7	1.4	3.1
1952	28.1	24.5	38.5	2.7	6.2	1952	16.3	11.5	63.5	2.7	6.0	1952	86.9	9.5	1.3	0.6	1.7	1952	70.1	21.7	4.2	1.4	2.7
1953	30.3	24.2	36.6	2.8	6.1	1953	17.2	11.3	62.5	2.8	6.2	1953	88.4	8.3	1.2	0.7	1.5	1953	71.4	20.4	4.1	1.4	2.8
1954	29.6	22.7	38.7	3.1	6.0	1954	18.2	11.5	61.0	3.0	6.3	1954	84.5	11.4	1.1	0.8	2.2	1954	72.7	19.2	4.1	1.0	3.0
1955	29.0	19.9	43.6	2.9	4.7	1955	17.1	9.3	67.1	2.7	4.0	1955	83.1	12.3	1.9	0.9	1.8	1955	75.4	18.0	3.2	0.9	2.5
1956	29.6	17.9	44.8	3.0	4.6	1956	17.7	6.7	68.7	2.9	4.0	1956	84.0	11.9	1.4	0.6	2.1	1956	72.6	20.4	3.4	1.2	2.4
1957	28.9	19.6	43.9	3.3	4.3	1957	17.6	7.3	67.3	3.3	4.4	1957	88.8	8.2	1.2	0.9	0.9	1957	70.0	20.7	5.1	1.9	2.2
1958	30.0	18.9	42.9	3.7	4.5	1958	18.1	7.5	66.1	3.7	4.6	1958	89.3	8.1	0.9	0.9	0.8	1958	70.8	19.8	5.2	2.0	2.2
1959	29.2	20.1	42.9	3.9	4.0	1959	17.8	8.6	65.9	3.8	3.8	1959	89.5	7.4	1.3	1.0	0.7	1959	69.4	20.6	5.7	2.2	2.1
1960	30.6	17.1	43.3	4.2	4.8	1960	18.1	5.4	68.4	4.2	3.8	1960	90.3	6.8	1.2	1.1	0.6	1960	70.3	19.4	5.8	2.4	2.1
1961	30.0	18.9	43.0	4.3	3.8	1961	17.0	7.8	67.5	4.3	3.4	1961	88.5	7.6	1.7	1.4	0.8	1961	73.6	17.7	4.5	2.5	1.8
1962	29.7	17.8	44.0	4.6	3.8	1962	17.4	5.4	68.7	4.7	3.8	1962	88.9	7.3	1.4	1.6	0.8	1962	73.1	17.9	4.5	2.7	1.7
1963	29.1	17.4	44.8	5.0	3.7	1963	16.6	4.9	69.9	4.9	3.6	1963	88.1	7.4	1.8	2.0	0.7	1963	73.6	17.1	4.4	3.2	1.6
1964	29.0	18.3	45.1	5.1	2.4	1964	12.6	3.2	78.0	4.7	1.5	1964	86.2	8.6	2.4	2.2	0.6	1964	71.6	19.1	4.5	3.5	1.3
1965	29.1	19.2	44.1	5.4	2.2	1965	13.1	5.7	74.0	5.3	1.9	1965	83.9	10.7	2.3	2.5	0.6	1965	72.0	19.3	3.9	3.6	1.2
1966	29.8	23.4	37.9	5.3	3.6	1966	15.9	11.3	62.9	5.8	4.0	1966	88.3	7.4	1.4	2.3	0.6	1966	72.7	17.9	4.3	3.5	1.6
1967	30.4	24.7	35.7	5.7	3.6	1967	17.8	13.6	58.0	6.4	4.1	1967	88.2	7.3	1.7	2.3	0.6	1967	73.3	17.4	4.1	3.7	1.4
1968	29.3	21.7	39.7	6.4	2.9	1968	18.2	11.3	58.8	8.2	3.6	1968	88.6	7.0	1.3	2.4	0.6	1968	73.7	17.2	3.9	3.9	1.3
1969	32.1	21.7	34.4	8.1	3.7	1969	18.4	8.3	57.2	11.2	4.8	1969	88.6	6.8	1.4	2.6	0.6	1969	75.3	16.1	3.7	3.7	1.2
1970	32.2	23.0	31.8	8.9	4.1	1970	18.1	10.6	55.0	11.2	5.0	1970	89.2	6.0	1.5	2.7	0.5	1970	77.1	14.1	3.5	4.1	1.1
1971	34.0	22.9	30.3	8.6	4.3	1971	19.0	13.6	51.5	10.8	5.1	1971	90.1	5.6	1.1	2.8	0.4	1971	77.6	13.4	3.5	4.4	1.2
1972	37.4	21.7	28.6	8.1	4.2	1972	24.5	12.3	48.3	9.9	4.9	1972	89.6	5.9	1.3	2.8	0.5	1972	76.4	14.6	3.3	4.5	1.2
1973	36.9	22.1	27.2	9.2	4.6	1973	23.3	12.8	46.2	11.8	5.8	1973	88.8	6.4	1.4	3.0	0.5	1973	74.2	16.0	3.4	4.8	1.5

1974–1999

P99–99.5

Year	Wage	Entrep.	Divid.	Interest	Rents
1974	74.3	15.5	3.4	5.3	1.6
1975	77.4	13.3	3.2	4.8	1.4
1976	77.9	12.7	3.3	5.1	1.0
1977	78.1	12.4	3.4	5.2	1.0
1978	78.0	12.6	3.3	5.2	1.0
1979	78.4	11.5	3.3	5.8	1.0
1980	79.7	8.5	3.6	7.4	0.9
1981	80.6	6.1	3.5	9.2	0.5
1982	81.2	5.4	3.9	9.0	0.6
1983	83.4	5.7	3.2	7.5	0.2
1984	81.8	6.3	3.3	8.5	0.1
1985	82.9	6.6	3.0	7.8	−0.3
1986	83.3	7.3	3.1	6.4	−0.2
1987	81.8	8.9	3.5	6.0	−0.2
1988	80.3	10.4	3.2	6.2	−0.1
1989	79.3	10.3	3.4	6.9	0.1
1990	80.5	9.8	2.9	6.7	0.1
1991	80.8	10.2	2.8	5.9	0.3
1992	82.6	10.5	2.6	3.9	0.4
1993	83.2	10.7	2.6	3.1	0.4
1994	82.9	10.8	2.7	2.9	0.7
1995	82.1	10.6	2.9	3.5	0.8
1996	83.0	10.7	2.5	3.1	0.7
1997	82.5	11.0	2.5	3.1	0.9
1998	82.0	11.0	3.0	3.2	0.9
1999	82.2	11.4	2.6	2.9	0.9

P99.5–99.9

Year	Wage	Entrep.	Divid.	Interest	Rents
1974	36.2	22.5	25.6	9.8	5.9
1975	40.7	20.3	25.0	8.3	5.7
1976	43.4	18.6	24.8	7.5	5.7
1977	45.4	17.5	24.5	7.3	5.2
1978	45.9	16.9	24.2	7.5	5.5
1979	46.8	14.2	23.9	9.5	5.6
1980	49.1	10.4	23.0	11.6	6.0
1981	50.7	4.6	22.1	15.7	6.9
1982	47.6	8.0	22.1	15.1	7.3
1983	50.2	12.1	18.7	12.9	6.1
1984	53.9	12.1	13.1	15.6	5.3
1985	46.1	15.5	15.4	14.9	8.1
1986	49.2	14.6	17.5	13.8	4.9
1987	52.3	22.0	9.6	13.7	2.3
1988	48.4	26.8	10.7	12.2	2.0
1989	43.5	28.6	10.2	15.2	2.6
1990	45.7	27.4	9.6	14.4	2.8
1991	43.2	29.3	9.4	15.5	2.7
1992	53.2	27.6	7.3	9.3	2.7
1993	51.1	29.8	7.2	8.5	3.4
1994	44.4	35.9	7.2	8.9	3.5
1995	46.7	32.7	8.0	9.3	3.3
1996	46.6	35.0	7.1	8.0	3.3
1997	48.0	34.6	6.8	7.6	3.1
1998	50.4	33.3	6.3	7.0	3.0
1999	53.1	31.8	5.7	6.7	2.7

P99.9–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1974	22.9	18.3	39.9	11.1	7.8
1975	25.8	16.7	40.1	9.7	7.6
1976	27.9	16.4	38.9	8.4	8.3
1977	29.2	15.6	39.4	8.1	7.7
1978	30.7	16.3	37.7	7.9	7.4
1979	31.3	13.7	36.2	11.5	7.3
1980	33.7	10.7	34.7	13.3	7.6
1981	35.4	3.5	32.5	18.9	9.7
1982	30.3	12.1	30.8	18.6	8.3
1983	34.0	21.4	23.9	14.6	6.1
1984	32.6	28.2	17.0	16.3	5.9
1985	34.5	26.5	15.9	17.1	6.0
1986	38.8	24.1	18.0	15.7	3.4
1987	36.2	31.3	12.2	17.9	2.5
1988	38.7	30.3	14.7	14.3	2.0
1989	30.8	35.3	13.2	17.9	2.7
1990	34.3	33.1	13.3	16.6	2.7
1991	29.9	36.4	11.8	19.3	2.6
1992	46.1	32.3	8.5	10.8	2.3
1993	41.0	36.2	8.7	10.4	3.8
1994	32.7	43.6	8.4	11.4	3.9
1995	35.8	38.8	10.2	11.7	3.6
1996	36.4	42.0	8.5	9.5	3.6
1997	40.1	40.0	8.0	8.8	3.2
1998	45.8	36.8	6.6	7.9	2.9
1999	51.5	32.4	6.1	7.2	2.8

P95–99

Year	Wage	Entrep.	Divid.	Interest	Rents
1974	86.9	6.6	2.0	3.8	0.8
1975	88.7	5.6	1.4	3.7	0.5
1976	88.4	5.8	1.5	3.7	0.6
1977	88.7	5.4	1.5	3.9	0.4
1978	88.4	5.8	1.6	3.7	0.5
1979	89.1	5.2	1.6	4.0	0.2
1980	88.6	4.5	1.7	4.9	0.4
1981	88.1	3.7	1.6	6.6	0.0
1982	89.2	2.5	2.0	6.2	0.0
1983	89.5	3.4	1.6	5.7	−0.1
1984	89.9	3.2	1.4	5.8	−0.4
1985	89.9	3.2	1.4	5.8	−0.4
1986	90.1	3.8	1.7	4.8	−0.5
1987	90.1	4.3	1.9	4.3	−0.6
1988	89.4	4.9	2.0	4.2	−0.5
1989	88.6	4.9	1.9	5.1	−0.5
1990	88.7	4.7	2.0	4.9	−0.3
1991	89.4	4.7	1.8	4.4	−0.3
1992	90.9	4.3	1.7	3.3	−0.1
1993	90.9	5.0	1.8	2.5	−0.1
1994	91.1	5.0	1.6	2.2	0.1
1995	90.4	4.9	1.8	2.8	0.1
1996	91.7	4.4	1.6	2.3	0.1
1997	90.8	4.6	1.8	2.6	0.2
1998	91.1	4.7	1.9	2.1	0.2
1999	91.2	4.8	1.7	2.2	0.2

P99–99.5

Year	Wage	Entrep.	Divid.	Interest	Rents
1916	35.0	38.4	10.0	8.3	8.3
1917	35.6	35.7	13.0	8.9	6.8
1918	34.3	35.9	13.1	9.4	7.4
1919	37.7	36.4	12.0	8.4	5.6
1920	42.2	29.0	15.1	8.3	5.3
1921	47.4	23.9	13.5	9.0	6.1
1922	44.2	25.1	13.0	9.5	8.0
1923	44.5	23.8	13.9	9.3	8.5
1924	43.6	27.9	11.7	8.6	8.1
1925	41.7	28.3	13.0	8.7	8.3
1926	41.0	27.3	14.7	9.2	7.8

P99.5–99.9

Year	Wage	Entrep.	Divid.	Interest	Rents
1916	26.9	37.4	19.0	9.4	7.2
1917	30.6	23.4	29.6	10.9	5.5
1918	33.5	26.1	24.8	10.0	5.6
1919	33.7	30.2	21.3	9.9	4.9
1920	36.1	26.1	23.7	9.5	4.6
1921	39.4	22.3	22.1	10.4	5.8
1922	35.7	22.4	22.8	10.4	8.3
1923	35.4	22.1	24.1	10.1	8.3
1924	34.6	23.7	23.7	10.1	7.9
1925	32.8	24.1	24.8	10.1	8.1
1926	33.3	22.6	25.7	10.5	7.9

P99.9–100

Year	Wage	Entrep.	Divid.	Interest	Rents
1916	13.8	31.4	39.9	9.7	5.2
1917	20.1	17.4	47.0	11.9	3.6
1918	24.4	21.9	38.8	11.4	3.5
1919	23.7	30.1	31.7	11.0	3.6
1920	25.5	25.5	34.8	10.3	3.9
1921	27.3	21.8	35.0	11.2	4.8
1922	24.1	20.8	36.2	11.2	7.6
1923	23.7	19.5	39.0	10.3	7.4
1924	23.6	18.9	40.3	10.5	6.7
1925	22.3	20.7	40.1	9.9	7.0
1926	21.5	17.8	43.4	10.5	6.8

P95–99

Year	Wage	Entrep.	Divid.	Interest	Rents
1916	56.8	24.3	5.6	9.3	4.0
1917	61.2	13.8	8.4	14.3	2.4
1918	49.5	23.5	10.1	14.3	2.6
1919	42.6	31.8	10.0	12.9	2.7
1920	48.7	25.4	11.6	11.0	3.4
1921	51.0	21.3	13.5	10.2	4.0
1922	52.6	18.1	11.2	10.3	7.8
1923	57.6	13.5	12.2	9.7	7.1
1924	58.1	13.5	12.4	9.5	6.5
1925	56.5	19.1	10.7	8.6	5.1
1926	62.7	13.3	11.4	8.1	4.5

(contd.)

Table 5A.7 (*Cont.*)

	P90–100						P95–100						P99–100						P99.5–100				
	Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents		Wage	Entrep.	Divid.	Interest	Rents
1927	41.7	25.8	15.0	9.8	7.7	1927	33.2	21.3	26.5	11.2	7.8	1927	21.3	17.3	44.1	10.6	6.7	1927	10.2	16.3	61.0	8.4	4.1
1928	42.1	25.2	15.4	9.7	7.5	1928	33.1	20.0	27.7	11.4	7.8	1928	20.5	18.3	44.3	10.6	6.3	1928	9.3	24.1	54.3	9.2	3.1
1929	42.0	25.1	16.2	9.3	7.4	1929	33.0	19.7	28.1	10.9	8.2	1929	19.8	16.6	45.7	10.9	7.0	1929	8.8	20.6	56.8	10.2	3.7
1930	46.5	20.4	16.9	9.3	6.8	1930	36.7	17.1	27.6	11.0	7.6	1930	22.9	13.0	45.4	11.2	7.5	1930	12.2	6.7	69.1	8.1	3.9
1931	52.1	17.6	14.7	9.3	6.3	1931	41.3	15.9	24.2	11.3	7.4	1931	26.9	12.5	40.7	11.7	8.2	1931	12.9	6.5	67.8	8.4	4.4
1932	62.6	12.7	11.8	7.7	5.3	1932	48.0	13.9	19.6	11.1	7.4	1932	30.5	12.0	35.7	12.9	8.9	1932	15.6	6.9	64.0	8.5	5.0
1933	63.0	14.6	9.1	7.7	5.7	1933	49.1	17.8	16.2	10.0	6.9	1933	32.5	17.6	30.9	11.1	7.8	1933	15.6	14.6	57.4	8.2	4.2
1934	60.9	18.0	10.5	4.9	5.6	1934	46.2	19.8	18.1	9.1	6.8	1934	31.2	15.8	35.9	9.7	7.4	1934	15.6	9.2	64.6	6.3	4.2
1935	59.3	21.2	9.8	4.1	5.7	1935	45.9	19.9	19.2	8.1	7.0	1935	30.8	16.6	36.7	8.5	7.4	1935	14.2	11.4	64.8	5.2	4.4
1936	52.9	23.4	14.7	2.8	6.2	1936	40.2	20.7	26.3	5.9	6.9	1936	26.1	16.1	45.3	5.6	6.9	1936	10.8	11.3	70.3	3.4	4.2
1937	50.4	23.5	15.3	4.6	6.2	1937	40.5	20.9	26.2	5.5	6.9	1937	27.5	15.1	45.4	5.1	6.9	1937	12.5	7.2	72.5	3.2	4.6
1938	54.2	23.0	12.0	4.7	6.1	1938	45.5	22.0	19.9	5.7	6.8	1938	34.1	18.4	35.5	5.5	6.6	1938	18.9	9.5	63.6	3.4	4.6
1939	52.1	25.0	12.5	4.3	6.0	1939	42.9	24.0	21.1	5.3	6.7	1939	31.3	18.6	38.3	5.0	6.8	1939	16.3	8.1	67.8	3.1	4.7
1940	50.8	26.3	13.0	3.9	6.0	1940	42.8	25.1	21.0	4.6	6.5	1940	32.2	19.7	37.3	4.2	6.6	1940	16.3	9.4	66.9	2.7	4.6
1941	47.3	31.2	12.9	3.2	5.4	1941	41.6	30.7	18.7	3.5	5.5	1941	32.8	27.6	31.2	3.0	5.4	1941	16.8	19.4	57.4	2.2	4.2
1942	44.4	37.0	10.8	2.9	5.0	1942	39.1	36.9	15.9	3.1	5.0	1942	30.2	38.1	24.4	2.7	4.5	1942	13.3	42.3	39.3	1.9	3.2
1943	37.3	45.4	10.3	2.5	4.6	1943	32.3	47.2	13.9	2.6	4.1	1943	24.5	47.4	21.8	2.5	3.9	1943	11.5	44.8	38.3	2.3	3.1
1944	37.7	46.6	9.0	2.3	4.3	1944	32.7	47.8	12.7	2.5	4.3	1944	25.7	47.9	19.7	2.5	4.2	1944	12.5	39.6	41.8	2.5	3.6
1945	35.3	49.9	8.5	2.2	4.1	1945	31.3	50.1	11.9	2.4	4.3	1945	24.5	48.9	19.7	2.6	4.3	1945	13.4	35.0	44.5	3.1	3.9
1946	36.8	47.9	9.2	2.0	4.0	1946	32.9	47.8	12.8	2.3	4.2	1946	26.8	43.5	22.4	2.6	4.6	1946	15.1	24.4	52.5	3.6	4.4
1947	40.2	43.4	10.0	2.0	4.3	1947	36.3	42.4	14.5	2.2	4.7	1947	29.6	35.9	26.5	2.5	5.4	1947	15.0	17.1	59.6	3.0	5.3
1948	41.9	42.4	9.4	2.0	4.4	1948	37.0	40.5	15.4	2.2	4.9	1948	29.9	33.6	28.6	2.4	5.6	1948	15.6	17.1	59.4	2.7	5.2
1949	45.2	37.5	10.2	2.2	4.9	1949	39.2	36.7	16.1	2.5	5.5	1949	32.2	29.1	29.8	2.7	6.2	1949	17.0	13.6	61.4	2.7	5.4
1950	43.9	38.1	10.8	2.2	5.0	1950	38.0	37.7	16.3	2.5	5.5	1950	30.0	30.9	30.1	2.7	6.2	1950	11.9	15.0	64.7	2.6	5.8
1951	44.8	37.1	11.1	2.2	4.8	1951	38.3	37.8	16.1	2.4	5.3	1951	31.6	31.1	28.9	2.5	5.9	1951	15.4	15.0	61.6	2.3	5.6
1952	44.4	38.2	10.1	2.4	4.9	1952	39.1	38.2	15.0	2.5	5.2	1952	32.2	29.0	29.8	2.7	6.3	1952	16.3	11.5	63.5	2.7	6.0
1953	47.0	36.6	9.6	2.3	4.5	1953	42.1	35.4	14.9	2.6	5.1	1953	34.9	28.7	27.6	2.8	6.0	1953	17.2	11.3	62.5	2.8	6.2
1954	46.0	36.8	10.3	2.6	4.4	1954	40.7	36.5	14.9	3.0	4.9	1954	33.5	26.6	30.9	3.1	5.9	1954	18.2	11.5	61.0	3.0	6.3
1955	44.2	38.6	10.5	2.6	4.0	1955	41.7	37.4	15.7	3.0	2.1	1955	33.3	23.7	35.1	2.9	4.9	1955	17.1	9.3	67.1	2.7	4.0
1956	45.4	39.9	8.0	2.8	3.8	1956	40.5	34.3	18.0	3.0	4.3	1956	33.9	22.0	36.2	3.1	4.8	1956	17.7	6.7	68.7	2.9	4.0
1957	47.4	38.3	7.7	2.8	3.8	1957	41.2	34.2	17.6	3.2	3.8	1957	33.0	24.0	35.5	3.3	4.2	1957	17.6	7.3	67.3	3.3	4.4
1958	48.0	38.5	6.7	3.1	3.7	1958	41.5	34.1	17.2	3.3	3.9	1958	34.2	23.0	34.7	3.7	4.5	1958	18.1	7.5	66.1	3.7	4.6
1959	48.2	38.2	7.1	3.3	3.3	1959	40.9	34.6	17.1	3.6	3.8	1959	33.1	24.0	34.9	4.0	4.0	1959	17.8	8.6	65.9	3.8	3.8
1960	50.5	36.1	6.4	3.5	3.5	1960	42.6	32.4	17.1	3.8	4.0	1960	34.9	21.2	34.4	4.2	5.2	1960	18.1	5.4	68.4	4.2	3.8
1961	50.3	35.7	7.1	3.7	3.3	1961	42.3	32.6	17.6	3.9	3.6	1961	34.5	22.7	34.5	4.3	4.0	1961	17.0	7.8	67.5	4.3	3.4
1962	50.5	36.2	6.0	4.1	3.1	1962	42.7	32.3	17.3	4.3	3.5	1962	34.0	22.1	35.4	4.6	3.9	1962	17.4	5.4	68.7	4.7	3.8

Year	Wages	Entrep.	Divid.	Interest	Rents	Year	Wages	Entrep.	Divid.	Interest	Rents	Year	Wages	Entrep.	Divid.	Interest	Rents	Year	Wages	Entrep.	Divid.	Interest	Rents
1963	51.6	34.7	6.4	4.4	2.9	1963	42.8	31.7	17.6	4.7	3.3	1963	33.5	21.9	35.8	5.0	3.8	1963	16.6	4.9	69.9	4.9	3.6
1964	52.6	31.4	9.5	4.4	2.1	1964	42.4	31.8	18.7	4.7	2.5	1964	34.2	23.0	34.8	5.3	2.7	1964	12.6	3.2	78.0	4.7	1.5
1965	52.0	31.2	10.3	4.6	1.9	1965	42.3	32.5	18.2	4.9	2.1	1965	34.0	23.2	35.1	5.4	2.3	1965	13.1	5.7	74.0	5.3	1.9
1966	48.2	34.6	9.8	4.8	2.7	1966	41.6	36.5	13.9	4.7	3.4	1966	34.5	27.5	29.4	5.2	3.5	1966	15.9	11.3	62.9	5.8	4.0
1967	49.1	34.3	9.3	5.0	2.3	1967	42.4	37.0	13.5	4.6	2.4	1967	34.5	28.3	28.4	5.5	3.4	1967	17.8	13.6	58.0	6.4	4.1
1968	51.1	32.3	8.9	5.0	2.7	1968	41.9	36.6	13.7	5.2	2.7	1968	32.7	24.9	33.8	5.9	2.7	1968	18.2	11.3	58.8	8.2	3.6
1969	51.3	33.7	8.2	4.9	1.9	1969	44.3	34.3	13.5	5.6	2.3	1969	36.3	25.8	27.5	7.1	3.4	1969	18.4	8.3	57.2	11.2	4.8
1970	54.5	30.2	7.5	5.5	2.3	1970	46.0	34.0	11.4	6.0	2.7	1970	36.8	27.1	24.1	8.1	3.8	1970	18.1	10.6	55.0	11.2	5.0
1971	57.2	28.1	6.8	6.0	2.0	1971	47.2	32.6	10.8	6.3	3.1	1971	38.9	25.9	23.4	7.9	4.0	1971	19.0	13.6	51.5	10.8	5.1
1972	54.9	28.7	7.7	6.0	2.7	1972	51.1	29.1	10.4	6.3	3.1	1972	41.5	24.7	22.3	7.6	4.0	1972	24.5	12.3	48.3	9.9	4.9
1973	55.5	28.2	7.3	6.4	2.6	1973	50.5	29.3	10.8	6.6	2.9	1973	41.2	25.0	21.2	8.3	4.2	1973	23.3	12.8	46.2	11.8	5.8
1974	56.7	27.3	6.9	6.6	2.5	1974	51.2	27.4	10.3	7.9	3.2	1974	40.8	24.0	20.7	9.3	5.2	1974	22.9	18.3	39.9	11.1	7.8
1975	59.0	25.0	6.8	6.6	2.6	1975	55.1	24.0	10.1	7.3	3.5	1975	45.9	21.6	19.6	7.8	5.0	1975	25.8	16.7	40.1	9.7	7.6
1976	60.0	24.0	6.7	6.8	2.5	1976	57.2	22.4	10.5	6.7	3.2	1976	48.9	19.3	19.7	7.2	4.8	1976	27.9	16.4	38.9	8.4	8.3
1977	61.5	22.8	7.2	6.4	2.1	1977	58.1	21.7	10.3	6.6	3.3	1977	51.1	18.2	19.3	7.1	4.4	1977	29.2	15.6	39.4	8.1	7.7
1978	64.2	21.0	6.4	6.1	2.2	1978	60.7	20.1	10.0	6.2	3.1	1978	51.4	17.1	19.3	7.3	4.9	1978	30.7	16.3	37.7	7.9	7.4
1979	64.4	19.6	6.4	7.4	2.2	1979	62.5	16.7	10.2	7.6	3.1	1979	52.3	14.4	19.5	8.7	5.0	1979	31.3	13.7	36.2	11.5	7.3
1980	66.3	15.0	7.0	9.5	2.2	1980	63.2	13.9	10.3	9.5	3.1	1980	54.9	10.3	18.5	10.9	5.4	1980	33.7	10.7	34.7	13.3	7.6
1981	68.6	10.4	7.0	12.1	1.9	1981	65.7	7.9	10.5	12.8	3.1	1981	56.5	5.0	18.2	14.5	5.9	1981	35.4	3.5	32.5	18.9	9.7
1982	69.6	9.5	6.8	12.6	1.5	1982	67.7	7.3	9.9	11.7	3.4	1982	54.7	6.3	18.5	13.6	6.9	1982	30.3	12.1	30.8	18.6	8.3
1983	73.7	9.5	6.6	9.4	0.9	1983	70.4	8.4	8.8	10.1	2.3	1983	57.6	7.8	16.3	12.1	6.1	1983	34.0	21.4	23.9	14.6	6.1
1984	71.9	9.6	5.9	11.3	1.3	1984	71.2	8.4	8.0	10.8	1.6	1984	64.1	4.4	11.3	15.2	5.0	1984	32.6	28.2	17.0	16.3	5.9
1985	73.9	9.4	6.1	10.3	0.4	1985	69.8	8.7	7.8	11.8	2.0	1985	51.2	10.6	15.2	14.0	9.0	1985	34.5	26.5	15.9	17.1	6.0
1986	75.1	10.9	5.7	8.2	0.1	1986	70.6	8.8	9.8	10.2	0.7	1986	53.9	10.4	17.2	12.9	5.6	1986	38.8	24.1	18.0	15.7	3.4
1987	70.4	15.9	5.2	8.1	0.4	1987	68.8	14.1	6.5	9.3	1.2	1987	59.9	17.7	8.4	11.7	2.2	1987	36.2	31.3	12.2	17.9	2.5
1988	68.3	17.2	5.1	8.5	0.9	1988	65.6	18.1	6.2	8.7	1.3	1988	53.9	24.8	8.4	10.9	2.0	1988	38.7	30.3	14.7	14.3	2.0
1989	67.4	18.2	4.9	8.8	0.7	1989	62.0	19.1	6.4	10.6	1.9	1989	50.1	25.1	8.6	13.7	2.5	1989	30.8	35.3	13.2	17.9	2.7
1990	68.8	17.4	4.5	8.2	1.0	1990	62.1	20.7	5.5	9.8	1.8	1990	52.1	24.3	7.6	13.2	2.8	1990	34.3	33.1	13.3	16.6	2.7
1991	68.9	18.0	4.7	7.1	1.3	1991	62.1	20.8	5.4	9.6	2.1	1991	50.3	25.4	8.0	13.4	2.8	1991	29.9	36.4	11.8	19.3	2.6
1992	70.4	19.1	4.0	5.0	1.6	1992	64.2	22.6	4.6	6.3	2.3	1992	57.4	24.8	6.6	8.5	2.9	1992	46.1	32.3	8.5	10.8	2.3
1993	71.3	18.7	4.0	4.4	1.6	1993	65.9	21.8	4.5	5.2	2.5	1993	56.5	26.4	6.5	7.5	3.2	1993	41.0	36.2	8.7	10.4	3.8
1994	71.1	20.0	3.5	3.7	1.6	1994	64.3	23.1	4.8	5.1	2.7	1994	50.7	31.9	6.6	7.5	3.3	1994	32.7	43.6	8.4	11.4	3.9
1995	70.6	19.2	4.0	4.5	1.7	1995	64.1	23.1	4.9	5.5	2.5	1995	52.2	29.6	6.9	8.1	3.1	1995	35.8	38.8	10.2	11.7	3.6
1996	69.7	20.7	3.7	4.3	1.7	1996	64.4	24.2	4.2	5.0	2.1	1996	52.4	31.0	6.2	7.2	3.2	1996	36.4	42.0	8.5	9.5	3.6
1997	69.8	20.6	4.1	4.0	1.6	1997	64.6	23.9	4.4	4.9	2.3	1997	52.6	31.3	6.1	6.9	3.1	1997	40.1	40.0	8.0	8.8	3.2
1998	70.7	19.9	4.0	3.8	1.7	1998	64.0	24.1	4.7	4.7	2.6	1998	53.1	31.3	6.1	6.5	3.0	1998	45.8	36.8	6.6	7.9	2.9
1999	70.4	20.5	3.7	3.6	1.9	1999	63.8	24.9	4.3	4.6	2.3	1999	54.2	31.3	5.5	6.3	2.7	1999	51.5	32.4	6.1	7.2	2.8

Notes: Groups ranked by income (AGI + adjustments) excluding realized capital gains and SS and UI benefits. Wages is defined as wages and salaries and pensions (and includes bonuses, stock-option exercises, etc.). Entrep. is profits from S-Corporations (entities not subject to corporate taxes and taxed only at the individual level) plus profits from Partnerships plus profits from sole proprietorship businesses (Schedule C income) plus farm income. Divid. is dividends distributed. Interest is interest income. Rents is rental income. The sums of all sources add up to 100% (other forms of income are very small and excluded from the decomposition).

and even less at the level of the top percentile, and excluding them simplifies the reading of our composition series (these small income categories were taken into account when computing top income levels and top income shares in total income).[71] For the 1966–99 period, the composition series were computed directly from the IRS micro-files. For the 1916–65 period,[72] the composition series were estimated from the published IRS tables indicating for each income bracket not only the number of taxpayers and the total amount of their taxable income but also the separate amounts for each type of income. The composition of income within each fractile was estimated from these tables using a simple linear interpolation method. Such a method is less satisfactory than the Pareto interpolation method used to estimate top income levels (no obvious law seems to fit composition patterns in a stable way), but micro-files show that the resulting estimates are still relatively precise: estimation errors are always less than 2 points, and they are usually much smaller (thanks to the fact that IRS tables are usually based on a very large number of income brackets).

The composition series reported in Table 5A.8 indicate for each income fractile the fraction of total income (including capital gains) that takes the form of capital gains. The concept of capital gains used to compute these series is again 'full capital gains', i.e., total pre-exclusion capital gains. We provide two sets of estimates in Table 5A.8: capital gains shares were computed both for fractiles of total income (excluding capital gains) (this corresponds to the 'variant 1' and 'variant 2' series described in section A2 above) and for fractiles of total income (including capital gains) (this corresponds to the 'variant 3' series described above). For the 1966–99 period, both capital gains shares series were computed directly from the IRS micro-files. For the 1916–65 and 2000–02 period, linear extrapolation from published IRS tables yields capital gains shares series for fractiles of net income or AGI (including the post-exclusion amount of capital gains), and one needs to correct these raw estimates in order to take re-ranking into account (see above). That is, capital gains shares are smaller for fractiles of income excluding capital gains than for fractiles of income including post-exclusion capital gains, and capital gains shares are smaller for fractiles of income including post-exclusion capital gains than for fractiles of income including pre-exclusion capital gains. Micro-files allowed us to compute the magnitudes of these corrections coefficients.[73] The capital gains shares series reported on Table 5A.8 demonstrate that re-ranking is substantial at the very top: in 1999, 53.8% of total income reported by the fractile P99.99–100 of the distribution of income including capital gains takes the form of capital gains, but the capital gains share

[71] The fact that these small income categories almost do not matter for top incomes implies that changes in tax law regarding those items (e.g., changes in the definition of taxable social security benefits) have negligible consequences for our income levels and shares series.

[72] We do not provide composition estimates for the 2000–02 period because better estimates will be obtained when the IRS micro-data become publicly available for those years. We do, however, compute the share of capital gains for years 2000–02 because this a necessary step to obtain variants 1 and 2 of the top income shares series presented earlier.

[73] The corrections formulas for capital gains shares that we inferred from micro-files are more complex than those applied to correct income levels, and they are available upon request.

Table 5A.8 Capital gains by fractiles of total income, US 1916–2002 (capital gains are expressed in % of total income (including capital gains) of each fractile)

A. (fractiles are defined by total income (excluding capital gains))

	P90–100	P95–100	P99–100	P99.9–100	P99.99–100	P90–95	P95–99	P99–99.5	P99.5–99.9	P99.9–99.99	P99.99–100
1916			3.2	4.1	4.0			1.1	2.8	4.2	4.0
1917		1.6	1.5	1.2	0.8		1.7	1.9	1.8	1.5	0.8
1918	1.2	1.3	1.4	0.8	0.4	0.7	1.3	1.9	1.8	1.0	0.4
1919	3.1	3.6	3.7	2.8	2.0	1.6	3.4	4.7	4.1	3.3	2.0
1920	3.5	3.9	3.4	1.5	0.6	2.3	4.5	5.5	3.9	1.9	0.6
1921	1.5	1.8	1.9	1.2	0.4	0.7	1.8	2.6	2.2	1.5	0.4
1922	2.7	3.4	4.2	4.9	5.8	1.0	2.4	3.6	3.9	4.4	5.8
1923	3.1	3.4	4.1	4.8	6.2	2.3	2.7	3.5	3.7	4.1	6.2
1924	3.8	4.3	5.7	6.5	7.0	2.3	2.7	4.9	5.5	6.3	7.0
1925	6.4	7.8	10.7	13.5	15.8	2.3	4.0	7.7	9.6	12.2	15.8
1926	5.1	6.0	8.0	10.5	12.9	2.3	3.4	5.4	6.8	9.1	12.9
1927	6.0	7.0	9.3	12.5	14.3	2.8	3.9	5.8	7.9	11.4	14.3
1928	8.5	10.3	14.7	19.5	20.7	2.8	3.8	8.3	12.5	18.6	20.7
1929	7.6	9.2	13.5	19.4	22.7	2.5	3.1	7.1	9.8	17.0	22.7
1930	2.9	3.4	4.3	6.1	8.0	1.6	2.5	2.7	3.3	4.9	8.0
1931	1.1	1.3	1.9	2.7	3.7	0.4	0.8	1.2	1.5	2.1	3.7
1932	0.5	0.6	0.9	1.4	1.5	0.3	0.3	0.3	0.8	1.3	1.5
1933	2.0	2.5	3.6	5.3	6.2	0.6	1.4	1.9	2.9	4.9	6.2
1934	1.1	1.4	1.8	2.2	1.6	0.3	0.9	1.2	1.9	2.5	1.6
1935	2.4	3.1	4.1	4.8	3.5	0.4	2.1	2.9	4.2	5.4	3.5
1936	4.3	5.2	6.3	6.7	4.4	2.0	3.8	5.0	6.7	7.9	4.4
1937	1.6	1.9	2.5	2.4	1.7	1.0	1.2	2.4	2.7	2.7	1.7
1938	2.0	2.4	3.6	5.4	8.8	0.9	1.3	2.3	2.8	3.6	8.8
1939	1.8	2.1	2.9	3.3	3.2	1.0	1.4	2.5	2.9	3.3	3.2
1940	1.5	1.9	2.6	3.1	3.9	0.7	1.2	2.1	2.5	2.7	3.9
1941	1.6	2.0	2.7	3.8	5.7	0.5	1.3	2.1	2.1	2.9	5.7
1942	1.1	1.4	1.9	2.7	4.0	0.1	0.9	1.6	1.4	2.1	4.0
1943	2.3	2.9	3.9	5.1	7.1	0.9	2.0	3.3	3.3	4.4	7.1
1944	2.3	2.9	3.8	5.1	6.8	0.8	2.1	3.0	3.3	4.4	6.8

B. (fractiles are defined by total income (including capital gains))

	P90–100	P95–100	P99–100	P99.9–100	P99.99–100	P90–95	P95–99	P99–99.5	P99.5–99.9	P99.9–99.99	P99.99–100
1916			7.5	8.6	10.9			1.5	4.5	8.1	14.2
1917		2.6	2.9	3.0	3.0		2.2	2.7	2.9	3.0	3.1
1918	1.7	2.0	2.4	2.3	1.8	0.8	1.6	2.7	2.9	2.0	1.6
1919	4.5	5.5	6.7	6.7	6.8	1.7	4.2	6.5	6.6	6.3	7.6
1920	4.7	5.6	5.6	4.9	3.3	2.5	5.5	7.7	6.4	3.8	2.4
1921	2.1	2.7	3.2	3.1	2.5	0.8	2.2	3.6	3.6	3.0	1.6
1922	4.5	5.8	8.4	9.4	12.4	1.1	3.0	5.1	6.3	8.5	19.9
1923	4.9	5.8	8.2	9.2	12.3	2.6	3.4	4.9	6.1	7.9	20.9
1924	6.0	7.4	11.0	12.3	15.8	2.6	3.4	6.8	8.8	11.9	23.2
1925	11.1	13.6	20.4	23.1	30.0	2.6	4.9	10.6	15.1	21.7	42.9
1926	9.0	10.9	16.1	18.5	24.9	2.6	4.2	7.5	10.9	16.7	37.3
1927	10.6	12.7	18.5	21.3	28.4	3.1	4.8	8.0	12.4	20.5	40.1
1928	15.4	18.7	27.8	31.6	40.0	3.1	4.8	11.5	19.2	31.4	51.1
1929	14.2	17.4	26.6	30.5	40.5	2.8	3.9	9.9	15.3	29.1	54.0
1930	5.4	6.3	9.3	11.0	16.0	1.8	3.1	3.8	5.3	9.4	25.8
1931	2.2	2.6	4.3	5.1	7.7	0.5	1.0	1.7	2.5	4.2	13.5
1932	0.7	0.9	2.0	2.5	3.6	0.3	0.4	0.4	1.4	2.6	5.6
1933	3.4	4.4	7.8	9.4	13.4	0.7	1.7	2.7	4.8	9.3	20.8
1934	1.7	2.2	3.4	4.0	4.7	0.3	1.1	1.8	3.2	4.9	4.5
1935	3.9	5.1	7.5	8.6	10.1	0.5	2.6	4.1	7.0	10.6	9.1
1936	6.8	8.4	11.3	12.5	13.9	2.2	4.7	7.2	11.1	15.2	11.4
1937	2.5	3.1	4.4	4.8	5.1	1.2	1.5	3.4	4.5	5.3	4.6
1938	3.5	4.5	7.3	8.7	12.7	1.0	1.6	3.4	4.7	7.2	21.9
1939	2.8	3.6	5.4	6.0	7.2	1.1	1.7	3.6	4.9	6.6	8.5
1940	2.5	3.2	4.9	5.5	7.1	0.7	1.5	3.0	4.1	5.4	10.3
1941	2.7	3.6	5.3	6.1	8.8	0.5	1.7	2.9	3.6	5.7	14.8
1942	1.9	2.5	3.8	4.3	6.3	0.2	1.2	2.3	2.4	4.2	10.9
1943	3.9	5.0	7.4	8.3	11.6	1.0	2.5	4.8	5.5	8.9	18.5
1944	3.7	4.9	7.2	8.3	11.6	0.9	2.7	4.3	5.5	8.9	17.7

(contd.)

Table 5A.8 (Contd.)

	A. (fractiles are defined by total income (excluding capital gains))													B. (fractiles are defined by total income (including capital gains))											
	P90–100	P95–100	P99–100	P99.5–100	P99.9–100	P99.99–100	95	99	99.5	99.9	99.99	100		P90–100	P95–100	P99–100	P99.5–100	P99.9–100	P99.99–100	95	99	99.5	99.9	99.99	100
1945	4.8	6.1	7.6	8.3	10.5	13.5	1.8	4.6	5.8	6.6	9.4	13.5	1945	7.9	10.2	14.4	16.6	23.2	33.3	2.0	5.8	8.5	11.1	18.8	33.3
1946	6.2	7.1	8.1	8.7	11.6	16.7	3.7	6.2	6.6	6.4	9.6	16.7	1946	9.7	11.7	15.6	17.9	26.2	40.0	4.2	8.0	9.6	10.9	19.3	40.0
1947	3.8	4.6	5.4	6.0	8.6	12.1	2.1	3.8	4.0	4.0	7.1	12.1	1947	6.2	7.7	10.6	12.6	19.6	30.3	2.3	4.8	5.7	6.7	14.2	30.3
1948	3.6	4.4	5.1	5.6	7.4	10.1	1.7	3.7	3.9	4.2	6.4	10.1	1948	5.7	7.2	9.9	11.5	16.9	25.7	1.9	4.6	5.6	7.0	12.8	25.7
1949	2.6	3.1	4.0	4.5	6.0	8.1	1.2	2.4	2.9	3.3	5.1	8.1	1949	4.1	5.3	7.8	9.2	13.7	20.9	1.3	3.0	4.2	5.6	10.2	20.9
1950	4.6	5.2	7.6	7.9	10.3	13.0	3.0	2.9	6.8	5.9	9.5	13.0	1950	7.4	9.0	14.3	15.9	22.6	32.2	3.4	3.7	9.8	10.0	18.9	32.2
1951	3.8	4.9	6.9	7.5	10.0	13.0	1.3	3.1	5.2	5.7	8.8	13.0	1951	6.4	8.5	13.2	15.4	22.4	32.3	1.5	4.0	7.6	9.6	17.5	32.3
1952	3.0	3.9	5.8	6.6	9.7	12.3	1.3	2.2	3.9	4.4	8.7	12.3	1952	5.2	6.8	11.4	13.7	21.6	30.7	1.4	2.8	5.7	7.4	17.4	30.7
1953	2.4	3.1	4.8	5.7	8.5	11.6	0.9	1.8	2.7	3.7	7.4	11.6	1953	4.1	5.5	9.5	11.9	19.2	29.0	1.0	2.3	3.9	6.2	14.7	29.0
1954	4.0	5.6	7.9	9.1	13.8	17.2	0.6	3.7	5.1	5.7	12.4	17.2	1954	7.0	9.8	15.7	19.0	30.3	41.0	0.7	4.7	7.5	9.7	24.8	41.0
1955	5.8	7.2	10.8	12.5	18.2	21.2	2.8	4.3	7.1	8.2	17.0	21.2	1955	10.0	12.9	21.4	25.7	39.3	49.0	3.2	5.4	10.3	13.9	33.9	49.0
1956	4.5	5.7	9.1	11.9	17.3	19.6	1.8	3.0	2.8	8.1	16.3	19.6	1956	8.0	10.7	18.7	24.3	37.1	45.9	2.0	3.8	4.1	13.7	32.6	45.9
1957	3.4	4.6	6.9	8.9	13.4	15.5	1.0	2.8	2.4	5.8	12.5	15.5	1957	6.0	8.2	14.0	18.3	29.2	37.5	1.1	3.5	3.4	9.8	25.1	37.5
1958	4.0	5.5	8.3	10.6	15.3	17.9	0.8	3.4	3.2	7.3	14.3	17.9	1958	7.0	9.8	16.7	21.6	33.3	42.4	0.9	4.3	4.6	12.4	28.6	42.4
1959	5.4	7.9	11.4	14.3	20.8	23.6	0.3	5.3	4.8	10.0	19.7	23.6	1959	9.8	14.1	23.0	29.1	44.2	53.4	0.3	6.7	6.9	16.9	39.4	53.4
1960	4.8	6.8	10.2	13.1	19.5	23.9	0.9	4.2	3.9	8.7	17.6	23.9	1960	8.6	12.3	21.0	27.2	42.1	54.1	1.0	5.4	5.7	14.7	35.3	54.1
1961	6.3	8.4	13.8	18.1	26.0	31.3	2.1	4.5	4.4	12.4	23.6	31.3	1961	11.7	16.0	28.5	37.1	54.6	66.7	2.3	5.8	6.4	21.1	47.2	66.7
1962	4.3	5.9	10.1	13.6	21.2	25.7	1.2	2.9	2.7	8.5	19.2	25.7	1962	8.1	11.3	21.3	28.4	45.3	57.3	1.3	3.6	3.8	14.4	38.4	57.3
1963	4.7	6.3	10.9	14.1	21.1	24.9	1.6	3.1	4.4	9.4	19.4	24.9	1963	8.6	11.9	22.3	29.0	45.1	55.9	1.8	3.9	6.3	15.9	38.9	55.9
1964	7.0	9.2	15.3	16.8	23.8	32.6	2.7	4.9	12.1	12.0	19.9	32.6	1964	12.3	16.6	29.5	34.4	51.0	68.8	3.0	6.2	17.9	20.5	39.8	68.8
1965	8.4	10.2	17.3	18.2	25.8	37.5	4.8	5.0	15.2	12.9	20.4	37.5	1965	14.5	18.7	33.4	37.8	55.3	76.3	5.4	6.4	22.6	22.0	40.8	76.3
1966	6.6	8.8	14.8	17.4	24.9	30.7	1.8	4.4	9.2	11.8	22.4	30.7	1966	10.5	14.4	25.3	31.5	48.6	68.0	2.3	5.6	10.2	16.4	36.7	68.0
1967	9.0	11.8	18.8	21.7	28.7	32.6	3.0	6.6	12.1	16.5	27.2	32.6	1967	13.6	18.3	30.7	36.1	53.3	72.8	3.3	7.9	17.2	20.3	41.1	72.8
1968	10.7	14.0	22.2	25.6	32.9	37.4	3.7	7.4	14.4	20.2	31.1	37.4	1968	15.6	21.3	35.3	42.1	60.0	78.9	3.0	9.1	17.1	24.6	47.3	78.9
1969	7.9	10.8	18.8	22.7	31.6	39.9	2.1	4.9	9.7	16.2	27.8	39.9	1969	12.2	17.0	31.1	38.5	58.4	79.7	2.1	5.5	12.2	18.9	42.8	79.7
1970	4.0	5.5	10.1	12.1	17.6	23.2	1.1	2.4	5.8	8.5	15.3	23.2	1970	7.5	10.6	20.1	25.2	41.7	64.4	1.3	3.8	8.7	12.0	28.9	64.4
1971	5.7	7.7	13.4	15.9	22.5	28.0	1.8	3.9	8.1	11.3	20.2	28.0	1971	9.9	13.9	25.1	31.3	49.0	71.0	1.9	5.6	10.7	16.6	35.8	71.0
1972	6.8	9.0	14.8	17.3	23.5	30.6	2.6	5.0	9.6	13.0	20.4	30.6	1972	11.9	16.4	28.4	34.9	53.4	75.3	2.7	7.4	13.1	19.1	40.1	75.3
1973	5.2	6.8	10.8	12.8	17.2	20.5	1.9	4.3	6.8	9.9	15.9	20.5	1973	10.2	13.9	24.9	30.0	46.5	68.5	2.8	6.2	13.7	17.1	35.0	68.5
1974	3.5	4.6	7.5	8.7	11.3	14.2	1.4	2.6	5.1	7.0	10.2	14.2	1974	7.2	9.9	17.9	22.6	35.3	55.0	1.7	4.4	7.3	12.9	26.0	55.0
1975	3.2	4.2	7.0	8.1	11.2	15.4	1.4	2.4	4.9	6.1	9.5	15.4	1975	6.5	9.1	16.3	20.1	31.7	51.2	1.5	4.2	8.2	11.6	22.0	51.2
1976	4.0	5.2	8.4	9.8	13.0	16.6	1.9	3.1	5.7	7.6	11.6	16.6	1976	7.9	10.8	18.6	22.2	34.0	52.1	2.1	5.6	10.7	13.4	25.1	52.1

Year																								
1977	4.2	5.4	8.8	10.0	13.1	15.6	1.9	3.3	6.4	8.0	12.1	15.6	8.4	11.6	20.9	25.0	37.4	58.2	2.2	5.3	11.7	15.5	26.7	58.2
1978	4.1	5.2	8.2	9.3	11.8	13.5	2.0	3.2	5.8	7.7	11.2	13.5	8.3	11.2	19.0	22.8	34.3	51.7	2.6	5.9	10.8	14.1	25.9	51.7
1979	6.6	8.8	14.9	17.7	25.0	34.7	2.3	4.5	8.4	12.0	20.3	34.7	12.4	17.0	29.6	35.5	50.5	71.7	3.0	7.4	14.8	21.5	36.5	71.7
1980	6.3	8.4	14.6	17.2	22.9	28.4	2.2	4.0	8.4	12.9	20.4	28.4	11.3	15.6	27.8	33.9	48.6	67.4	2.6	6.3	12.7	20.4	37.4	67.4
1981	5.9	7.9	13.8	16.4	21.6	26.8	2.1	3.7	8.1	12.3	19.3	26.8	11.1	15.7	29.1	35.4	51.9	71.1	2.0	5.3	12.8	19.4	39.9	71.1
1982	7.3	10.1	17.8	21.3	28.6	34.6	1.8	4.3	8.9	14.8	25.4	34.6	11.7	16.5	30.4	37.2	53.4	71.0	1.5	5.0	10.8	19.2	40.9	71.0
1983	9.3	12.6	21.3	24.5	30.6	34.0	2.7	5.6	13.0	18.9	28.8	34.0	15.0	20.6	35.8	42.2	56.7	70.5	2.8	7.1	16.7	25.4	47.2	70.5
1984	9.6	12.8	21.4	24.9	31.1	33.3	3.0	5.9	11.6	18.7	29.9	33.3	15.1	21.0	36.3	42.1	55.5	70.6	2.0	7.0	18.3	25.5	43.9	70.6
1985	11.3	14.8	23.6	27.1	33.4	36.3	3.9	7.4	13.8	20.8	31.7	36.3	17.3	23.6	39.3	45.1	58.6	73.9	2.9	8.6	20.6	28.3	47.4	73.9
1986	19.6	25.3	38.8	43.7	48.3	54.6	6.0	12.0	23.2	39.2	44.2	54.6	27.9	36.7	56.7	63.4	75.9	84.9	4.4	13.1	30.5	45.7	68.3	84.9
1987	7.0	8.9	13.0	14.5	16.5	17.7	2.8	5.4	8.9	12.6	15.8	17.7	10.7	14.3	23.5	27.0	35.3	46.7	2.9	5.7	9.7	14.4	18.8	46.7
1988	7.7	9.8	14.6	16.2	18.8	20.8	2.4	4.8	9.3	13.2	17.5	20.8	10.9	14.4	22.7	25.6	33.2	43.0	2.5	5.0	10.2	15.2	21.2	43.0
1989	6.6	8.3	12.8	14.2	17.2	20.7	2.3	4.0	8.3	10.8	15.0	20.7	9.5	12.4	19.9	22.9	30.1	40.9	2.3	4.1	9.1	12.2	17.6	40.9
1990	4.7	6.0	9.1	10.2	12.3	15.2	1.5	2.8	5.7	8.0	10.5	15.2	7.1	9.3	14.9	17.2	23.4	31.9	1.6	2.9	6.1	8.7	11.7	31.9
1991	3.8	4.8	7.0	7.8	9.3	9.0	1.6	2.8	4.9	6.3	9.5	9.0	6.4	8.4	13.7	16.0	21.5	28.3	1.6	2.9	5.2	6.8	10.4	28.3
1992	4.3	5.4	8.2	9.1	10.9	11.1	1.6	2.7	5.3	7.2	10.7	11.1	6.4	8.3	13.1	15.1	20.2	27.1	1.6	2.8	5.6	7.7	11.9	27.1
1993	5.1	6.4	9.8	11.2	13.8	15.0	1.7	3.3	5.5	8.4	13.1	15.0	7.5	9.8	15.6	18.3	25.2	35.7	1.8	3.4	5.8	9.1	15.1	35.7
1994	4.8	6.0	9.1	10.3	12.3	13.5	1.9	3.0	5.4	8.3	11.5	13.5	7.2	9.5	15.4	18.0	25.3	35.6	2.0	3.1	5.7	9.1	13.0	35.6
1995	5.7	7.2	10.7	11.9	13.8	13.5	2.0	3.7	7.3	9.9	13.9	13.5	8.1	10.5	16.8	19.6	27.4	38.4	2.1	3.8	7.8	10.9	16.2	38.4
1996	8.2	10.2	15.1	16.9	20.1	22.1	2.8	5.0	9.4	13.5	18.8	22.1	10.8	13.8	21.9	25.6	35.1	48.3	2.7	4.9	9.4	13.5	25.4	48.3
1997	10.4	12.9	18.3	20.2	23.7	23.2	3.5	6.9	12.0	15.9	24.0	23.2	13.6	17.1	25.8	29.7	38.9	51.4	3.3	6.8	11.7	17.0	29.5	51.4
1998	11.7	14.2	19.6	21.3	24.0	23.3	4.3	8.0	13.7	18.1	24.4	23.3	15.5	19.5	29.0	33.0	42.4	54.1	3.5	7.4	13.4	19.3	33.4	54.1
1999	12.9	15.5	20.6	22.1	23.8	21.8	5.1	9.5	15.2	20.0	25.0	21.8	17.1	21.1	30.5	34.4	42.9	53.8	4.5	8.8	14.9	21.5	34.4	53.8
2000	13.1	15.8	21.0	22.8	24.5	22.9	5.0	9.1	14.2	20.5	25.5	22.9	18.2	22.3	32.1	36.6	45.6	57.1	4.7	8.3	12.8	21.8	35.5	57.1
2001	8.1	10.2	14.7	16.4	18.9	19.4	2.5	5.0	8.9	13.3	18.6	19.4	10.7	13.6	21.3	25.0	33.6	46.1	2.3	4.3	7.6	12.9	23.7	46.1
2002	6.6	8.4	12.4	13.8	16.2	16.9	1.9	4.0	7.9	11.0	15.8	16.9	8.3	10.7	17.1	20.2	27.8	39.0	1.8	3.5	6.6	10.4	19.5	39.0

Notes: In Panel A, tax returns are ranked by total income excluding capital gains. Series report the additional income reported in the form of capital gains. The share of Capital gains reported are the share of total income including capital gains. For example, the top decile (defined by income excluding capital gains) in 1999 earned 12.9% of their total income (including capital gains) in the form of capital gains. In Panel B, average marginal tax rate on long-term capital gains (dollar weighted) are estimated from micro-files and using the TAXSIM calculator.

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falls to 21.8% when one looks at the fractile P99.99–100 of the distribution of
income excluding capital gains. Finally, note that the composition series (exclud-
ing capital gains) reported on Table 5A.7 were computed for fractiles of net
income or AGI (including the post-exclusion amount of capital gains), but that
the micro-files demonstrate that re-ranking has relatively small effects on non-
capital gains income composition by fractile. For instance, in 1995, if one looks at
the fractile P99.99–100 of the distribution of AGI (i.e., including 100% of capital
gains), one can see that the wage share is 35.8%, the entrepreneurial income share
is 38.8% and the dividend share is 10.2% (see Table 5A.7); with the fractile
P99.99–100 of the distribution of income excluding capital gains, the wage
share would be about 0.5 point higher, the entrepreneurial income share 1
point higher and the dividend share 1.5 points smaller. That is, shareholders
are more likely than CEOs and entrepreneurs to have large capital gains, but the
re-ranking is pretty small, and we therefore decided to compute all series reported
in Table 5A.7 for fractiles of net income and AGI and to make no correction for
re-ranking.

APPENDIX 5B: WAGE INEQUALITY SERIES

This appendix describes the series of shares of top fractiles salary earners that we
have constructed using the tables published in *Statistics of Income* by size of salary
since 1927.

Computing Total Number of Tax Units with Wages and Total Wages in the Economy

The sum of total wages in the economy used to compute shares is obtained from
National Accounts 1929–2002, wages, and salaries, and does not include employers'
health insurance and employers' social security contributions. Total wages for years
before 1929 are obtained from Kuznets (1953) using a constant multiplier factor so
that 1929 matches the NIPA figure. This total wage series includes both government
employees and military personnel salaries. The total number of tax units with wage
income in the full population is estimated as the number of part-time and full
workers from National Accounts (which includes government and military em-
ployees) less the number of wives that are employees.[74] Military wages and workers

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[74] The number of women employees is estimated as the number of women in the labour force
(husband present) from the *Historical Statistics of the US* series D51 and D52 (before 1971) and
Statistical Abstract of the US, No. 653 (after 1971) multiplied by the ratio of employees (from NIPA)
over labour force for the full population (D29 and No. 646). The numbers of tax units with wages for
years 1927 and 1928 are based on a simple extrapolation method using Lebergott (1964: tables A3, A4,
and A5).

Table 5B.1 Aggregate series on wage income, US 1917–2002

	Total number of employees (1)	Married women employees (2)	Number of tax units with wage (3)	Total wage income (current mn$) (4)	Average wage income ($ 2000) (5)	Share of officer compensation (6)	CPI (base 2000) (7)
1917	29,042	1,354	27,689	26,174	12,139	5.25	7.425
1918	32,119	1,406	30,713	32,773	11,706	6.79	8.716
1919	31,441	1,404	30,036	35,858	11,388	5.56	10.015
1920	30,406	1,399	29,008	42,377	12,017	5.75	11.598
1921	28,041	1,446	26,595	34,311	11,814	6.58	10.357
1922	30,410	1,554	28,856	35,727	12,107	6.74	9.704
1923	33,285	1,677	31,608	41,845	12,726	6.15	9.879
1924	32,993	1,761	31,233	41,829	12,808	6.30	9.899
1925	34,619	1,864	32,756	43,467	12,375		10.146
1926	35,882	1,971	33,911	46,361	12,608		10.248
1927	36,017	2,064	33,953	46,763	12,915		10.053
1928	36,355	2,159	34,197	47,659	13,212	6.71	9.922
1929	37,699	2,274	35,425	50,460	13,490	6.61	9.922
1930	35,590	2,324	33,266	46,214	13,423	6.79	9.674
1931	32,724	2,338	30,386	39,157	13,562	6.89	8.823
1932	29,445	2,328	27,117	30,514	13,095	6.99	7.914
1933	30,940	2,449	28,491	29,027	12,492	6.87	7.510
1934	34,238	2,673	31,565	33,734	12,687	6.44	7.766
1935	35,577	2,787	32,790	36,722	12,967	6.39	7.960
1936	38,599	2,991	35,608	41,954	13,520	6.47	8.040
1937	39,701	3,047	36,654	46,139	13,953	6.09	8.329
1938	38,322	3,117	35,205	43,013	13,737	6.02	8.171
1939	39,633	3,220	36,413	45,985	14,402	5.86	8.056
1940	41,437	3,350	38,087	49,860	14,788	5.92	8.137
1941	45,785	3,896	41,889	62,085	15,871	5.59	8.544
1942	50,219	4,328	45,891	82,098	17,285	4.50	9.458
1943	55,995	4,887	51,108	105,786	18,827	3.54	10.035
1944	57,221	5,293	51,928	116,749	19,993	3.22	10.205
1945	55,548	5,338	50,210	117,493	20,260	3.50	10.440
1946	49,643	5,273	44,370	112,005	19,918	4.59	11.328
1947	49,936	5,354	44,582	123,097	19,023	4.90	12.959
1948	51,332	6,057	45,275	135,537	18,901	4.97	13.969
1949	50,358	6,270	44,088	134,719	19,344	5.01	13.830
1950	52,424	6,832	45,592	147,238	20,107	5.17	13.968
1951	56,415	7,557	48,858	171,591	20,181	4.73	15.072
1952	57,702	7,739	49,963	185,619	20,884	4.54	15.403
1953	58,918	8,227	50,691	198,970	21,751	4.41	15.526
1954	57,387	8,243	49,144	197,242	22,027	4.62	15.604
1955	59,080	8,615	50,465	212,129	23,103	4.94	15.542
1956	60,845	9,213	51,632	229,002	23,859	4.82	15.775
1957	61,308	9,583	51,725	239,926	23,946	4.93	16.343
1958	59,839	9,686	50,153	241,290	24,025	5.14	16.784
1959	61,587	10,072	51,515	259,814	24,936	5.16	16.918
1960	62,680	10,126	52,554	272,823	25,322	5.32	17.189
1961	62,881	10,935	51,946	280,483	25,693	5.48	17.361
1962	64,573	11,235	53,338	299,319	26,410	5.67	17.552
1963	65,619	11,726	53,893	314,809	27,010	5.74	17.762

(*contd.*)

Table 5B.1 (*Contd.*)

	Total number of employees (1)	Married women employees (2)	Number of tax units with wage (3)	Total wage income (current mn$) (4)	Average wage income ($ 2000) (5)	Share of officer compensation (6)	CPI (base 2000) (7)
1964	67,275	12,059	55,216	337,742	27,901	5.70	17.993
1965	69,692	12,453	57,239	363,707	28,519	5.78	18.299
1966	73,516	13,158	60,358	400,265	28,915	5.70	18.830
1967	75,442	13,871	61,571	428,946	29,345	5.71	19.376
1968	77,602	14,766	62,836	471,904	30,120	5.62	20.190
1969	79,850	15,479	64,371	518,259	30,500	5.85	21.280
1970	79,750	15,972	63,778	551,472	30,685	5.96	22.535
1971	79,554	16,360	63,194	584,450	31,226	6.23	23.527
1972	81,583	16,833	64,750	638,671	32,243	6.47	24.280
1973	85,202	17,588	67,614	708,639	32,256	6.65	25.785
1974	86,573	18,055	68,518	772,150	31,162	6.87	28.621
1975	85,044	18,373	66,671	814,690	30,678	7.10	31.226
1976	87,402	18,943	68,459	899,580	31,154	7.11	33.037
1977	90,421	19,523	70,898	993,986	31,243	7.42	35.185
1978	94,785	20,282	74,503	1,121,020	31,240	7.59	37.859
1979	98,025	20,987	77,038	1,255,590	30,398	7.74	42.137
1980	98,379	21,466	76,913	1,377,416	29,276	7.91	47.825
1981	99,235	21,796	77,439	1,517,272	28,985	7.93	52.751
1982	97,762	21,991	75,771	1,593,395	29,094	8.13	56.022
1983	98,527	22,267	76,260	1,684,275	29,568	8.38	57.814
1984	103,119	23,111	80,008	1,854,793	29,829	8.47	60.300
1985	105,806	23,870	81,936	1,995,186	30,185	8.56	62.471
1986	107,735	24,395	83,340	2,114,392	30,830	8.77	63.658
1987	110,743	25,125	85,618	2,270,210	31,084	8.81	65.950
1988	113,896	25,775	88,121	2,452,699	31,367	8.29	68.654
1989	116,631	26,486	90,145	2,596,838	30,946	7.62	71.949
1990	118,127	26,779	91,348	2,754,605	30,750	7.46	75.834
1991	116,625	26,812	89,813	2,824,190	30,646	7.13	79.019
1992	117,110	27,227	89,883	2,966,813	31,126	7.45	81.390
1993	118,790	27,511	91,279	3,091,625	31,046	7.31	83.832
1994	121,708	28,438	93,270	3,254,312	31,087	8.66	86.011
1995	124,632	29,244	95,388	3,441,060	31,226	8.82	88.419
1996	127,009	29,671	97,338	3,630,142	31,384	8.79	91.072
1997	130,118	29,957	100,161	3,885,977	32,055	8.64	93.167
1998	133,456	30,387	103,069	4,192,775	33,190		94.657
1999	136,294	31,061	105,233	4,475,588	33,944		96.740
2000	139,207	31,514	107,693	4,836,329	34,742		100.000
2001	138,840	31,431	107,409	4,950,605	34,670		102.846
2002	137,262	31,074	106,188	4,976,266	34,702		104.472

Notes: Total number of part-time and full time employees from NIPA 1929–2001 (includes military). From 1917 to 1929. extrapolated using Lebergott series on employees. Married women employees from *Historical Statistics* and *Statistical Abstract*. Total wage bill is from NIPA 1929–1999 (line 1). Wage bill 1917–1927 extrapolated from Kuznets (1953: 570, (1)). Average wage is column (5) over column (2).Officer compensation share from corporate tax returns statistics.

form a substantial part of total wages and workers from 1943 to 1945.[75] However, excluding military wages and military personnel hardly changes the estimates of top shares, even during the war, because few military salaries are in the top fractiles and the average military salary is substantially smaller than average wage (see below).

Before 1948, as two wage earners had incentives to file separately (see Appendix 5A), the tax return statistics on wages reflects individual wages rather than family wages. As a result, using the same definition of tax units as described above produces a downward bias for top wage shares before 1947 and thus an artificial positive jump in top shares between 1947 and 1948. We correct for this discontinuity as follows. First, for years 1927–47, we temporarily redefine the total number of tax units with wages as the total number of part-time and full-time employees from National Accounts (that is, we add back the working wives). Second, we then compute top shares and levels using this alternative definition for the total number of tax units. The wage levels and thresholds that we obtain for 1927–47 correspond to individual wages (and not family wages) and thus are smaller than the levels and thresholds after 1948. But fortunately, shares computed at the individual level before 1948 and at the tax unit level after 1948 do not produce a discernible jump in the series. Third, in order to correct the discontinuity in levels and thresholds, we multiply the levels and thresholds that we obtain before 1948 by the ratio of the total number of individual tax units (new definition) to the total number of family tax units (old definition). This procedure produces levels and thresholds that are both continuous in 1947–48 and fully consistent with our share estimates. (See Table 5B.1)

Interpolations from IRS Tables

From 1927 to 1941, *Statistics of Income* provides tables by size of wages only for tax returns with net income above US$5000. The tables contain both the number of taxpayers and total wages reported by bracket from 1927 to 1935. The tables contain only the number of taxpayers (and not total wages reported) from 1936 to 1941. The number of returns and amounts of wage reported, even for brackets above US$5000, are underestimated because wages can be above US$5000 and net income below for some returns because of deductions (on average equal to 10% of gross income). Fortunately, the IRS publication for year 1928 provides the same table for returns filing Form 1040 with net income below US$5000. Taxpayers with relatively low income levels composed mostly of wages and salaries are allowed to file a shorter form called Form 1040A. In 1928 (as for most interwar years), Form 1040A could only be used for returns with *gross* income less than US$5000. As a result, combining the Tables by size of wages for net income above US$5000 and net income below US$5000 provides a complete distribution of wages reported on Form 1040 and thus a complete distribution of wages above US$5000.

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[75] Military pay is about 15% of total wages in the US economy and slightly more than 20% of US wage earners from 1943 to 1945.

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Assuming that for each bracket the ratio of the number of returns with net income below US$5000 to the number of returns with net income above US$5000 is constant from 1927 to 1941,[76] we can correct the tables and obtain a complete distribution of salaries above US$5000. These tables, however, allow only the estimation of series of top shares above US$5000. As US$5000 corresponds roughly to the threshold level P99, these truncated distributions allow the estimation of levels and shares only within the top percentile. After 1944, the IRS provides tables by size of wages for all returns (Forms 1040A and 1040) and thus covering the full tax return population.

From 1927 and 1941, estimation of salary distributions below US$5000 is done using the composition tables classified by net income brackets described in Appendix 5A. In these tables, the number of returns reporting wages, along with the total amount of those wages is reported for each bracket of net-income.[77] Average wage for wage earners and average net-income for each net-income bracket are computed. We then assume that each net-income bracket corresponds to a wage bracket with thresholds equal to the actual net-income thresholds multiplied by the ratio of average wage to average net-income in that bracket. In order to generate brackets fitting together, the final thresholds are taken as equal to the average of the corresponding top and bottom thresholds of two adjacent brackets. We therefore obtain a set of wage bracket thresholds where the number of returns and the wage amount reported for each bracket is the same as in the original composition table. This new distribution by size of wages is not perfectly accurate because ranking in terms of net-income is not identical to ranking in terms of wages. This method is therefore reliable only if wage income is close to net-income bracket by bracket. Fortunately, salaries constitute more than 90% of net-income reported in tax returns (with positive wage income) for brackets of net-income below US$5000. The ratio is above to 95% for brackets below US$3000. Shares and levels below the top percentile are obtained using these estimated wage distributions. This method can be tested using later years and is shown to give results extremely close to the direct method using tables distributed by wage size.[78] (See also Tables 5B.2 and 5B.3.)

Years 1942 and 1943 raise special problems because the IRS did not provide tables by size of wages for these two years. Fortunately, the IRS provided tables for returns reporting only salary income for each of the years 1942 to 1945. These tables are used to estimate wage distributions for 1942 and 1943 using a simple multiplier method. We take year 1944 as a benchmark and we assume that the ratios of returns with wages only to all returns with wages by wage

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[76] This assumption can be successfully tested using the micro-files for the period 1966–95.

[77] Before 1937, the composition tables report only the amounts of wages and not the number of returns with positive wages in each bracket. We have estimated the number of returns in each bracket for these years assuming that the ratio of the number of returns with positive wages to the number of returns (with positive or zero wages) is the same as in 1937 for each bracket. We have checked that this assumption is reasonable by comparing these ratios for years 1937–40.

[78] As expected, this method provides estimates of levels and shares biased downward above the top percentile relative to the direct method using published tables by size of wages. We thus use the indirect estimates to compute thresholds, average levels, and shares for the fractiles P90–95 and P95–99 and then use the direct estimates for the fractiles within the top percentile.

Table 5B.2 Top wage income shares, US 1927–2002

(1)	P90–100 (2)	P95–100 (3)	P99–100 (4)	P99.5–100 (5)	P99.9–100 (6)	P99.99–100 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P99.99–100 (13)
1927	27.89	18.85	8.65	6.08	2.53	0.68	9.04	10.20	2.57	3.55	1.86	0.68
1928	29.11	19.78	8.87	6.20	2.59	0.69	9.33	10.91	2.66	3.61	1.91	0.69
1929	29.24	19.76	8.67	6.08	2.56	0.72	9.49	11.09	2.60	3.51	1.85	0.72
1930	28.63	19.23	8.54	5.99	2.56	0.73	9.40	10.69	2.55	3.43	1.82	0.73
1931	29.34	19.69	8.47	5.81	2.45	0.67	9.65	11.22	2.66	3.36	1.78	0.67
1932	30.28	19.68	8.29	5.66	2.37	0.62	10.61	11.39	2.63	3.29	1.75	0.62
1933	30.08	19.81	8.31	5.77	2.45	0.63	10.27	11.50	2.54	3.32	1.82	0.63
1934	29.77	19.94	8.31	5.76	2.37	0.59	9.83	11.64	2.55	3.38	1.78	0.59
1935	30.31	20.12	8.40	5.85	2.40	0.60	10.19	11.72	2.55	3.45	1.80	0.60
1936	29.70	19.95	8.60	6.02	2.45	0.59	9.75	11.35	2.58	3.57	1.86	0.59
1937	30.06	20.05	8.41	5.89	2.41	0.60	10.01	11.64	2.52	3.48	1.81	0.60
1938	29.83	19.66	8.13	5.74	2.36	0.59	10.18	11.53	2.38	3.39	1.77	0.59
1939	30.65	20.06	8.20	5.70	2.32	0.57	10.59	11.86	2.50	3.38	1.75	0.57
1940	30.85	20.07	8.37	5.84	2.39	0.58	10.78	11.70	2.53	3.45	1.81	0.58
1941	29.33	19.05	8.11	5.75	2.39	0.57	10.29	10.94	2.36	3.36	1.83	0.57
1942	27.08	17.45	7.21	5.12	2.18	0.51	9.63	10.24	2.09	2.94	1.67	0.51
1943	25.88	16.26	6.42	4.51	1.86	0.41	9.62	9.83	1.91	2.65	1.45	0.41
1944	24.61	15.13	5.56	3.84	1.56	0.36	9.48	9.56	1.73	2.28	1.20	0.36
1945	24.05	14.99	5.73	3.96	1.57	0.35	9.05	9.27	1.77	2.38	1.22	0.35
1946	25.10	16.18	6.40	4.33	1.68	0.37	8.92	9.79	2.06	2.66	1.31	0.37
1947	24.97	16.07	6.27	4.23	1.60	0.34	8.90	9.80	2.04	2.63	1.26	0.34
1948	25.03	16.13	6.21	4.20	1.58	0.35	8.90	9.92	2.01	2.62	1.23	0.35
1949	25.00	16.05	6.12	4.11	1.54	0.34	8.95	9.93	2.01	2.58	1.20	0.34
1950	25.18	16.13	6.24	4.21	1.57	0.34	9.06	9.89	2.03	2.64	1.23	0.34
1951	24.71	15.63	5.97	4.00	1.48	0.31	9.08	9.66	1.97	2.52	1.17	0.31
1952	24.43	15.41	5.74	3.78	1.39	0.30	9.01	9.67	1.96	2.40	1.09	0.30
1954	24.13	15.26	5.61	3.65	1.32	0.28	8.88	9.65	1.96	2.34	1.04	0.28
1956	24.53	15.57	5.56	3.57	1.26	0.25	8.96	10.02	1.99	2.31	1.00	0.25
1958	24.67	15.60	5.40	3.43	1.20	0.25	9.07	10.20	1.97	2.23	0.95	0.25
1960	25.23	15.72	5.26	3.31	1.14	0.23	9.51	10.46	1.95	2.17	0.91	0.23
1961	25.21	15.63	5.20	3.26	1.11	0.22	9.58	10.44	1.93	2.15	0.89	0.22
1962	25.22	15.62	5.16	3.24	1.09	0.21	9.60	10.47	1.92	2.15	0.88	0.21
1964	25.15	15.43	5.12	3.24	1.07	0.21	9.72	10.31	1.88	2.17	0.86	0.21
1966	25.34	15.47	5.16	3.27	1.11	0.22	9.87	10.31	1.89	2.16	0.88	0.22
1967	25.77	15.81	5.34	3.38	1.14	0.23	9.97	10.47	1.96	2.24	0.91	0.23
1968	25.60	15.66	5.24	3.32	1.12	0.23	9.95	10.42	1.92	2.20	0.89	0.23
1969	25.71	15.68	5.19	3.27	1.10	0.24	10.03	10.49	1.92	2.17	0.87	0.24
1970	25.67	15.64	5.13	3.21	1.06	0.21	10.03	10.51	1.92	2.15	0.85	0.21
1971	25.67	15.67	5.18	3.25	1.08	0.22	10.00	10.49	1.93	2.18	0.86	0.22
1972	25.81	15.80	5.32	3.38	1.14	0.24	10.02	10.47	1.94	2.24	0.90	0.24
1973	26.14	16.06	5.42	3.43	1.14	0.24	10.09	10.63	1.99	2.29	0.91	0.24
1974	26.61	16.48	5.66	3.63	1.26	0.27	10.14	10.81	2.04	2.37	0.99	0.27
1975	26.46	16.32	5.64	3.63	1.26	0.27	10.15	10.68	2.01	2.37	0.99	0.27
1976	26.66	16.49	5.74	3.70	1.30	0.29	10.16	10.76	2.03	2.40	1.02	0.29
1977	26.94	16.70	5.86	3.79	1.35	0.30	10.24	10.84	2.06	2.45	1.05	0.30
1978	27.43	17.07	6.06	3.93	1.40	0.31	10.36	11.02	2.13	2.53	1.09	0.31
1979	27.63	17.24	6.22	4.06	1.47	0.34	10.39	11.03	2.16	2.59	1.13	0.34

(*contd.*)

Income and Wage Inequality

Table 5B.2 (*Contd.*)

(1)	P90–100 (2)	P95–100 (3)	P99–100 (4)	P99.5–100 (5)	P99.9–100 (6)	P99.99–100 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P99.99–100 (13)
1980	28.06	17.60	6.43	4.23	1.57	0.38	10.47	11.17	2.20	2.66	1.19	0.38
1981	28.14	17.66	6.43	4.24	1.59	0.39	10.49	11.23	2.18	2.65	1.20	0.39
1982	28.55	18.02	6.67	4.42	1.67	0.41	10.53	11.35	2.25	2.75	1.26	0.41
1983	29.09	18.49	6.96	4.66	1.80	0.47	10.59	11.54	2.30	2.86	1.33	0.47
1984	29.61	18.95	7.27	4.93	1.99	0.52	10.66	11.68	2.34	2.94	1.47	0.52
1985	29.74	19.05	7.28	4.92	1.98	0.54	10.70	11.77	2.35	2.95	1.44	0.54
1986	29.94	19.19	7.33	4.96	2.02	0.58	10.76	11.86	2.37	2.94	1.44	0.58
1987	30.59	19.98	8.15	5.68	2.43	0.69	10.61	11.83	2.47	3.25	1.74	0.69
1988	31.95	21.37	9.39	6.79	3.16	1.10	10.58	11.99	2.59	3.64	2.06	1.10
1989	31.53	20.83	8.69	6.12	2.69	0.82	10.70	12.13	2.57	3.44	1.86	0.82
1990	31.79	21.13	8.99	6.41	2.87	0.91	10.66	12.14	2.59	3.54	1.96	0.91
1991	31.43	20.77	8.56	5.97	2.57	0.78	10.66	12.21	2.59	3.40	1.79	0.78
1992	32.45	21.85	9.63	6.97	3.33	1.22	10.60	12.22	2.66	3.64	2.11	1.22
1993	31.85	21.29	9.05	6.41	2.90	0.96	10.56	12.23	2.64	3.51	1.94	0.96
1994	31.54	20.94	8.72	6.07	2.63	0.83	10.59	12.22	2.65	3.44	1.80	0.83
1995	32.43	21.73	9.25	6.52	2.91	0.94	10.70	12.48	2.73	3.61	1.97	0.94
1996	33.15	22.46	9.80	6.98	3.21	1.11	10.69	12.66	2.82	3.77	2.10	1.11
1997	33.86	23.18	10.43	7.54	3.67	1.36	10.68	12.75	2.89	3.87	2.31	1.36
1998	34.34	23.72	10.97	8.08	4.12	1.65	10.61	12.75	2.89	3.96	2.48	1.65
1999	35.10	24.50	11.64	8.71	4.67	1.98	10.61	12.85	2.93	4.04	2.69	1.98
2000	36.03	25.42	12.61	9.64	5.44	2.45	10.62	12.84	2.99	4.24	3.03	2.45
2001	35.10	24.22	11.25	8.31	4.31	1.79	10.87	12.96	2.93	3.98	2.51	1.79
2002	33.89	22.89	10.28	7.43	3.70	1.45	10.99	12.62	2.84	3.75	2.27	1.45

Notes: Shares computed from tax returns statistics and total number of tax units and total wage bill from Table 5B.1. Wage income is wages, salaries, and tips on individual income tax form. It includes bonuses, and profits from exercised stockoptions.

brackets[79] are constant. This method can be successfully tested using 1945, where we can compute shares using direct complete tabulations. This methodology is reliable because the number of returns reporting wage only is large, even in the very top fractiles of wage earners. Below the top percentile, the method described above using composition tables can be used to compute alternative estimates for 1942 and 1943. We have checked that this method gives very similar results.[80]

[79] In fact, the ratio is assumed to be constant by fractiles of the distribution corresponding to each of the brackets of 1944. The multipliers for each of the 1942 and 1943 brackets are then obtained by using interpolated 1944 multipliers.

[80] In 1941, 1942, and 1943, an additional complication appears because returns for Forms 1040 and 1040A are tabulated separately in the composition tables by size of net-income. Wage distributions for returns corresponding to each of these forms are first estimated using the method described above. The two wage distributions thus obtained are then merged into a single wage distribution as follows: the distribution of wages within each bracket of the form 1040A distribution is assumed to be Paretian. Then we split each bracket of the form 1040A distribution so that each portion can be attributed fully to a given bracket of the form 1040 distribution. For each bracket of the form 1040 distribution, we add back the pieces coming from the form 1040A distribution.

Table 5B.3 Average salary and threshold for each fractile (in 2000 dollars), US 1927–2002

Year (1)	P90–100 (2)	P95–100 (3)	P99–100 (4)	P99.5–100 (5)	P99.9–100 (6)	P99.99–100 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1927	38,215	51,652	118,536	166,708	347,050	925,207	24,777	34,930	70,362	121,620	282,803	21,443	27,627	56,710	87,533	198,830	550,891
1928	40,887	55,567	124,539	174,244	363,930	961,946	26,208	38,323	74,831	126,822	297,479	22,951	30,763	62,821	92,030	207,793	575,109
1929	41,983	56,722	124,481	174,441	367,972	1,027,358	27,242	39,782	74,520	126,056	294,703	23,489	30,772	62,659	91,435	206,950	592,717
1930	41,112	55,229	122,656	172,024	366,982	1,051,137	26,994	38,371	73,287	123,283	290,962	23,456	30,092	64,784	89,667	200,654	580,289
1931	42,853	57,521	123,686	169,703	357,469	980,702	28,185	40,980	77,670	122,764	288,229	25,280	32,152	64,558	91,827	198,533	565,938
1932	43,054	55,950	117,864	160,841	337,170	882,543	30,158	40,472	74,887	116,762	276,583	25,135	32,434	60,327	91,471	188,802	549,502
1933	40,799	53,735	112,715	156,415	331,759	854,043	27,864	38,990	69,015	112,574	273,716	23,888	30,541	57,089	85,329	185,957	533,810
1934	40,966	54,890	114,319	158,408	326,371	817,437	27,042	40,032	70,230	116,417	271,806	23,117	31,442	58,540	84,980	189,682	517,423
1935	42,644	56,608	118,188	164,529	338,014	845,873	28,679	41,214	71,849	121,155	281,579	24,673	32,824	60,877	85,482	194,641	533,486
1936	43,519	58,466	125,998	176,299	358,842	869,537	28,570	41,583	75,695	130,660	302,087	24,757	32,576	64,385	91,285	209,752	562,190
1937	45,432	60,602	127,054	178,006	363,853	903,217	30,262	43,988	76,102	131,544	303,923	27,049	34,683	65,062	93,425	211,844	570,288
1938	44,612	58,781	121,528	171,778	352,298	875,775	30,442	43,095	71,276	126,652	294,139	27,192	34,611	63,322	90,445	203,567	550,069
1939	48,040	62,884	128,498	178,608	363,796	894,731	33,196	46,479	78,388	132,312	304,803	29,723	37,654	66,891	95,343	211,398	561,199
1940	49,637	64,578	134,645	188,034	385,173	934,889	34,697	47,061	81,254	138,747	324,090	31,729	38,508	68,512	99,159	224,135	600,069
1941	50,889	66,084	140,712	199,651	415,380	983,947	35,693	47,428	81,774	145,718	352,209	32,789	39,326	68,367	101,373	241,957	657,542
1942	51,221	66,008	136,411	193,844	412,844	970,092	36,435	48,407	78,980	139,100	350,937	33,287	40,496	67,975	96,391	235,751	652,969
1943	53,379	67,070	132,515	186,091	384,029	852,490	39,687	50,709	78,938	136,604	331,972	36,729	43,564	68,228	95,687	232,822	583,703
1944	54,217	66,656	122,589	169,097	342,760	783,491	41,776	52,671	76,080	125,676	293,778	38,592	45,729	67,887	89,515	204,848	533,398
1945	53,898	67,207	128,352	177,279	352,386	781,071	40,585	51,919	79,422	133,497	304,743	37,513	44,529	69,495	95,352	216,509	542,010
1946	55,944	72,132	142,586	193,146	373,412	821,919	39,755	54,519	92,026	148,080	323,581	36,337	44,081	80,597	108,864	234,659	559,605
1947	53,202	68,502	133,676	180,377	341,177	725,857	37,902	52,207	86,972	140,177	298,431	35,136	41,585	76,333	103,293	220,354	504,750
1948	53,645	69,129	133,068	179,862	337,785	739,373	38,162	53,144	86,274	140,383	293,166	34,532	43,216	74,111	103,403	214,818	496,345
1949	55,245	70,921	135,204	181,649	339,167	744,006	39,567	54,849	88,758	142,266	294,178	35,757	44,738	76,619	105,804	215,953	498,378
1950	58,228	74,579	144,162	194,478	362,710	786,711	41,874	57,182	93,843	152,415	315,589	38,038	47,066	80,558	112,546	231,321	529,732
1951	57,573	72,847	139,125	186,546	345,005	717,680	42,298	56,277	91,702	146,929	303,593	38,835	46,850	79,926	108,896	223,563	506,975
1952	58,908	74,352	138,480	182,483	333,948	721,545	43,465	58,323	94,481	144,622	290,890	39,782	48,418	82,720	110,799	213,963	486,360
1954	62,072	78,485	144,300	187,994	338,292	712,914	45,662	62,032	100,609	150,421	296,673	41,706	50,980	88,771	116,949	219,952	487,834
1956	68,972	87,558	156,226	200,486	353,155	715,427	50,385	70,392	111,964	162,318	312,902	45,668	56,774	99,945	128,434	235,041	500,626
1958	70,712	89,420	154,644	196,649	343,768	702,092	52,002	73,113	112,638	159,868	303,952	46,706	59,212	101,432	127,880	229,640	487,353
1960	76,183	94,939	158,888	200,054	344,194	699,849	57,427	78,952	117,722	164,020	304,678	51,138	65,054	106,889	132,376	232,569	486,071
1961	78,411	97,247	161,620	203,028	346,498	697,859	59,577	81,155	120,215	167,165	307,466	53,274	67,087	109,330	134,922	236,068	487,193
1962	79,065	99,901	164,842	206,879	348,656	676,557	58,228	83,665	122,803	171,431	312,219	56,412	69,499	111,946	137,454	242,226	483,808
1964	84,920	103,727	174,053	220,075	363,349	699,295	66,114	86,146	128,032	184,258	326,026	60,734	73,060	115,404	146,459	261,112	494,731
1966	89,256	108,964	181,576	230,024	389,327	788,431	69,550	90,813	133,130	190,203	344,991	63,945	76,823	121,284	151,395	269,030	543,983
1967	92,669	113,675	191,815	243,066	408,920	829,613	71,662	94,138	140,562	201,599	362,169	65,615	79,472	126,531	160,977	285,129	569,252

(contd.)

Table 5B.3 (*Contd.*)

Year (1)	P90–100 (2)	P95–100 (3)	P99–100 (4)	P99.5–100 (5)	P99.9–100 (6)	P99.99–100 (7)	P90–95 (8)	P95–99 (9)	P99–99.5 (10)	P99.5–99.9 (11)	P99.9–99.99 (12)	P90 (13)	P95 (14)	P99 (15)	P99.5 (16)	P99.9 (17)	P99.99 (18)
1968	95,233	116,477	194,968	246,831	417,381	856,447	73,989	96,854	143,103	204,193	368,594	67,847	81,859	129,473	163,877	287,095	581,679
1969	97,260	118,610	196,278	247,580	417,379	890,449	75,913	99,192	144,978	205,132	364,818	69,625	84,042	130,710	164,991	286,067	580,265
1970	98,491	120,009	196,956	246,332	405,546	803,374	76,972	100,771	147,578	206,526	361,338	70,543	85,391	133,472	167,583	286,229	560,330
1971	100,913	123,198	203,714	255,765	423,601	846,471	78,629	103,071	151,665	213,808	376,618	71,960	87,206	137,505	173,289	298,362	583,808
1972	104,857	128,346	216,230	274,740	464,056	988,640	81,368	106,374	157,720	227,411	405,767	74,713	90,022	142,605	181,209	318,815	642,457
1973	106,257	130,519	220,375	278,732	465,055	962,448	81,994	108,054	162,016	232,147	409,783	75,049	91,132	145,149	185,626	322,704	643,176
1974	104,788	129,742	223,024	285,683	495,305	1,071,241	79,835	106,421	160,366	233,279	431,313	72,750	89,044	144,755	183,516	331,935	707,418
1975	103,563	127,699	220,707	284,178	491,882	1,062,949	79,424	104,446	157,234	232,248	428,424	72,495	88,079	139,873	183,394	330,946	692,035
1976	106,022	131,188	228,103	294,430	518,305	1,144,439	80,858	106,960	161,776	238,463	448,737	74,028	89,925	144,552	187,215	341,868	739,757
1977	107,336	133,063	233,330	302,312	536,719	1,182,658	81,607	107,995	164,345	243,708	464,943	74,676	90,822	146,304	190,026	350,894	771,236
1978	109,025	135,706	240,713	312,207	556,635	1,245,071	82,343	109,454	169,220	251,098	480,138	75,257	91,684	150,240	196,784	364,111	798,532
1979	106,876	133,395	240,469	314,105	567,740	1,323,626	80,358	106,626	166,833	250,699	483,754	73,387	89,285	146,921	195,696	361,260	822,130
1980	105,078	131,771	240,610	316,542	586,607	1,425,231	78,384	104,560	164,677	249,023	493,424	71,405	87,131	145,289	192,259	368,215	850,885
1981	104,535	131,153	238,657	315,043	589,705	1,445,178	77,917	104,276	162,270	246,376	494,649	70,890	87,131	144,144	189,137	365,730	861,485
1982	107,166	135,274	250,469	332,136	627,511	1,546,478	79,059	106,475	168,799	258,290	525,398	71,777	88,406	147,737	198,032	383,588	926,808
1983	111,113	141,282	265,681	355,885	686,373	1,804,962	80,944	110,183	175,477	273,261	562,082	73,221	90,814	153,726	207,483	408,621	1,028,567
1984	113,835	145,686	279,403	378,743	764,663	2,009,879	81,983	112,259	180,065	282,264	626,309	74,084	92,078	157,989	212,542	439,327	1,129,789
1985	115,924	148,470	283,621	383,871	770,190	2,099,821	83,378	114,683	183,372	287,291	622,453	75,135	94,072	160,857	216,042	441,509	1,182,300
1986	119,335	152,929	291,979	395,395	803,952	2,303,756	85,740	118,167	188,562	293,257	637,308	77,051	96,747	166,023	219,820	447,968	1,232,562
1987	122,985	160,688	327,787	456,996	977,618	2,773,278	85,281	118,913	198,580	326,840	778,100	76,761	96,607	172,559	236,544	526,190	1,507,046
1988	129,511	173,278	380,482	550,884	1,280,874	4,450,505	85,746	121,477	210,081	368,389	928,699	76,678	97,668	179,662	257,709	615,076	1,984,933
1989	126,239	166,789	348,089	490,300	1,075,015	3,299,822	85,690	121,463	205,879	344,121	827,815	76,369	97,783	176,968	249,676	549,861	1,680,724
1990	126,429	168,060	357,614	509,408	1,139,996	3,609,764	84,798	120,670	205,819	351,758	865,572	75,671	96,665	176,942	250,847	581,084	1,758,639
1991	125,078	165,297	340,694	475,033	1,024,073	3,114,148	84,861	121,447	206,354	337,773	791,841	75,481	97,383	177,904	246,938	537,660	1,585,138
1992	131,600	177,199	390,393	565,338	1,351,362	4,939,105	86,000	123,902	215,450	368,834	952,728	76,380	98,189	184,492	262,476	608,713	2,124,462
1993	128,679	172,002	365,798	518,020	1,172,030	3,869,649	85,354	123,553	213,578	354,516	872,293	75,814	97,998	184,163	257,858	574,533	1,836,395
1994	127,926	169,924	353,746	492,597	1,066,342	3,353,820	85,929	123,969	214,896	349,161	812,180	76,325	98,483	184,699	257,938	551,860	1,686,746
1995	132,305	177,327	377,545	532,302	1,187,546	3,841,740	87,282	127,273	222,787	368,491	892,635	77,446	100,316	190,720	269,327	591,843	1,917,363
1996	135,755	183,985	401,303	571,454	1,314,026	4,527,854	87,525	129,656	231,152	385,811	956,934	77,009	101,360	196,579	281,009	618,575	2,149,578
1997	141,021	193,069	434,232	627,974	1,527,122	5,661,720	88,974	132,778	240,490	403,188	1,067,722	78,318	102,567	205,682	289,499	665,445	2,498,618
1998	147,556	203,913	471,589	694,714	1,772,298	7,078,684	91,199	136,994	248,464	425,318	1,182,699	80,019	105,887	211,327	302,138	707,276	2,949,712
1999	154,321	215,399	511,864	765,886	2,052,057	8,683,863	93,243	141,283	257,841	444,344	1,315,190	82,007	108,608	220,270	314,071	747,663	3,501,557
2000	161,801	228,277	566,234	865,771	2,441,640	10,998,522	95,410	144,132	268,592	475,823	1,510,943	83,221	110,859	228,869	328,104	818,391	3,983,756
2001	157,302	217,080	504,002	744,811	1,933,328	8,026,625	97,437	145,179	262,240	445,630	1,251,630	84,149	111,833	224,927	317,992	728,413	3,214,078
2002	152,030	205,396	461,043	667,017	1,657,166	6,487,565	98,612	141,470	255,094	420,827	1,131,260	82,721	110,169	219,928	304,324	688,949	2,737,121

Notes: Levels computed from tax returns statistics and total number of tax units and total wage bill from Table 5B.1. Wage income is wages, salaries, and tips on individual income tax form. It includes bonuses, and profits from exercised stockoptions.

Finally, years 2000–02 require a specific method as micro-files are not available for these years.[81] We used the composition tables showing by brackets of Adjusted Gross Income (AGI), the number of returns with wage income and the total amount of wages reported. Using the same methodology we used for years 1927–41, we obtain a distribution of wages. We then compute shares and income levels from this distribution. Obviously, the levels and shares are underestimated using this method because ranking in terms of AGI and wages is not identical. However, using previous years 1991–99 where both the micro-files and the published composition tables are available, we can estimate by how much levels and shares estimated from published tables for each fractile should be adjusted to match estimates from the micro-files. Fortunately, these multiplier factors are extremely stable from 1991 to 1999 (the maximum variation between multipliers is always less than 5%). Therefore, we can use the multipliers from year 1999 to adjust the levels and shares for years 2000–02.[82]

The actual interpolation method used to obtain thresholds and average wage levels by fractiles is the same Pareto method as in Appendix 5A. In a number of years, however, the IRS only published the number of returns and not the amounts.[83] For these years, before applying the Pareto interpolation method, we estimated amounts using the approach described in Appendix 5C.[84]

All these steps involve a substantial number of computations that have not been described in full detail. Our computer programs are available upon request for readers interested in getting the full details of the estimation.

Entry Effects on Top Shares

The fractiles are defined relative to the total number of tax units with positive wages, and therefore our series measure inequality only among wage earners for each year. Entry or exit effects such as a rise of unemployment during depressions, or movements into the labour force such as military personnel during the wars, or a decline of self-employment and rise of wages workers, can affect our top shares measures through composition effects. Under one set of simple conditions that we now describe, shares of wages accruing to top fractiles are not affected by entry or exit effects. Suppose that the initial wage distribution density is $f(w)$ and that we add (or subtract) a new distribution $g(w)$ to the former distribution. The new distribution $g(w)$ represents a flow of entrants such as military personnel during the Second World War. Let us assume that the fraction of new entrants

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[81] We do not report top wage shares for year 2002, because at the time this chapter was written, the complete composition table by income brackets was not yet available.

[82] Shares and levels are blown up by around 5% for fractiles P90–95 and P95–99, by around 10% for fractiles P99–99.5 and P99.5–99.9, and by around 20% for fractiles P99.9–99.99 and P99.99–100.

[83] For years 1935–41, and from 1944–61, the published tables report only the number of tax units in each bracket.

[84] We adopted the same method to compute top income shares in 1913–15 where only the number of tax units was available.

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Table 5B.4 CEO pay vs. average wage, US 1970–2003

		CEO pay statistics (in thousands of 2000 dollars)					Composition of Pay of top 100 CEOs		
Year (1)	Average wage (in $ 2000) (2)	Total pay rank 10 (3)	Total pay rank 50 (4)	Total pay rank 100 (5)	Total pay average 100 (6)	Salary+bonus rank 10 (7)	Share salary+bonus (8)	Share stock options (9)	Share other (10)
1970	34,363	1,691	1,216	1,021	1,326	1,553	84.66	15.34	
1971	35,070	1,636	1,194	1,058	1,267	1,424	84.07	15.93	
1972	36,202	2,059	1,376	1,178	1,558	1,717	85.99	14.01	
1973	36,151	2,083	1,478	1,218	1,610	1,718	82.85	17.15	
1974	34,978	1,845	1,408	1,240	1,490	1,663	87.13	12.87	
1975	34,620	2,046	1,399	1,201	1,555	1,649	86.04	13.96	
1976	35,045	2,149	1,513	1,296	1,655	1,967	84.45	15.55	
1977	35,136	2,322	1,651	1,364	1,805	1,953	80.00	20.00	
1978	35,040	3,479	2,029	1,622	2,430	1,981	59.50	40.50	
1979	34,135	6,135	2,819	2,024	3,569	2,250	40.36	22.12	37.52
1980	33,023	6,204	2,390	1,815	3,337	2,106	43.44	38.10	18.46
1981	32,693	4,988	2,631	1,960	3,621	2,114	39.19	48.07	12.75
1982	32,997	4,545	2,413	1,871	4,500	2,044	32.66	55.29	12.06
1983	33,579	6,433	2,428	1,754	3,298	2,458	48.77	45.54	5.69
1984	33,732	7,330	2,633	1,836	4,045	2,488	42.68	15.76	41.56
1985	34,091	5,742	3,161	2,275	3,837	2,905	49.08	35.20	15.72
1986	34,822	6,932	3,776	2,609	4,928	4,697	52.44	30.53	17.04
1987	35,076	13,066	4,732	2,967	7,519	4,549	32.87	59.43	7.70
1988	35,362	13,476	4,671	3,043	6,754	5,389	38.32	51.90	9.78
1989	34,792	13,336	4,617	2,990	6,937	5,528	41.49	48.20	10.31
1990	34,631	11,628	5,554	3,417	7,701	4,511	35.68	38.56	25.76
1991	34,582	12,617	5,690	3,924	8,570	4,579	31.28	54.12	14.60
1992	35,228	27,835	8,039	4,933	15,018	4,101	17.29	67.55	15.16
1993	35,122	20,009	9,283	4,332	14,867	5,443	18.45	64.29	17.26
1994	35,085	14,364	6,535	4,553	8,656	5,666	41.23	34.22	24.54
1995	35,098	19,643	9,500	5,774	12,056	5,818	29.44	53.62	16.94
1996	35,233	37,299	11,493	7,459	20,126	7,386	22.37	58.28	19.35
1997	35,946	47,335	13,585	9,041	23,648	9,084	15.45	67.04	17.50
1998	37,188	63,700	18,925	10,564	35,316	7,725	9.24	78.72	12.04
1999	37,993	90,470	20,084	11,773	39,626	10,060	9.73	58.52	31.76
2000	38,846	84,449	27,207	13,292	40,378				
2001	38,562	81,672	15,270	7,831	35,499				
2002	38,593	28,098	13,046	7,810	17,693				
2003	38,900	30,809	13,975	8,880	18,500				

Notes: Average is the total wages and salaries divided by number of equivalent full-time employees (from National Income and Product Accounts) CEO pay statistics are computed from the top 100 CEOs (in term of total pay) from Forbes survey of 800 CEOs from 1970 to 2003.

within the top fractile is negligible (that is, the support of *g(w)* is below the threshold of the top fractile of *f(w)*). This assumption is likely to be satisfied for top fractiles and movements in and out of the labour force due to wars or business cycles. Adding workers with the distribution *g(w)* below the top increases the total wage income denominator which tends to reduce top shares but also

increases the size of each fractile, which tends to increase top shares. Let us assume realistically that the top of the distribution *f(w)* is Paretian with parameter *a*. Let us introduce $b = a/(a-1)$. Then, it is possible to show the following result:

If the average wage of the initial distribution *f(w)* is *b* times larger than the average wage of distribution *g(w)*. Then, the two effects just described cancel out and adding *g(w)* to the initial distribution *f(w)* does not change top shares (up to a first degree of approximation). If the average wage of *f(w)* is more (less) than *b* times the average wage of *g(w)*, then introducing *g(w)* increases (decreases) top shares.

If we take the case of military personnel during the Second World War, *b* is about 1.5 and the average non-military salary during the Second World War is also about 1.5 times larger than the average military salary (see National Accounts). This explains why excluding military workers and wages hardly affects our top share estimates.

Let us consider the case of the very large increase in wage earners from a low level in 1938 (due to a very high unemployment rate) to 1948 (full employment). If we assume that the average wage of new entrants is 66% of the current average wage (which is perhaps a reasonable number), then excluding new entrants would not affect our top share estimates. If the average wage of new entrants is less that 66% of the average wage, then the entry effect biases our top shares upward, implying that the decline in top shares would be larger when eliminating the entry effect.

CEO Data

The CEO data are from the *Forbes Magazine* survey of 800 CEOs from the largest US corporations from 1970 to 2003. Total pay includes salary and bonus, stock options exercised during the year, the value of restricted stock awarded, and the value contingent pay. Average wage is the line wages and salaries from NIPA divided by the number of full-time equivalent employees from NIPA. (See Table 5B.4.).

APPENDIX 5C: PARETO METHOD OF INTERPOLATION

The Pareto interpolation technique used here and in Chapters 3, 6, 9, and 11 is that described in Piketty (2001). Iin order to estimate a given fractile threshold (P90, P95, . . . , P99.99), we choose the income bracket threshold *s* such that the fraction *p* of tax units with income above *s* is as close as possible to the given fractile; we note *b* the ratio between the average income of all tax returns above *s* and *s*; we then compute $a = b/(b-1)$ and $k = sp^{(1/a)}$, which allows us to compute the given threshold income by using the Pareto formula

$$1 - F(y) = (k/y)^a \tag{5C.1}$$

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(where *F(y)* is the cumulative distribution function). Top fractiles average incomes (P90–100, P95–100, . . . , P99.99–100) are then obtained by multiplying the corresponding fractile threshold by *b* (in practice, the result barely depends on the interpolation threshold *s*, as long as *s* is not too far from the given fractile); intermediate fractiles average incomes (P90–95, P95–99, etc.) are obtained by difference. This interpolation technique is slightly different from the one used by Feenberg and Poterba (1993) and delivers more precise results (Feenberg and Poterba only use the slope between two consecutives thresholds *s*, and do not use the information embodied in the *b* coefficients).[85]

Where we have information only on the number of returns in a range, and not on the amounts, we estimate the amounts as follows. We assume that the distribution of income in each bracket (*s, t*) is Pareto distributed: i.e., follows the distribution (5C.1). The Pareto parameters *a* and *k* are obtained by solving the two equations: $k = sp^{(1/a)}$ and $k = tq^{(1/a)}$ where *p* is the fraction of tax returns above *s* and *q* the fraction of tax returns above *t*.[86] Note that the Pareto parameters *k* and *a* may vary from bracket to bracket. We then estimate the amount reported in bracket (*s, t*) simply as

$$Y = N \int_s^t y dF(y) \qquad (5C.2)$$

where *N* is the total number of tax units (with positive wages). For the top bracket, this method cannot be applied and we therefore assume that the top bracket is Pareto distributed with Pareto parameters *a* and *k* equal to those of the bracket just below the top estimated by the method just described. When data on amounts reported are available, we can check that our estimated amounts *Y* are very close to the true reported amounts.

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[85] Atkinson (Chapter 2) notes that the estimation errors induced by Pareto interpolation techniques are sometimes non-negligible. But this is the case only when the raw data does not include sufficiently many income brackets. The only non-negligible (more than 1%) estimation error that we noticed over the 1966–95 period is related to fractile P99.99–100 during the 1990s: the top income bracket used in the IRS tables of the 1990s is not high enough (US$1 million and more, i.e., more than 0.1% of all tax units in the late 1990s), and this interpolation threshold yields estimates of P99.99–100 that are over-estimated by about 5% (in 1995). However, since 2000 (which is exactly the period for which micro-data are not yet available), the IRS has extended the top bracket to US$10 million and more. This top IRS bracket corresponds almost exactly to our top 0.01% group.

[86] This is the standard method of Pareto interpolation used by Kuznets (1953) and Feenberg and Poterba (1993).

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