

# The new gilded age

Income inequality in the U.S. by state, metropolitan area, and county

**Report** • By [Estelle Sommeiller](#) and [Mark Price](#) • July 19, 2018

**What this report finds:** Income inequality has risen in every state since the 1970s and, in most states, it has grown in the post–Great Recession era. From 2009 to 2015, the incomes of the top 1 percent grew faster than the incomes of the bottom 99 percent in 43 states and the District of Columbia. The top 1 percent captured half or more of all income growth in nine states. In 2015, a family in the top 1 percent nationally received, on average, 26.3 times as much income as a family in the bottom 99 percent.

**Why it matters:** Rising inequality is not just a story of those on Wall Street, in Hollywood, or in the Silicon Valley reaping outsized rewards. Measured by the ratio of top 1 percent to bottom 99 percent income in 2015, eight states plus the District of Columbia, 45 metropolitan areas, and 139 counties had gaps wider than the national gap. In fact, unequal income growth since the 1970s has pushed the top 1 percent’s share of all income above 23.9 percent (the 1928 national peak share, according to Piketty and Saez) in five states, 30 metro areas, and 78 counties.

**What we can do to fix the problem:** The rise of top incomes relative to the bottom 99 percent represents a sharp reversal of the trend that prevailed in the mid-20th century. From 1928 to 1973, the share of income held by the top 1 percent declined in every state for which we have data. This earlier era was characterized by a rising minimum wage, low levels of unemployment after the 1930s, widespread collective bargaining in private industries (manufacturing, transportation, telecommunications, and construction), and a cultural, political, and legal environment that kept a lid on executive compensation in all sectors of the economy. We need policies that return the economy to full employment and keep it there, return bargaining power to U.S. workers, increase political participation by all citizens, and boost public investments in child care, education, housing, and health care. Such policies will help prevent the wealthiest few from appropriating more than their fair share of the nation’s expanding economic pie.

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# Executive summary

This report, our fourth such analysis,<sup>1</sup> focuses on trends in income inequality. It uses the latest available data to examine how the top 1 percent and the bottom 99 percent in each state have fared over the years 1917–2015 and to provide a snapshot of top incomes in 2015 by county and metropolitan area. (Data for our entire series, from 1917 to 2015, are available at [go.epi.org/unequalstates2018data](http://go.epi.org/unequalstates2018data).)

This analysis finds, consistent with our previous analyses, that there has been vast and widespread growth in income inequality in every corner of the country. Overall, the growth in incomes of the bottom 99 percent has improved since our last report, in step with a strengthening economy, but the gap between the top 1 percent and everyone else still grew in the majority of states we examine here.

## Key findings

**In 2015, the top 1 percent of families in the U.S. earned, on average, 26.3 times as much income as the bottom 99 percent—an increase from 2013, when they earned 25.3 times as much.**

- Eight states plus the District of Columbia had gaps wider than the national gap. In the most unequal—New York, Florida, and Connecticut—the top 1 percent earned average incomes more than 35 times those of the bottom 99 percent.
- Forty-five of 916 metropolitan areas had gaps wider than the national gap. In the 17 most unequal metropolitan areas, the average income of the top 1 percent was at least 35 times greater than the average income of the bottom 99 percent. Most unequal was the Jackson metropolitan area, which spans Wyoming and Idaho; there the top 1 percent in 2015 earned on average 132.0 times the average income of the bottom 99 percent of families. The next 16 metropolitan areas with the largest top-to-bottom ratios were Naples-Immokalee-Marco Island, Florida (90.1); Key West, Florida (81.3); Sebastian-Vero Beach, Florida (67.2); Bridgeport-Stamford-Norwalk, Connecticut (62.2); Miami-Fort Lauderdale-West Palm Beach, Florida (55.4); Port St. Lucie, Florida (45.5); Glenwood Springs, Colorado (45.0); Hailey, Idaho (44.9); Gardnerville Ranchos, Nevada (44.3); Summit Park, Utah (43.5); North Port-Sarasota-Bradenton, Florida (43.1); New York-Newark-Jersey City, New York-New Jersey-Pennsylvania (39.4); Cape Coral-Fort Myers, Florida (38.8); Fayetteville-Springdale-Rogers, Arkansas-Missouri (37.2); Midland, Texas (35.7); and Steamboat Springs, Colorado (35.3).
- Of 3,061 counties, 139 had gaps wider than the national gap. The average income of the top 1 percent was at least 35 times greater than the average income of the bottom 99 percent in 50 counties. In Teton County, Wyoming (which is one of two counties in the Jackson metropolitan area), the top 1 percent in 2015 earned on average 142.2 times the average income of the bottom 99 percent of families.

**There is a wide spread in what it means to be in the top 1 percent by state, metro area, and county.**

- To be in the top 1 percent nationally in 2015, a family needed an income of \$421,926. Thirteen states plus the District of Columbia, 107 metro areas, and 317 counties had local top 1 percent income thresholds above that level.
- For states (including the District of Columbia), the highest thresholds were in Connecticut (\$700,800), District of Columbia (\$598,155), New Jersey (\$588,575), Massachusetts (\$582,774), New York (\$550,174), and California (\$514,694).
- Thresholds above \$1 million could be found in five metro areas (Jackson, Wyoming-Idaho; Bridgeport-Stamford-Norwalk, Connecticut; Summit Park, Utah; San Jose-Sunnyvale-Santa Clara, California; Naples-Immokalee-Marco Island, Florida) and 17 counties.

**Looking at the residence of families with incomes above the 2015 national threshold of \$421,926 for entering the top 1 percent, we find:**

- Of all the income received by the national top 1 percent in 2015, half accrued to families in five states: California, New York, Texas, Florida, and Illinois. These five states accounted for about 40 percent of all income in the U.S. (the sum of all incomes including the bottom 99 percent and top 1 percent).
- We find the largest concentrations of national top 1 percent income in New York, Connecticut, Florida, Massachusetts, District of Columbia, California, New Jersey, Nevada, Wyoming, and Illinois.
- We find the largest concentrations (relative to each metropolitan area's share of all income) of national top 1 percent income in the following 10 metropolitan areas: Jackson, Wyoming-Idaho; Naples-Immokalee-Marco Island, Florida; Bridgeport-Stamford-Norwalk, Connecticut; Key West, Florida; Summit Park, Utah; Sebastian-Vero Beach, Florida; San Jose-Sunnyvale-Santa Clara, California; Miami-Fort Lauderdale-West Palm Beach, Florida; Hailey, Idaho; and San Francisco-Oakland-Hayward, California.
- At the county level, we find the largest concentrations (relative to each county's share of all income) of national top 1 percent income in Teton County, Wyoming; New York County, New York; Collier County, Florida; Pitkin County, Colorado; Fairfield County, Connecticut; Monroe County, Florida; Westchester County, New York; Palm Beach County, Florida; Marin County, California; San Mateo County, California.

**Examining the growth of income over the past century, we find growth was broadly shared from 1945 to 1973 and highly unequal from 1973 to 2007, with the latter pattern persisting in the recovery from the Great Recession since 2009:**

- Faster income growth for the bottom 99 percent of families between 1945 and 1973 meant that the top 1 percent captured just 4.9 percent of all income growth over that period.

- The pattern in the distribution of income growth reversed itself from 1973 to 2007, with over half (58.7 percent) of all income growth concentrated in the hands of the top 1 percent of families.
- So far during the recovery from the Great Recession, the top 1 percent of families have captured 41.8 percent of all income growth. The distribution of income growth has improved since our last report, when we found that the top 1 percent had captured 85.1 percent of income growth between 2009 and 2013.
- From our 2016 report to this one, cumulative income growth during the recovery for the top 1 percent increased from 17.4 percent (looking at changes from 2009 to 2013) to 33.9 percent (2009 to 2015)—almost doubling. Among the bottom 99 percent, cumulative growth increased from 0.7 percent to 10.3 percent—growing to nearly 15 times what it was. The bigger relative improvement in growth for the bottom 99 percent (reflecting a strengthening economy) is why the top 1 percent captured a smaller share of income growth from 2009 to 2015 than from 2009 to 2013. Nevertheless, the average income of the top 1 percent still grew faster than the average income of the bottom 99 percent, thus the top-to-bottom ratio continued to increase.

**We find a similar pattern in the distribution of growth by state:**

- In 49 states and the District of Columbia, the top 1 percent captured a larger share of all income growth from 1973 to 2007 than in the earlier period (1945 to 1973).
- In 25 states, the top 1 percent captured half or more of income growth from 1973 to 2007.
- So far in the recovery, from 2009 to 2015, the average income of the top 1 percent has grown faster than the average income of the bottom 99 percent in 43 states and the District of Columbia. In nine states, the top 1 percent captured half or more of all income growth: In Connecticut and North Carolina, the top 1 percent captured all the income growth from 2009 to 2015 (while income declined for the bottom 99 percent); the other states are Nevada (81.0 percent), Florida (77.5 percent), Maryland (58.4 percent), Massachusetts (58.4 percent), California (53.1 percent), Missouri (53.1 percent), and New York (51.4 percent).

**The top 1 percent has steadily captured a growing share of the benefits of America’s economic growth, with the share of all income going to the top 1 percent moving closer in 2015 to its 1928 peak.**

- Overall in the U.S., the top 1 percent took home 22.03 percent of all income in 2015. That share was just 1.9 percentage points below the 1928 peak of 23.9 percent.
- Five states had top 1 percent income shares above 23.9 percent in 2015. Those states include New York (31.0 percent), Florida (28.5 percent), Connecticut (27.3 percent), Nevada (24.8 percent), and Wyoming (24.0 percent).
- Thirty metro areas had shares above 23.9 percent in 2015. Shares were highest in Jackson, Wyoming-Idaho (57.1 percent); Naples-Immokalee-Marco Island, Florida (47.6 percent); Key West, Florida (45.1 percent); Sebastian-Vero Beach, Florida (40.4

percent); Bridgeport-Stamford-Norwalk, Connecticut (38.6 percent); and Miami-Fort Lauderdale-West Palm Beach, Florida (35.9 percent).

- Seventy-eight counties had shares above 23.9 percent. Shares were highest in Teton County, Wyoming (59.0 percent); New York County, New York (53.3 percent); La Salle County, Texas (48.2 percent); Collier County, Florida (47.6 percent); Monroe County, Florida (45.1 percent); Palm Beach County, Florida (44.0 percent); Pitkin County, Colorado (42.2 percent); San Miguel County, Colorado (41.1 percent); Walton County, Florida (40.9 percent); Indian River County, Florida (40.4 percent); Martin County, Florida (40.3 percent); and Fairfield County, Connecticut (38.6 percent).

## Introduction

In 2016, the Center on Budget and Policy Priorities and the Economic Policy Institute released an update (McNichol 2016) to their series *Pulling Apart* (McNichol et al. 2012), a report focusing on the gap in earnings between the top 5 percent of households and the bottom fifth of households in the United States and each state. In 2018, the Brookings Institute produced similar statistics for the largest 100 metro areas (Berube 2018).

The 2016 update to *Pulling Apart* found that the richest 5 percent of U.S. households had an average income 14.8 times higher than the poorest 20 percent of households.<sup>2</sup>

The Census survey data used in that update do not permit analysis of trends in the top 1 percent of households at the state level: Sample sizes are too small in some states (even when data are pooled across multiple years), and the data are “top coded”—above a certain threshold, the highest incomes are not recorded at the actual income level reported to Census survey takers. Instead, they are reported at a specified top income. Top coding is used to ensure that small numbers of *erroneous* outliers do not distort Census data and to ensure the anonymity of particularly high-income survey respondents.

The present report *does* permit analysis of state-level trends among the top 1 percent of earners.<sup>3</sup> It uses the same methodology employed by Thomas Piketty and Emmanuel Saez (2003) to generate their widely cited findings on the incomes of the top 1 percent in the United States as a whole. (We are contributors to the World Inequality Database.<sup>4</sup>) This methodology relies on tax data reported by the Internal Revenue Service for states and counties (see the methodological appendix for more details on the construction of our estimates).

Following Piketty and Saez, throughout this report we examine trends in pretax and pretransfer incomes, hereafter referred to simply as “income,” of tax units (single adults or married couples, hereafter referred to as “families”). The best way to think about this measurement of income is that it represents all the taxable income people earn in market transactions, such as the income earned from working for a wage or salary at a job, through interest on a savings account, or from selling a financial asset for more than its purchase cost (a capital gain). What is not included in our analysis is the impact that taxes and transfers (for example, Social Security payments or unemployment benefits) have on

these market-derived incomes. While taxes and transfers do tend to reduce inequality by lowering incomes at the top and raising incomes at the bottom, the primary driver of rising inequality, even after taking into account taxes and transfers, is an increasingly unequal distribution of market incomes.<sup>5</sup>

Other forms of compensation excluded from our analysis here are nontaxable compensation such as employer contributions to pensions and health care, which for the bottom 90 percent have grown as a share of pretax income over time.<sup>6</sup> While these income sources<sup>7</sup> have been growing over time, their exclusion does not materially close the growing gap we observe between the vast majority of working families and the highest earners in our economy.<sup>8</sup>

Piketty and Saez’s groundbreaking 2003 study, now more than 15 years old, increased attention to the body of work compiled since the 1980s documenting rising inequality in the United States. Their work helped inspire the Occupy Wall Street movement of 2011 and continues to resonate in public debates and protests. Growing public concern over rising inequality has also reinvigorated academic debates about whether inequality matters at all (Mankiw 2013) and about the role of finance and top executives in driving the growth of inequality (Bivens and Mishel 2013). It has also spurred interest in how rising inequality limits the number of Americans who actually experience a “rags to riches” story over their lifetime (Corak 2013; Chetty et al. 2017).

Applying Piketty and Saez’s methods to state-level data provides insight into the rise of incomes among the top 1 percent within each state and over time (a population that significantly overlaps, but is not the same as, the national top 1 percent).<sup>9</sup> This analysis can shed light on the degree to which the growth in income inequality is a widely experienced phenomenon across the individual states. In this version of our report, we also look at where those in the national top 1 percent reside.

Before we begin our analysis of local data, it is useful to briefly summarize Piketty and Saez’s updated (2016) findings with respect to U.S. income inequality overall, focusing specifically on the share of income earned by the top 1 percent of families: They find the share of income captured by the top 1 percent climbed from 9.16 percent in 1973 to 23.50 percent in 2007.<sup>10</sup> At 23.50 percent, the share of income earned by the top 1 percent in 2007, on the eve of the Great Recession, was just shy of the 23.94 percent peak they found that the top 1 percent income share reached in 1928 (the year before the start of the Great Depression). Although the Great Recession reduced the income share of the top 1 percent to 18.12 percent by 2009, their income growth surged ahead of the income growth of the bottom 99 percent starting in 2010, with the income share of the top 1 percent reaching a peak of 22.83 percent in 2012. The 2012 peak was in part the result of high-income earners shifting income from 2013 to 2012 to reduce their tax liabilities in anticipation of higher top marginal tax rates, which took effect in 2013. This tax planning helped reduce the top 1 percent’s take of all income to 20.01 percent in 2013. Income growth for the top 1 percent returned in 2014. In 2015, the most recent year for which national-level data are available, they also find the top 1 percent took home 22.03 percent of all income in the United States.

In the following sections we present data unique to this study by replicating Piketty and Saez’s method for each of the 50 states plus the District of Columbia and for 916 metropolitan areas and 3,061 counties. Our state data extend from 1917 to 2015, and our county and metropolitan area data are for 2015. All figures are in 2015 dollars.

We begin our analysis in the next section by painting a detailed picture of local top 1 percent incomes—including income thresholds, average incomes, and top-to-bottom ratios—in each state, metro area, and county. Next, we look at the shares of income held by families that qualify to be in the *national* top 1 percent by state, county, and metro area. We then shift our attention back to the top 1 percent within each state and examine trends in top incomes over time, casting back our gaze first to the 29 years from 1945 to 1973 and then contrasting those years with the 35 years from 1973 to 2007 and the first seven years of the current economic recovery. We conclude the paper by examining the share of all income earned by the top 1 percent within each state, county, and metro area.

## Income inequality by state, metropolitan area, and county in 2015

**Where is inequality at its highest and where is it relatively low, when comparing the average income of the richest 1 percent of families with the average income of the bottom 99 percent of families?**

**Table 1** presents data by state for 2015 on the average income of the top 1 percent of families, the average income of the bottom 99 percent, and the ratio of these two values. (As with all tables in this report, figures are in 2015 dollars. Tables appear at the end of the report.) In the United States as a whole, on average the top 1 percent of families earned 26.3 times as much income as the bottom 99 percent in 2015. Eight states plus the District of Columbia had gaps wider than the national gap.

As shown in the table, New York had the largest gap between the top 1 percent and the bottom 99 percent. The top 1 percent in New York in 2015 earned on average 44.4 times the income of the bottom 99 percent of families. This reflects in part the relative concentration of the financial sector in the greater New York City metropolitan area.

After New York, the next nine states with the largest gaps between the top 1 percent and bottom 99 percent in 2015 were Florida (where the top 1 percent earned 39.5 times as much as the bottom 99 percent, on average), Connecticut (37.2), Nevada (32.7), Wyoming (31.2), Massachusetts (30.9), California (30.7), Illinois (27.0), New Jersey (24.3), and Washington (24.2). In the District of Columbia, the top 1 percent earned 30.4 times as much as the bottom 99 percent.

The 10 most unequal states in 2015 are very similar to the top 10 in 2013 (reported in Sommeiller, Price, and Wazeter 2016), with Washington State moving into the top 10 from 12th place, displacing Texas (from 8th to 11th). The only other notable changes in the ratio of top 1 percent incomes to bottom 99 percent incomes are Florida moving from 5th to



2nd; displacing Connecticut (from 2nd to 3rd); Wyoming moving from 3rd to 5th; and Illinois moving from 10th to 8th. The relative rankings of New York (1), Nevada (4), Massachusetts (6), California (7) and New Jersey (9) remained unchanged.<sup>11</sup>

Even in the 10 states with the smallest gaps between the top 1 percent and bottom 99 percent in 2015, the top 1 percent earned between 12.7 and 16.4 times the income of the bottom 99 percent. Those states included Mississippi (where the top 1 percent earned 16.4 times as much as the bottom 99 percent, on average), Nebraska (16.3), Vermont (16.2), North Dakota (15.8), New Mexico (15.5), Maine (15.4), West Virginia (15.3), Iowa (14.7), Hawaii (13.7), and Alaska (12.7).

In **Table 2** we present for 2015 the 25 highest and 25 lowest top-to-bottom ratios among 916 U.S. metropolitan areas, and in **Table 3** we present the 25 highest and 25 lowest ratios among 3,061 counties. (See **Appendix Table B1** for top-to-bottom ratios for all the available metropolitan areas and **Appendix Table B2** for the ratios for all the available counties.)

According to metropolitan-level data, the Jackson metropolitan area, which spans Wyoming and Idaho, had the largest gap between the top 1 percent and the bottom 99 percent. In Jackson the top 1 percent in 2015 earned on average 132.0 times the average income of the bottom 99 percent of families. The next nine metropolitan areas with the largest gaps between the top 1 percent and the bottom 99 percent are Naples-Immokalee-Marco Island, Florida (where the top 1 percent earned 90.1 times as much as the bottom 99 percent, on average); Key West, Florida (81.3); Sebastian-Vero Beach, Florida (67.2); Bridgeport-Stamford-Norwalk, Connecticut (62.2); Miami-Fort Lauderdale-West Palm Beach, Florida (55.4); Port St. Lucie, Florida (45.5); Glenwood Springs, Colorado (45.0); Hailey, Idaho (44.9); and Gardnerville Ranchos, Nevada (44.3). In all, 45 metro areas had gaps wider than the national gap (see Appendix Table B1).

In the 10 metropolitan areas with the smallest gaps between the top 1 percent and bottom 99 percent in 2015, the top 1 percent earned between 5.4 and 8.5 times the income of the bottom 99 percent of families. Those metropolitan areas include Altus, Oklahoma (where the top 1 percent earned 8.5 times as much as the bottom 99 percent, on average); Fort Polk South, Louisiana (8.5); Juneau, Alaska (8.5); Peru, Indiana (7.9); St. Marys, Georgia (7.3); California-Lexington Park, Maryland (7.3); Los Alamos, New Mexico (7.0); Rio Grande City, Texas (6.8); Fort Leonard Wood, Missouri (6.2); and Junction City, Kansas (5.4).

According to county-level data shown in **Table 3**, Teton County, Wyoming (which is one of two counties in the Jackson metropolitan area from the top of Table 2), had the largest gap between the top 1 percent and the bottom 99 percent. In Teton County, Wyoming, the top 1 percent in 2015 earned on average 142.2 times the average income of the bottom 99 percent of families. The next nine counties with the largest gaps between the top 1 percent and the bottom 99 percent are New York County, New York (where the top 1 percent earned 113.0 times as much as the bottom 99 percent on average); La Salle County, Texas (92.1); Collier County, Florida (90.1); Monroe County, Florida (81.3); Palm Beach County, Florida (77.9); Pitkin County, Colorado (72.2); San Miguel County, Colorado (69.2); Walton County, Florida (68.5); and Indian River County, Florida (67.2). In all, 139 counties had gaps wider than the national gap (see Appendix Table B2).

In the 10 counties with the smallest gaps between the top 1 percent and bottom 99 percent in 2015, the top 1 percent earned between 5.3 and 6.1 times the income of the bottom 99 percent of families. Those counties include Oglala Lakota County, South Dakota (6.1); Colonial Heights City, Virginia (6.1); Stafford County, Virginia (6.0); Burke County, North Dakota (5.6); Manassas Park City, Virginia (5.6); Kusilvak Census Area, Alaska (5.6); Johnson County, Nebraska (5.6); King George County, Virginia (5.5); Geary County, Kansas (5.4); and Valdez-Cordova Census Area, Alaska (5.3).

### **What is the dollar amount required to be part of the top 1 percent in different states, metro areas, and counties?**

**Table 4** reports the threshold incomes required to be considered part of the top 1 percent by state and by region. Table 4 also includes the threshold to be included in the top 1 percent of the 1 percent (or the top 0.01 percent). The 50 states are ranked, from highest to lowest, by the income threshold required to be considered part of the top 1 percent in that state.

Thirteen states and the District of Columbia had thresholds above the national threshold of \$421,926.<sup>12</sup> Connecticut had the highest income threshold in 2015 for the top 1 percent, \$700,800. Mississippi had the lowest threshold, \$254,362.

**Table 5** and **Table 6** present the 25 highest and 25 lowest income thresholds required to be considered part of the top 1 percent by metropolitan area and county, respectively. (To view all 916 metropolitan areas, see **Appendix Table B3**; see **Appendix Table B4** for all 3,061 counties.)<sup>13</sup>

In 2015, the highest threshold for membership in the top 1 percent by metropolitan area was \$1.7 million in the Jackson, Wyoming-Idaho metro area, followed by \$1.45 million in Bridgeport-Stamford-Norwalk, Connecticut, and \$1.37 million in Summit Park, Utah. In 2015, 107 out of 916 metro areas had thresholds above the national threshold of \$421,926 (see Appendix Table B3).

The lowest thresholds by metropolitan area for membership in the top 1 percent were \$121,339 in Rio Grande City, Texas; \$124,346 in Bennettsville, South Carolina; and \$134,636 in Raymondville, Texas.

Turning to the county-level data in Table 6, the highest top 1 percent threshold in 2015 was \$2.25 million in Teton, Wyoming, followed by \$1.55 million in New York, New York, and \$1.45 million in Fairfield, Connecticut. The lowest thresholds were \$98,832 in Liberty, Georgia; \$101,098 in Casey, Kentucky; and \$108,305 in Calhoun, Mississippi. Of the 3,061 counties, 317 had thresholds above the national threshold of \$421,926 (see Appendix Table B4).

# Shares and concentrations of national top 1 percent income by state, metro area, and county, 2015

The data presented so far have focused on the top 1 percent within each community. As we've seen, the dollar amounts of the top 1 percent threshold can vary sharply from one locale to another. A community in which the threshold is less than \$100,000 clearly looks different from a community with a threshold greater than \$2 million—it means something very different to be in the top 1 percent in Liberty County, Georgia, versus Teton County, Wyoming. To get a more complete understanding of how income is distributed nationwide, in this section we estimate the share of the income earned by the *national* top 1 percent (that is, the income of families earning at or above the national threshold of \$421,926) in each state, metropolitan area, and county. We then determine which areas have the highest concentrations of national top 1 percent income by comparing the share of national top 1 percent income in each area with the area's share of total national income.

**Table 7** presents data for 2015 on each state's share of total income (total state income as a share of total national income) alongside the state's share of national top 1 percent income (national top 1 percent income in that state as a share of total national top 1 percent income).<sup>14</sup> The ratio of these two numbers (share of national top 1 percent income divided by share of total income) is presented in the third column: values greater than 1.0 indicate a high concentration of national top 1 percent in a state relative to the state's share of overall income, and values less than 1.0 indicate a low concentration of national top 1 percent income relative to the state's share of all income.<sup>15</sup>

As shown in Table 7, the incomes of Californians in the national top 1 percent accounted for the largest share—17.44 percent—of all income earned by the national top 1 percent.

After California, the next four states that accounted for the largest shares of the national top 1 percent's income were New York (where 12.31 percent of the income of the national top 1 percent was received), Texas (8.54 percent), Florida (7.89 percent), and Illinois (4.58 percent). Of all the income received by the national top 1 percent in 2015, half accrued to families in these five states.<sup>16</sup>

Rounding out the top 10 states in terms of the highest shares of national top 1 percent income were New Jersey (4.19 percent), Massachusetts (3.85 percent), Pennsylvania (3.34 percent), Connecticut (2.68 percent), and Washington (2.41 percent). As a group, these five states accounted for 16.48 percent of the income of the national top 1 percent.<sup>17</sup>

The highest concentrations of national top 1 percent income (as reflected in the ratios in Table 7) occurred in New York, Connecticut, Florida, Massachusetts, District of Columbia, California, New Jersey, Nevada, Wyoming, and Illinois.

The 10 states where the income of residents in the national top 1 percent accounted for

the smallest share of national 1 percent income were Hawaii (where the families earning enough to enter the national top 1 percent accounted for 0.22 percent of the income of the national top 1 percent), South Dakota (0.22 percent), New Mexico (0.22 percent), North Dakota (0.20 percent), Montana (0.18 percent), Delaware (0.18 percent), Maine (0.17 percent), West Virginia (0.16 percent), Alaska (0.15 percent), and Vermont (0.11 percent).

The smallest concentrations of national top 1 percent incomes occurred in West Virginia, New Mexico, Mississippi, Maine, Hawaii, Iowa, Alaska, Vermont, Kentucky, and Indiana.

**Table 8** and **Table 9** present the 10 metropolitan areas and 10 counties with the largest shares of the income of the national top 1 percent (Panel A) and the 10 metropolitan areas and counties with the largest concentrations of national top 1 percent income relative to their shares of total income (Panel B). (To view data for all 916 metropolitan areas, see **Appendix Table B5**. See **Appendix Table B6** for all 3,061 counties.)

As seen in Table 8, the 10 metropolitan areas with the largest shares of income of the national top 1 percent were New York-Newark-Jersey City, New York-New Jersey-Pennsylvania; Los Angeles-Long Beach-Anaheim, California; San Francisco-Oakland-Hayward, California; Chicago-Naperville-Elgin, Illinois-Indiana-Wisconsin; Boston-Cambridge-Newton, Massachusetts-New Hampshire; Miami-Fort Lauderdale-West Palm Beach, Florida; Houston-The Woodlands-Sugar Land, Texas; Dallas-Fort Worth-Arlington, Texas; Washington-Arlington-Alexandria, District of Columbia-Virginia-Maryland-West Virginia; and San Jose-Sunnyvale-Santa Clara, California.

The 10 metropolitan areas with the largest concentrations of the income of the national top 1 percent were Jackson, Wyoming-Idaho; Naples-Immokalee-Marco Island, Florida; Bridgeport-Stamford-Norwalk, Connecticut; Key West, Florida; Summit Park, Utah; Sebastian-Vero Beach, Florida; San Jose-Sunnyvale-Santa Clara, California; Miami-Fort Lauderdale-West Palm Beach, Florida; Hailey, Idaho; and San Francisco-Oakland-Hayward, California.

Turning to the county-level data in Table 9, we find that the 10 counties where the shares of national top 1 percent income were highest were New York County, New York; Los Angeles County, California; Santa Clara County, California; Cook County, Illinois; Harris County, Texas; Fairfield County, Connecticut; Orange County, California; Westchester County, New York; King County, Washington; and Palm Beach County, Florida.

The 10 counties with the largest concentrations of the income of the national top 1 percent relative to their shares of all income were Teton County, Wyoming; New York County, New York; Collier County, Florida; Pitkin County, Colorado; Fairfield County, Connecticut; Monroe County, Florida; Westchester County, New York; Palm Beach County, Florida; Marin County, California; and San Mateo County, California.

We now turn our attention to trends in top incomes over time.

# Income growth in the states since 1945

In this section, we return to analyzing data for the top 1 percent of families within a state (as opposed to the national top 1 percent residing in each state, as discussed in the above section), this time looking at historical trends since 1945.<sup>18</sup> We examine here the split income growth between the top 1 percent and the bottom 99 percent over three periods: 1945 to 1973,<sup>19</sup> 1973 to 2007, and the period from the end of the Great Recession in 2009 to the most current year of data available, 2015.

The average inflation-adjusted income of the bottom 99 percent of families grew by 100.1 percent between 1945 and 1973. Over the same period, the average income of the top 1 percent of families grew by 34.3 percent. Faster income growth for the bottom 99 percent of families meant that the top 1 percent captured just 4.9 percent of all income growth over the period. (Data are shown in **Appendix Table B7**.)

The pattern in the distribution of income growth reversed itself from 1973 to 2007 as the income of the bottom 99 percent of families grew much more slowly (by just 15.4 percent) compared with the top 1 percent, whose average income grew by 216.4 percent. As a result, over half (58.7 percent) of all income growth in this period landed in the hands of the top 1 percent of families. (Data are shown in **Appendix Table B8**.)

Looking at the growth of incomes since the end of the Great Recession in 2009, we see that the more recent unequal pattern of income growth has continued over the course of the recovery. From 2009 to 2015, the income of the bottom 99 percent of families grew by 10.3 percent while the average income of the top 1 percent grew 33.9 percent. So far during the recovery (from 2009 to 2015), the top 1 percent of families have captured 41.8 percent of all income growth nationwide. At the state level, the incomes of the top 1 percent grew faster than the incomes of the bottom 99 percent in 43 states and the District of Columbia. (Data are shown in **Appendix Table B9**.)

The distribution of income growth has improved since our last report when we found that the top 1 percent captured 85.1 percent of income growth between 2009 and 2013. As the business cycle ages, falling unemployment leads to more broadly shared wage and income growth, thus reducing the top 1 percent's take of all income growth. From our 2016 report to this one, income growth during the recovery for the top 1 percent increased from 17.4 percent (looking at changes from 2009 to 2013) to 33.9 percent (2009 to 2015)—almost doubling. Among the bottom 99 percent, cumulative growth increased from 0.7 percent to 10.3 percent—growing to nearly 15 times what it was. The bigger relative improvement in growth for the bottom 99 percent is why the top 1 percent captured a smaller share of income growth from 2009 to 2015 than from 2009 to 2013. Nevertheless, the average income of the top 1 percent still grew faster than the average income of the bottom 99 percent, thus the top-to-bottom ratio continued to increase.

**Table 10** presents estimates of the top 1 percent's share of income growth for the 50 states and the District of Columbia, across three time periods.<sup>20</sup> It shows that:

- In 49 states and the District of Columbia, the top 1 percent captured a larger share of all income growth from 1973 to 2007 than in the earlier period (1945 to 1973).<sup>21</sup>
- In 25 states, the top 1 percent captured half or more of income growth from 1973 to 2007. In Alaska, Arizona, Hawaii, Michigan, Nevada, and North Dakota, average income increased only for the top 1 percent (while overall income declined in those states).<sup>22</sup> The other states where a majority of income growth went to the top 1 percent were New York (where 87.3 percent of all income growth was captured by the top 1 percent), Montana (86.9 percent), Florida (85.7 percent), South Carolina (77.9 percent), Illinois (73.3 percent), New Mexico (72.0 percent), Wyoming (71.4 percent), District of Columbia (64.6 percent), Connecticut (63.5 percent), Ohio (59.1 percent), California (56.8 percent), Indiana (56.2 percent), Oregon (52.5 percent), Delaware (52.3 percent), Idaho (51.8 percent), Colorado (50.9 percent), Georgia (50.7 percent), Massachusetts (50.4 percent), and Maryland (50.3 percent).
- So far in the recovery (from 2009 to 2015), the top 1 percent have captured half or more of all income growth in nine states, including Connecticut and North Carolina, where only top 1 percent incomes grew (while bottom 99 percent incomes declined)<sup>23</sup>; Nevada (where the top 1 percent captured 81.0 percent of the state's income growth); Florida (77.5 percent); Maryland (58.4 percent); Massachusetts (58.4 percent); California (53.1 percent); Missouri (53.1 percent); and New York (51.4 percent).

## Income growth by region since 1921

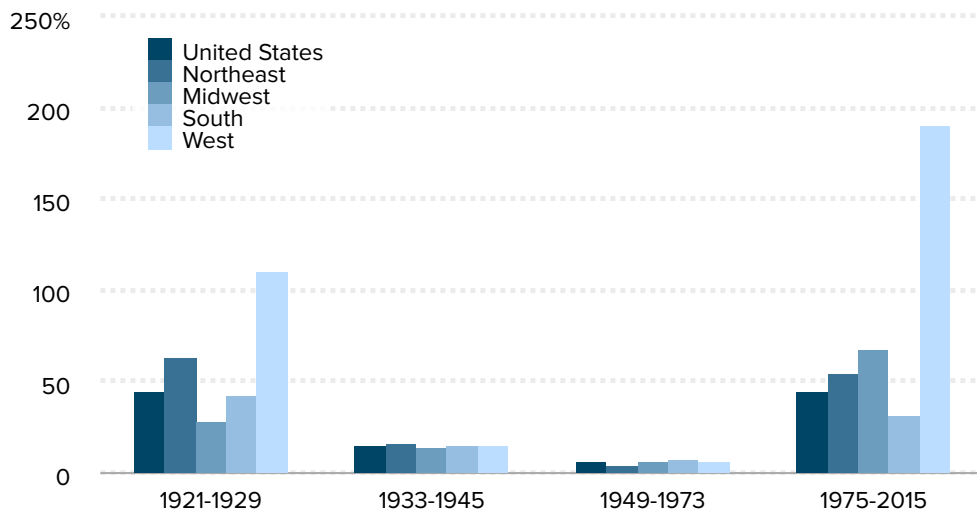
Normally it's during the economic expansion that follows a recession that workers make wage gains that hopefully leave them better off than before the recession started. Between 1921 and 2015 there have been 17 expansions. Following Tcherneva 2014, **Figure A** presents the fraction of regional income growth accruing to the top 1 percent in all but two of those expansions.<sup>24</sup> In the figure, the century is divided into four periods, 1921–1929 (three expansions), 1933–1945 (two expansions), 1949–1973 (five expansions) and 1975–2015 (five expansions). The share of income growth captured by the top 1 percent is averaged across all economic expansions within each period. As the figure shows, income growth over the expansions that have occurred since 1975 has been captured disproportionately by the top 1 percent in every region of the country, similar to the distribution of income growth in the 1920s.<sup>25</sup>

## The new gilded age

**Figure B** presents the share of all income (including capital gains income) held by the top 1 percent of families between 1917 and 2015 for the United States and by region. As the figure illustrates, income inequality measured here in terms of market incomes reached a

Figure A

## Shares of income growth accruing to the top 1% during economic expansions, U.S. and by region



**Notes:** Shares greater than 100%—accruing to the top 1% in the West across the three expansions from 1921–1929 and the five expansions from 1975–2015—are the result of falling incomes for the bottom 99% in one expansion during each of these periods, specifically during the expansion from 1924 to 1926 and the expansion from 1975 to 1980. Excluding those two expansions, the fraction of growth accruing to the top 1% over the two remaining expansions from 1921 to 1929 averaged 18%, and the fraction of growth accruing to the top 1% over the four remaining expansions from 1975 to 2015 averaged 50%.

**Source:** Authors’ analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years), Piketty and Saez 2016, and Tcherneva 2014

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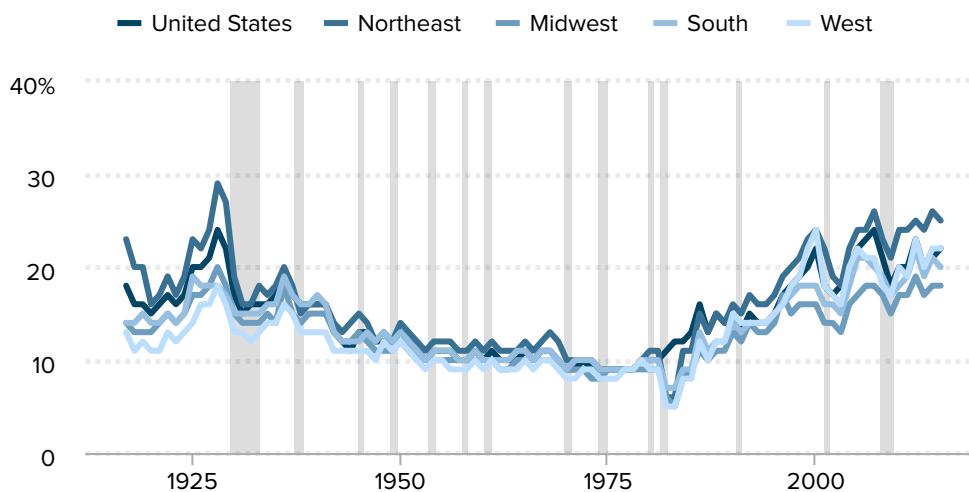
peak in 1928 before declining rapidly in the 1930s and 1940s and then more gradually until the 1970s.

For all of its considerable flaws (as evidenced, for example, by gender, ethnic, and racial discrimination in every aspect of society), the period from the 1940s to the early 1970s is often described as a “golden age,” thanks to broadly shared income growth in which the lowest-paid wage earner all the way up to the highest-paid CEO experienced similar growth in incomes.

Ironically, just as legal forms of discrimination in hiring, schooling, and housing (which had already cemented in place the racial wealth inequalities born of American slavery and Jim Crow) were being challenged with increasing success, the emerging new prosperity was more gilded than golden: Income growth overall slowed while the top 1 percent income share moved sharply upward toward its 1928 peak.

Figure B

## Shares of all income held by the top 1%, U.S. and by region, 1917–2015



**Notes:** Data are for tax units. Income includes capital gains income. Shaded areas denote recessions.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## The patterns of income inequality in the states, 1917–2015

The patterns of income growth over time in individual states reflect in broad terms the national pattern. This pattern, illustrated in Figure B, is also present for each individual state, as seen in the [interactive](#) accompanying this release.

- **Table 11** presents four snapshots of the income share of the top 1 percent in each state and the District of Columbia—for the years 1928, 1973, 2007, and 2015. The table shows that between 1928 and 1973, the share of income held by the top 1 percent declined in 49 states and the District of Columbia, following the national pattern.<sup>26</sup> From 1973 to 2007, the share of income held by the top 1 percent increased in every state and the District of Columbia.
- Even factoring in the impact of the Great Recession by examining the period from 1973 to 2015, the share of income held by the top 1 percent still increased in every state and the District of Columbia. And, as national data for 2015 show, top 1 percent incomes are moving higher as the economy continues to recover (the share of income held by the top 1 percent in the U.S. climbed to 21.0 percent in 2015).

The 10 states with the biggest jumps (at least 10.7 percentage points) in the top 1 percent share from 1973 to 2015 included New York (where the top 1 percent share increased 20.5 percentage points), Connecticut (17.4), Florida (17.0), Wyoming (15.5), California (15.0),



Nevada (14.9), Massachusetts (14.9), Illinois (12.4), Washington (11.3), and New Jersey (10.7). In the remaining states, the increase in the top 1 percent share was between 3.5 and 10.2 percentage points.

## Income inequality across counties and metro areas, 2015

**How does income inequality, measured as the top 1 percent income share, spread over counties and metropolitan areas?**

**Tables 12** and **13** present the 2015 share of income going to the top 1 percent and bottom 99 percent for the top 25 and bottom 25 metropolitan areas and counties in 2015, ranked by top 1 percent share of the locality's total income. (See **Appendix Table B10** for the top income share in all 916 metropolitan areas and **Appendix Table B11** for all 3,061 counties.)

By metropolitan area (Table 12), the top 1 percent share of all income was highest in Jackson, Wyoming-Idaho, at 57.1 percent, followed by 47.6 percent in Naples-Immokalee-Marco Island, Florida, and 45.1 percent in Key West, Florida. For comparison, overall in the U.S. the top 1 percent took home 21.0 percent of all income in 2015. Among metropolitan areas the lowest top income shares were 5.2 percent in Junction City, Kansas; 5.9 percent in Fort Leonard Wood, Missouri; and 6.4 percent in Rio Grande City, Texas.

By county (Table 13), the top 1 percent took home 59.0 percent of all income in Teton County, Wyoming; 53.3 percent in New York County, New York; and 48.2 percent in La Salle County, Texas. The lowest share of all income consumed by the top 1 percent was 5.1 percent in Valdez-Cordova Census Area, Alaska; 5.2 percent in Geary County, Kansas; and 5.3 percent in both Johnson County, Nebraska, and King George County, Virginia.

## Conclusion

The rise in inequality experienced in the United States over the past four-plus decades is not just a story of those on Wall Street, in Hollywood, or in the Silicon Valley reaping outsized rewards. While we find a large share of national top 1 percent income concentrated in New York, Los Angeles, and San Francisco, IRS data also make clear that rising inequality and increases in top 1 percent incomes affect every part of the U.S. Between 1973 and 2007, the top 1 percent of families in *all* states captured an increasing share of income. And from 2009 to 2015, in the wake of the Great Recession, top 1 percent incomes in most states once again grew faster than the incomes of the bottom 99 percent.

The rise between 1973 and 2007 in top 1 percent incomes relative to the bottom 99 percent represents a sharp reversal of the trend that prevailed in the mid-20th century. Between 1928 and 1973, the share of income held by the top 1 percent declined in every state except Alaska (data for Alaska are not available for 1928). This earlier era was characterized by a rising minimum wage, low levels of unemployment after the 1930s,

widespread collective bargaining in private industries (manufacturing, transportation, telecommunications, and construction), and a cultural, political and legal environment that kept a lid on executive compensation in all sectors of the economy.

Today, unionization and collective bargaining levels are at historic lows not seen since before 1928 (Freeman 1997; Bivens et al. 2017). The federal minimum wage purchases fewer goods and services than it did in 1968 (Cooper 2017). Meanwhile CEO pay has gone from 20 times greater than typical workers' pay in 1965 to 271 times greater in 2016 (Mishel and Schieder 2017).<sup>27</sup>

Policy choices and cultural forces have combined to put downward pressure on the wages and incomes of most Americans even as their productivity has risen (Bivens and Mishel 2015; Levy and Temin 2007). As a result, CEOs and executives at the commanding heights of the private economy have appropriated a rising share of the nation's expanding economic pie, setting new norms and expectations for high-level compensation that are being emulated among nonprofit hospital executives, college presidents, surgeons, and lawyers.

The gains of those at the top have come at the expense of the vast majority of working families. The Economic Policy Institute's *The State of Working America, 12th Edition*, found that between 1979 and 2007, had the income of the middle fifth of households grown at the same rate as overall average household income, it would have been \$18,897 higher in 2007—27.0 percent higher than it actually was (Mishel et al. 2012).<sup>28</sup>

Yet more troubling, the rapid rise in top incomes in this new gilded age—which started as a rise in labor income for top executives—has, since 2000, been driven by capital income derived from the ownership of assets (Piketty, Saez, and Zucman 2018a). The idle rich in America are in ascendance at a time when—more than in most other advanced countries—the children of affluent parents typically grow up to be affluent, and the children of the poor remain poor (Corak 2012). Today at elite colleges more students come from families in the top 1 percent of the income distribution than from the bottom 50 percent (Chetty et al. 2017). Meanwhile U.S. public colleges have become increasingly unaffordable, further limiting opportunity for children of lower-income households (Huelsman 2018).

Federal policy in the last year has also changed in ways that are likely to further increase income inequality. The Trump administration has abandoned a rule that would have expanded automatic eligibility for overtime to 12.5 million workers, ensuring that they would be paid time-and-a-half when they work more than 40 hours in a week (Shierholz 2017). The administration has delayed the implementation of the fiduciary rule, which requires investment advisers to act in their clients' best interests (Shierholz and Zipperer 2017). The administration has also sided with corporate interests seeking to permit companies to force workers to sign arbitration agreements with class action waivers—forcing workers to give up their right to file class action lawsuits, taking them out of the courtrooms and into individual private arbitration when their rights on the job are violated (McNicholas 2017). Finally, the Tax Cuts and Jobs Act passed in December 2017 is expected to distribute 83 percent of its benefits to the top 1 percent (TPC 2017). All of

these actions are a step in the wrong direction if the country is going to shrink the gap between those at the top and everyone else.

Reinventing America as a land of widespread opportunity requires economic policy that aims to ensure every child has access to adequate food, shelter, health care, child care, and education—whether that child is the daughter of a janitor or the son of a real estate tycoon. Parents working in *any* occupation must be able to count on a living-wage job; they must be given a voice—either individually or collectively with others—to participate in regulating the conditions of their work; and they must have opportunities to participate in the democratic institutions that govern the affairs of their communities.

We hope these data on income inequality will be useful for starting conversations in your community about steps you and your neighbors can take to lift up workers; to increase opportunities for children as well as for people seeking a second chance in life; to increase participation in elections and community governance; and, finally, to reaffirm that an important purpose of work is to provide for our families and build up our communities—and that the abundant fruits of workers' labors should be spread much more widely than they are now. In short, making America great is about making the economy serve the lives of the many, not the narrow interests of the gilded few.

Table 1

### Ratio of top 1% income to bottom 99% income, U.S. and by state and region, 2015

State rank (from highest to lowest ratio)	State/region	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
—	<i>United States</i>	\$1,316,985	\$50,107	26.3
1	<i>New York</i>	\$2,202,480	\$49,617	44.4
2	<i>Florida</i>	\$1,543,124	\$39,094	39.5
3	<i>Connecticut</i>	\$2,522,806	\$67,742	37.2
4	<i>Nevada</i>	\$1,354,780	\$41,470	32.7
5	<i>Wyoming</i>	\$1,900,659	\$60,922	31.2
6	<i>Massachusetts</i>	\$1,904,805	\$61,694	30.9
7	<i>California</i>	\$1,693,094	\$55,152	30.7
8	<i>Illinois</i>	\$1,412,024	\$52,216	27.0
9	<i>New Jersey</i>	\$1,581,829	\$65,068	24.3
10	<i>Washington</i>	\$1,383,223	\$57,100	24.2
11	<i>Texas</i>	\$1,343,897	\$55,614	24.2
12	<i>Georgia</i>	\$995,576	\$44,147	22.6
13	<i>Arkansas</i>	\$864,772	\$38,472	22.5
14	<i>Pennsylvania</i>	\$1,100,962	\$50,830	21.7
15	<i>Michigan</i>	\$917,701	\$42,825	21.4
16	<i>Tennessee</i>	\$947,021	\$44,219	21.4
17	<i>Missouri</i>	\$944,804	\$44,650	21.2
18	<i>Arizona</i>	\$882,657	\$42,000	21.0
19	<i>Minnesota</i>	\$1,185,581	\$56,728	20.9
20	<i>Colorado</i>	\$1,261,053	\$61,165	20.6
21	<i>North Carolina</i>	\$902,972	\$43,850	20.6
22	<i>South Dakota</i>	\$1,130,048	\$56,610	20.0
23	<i>Oregon</i>	\$908,898	\$46,090	19.7
24	<i>Utah</i>	\$1,057,066	\$53,614	19.7
25	<i>South Carolina</i>	\$761,185	\$38,646	19.7
26	<i>Alabama</i>	\$743,644	\$38,587	19.3
27	<i>Montana</i>	\$855,976	\$45,197	18.9
28	<i>Wisconsin</i>	\$964,358	\$50,953	18.9
29	<i>Ohio</i>	\$858,965	\$46,157	18.6

Table 1  
(cont.)

State rank (from highest to lowest ratio)	State/region	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
30	<i>Kentucky</i>	\$719,012	\$38,990	18.4
31	<i>Kansas</i>	\$1,034,676	\$56,628	18.3
32	<i>Rhode Island</i>	\$928,204	\$50,963	18.2
33	<i>Louisiana</i>	\$814,386	\$45,060	18.1
34	<i>New Hampshire</i>	\$1,134,101	\$62,796	18.1
35	<i>Maryland</i>	\$1,135,718	\$63,656	17.8
36	<i>Oklahoma</i>	\$932,520	\$52,533	17.8
37	<i>Virginia</i>	\$1,109,984	\$62,844	17.7
38	<i>Idaho</i>	\$829,268	\$47,727	17.4
39	<i>Indiana</i>	\$804,275	\$46,501	17.3
40	<i>Delaware</i>	\$869,461	\$51,049	17.0
41	<i>Mississippi</i>	\$580,461	\$35,353	16.4
42	<i>Nebraska</i>	\$945,869	\$58,013	16.3
43	<i>Vermont</i>	\$816,579	\$50,283	16.2
44	<i>North Dakota</i>	\$1,080,845	\$68,316	15.8
45	<i>New Mexico</i>	\$615,082	\$39,675	15.5
46	<i>Maine</i>	\$655,870	\$42,575	15.4
47	<i>West Virginia</i>	\$535,648	\$34,987	15.3
48	<i>Iowa</i>	\$788,419	\$53,753	14.7
49	<i>Hawaii</i>	\$797,001	\$57,987	13.7
50	<i>Alaska</i>	\$910,059	\$71,876	12.7
8*	<i>District of Columbia</i>	\$1,858,878	\$61,102	30.4
—	<i>Northeast</i>	\$1,777,756	\$54,662	32.5
—	<i>Midwest</i>	\$1,038,485	\$49,287	21.1
—	<i>South</i>	\$1,152,116	\$46,895	24.6
—	<i>West</i>	\$1,444,246	\$52,652	27.4

\* Rank of the District of Columbia if it were ranked with the 50 states.

**Notes:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 2

### Ratio of top 1% income to bottom 99% income for the top 25 and bottom 25 of 916 metropolitan areas, 2015

Rank (from highest to lowest ratio)	Metropolitan area	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
1	<i>Jackson, WY-ID</i>	\$16,161,955	\$122,447	132.0
2	<i>Naples-Immokalee-Marco Island, FL</i>	\$5,590,120	\$62,053	90.1
3	<i>Key West, FL</i>	\$4,741,192	\$58,295	81.3
4	<i>Sebastian-Vero Beach, FL</i>	\$2,921,375	\$43,473	67.2
5	<i>Bridgeport-Stamford-Norwalk, CT</i>	\$6,290,951	\$101,213	62.2
6	<i>Miami-Fort Lauderdale-West Palm Beach, FL</i>	\$2,345,381	\$42,319	55.4
7	<i>Port St. Lucie, FL</i>	\$1,737,118	\$38,212	45.5
8	<i>Glenwood Springs, CO</i>	\$2,968,276	\$66,015	45.0
9	<i>Hailey, ID</i>	\$3,115,982	\$69,399	44.9
10	<i>Gardnerville Ranchos, NV</i>	\$2,272,387	\$51,276	44.3
11	<i>Summit Park, UT</i>	\$4,784,667	\$110,003	43.5
12	<i>North Port-Sarasota-Bradenton, FL</i>	\$1,810,660	\$42,021	43.1
13	<i>New York-Newark-Jersey City, NY-NJ-PA</i>	\$2,425,384	\$61,550	39.4
14	<i>Cape Coral-Fort Myers, FL</i>	\$1,673,922	\$43,148	38.8
15	<i>Fayetteville-Springdale-Rogers, AR-MO</i>	\$1,961,857	\$52,723	37.2
16	<i>Midland, TX</i>	\$2,911,700	\$81,551	35.7
17	<i>Steamboat Springs, CO</i>	\$2,507,070	\$71,006	35.3
18	<i>Easton, MD</i>	\$1,982,671	\$56,900	34.8
19	<i>Las Vegas-Henderson-Paradise, NV</i>	\$1,418,143	\$40,770	34.8
20	<i>San Jose-Sunnyvale-Santa Clara, CA</i>	\$3,445,220	\$99,486	34.6
21	<i>Crestview-Fort Walton Beach-Destin, FL</i>	\$1,441,439	\$41,977	34.3
22	<i>San Francisco-Oakland-Hayward, CA</i>	\$2,812,641	\$82,321	34.2
23	<i>Santa Maria-Santa Barbara, CA</i>	\$1,846,469	\$54,667	33.8
24	<i>Los Angeles-Long Beach-Anaheim, CA</i>	\$1,803,340	\$53,904	33.5
25	<i>Charlottesville, VA</i>	\$2,062,751	\$61,677	33.4
	...			

Table 2  
(cont.)

Rank (from highest to lowest ratio)	Metropolitan area	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
892	<i>Liberal, KS</i>	\$453,262	\$49,066	9.2
893	<i>Lexington, NE</i>	\$456,276	\$49,411	9.2
894	<i>Dumas, TX</i>	\$419,641	\$46,254	9.1
895	<i>Urbana, OH</i>	\$374,800	\$41,593	9.0
896	<i>Eagle Pass, TX</i>	\$349,678	\$38,976	9.0
897	<i>Bucyrus, OH</i>	\$300,771	\$33,547	9.0
898	<i>Ozark, AL</i>	\$290,288	\$32,415	9.0
899	<i>Frankfort, IN</i>	\$385,993	\$43,332	8.9
900	<i>Lincoln, IL</i>	\$354,062	\$40,247	8.8
901	<i>Susanville, CA</i>	\$288,943	\$32,970	8.8
902	<i>Ottawa, KS</i>	\$410,517	\$47,423	8.7
903	<i>Winnemucca, NV</i>	\$403,927	\$46,672	8.7
904	<i>Mountain Home, ID</i>	\$322,438	\$37,263	8.7
905	<i>Hinesville, GA</i>	\$249,515	\$29,119	8.6
906	<i>Guymon, OK</i>	\$469,741	\$54,895	8.6
907	<i>Altus, OK</i>	\$355,959	\$41,875	8.5
908	<i>Fort Polk South, LA</i>	\$339,796	\$40,086	8.5
909	<i>Juneau, AK</i>	\$656,469	\$77,617	8.5
910	<i>Peru, IN</i>	\$294,011	\$37,124	7.9
911	<i>St. Marys, GA</i>	\$278,439	\$38,030	7.3
912	<i>California-Lexington Park, MD</i>	\$493,009	\$67,692	7.3
913	<i>Los Alamos, NM</i>	\$578,133	\$82,406	7.0
914	<i>Rio Grande City, TX</i>	\$232,921	\$34,431	6.8
915	<i>Fort Leonard Wood, MO</i>	\$237,485	\$38,486	6.2
916	<i>Junction City, KS</i>	\$257,831	\$47,429	5.4
—	<i>United States</i>	\$1,316,985	\$50,107	26.3

**Notes:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016. Core Based Statistical Areas defined by the U.S. Census Bureau, Population Division; Office of Management and Budget, February 2013 delineations.

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Table 3

### Ratio of top 1% income to bottom 99% income for the top 25 and bottom 25 of 3,061 counties, 2015

Rank (from highest to lowest ratio)	County	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
1	<i>Teton, WY</i>	\$22,508,018	\$158,290	142.2
2	<i>New York, NY</i>	\$8,983,154	\$79,528	113.0
3	<i>La Salle, TX</i>	\$4,309,034	\$46,763	92.1
4	<i>Collier, FL</i>	\$5,590,120	\$62,053	90.1
5	<i>Monroe, FL</i>	\$4,741,192	\$58,295	81.3
6	<i>Palm Beach, FL</i>	\$3,711,619	\$47,665	77.9
7	<i>Pitkin, CO</i>	\$6,620,969	\$91,714	72.2
8	<i>San Miguel, CO</i>	\$4,515,363	\$65,281	69.2
9	<i>Walton, FL</i>	\$2,957,140	\$43,174	68.5
10	<i>Indian River, FL</i>	\$2,921,375	\$43,473	67.2
11	<i>Martin, FL</i>	\$3,328,484	\$49,786	66.9
12	<i>Fairfield, CT</i>	\$6,290,951	\$101,213	62.2
13	<i>Westchester, NY</i>	\$5,105,521	\$89,408	57.1
14	<i>Miami-Dade, FL</i>	\$2,165,905	\$38,875	55.7
15	<i>Charlottesville City, VA</i>	\$2,909,022	\$53,028	54.9
16	<i>Franklin, FL</i>	\$1,456,120	\$26,956	54.0
17	<i>Suffolk, MA</i>	\$2,796,952	\$52,149	53.6
18	<i>Union, SD</i>	\$4,835,625	\$92,752	52.1
19	<i>Dallam, TX</i>	\$2,569,241	\$50,815	50.6
20	<i>Sarasota, FL</i>	\$2,118,448	\$41,962	50.5
21	<i>Carroll, NH</i>	\$2,470,998	\$48,980	50.4
22	<i>San Mateo, CA</i>	\$5,104,087	\$103,906	49.1
23	<i>De Witt, TX</i>	\$2,733,797	\$55,743	49.0
24	<i>Benton, AR</i>	\$3,162,818	\$65,307	48.4
25	<i>San Francisco, CA</i>	\$4,109,379	\$85,107	48.3
...				
3037	<i>Red Lake, MN</i>	\$271,880	\$40,067	6.8
3038	<i>Starr, TX</i>	\$232,921	\$34,431	6.8
3039	<i>Wabaunsee, KS</i>	\$348,389	\$51,966	6.7



Table 3  
(cont.)

Rank (from highest to lowest ratio)	County	Average income of the top 1%	Average income of the bottom 99%	Top-to-bottom ratio
3040	Harper, OK	\$322,645	\$49,285	6.5
3041	Northwest Arctic, AK	\$347,718	\$53,303	6.5
3042	Charles, MD	\$460,171	\$70,658	6.5
3043	Wyandotte, KS	\$258,906	\$39,770	6.5
3044	Yukon Koyukuk, AK	\$257,824	\$39,777	6.5
3045	Prince Georges, MD	\$386,435	\$59,818	6.5
3046	Sioux, ND	\$208,696	\$32,511	6.4
3047	Culberson, TX	\$234,086	\$36,716	6.4
3048	Osage, KS	\$281,343	\$44,553	6.3
3049	Pulaski, MO	\$237,485	\$38,486	6.2
3050	Southeast Fairbanks, AK	\$425,226	\$69,401	6.1
3051	Gallatin, KY	\$212,894	\$34,783	6.1
3052	Oglala Lakota, SD	\$203,645	\$33,540	6.1
3053	Colonial Heights City, VA	\$271,066	\$44,713	6.1
3054	Stafford, VA	\$508,887	\$84,698	6.0
3055	Burke, ND	\$441,908	\$78,557	5.6
3056	Manassas Park City, VA	\$362,129	\$64,402	5.6
3057	Kusilvak Census Area, AK	\$183,884	\$32,823	5.6
3058	Johnson, NE	\$234,896	\$42,059	5.6
3059	King George, VA	\$402,710	\$72,837	5.5
3060	Geary, KS	\$257,831	\$47,429	5.4
3061	Valdez Cordova, AK	\$438,728	\$82,065	5.3
—	United States	\$1,316,985	\$50,107	26.3

Notes: Incomes are in 2015 dollars. Data are for tax units.

Source: Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 4

### Income threshold of top 1% and top 0.01%, and average income of top 0.01%, U.S. and by state and region, 2015

State rank (from highest to lowest threshold)	State/region	Income threshold of top 1%	Income threshold of top 0.01%	Average income of top 0.01%
—	<i>United States</i>	\$421,926	\$9,765,989	\$32,317,855
1	<i>Connecticut</i>	\$700,800	\$19,499,450	\$70,196,008
2	<i>New Jersey</i>	\$588,575	\$10,786,410	\$29,773,585
3	<i>Massachusetts</i>	\$582,774	\$14,531,763	\$50,737,531
4	<i>New York</i>	\$550,174	\$17,420,552	\$69,485,807
5	<i>California</i>	\$514,694	\$12,891,282	\$45,393,688
6	<i>Colorado</i>	\$458,576	\$8,743,939	\$25,099,683
7	<i>Illinois</i>	\$456,377	\$10,446,486	\$34,181,224
8	<i>Washington</i>	\$451,395	\$10,271,453	\$35,106,381
9	<i>Maryland</i>	\$445,783	\$7,445,675	\$19,603,954
10	<i>North Dakota</i>	\$445,415	\$6,704,383	\$16,386,624
11	<i>Minnesota</i>	\$443,118	\$8,108,724	\$23,134,209
12	<i>Texas</i>	\$440,758	\$9,847,479	\$31,310,378
13	<i>Virginia</i>	\$425,144	\$7,473,175	\$20,711,419
14	<i>Florida</i>	\$417,587	\$12,027,665	\$45,167,509
15	<i>South Dakota</i>	\$407,406	\$7,831,851	\$22,596,893
16	<i>Wyoming</i>	\$405,596	\$15,052,175	\$74,300,630
17	<i>New Hampshire</i>	\$405,286	\$8,038,097	\$24,956,804
18	<i>Alaska</i>	\$400,017	\$5,304,110	\$12,026,360
19	<i>Pennsylvania</i>	\$388,593	\$7,821,533	\$24,282,147
20	<i>Kansas</i>	\$375,344	\$7,196,836	\$21,518,645
21	<i>Utah</i>	\$374,467	\$7,430,648	\$22,000,819
22	<i>Georgia</i>	\$371,811	\$6,735,860	\$18,617,618
23	<i>Nebraska</i>	\$363,310	\$6,277,204	\$17,002,629
24	<i>Oregon</i>	\$358,937	\$5,958,543	\$16,145,076
25	<i>Wisconsin</i>	\$349,905	\$6,676,846	\$19,635,684
26	<i>Rhode Island</i>	\$346,657	\$6,280,829	\$17,542,831
27	<i>North Carolina</i>	\$343,066	\$6,062,214	\$17,037,228
28	<i>Nevada</i>	\$341,335	\$10,677,468	\$43,988,535
29	<i>Delaware</i>	\$340,770	\$5,708,228	\$15,225,579

Table 4  
(cont.)

State rank (from highest to lowest threshold)	State/region	Income threshold of top 1%	Income threshold of top 0.01%	Average income of top 0.01%
30	<i>Ohio</i>	\$334,979	\$5,640,615	\$15,223,306
31	<i>Oklahoma</i>	\$333,139	\$6,516,552	\$19,828,262
32	<i>Tennessee</i>	\$332,913	\$6,665,554	\$20,334,457
33	<i>Iowa</i>	\$331,572	\$4,862,037	\$12,269,685
34	<i>Arizona</i>	\$331,074	\$5,928,134	\$16,097,364
35	<i>Michigan</i>	\$328,649	\$6,396,743	\$19,245,851
36	<i>Missouri</i>	\$326,839	\$6,718,753	\$20,946,857
37	<i>Vermont</i>	\$321,969	\$5,331,265	\$14,336,588
38	<i>Montana</i>	\$321,849	\$5,766,985	\$16,424,147
39	<i>South Carolina</i>	\$318,463	\$4,649,350	\$11,217,722
40	<i>Louisiana</i>	\$318,393	\$5,302,707	\$13,880,894
41	<i>Indiana</i>	\$316,756	\$5,198,119	\$13,393,757
42	<i>Idaho</i>	\$314,532	\$5,570,560	\$15,499,288
43	<i>Hawaii</i>	\$310,566	\$5,282,639	\$14,905,658
44	<i>Maine</i>	\$303,897	\$3,631,803	\$7,977,349
45	<i>Alabama</i>	\$297,564	\$4,741,772	\$12,196,118
46	<i>Kentucky</i>	\$274,818	\$4,762,370	\$13,683,017
47	<i>West Virginia</i>	\$258,078	\$2,949,410	\$6,569,242
48	<i>New Mexico</i>	\$255,429	\$3,798,539	\$9,517,871
49	<i>Arkansas</i>	\$255,050	\$6,337,995	\$26,036,208
50	<i>Mississippi</i>	\$254,362	\$3,400,538	\$7,929,519
2*	<i>District of Columbia</i>	\$598,155	\$13,690,380	\$43,130,489
—	<i>Northeast</i>	\$525,544	\$13,601,280	\$47,913,012
—	<i>Midwest</i>	\$372,469	\$7,250,631	\$21,494,091
—	<i>South</i>	\$387,061	\$8,333,946	\$26,115,554
—	<i>West</i>	\$458,666	\$10,796,111	\$36,486,694

\* Rank of the District of Columbia if it were ranked with the 50 states.

**Notes:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 5

## Income threshold of top 1% by metropolitan area, 2015

Rank (from highest to lowest threshold)	Metropolitan area	Income threshold of top 1%
1	<i>Jackson, WY-ID</i>	\$1,702,255
2	<i>Bridgeport-Stamford-Norwalk, CT</i>	\$1,447,109
3	<i>Summit Park, UT</i>	\$1,373,354
4	<i>San Jose-Sunnyvale-Santa Clara, CA</i>	\$1,149,224
5	<i>Naples-Immokalee-Marco Island, FL</i>	\$1,138,585
6	<i>San Francisco-Oakland-Hayward, CA</i>	\$943,782
7	<i>Key West, FL</i>	\$937,101
8	<i>Hailey, ID</i>	\$837,668
9	<i>Midland, TX</i>	\$836,855
10	<i>Edwards, CO</i>	\$817,125
11	<i>Boston-Cambridge-Newton, MA-NH</i>	\$782,205
12	<i>Boulder, CO</i>	\$778,444
13	<i>Steamboat Springs, CO</i>	\$763,584
14	<i>Glenwood Springs, CO</i>	\$753,438
15	<i>New York-Newark-Jersey City, NY-NJ-PA</i>	\$744,426
16	<i>Trenton, NJ</i>	\$708,736
17	<i>Breckenridge, CO</i>	\$705,417
18	<i>Williston, ND</i>	\$703,693
19	<i>Sebastian-Vero Beach, FL</i>	\$699,331
20	<i>Napa, CA</i>	\$673,132
21	<i>Vineyard Haven, MA</i>	\$669,310
22	<i>Seattle-Tacoma-Bellevue, WA</i>	\$664,710
23	<i>Easton, MD</i>	\$642,717
24	<i>Charlottesville, VA</i>	\$642,660
25	<i>Washington-Arlington-Alexandria, DC-VA-MD-WV</i>	\$640,807
...		
892	<i>Malvern, AR</i>	\$170,412
893	<i>Junction City, KS</i>	\$170,398
894	<i>Marion, NC</i>	\$170,090

Table 5  
(cont.)

Rank (from highest to lowest threshold)	Metropolitan area	Income threshold of top 1%
895	<i>Bogalusa, LA</i>	\$167,269
896	<i>Roanoke Rapids, NC</i>	\$166,534
897	<i>Grants, NM</i>	\$166,012
898	<i>Cedartown, GA</i>	\$165,905
899	<i>Hinesville, GA</i>	\$163,986
900	<i>Bucyrus, OH</i>	\$163,644
901	<i>Rockingham, NC</i>	\$163,557
902	<i>Las Vegas, NM</i>	\$162,200
903	<i>Palatka, FL</i>	\$160,009
904	<i>Eagle Pass, TX</i>	\$159,616
905	<i>Gaffney, SC</i>	\$158,180
906	<i>Española, NM</i>	\$158,013
907	<i>Lumberton, NC</i>	\$155,588
908	<i>North Vernon, IN</i>	\$151,786
909	<i>Valley, AL</i>	\$151,019
910	<i>Summerville, GA</i>	\$145,063
911	<i>Deming, NM</i>	\$143,184
912	<i>Middlesborough, KY</i>	\$141,691
913	<i>Newport, TN</i>	\$139,389
914	<i>Raymondville, TX</i>	\$134,636
915	<i>Bennettsville, SC</i>	\$124,346
916	<i>Rio Grande City, TX</i>	\$121,339
—	<i>United States</i>	\$421,926

**Note:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016. Core Based Statistical Areas defined by the U.S. Census Bureau, Population Division; Office of Management and Budget, February 2013 delineations.

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Table 6

**Income threshold of top 1% by county, 2015**

Rank (from highest to lowest threshold)	County	Income threshold of top 1%
1	<i>Teton, WY</i>	\$2,246,372
2	<i>New York, NY</i>	\$1,551,899
3	<i>Fairfield, CT</i>	\$1,447,109
4	<i>Summit, UT</i>	\$1,373,354
5	<i>Pitkin, CO</i>	\$1,366,427
6	<i>San Mateo, CA</i>	\$1,364,146
7	<i>Marin, CA</i>	\$1,347,176
8	<i>Westchester, NY</i>	\$1,322,742
9	<i>McKenzie, ND</i>	\$1,210,044
10	<i>Goochland, VA</i>	\$1,185,096
11	<i>Santa Clara, CA</i>	\$1,167,061
12	<i>Collier, FL</i>	\$1,138,585
13	<i>San Francisco, CA</i>	\$1,115,765
14	<i>Union, SD</i>	\$1,073,875
15	<i>Norfolk, MA</i>	\$1,013,379
16	<i>Somerset, NJ</i>	\$1,004,251
17	<i>Morris, NJ</i>	\$1,002,229
18	<i>Lake, IL</i>	\$994,221
19	<i>Williamson, TN</i>	\$990,913
20	<i>Nassau, NY</i>	\$969,435
21	<i>Blaine, ID</i>	\$958,873
22	<i>Kendall, TX</i>	\$952,246
23	<i>Monroe, FL</i>	\$937,101
24	<i>San Miguel, CO</i>	\$923,765
25	<i>Falls Church City, VA</i>	\$903,659
...		
3037	<i>Mingo, WV</i>	\$132,000
3038	<i>Quitman, GA</i>	\$131,957
3039	<i>Dixie, FL</i>	\$131,598
3040	<i>Heard, GA</i>	\$130,751
3041	<i>Claiborne, MS</i>	\$129,205

Table 6  
(cont.)

Rank (from highest to lowest threshold)	County	Income threshold of top 1%
3042	<i>Morgan, KY</i>	\$128,681
3043	<i>Fulton, AR</i>	\$127,943
3044	<i>Quay, NM</i>	\$127,275
3045	<i>Menifee, KY</i>	\$126,697
3046	<i>McCreary, KY</i>	\$126,346
3047	<i>Tippah, MS</i>	\$126,008
3048	<i>Ziebach, SD</i>	\$125,761
3049	<i>Russell, AL</i>	\$125,636
3050	<i>Marlboro, SC</i>	\$124,346
3051	<i>Lee, SC</i>	\$122,864
3052	<i>Starr, TX</i>	\$121,339
3053	<i>Dickenson, VA</i>	\$121,272
3054	<i>Holmes, MS</i>	\$120,978
3055	<i>Union, SC</i>	\$119,963
3056	<i>Martin, KY</i>	\$118,666
3057	<i>Owsley, KY</i>	\$110,246
3058	<i>Clayton, GA</i>	\$108,773
3059	<i>Calhoun, MS</i>	\$108,305
3060	<i>Casey, KY</i>	\$101,098
3061	<i>Liberty, GA</i>	\$98,832
—	<i>United States</i>	\$421,926

**Notes:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 7

**State and regional shares of total national income and national top 1% income, and relative concentrations of national top 1% income, 2015**

State rank (from highest to lowest share of national top 1% income)	State/region	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest ratio)
1	<i>California</i>	13.92%	17.44%	1.25	6
2	<i>New York</i>	7.51%	12.31%	1.64	1
3	<i>Texas</i>	8.60%	8.54%	0.99	11
4	<i>Florida</i>	5.63%	7.89%	1.40	3
5	<i>Illinois</i>	4.28%	4.58%	1.07	10
6	<i>New Jersey</i>	3.60%	4.19%	1.16	7
7	<i>Massachusetts</i>	2.83%	3.85%	1.36	4
8	<i>Pennsylvania</i>	4.03%	3.34%	0.83	16
9	<i>Connecticut</i>	1.68%	2.68%	1.59	2
10	<i>Washington</i>	2.47%	2.41%	0.98	12
11	<i>Georgia</i>	2.65%	2.21%	0.84	15
12	<i>Virginia</i>	2.95%	2.20%	0.75	23
13	<i>Ohio</i>	3.16%	2.07%	0.66	33
14	<i>Michigan</i>	2.61%	1.95%	0.75	22
15	<i>North Carolina</i>	2.56%	1.91%	0.75	24
16	<i>Maryland</i>	2.26%	1.71%	0.76	19
17	<i>Colorado</i>	1.88%	1.68%	0.89	13
18	<i>Minnesota</i>	1.84%	1.60%	0.87	14
19	<i>Tennessee</i>	1.73%	1.32%	0.77	18
20	<i>Arizona</i>	1.65%	1.24%	0.75	21
21	<i>Wisconsin</i>	1.71%	1.20%	0.70	29
22	<i>Missouri</i>	1.61%	1.20%	0.74	25
23	<i>Indiana</i>	1.74%	1.04%	0.60	42
24	<i>Nevada</i>	0.79%	0.90%	1.15	8
25	<i>Oregon</i>	1.10%	0.80%	0.73	27
26	<i>Louisiana</i>	1.25%	0.77%	0.62	38
27	<i>Oklahoma</i>	1.15%	0.74%	0.65	36
28	<i>South Carolina</i>	1.13%	0.74%	0.66	34
29	<i>Alabama</i>	1.11%	0.68%	0.61	40
30	<i>Kansas</i>	0.91%	0.64%	0.70	30



Table 7  
(cont.)

State rank (from highest to lowest share of national top 1% income)	State/region	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest ratio)
31	<i>Utah</i>	0.80%	0.60%	0.75	20
32	<i>Kentucky</i>	1.01%	0.58%	0.58	43
33	<i>Arkansas</i>	0.68%	0.49%	0.72	28
34	<i>Iowa</i>	0.93%	0.48%	0.52	46
35	<i>District of Columbia</i>	0.34%	0.45%	1.33	5
36	<i>Nebraska</i>	0.61%	0.38%	0.61	41
37	<i>New Hampshire</i>	0.50%	0.36%	0.73	26
38	<i>Mississippi</i>	0.60%	0.28%	0.47	49
39	<i>Wyoming</i>	0.22%	0.26%	1.14	9
40	<i>Idaho</i>	0.40%	0.25%	0.62	39
41	<i>Rhode Island</i>	0.33%	0.22%	0.68	32
42	<i>Hawaii</i>	0.46%	0.22%	0.49	47
43	<i>South Dakota</i>	0.27%	0.22%	0.79	17
44	<i>New Mexico</i>	0.47%	0.22%	0.46	50
45	<i>North Dakota</i>	0.29%	0.20%	0.69	31
46	<i>Montana</i>	0.27%	0.18%	0.65	35
47	<i>Delaware</i>	0.28%	0.18%	0.63	37
48	<i>Maine</i>	0.34%	0.17%	0.49	48
49	<i>West Virginia</i>	0.38%	0.16%	0.41	51
50	<i>Alaska</i>	0.27%	0.15%	0.53	45
51	<i>Vermont</i>	0.19%	0.11%	0.57	44
—	<i>Northeast</i>	21.02%	27.20%	1.29	
—	<i>Midwest</i>	19.97%	15.55%	0.78	
—	<i>South</i>	34.31%	30.81%	0.90	
—	<i>West</i>	24.71%	26.32%	1.07	

**Notes:** Share of total national income is the state/region's total income as a share of total national income. Share of national top 1% income is the total income of families in the state or region who are in the national top 1%, as a share of all national top 1% income in the U.S. The ratio of the national top 1% income share to the total share indicates the relative concentration of national top 1% income in a given state or region. Incomes are in 2015 dollars. Data are for tax units. Threshold for entering the national top 1% in 2015 was \$421,926.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 8

## Metro area shares of total national income and national top 1% percent income, and relative concentrations of national top 1% income, 2015

Panel A. Top 10 metropolitan areas by share of national top 1% income

Rank (from highest to lowest share of national top 1% incomes)	Metropolitan area	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest ratio)
1	<i>New York-Newark-Jersey City, NY-NJ-PA</i>	8.73%	14.87%	1.7	12
2	<i>Los Angeles-Long Beach-Anaheim, CA</i>	4.67%	6.46%	1.4	26
3	<i>San Francisco-Oakland-Hayward, CA</i>	2.79%	5.01%	1.8	10
4	<i>Chicago-Naperville-Elgin, IL-IN-WI</i>	3.47%	4.25%	1.2	34
5	<i>Boston-Cambridge-Newton, MA-NH</i>	2.27%	3.59%	1.6	17
6	<i>Miami-Fort Lauderdale-West Palm Beach, FL</i>	1.91%	3.58%	1.9	8
7	<i>Houston-The Woodlands-Sugar Land, TX</i>	2.47%	2.98%	1.2	35
8	<i>Dallas-Fort Worth-Arlington, TX</i>	2.56%	2.84%	1.1	41
9	<i>Washington-Arlington-Alexandria, DC-VA-MD-WV</i>	2.83%	2.74%	1.0	60
10	<i>San Jose-Sunnyvale-Santa Clara, CA</i>	1.30%	2.60%	2.0	7

Table 8  
(cont.)

Panel B. Top 10 metropolitan areas by the ratio of share of national top 1% income to share of total national income

Rank (from highest to lowest ratio)	Metropolitan area	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest share of national top 1% incomes)
1	<i>Jackson, WY-ID</i>	0.04%	0.13%	3.1	88
2	<i>Naples-Immokalee-Marco Island, FL</i>	0.22%	0.62%	2.9	28
3	<i>Bridgeport-Stamford-Norwalk, CT</i>	0.74%	1.91%	2.6	13
4	<i>Key West, FL</i>	0.04%	0.11%	2.6	98
5	<i>Summit Park, UT</i>	0.03%	0.07%	2.3	130
6	<i>Sebastian-Vero Beach, FL</i>	0.06%	0.13%	2.2	86
7	<i>San Jose-Sunnyvale-Santa Clara, CA</i>	1.30%	2.60%	2.0	10
8	<i>Miami-Fort Lauderdale-West Palm Beach, FL</i>	1.91%	3.58%	1.9	6
9	<i>Hailey, ID</i>	0.01%	0.03%	1.9	244
10	<i>San Francisco-Oakland-Hayward, CA</i>	2.79%	5.01%	1.8	3

**Notes:** Panel A shows the 10 metro areas with the highest shares of national top 1% income, out of 916 metro areas nationwide. Share of total national income is the metro area's total income as a share of total national income. Share of national top 1% income is the total income of families in the metro area who are in the national top 1%, as a share of all national top 1% income in the U.S. Panel B shows the 10 metro areas with the highest concentrations of national top 1% income (measured as the ratio of the metro area's national top 1% share to the metro area's total income share). Incomes are in 2015 dollars. Data are for tax units. Threshold for entering the national top 1% in 2015 was \$421,926.

**Source:** Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 9

## County shares of total national income and national top 1 percent income, and relative concentrations of national top 1% income, 2015

Panel A. Top 10 counties by share of national top 1% income

Rank (from highest to lowest share of national top 1% income)	County	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest ratio)
1	<i>New York, NY</i>	1.84%	6.00%	3.3	2
2	<i>Los Angeles, CA</i>	3.37%	4.69%	1.4	70
3	<i>Santa Clara, CA</i>	1.28%	2.60%	2.0	20
4	<i>Cook, IL</i>	1.84%	2.48%	1.4	82
5	<i>Harris, TX</i>	1.63%	2.19%	1.3	87
6	<i>Fairfield, CT</i>	0.73%	1.91%	2.6	5
7	<i>Orange, CA</i>	1.30%	1.78%	1.4	76
8	<i>Westchester, NY</i>	0.69%	1.77%	2.5	7
9	<i>King, WA</i>	1.09%	1.72%	1.6	49
10	<i>Palm Beach, FL</i>	0.64%	1.57%	2.4	8

Table 9  
(cont.)

Panel B. Top 10 counties by the ratio of share of national top 1% income to share of total national income

Rank (from highest to lowest ratio)	County	Share of total national income	Share of national top 1% income	Ratio of shares (concentration)	Rank (from highest to lowest share of national top 1% income)
1	<i>Teton, WY</i>	0.04%	0.13%	3.3	136
2	<i>New York, NY</i>	1.84%	6.00%	3.3	1
3	<i>Collier, FL</i>	0.22%	0.62%	2.9	36
4	<i>Pitkin, CO</i>	0.02%	0.04%	2.7	297
5	<i>Fairfield, CT</i>	0.73%	1.91%	2.6	6
6	<i>Monroe, FL</i>	0.04%	0.11%	2.6	151
7	<i>Westchester, NY</i>	0.69%	1.77%	2.5	8
8	<i>Palm Beach, FL</i>	0.64%	1.57%	2.4	10
9	<i>Marin, CA</i>	0.23%	0.55%	2.4	41
10	<i>San Mateo, CA</i>	0.61%	1.46%	2.4	12

**Notes:** Panel A shows the 10 counties with the highest shares of national top 1% income, out of 3,061 counties nationwide. Share of total national income is the county's total income as a share of total national income. Share of national top 1% income is the total income of families in the county who are in the national top 1%, as a share of all national top 1% income in the U.S. Panel B shows the 10 counties with the highest concentrations of national top 1% income (measured as the ratio of the county's national top 1% share to the county's total income share). Incomes are in 2015 dollars. Data are for tax units. Threshold for entering the national top 1% in 2015 was \$421,926.

**Source:** Authors' analysis of county- and state-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 10

### Shares of total income growth captured by the top 1% from 1945 to 1973, 1973 to 2007, and 2009 to 2015, U.S. and by state and region

State/region	1945–1973	1973–2007	2009–2015
<i>United States</i>	4.9%	58.7%	41.8%
<i>Alabama</i>	7.5%	46.6%	39.1%
<i>Alaska</i>	NA	†	9.9%
<i>Arizona</i>	6.4%	†	27.3%
<i>Arkansas</i>	9.7%	32.8%	27.4%
<i>California</i>	3.4%	56.8%	53.1%
<i>Colorado</i>	4.0%	50.9%	22.2%
<i>Connecticut</i>	5.2%	63.5%	134.2%
<i>Delaware</i>	‡	52.3%	44.7%
<i>District of Columbia</i>	4.5%	64.6%	26.5%
<i>Florida</i>	9.0%	85.7%	77.5%
<i>Georgia</i>	6.8%	50.7%	45.7%
<i>Hawaii</i>	2.8%	†	6.2%
<i>Idaho</i>	7.4%	51.8%	23.2%
<i>Illinois</i>	3.8%	73.3%	39.6%
<i>Indiana</i>	5.7%	56.2%	26.2%
<i>Iowa</i>	6.0%	39.3%	18.3%
<i>Kansas</i>	6.7%	39.3%	23.8%
<i>Kentucky</i>	7.2%	39.0%	34.4%
<i>Louisiana</i>	8.2%	23.3%	3.7%
<i>Maine</i>	5.2%	34.5%	28.7%
<i>Maryland</i>	2.9%	50.3%	58.4%
<i>Massachusetts</i>	2.9%	50.4%	58.4%
<i>Michigan</i>	4.4%	†	32.9%
<i>Minnesota</i>	4.1%	45.2%	27.4%
<i>Mississippi</i>	8.4%	35.5%	18.5%
<i>Missouri</i>	4.7%	48.3%	53.1%
<i>Montana</i>	6.1%	86.9%	14.1%
<i>Nebraska</i>	6.6%	41.5%	21.9%
<i>Nevada</i>	3.0%	†	81.0%
<i>New Hampshire</i>	5.6%	32.4%	23.0%
<i>New Jersey</i>	6.0%	46.5%	34.2%

Table 10  
(cont.)

State/region	1945–1973	1973–2007	2009–2015
<i>New Mexico</i>	6.9%	72.0%	2.8%
<i>New York</i>	0.5%	87.3%	51.4%
<i>North Carolina</i>	5.3%	37.9%	117.3%
<i>North Dakota</i>	4.0%	‡	14.6%
<i>Ohio</i>	3.9%	59.1%	30.2%
<i>Oklahoma</i>	8.4%	39.6%	10.3%
<i>Oregon</i>	4.7%	52.5%	29.8%
<i>Pennsylvania</i>	3.4%	45.0%	33.3%
<i>Rhode Island</i>	0.6%	45.2%	24.0%
<i>South Carolina</i>	6.7%	77.9%	36.1%
<i>South Dakota</i>	5.4%	46.6%	23.2%
<i>Tennessee</i>	8.0%	48.2%	32.3%
<i>Texas</i>	10.0%	45.5%	25.6%
<i>Utah</i>	5.8%	49.5%	20.5%
<i>Vermont</i>	5.1%	42.6%	20.9%
<i>Virginia</i>	5.9%	31.6%	38.3%
<i>Washington</i>	8.4%	41.9%	42.0%
<i>West Virginia</i>	8.6%	33.7%	‡
<i>Wisconsin</i>	4.4%	44.7%	20.1%
<i>Wyoming</i>	7.3%	71.4%	43.0%
<i>Northeast</i>	2.8%	61.7%	50.4%
<i>Midwest</i>	4.6%	61.2%	31.5%
<i>South</i>	7.7%	48.7%	43.5%
<i>West</i>	4.6%	58.9%	46.3%

‡ Top 1% incomes grew while overall incomes fell over this period.

‡ Top 1% incomes fell while overall incomes grew over this period.

**Notes:** Where the top 1% share of income growth is greater than 100%, that means the bottom 99% suffered income losses during that period. The top 1% share of total income growth over a period is calculated as  $0.01 * (\$ \text{ change in average top 1\% income}) / (\$ \text{ change in overall average income})$ . The bottom 99% share of total income growth is calculated as  $0.99 * (\$ \text{ change in average top 99\% income}) / (\$ \text{ change in overall average income})$ . When top 1% income rises while bottom 99% income falls (but overall income growth is still positive), the top 1% share will be greater than 100%. If the calculated growth share would be a negative number, we use the symbol ‡ (“top 1% incomes fell while overall incomes grew over this period”) or ‡ (“top 1% incomes grew while overall incomes fell over this period”).

**Source:** Authors’ analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 11

## Top 1% share of all income, U.S. and by state and region, 1928, 1973, 2007, 2015, and changes in shares across periods

Rank (by change in share 1973–2007)	State/region	Top 1% share of all income				Change in income share of the top 1% (percentage points)			Rank (by change in share 1973–2015)
		1928	1973	2007	2015	1928–1973	1973–2007	1973–2015	
—	<i>United States</i>	23.4%	9.2%	21.7%	21.0%	-14.2	12.5	11.8	—
1	<i>Wyoming</i>	10.9%	8.5%	32.1%	24.0%	-2.4	23.6	15.5	4
2	<i>New York</i>	36.1%	10.5%	33.2%	31.0%	-25.6	22.8	20.5	1
3	<i>Connecticut</i>	23.2%	9.9%	31.8%	27.3%	-13.3	21.9	17.4	2
4	<i>Nevada</i>	14.0%	9.9%	28.5%	24.8%	-4.1	18.6	14.9	6
5	<i>Florida</i>	21.9%	11.5%	28.1%	28.5%	-10.4	16.6	17.0	3
6	<i>Massachusetts</i>	24.5%	8.8%	24.6%	23.8%	-15.7	15.8	14.9	7
7	<i>Illinois</i>	23.6%	9.0%	22.8%	21.5%	-14.6	13.7	12.4	8
8	<i>California</i>	20.6%	8.7%	22.4%	23.7%	-11.9	13.7	15.0	5
9	<i>New Jersey</i>	22.9%	9.0%	21.3%	19.7%	-13.9	12.4	10.7	10
10	<i>Washington</i>	11.0%	8.3%	20.2%	19.7%	-2.7	11.8	11.3	9
11	<i>Colorado</i>	17.5%	8.0%	19.7%	17.2%	-9.5	11.7	9.3	14
12	<i>Utah</i>	14.4%	7.6%	19.2%	16.6%	-6.8	11.5	9.0	16
13	<i>Arizona</i>	15.9%	8.6%	20.0%	17.5%	-7.3	11.4	8.9	18
14	<i>Texas</i>	15.8%	11.1%	21.1%	19.6%	-4.8	10.1	8.6	20
15	<i>Minnesota</i>	18.4%	7.9%	17.9%	17.4%	-10.5	10.0	9.5	12
16	<i>Maryland</i>	22.4%	7.5%	17.3%	15.3%	-14.9	9.8	7.8	27
17	<i>Oklahoma</i>	17.7%	9.6%	19.3%	15.2%	-8.2	9.7	5.6	41
18	<i>Tennessee</i>	18.6%	10.1%	19.7%	17.8%	-8.6	9.6	7.7	28
19	<i>Pennsylvania</i>	21.9%	9.0%	18.6%	18.0%	-12.9	9.6	9.0	17
20	<i>South Carolina</i>	12.6%	8.3%	17.9%	16.6%	-4.3	9.6	8.3	22
21	<i>Idaho</i>	9.4%	8.2%	17.7%	14.9%	-1.2	9.5	6.7	34
22	<i>South Dakota</i>	10.1%	6.6%	16.0%	16.8%	-3.6	9.4	10.2	11
23	<i>Georgia</i>	16.3%	9.4%	18.7%	18.6%	-6.9	9.3	9.2	15
24	<i>Vermont</i>	15.2%	7.9%	17.0%	14.1%	-7.2	9.1	6.2	39
25	<i>Rhode Island</i>	22.7%	8.9%	18.0%	15.5%	-13.7	9.0	6.6	37
26	<i>New Hampshire</i>	16.6%	8.2%	17.2%	15.4%	-8.4	9.0	7.3	32
27	<i>Alabama</i>	17.6%	9.6%	18.6%	16.3%	-8.0	9.0	6.7	35
28	<i>Montana</i>	13.7%	7.8%	16.6%	16.1%	-5.9	8.8	8.2	24
29	<i>Missouri</i>	20.3%	9.1%	17.7%	17.6%	-11.2	8.6	8.5	21
30	<i>North Dakota</i>	10.0%	5.7%	14.3%	13.8%	-4.3	8.6	8.0	25
31	<i>Wisconsin</i>	16.3%	7.8%	16.3%	16.0%	-8.5	8.5	8.3	23
32	<i>New Mexico</i>	13.4%	8.2%	16.5%	13.5%	-5.1	8.3	5.3	43
33	<i>Michigan</i>	22.6%	8.5%	16.6%	17.8%	-14.1	8.1	9.3	13
34	<i>Oregon</i>	13.6%	9.2%	17.2%	16.6%	-4.5	8.1	7.4	30
35	<i>Nebraska</i>	12.0%	8.6%	16.6%	14.1%	-3.4	8.0	5.5	42
36	<i>Virginia</i>	14.7%	7.6%	15.6%	15.1%	-7.1	8.0	7.6	29
37	<i>North Carolina</i>	16.5%	8.5%	16.5%	17.2%	-8.1	8.0	8.7	19
38	<i>Kansas</i>	13.1%	8.7%	16.6%	15.6%	-4.4	7.9	6.9	33
39	<i>Ohio</i>	20.5%	8.4%	15.9%	15.8%	-12.1	7.5	7.4	31



Table 11  
(cont.)

Rank (by change in share 1973–2007)	State/region	Top 1% share of all income				Change in income share of the top 1% (percentage points)			Rank (by change in share 1973–2015)
		1928	1973	2007	2015	1928–1973	1973–2007	1973–2015	
40	<i>Hawaii</i>	11.5%	7.1%	14.3%	12.2%	-4.5	7.2	5.1	44
41	<i>Indiana</i>	15.0%	8.3%	15.4%	14.9%	-6.7	7.2	6.6	36
42	<i>Alaska</i>	NA	5.1%	12.2%	11.3%	NA	7.0	6.2	38
43	<i>Kentucky</i>	18.3%	9.6%	15.8%	15.7%	-8.7	6.2	6.1	40
44	<i>Maine</i>	19.5%	8.3%	14.5%	13.5%	-11.2	6.1	5.1	45
45	<i>Delaware</i>	47.3%	11.2%	16.9%	14.7%	-36.1	5.7	3.5	50
46	<i>Arkansas</i>	13.2%	10.6%	16.2%	18.5%	-2.7	5.6	7.9	26
47	<i>Iowa</i>	13.9%	7.8%	13.4%	12.9%	-6.1	5.6	5.1	47
48	<i>Mississippi</i>	13.0%	9.7%	15.0%	14.2%	-3.3	5.3	4.5	48
49	<i>West Virginia</i>	13.9%	9.8%	14.1%	13.4%	-4.1	4.3	3.6	49
50	<i>Louisiana</i>	16.9%	10.3%	14.6%	15.4%	-6.6	4.3	5.1	46
6*	<i>District of Columbia</i>	18.0%	8.9%	24.9%	23.5%	-9.1	16.0	14.6	8
—	<i>Northeast</i>	28.8%	9.6%	26.1%	24.7%	-19.1	16.5	15.1	—
—	<i>Midwest</i>	20.1%	8.5%	17.9%	17.5%	-11.6	9.4	9.1	—
—	<i>South</i>	18.1%	9.8%	20.1%	19.9%	-8.3	10.4	10.1	—
—	<i>West</i>	17.7%	8.5%	21.3%	21.7%	-9.1	12.8	13.2	—

\* Rank of the District of Columbia if it were ranked with the 50 states.

**Note:** Top 1% share is the share of the state/region's total income held by the top 1% of families in that state or region.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Table 12

## Shares of all income held by the top 1% and the bottom 99%, by metropolitan area, 2015

Rank (by top 1% share)	Metropolitan area	Bottom 99%				Top 1% (99th–100th percentiles)
		Bottom 90%	90th–95th percentiles	95th–99th percentiles	Bottom 99%	
1	Jackson, WY-ID	27.0%	5.2%	10.7%	42.9%	57.1%
2	Naples-Immokalee-Marco Island, FL	23.5%	10.2%	18.7%	52.4%	47.6%
3	Key West, FL	28.6%	9.2%	17.1%	54.9%	45.1%
4	Sebastian-Vero Beach, FL	29.4%	11.0%	19.2%	59.6%	40.4%
5	Bridgeport-Stamford-Norwalk, CT	34.2%	9.8%	17.5%	61.4%	38.6%
6	Miami-Fort Lauderdale-West Palm Beach, FL	34.5%	11.2%	18.4%	64.1%	35.9%
7	Port St. Lucie, FL	38.6%	12.2%	17.7%	68.5%	31.5%
8	Glenwood Springs, CO	43.7%	9.2%	15.9%	68.8%	31.2%
9	Hailey, ID	41.7%	10.0%	17.1%	68.8%	31.2%
10	Gardnerville Ranchos, NV	41.3%	10.3%	17.5%	69.1%	30.9%
11	Summit Park, UT	40.5%	10.8%	18.1%	69.5%	30.5%
12	North Port-Sarasota-Bradenton, FL	37.6%	12.6%	19.5%	69.7%	30.3%
13	New York-Newark-Jersey City, NY-NJ-PA	41.9%	11.2%	18.4%	71.5%	28.5%
14	Cape Coral-Fort Myers, FL	40.2%	12.4%	19.3%	71.8%	28.2%
15	Fayetteville-Springdale-Rogers, AR-MO	46.3%	10.4%	15.9%	72.7%	27.3%
16	Midland, TX	48.3%	9.4%	15.8%	73.5%	26.5%
17	Steamboat Springs, CO	46.6%	10.2%	16.8%	73.7%	26.3%
18	Easton, MD	44.7%	11.2%	18.0%	74.0%	26.0%
19	Las Vegas-Henderson-Paradise, NV	46.4%	12.1%	15.5%	74.0%	26.0%
20	San Jose-Sunnyvale-Santa Clara, CA	43.7%	11.7%	18.6%	74.1%	25.9%
21	Crestview-Fort Walton Beach-Destin, FL	44.5%	12.6%	17.2%	74.2%	25.8%
22	San Francisco-Oakland-Hayward, CA	44.0%	11.7%	18.6%	74.3%	25.7%
23	Santa Maria-Santa Barbara, CA	46.6%	10.7%	17.3%	74.6%	25.4%
24	Los Angeles-Long Beach-Anaheim, CA	45.9%	11.1%	17.8%	74.7%	25.3%
25	Charlottesville, VA	47.9%	10.2%	16.6%	74.7%	25.3%
...						
892	Liberal, KS	69.7%	9.7%	12.0%	91.5%	8.5%
893	Lexington, NE	68.4%	10.3%	12.8%	91.5%	8.5%
894	Dumas, TX	66.8%	12.0%	12.8%	91.6%	8.4%
895	Urbana, OH	66.3%	13.2%	12.2%	91.7%	8.3%
896	Eagle Pass, TX	69.0%	10.8%	11.8%	91.7%	8.3%
897	Bucyrus, OH	64.9%	12.8%	14.1%	91.7%	8.3%
898	Ozark, AL	61.4%	14.4%	16.0%	91.7%	8.3%
899	Frankfort, IN	67.1%	12.2%	12.4%	91.7%	8.3%
900	Lincoln, IL	62.2%	13.7%	15.9%	91.8%	8.2%
901	Susanville, CA	58.9%	17.6%	15.4%	91.9%	8.1%

Table 12  
(cont.)

Rank (by top 1% share)	Metropolitan area	Bottom 99%			Top 1% (99th–100th percentiles)	
		Bottom 90%	90th–95th percentiles	95th–99th percentiles		
902	<i>Ottawa, KS</i>	68.3%	11.8%	11.8%	92.0%	8.0%
903	<i>Winnemucca, NV</i>	63.6%	14.1%	14.2%	92.0%	8.0%
904	<i>Mountain Home, ID</i>	66.1%	12.4%	13.5%	92.0%	8.0%
905	<i>Hinesville, GA</i>	63.6%	13.3%	15.2%	92.0%	8.0%
906	<i>Guymon, OK</i>	71.8%	9.9%	10.3%	92.0%	8.0%
907	<i>Altus, OK</i>	67.1%	11.7%	13.3%	92.1%	7.9%
908	<i>Fort Polk South, LA</i>	66.4%	12.0%	13.7%	92.1%	7.9%
909	<i>Juneau, AK</i>	70.3%	9.8%	12.0%	92.1%	7.9%
910	<i>Peru, IN</i>	65.6%	13.1%	13.9%	92.6%	7.4%
911	<i>St. Marys, GA</i>	63.6%	14.2%	15.3%	93.1%	6.9%
912	<i>California-Lexington Park, MD</i>	67.9%	11.9%	13.3%	93.1%	6.9%
913	<i>Los Alamos, NM</i>	67.2%	12.5%	13.6%	93.4%	6.6%
914	<i>Rio Grande City, TX</i>	69.5%	11.3%	12.8%	93.6%	6.4%
915	<i>Fort Leonard Wood, MO</i>	68.3%	12.4%	13.5%	94.1%	5.9%
916	<i>Junction City, KS</i>	74.5%	9.7%	10.6%	94.8%	5.2%
—	<i>United States</i>	51.2%	11.8%	16.0%	79.0%	21.0%

**Note:** Shares are for the top 1% and the bottom 99% of families in each metro area; shares are a percentage of the total income in that metro area.

**Source:** Authors' analysis of state- and county-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016. Core Based Statistical Areas defined by the U.S. Census Bureau, Population Division; Office of Management and Budget, February 2013 delineations.

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Table 13

## Shares of all income held by the top 1% and the bottom 99%, by county, 2015

Rank (by top 1% share)	County	Bottom 99%				Top 1% (99th–100th percentiles)
		Bottom 90%	90th–95th percentiles	95th–99th percentiles	Bottom 99%	
1	<i>Teton, WY</i>	25.7%	5.0%	10.4%	41.0%	59.0%
2	<i>New York, NY</i>	20.4%	9.1%	17.3%	46.7%	53.3%
3	<i>La Salle, TX</i>	34.6%	6.0%	11.2%	51.8%	48.2%
4	<i>Collier, FL</i>	23.5%	10.2%	18.7%	52.4%	47.6%
5	<i>Monroe, FL</i>	28.6%	9.2%	17.1%	54.9%	45.1%
6	<i>Palm Beach, FL</i>	27.5%	10.1%	18.3%	56.0%	44.0%
7	<i>Pitkin, CO</i>	31.9%	9.2%	16.8%	57.8%	42.2%
8	<i>San Miguel, CO</i>	33.8%	8.8%	16.2%	58.9%	41.1%
9	<i>Walton, FL</i>	29.3%	10.9%	18.9%	59.1%	40.9%
10	<i>Indian River, FL</i>	29.4%	11.0%	19.2%	59.6%	40.4%
11	<i>Martin, FL</i>	29.5%	10.9%	19.2%	59.7%	40.3%
12	<i>Fairfield, CT</i>	34.2%	9.8%	17.5%	61.4%	38.6%
13	<i>Westchester, NY</i>	33.2%	11.1%	19.1%	63.4%	36.6%
14	<i>Miami-Dade, FL</i>	35.4%	10.9%	17.7%	64.0%	36.0%
15	<i>Charlottesville City, VA</i>	38.6%	9.6%	16.1%	64.3%	35.7%
16	<i>Franklin, FL</i>	32.2%	14.1%	18.4%	64.7%	35.3%
17	<i>Suffolk, MA</i>	37.8%	10.1%	17.0%	64.9%	35.1%
18	<i>Union, SD</i>	42.2%	8.3%	15.0%	65.5%	34.5%
19	<i>Dallam, TX</i>	49.2%	7.6%	9.4%	66.2%	33.8%
20	<i>Sarasota, FL</i>	34.0%	12.3%	20.0%	66.2%	33.8%
21	<i>Carroll, NH</i>	43.1%	9.4%	13.7%	66.2%	33.8%
22	<i>San Mateo, CA</i>	38.3%	10.5%	18.0%	66.8%	33.2%
23	<i>De Witt, TX</i>	40.5%	9.6%	16.8%	66.9%	33.1%
24	<i>Benton, AR</i>	43.3%	8.6%	15.2%	67.2%	32.8%
25	<i>San Francisco, CA</i>	38.4%	10.7%	18.2%	67.2%	32.8%
...						
3037	<i>Red Lake, MN</i>	66.7%	13.0%	13.9%	93.6%	6.4%
3038	<i>Starr, TX</i>	69.5%	11.3%	12.8%	93.6%	6.4%
3039	<i>Wabaunsee, KS</i>	71.0%	10.6%	12.0%	93.7%	6.3%
3040	<i>Harper, OK</i>	70.5%	11.0%	12.2%	93.8%	6.2%
3041	<i>Northwest Arctic, AK</i>	67.2%	12.9%	13.7%	93.8%	6.2%
3042	<i>Charles, MD</i>	70.0%	11.4%	12.5%	93.8%	6.2%
3043	<i>Wyandotte, KS</i>	69.4%	11.6%	12.9%	93.8%	6.2%
3044	<i>Yukon Koyukuk, AK</i>	68.4%	12.3%	13.2%	93.9%	6.1%
3045	<i>Prince Georges, MD</i>	69.4%	11.7%	12.8%	93.9%	6.1%
3046	<i>Sioux, ND</i>	69.2%	11.3%	13.4%	93.9%	6.1%
3047	<i>Culberson, TX</i>	66.8%	13.6%	13.6%	93.9%	6.1%
3048	<i>Osage, KS</i>	69.6%	11.6%	12.8%	94.0%	6.0%
3049	<i>Pulaski, MO</i>	68.3%	12.4%	13.5%	94.1%	5.9%
3050	<i>Southeast Fairbanks, AK</i>	75.7%	8.5%	10.0%	94.2%	5.8%

Table 13  
(cont.)

Rank (by top 1% share)	County	Bottom 99%				Top 1% (99th–100th percentiles)
		Bottom 90%	90th–95th percentiles	95th–99th percentiles	Bottom 99%	
3051	<i>Gallatin, KY</i>	66.8%	13.6%	13.8%	94.2%	5.8%
3052	<i>Oglala Lakota, SD</i>	71.5%	10.6%	12.1%	94.2%	5.8%
3053	<i>Colonial Heights City, VA</i>	68.2%	11.5%	14.5%	94.2%	5.8%
3054	<i>Stafford, VA</i>	71.0%	11.2%	12.1%	94.3%	5.7%
3055	<i>Burke, ND</i>	72.1%	10.9%	11.6%	94.6%	5.4%
3056	<i>Manassas Park City, VA</i>	71.9%	10.8%	11.9%	94.6%	5.4%
3057	<i>Kusilvak Census Area, AK</i>	72.0%	10.8%	11.8%	94.6%	5.4%
3058	<i>Johnson, NE</i>	70.8%	11.7%	12.2%	94.7%	5.3%
3059	<i>King George, VA</i>	71.0%	11.6%	12.1%	94.7%	5.3%
3060	<i>Geary, KS</i>	74.5%	9.7%	10.6%	94.8%	5.2%
3061	<i>Valdez Cordova, AK</i>	73.4%	10.4%	11.1%	94.9%	5.1%
—	<i>United States</i>	51.2%	11.8%	16.0%	79.0%	21.0%

**Note:** Shares are for the top 1% and the bottom 99% of families in each county; shares are a percentage of the total income in that county.

**Source:** Authors' analysis of state- and county-level tax data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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# Acknowledgments

The authors thank the staff at the Internal Revenue Service for their public service and assistance in collecting state-level tax data, as well as the staff at the University of Delaware library for their assistance in obtaining IRS documentation. The authors also wish to thank Emmanuel Saez for graciously providing details on the construction of the Piketty and Saez top-income time series and for providing guidance on adjustments to make when constructing a state-by-state time series. This work would also have not been possible without Thomas Piketty's (2001) own careful work and notes on how he constructed his top-income time series. Thanks to Mark Frank of Sam Houston State University for sharing unpublished state-level IRS data for 1983–1985 and collaborating with us in contributing to the World Inequality Database. Thanks to Ebru Kongar of Dickinson College for her assistance estimating local shares of the national top 1 percent. Thanks also to Frédéric Lerais at the Institute for Research in Economic and Social Sciences; and to Krista Faries, David Cooper, John Schmitt, Josh Bivens, Julia Wolfe, Lora Engdahl, John Carlo Mandapat, Dan Crawford, Kayla Blado, and Eric Shansby at the Economic Policy Institute. Thanks to Colin Gordon, Doug Hall, Lawrence Mishel, Christopher Roof, Elizabeth Rose, Dan Essrow, and Ellis Wazeter for their assistance with previous versions of this report.

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*The Institute for Research in Economic and Social Sciences (IRES) in France is the independent research center of the six labor unions officially granted representation nationwide. Created in 1982 with the government's financial support, IRES is registered as a private nonprofit organization under the Associations Act of 1901. IRES's mission is to analyze the economic and social issues—at the national, European, and international levels—that are of special interest to labor unions. More information is available at [www.ires.fr](http://www.ires.fr).*

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*The Keystone Research Center (KRC) was founded in 1996 to broaden public discussion on strategies to achieve a more prosperous and equitable Pennsylvania economy. Since its creation, KRC has become a leading source of independent analysis of Pennsylvania's*

## Appendix A: Methodology

The most common sources of data on wages and incomes by state are derived from surveys of households such as the Current Population Survey and the American Community Survey. These data sources are not well-suited to tracking trends in income by state among the highest-income households, especially the top 1 percent. Trends in top incomes can be estimated from data published by the IRS on the amount of income and the number of taxpayers in different income ranges.<sup>29</sup> **Appendix Table A1** presents this data for Pennsylvania in 2015. We have also assembled SOI Tax Stats for most counties for the years 2010 to 2015, and we aggregate up from county data to also present metropolitan area statistics on top incomes.<sup>30</sup>

Knowing the amount of income and the number of taxpayers in each bracket, we can use the properties of a statistical distribution known as the Pareto distribution to extract estimates of incomes at specific points in the distribution of income, including the 90th, 95th, and 99th percentiles.<sup>31</sup> With these threshold values we then calculate the average income of taxpayers with incomes that lie between these ranges, such as the average income of taxpayers with incomes greater than the 99th percentile (i.e., the average income of the top 1 percent).

Calculating income earned by each group of taxpayers as well as the share of all income they earn requires state-level estimates in each year from 1917 to 2015 of the total number of families and the total amount of income earned in each state. Piketty and Saez (2016) have national estimates of families (hereafter referred to as “tax units”<sup>32</sup>) and total income (including capital gains), which we allocate to the states.<sup>33</sup>

In the sections that follow, we describe in more detail the assumptions we make in generating our top income estimates by state. We then review errors we observe in our interpolation of top incomes from 1917 to 2015 and compare our interpolation results with top income estimates obtained from the Pennsylvania Department of Revenue. Next we briefly illustrate the calculations we use to interpolate the 90th, 95th, and 99th percentiles from the data presented in Appendix Table A1. Finally, the last section of the appendix presents our top income estimates for the United States as a whole, alongside the same estimates from Piketty and Saez (2016).

### Estimating tax units by state, county, and metropolitan area

Tax units are an estimate of the universe of potential taxpayers (the total number of single adults and married couples in each state, county, or metropolitan area). In order to allocate Piketty and Saez’s national estimate of tax units to the states, we estimate each state’s share of the sum of married men, divorced and widowed men and women, and single men and women 20 years of age or older. From 1979 to 2015, tax unit series at the state level

## Individual income and tax data for Pennsylvania, by size of adjusted gross income, tax year 2015

	Number of returns	Adjusted gross income (thousands)	Share of aggregate adjusted gross income
<b>All returns</b>	6,200,560	\$405,142,214	100%
<b>Under \$1</b>	70,220	-\$4,832,017	-1%
<b>\$1 to \$24,999</b>	2,234,270	\$25,883,054	6%
<b>\$25,000 to \$49,999</b>	1,428,170	\$51,938,139	13%
<b>\$50,000 to \$74,999</b>	864,230	\$53,231,431	13%
<b>\$75,000 to \$99,999</b>	573,080	\$49,640,844	12%
<b>\$100,000 to \$199,999</b>	776,750	\$104,312,881	26%
<b>\$200,000 to \$499,999</b>	207,390	\$59,138,493	15%
<b>\$500,000 to \$999,999</b>	32,210	\$21,558,860	5%
<b>\$1,000,000 or more</b>	14,260	\$44,270,529	11%

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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are estimated using data from the Current Population Survey (basic monthly microdata). From 1917 to 1978, the state total of tax units has to be proxied by the number of household units released by the Census Bureau, the only source of data available over this time period.<sup>34</sup> For interdecennial years, the number of household units is estimated by linear interpolation. From 2010 to 2015, we use each county's share of statewide total households from the American Community Survey in order to generate from our statewide tax unit counts and county-level tax units.<sup>35</sup> Metropolitan area tax units are calculated as the sum of the county tax units that make up each metropolitan area.

## Estimating total income by state, county, and metropolitan area

To calculate the share of total income held by households in the top decile, we need the dollar amount of total income recorded in each state,<sup>36</sup> which we derive from the state-level personal income series published by the Bureau of Economic Analysis (BEA) for the years 1929 to 2015.<sup>37</sup> We estimate from this data each state's share of a national total income. These shares are then applied to Piketty and Saez's (2016) income estimates for the entire country (including realized capital gains).

Prior to 1929, BEA personal income data are not available; we estimate personal income in



this period relying on estimates published by Easterlin et al. (1957).<sup>38</sup> The annual state total income estimates for the years 1922–1928 are derived by linear interpolation between 1921 and 1929. For 1917 and 1918, we use Easterlin et al. to interpolate state total income between 1900 and 1919. As Easterlin et al. do not include the District of Columbia, we assume that D.C.’s share of the national total is roughly similar in 1917–18 and in 1919–1920. We average D.C.’s share of the U.S. total over 1919 and 1920 and apply it to the annual total of 1918 and again to 1919.<sup>39</sup> As in the 1929–2015 period, all of our state-level estimates for the period 1917–1928 are, in their final form, adjusted to Piketty and Saez’s income estimates for the entire country (including realized capital gains).

For the county-level data (2010 to 2015), we allocate state total income to individual counties using each county’s share of statewide adjusted gross income as reported by the IRS. Metropolitan area total income is calculated as the sum of the county total income for each county in a metropolitan area.

## The Alaskan and Hawaiian territories

Tax statistics for Alaska and Hawaii do include individual income tax data prior to their becoming states in 1959. However, Alaska’s tax records are included in Washington State from 1921 to 1938 and again from 1943 to 1954.<sup>40</sup> Therefore, “Washington State” in our final series actually means Washington and Alaska taken together in these two time periods, with Alaska left as an empty cell.

Data on personal income from the BEA are not available for Hawaii and Alaska prior to 1950. We assume that the share of either territory in U.S. personal income totals in the pre-1950 period is comparable to its share in U.S. personal income totals in the 1950s decade. In BEA series and tax units series, we add Alaska’s total income to that of Washington in the years 1921–1938 and 1943–1954 to compute Washington’s income shares in compliance with tax records.

## Adjusting for classes grouped for disclosure purposes, 1917–1937

From 1917 to 1937, the IRS in some states grouped several classes (typically one or two) of income at the top of the distribution together in order to conceal the identity of individual taxpayers. To retrieve these suppressed net income figures we use the relative midpoint technique. Specifically, we calculate the midpoint of each income class that is grouped together. We weight these midpoints by the number of returns for each income class within a group (the IRS did not suppress the number of returns of classes that were grouped), summing the weighted midpoints across the grouping. For example, if the weighted midpoint of an income class represents 50 percent of the sum of weighted midpoints, then the net income estimate should also represent half of the total income for the grouped classes. The sum of all estimates always equals the given classes-grouped total. When the disclosed amount applies to the highest income class (say \$5 million and over), the lower bound is taken instead of the midpoint.

In a minority of cases (8 percent of all income classes displayed in the IRS tables from 1917 to 1937), the relative midpoint approach yields income estimates that do not lie within the interval of the corresponding income class. Whenever an estimate falls below the lower bound of the income class, it is replaced with the lower bound weighted by the number of returns. Whenever the estimate exceeds the upper bound, it is replaced with the upper bound weighted by the number of returns.<sup>41</sup>

In all cases, our estimates of net income all sum up to the total of classes grouped provided in SOI tables for that state. Each net income estimate lies within the income class specified in SOI tables. And finally, the total amount of income across all income classes always sum up to the state income total.

## Pareto interpolation

In a study of the distribution of incomes in various countries, the Italian economist Vilfredo Pareto observed that as the amount of income doubles, the number of people earning that amount falls by a constant factor. In the theoretical literature, this constant factor is usually called the Pareto coefficient (labeled  $bi$  in **Appendix Table A5**).<sup>42</sup> Combining this property of the distribution of incomes with published tax data on the number of tax units and the amount of income at certain levels, it is possible to estimate the top decile (or the highest-earning top 10 percent of tax units), and within the top decile, a series of percentiles such as the average annual income earned by the highest-income 1 percent of tax units, up to and including the top 0.01 percent fractile (i.e., the average annual income earned by the richest 1 percent of the top 1 percent of tax units).<sup>43</sup>

Our data series here matches most closely what Piketty and Saez (2001) label as “variant 3,” a time series of average top incomes and income shares that includes capital gains. In generating their “variant 3” time series, Piketty and Saez make two key adjustments to top average incomes. We describe those adjustments below.

## From net to gross income and the yearly problem of deductions

After an estimate of top incomes was obtained via Pareto interpolation, Piketty and Saez adjusted average incomes upward to account for the net income concept used by the IRS before 1944 (1917–1943) and adjusted gross income adjustments (1944–2012).<sup>44</sup> We follow Piketty and Saez and make the same adjustments uniformly across the states.

The IRS definition of income has varied over time. The IRS used the term “net income” until 1943, and “adjusted gross income” (AGI) from 1944 on. In the net income definition, the various deductions taken into account (donations to charity, mortgage interests paid, state and local taxes, etc.) were smaller over 1913–1943 than over 1944–2012. As a result, income estimates from 1917 to 1943 have to be adjusted upward.

To a lesser extent, incomes from 1944 to 2015 also have to be adjusted upward, as the term “adjusted” in AGI refers to various income deductions (contributions to individual

retirement accounts, moving expenses, self-employment pension plans, health savings accounts, etc.). As Piketty and Saez (2004) note, AGI adjustments are small (about 1 percent of AGI, up to 4 percent in the mid-1980s), and their importance declines with income within the top decile.

## The treatment of capital gains across states, 1934–1986

From 1934 to 1986, capital gains were sometimes entirely and sometimes partially excluded from the IRS’s Statistics of Income. Piketty and Saez corrected for this omission in their “variant 3” series. Because of the concentration of income by geography, replicating Piketty and Saez’s capital gains adjustments uniformly across the states would understate top incomes in high-income states such as New York and overstate top incomes in low-income states such as Mississippi. Unfortunately, state-level aggregates of capital gains income are not available at this time. Instead, as a proxy we take each state’s deviation of top incomes from the U.S. average top income,<sup>45</sup> and we use this figure to adjust up or down the coefficients that Piketty and Saez employed to correct for the exclusion of capital gains from pretax income between 1934 and 1986.

## Interpolation errors

Data users should exercise some caution in analyzing the full data series (provided online at [go.epi.org/unequalstates2018data](http://go.epi.org/unequalstates2018data)). We have identified 11 instances where our Pareto interpolation generates an income threshold that is higher than the next-higher income threshold. For example, in Wyoming in 2010 by Pareto interpolation we estimate the 90th-percentile income to be \$130,484, but also by Pareto interpolation we estimate the income at the 95th percentile as \$125,567. Both estimates cannot be correct. **Appendix Table A2** presents the percentiles affected in each state by this error as well as the year in which the error occurred. Data users making comparisons over time should examine the entire time series for a state before drawing conclusions about time trends from a single point-to-point comparison.

Even when our estimates of each threshold are lower than the next-higher threshold (in other words, the 90th percentile is lower than the 95th percentile, and so on), errors can still arise in our calculation of the average incomes that lie between those percentiles. For example, for 2011 we estimate that the average income between the 90th and 95th percentiles in Alabama was \$125,516, while we estimate the 95th-percentile income as \$115,126. **Appendix Table A3** summarizes the number of such errors in our data set, excluding those that result from the errors reported in Appendix Table A2. Almost all of these errors occur in the bottom half of the 10th percentile<sup>46</sup>—with a peak in the 1950s and the 2000s—and, roughly speaking, in the least-populated states.<sup>47</sup> Altogether, the 281 errors represent 0.33 percent of the 85,323 observations of the entire panel (17 indicators within the top decile \* 50 states and D.C. \* 99 years).<sup>48</sup> **Appendix Table A4** summarizes the number of interpolation errors in our full county-level data for 2010–2015. We identify 3,266 interpolation errors in a panel of 266,900 observations (5 years \* 3,140 counties<sup>49</sup> \* 17 indicators) or 1.2 percent of our estimates.<sup>50</sup>

## States and percentiles affected by errors in Pareto interpolations used to generate state-level income thresholds, 1917–2015

States	Errors					Total number of errors
	P90 > P95	P95 > P99	P99 > P99.5	P99.5 > P99.9	P99.9 > P99.99	
<i>Alaska</i>	1955, 1982	1918, 1919, 1920				5
<i>Idaho</i>					1960	1
<i>New Mexico</i>			1965			1
<i>West Virginia</i>	1951, 1952					2
<i>Wyoming</i>	2010, 2012					1
<i>South Carolina</i>	1952					1

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## Percentiles affected by errors in the estimation of interfractile average incomes at the state level, 1917–2015

Errors	Number
<i>P90–95 &gt; P95</i>	242
<i>P95–99 &gt; P99</i>	4
<i>P99–99.5 &gt; P99.5</i>	15
<i>P99.5–99.9 &gt; P99.9</i>	5
<i>P99.9–99.99 &gt; P99.99</i>	4

**Note:** This table does not include errors reported in Table A2.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## Comparing imputed top incomes with actual top incomes

The methods discussed here to estimate top incomes from the data contained in Appendix Table A1 are not as precise as actually having a database of all individual tax returns from which to calculate average incomes for the highest-income taxpayers. The

## Percentiles affected by errors in the estimation of income thresholds and interfractile average incomes at the county level, 2010–2015

Income thresholds		Interfractile average incomes	
Errors	Number	Errors	Number
<i>P90 &gt; P95</i>	472	<i>P90–95 &gt; P95</i>	2,706
<i>P95 &gt; P99</i>	5	<i>P95–99 &gt; P99</i>	83
<i>P99 &gt; P99.5</i>	0	<i>P99–99.5 &gt; P99.5</i>	0
<i>P99.5 &gt; P99.9</i>	0	<i>P99.5–99.9 &gt; P99.9</i>	0
<i>P99.9 &gt; P99.99</i>	0	<i>P99.9–99.99 &gt; P99.99</i>	0
<b>Total</b>	477	<b>Total</b>	2,789

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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Pennsylvania Department of Revenue has generated and published more precise top-income figures for Pennsylvania taxpayers filing their state tax returns in recent years. This allows us to compare the actual income data with the results of estimates using our standard method (the standard method being our only option for generating estimates in the other 49 states and for Pennsylvania in earlier years). It turns out our methods underestimate top incomes.

Appendix Table A5 presents the average income of the top 1 percent for Pennsylvania. The first column presents our projections based on IRS tax tables. The second column presents the average income of the top 1 percent but calculated directly from a database containing all Pennsylvania tax returns published by the Pennsylvania Department of Revenue. Based on our projections using IRS data, our estimates of the average income of the top 1 percent averaged 87 percent of the actual figures.

## Calculating the 90th, 95th, and 99th percentiles for Pennsylvania

**Appendix Table A6** shows the calculations we use to interpolate the 90th-, 95th-, and 99th-percentile incomes for Pennsylvania.<sup>51</sup> For brevity, we present only the equations for calculating the average incomes by fractiles in **Appendix Table A7**.

## Comparing projections of top incomes in Pennsylvania with actual levels, 2000–2015

Year	Projections based on Internal Revenue Service data	Actual levels as reported by the Pennsylvania Department of Revenue	
	Average income of the top 1%	Average income of the top 1%	Projected average income of top 1% as share of actual
2000	\$1,041,790	\$1,172,454	89%
2001	\$868,074	\$949,446	91%
2002	\$791,563	\$892,757	89%
2003	\$838,579	\$965,239	87%
2004	\$923,711	\$1,088,868	85%
2005	\$1,048,099	\$1,243,919	84%
2006	\$1,098,049	\$1,305,464	84%
2007	\$1,175,044	\$1,342,349	88%
2008	\$967,446	\$1,144,627	85%
2009	\$858,668	\$986,881	87%
2010	\$953,712	\$1,108,910	86%
2011	\$929,963	\$1,078,691	86%
2012	\$1,103,890	\$1,228,962	90%
2013	\$927,150	\$1,078,707	86%
2014	\$1,031,873	\$1,176,955	88%
2015	\$1,100,962	\$1,246,584	88%
<b>% change, 2001–2007</b>	35.4%	41.4%	
<b>% change, 2009–2015</b>	28.2%	26.3%	
<b>Average, 2000–2015</b>			87%

**Note:** Incomes are in 2015 dollars. Data are for tax units.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years), Piketty and Saez 2016, and the Pennsylvania Department of Revenue (various years)

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## Comparison of Piketty and Saez with Sommeiller and Price

**Appendix Table A8** presents the data from the tables in the main body of the report for the United States alongside the same figures as reported by Piketty and Saez.

## An example of Pareto interpolation for Pennsylvania in 2015

Row #	Income brackets	Lower bound (si)	Number of returns (Ni)	Cumulative # of returns (Ni*)	Adjusted gross income (Yi)	Cumulative adjusted gross income (Yi*)
1	Under \$1	0	70,220	6,200,580	-\$4,832,017,000	\$405,142,214,000
2	\$1 to \$24,999	1	2,234,270	6,130,360	\$25,883,054,000	\$409,974,231,000
3	\$25,000 to \$49,999	25,000	1,428,170	3,896,090	\$51,938,139,000	\$384,091,177,000
4	\$50,000 to \$74,999	50,000	864,230	2,467,920	\$53,231,431,000	\$332,153,038,000
5	\$75,000 to \$99,999	75,000	573,080	1,603,690	\$49,640,844,000	\$278,921,607,000
6	\$100,000 to \$199,999	100,000	776,750	1,030,610	\$104,312,881,000	\$229,280,763,000
7	\$200,000 to \$499,999	200,000	207,390	253,860	\$59,138,493,000	\$124,967,882,000
8	\$500,000 to \$999,999	500,000	32,210	46,470	\$21,558,860,000	\$65,829,389,000
10	\$1,000,000 or more	1,000,000	14,260	14,260	\$44,270,529,000	\$44,270,529,000
Total			6,200,580		\$405,142,214,000	

Row #	Pareto coefficient (bi = yi/si)	ai = (bi/(bi - 1))	pi% = Ni*/N*	ki = si * [pi power(1/ai)]	
1					
2					
3	98,584	3.9434	1.340	0.573	16,498
4	134,588	2.6918	1.591	0.363	26,445
5	173,925	2.3190	1.758	0.236	32,979
6	222,471	2.2247	1.817	0.152	35,395
7	492,271	2.4614	1.684	0.037	28,397
8	1,416,600	2.8332	1.545	0.007	19,858
10	3,104,525	3.1045	1.475	0.002	15,289

Row #	Min [Abs(pi - 10)]	P90 = ki/[0.1 power 1/ai]	Min [Abs(pi - 5)]	P95 = ki/[0.05 power 1/ai]	Min [Abs(pi - 1)]	P99 = ki/[0.01 power 1/ai]
1						
2						
3	0.473		0.523		0.563	
4	0.263		0.313		0.353	
5	0.136		0.186		0.226	
6	0.052	\$125,730	0.102		0.142	
7	0.063		0.013	\$168,161	0.027	
8	0.093		0.043		0.003	\$390,860
10	0.098		0.048		0.008	

Note: N\* (tax units for Pennsylvania in 2015) is 6,799,252.

Source: Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## Formulas for estimating average incomes by fractile

(P = percentile)

$$P90-100 = bi * P90$$

$$P95-100 = bi * P95$$

$$P99-100 = bi * P99$$

$$P99.5-100 = bi * P99.5$$

$$P99.9-100 = bi * P99.9$$

$$P99.99-100 = bi * P99.99$$

$$P90-95 = 2(P90-100) - (P95-100)$$

$$P95-99 = [5(P95-100) - (P99-100)]/4$$

$$P99-99.5 = 2(P99-100) - (P99.5-100)$$

$$P99.5-99.9 = [5(P99.5-100) - (99.9-100)]/4$$

$$P99.9-99.99 = [10(P99.9-100) - (P99.99-100)]/9$$

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**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## Comparison of Piketty and Saez's 2016 results with Sommeiller and Price's 2018 results

From Table 1. Ratio of top 1% income to bottom 99% income, U.S. and by state and region, 2015

Source	Average income of the bottom 99%	Average income of the top 1%	Top-to-bottom ratio
<i>Sommeiller and Price</i>	\$50,107	\$1,316,985	26.3
<i>Piketty and Saez</i>	\$48,768	\$1,363,977	28.0

From Table 4. Income threshold of top 1% and top 0.01%, and average income of top 0.01%, U.S. and by state and region, 2015

Source	Income threshold of top 1%	Income threshold of top 0.01%	Average income of top 0.01%
<i>Sommeiller and Price</i>	\$421,926	\$9,765,989	\$32,317,855
<i>Piketty and Saez</i>	\$442,900	\$11,267,000	\$31,616,431

From Table 10. Shares of total income growth captured by the top 1% from 1945 to 1973, 1973 to 2007, and 2009 to 2015, U.S. and by state and region

Source	1945–1973	1973–2007	2009–2015
<i>Sommeiller and Price</i>	4.9%	58.7%	41.8%
<i>Piketty and Saez</i>	5.5%	65.9%	52.1%

From Table 11. Top 1% share of all income, U.S. and by state and region, 1928, 1973, 2007, 2015, and changes in shares across periods

Source	Top 1% share of all income				Change in income share of the top 1% (percentage points)		
	1928	1973	2007	2015	1928–1973	1973–2007	1973–2015
<i>Sommeiller and Price</i>	23.4%	9.2%	21.7%	21.0%	-14.2	12.5	11.8
<i>Piketty and Saez</i>	23.9%	10.0%	23.5%	22.0%	-14.0	13.5	12.1

**Note:** The income shares reported in Table 11 are indexed to Piketty and Saez 2016 as requested for submission of our state-level estimates to the World Inequality Database. The income shares reported above are the top income shares from our analysis before indexing to the national estimates.

**Source:** Authors' analysis of state-level tax data from Sommeiller 2006 extended to 2015 using state-level data from the Internal Revenue Service SOI Tax Stats (various years) and Piketty and Saez 2016

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## Appendix B: Additional tables

In the main body of the report, for the sake of brevity, we summarize data for a subset of U.S. metropolitan areas and counties. Appendix B presents the same data for all 916 U.S. metropolitan areas and 3,061 counties, including top-to-bottom ratios (Tables B1 and B2); the income thresholds to be considered part of the top 1 percent (Tables B3 and B4); the shares and concentrations of national top 1 percent income (Tables B5 and B6); and the shares of income going to the top 1 percent and the bottom 99 percent (Tables B10 and B11).

In Tables B7–B9, we present additional detail at the state level on income growth overall and for the top 1 percent and the bottom 99 percent over three periods: 1945 to 1973, 1973 to 2007, and 2009 to 2015. (These tables are intended to be companions to Table 10 in the main body, which summarizes only the top 1 percent’s share of income growth over these three periods.)

Appendix B tables are viewable in the online version of this report at [epi.org/147963](http://epi.org/147963).

## Endnotes

1. For our previous reports, see Sommeiller and Price 2014; Sommeiller and Price 2015; and Sommeiller, Price, and Wazeter 2016.
2. For the 100 largest metro areas, the ratio of the 95th- and 20th-percentile incomes ranged from 4.5 to 18.1 (Berube 2018).
3. Although the IRS’s tax data provide state- and county-level analyses that are not possible with any other data sources, the data do have important limitations. Notably, unlike Census data, they do not let us look at inequality by gender or by race and ethnicity.
4. The World Inequality Database (<http://wid.world/>) is maintained by Facundo Alvaredo, Lucas Chancel, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman.
5. Analysis by the Congressional Budget Office, in its 2011 report *Trends in the Distribution of Household Income between 1979 and 2007*, finds that three-fourths of the rise in income inequality between 1979 and 2007 as measured by the Gini coefficient was driven by the increasing concentration of market incomes. Notably, although taxes and transfers do reduce inequality at any point and time, changes in the distribution of taxes and transfers between 1979 and 2007 led to an increase in inequality.
6. Tax-exempt labor income as a share of total pretax income for the bottom 90 percent of individuals has risen from 12.8 percent in 1973 to 21.2 percent in 2014. See Piketty, Saez, and Zucman 2018b, Table B2e, column 3.
7. Besides employee fringe benefits, other key sources of income not captured by either tax or survey data include retained profits and imputed rent of homeowners. See Piketty, Saez, and Zucman 2018a for a full discussion of Distributional National Income Accounts, which do capture these other income sources.

8. The pretax income share of the bottom 90 percent is 53 percent in 2014 (the most recent year of data available) according to Distributional National Income Accounts data, which include estimates of the distribution of nontaxable compensation as well as other income sources not traditionally captured by tax or survey data (Piketty, Saez, and Zucman 2018a). Focusing on tax data, the pretax income share of the bottom 90 percent is estimated in 2014 at 50 percent by Piketty and Saez (2016). Looking at the change in the share of income captured by the 90 percent, Distributional National Income Accounts have the pretax share of all income for the bottom 90 percent falling 12 percentage points from 65 percent in 1973 to 53 percent in 2014. Piketty and Saez's analysis of tax data have the pretax income share of the bottom 90 percent falling 17 percentage points from 66.7 percent in 1973 to 50 percent in 2014.
9. The income threshold for entering the national top 1 percent in 2015 was \$421,926, whereas in Connecticut the income threshold for entering the top 1 percent of Connecticut families was \$700,800 and in Mississippi it was \$254,362. As a result, more high-income families from Connecticut would qualify to be in the national top 1 percent than would families from the top 1 percent of Mississippi families. See the section "Shares of national top 1 percent income by state, metro area, and county, 2015" in this report for details on the share of the income of the national top 1 percent located in each state.
10. There are trivial differences between our estimates of top incomes and top income shares for the United States as a whole and those calculated by Piketty and Saez. See Appendix Table A8 for a comparison of results from the two sources.
11. If the District of Columbia were included in the state rankings, it would be in 8th position, bumping Illinois to 9th and New Jersey to 10th.
12. The District of Columbia is listed after the 50 states in Table 4. If it were ranked with the states, it would have the second-highest threshold in the country, at \$598,155.
13. We opt not to summarize the threshold to be included in the top 0.01 percent and the average income of the top 0.01 percent for county and metropolitan areas because in places with fewer than 10,000 families, the number of families in the top 0.01 percent would be less than one. Users interested in those thresholds for larger areas can find them in a downloadable Excel file accompanying this report, available at [go.epi.org/unequalstates2018data](http://go.epi.org/unequalstates2018data).
14. The District of Columbia is ranked with the states in this table, since D.C. income is included in the national total.
15. To understand why the distinction between shares and concentrations is meaningful, consider Pennsylvania as an example. At 3.34 percent, Pennsylvania had the eighth-highest *share* of national top 1 percent income in the country. However, that share is smaller than Pennsylvania's share of total income (4.03 percent); the ratio of the shares is 0.83. That means that Pennsylvania had a relatively low concentration of national top 1 percent income. Fourteen states and the District of Columbia had higher concentrations of national top 1 percent income than Pennsylvania. Pennsylvania's relatively high share of national top 1 percent income is therefore attributable to its relatively large population (in 2015, Pennsylvania was the sixth-most-populous state in the nation [U.S. Census Bureau 2015]), not to a particularly high density of top 1 percent income in the state.
16. These five states accounted for 39.95 percent of all income in the U.S. (the sum of all incomes including the bottom 99 percent and the top 1 percent).
17. These five states accounted for 14.61 percent of all income (the sum of all incomes including the bottom 99 percent and the top 1 percent).

18. Our analysis here is of necessity restricted to state-level data, as county and metropolitan area data are only available since 2010.
19. The 1970s was a watershed period in U.S. economic history, in which social, political, and economic challenges—including but not limited to high unemployment, inflation, and war—dramatically shaped economic and political history in the ensuing decades. We select 1973 here as a marker of the end of the post–World War II period, as it is both a peak year in the business cycle and close to a low point for the top 1 percent’s share of income. The year 1979 is also often used as the marker of the end of the post–World War II era, in part because 1979 is seen by many as a transition point before the sweeping political changes that began in the early 1980s and, in part, because 1979 is the first year for which survey data on hourly wages from the outgoing rotations of the Current Population Survey (CPS) are available (CPS was the first data series to reveal rising inequality in the U.S. labor market). Selecting 1979 instead of 1973 doesn’t materially alter the pattern of income growth we observe by 2007, the most recent business cycle peak year, in what we are defining as “the new gilded age.”
20. Estimates in Table 10 are calculated as follows: The top 1 percent share of total income growth over a period is calculated as  $0.01 * (\$ \text{ change in average top 1\% income}) / (\$ \text{ change in overall average income})$ . The bottom 99 percent share of total income growth is calculated as  $0.99 * (\$ \text{ change in average income of bottom 99\%}) / (\$ \text{ change in overall average income})$ . When top 1 percent incomes rise while bottom 99 percent incomes fall (but overall income growth is still positive), the top 1 percent share will be greater than 100 percent. Also, rather than reporting a negative number for a growth share—a result in these calculations when top 1 percent incomes fall while overall income growth is positive or, alternatively, when top 1 percent incomes grow while overall incomes decline—we indicate those respective outcomes using the symbol † or ‡ (see Table 10 notes).
21. The exception is Alaska; data are not available for Alaska in 1945.
22. States in which top 1 percent incomes increased while overall incomes decreased are marked with the symbol ‡ in the table.
23. The shares reported for Connecticut and North Carolina are 134.2 percent and 117.3 percent, respectively. Shares are calculated as greater than 100 percent when top 1 percent incomes rise while bottom 99 percent incomes fall (but overall income growth remains positive).
24. We exclude from this analysis the expansion from July 1980 to July 1981, which lasted just 12 months, and also the expansion from October 1945 to November 1948, a period in which average incomes actually declined by 1.8 percent.
25. Shares greater than 100 percent accruing to the top 1 percent in the West across the three expansions from 1921–1929 and the five expansions from 1975–2015 are the result of falling incomes for the bottom 99 percent in one expansion in each period, specifically the expansion from 1924 to 1926 and the expansion from 1975 to 1980. Excluding those expansions, the fraction of growth accruing to the top 1 percent over the two remaining expansions from 1921 to 1929 averaged 18 percent and over the four remaining expansions from 1975 to 2015 averaged 50 percent.
26. Data are not available for Alaska in 1928.
27. See also Weaver 2018 for a review of the highest-paid CEOs in the S&P 500 index.
28. Thompson and Leight (2012) find that rising top 1 percent shares within individual states are associated with declines in earnings among middle-income families. Van der Weide and Milanovic

(2014) find that high levels of inequality reduce income growth among the poor and boost the income growth of the rich.

29. State-level data are available from the IRS online starting in 1997 (IRS various years). The scanned versions of the original IRS tables published prior to 1996 (the annual series *Statistics of Income, Individual Income Tax Returns*) and conversion of those data into Excel are available upon request. State-level data for 1986 and 1987 were retrieved from Windheim 1990. Scanned originals of tax tables are not available for the following years: In 1944, the SOI tables displayed the number of tax returns and income by state but not by size of adjusted gross income (AGI). We impute the number of individual returns and the amount of income accruing to each income class using the published tables for 1943 and 1945. Although the income measure between 1943 and 1945 changed from net income to adjusted gross income, this does not appear to bias our estimate of the number and share of income within each income class in 1944. For 1974, total AGI and the number of tax returns by size of AGI at the state level are derived from IRS 1974. For 1982, state-level estimates of tax returns and income by size of AGI are derived from zip code totals for that year (Kalish and Oh 1985). From 1983 to 1985, state series do not appear in any of the publicly available IRS publications. Upon the request of Mark Frank (of Sam Houston State University), however, the state series were tabulated by Charles Hicks at the IRS. Both of them graciously provided us with state series (AGI and number of tax returns by size of AGI and by state) in the early 1980s, and we use their tabulations for the three-year period 1983–1985.
30. We present county and metropolitan statistics for only 2015 in the main body of the report because our substate time series is not available in 2009, the first year of the recovery. County and metropolitan data for all available years (2010 to 2015) are accessible online at [go.epi.org/unequalstates2018data](http://go.epi.org/unequalstates2018data).
31. Sorting all incomes from the least to the highest, the 90th-percentile income is greater than 90 percent of all incomes and less than 10 percent of all incomes. Similarly, the 99th-percentile income is greater than 99 percent of all incomes and less than top 1 percent incomes.
32. See Piketty and Saez 2001 (36–37) for a discussion of why they chose to use tax units rather than individuals.
33. See Piketty and Saez 2016, Table A0, column 6, for total income (including capital gains); see column 1 for tax units.
34. The decennial censuses do not provide counts of households in Alaska and Hawaii before 1960. We use the number of occupied dwelling units to estimate each state's share of U.S. tax units from 1917 to 1959. Occupied dwelling units are available for both states from the 1950 Census of Housing (General Characteristics, Part 7) for both Alaska and Hawaii; the 1940 Census of Population for Alaska in 1940; and the 1940 Census of Housing (General Characteristics, Part 7) for Hawaii in 1940, 1930, and 1920.
35. The numbers of households in each county for 2015 are derived from the 2011–2015 American Community Survey (ACS), with estimates for earlier years also based on a five-year pool of ACS data.
36. The Bureau of Economic Analysis does not publish personal income data for Alaska and Hawaii prior to 1950. We estimate Alaska's and Hawaii's shares of total income (including capital gains) from 1917 to 1949 based on their respective shares of U.S. total income (minus transfers) in 1950.
37. The definition of personal income is consistent from 1929 to 2015. Although the definition of AGI and personal income overlap (both concepts are broad measures of pretax income), there are

several differences: Personal income includes personal current transfers receipts while AGI does not. To adjust for this, we subtract from each state's estimate of personal income all current transfers receipts (also available from BEA since 1929). There are, however, several other differences that we do not make adjustments for: First, personal income consists of both taxable income and tax-exempt income, while adjusted gross income consists only of taxable income. Second, BEA's personal income does not include realized or unrealized capital gains or losses, but the AGI does. Because capital gains are not available at the state level, we do not inflate the BEA series of personal income to match the AGI. Finally, the national total in BEA state personal income accounts differs slightly from the U.S. personal income in the National Income and Product Accounts (NIPAs) because of differences in coverage and in timing of the availability of source data. In general, the NIPA measure of personal income is broader than state personal income (see BEA 2017).

38. These data are conceptually similar to the Department of Commerce's definition of personal income, namely "the current income received by persons from all sources, inclusive of transfers from government and business but exclusive of transfers among persons" (Easterlin et al. 1957). The key difference between Easterlin et al. and the Department of Commerce lies in that wages, salaries, and entrepreneurial income are distributed according to the state in which payment is made rather than where the recipient lives. At the state level, the difference in both income measures impacts mostly the District of Columbia, which was removed from Easterlin et al. (and excluded from the United States totals). Easterlin et al.'s state income figure for 1920 is an average of annual estimates from 1919 to 1921 with the annual data derived from Leven 1925. The concept of personal income did not exist in 1925, but Leven's "total current income" is a close approximation of personal income in that it includes wages and salaries; interest; dividends; rents; business profits of individuals, excluding changes in the value of inventories; imputed rent of owned homes; and imputed interest on the value of durable consumption goods in the hands of consumers. For the years 1919, 1920, and 1921, imputed interest on durable consumption goods are omitted. For all these reasons, we retain Leven's estimates of total current income for 1919, 1920, and 1921, which all include the District of Columbia (Leven 1925, 260–265: Tables XLVI to XLVII, first column of each table).
39. At first sight, intuition suggests that local statistics are added together to get state aggregates and that summing the latter ones across the country produces the national figure. This is partially true in SOI tables, where state data result from the aggregation of individual returns out of a random sample. This is not the case in any Department of Commerce publications at that time. It would not be feasible to follow out for each state the entire process of computing the national totals. The latter one comprises an extensive body of data, from the estimation of labor force head count, farm and nonfarm income by industry (manufacturing, mining, construction, transportation, etc.), property income, etc. A top-to-bottom approach is used instead: From the national figure, the state estimates are derived. The various component parts of the national income are first apportioned to the states. Then the estimates of the individual totals are combined into a figure that represents the income of the people in each state. In Leven 1925, the national totals are from Willford Isbell King of the National Bureau of Economic Research.
40. In our three previous editions of this report (Sommeiller and Price 2014; Sommeiller and Price 2015; and Sommeiller, Price, and Wazeter 2016), we attempt to impute stand-alone tax statistics for Alaska and Washington in these years.
41. These adjustments generate estimates that are inconsistent with published IRS tables for Hawaii in 1918 and Nevada in 1927; finally, state totals do not add up to the U.S. figure in 1918.
42. See Atkinson and Piketty 2007 for a discussion of Pareto interpolation.

43. We use the Pareto interpolation method to move from a varying number of income groups (as displayed in Appendix Table A1) to a fixed number of income fractiles, 17 in total: six top income thresholds (percentiles 90, 95, 99, 99.5, 99.9, and 99.99); six average income levels (percentiles 90–100, 95–100, 99–100, 99.5–100, 99.9–100, and 99.99–100); and five average income levels for intermediary fractiles (percentiles 90–95, 95–99, 99–99.5, 99.5–99.9, and 99.9–99.99) by state from 1917 to 2015. A detailed discussion of this technique can be found in Piketty 2001.
44. Emmanuel Saez graciously provided the precise adjustments that were made for net income deductions (1917–1943), adjusted gross income adjustments (1944–2012), and capital gains (1934–1986).
45. Our adjustment is:  $(\text{state's } i \text{ top income} - \text{U.S. average top income}) / \text{U.S. average top income}$ . For example, the average income of the highest-earning 0.01 percent of families in Delaware in 1939 was almost 10 times (9.4) the national average. Saez's coefficient correcting the inconsistencies of capital gains over time is equal to 1.091 for that fractile. Inflating Saez's coefficient yields  $1.194 = 1.091 * (1 + 9.4 / 100)$ . We apply this adjustment to all percentiles between 1934 and 1986.
46. Analysis of microdata from the American Community Survey suggests that linear interpolation, when possible, may be a more accurate way to estimate the 90th and 95th percentiles. One limitation of linear interpolation is that the 90th and 95th percentiles must fall somewhere below the uppermost income bracket of the tax tables.
47. Nevada and Wyoming, 14 errors each; Michigan, 13 errors; Indiana, 12 errors; Alaska and West Virginia, 11 errors each; Alabama, Hawaii, New Mexico, Oklahoma, 10 errors each; Kentucky, Missouri, Wisconsin, Idaho, Louisiana, South Carolina, Delaware, Arizona, Arkansas, Montana, Nebraska, Ohio, Rhode Island, South Dakota, Tennessee, Utah, Iowa, between 5 and 9 errors each; Maine, Georgia, Kansas, North Carolina, North Dakota, Washington, Colorado, Virginia, District of Columbia, Florida, Minnesota, Texas, Oregon, between 1 and 4 errors each; no errors for California, Connecticut, Illinois, Maryland, Massachusetts, Mississippi, New Jersey, New York, and Pennsylvania.
48. Note that some observations for Alaska are missing, so that the total number of observations (85,323) is slightly less than  $17 * 51 * 99$ .
49. Note that in the main body we report on only 3,061 counties after excluding some very-small-population counties. Data for all 3,140 counties are available in the downloadable Excel file available at [go.epi.org/unequalstates2018data](http://go.epi.org/unequalstates2018data).
50. As with our state-level errors, our errors are concentrated in the bottom half of the top decile and tend to occur mostly in smaller counties.
51. The differences between the figures for the 90th, 95th, and 99th percentiles reported in Appendix Table A7 and the final thresholds for Pennsylvania of \$125,109 (90th), \$167,266 (95th), and \$388,593 (99th) reflect adjustments to incomes to account for downward adjustments to AGI for deductions such as IRAs, moving expenses, etc.

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