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## INCOME INEQUALITY IN THE UNITED STATES, 1913–1998\*

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This paper presents new homogeneous series on top shares of income and wages from 1913 to 1998 in the United States using individual tax returns data. Top income and wages shares display a U-shaped pattern over the century. Our series suggest that the large shocks that capital owners experienced during the Great Depression and World War II have had a permanent effect on top capital incomes. We argue that steep progressive income and estate taxation may have prevented large fortunes from fully recovering from these shocks. Top wage shares were flat before World War II, dropped precipitously during the war, and did not start to recover before the late 1960s but are now higher than before World War II. As a result, the working rich have replaced the rentiers at the top of the income distribution.

### I. 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

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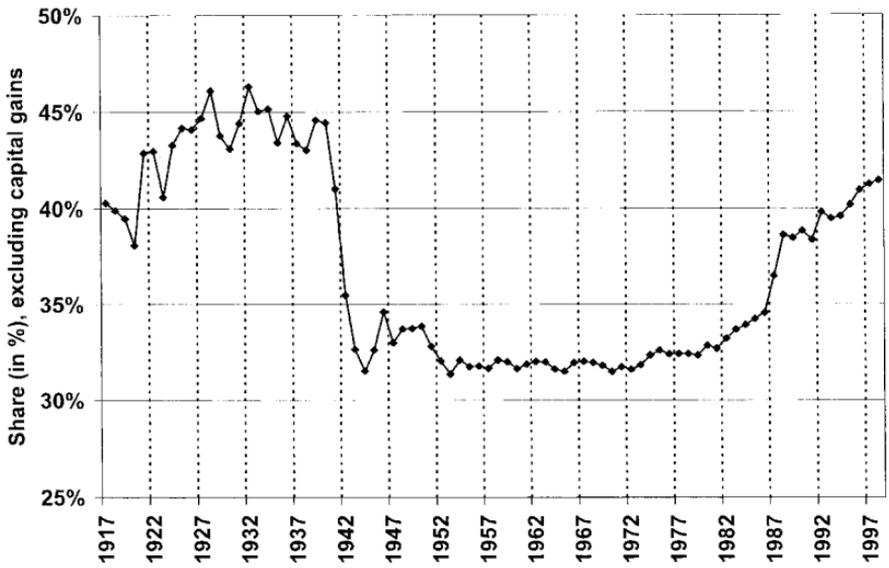


FIGURE I

The Top Decile Income Share, 1917–1998

*Source:* Table II, column P90–100.

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 II 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 World War II is less extreme than that for the top decile as a whole, and they start recovering from the World War II 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).

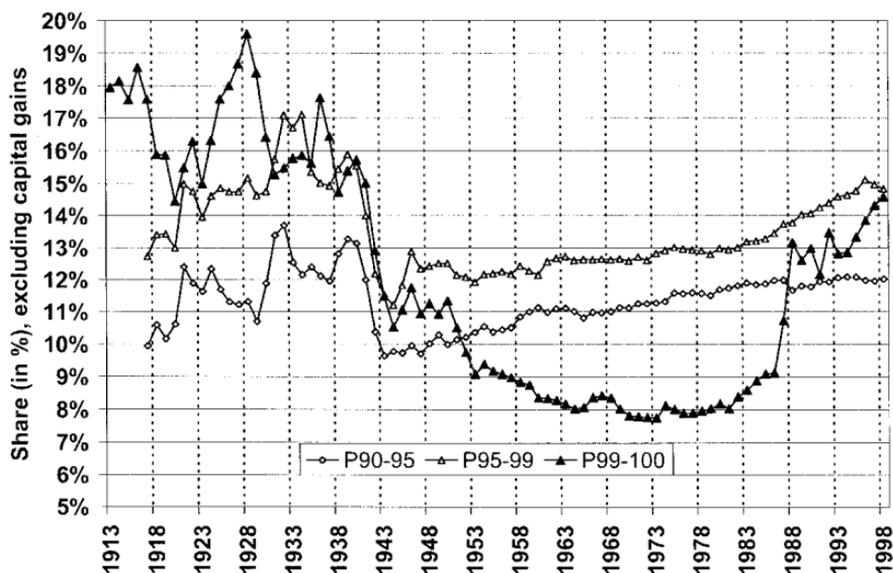


FIGURE II

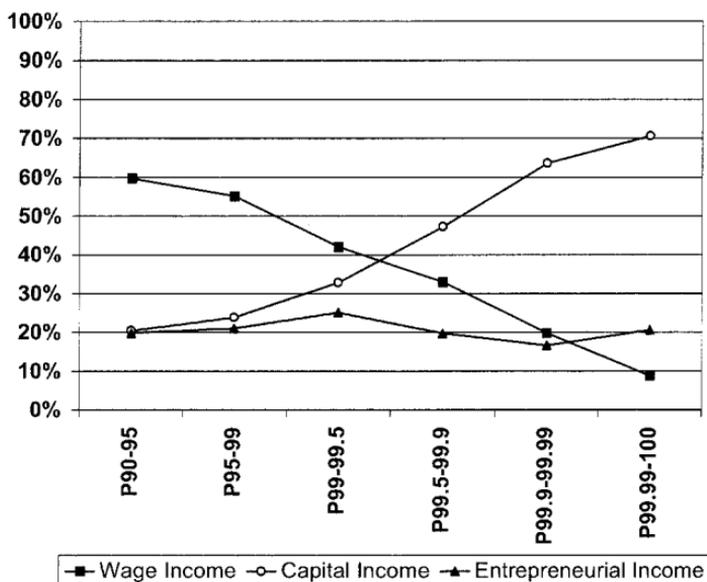
The Income Shares of P90-95, P95-99, and P99-100, 1913-1998

Source: Table II, columns P90-95, P95-99, and P99-100.

In contrast to P90-95 and P95-99, the top percentile (P99-100 in Figure II) underwent enormous fluctuations over the twentieth century. The share of total income received by the top 1 percent was about 18 percent before World War I, but only about 8 percent from the late 1950s to the 1970s. The top percentile share declined during World War I and the postwar depression (1916 to 1920), recovered during the 1920s boom, and declined again during the Great Depression (1929 to 1932, and 1936 to 1938) and World War II. 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 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-World War II 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.<sup>15</sup>

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

Panel A: 1929



Panel B: 1998

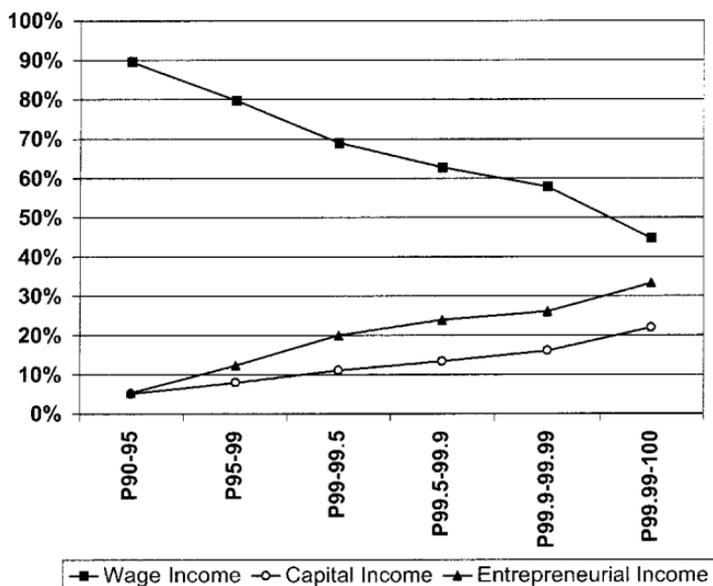


FIGURE IV

Income Composition of Top Groups within the Top Decile in 1929 and 1998

Capital income does not include capital gains.

Source: Table III, rows 1929 and 1998.

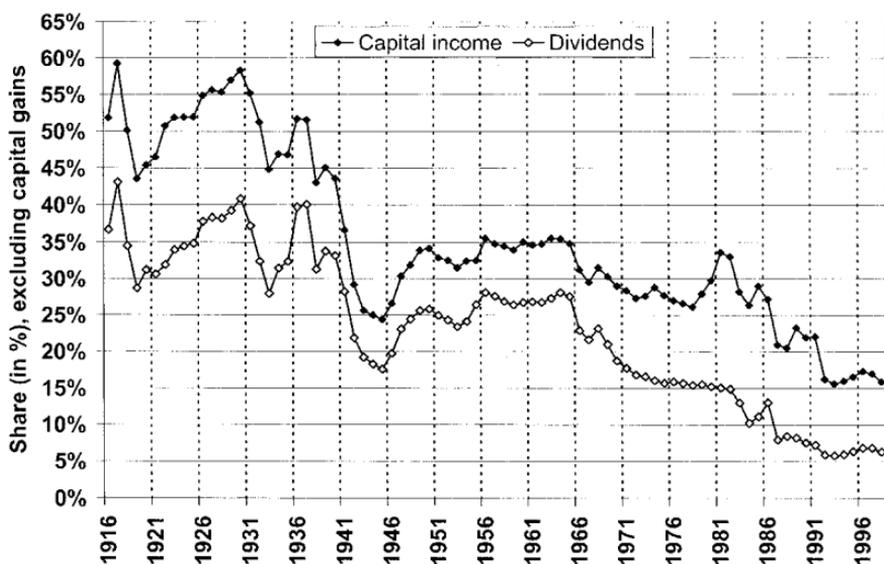


FIGURE V

The Capital Income Share in the Top 0.5 Percent, 1916–1998

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

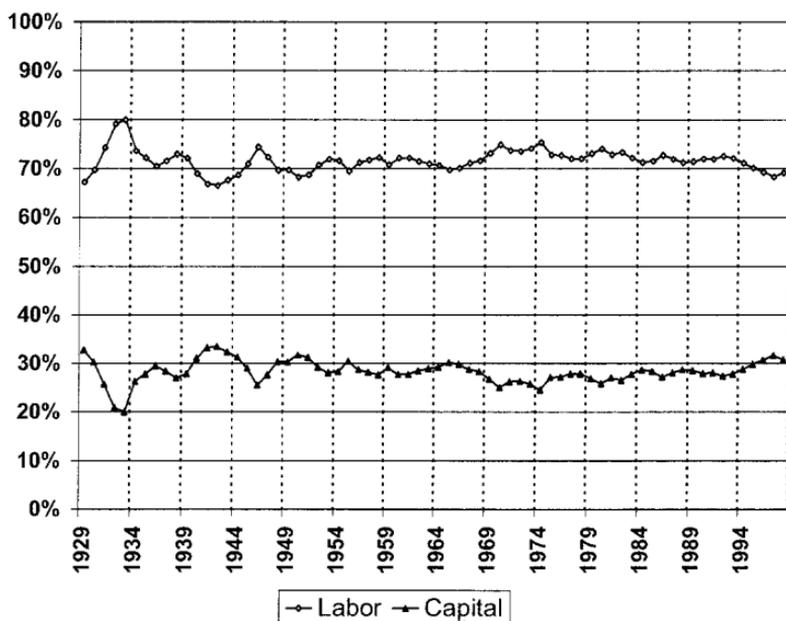
*Source:* Authors' computations are based on income tax returns statistics (series reported in Piketty and Saez [2001], Table A7, column P99.5–100).

gains, but capital gains are added back into income to compute shares. In column (11) individuals are ranked by income including capital gains, and capital gains are added back into income to compute shares. These additional series show that including capital gains does not modify our main conclusion that very top income shares dropped enormously during the 1914–1945 period before increasing steadily in the last three decades.<sup>20</sup>

The decline of the capital income share is a very long-term phenomenon and is not limited to a few years and a few thousand tax units. Figure V shows a gradual secular decline of the share of capital income (again excluding capital gains realizations) and dividends in the top 0.5 percent fractile from the 1920s to the 1990s: capital income was about 55 percent of total income in the 1920s, 35 percent in the 1950s–1960s, and 15 percent in the

20. It is interesting, however, to note 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.

### A. Factor shares in the corporate sector



### B. The capital income share in the personal income sector

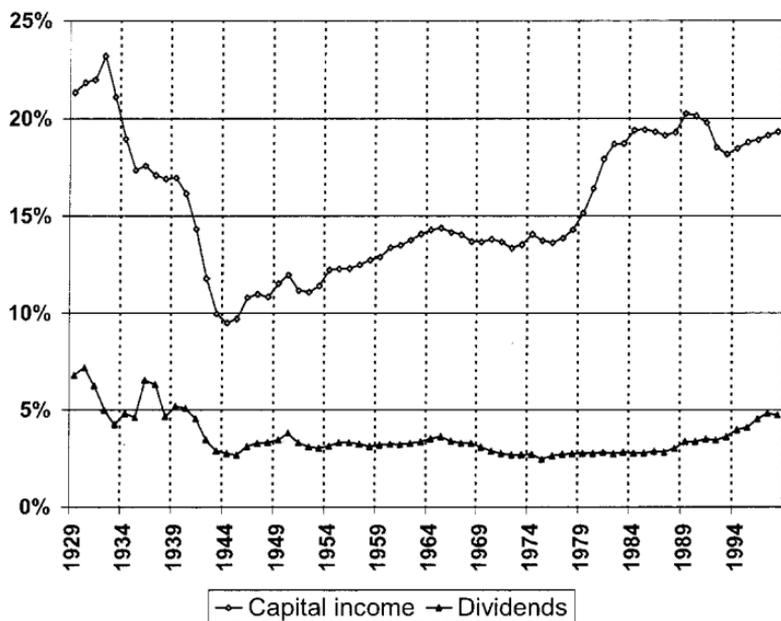


FIGURE VI

Capital Income in the Corporate and Personal Sector, 1929–1998

Source: Authors' computations are based on National Income and Product Accounts. Panel A from NIPA Table 1.16; consumption of fixed capital and net interest have been included in the capital share.

Panel B from NIPA Table 2.1; capital income includes dividends, interest, and rents.

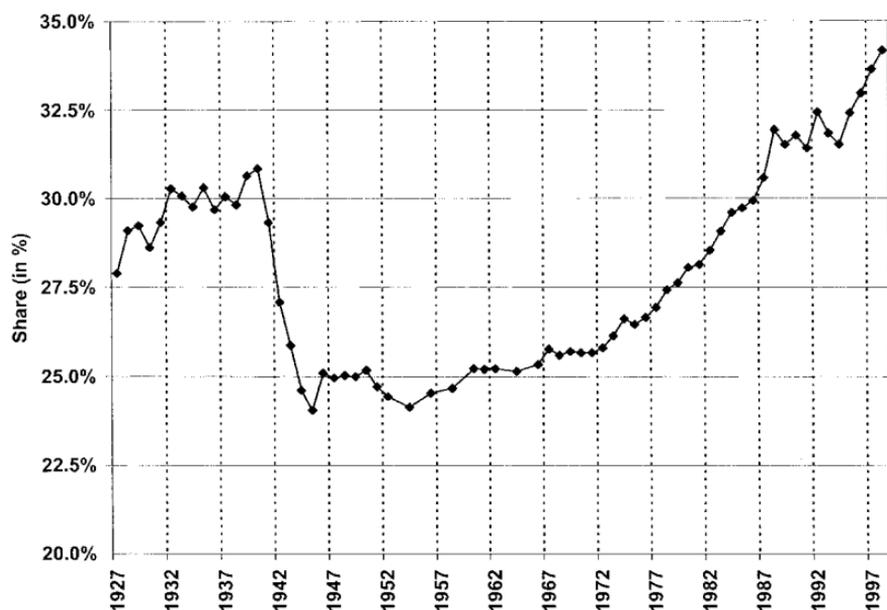


FIGURE VIII

The Top Decile Wage Income Share, 1927–1998

Source: Table IV, column P90–100.

series of wage ratios between skilled and unskilled occupations (see, e.g., Keat [1960] and 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.<sup>30</sup> 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 oc-

30. For instance, Piketty [2001a] 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.

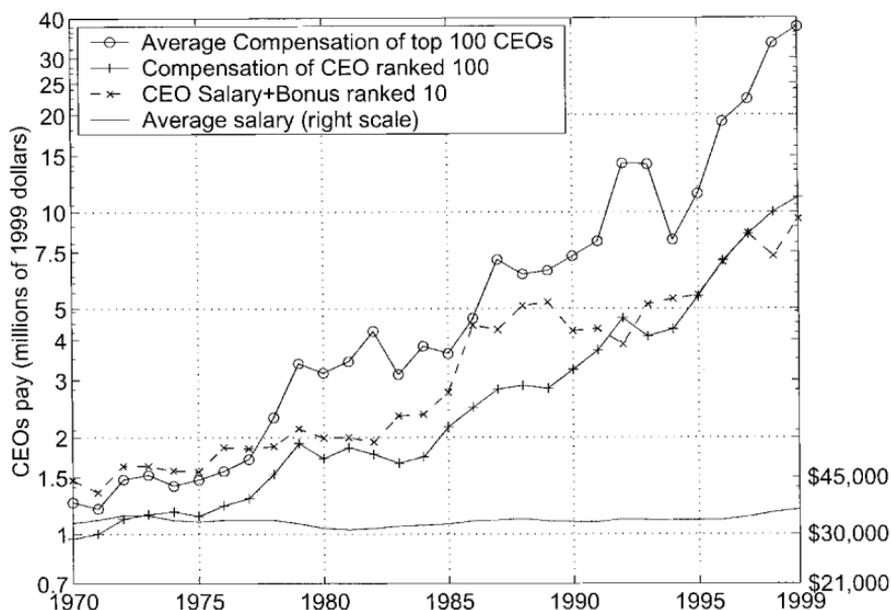


FIGURE XI

CEOs' Pay versus Average Wages, 1970-1999

Source: Forbes Annual Compensation surveys of CEOs in top 800 companies; Average wages of full-time employees are from National Income Accounts.

#### IV. D. 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 World War II. 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 of wages during the 1940s. The Social Security Administration [U. S. 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  $P_{90}/P_{10}$  and  $P_{50}/P_{10}$  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 recon-

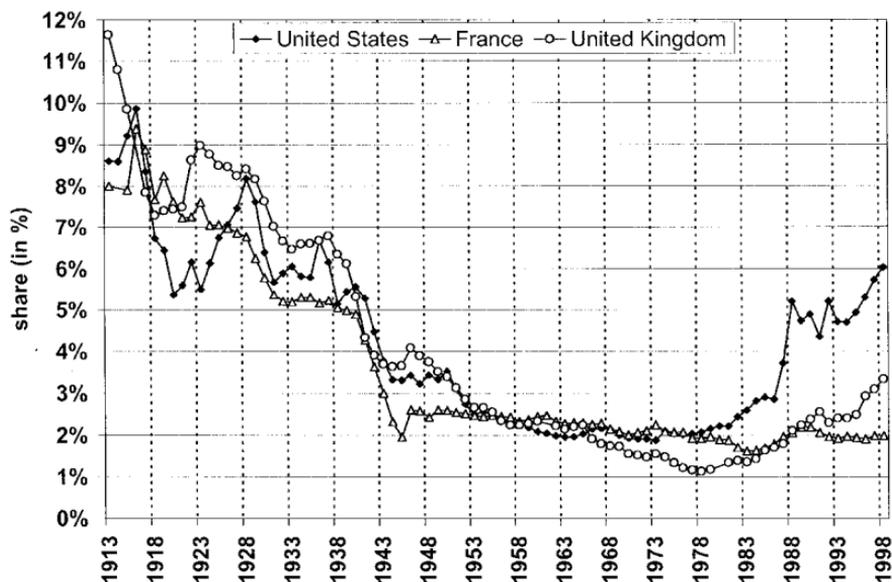


FIGURE XII

Top 0.1 Percent Income Shares in the United States, France, and the United Kingdom, 1913–1998

Sources: United States: Table II, column P99.9–100.

France: Computations are based on income tax returns by Piketty [2001, Table A1, column P99.9–100].

United Kingdom: Computations are based on income tax returns by Atkinson [2001, column top 0.1 percent in Tables 1 and 4]. Years 1987–1992 and 1994–1998 are extrapolated from Atkinson top 0.5 percent series. Discontinuity from 1989 to 1990 due to switch from family to individual base is corrected.

In all three countries, income is defined before individual taxes and excludes capital gains. The unit is the family as in the current U. S. tax law.

portant similarities between the American, French, and British pattern of the top 0.1 percent income share displayed in Figure XII.<sup>38</sup> In all three countries, top income shares fell considerably during the 1914 to 1945 period, and they were never able to come back to the very high levels observed on the eve of World War I. 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 [2001a] also shows that in France, there was no spontaneous decline of

38. Due to very high exemption thresholds in the United Kingdom prior to World War II, Atkinson was not able to compute top decile or even top percentile series covering the entire century (only the top 0.1 percent, and higher fractiles series are available for the entire century for all three countries).