

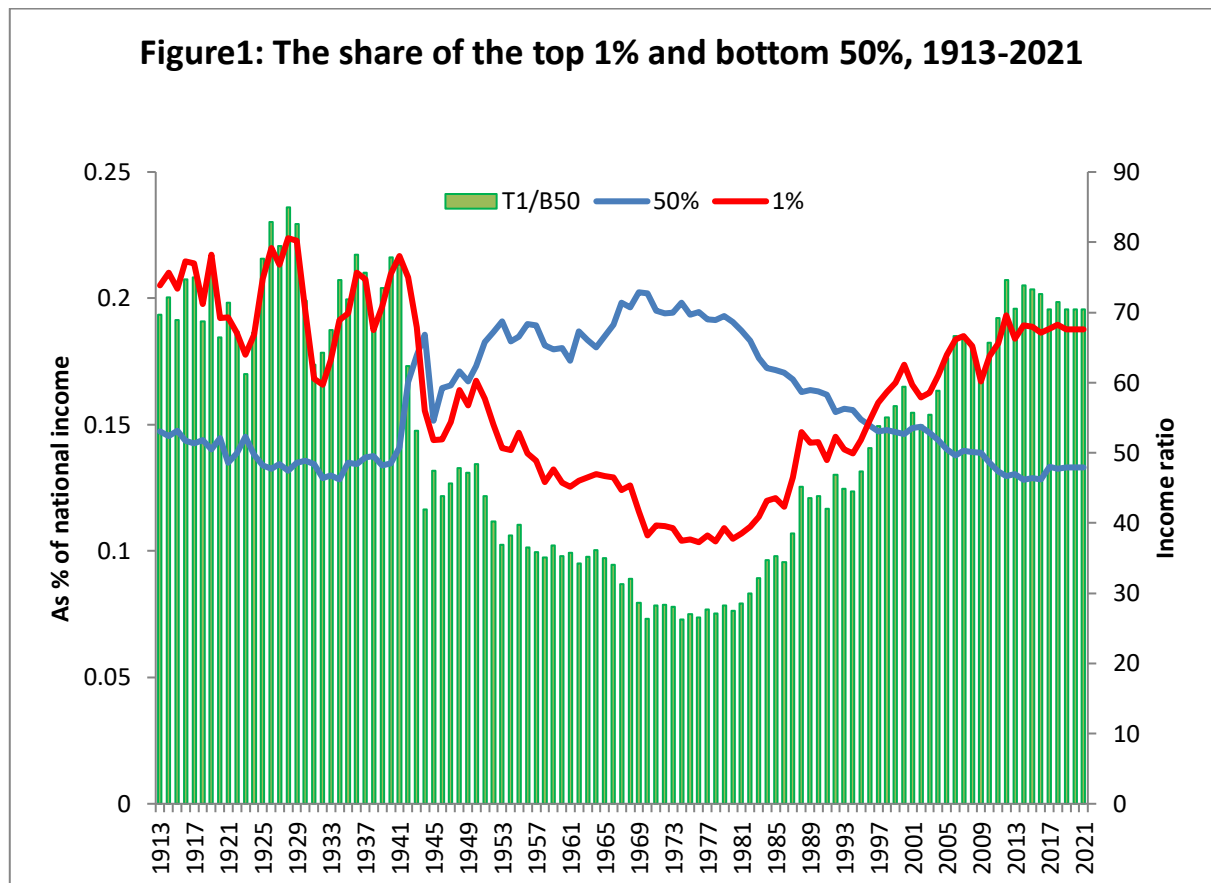
Back to the past: Income Distribution in America

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Examining income distribution in the United States is both extremely important and extremely complex. Its importance is that it is the largest and indeed richest economy in the world, and for many years now, acted as a kind of global "sheriff" having a huge impact on the world economy. The complexity is that, as far as I know, we have much more statistical data on the evolution of income distribution in the United States, which potentially allows us to examine many factors that we are not able to examine in the case of other countries. In this note, which is by no means a comprehensive survey of income distribution in the United States, I try to provide a picture of these developments using some of these statistics.



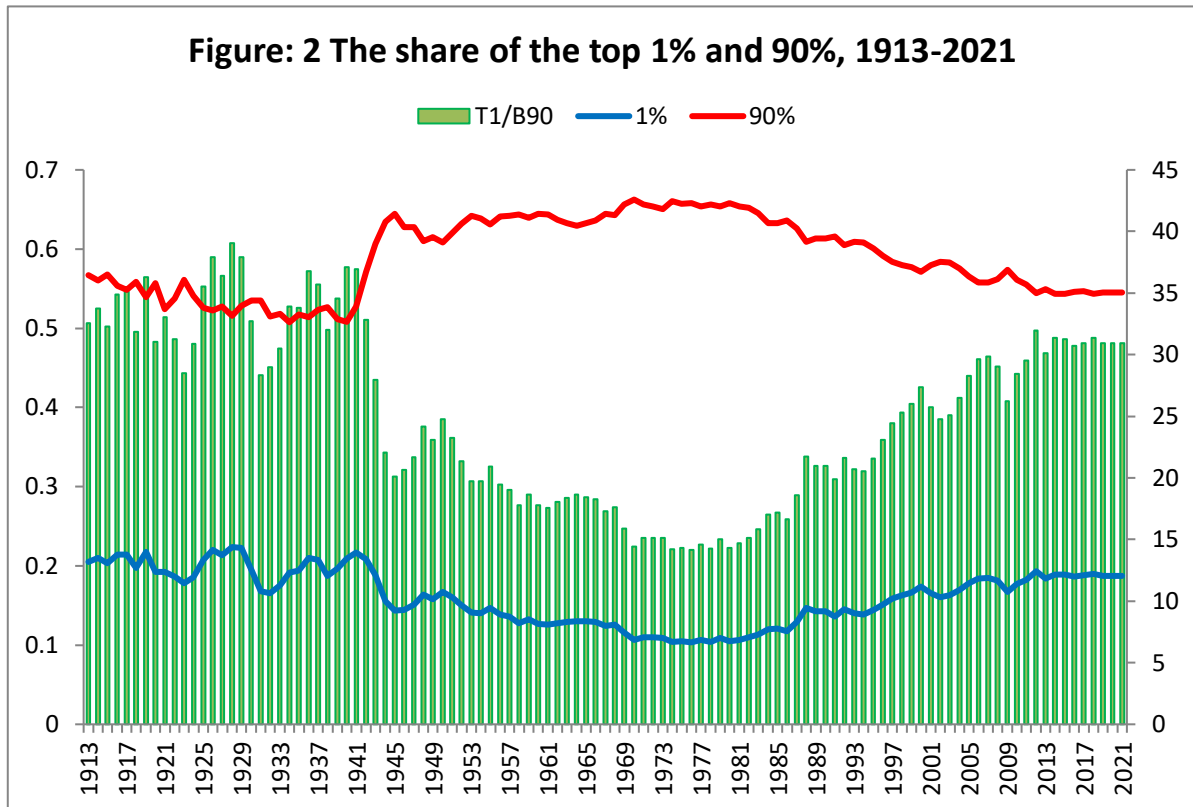
Source: All data on the percentage distribution of income in the USA come from the World Inequality Database, available at: <https://wid.world/country/usa/>.

This chart, covering more than a century, actually represents a kind of return to the past that we are witnessing in America. First on the axis on the left hand we have the share of the top one percent and

the bottom 50 percent as percentage of the national income covering the period from 1913 to 2020, that is, for 108 years. As it can be seen above, the share of the top 1 percent, resembles a U shape, i.e., it starts very high, in fact more than 22 percent of the national income in 1929, declining to about 10 percent in the 1970s and subsequently settling down at about 19 percent in 2021. By contrast, the share of the bottom 50 percent shows a different pattern, an inverted U-shape; it starts at about 15 percent in 1913, then increases to 20 percent of national income in 1970, and ends up at 13 percent by 2020. In other words, in the early years of the twentieth century, the share of the top one percent out of national income was high, and the share of the bottom 50% was low and then, as a result of policies adopted by successive US governments, especially at the time of the Great Depression of 1929 and after, the share of the top 1% declined and the shares of the bottom 50% went up. It can be stated that up to the mid-1970s, the share of the top 1 percent had a declining trend, and then started to rise. Around the same time, the share of the bottom 50 percent experience changes too but in the opposite direction, i.e. the highest share is reached in the mid-1970, and then a declining trend sets it. For all these years, we can also measure the income ratio, i.e. on average, how richer are the top 1 percent as compared with the average income level among the bottom 50 percent. This ratio is measured on the right hand axis and shown in the green columns above. The highest gap appeared in 1928, when the average income of the top 1% was 85 times higher than the average income of the bottom 50%. Given the changes in the percentage distribution of income, this ratio declined to 26 times by 1974 and likewise, started to rise again reaching 75 times by 2012 and levelling off at 70 by 2020. It should be noted that this ratio in 2020, is equal to what this ratio was in 1913, i.e. more than a century ago in the USA.

From the early 1970s, the shares of the bottom 50 percent show a decreasing trend and the top one percent enjoys an increasing trends and the income ratio has a significant upward trend too. In 1913, for example, the one percent held 21 percent of national income and the bottom 50 percent accounted for only 15 percent. In 1980, the share of the top 1 percent declined to 10 percent, and the share of the bottom 50 percent increased to 19 percent, and the income ratio fell sharply to 27 times too. Although this ratio is still significant, but compared with 70 times in 1913 or even 63 times in 1931, this is a sign of a significant reduction in income inequality in the USA. Then Mr. Reagan came to power and started his economic "revolution", at the very beginning of which his government embarked upon a fights with the trade unions, and then came Mr Bush Sr. and Clinton, who did promise too much, and after Bush Jr. was the turn of the first black American to become President - Mr. Obama. In short, with all the promises, and after two world wars and the so-called "dominance" over the world economy, income distribution in the United States in 2020 is almost the same as what it was in 1913. That is, its top 1 percent pockets one dollar of every \$5 produced in the economy, and its bottom 50 percent- i.e. 50 times more American citizens will have to live with one dollar of every \$10 dollar produced.

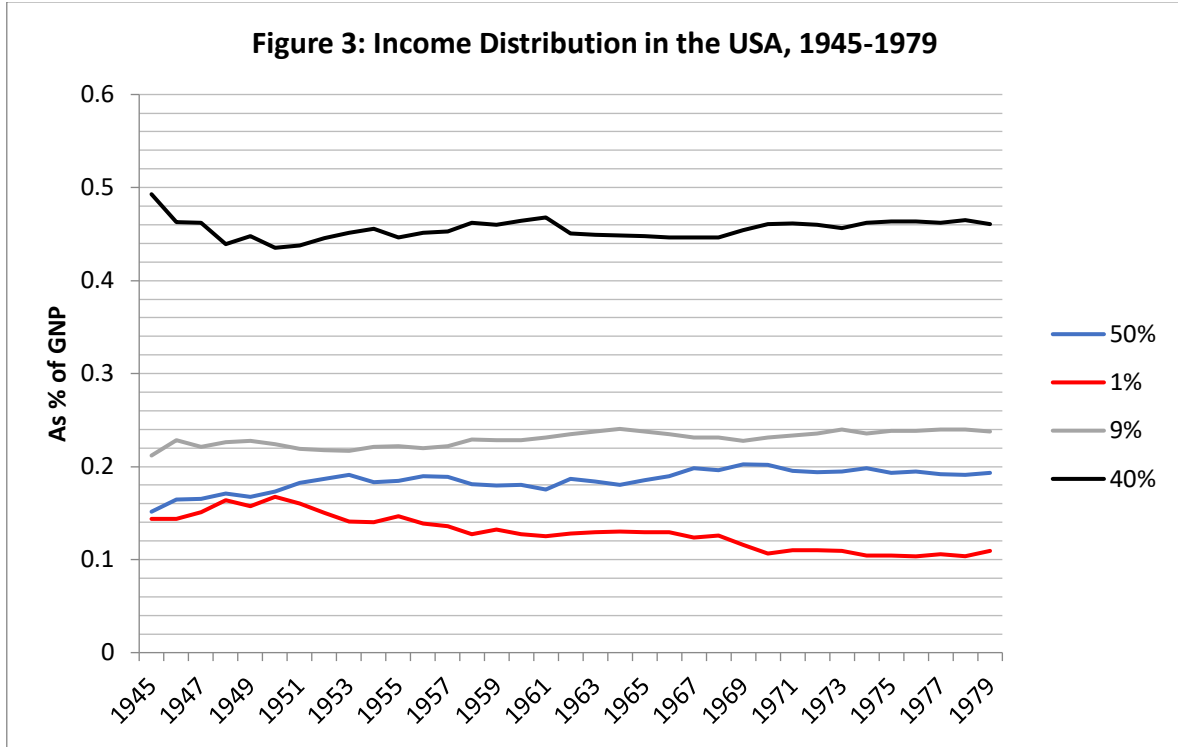
In the second diagram, we follow these developments in relation to the share of the bottom 90%.



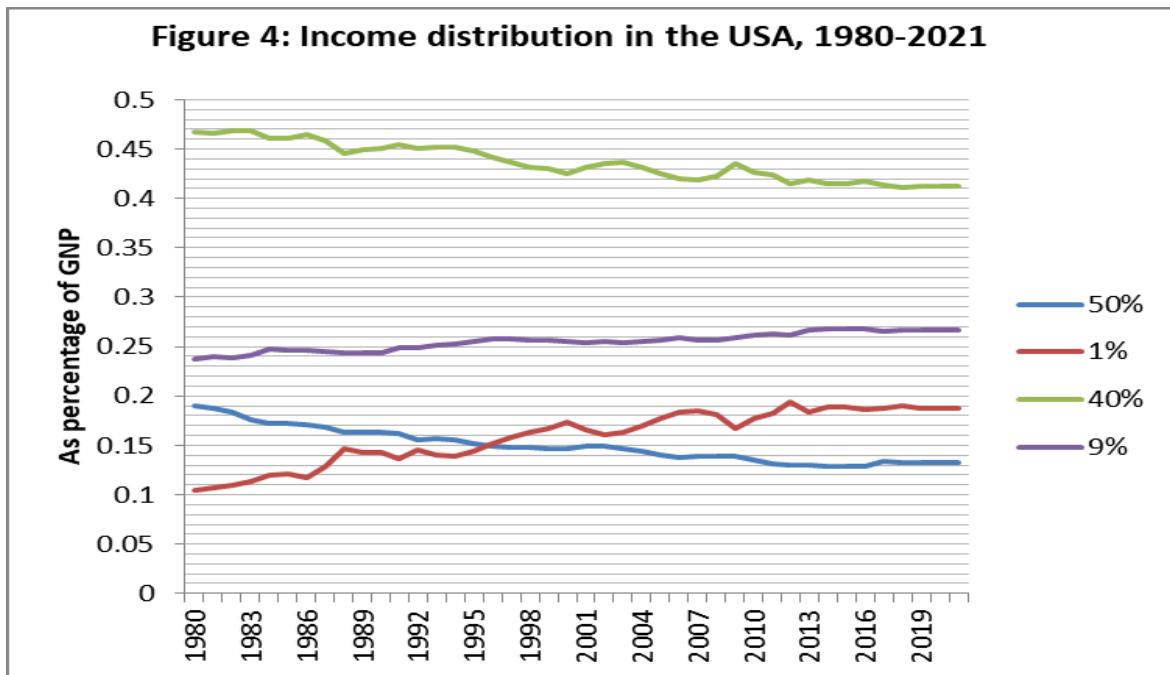
Source: In order to estimate these capture rates in the US, we have used data on GDP from the World Bank, available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KN?locations=LV>

It should come as no surprise that we are witnessing similar developments here. In other words, in terms of enjoying the fruits of their labour, the bottom 90 percent in the USA, in 2020, has reached the point where it was in 1913. First of all, the general pattern is identical to what we have already seen, a U-shape and an inverted U-shape. Focusing on the share of the bottom 90 percent, it was relatively low at the beginning of the period, and then their share increased in the middle decades, but in the last few decades, a declining trend begins again. As a result, the income ratio also changes. In the previous section, we examined how the share of the top 1 percent evolved, but on the shares of the 90 percent, like the 50 percent, there has been a similar transformation. Their share increased from 57 percent of national income in 1913 to 66 percent in 1980, but, then lost about 11 percent of national income, reaching 55% in 2020, a share which is even less than what it was in 1913. The income ratio - that is, the relationship between the average income of the top one percent and 90 percent, which was 33 times in 1913, decreased to 15 times in 1980 and increased to 31 times again in 2020.

If we divide this period into two sections, one, 1945-1979 and the next, 1980-2020 an interesting picture emerges. In the first period, it seems that all the variables changed in a direction that should have changed to improve social welfare, and vice versa in the second period, the exact opposite of this process happened.

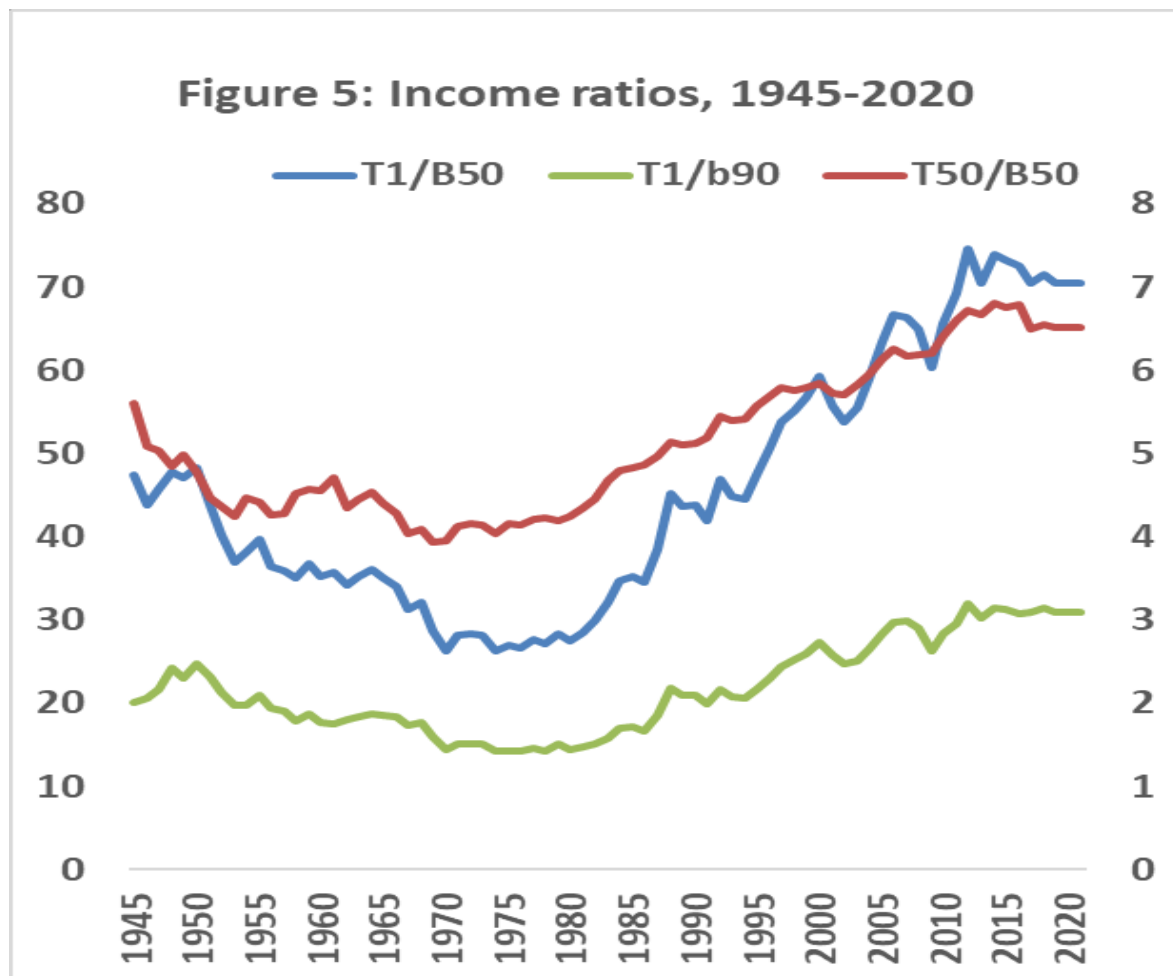


Obviously the size of the US economy in 1979 was larger than what it was in 1945, but the bottom 50 percent has increased its share of this much larger economy by 4 percentage points during this period while the share of the top 1 percent has decreased by 3%. Most likely, the reason for this relatively small improvement compared to European countries is that the US government, unlike most countries in Europe, did not adopt a welfare state model, although policies in those decades differed from policies that began after Reagan. When the New Deal stopped and there was policy reversal in the US, we will see that the small achievements were lost and the distribution of income became more unfavourable in 2020 than it was in 1945. Figure 4 shows this situation.



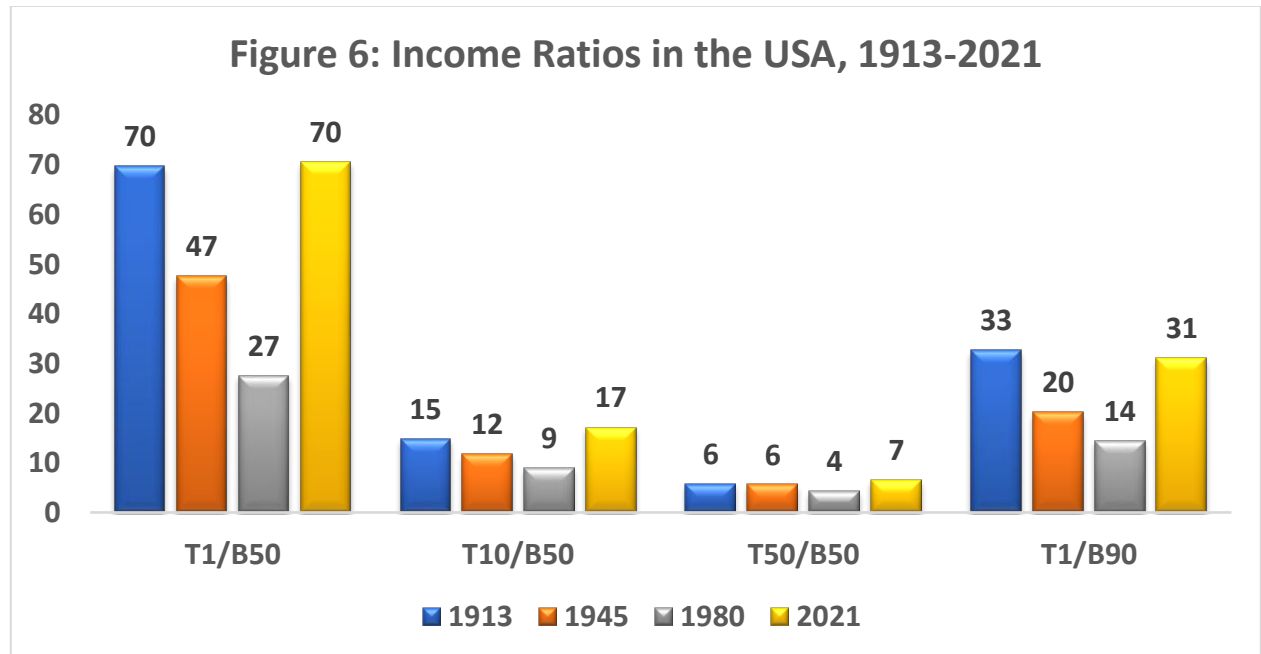
What can be seen here is that the share of the bottom 50% and middle 40% in 2021 is less than what they had in 1980. To be precise, the bottom 50% lost 6% of the national income, the same as the middle 40 percent. By contrast, the top 1% increased its share by 9% and the share of the top 9% rose by 3% of the national income.

To summarize these developments, I have prepared Figure 5, which shows the income ratio from 1945 onwards. As indicated earlier, income ratio measures the relative position of different groups in an economy, and here we compare average income of different groups. Figure 6, summarizes these ratios from 1913 onwards, and as it can be seen here, the distribution of income in the United States in 2021 is more unequal than in 1913.



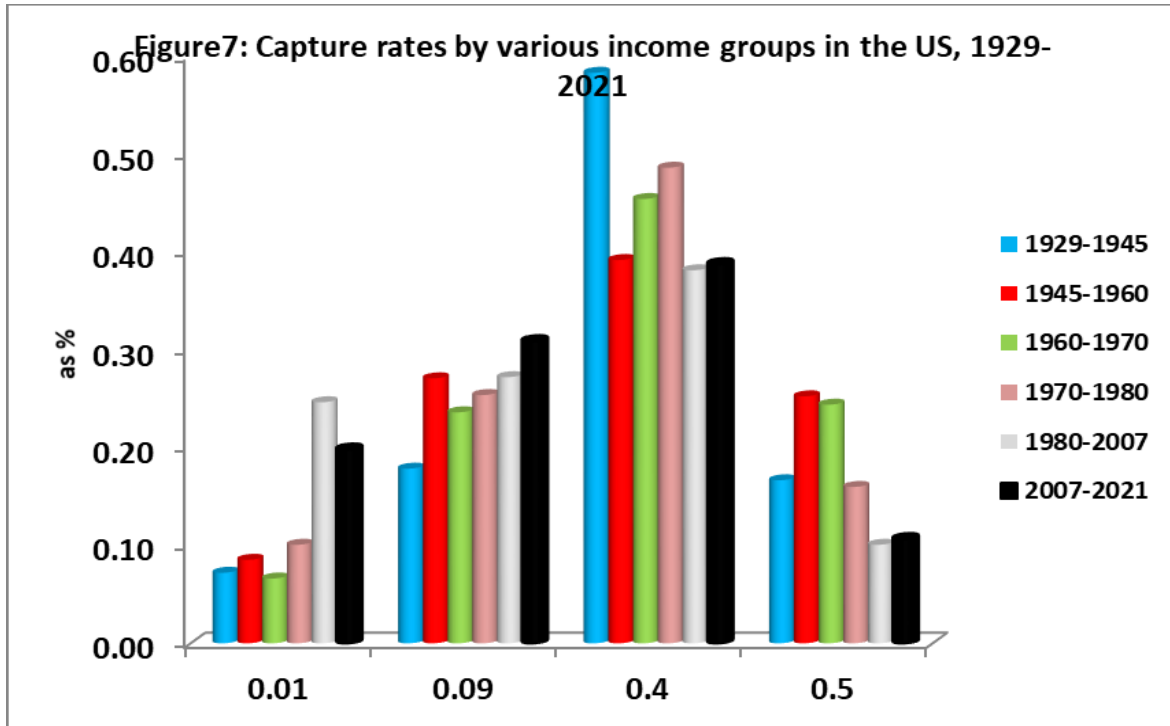
In this diagram, which shows the evolution from 1945 onwards, it can be seen that the shape of all three curves has become like the letter U in English, meaning that the changes can be divided into two segments. In one, that is, from about 1945 to 1978, this trend is decreasing, and then the increasing trend begins. What these changes mean is simple, the average income of the top 1 percent increased much faster than the average income of the bottom 90 percent in the USA. In 1945, the average income of the top 1 percent was 47 times higher than the average income of the bottom 50 percent, but it went down to 26 times in 1974 and by 2021, it was 70 times, a lot larger gap in 2021 than the gap in 1945. This means that all the gains were lost and the inequality was far greater in 2021 than it was in 1945 or in 1974. Similar pattern existed in relation to the share of the bottom 90 percent. The average income of the top 1 percent was 20 times higher than the average income of the bottom 90 percent in 1945, but by 1974, the ratio went down to 14 times, and subsequently increased to 31 times

in 2021, again much higher than the gap in 1945. There have been similar changes in the average income of the top 50 percent as compared with the average income of the bottom 50 percent and the ratio is measured on the axis on the right. Figure 6 gives a summary of the data as far back as 1913.



In relation to all these income ratios, it is interesting that the turning point seems to have happened in 1980, when, the declining trends are reversed and the ratio rises in all cases. The income ratio between the top 1 percent and bottom 50 and 90 percent, in 2021 is the same as what it was in 1913. Looking at the situation in 2021, in each and every case, there has been a sharp rise in the income ratios. Accepting the view that income ratio is a useful measure of income inequality in an economy, it can be seen that the US economy in 2021 is several times more unequal than what it was in 1980. The issue that should be of a great concern for policy makers in the US, is the fact, that income inequality in 2021 seems greater than what it was in 1913.

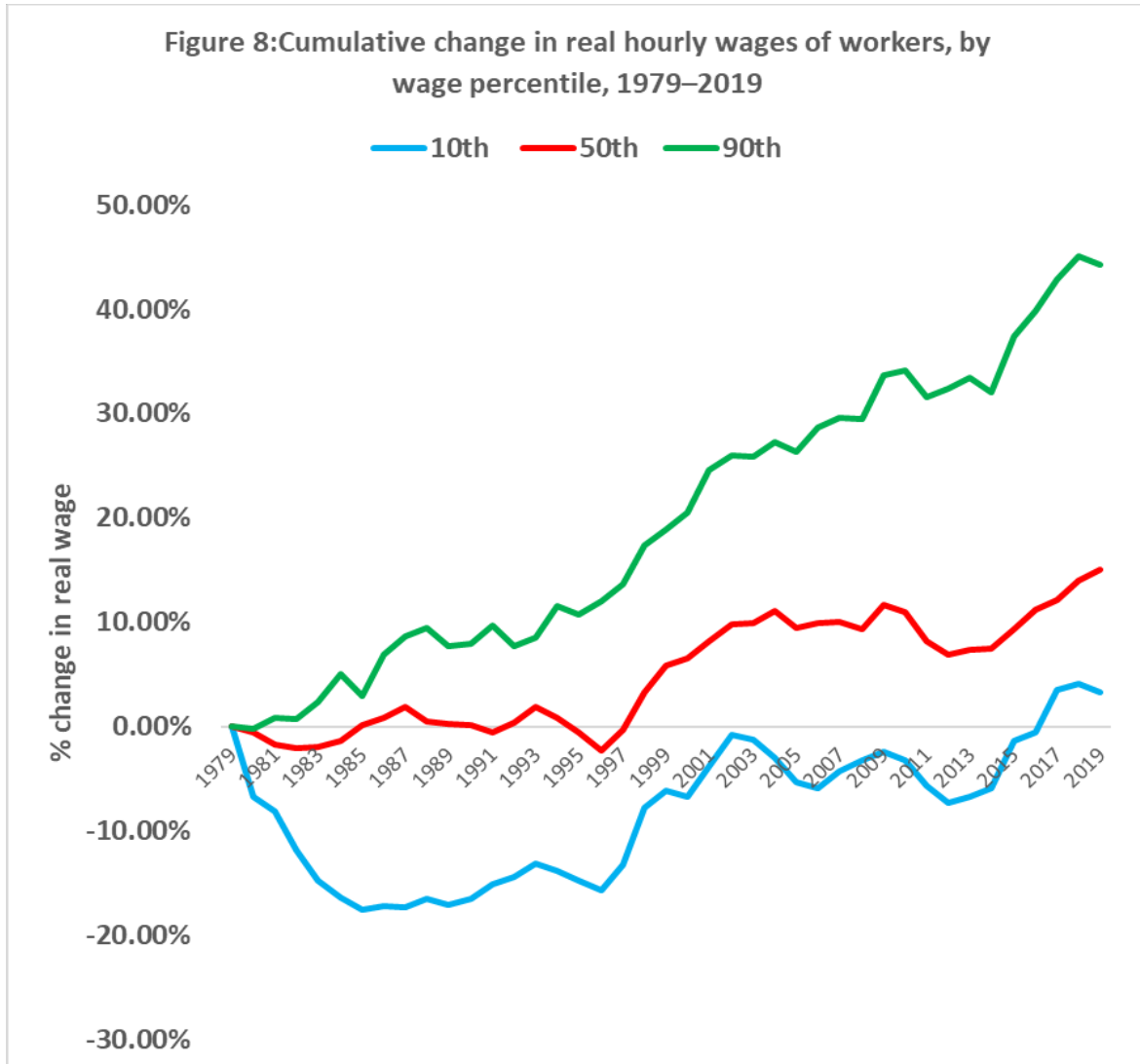
Why this has happened is an important question that requires a very detailed examination of policy making in the USA in all these years. It is common sense to suggest that the underlying factor causing this growing inequality is different groups of people benefited differently from the gains of economic growth over the years. We have called this the capture rate, i.e. how much of the extra income was pocketed by the top 1 percent or, by the bottom 50%? In relation to other income groups we estimated their respective capture rates too and present them in our figure 7.



What this illustration shows are how the benefits of economic growth in the USA were shared among the US citizens. For instance, if we take the period between 2007 and 2021, the black columns show how the extra income generated by economic growth during these period has been divided? The top 1% took 20%, and 31% went to the 9% and the share of the middle 40% was 39 percent and last, but not least, only 11% of the extra income thus generated went to the bottom 50% of the US citizens. Other columns here show income distribution in other periods as indicated.

It is clear that the capture rate for the top 1% shows an increasing trend, i.e. it increases over time, and the same is true about the capture rate for the 9% of the population. However, the capture rate for the bottom 90%, i.e. middle 40% and bottom 50% shows a clear declining trend. Here, the middle 40 % seems to have maintained their grounds, i.e. their capture rate reflects their share in the population, it is in fact slightly above it, as their average for the whole period is 45% meaning that between 1929 and 2021 the middle 40% US citizens captured 45% of the benefits of economic growth. By the same token, the capture rate of the bottom 50% shows a very deep declining trend, declining from 25% during 1945-1960 to just 11% during 2007-2021. The average rate of capture for the bottom 50% for the whole period was 17%. From 1980 onwards there was a sharp rise in the top 1% capture rate, from just around 10 in the 1970s, to 25% by 2007 and levelled off at 20% by 2021. It is clear that these different capture rates would produce larger inequality, and it can be reported here that as a result of this growing divided, the income gaps have increased among all income groups in the US.

In order to provide further evidence showing this different capture rate, let us look at the growth of real wages for different deciles since 1980.

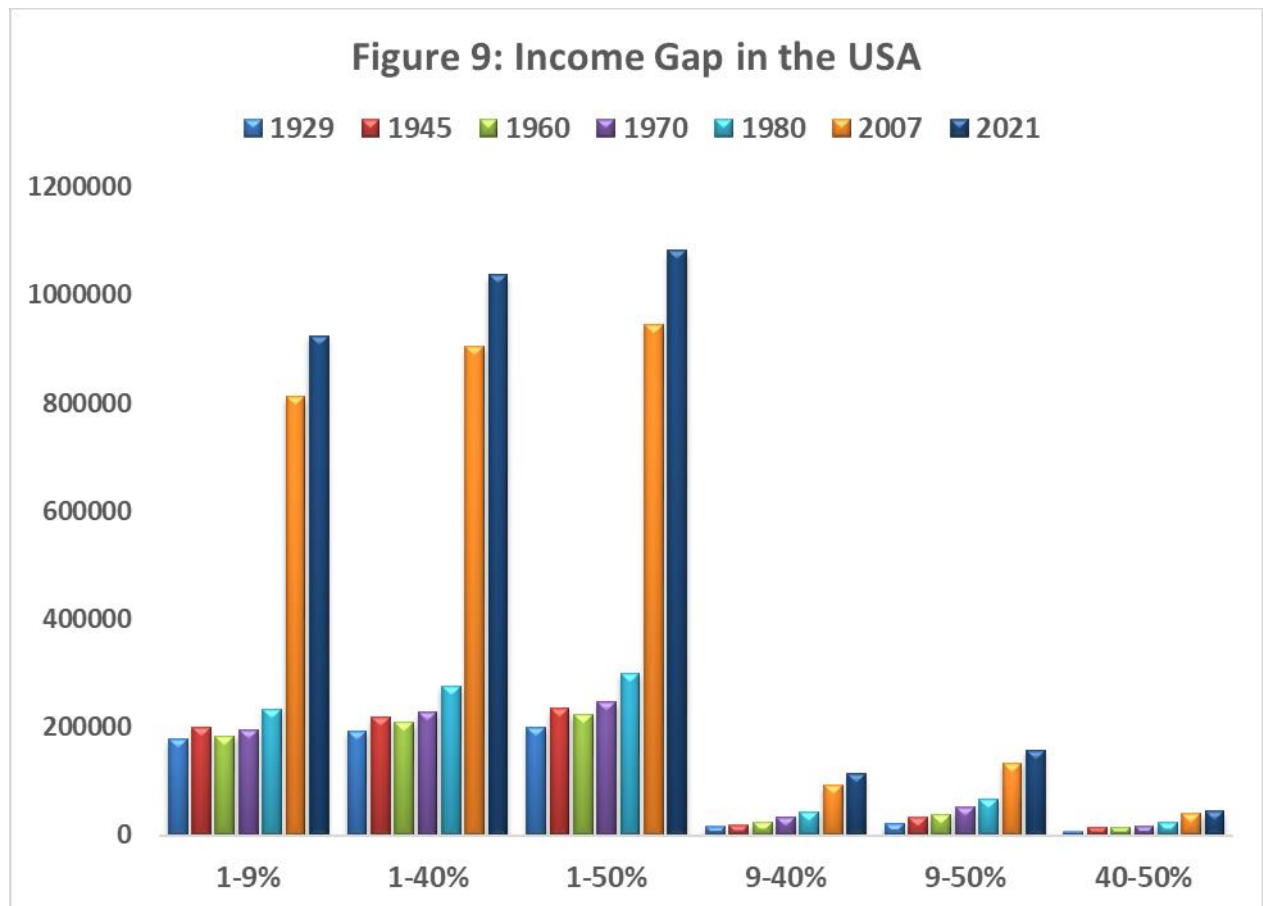


Source: <https://www.epi.org/publication/moral-policy-good-economics/>

We are comparing the growth patterns of real wages for different deciles of workers in the USA. In the previous pages we have offered evidence showing a growing income divide and here, we offer data on a contributory factor to this growing income divide. The growth of wages for three groups of workers are compared here, the blue curve shows how the wages received by the lowest paid workers changed since 1979. By contrast, the green curve shows how the real wages of the top 10 percent of workers changed and last, but not least, the red curve captures the changes in the wages of the middle 10 percent, i.e. 40-50%.

As can be seen in the blue curve, the change in the actual wage of the ten percent with the lowest wage has been negative in almost all of these years except the last two years. The changes in the real wages of the middle 10 percent, were not satisfactory until the late 1990s, but subsequently, a rising trends begins. The fate of those who received the highest wages in the US economy was different. From 1979, it started to rise and continued to rise up to 2019. If we consider 2007, the real wage of the lowest ten percent actually decreased by 4.3 percent, while the real wage of the middle ten percent increased by 10.10 percent, and the increase in the wage of the highest ten percent was 29.6 percent. For the last three years, the wages increased for all workers, but at a very different pace. For the lowest

paid decile, the rise was 3.5, 4.1 and 3.3 percent whereas the increase in the real wages of the top 10 percent of workers was 42.9, 45.1 and 44.3 respectively. Owing to this different growth path, it is observed that the wage gap has widened in the USA. In 1973, the hourly wage gap between the two was a little over \$25, but by 2019, this gap increases by 67 percent and reaches \$41.87. Our investigation confirms the growing income gap between different income groups in the USA. It is noticeable that from 1929 up to 1980 the income gaps among different income groups was growing, but the speed of change was not significant. But, in post-1980 there seems to have been an explosion of growth in the average income of the top 1% not repeated for the rest of citizens in the US, as the income gap between their average income and average income of the rest skyrocketed. In 1929 the income gap between the average income of the top 1% and the 9%, middle 40% and bottom 50% was less than \$178000, \$194000 and a little over \$200000 respectively. However, for 2021 these gaps increased to more than \$ 924000, \$1030000 and \$1,082000 respectively. While other gaps increase too, but at a much smaller scale as shown in Figure 9.



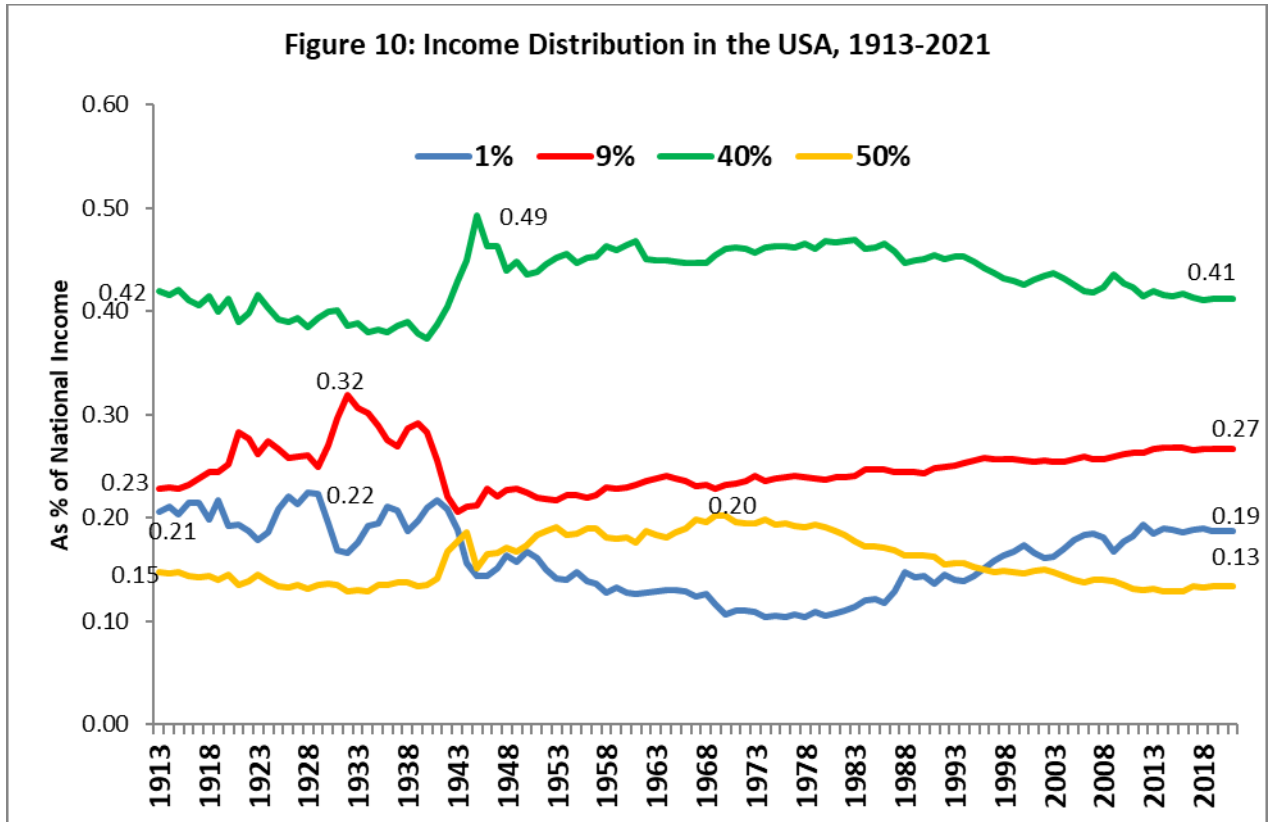
There is no doubt that the US economy has dramatically changed in the last 100 years, in fact, the economy was about 18 times larger in 2021 than what it was in 1929. During these years, its population has increased nearly 3 times, and putting these two together, it is clear that per capita income has also gone up by a factor of 6. These are all good and clear, but the skewed income distribution would produce slightly different outcomes. It could be reported here that ever since 1929, the average income of the top 1% has never been less than 10 times the national per capita income and on average, this ratio for the top 1% for 1929-2023 was a little more than 15 times. On the other hand, it could be reported here that ever since 1929, the average income of the bottom 50% in the USA has never been

more than 40% of the national per capita income, and indeed the average for the whole period was slightly above 30% of per capita national income. Why is this important? It is suggested here that these findings have serious implications for the measurement of poverty in the USA. Fremstad (2019) criticizing the official poverty measurement in the US, points out that "many of our international peers' measure poverty in relative terms, as well. In addition to the OECD, which [uses half of median disposable income for its comparisons of poverty](#) in member countries, [Canada](#), [Ireland](#) and the [United Kingdom](#) use similar measures in their domestic statistical reports on poverty"¹. If this basic rule is applied to poverty measurement in the US, it will be obvious that the number of people living in poverty in the USA will increase greatly. How can this conclusion be justified? It has been reported that the median income in 2021 was \$76330². On the other hand, our calculations show that the average income for the bottom 50% in 2021 was \$15577 representing only 20% of the median income on that year. It may be safe to suggest that the bottom 50% in the USA, in 2021 whose income was far short of 50% of the national median income were indeed in absolute poverty, and this will involve more than 165 million of US citizens.

Let us bring our discussion to a close by looking at the changes in the income distribution for the whole period under study here. It is noticeable that income distribution in 2021 is almost identical to the distribution of income in 1913. Between these two dates, there have been changes in the distribution of income in the USA. The share of the middle 40% of the population that stood at 42% of national income in 1913 went up to 49% in 1945 and levelled off to 41% in 2021. The income share of the bottom 50% that was 15% in 1913 increased to 20% by 1969 and then levelled off to 13% in 2021. In relative term, the bottom 50% of the American citizens had a smaller portion of the national cake in 2021 than they enjoyed in 1913. The top 9%, 91-99% of the population were one of the main beneficiaries of these changes as their share of national income in 1913 being 23% reached its peak of 32% in 1932 and levelled off at 27% which shows a 4% increase for the whole period. Last but not least, the top 1% starting with 21% of national income in 1913, enjoyed a much smaller slice in the 1970s, but then gained much of the losses in that decade and ended up with 19% of national income in 2021. These changes are illustrated in Figure10.

¹ <https://www.washingtonpost.com/outlook/2019/09/16/official-us-poverty-rate-is-based-hopelessly-out-of-date-metric/>

² <https://www.census.gov/library/publications/2023/demo/p60-279.html#:~:text=Highlights.and%20Table%20A%2D1>



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