

America's Great Decoupling

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From the mid-1940s through the mid-1970s, the US economy grew rapidly and that growth produced rising wages and household incomes up and down the distribution. Since the late 1970s, by contrast, the United States has been perhaps the paradigm case of noninclusive growth. Economic growth has remained fairly rapid, but the income from that growth has been distributed very unevenly across households, with a large share going to the top 1 percent. Since 1979, wages in the middle of the distribution have been nearly stagnant. Household incomes in the middle have increased only modestly, and mainly for households with two earners.

The evidence suggests that top-end income inequality has been a key cause of slow income growth in the middle.

HIGH AND RISING INCOME INEQUALITY

Until recently, household surveys have been the principal source of data on income inequality within nations. In the United States, the survey is the Census Bureau's Current Population Survey (CPS). Data from such surveys are available for cross-country comparison from the Luxembourg Income Study and the OECD (Gornick and Jäntti 2013; OECD 2015). Because of the top coding of the highest incomes, these household survey data are estimates of income inequality in (roughly speaking) the bottom 99 percent of households.

The United States has a high level of income inequality within the lower 99 percent of households compared to other rich democratic nations (Kenworthy 2017a). And as figure 1 shows, the level of inequality increased significantly in the 1980s and the early 1990s. Since then, however, it has increased only a little.

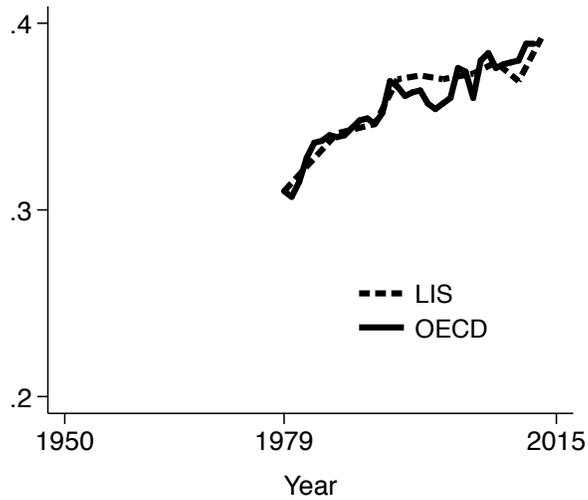


Figure 1. Income inequality within the bottom 99 percent

Gini coefficient. Posttransfer-posttax income. Data sources: Luxembourg Income Study (LIS); OECD.

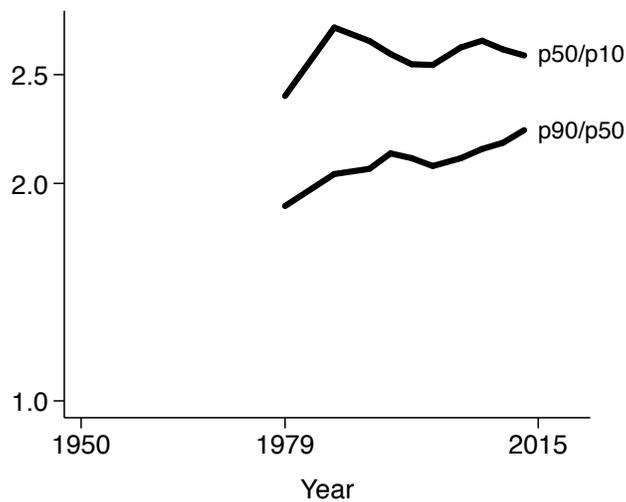


Figure 2. Income inequality within the bottom 99 percent: above the median and below the median

Ratio of household income. Posttransfer-posttax income. Data source: Luxembourg Income Study (LIS).

Figure 2 shows that much of this rise in bottom-99-percent income inequality occurred above the median. The income ratio of households at the 90th percentile to households at the median (p50) increased steadily and to a greater extent than the median-to-p10 ratio.

Tax records are the best source of data on the incomes of households at the top of the distribution. A common measure of top-end income inequality is the share of household income that goes to the top 1 percent. Data for multiple countries are available via the World Wealth and Income Database (WID). The most comparable data are for pretax incomes and exclude capital gains.

Figure 3 shows the top 1 percent's income share in the United States and other rich democratic nations since 1950. Top-end inequality in the US was moderately high compared to other nations in 1979. Since then it has increased steadily and sharply, and it now exceeds the level in other countries by a good bit.

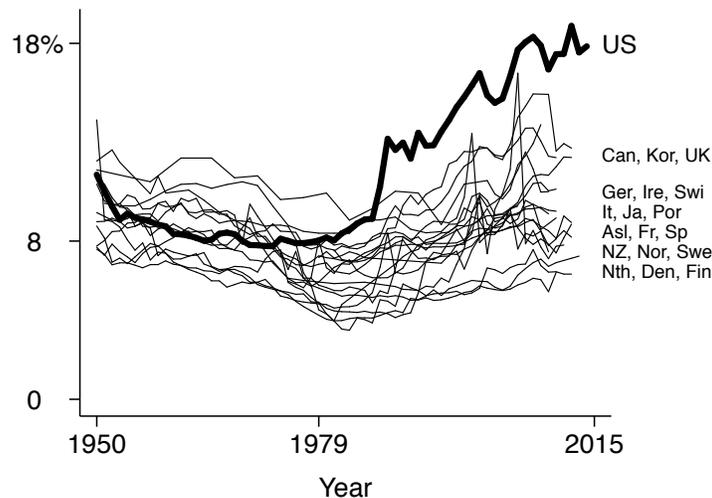


Figure 3. Income inequality between the top 1 percent and the bottom 99 percent

Top 1 percent's share of pretax income (excluding capital gains).
Data source: World Wealth and Income Database.

Separation between the top and the rest is a key — perhaps *the* key — part of the story of rising income inequality in the United States (Congressional Budget Office 2011; Kenworthy and Smeeding 2013; Piketty, Saez, and Zucman 2016). According to

one estimate, the rise in inequality since the late 1970s is approximately twice as large with the top 1 percent included in the calculation as with this group excluded (Congressional Budget Office 2011, figure 9).

Figure 4 shows that the separation between the top and everyone else was mainly a story of the top 1 percent, rather than, say, the top 5 percent or 10 percent. The figure shows the income shares of three groups that comprise the top 10 percent — the top 1 percent, the next 4 percent (p95 to p99), and the next 5 percent (p90 to p95). The income share of the top 1 percent rose sharply, while the shares of the other two groups increased modestly or remained constant.

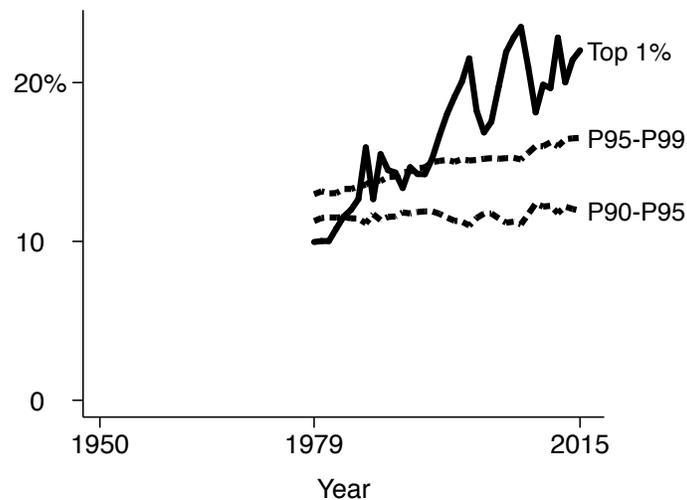


Figure 4. Income shares of three groups that comprise the top 10 percent

Share of pretax income (excluding capital gains). Data source: World Wealth and Income Database.

Of income earners in the top 1 percent, about one in three are executives, managers, or supervisors, and one in ten are in financial professions. These two groups account for about half of the income share of the top 1 percent and nearly two-thirds of the increase in that share since the late 1970s (Bakija, Cole, and Heim 2012). Unlike in the 1920s, most of their income comes from compensation — salaries, bonuses, fees, stock options, stock awards, golden parachutes — rather than from assets they own (Saez 2015).¹

A significant part of the surge in top-end inequality owes to a subset of the top 1 percent. There are about 120 million households in the US, so the top 1 percent are approximately 1.2 million. According to the World Wealth and Income Database, among the 600,000 or so that comprise the lower half of the top 1 percent, average pretax income roughly doubled between 1979 and 2014, from \$275,000 to \$500,000. Among the 12,000 households that comprise the top 0.01 percent, average income quadrupled during those years, from \$7 million to \$29 million.

The US Congressional Budget Office (CBO) has merged tax data with household survey data to create a more complete and accurate source of information on income inequality. It includes more sources of income, it subtracts tax payments (to the federal government), and it has good information on the incomes of those at the top of the distribution and those in the middle and bottom. A limitation of the CBO data series is that, unlike most other sources, it counts the (estimated) value of employer- or government-provided health insurance as income.

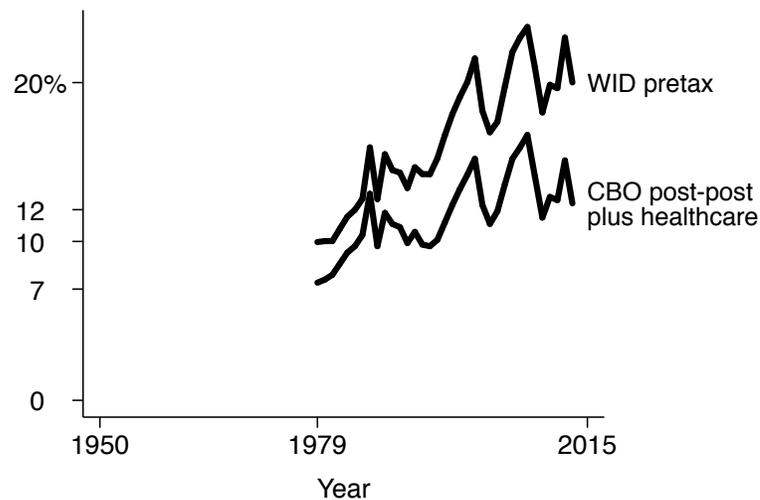


Figure 5. Upper bound and lower bound estimates of the top 1 percent's income share

Top 1 percent's share of income. These two data series include capital gains (unlike in figures 3 and 4 above). Data sources: World Wealth and Income Database (WID); Congressional Budget Office (CBO).

Figure 5 shows two estimates of the top 1 percent's income share in the United States. The pretax share from the WID data can be considered an upper bound. It rose from 10 percent in 1979 to 20

percent in 2013. The posttransfer-posttax share from the CBO can be considered a lower bound. It increased from 7 percent in 1979 to 12 percent in 2013.

CAUSES OF THE RISE IN TOP-END INCOME INEQUALITY

What's caused the surge in income inequality between the top 1 percent and the rest of Americans since the late 1970s?

Explanations of rising income inequality often begin with education, but patterns of educational attainment can't tell us much about why the top 1 percent's incomes have separated from everyone else in recent decades, because Americans in the top 1 percent aren't better educated than those just below them. That also holds for some other factors commonly invoked in explanations of rising income inequality. High earners more commonly couple with other high earners today than in former generations, but this doesn't distinguish the top 1 percent from the rest of the top 10 or 20 percent of households. Manufacturing employment has declined, the statutory minimum wage has been flat, and unskilled immigration has risen sharply, but these are more likely to have contributed to rising inequality between the middle and the bottom than between the top and everyone else.

In my judgment, there have been seven key causes of the rise in top-end income inequality: increases in product market size, changes in corporate governance and executive pay setting, increases in the market power of large firms, financialization, soaring stock values, union decline, and reductions in top tax rates (Kenworthy 2017d).

1. Product market size. By expanding the size of the product market, technological advance and globalization have produced large increases in firm revenues, and this translates into big payoffs for superstar athletes, entertainers, and CEOs (Frank and Cook 1995). A related logic applies to the financial sector. Computerization and modern communications technology have enabled a big expansion in the volume of trades, as well as creation of new financial tools and instruments (leveraged buyouts, junk bonds, home equity loans, subprime mortgages, derivatives, collateralized debt obligations, credit default swaps). These in turn have increased the volume of fees earned by large financial firms, which has made it possible for these companies to

handsomely reward their top creators, analysts, deal makers, and traders.

Yet beyond sports, entertainment, and finance, growth in product market size probably can't account for much of the rise in top-end income inequality. Technological improvements — large shipping containers, lighter and stronger packaging materials, computerized logistics management, the internet, and more — have helped to globalize markets, boosting their size significantly. But they've also brought heightened competition. American companies now face foreign competitors not only abroad but also here in the domestic market. Barriers to entry by new competitors have fallen too, as venture capital firms ease access to financing and the information and communications revolution enhances the ability of start-ups to join and utilize global supply chains. Also problematic for the product market size explanation of rising top-end income inequality is the fact that many successful American companies enjoyed soaring revenues in the early post-World War II decades, before the technology-spurred globalization of product markets, yet compensation increases for CEOs (chief executive officers) and other high-level executives were modest during the former period, then huge during the latter (Frydman and Saks 2010).

2. Changes in corporate governance and executive pay-setting. In the mid-to-late 1970s, higher-ups in large American firms began to change their perception of the core mission of the firm, of who its most valuable members are, and of how to compensate them. This shift had a number of elements.

During the "golden age" of post-World War II capitalism, boards of directors of large publicly-owned corporations saw the firm's mission as increasing market share, revenues, and profits. Profits were invested in research or equipment, passed on to employees in the form of wage increases and new hires, or distributed to shareholders as dividends. Beginning in the late 1970s, this orientation was replaced by the notion that the principal aim should be to maximize "shareholder value" by increasing the firm's stock price.

Wanting to maximize gains for shareholders doesn't automatically entail offering large compensation to high-level executives, but it just so happened that around the same time corporate boards

began to view top executives, and in particular the CEO, as the key to lifting the firm's share price.

Prior to the 1980s it was common for large American firms to hire for top executive positions mainly from within. This meant budding executives had a financial incentive to stay put, and it meant they had limited ability to decamp if they wished to. In the 1980s that norm evaporated, probably pushed along by a similar development in sports (baseball free agency began in 1976) and entertainment. The ability of top executives to move among firms increased their leverage in negotiating salaries, bonuses, and stock options.

As firms increasingly hired CEOs and other high-level executives from a pool that included outsiders, and as large compensation packages became the norm, boards of directors turned to compensation consultants for information about whom to hire and how much to pay them. This has created a benchmarking and leapfrogging process whereby newly-hired executives insist on compensation slightly above most of their peers, some are granted this demand, and that shifts the norm steadily upward (DiPrete, Eirich, and Pittinsky 2010).

An additional piece of the corporate governance story is the coziness between top executives and the board of directors who decide on their compensation packages. Many members of these boards are in effect handpicked by the CEO and then approved by shareholders who have little information and limited interest in the details of a company's governance. Some board members are executives within the firm itself, and others are top executives at other publicly-owned companies. They thus have a direct interest in seeing executive compensation levels rise. In addition, some know each other personally and hence are more likely to vote for a generous pay package.

In 1993, the Clinton administration and Congress ruled that a publicly-traded corporation can deduct executive compensation from its taxable income only if that compensation is tied to the firm's performance. As a result, more and more of executive compensation began to come in the form of stock options — shares in the firm that can be sold after a specified number of years. As the stock market soared, the payoff from stock options turned out to be enormous (Murphy 2013).

Executives also discovered a way to help temporarily boost their company's stock price when it came time to cash in their stock options: stock buybacks. Purchasing shares of the firm's own stock drives up the price of the stock. It also increases the firm's earnings per share (by reducing the denominator), a metric investment analysts use in judging a firm's performance. Between 2003 and 2012, firms listed on the Standard & Poor's (S&P) 500 index used, on average, 54 percent of their earnings to buy back their own stock (Lazonick 2014).

Because the corporate governance explanation has a number of components, it is difficult to quantify in a way that allows statistical testing. The explanation works well in terms of timing in the US case; most of its components are coincident with the rise in executive compensation and of the top 1 percent's income share. It also seemingly works well in helping us understand country differences. In other rich nations, the shareholder value revolution, CEO free agency, and compensation via stock options either didn't occur at all or happened later than in the United States. And a number of European countries have institutions — strong unions and employee election of some members of the board of directors — that are likely to obstruct sentiment among corporate boards in favor of huge executive compensation packages.

On the other hand, compensation at the top has risen sharply in a number of occupations — not just among executives in publicly-traded firms but also among their counterparts in privately-owned companies and among financial professionals, partners in large law firms, and top physicians, athletes, and entertainers (Kaplan and Rauh 2013). So corporate governance shifts can take us only part of the way in explaining the rising income share of America's top 1 percent.

3. Large-firm market power. Two recent books — Joseph Stiglitz's *Rewriting the Rules of the American Economy* and Robert Reich's *Saving Capitalism* — argue that the market power of large firms accounts for a significant share of the growth in top-end income inequality in the United States. Firms with a dominant position in their product market can deter potential entrants, weaken existing competitors, and extract more revenue from customers. They then pass on the resulting above-market profits, or "rents," to their top executives.

In Stiglitz's telling, this process began with government deregulation of key industries such as airlines and railroads in the 1970s, eventually extending to telecommunications, finance, and other industries. Economists and policy makers embraced the notion that ensuring competition via government oversight and regulation was unnecessary, even counterproductive. Markets, according to the new perspective, would ensure ample competition if left alone, particularly in an age of rapid technological advance and globalization.

Instead, in industry after industry, we've gotten the opposite — weaker competition, more firms with a monopoly or quasi-monopoly position, less pressure for productivity improvement, more rent-seeking. Patent and copyright protections give pharmaceutical firms and software developers exclusive access to revenues from a new innovation. Tech titans benefit when their service or platform becomes an industry standard — think Microsoft, Apple, Google, Facebook, and Amazon. According to Reich, America's large banks and other Wall Street firms have colluded to enlarge their profits by driving down the price of corporate takeover targets, influencing the setting of interest rates, engaging in insider trading, and more. Large firms also use their resources to lobby for regulations that further advantage them vis-à-vis competitors, with cable providers securing local monopoly rights only the most visible example.

Yet while market dominance matters for some firms, this explanation too has limits. We observe sharp increases in the compensation of CEOs and other high-level executives across a wide range of industries. In how many of them is the power of the largest firms greater now than in the 1950s and 1960s, when there was less domestic competition and little globalization?²

4. Financialization. Over the past century, the financial sector's share of America's GDP has correlated fairly strongly with the top 1 percent's share of income; it was high in the 1920s, then lower for about 50 years, then high again since the late 1970s. Financial firms' revenues have grown in recent decades, and the salaries and bonuses of top financial managers, traders, and analysts have risen sharply. The amounts for some, particularly hedge fund managers, are staggering. Moreover, many large nonfinancial companies have added financial operations such as loans and credit cards on top of their core business.

The expansion of finance has multiple causes. Globalization, the emergence of large institutional investors, advances in computing and telecommunications, the creation of new financial instruments, and reductions in regulatory constraints have allowed financial companies to draw on larger pools of funds and to channel those funds into a wider array of investments. The growing size of large financial firms has allowed them to seek more risky investments. This has been accentuated by the expectation of a government bailout should too many of those bets go sour, on the grounds that a bankruptcy by one or more such firms would create too much uncertainty in global financial markets. Nonfinancial companies, struggling in a more competitive global economy and facing investor demands for strong short-term profit performance, have turned to financial operations to shore up revenues and profits.

Finance clearly has contributed to America's top-heavy increase in income inequality (Philippon and Reshef 2013; Tomaskovic-Devey and Lin 2013; Flaherty 2015). It too, however, is only part of the story. Financial professionals get one-seventh of the top 1 percent's income, and they account for about one-quarter of the rise in its income share (Bakija, Cole, and Heim 2012). The financial sector's share of income has been rising since the 1950s, whereas the top 1 percent's income share only began to increase around 1980. And if we look across countries, we find a number of anomalies. For instance, the Netherlands and Japan look similar to the United States in over-time trends in financial regulation, in finance's share of income or value-added, and in financial-sector wages relative to wages in nonfinancial sectors, yet they are among the rich countries in which the top 1 percent's share of income has risen the least over the past generation (Philippon and Reshef 2013).

5. The stock market. An important but little-commented-upon part of the story of rising top-end income inequality in the United States is the rise in stock prices. The Standard and Poor's (S&P) 500 is a common measure of stock-market values. Over the six decades since the mid-1950s, the correlation between the inflation-adjusted value of the S&P 500 and the top 1 percent's income share is +0.92. Both were flat through the late 1970s and then shot up.

As I noted earlier, most of the income gains for America's top 1 percent have come from increases in compensation rather than in

capital income. Yet a lot of the movement in compensation over time is tied to the stock market. A large portion of the mammoth compensation increases for high-level executives in big firms has come in the form of stock options, which hinge on increases in the share price of the executive's firm. A key part of the rise in pay for financial professionals is linked to trading in stocks and related financial instruments, which tends to increase when stock values rise.

The growth of incomes among the top 1 percent also fuels rising stock values. The rich tend to save and invest a larger portion of their income than do middle-class and poor households, so as the incomes of those at the top soar, more money will go toward purchase of stocks, increasing the demand for them and hence their price.

When we turn to other rich nations, stock values aren't always helpful in accounting for changes in top-end income inequality. In a handful of countries, the over-time correlation is as strong as in the US. In others, though, it is weak or nonexistent.³

6. Unions. Where unions exist and are sufficiently strong, they can force firms to distribute more of the profits to ordinary workers and less to top executives. Computers, robots, the ability to move to another state or country, immigration, high unemployment rates, and other developments have increased employers' leverage vis-à-vis workers, and in this context union strength is likely to be especially critical. Unions also can affect income inequality via a political channel, by pressuring policy makers and influencing election outcomes.

The unionization rate in the United States has declined sharply during the period of rising top-end income inequality, falling from 23 percent in 1979 to 10 percent in 2014. Then again, the drop in unionization began in the 1950s, and the decrease in the 1950s, 1960s, and 1970s was comparable to what has happened since.

Cross-country comparison suggests that union strength has mattered for income inequality. The contrast between the US and Canada is illustrative. Canada's unionization rate has remained fairly constant over the past generation, and the top 1 percent's income share in Canada has risen only half as much as in the US. Several recent quantitative studies that examine developments over the past generation in the United States alone or in the US along with other affluent democracies have found unionization to

be one of the best predictors of variation in the top-end income inequality (Volscho and Kelley 2012; Jaumotte and Buitron 2015; Huber, Huo, and Stephens 2015).

In this instance, however, the best predictor isn't an especially good predictor. The only one of these studies that provides information needed to gauge the magnitude of unions' impact has it predicting a rise in the top 1 percent's income share in the US of 0.5 percentage points.⁴ The actual rise was 10 percentage points.

7. *Taxes.* Analyses of the impact of taxes on income inequality typically focus on how a progressive tax system reduces the share of income that goes to the rich, and accounts of the rise of top-end inequality in the United States often point to the tax cuts of presidents Reagan and (George W.) Bush as key contributors. However, the best estimates we have of the top 1 percent's posttax income share, from the Congressional Budget Office, suggest that those tax cuts didn't in fact do much to change the picture (Congressional Budget Office 2016). And tax changes during the Obama presidency have brought the effective federal tax rate (taxes paid as a share of pretax income) on the top 1 percent back up to the level it was at in 1979 (Kenworthy 2017c).

Taxes may have a larger influence on the pretax distribution of income (Piketty, Saez, and Stantcheva 2014; Roine and Waldenström 2014). When top statutory income tax rates are lower, people and households at the top have greater incentive to try to maximize their income. They may do so by working harder or smarter, or perhaps by grabbing more "rent."

In the United States, the top statutory federal income tax rate and the top 1 percent's share of pretax income have indeed tended to move in opposite directions over time. In the 1920s the top tax rate decreased and the top 1 percent's income share shot up. The top tax rate rose sharply between 1929 and 1945, and the top 1 percent's income share fell sharply. From 1979 to 2007, the top tax rate decreased a good bit and the top 1 percent's income share jumped.

However, there are notable exceptions. The 1963 Kennedy tax reform reduced the top statutory tax rate from 90 to 70 percent, yet the top 1 percent's pretax income share continued its slow, steady post-World War II decline. In the early 1990s the (first) Bush administration and the Clinton administration increased the top statutory tax rate from 28 to 40 percent, yet the top 1

percent's income share continued its sharp post-1979 rise. Carola Frydman and Raven Molloy (2011) have looked closely at whether compensation for top executives in large US firms changes in response to shifts in top statutory tax rates. Drawing on data going back to the 1940s, they find no noteworthy correlation between top tax rates and executive compensation.

What does the experience of other countries suggest? Data are available for most of the rich longstanding democracies since the mid-1970s. In some of them — Australia, Canada, Ireland, New Zealand, Norway, Portugal, and the United Kingdom, along with the US — we observe the predicted increase in the top 1 percent's income share when the top statutory tax rate decreases. But in others — Denmark, France, Italy, Japan, the Netherlands, Spain, and Sweden — we don't.

All of these countries reduced top income tax rates during this period, but they differed significantly in the *degree* of reduction. Did the nations with larger decreases in top tax rates experience larger increases in their top 1 percent's income share? Yes, but the correlation isn't especially strong (Kenworthy 2017c). Particularly noteworthy is that four English-speaking countries — the US, the UK, Canada, and Australia — are among those with largest increase in the top 1 percent's income share even though only one of them, the United States, enacted very large tax rate reductions.

Why isn't the association stronger? Part of the reason is that hiding behind statutory tax rates are an assortment of loopholes, deductions, and "tax expenditures." These reduce the effective tax rate on persons or households with high incomes by shielding some, potentially much, of their pretax income from taxation. Warren Buffett's famous discovery that he pays a lower effective federal income tax rate than his office staff illustrates the point. Moreover, different parts of high incomes — salary, business income, capital gains — may be taxed at different rates.

A multicausal story. Analysts of rising top-end income inequality frequently focus on one or another hypothesized cause and conclude that it is the key contributor. I don't think any such conclusion is justified. The rise in the top 1 percent's income share since the late 1970s is a product of multiple developments, no one or two or even three of which look to have been dominant.

Nor does it appear that political causes mattered more than economic ones, or vice versa. Deregulation, tax cuts at the top, the 1993 cap on deductibility of non-performance-related executive compensation, lack of support for labor unions, and other policy actions and inactions have played an important role. But so too have technological advances, the expansion of markets, changes in corporate culture, and other economic developments. And even where policy has mattered, it hasn't necessarily been decisive. Deregulation of finance is a prominent culprit in many accounts of rising income inequality, yet nearly all affluent nations had deregulated their financial sectors as much as the United States by the early 1990s, with many experiencing nothing like our surge in top-end income inequality (Philippon and Reshef 2013, appendix data set). And unions have weakened not only here in the US, but in many other affluent countries, some of which have a much less hostile legal climate.

CAUSES OF THE RISE IN P90/P50 INCOME INEQUALITY

As noted above, the rise in income inequality in the United States is not solely a story of the top 1 percent. Inequality also has increased between the upper-middle and the middle, as indicated by, for instance, the steady rise in the p90-to-p50 ratio shown in figure 2. There are two principal sources of this development (Burtless 1999; Gottschalk and Danziger 2005; Kenworthy 2004, 2008).

1. Rising wage inequality. Since the late 1970s, wages for Americans above the middle have risen fairly steadily, whereas in the middle and below they have increased only minimally. There are multiple causes of this development, including shifts in educational attainment, globalization, technological change, and union decline (Goldin and Katz 2008; Western and Rosenthal 2011; Mishel et al 2012; Autor 2014; Acemoglu and Restrepo 2017).

2. Changes in household structure and employment. Employment trends in the 1980s and 1990s tended to reduce the increase in income inequality by reducing the share of households with zero earners or a single earner. Since 2000, though, the US employment rate has declined, so employment trends have accentuated the rise in inequality. The share of households with just one adult has been increasing, which increases household

income inequality by increasing the share of households with only one earner or no earners. Rising marital homogamy is another contributor to rising inequality; more Americans are coupling with a person whose employment and wages are similar, so high earners are becoming more likely to be paired with other high earners, moderate earners with moderates, and low earners with lows.

Shifts in taxation and/or government transfers could have contributed to the rise in income inequality between upper-middle-income and middle-income households, but there is little evidence to suggest that they did.

SLOW INCOME GROWTH IN THE MIDDLE

Figure 6 shows several indicators of income trends since the late 1970s for households in the middle. The dark lines use Luxembourg Income Study data for household income at the 75th, 50th (median), and 25 percentiles. These data are for posttransfer-posttax income, adjusted for household size. The lighter line in the figure is median household income according to the data series most commonly used by many US researchers, from the US Census Bureau (2017). Both the LIS and Census Bureau data are from the Current Population Survey (CPS), but in the Census data series taxes aren't subtracted, noncash transfers (such as the Earned Income Tax Credit and food stamps) aren't included, and the incomes aren't adjusted for household size. The LIS data are available in three- to five-year intervals, while the Census data are available for all years. Given these differences, it is surprising how similar a picture these two data series offer.

At the 75th percentile, household income rose by about \$22,000 between 1979 and 2013 — a fairly healthy improvement. At the median, the increase was \$9,000. At the 25th percentile, it was just \$3,500.

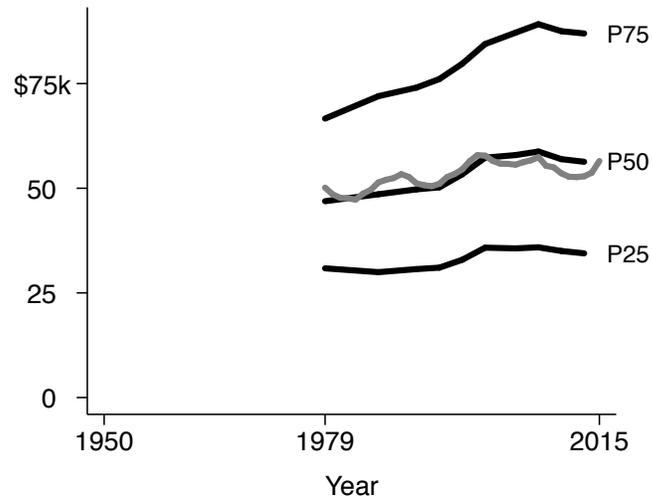


Figure 6. Income trends for middle-income households

P25 is the 25th percentile on the income ladder; P50 is the 50th percentile (median); P75 is the 75th percentile. Inflation adjustment for each series is via the CPI-U-RS. "k" = thousand. The dark lines are for posttransfer-posttax income, adjusted for household size. Data source: Luxembourg Income Study. The gray line is for posttransfer-pretax income, not adjusted for household size. Data source: US Census Bureau, "Historical Income Data," table H-5.

Figure 7 shows the over-time patterns in median income by the number of earners in the household, using Census Bureau data. (These data are available only since the mid-1980s.) The median for households with no earners and for those with one earner has been flat since the late 1970s. Only households with two earners have seen an increase. The larger rise for two-earner households than for one-earner households owes more to changes in wages than in employment hours. For both groups, the only years of nontrivial rise were 1994 to 2000. This was the lone period since the late 1970s in which wages increased significantly up and down the distribution (see figure 9 below), and two-earner households benefited more from this increase simply by virtue of having more earners. The education level of earners in two-earners households also is, on average, higher than in one-earner households, and wages rose more for persons with more education (Mishel et al 2012; Autor 2014).

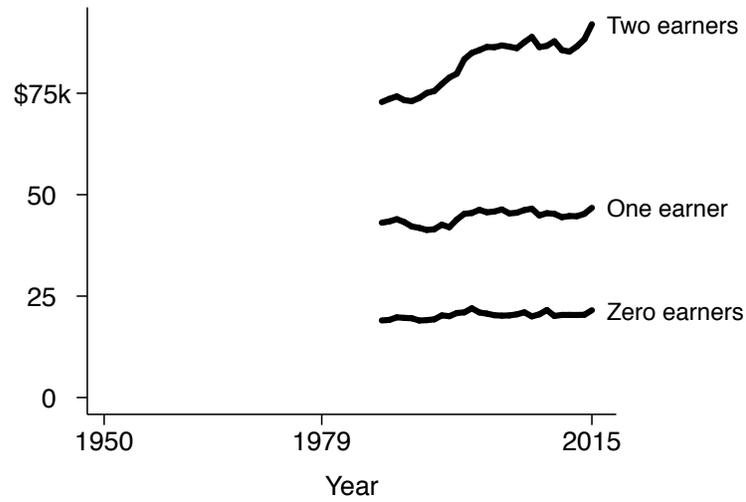


Figure 7. Median household income by number of earners in the household

Posttransfer-pretax income, not adjusted for household size. Inflation adjustment for each series is via the CPI-U-RS. "k" = thousand. Data source: US Census Bureau, "Historical Income Data," table H-12.

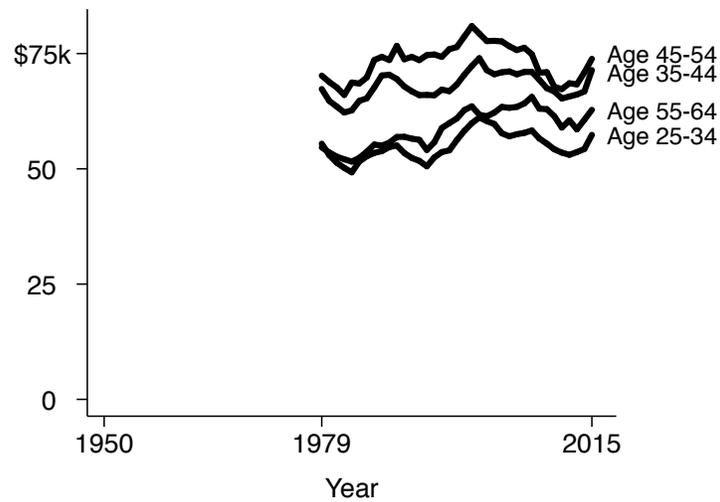


Figure 8. Median household income among working-age households

Posttransfer-pretax income, not adjusted for household size. Inflation adjustment for each series is via the CPI-U-RS. "k" = thousand. Data source: US Census Bureau, "Historical Income Data," table H-10.

Figure 8 shows trends in median income among working-aged households, broken down by ten-year age group. Overall, working-aged households experienced little noteworthy increase over time; the trend for three of the four age groups was essentially flat. Only households with a head aged 55-64 saw a nontrivial rise in median income.

There are two main sources of income for middle-class households: earnings and government transfers. And there are two main ways for households to increase earnings: more employment (adding a second earner or increasing work hours) and higher wages. So achieving rising income requires increases in wages, in employment, and/or in net government transfers.

As figure 9 shows, the median wage in the US rose steadily from the mid-1940s through the early 1970s, but since then it has increased only slightly.

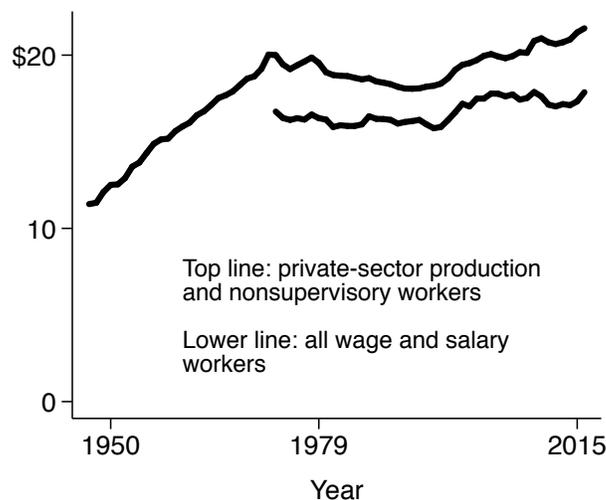


Figure 9. Median wage

Median hourly wage. 2016 dollars; inflation adjustment is via the CPI-U-RS. Data source: Economic Policy Institute, "Median/Average Hourly Wages," epi.org/data, using Current Population Survey (CPS) and Current Employment Statistics (CES) data.

The pattern for employment is similar. Figure 10 shows average employment hours in households in the middle quintile of the income distribution. In the 1980s and 1990s, work hours increased. Given stagnant wages, this increase in employment — often a second adult in the household moving into paid work — was the chief source of income gains for the middle class. Since

2000, however, the trend has reversed, with employment hours falling. As of 2015, average hours of employment in middle-income working-aged Americans were only a little higher (150 hours per year) than they had been in 1979.

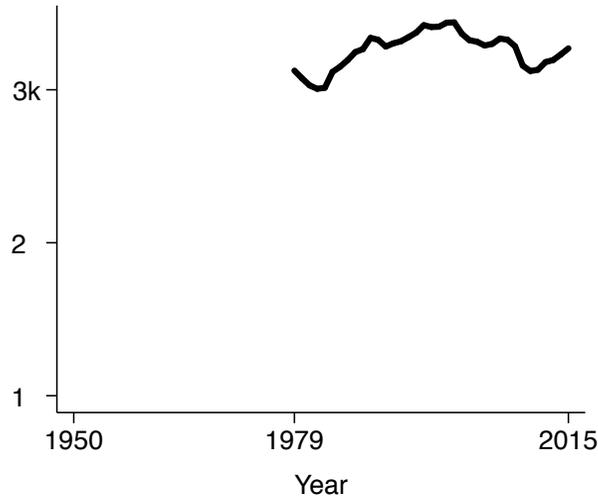


Figure 10. Average employment hours in households in the middle income quintile

Average annual hours worked in working-age ("head" aged 25-64) households in the middle quintile of the pretransfer-pretax income distribution. Data source: calculations by Keith Bentele using Current Population Survey data (IPUMS March Extracts).

The third chief source of income is net government transfers — transfers received by households minus taxes they pay. In the United States, the principal changes since the late 1970s have been periodic tax cuts, often offset by subsequent increases, and a modest rise in Social Security benefit levels. Figure 11 shows the trend in median pretransfer-pretax income and in median posttransfer-posttax income according to the LIS data. The two series move in sync, suggesting no noteworthy contribution of shifts in taxes or transfers to the trend in posttransfer-posttax income.

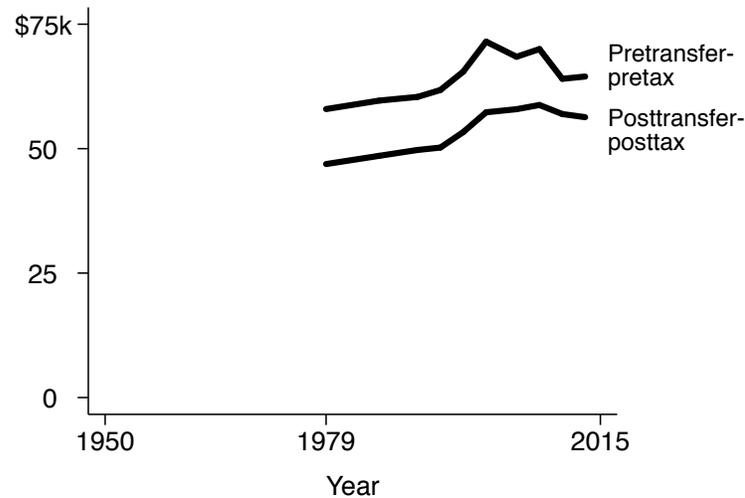


Figure 11. Median household income: pretransfer-pretax and posttransfer-posttax

Inflation adjustment for each series is via the CPI-U-RS. "k" = thousand. Data source: Luxembourg Income Study.

So the over-time pattern in US median household income since the late 1970s — a modest rise — owes to small increases in wages and in employment along with a lack of change in net government transfers.

THE DECOUPLING OF HOUSEHOLD INCOME GROWTH FROM ECONOMIC GROWTH

Is the slow growth of household incomes in the middle since the late 1970s due to slow growth of the economy?

Figure 12 suggests that the answer is no. The figure shows trends since the late 1940s in GDP per capita along with three indicators of income in the middle. Each series is displayed as an index set to equal 1 in 1947. In the period between World War II and the mid-to-late 1970s, economic growth was good for Americans in the middle. As GDP per capita increased, so did family income at the 80th percentile, the 50th percentile (the median), and the 20th percentile. Indeed, they moved virtually in lockstep. Since the 1970s, however, household income has become decoupled from economic growth. As the economy has grown, relatively little of that growth has reached households in the middle, particularly those in the lower-middle.

This figure uses income data for families rather than households. A family is defined by the Census Bureau as a household with two or more related persons. Defined this way, families don't include adults who live alone or with others to whom they aren't related. It's odd to exclude this group, but that's what the Census Bureau did until the late 1960s. Only then did it begin tabulating data for all households. I use families in this figure in order to begin earlier, in the mid-1940s.

Note also that the same price deflator is used for both GDP per capita and family income in the figure. Using different deflators would exaggerate the divergence since the late 1970s (Nolan, Roser, and Thewissen 2016).

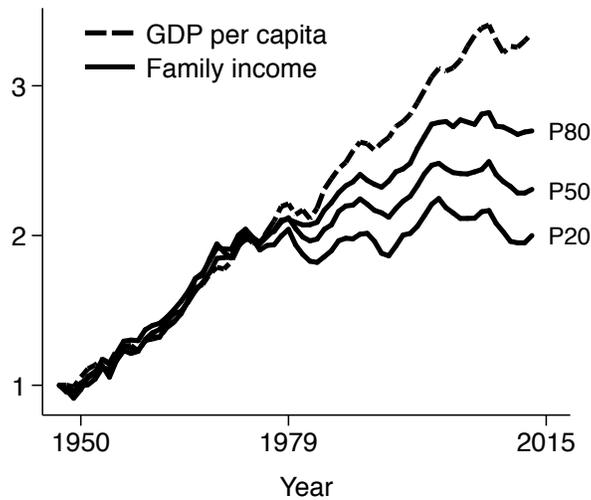


Figure 12. GDP per capita and family income

Each series is displayed as an index set to equal 1 in 1947. Inflation adjustment for each series is via the CPI-U-RS. P20 is the 20th percentile on the income ladder; P50 is the 50th percentile (median); P80 is the 80th percentile. The family income data are posttransfer-pretax. Data source for GDP per capita: Bureau of Economic Analysis, "National Income and Product Accounts Tables," table 1.1.5. Data source for family income: Census Bureau, "Historical Income Data," tables F-1, F-5.

We also can see the decoupling of middle incomes from economic growth if we compare across countries. Figure 13 shows change in median household income by change in GDP per capita in the US and thirteen other rich democratic nations since the late 1970s. Median income increased less in the United States than in most of the other nations. That's not because the US economy grew less rapidly; in fact, its increase in per capita GDP was comparatively

large. The problem is that less of America's economic growth reached middle-class households.⁵

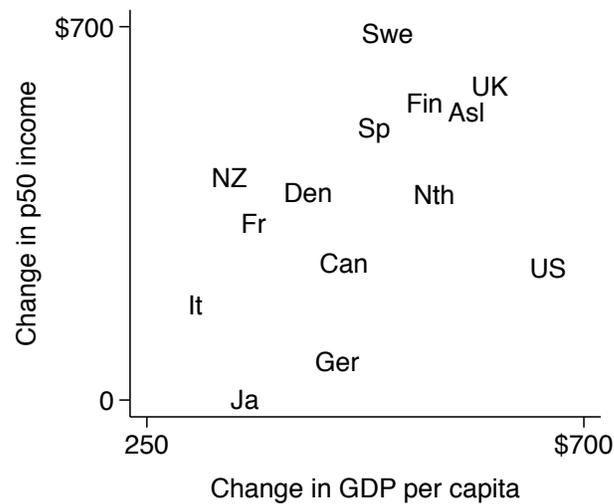


Figure 13. Median household income growth by economic growth

Change is per year, 1979-2013. Because the actual years vary somewhat depending on the country, change is calculated by regressing household income or GDP per capita on year. Household incomes are posttransfer-posttax, adjusted for household size (the amounts shown are for a household with three persons). Household incomes and GDP per capita are adjusted for inflation and converted to US dollars using purchasing power parities. Data are available for Ireland and Norway, but they are omitted here, as both would be far off the plot in the upper-right corner. Data sources: OECD; Luxembourg Income Study.

TO WHAT DEGREE IS TOP-END INCOME INEQUALITY RESPONSIBLE FOR SLOW INCOME GROWTH IN THE MIDDLE?

High and rising top-end income inequality looks to have been a key cause of slow growth of household incomes in the middle and below since 1979.

First, the two are arithmetically related. If the top 1 percent get a large share of the household income, less of the income growth is available for households in the middle. The top 1 percent's large share could conceivably come at the expense of the near-rich or the poor rather than at the expense of the middle. It also is possible that a high level of top-end income inequality will yield faster economic growth, so that its large (and perhaps rising)

share of the pie is offset by rapid expansion of the pie. But these are mere possibilities. Income inequality does not appear to have increased economic growth (Kenworthy 2017b). Nor does it seem to have come at the expense of the poor (Kenworthy 2017b).

Second, the timing fits. As figure 12 above shows, during the period from the end of World War II through the 1970s, when top-end income inequality was moderate and declining (figure 3 above), income growth in middle-class households kept pace with growth of the economy, whereas after 1979, when top-end income inequality was high and rising, income growth for middle-class households lagged well behind economic growth.

Third, a key hypothesized causal path, wages, has moved as the hypothesis predicts. Figure 14 shows an estimate of wages in the top 1 percent and the bottom 90 percent going back to the mid-1940s. Since the late 1970s, wages for Americans at the top of the distribution have grown very rapidly, faster than GDP per capita, while wages for those in the middle have grown very slowly. In addition, among the rich nations for which we have data on wage trends, the United States has had the slowest growth at the median (Bailey, Coward, and Whittaker 2011, figure A1, using OECD data).

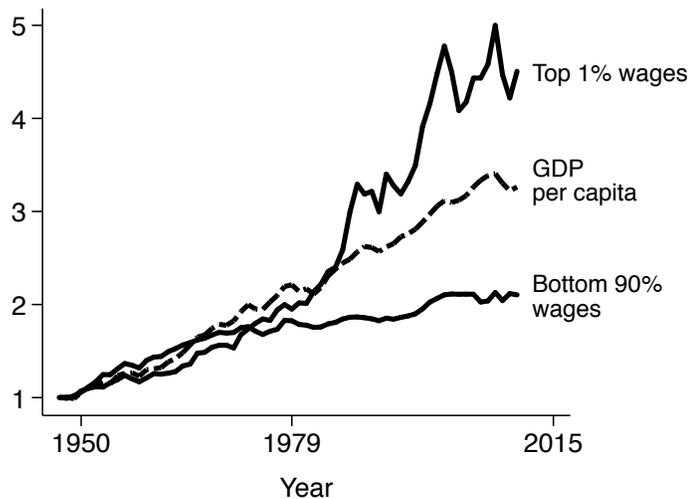


Figure 14. GDP per capita and wages

Each series is displayed as an index set to equal 1 in 1947. Inflation adjustment for each series is via the CPI-U-RS. Data source for GDP: Bureau of Economic Analysis, "National Income and Product Accounts Tables," table 1.1.5. Data source for wages: Lawrence Mishel et al, *The State of Working America*, 12th edition, wages dataset.

What else besides income inequality might have caused slow income growth in the middle? One alternative possibility is a fall in the share of value-added in the economy that goes to labor. That share did fall, but the decline was fairly minor, and smaller than in many other rich nations (Bailey et al 2011, figure A2, using OECD data).

Another possibility is that a growing portion of compensation has gone to nonmonetary benefits such as healthcare. However, the share of employee compensation accounted for by nonwage benefits has been essentially flat since the late 1970s, so this is likely to have played at most a very small role (Bailey et al 2011, figure A3, using OECD data; Mishel et al 2012, pp. 180-183, using Bureau of Labor Statistics Employer Costs for Employee Compensation (ECEC) survey data). Healthcare costs have increased, but the share of employees covered by an employer healthcare plan has fallen. And employer contributions to pensions have decreased.

How much income has the post-1979 inequality-driven decoupling cost middle-class American households? Figure 15 offers an estimate. The solid line is actual median household income according to the LIS data (the same as in figure 6 above). The dashed line shows what the trend in median household income would have been had it kept pace with GDP per household. Using GDP per household rather than GDP per capita (person) adjusts for the fact that the number of households has increased faster than the number of persons since the late 1970s (Nolan, Roser, and Thewissen 2016). The actual median household income was \$47,000 in 1979 and \$56,000 in 2016. Had it kept pace with GDP per household since 1979, median household income would instead have been around \$63,000.

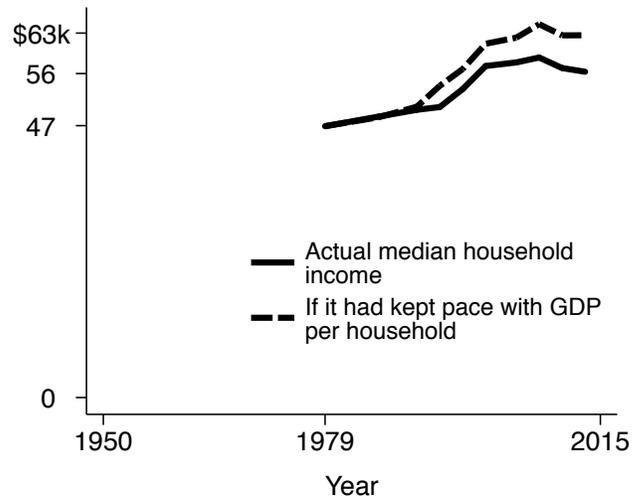


Figure 15. How much income has decoupling cost the median US household?

Posttransfer-posttax income, in 2015 dollars. Inflation adjustment for each series is via the CPI-U-RS. "k" = thousand. Data source for median and mean household income: Luxembourg Income Study. Data source for GDP: Bureau of Economic Analysis, "National Income and Product Accounts Tables," table 1.1.5. Data source for number of households: Census Bureau, "Historical Income Data," table H-5.

IS INCOME GROWTH A MISLEADING INDICATOR OF CHANGES IN LIVING STANDARDS IN THE MIDDLE?

Have living standards for middle-class Americans improved more than income data suggest? Let's consider four possible ways that might be the case.

1. The income data miss upward movement over the life course.

The income data shown in figures 12 and 15 are from a household survey (the CPS), which each year asks a representative sample of American adults what their income was in the previous year. But each year the sample consists of a new group; the survey doesn't track the same people as they move through the life course.

If we interpret the patterns in figures 12 and 15 as showing what happens to typical American families over the life course, we'll conclude that they see very little increase in income as they age. That's incorrect. In any given year, some of those with below-median income are young. Their wages and income are low because they are in the early stages of the work career and/or because they're single. Over time, many will experience a

significant income rise, getting pay increases or partnering with someone who also has earnings, or both. Figures 12 and 15 miss this income growth over the life course.

Figure 16 illustrates the point. The lower line shows median income among families with a "head" aged 25 to 34. The top line shows median income among the same cohort of families twenty years later, when their heads are aged 45 to 54. Consider the year 1979, for instance. The lower line tells us that in 1979 the median income of families with a 25-to-34-year-old head was about \$58,000 (in 2013 dollars). The data point for 1979 in the top line looks at the median income of that same group of families twenty years later, in 1999, when they are 45 to 54 years old. This is the peak earning stage for most people, and their median income is now about \$91,000.

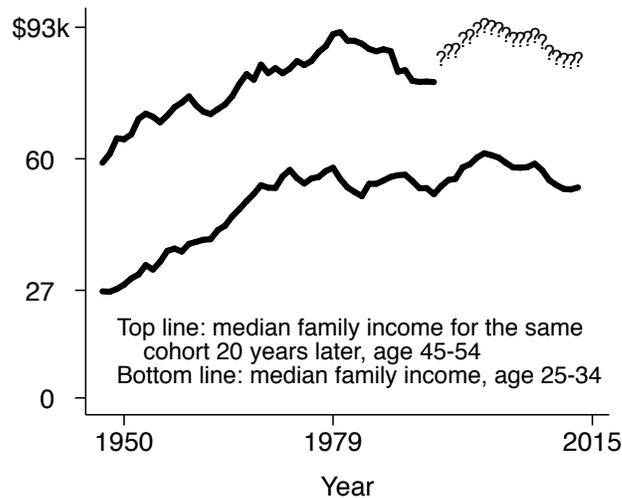


Figure 16. Median income within and across cohorts

For each year, the lower line is median income among families with a "head" age 25-34 and the top line is median income for the same cohort of families twenty years later. In the years for which the calculation is possible, 1947 to 1993, the average increase in income during this two-decade portion of the life course is \$32,500. The data are in 2013 dollars; inflation adjustment is via the CPI-U-RS. "k" = thousand. Data source: Census Bureau, "Historical Income Data," table F-11.

In each year, the gap between the two lines is roughly \$33,000. This tells us that the incomes of middle-class Americans tend to increase substantially as they move from the early years of the work career to the peak years.

This shouldn't reduce our concern about slow median income growth in the US. Look again at figure 16. Between the mid-1940s and the mid-1970s, the median income of families in early adulthood (the lower line) rose steadily. In the mid-1940s median income for these young families was around \$27,000; by the mid-1970s it had doubled. Americans during this period experienced income gains over the life course, but they also tended to have higher incomes than their predecessors, both in their early work years and in their peak years. That's because the economy was growing at a healthy clip and the economic growth was trickling down to Americans in the middle.

After the mid-1970s, this steady gain disappeared. From the mid-1970s to 2013 the median income of families with a 25-to-34-year-old head was flat. They continued to achieve income gains during the life course. (Actually, we don't yet know about those who started out after the mid-1990s, as they're just now beginning to reach age 45 to 54. The question marks in the chart show what their incomes will be if the historical trajectory holds true.) But the improvement across cohorts that characterized the period from the mid-1940s through the 1970s — each cohort starting higher and ending higher than earlier ones — disappeared.

Income for many Americans rises during the life course, and this is indeed hidden by charts such as figures 12 and 15. But that ought not lessen our concern about the decoupling of household income growth from economic growth that has occurred over the past generation. We want improvement not just within cohorts, but also across them.

2. Consumption has continued to rise rapidly. Some consider spending a better indicator than income of people's standard of living. Even though the incomes of Americans in the middle have grown slowly, they might have increased their consumption more rapidly by drawing on assets (equity in a home, savings) and/or debt.

But that isn't the case. According to the best available data, from the Consumer Expenditures Survey (CES), median family expenditures rose at the same pace as median family income in the 1980s, 1990s, and 2000s (Johnson 2004; Meyer and Sullivan 2011; Attanasio, Hurst, and Pistaferri 2012).

3. *Wealth has increased sharply.* Income and consumption growth for middle-income Americans may have lagged well behind growth of the economy, but was that offset by rapid growth of wealth (assets minus debts)?

Yes, it was, but only temporarily. We have data on wealth from the Survey of Consumer Finances (SCF), administered by the Federal Reserve every three years. Figure 17 shows the trend in median household wealth along with the trend in median household income. The wealth data are first available in 1983. What we see is a sharp upward spike in median wealth in the second half of the 1990s and the first half of the 2000s. The home is the chief asset of most middle-class Americans, and home values jumped during this period. But then the housing bubble burst and median wealth fell precipitously, erasing all of the gains (Wolff 2012). And for those who lost their home during the crash, things are worse than what's conveyed by these data.

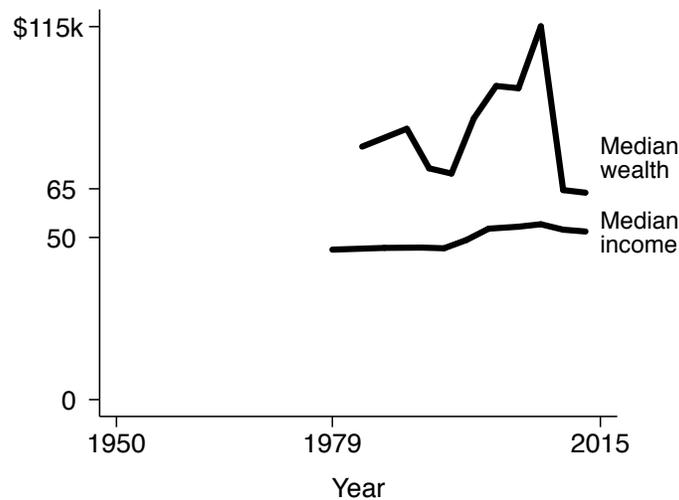


Figure 17. Median household income and median household wealth

2013 dollars; inflation adjustment is via the CPI-U. “k” = thousand. Median wealth: Household net worth, calculated as assets minus liabilities. Data source: Edward N. Wolff, “Household Wealth Trends in the United States, 1962-2013,” Working Paper 20733, National Bureau of Economic Research, 2014, table 1, using Survey of Consumer Finances data. Median income: Posttransfer-posttax household income, adjusted for household size and then rescaled to reflect a three-person household. Data source: Luxembourg Income Study.

Even before the bubble burst, not everyone benefited. Of the one third of Americans who don't own a home, many are on the lower half of the income ladder. For them, the rise in home values in the 1990s and 2000s did nothing to compensate for the slow growth of income since the 1970s.

4. There have been significant improvements in quality of life. The final variant of the notion that income data understate the degree of advance in living standards focuses on improvements in the quality of goods, services, and social norms. It suggests that adjusting the income data for inflation doesn't do justice to the enhancements in quality of life that have occurred in the past generation.

Fewer jobs require hard physical labor, and workplace accidents and deaths have decreased. Life expectancy rose from 74 years in 1979 to 79 years in 2012. Cancer survival is up. Infant mortality is down. An array of new pharmaceuticals now help relieve various conditions and ailments. MRIs, CT scans, and other diagnostic tools have enhanced physicians' ability to detect serious health problems. Organ transplants, hip and knee replacements, and lasik eye surgery are now commonplace. Violent crime has dropped to pre-1970s levels. Air and water quality are much improved.

Americans live in bigger houses; the median size of new homes rose from 1,600 square feet in 1979 to 2,600 in 2013. Cars are safer and get better gas mileage. We have access to an assortment of conveniences that didn't exist or weren't widely available a generation ago: personal computers, printers, scanners, microwave ovens, TV remote controls, digital video recorders, camcorders, digital cameras, five-blade razors, home pregnancy tests, home security systems, handheld calculators. Product variety has increased for almost all goods and services, from cars to restaurant food to toothpaste to television programs.

We have much greater access to information via the internet, Google, cable TV, travel guides, mapping apps and GPS, smartphones, and tablets. We have a host of new communication tools: cell phones, voicemail, email, Skype, Facebook, Twitter, Instagram. Personal entertainment sources and devices have proliferated: cable TV, high-definition televisions, home entertainment systems, the internet, MP3 players, CD players, DVD players, Netflix, satellite radio, video games.

Last, but not least, discrimination on the basis of sex, race, and more recently sexual orientation have diminished. For women, racial and ethnic minorities, and LGBTQ Americans, this may be the most valuable improvement of all.

There is no disputing these gains in quality of life. But did they occur because income growth for Americans in the middle lagged well behind growth of the economy? In other words, did we need to sacrifice income growth in order to get these improved products and services?

Some say yes, arguing that returns to success soared in fields such as high tech, finance, entertainment, and athletics, as well as for CEOs. These markets became "winner-take-all," and the rewards reaped by the winners mushroomed. For those with a shot at being the best in their field, this increased the financial incentive to work harder or longer or to be more creative. This rise in financial incentives produced a corresponding rise in excellence — new products and services and enhanced quality.

Is this correct? To begin, consider the case of Apple and Steve Jobs. Apple's Macintosh, iPod, iTunes, MacBook Air, iPhone, and iPad were so different from and superior to anything that preceded them that their addition to living standards isn't likely to be adequately measured. Did slow middle-class income growth make this possible? Would Jobs and his teams of engineers, designers, and others at Apple have worked as hard as they did to create these new products and bring them to market in the absence of massive winner-take-all financial incentives?

It's difficult to know. But Walter Isaacson's comprehensive biography of Steve Jobs suggests that he was driven by a passion for the products, for winning the competitive battle, and for status among peers (Isaacson 2011). Excellence and victory were their own reward, not a means to the end of financial riches. In this respect Jobs mirrors scores of inventors and entrepreneurs over the ages. So while the rise of winner-take-all compensation occurred simultaneously with surges in innovation and productivity in certain fields, it may not have caused those surges.

For a more systematic assessment, we can look at the preceding period — the 1940s, 1950s, 1960s, and early 1970s (Lebergott 1976; Cox and Alm 1999; Easterbrook 2003; Fischer 2010). In these years lower-half incomes grew at roughly the same pace as the economy and as incomes at the top (figure 12 above). Did this

squash the incentive for innovation and hard work and thereby come at the expense of broader quality-of-life improvements?

During this period the share of Americans working in physically taxing jobs fell steadily, as employment in agriculture and manufacturing was declining. Life expectancy rose from 65 in 1945 to 71 in 1973. Antibiotic use began in the 1940s, and open-heart bypass surgery was introduced in the 1960s.

In 1940, only 44 percent of Americans owned a home; by 1970 that jumped to 64 percent. Home features and amenities changed dramatically, as the following list makes clear. Running water: 70 percent in 1940, 98 percent in 1970. Indoor flush toilet: 60 percent in 1960, 95 percent in 1970. Electric lighting: 79 percent in 1940, 99 percent in 1970. Central heating: 40 percent in 1940, 78 percent in 1970. Air conditioning: very few (we don't have precise data) in 1940, more than half in 1970. Refrigerator: 47 percent in 1940, 99 percent in 1970. Washing machine: less than half in 1940, 92 percent in 1970. Vacuum cleaner: 40 percent in 1940, 92 percent in 1970.

In 1970, 80 percent of American households had a car, compared to just 52 percent in 1940. The interstate highway system was built in the 1950s and 1960s. In 1970 there were 154 million air passengers, versus 4 million in 1940. Only 45 percent of homes had a telephone in 1945; by 1970 virtually all did. Long-distance phone calls were rare before the 1960s. In 1950, just 60 percent of employed Americans took a vacation; in 1970 that had risen to 80 percent. By 1970, 99 percent of Americans had a television, up from just 32 percent in 1940. In music, the "album" originated in the late 1940s, and rock-n-roll began in the 1950s. Other innovations that made life easier or more pleasurable include photocopiers, disposable diapers, and the bikini.

The Civil Rights Act of 1964 outlawed gender and race discrimination in public places, education, and employment. For women, life changed in myriad ways. Female labor force participation rose from 30 percent in 1940 to 49 percent in 1970. Norms inhibiting divorce relaxed in the 1960s. The pill was introduced in 1960. Abortion was legalized in the early 1970s. Access to college increased massively in the 1960s.

Comparing these changes in quality of life is difficult, but I see no reason to conclude that the pace of advance, or of innovation, has been more rapid in recent decades than before (Gordon 2016).

Yes, there have been significant improvements in quality of life in the United States since the 1970s. But that shouldn't lessen our disappointment in the fact that incomes in the middle have been growing much more slowly than the economy.

CONCLUSION

Income inequality in the United States is high compared to other rich democratic nations, and it has risen sharply since the late 1970s. A core feature of this rise has been the rising income share of households in the top 1 percent. An array of developments, both economic and political, have driven this rise in top-end income inequality.

During the period of rising inequality, household incomes in the middle have risen slowly — much more slowly than the economy (GDP per capita or per household). The proximate causes have been slow growth of wages and employment along with no change in net government transfers. Only households with multiple earners have gotten any increase. And among working-aged households, that's true only for those aged 55 to 64.

It looks very likely that top-end income inequality has been a key cause of slow income growth in the middle. The two are arithmetically related, the timing fits, and the key hypothesized causal path, wages, behaves as predicted. The high and rising income share of the top 1 percent appears to have cut income growth since 1979 for the median American household roughly in half.

NOTES

1. Capital gains — income from the sale of an asset — are an important type of capital income. The World Wealth and Income Database provides an estimate of the top 1 percent's income share with capital gains included and another with capital gains excluded. With capital gains included, the share increased from 10 percent in 1979 to 21 percent in 2014. With capital gains excluded, the share increased from 8 percent in 1979 to 18 percent in 2014.
2. A recent report provides some data, but only since the late 1990s and only for select industries (Council of Economic Advisers 2016).

3. The data are for stock market capitalization as a share of GDP, from Huber, Huo, and Stephens 2015.
4. The best estimate in Huber, Huo, and Stephens 2015 (figure 3) is that a one-standard-deviation decrease in union density boosts the top 1 percent's income share by 0.75 percentage points. The union density standard deviation for the countries and years in their analysis is approximately 18. The United States lost 13 percentage points in union density since the late 1970s, which is 0.72 standard deviations, so the prediction is for a rise in the top 1 percent's income share of $0.75 \times 0.72 = 0.54$ percentage points.
5. Individual country graphs showing this pattern are at lanekenworthy.net/shared-prosperity-additional-data.

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