The System *IS* Rigged

Republican votes count more than Democratic votes. They are simply more efficient at yielding representation—Electoral College votes, representatives, and senators—due to gerrymandering and the current way electoral districts group people. As the nation who showed the world the virtues of democracy, America can and should restore equity to our voting.

By way of illustration, in the 2018 midterm elections, the Democrats captured 235 of the 435 seats in the House of Representatives with an 8.6-percentage-point advantage in the vote, 53.4% to 44.8%, while in comparison, in the 2010 "red wave" midterm election, Republicans took more seats, 242, with a much smaller 6.8 percentage point difference. Republicans hold 53% of the Senate seats while garnering only 41% of the national vote. They won the last presidential election despite their candidate receiving almost 3 million fewer votes.

A straightforward way to evaluate the disparity is to calculate how many votes it takes for each party to gain a unit of representation. By determining the ratio of those numbers, we can see the relative efficiency or power of those votes in each type of election. Since we do not yet have official counts for the 2018 midterms, we can use Federal Election Commission data for the 2016 national elections.

In the presidential election, the cost for Republicans of capturing a single Electoral College vote was 205,833 votes, while for Democrats it was 283,851 votes. That cost differential means that every Republican vote for President was equivalent to 1.38 votes from Democrats. Using similar calculations, every Republican vote in 2016 House races was equivalent to 1.21 Democratic votes in terms of electing Representatives. Every Republican vote in 2016 Senate races was equivalent to an astounding 2.29 Democratic votes.

Let those numbers sink in. A hundred Republican voters in a presidential election have an impact equal to about 140 Democratic voters. For the House, a hundred Republican votes are equivalent to around 120 Democratic votes. And it takes almost 230 Democratic voters to achieve the same electoral influence on the Senate as a hundred Republican voters.

To be precise, this basic approach simplifies the situation as if the US had a proportional representation system, in which political parties get seats in a parliament or legislature proportional to the percentage of the vote they receive. Unlike most liberal democracies, elections in the United States are winner-takes-all by geographic unit—state-by-state or district-by-district.

To account for single-member districts we can make use of the Efficiency Gap, first proposed by Nicholas Stephanopoulos and Eric McGhee. The basic idea is to look at each district or state to see how many votes each party wasted. If the party lost that seat, then all the votes were wasted. If the party won, then every vote beyond half plus one, the minimum needed to win, was wasted. We find the net difference in votes wasted by the parties and calculate the gap in efficiency between them by comparing that difference to the total number of votes cast. If a party wasted 100 more votes across five districts with 100 voters each, then 100 divided by 500 total voters yields an efficiency gap of 20%. For five districts, this result would mean that the other party got one more seat than it should have had if each party's votes counted equally, since 20% of five equals one.

Stephanopoulos and McGhee calculated the efficiency gap for house and state-level elections for a number of past years. They were attempting to understand the extent of gerrymandering in congressional and state districting plans. I applied the basic methodology to the 2016 elections, and I

extended it to the presidential and senate elections by treating states as if they were districts in a national election, similar to seats in a state's congressional delegation. Here is what I found.

In the 2016 presidential election, Republican votes were 8.57% more efficient than Democratic votes. That corresponds to Republicans capturing 46 more Electoral College votes than they should have if Republican and Democratic votes were equally effective. That was enough to swing the election, which is unsurprising since the Democratic candidate received more popular votes than did the Republican. For the House of Representatives, Republican votes were 6.26% more efficient, meaning Republicans got 27 more seats than if efficiency were equal. That was also a large enough difference to change control of the House. Republican votes for the Senate were 25.61% more efficient than Democratic votes. In 2016, 34 Senate seats were at stake. Republicans won 22 of the 34. If votes were equally efficient, Democrats would have won 21 of the 34 seats and easily had control of the chamber.

Because the president nominates candidates to be federal judges, including for the Supreme Court, and the Senate provides confirmation, the inequity in voting for executive and legislative branch positions carries over into the judicial branch. For example, Brett Kavanaugh was nominated by a president who received 46% of the popular vote and confirmed by a group of senators who collectively represent 44% of Americans.

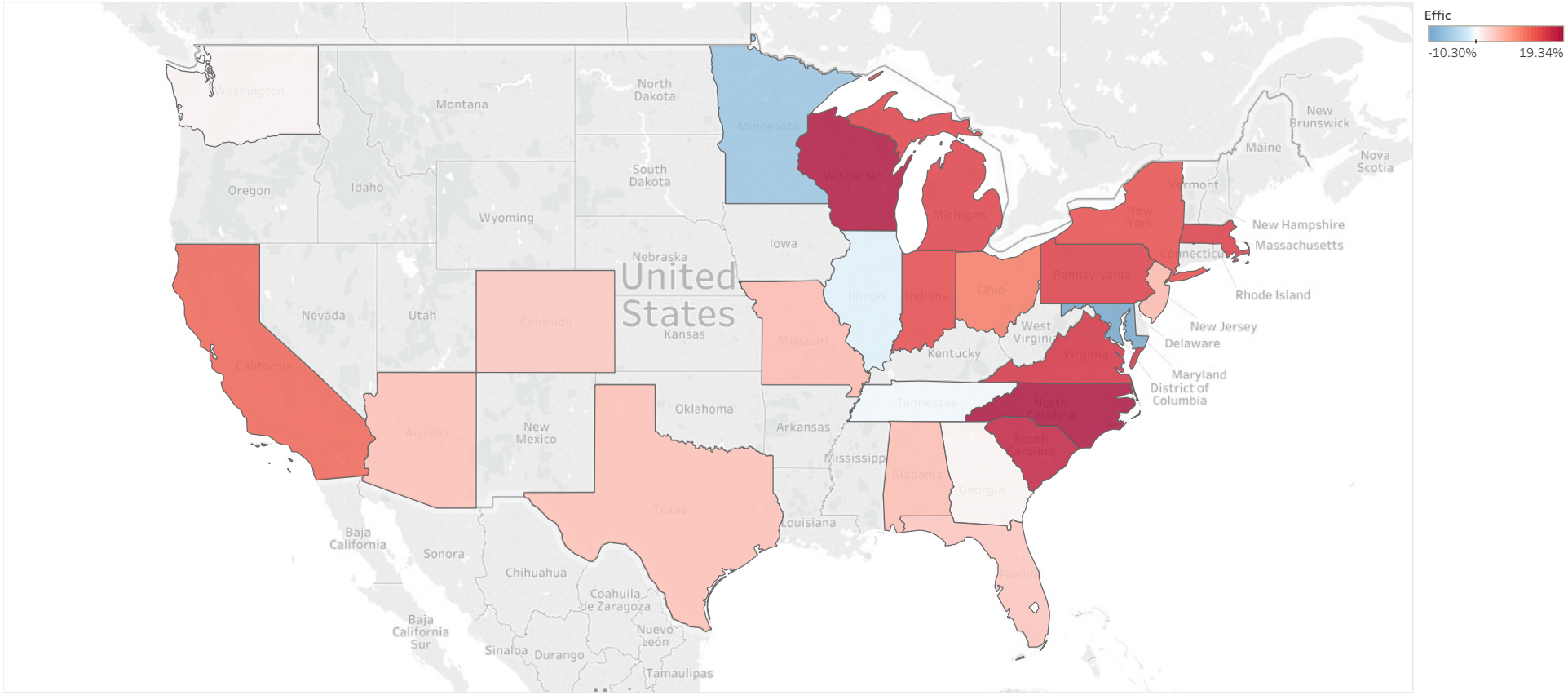
So what are the causes of this difference in efficiency between votes for the different parties? And can we make elections in America more equitable?

The main problem for the House of Representatives is gerrymandering, which is manipulating the boundaries of districts to favor one party. With an influx of cash after the Citizens United Supreme Court decision, Republicans won a "red wave" in the 2010 election cycle. The result meant Republicans controlled redistricting in many states in the wake of the census. Their Project Redmap was a dedicated effort to gain an advantage in elections. At the same time, data analytics software and techniques reached the level of precision and sophistication needed to achieve reliably gerrymandered redistricting plans for the first time, creating a perfect storm. Stephanopoulos and McGhee report that the efficiency gap for congressional districts and statewide elections were mostly stable from the 1970s through the 2000s, but rose sharply in 2012. They conclude that "[t]he severity of today's gerrymandering is therefore unprecedented in modern times."

<House Map Visualization on next page>

Voting Efficiency Gap for House Delegations by State (Minimum 7 House Districts)

(Positive is in favor of Republicans and negative is in favor of Democrats)

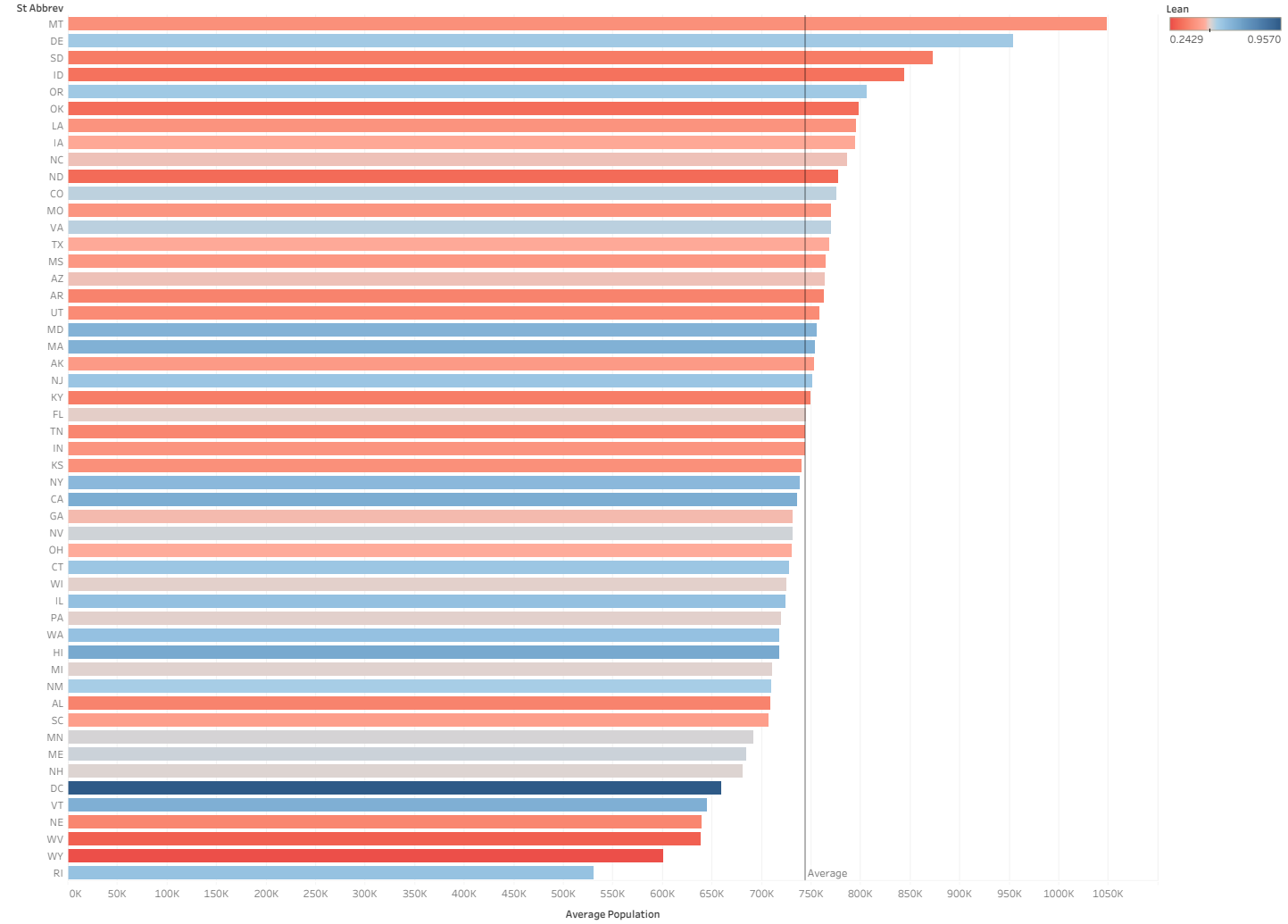


This is an image from an interactive visualization of the amount and direction of the efficiency gap for the House of Representatives by state, for states with at least seven congressional districts. The deeper the red color, the more the efficiency gap favors Republicans. The deeper the blue color, the more the efficiency gap favors Democrats. It may seem surprising that states such as California and New York are red, but the Democratic districts are very Democratic-leaning, so many votes are wasted in those districts, whereas the districts where Republicans win waste fewer votes. Wisconsin and North Carolina are the most aggressively gerrymandered states.

In terms of solutions, the Brennan Center for Justice and other groups have suggested that courts use the efficiency gap as a standard to decide whether to reject congressional maps as too gerrymandered. There are researchers who have suggested other measures, including some derived from topology, the mathematical study of shapes and spatial arrangements, which would determine whether the shape of a proposed district is reasonably "compact," essentially meaning shaped in a natural-enough way, rather than contrived to favor a party. We can make voting for members of the House of Representatives more equitable by utilizing these sorts of criteria. If the courts will not adopt them as standards, the public can pass state referendums enacting independent commissions or requiring that legislatures create maps that grade well enough against one or more of these measures.

The other major cause of the efficiency gap is the unequal number of people across states and districts. This issue affects the House to a small extent. The US Constitution originally called for congressional districts to each remain a constant size and for the number of districts to grow as the population did. Eventually concerns about Congress growing too large and unwieldy led to fixing the number of districts and letting each district represent more and more people. Because districts must fit within states and theoretically within a reasonable geographic profile, and because there is some leeway in how legislators design districts, the number of constituents per district can vary. For example, based on the 2010 census, districts in the 2016 election cycle ranged from less than 530,000 people to almost one million.

<House District Average by State Visualization on next page>

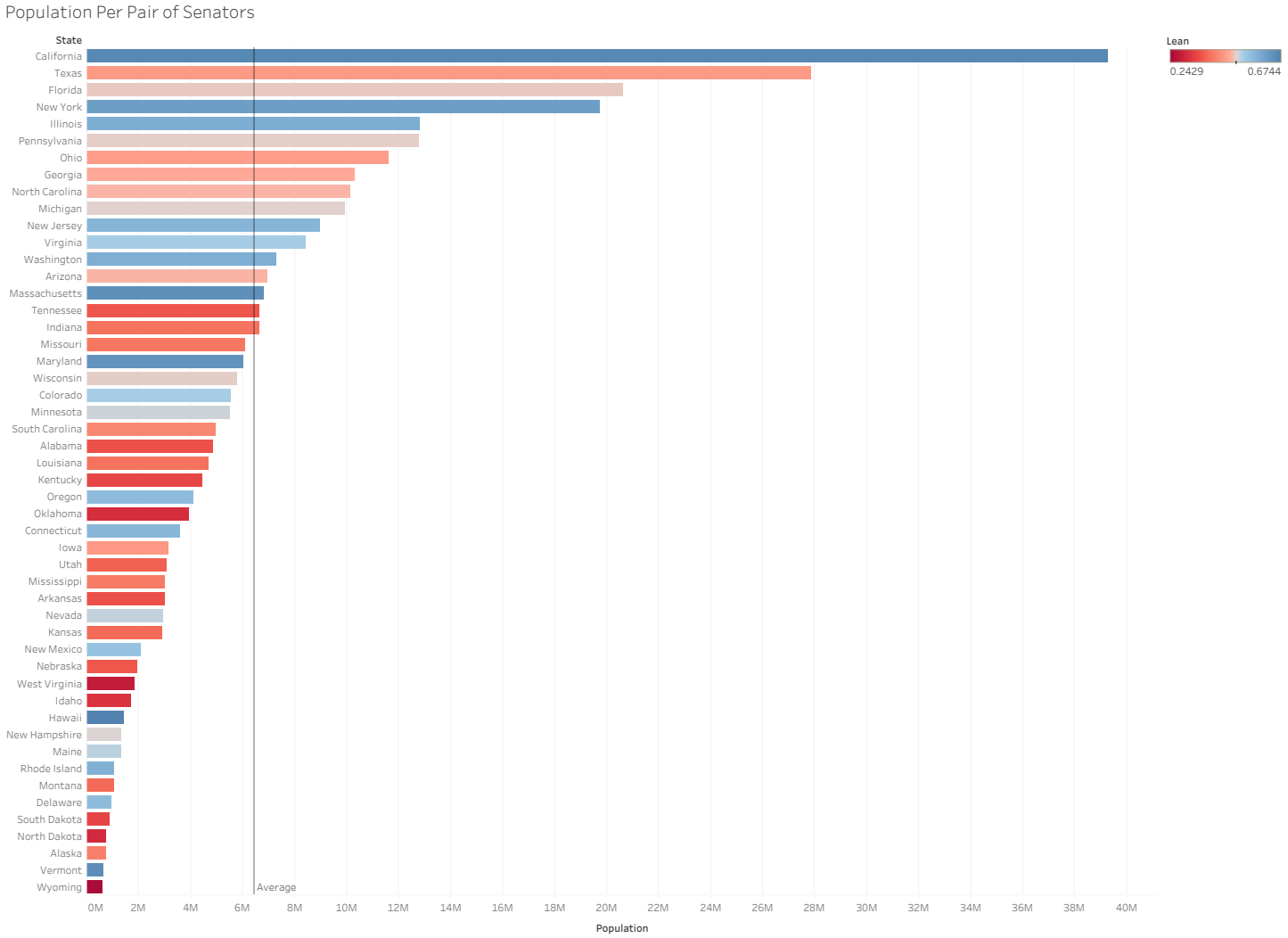


Average population per House district varies by state. The color shows the ratio of popular vote that went to the Democratic (blue) or Republican (red) presidential candidate in that state.

The situation is far more extreme for the Senate. A fundamental compromise in the Constitution was to provide equal representation in the Senate for each state, rather than apportioned by population as in the House. The differences in populations between states is dramatically more pronounced now than when the Constitution was adopted, thanks to a higher proportion of people living in urban and suburban areas. Pairs of senators represent anywhere from roughly 585,000 to 39 million people! It takes far fewer votes to elect a senator in Wyoming than it does to elect a senator in California. By looking at which way states lean in the presidential election, it is easy to see that generally the most Republican-leaning states are often those for which it takes the fewest votes to elect a Senator. In a sense, voters in those states have disproportionate influence over the makeup of the Senate.

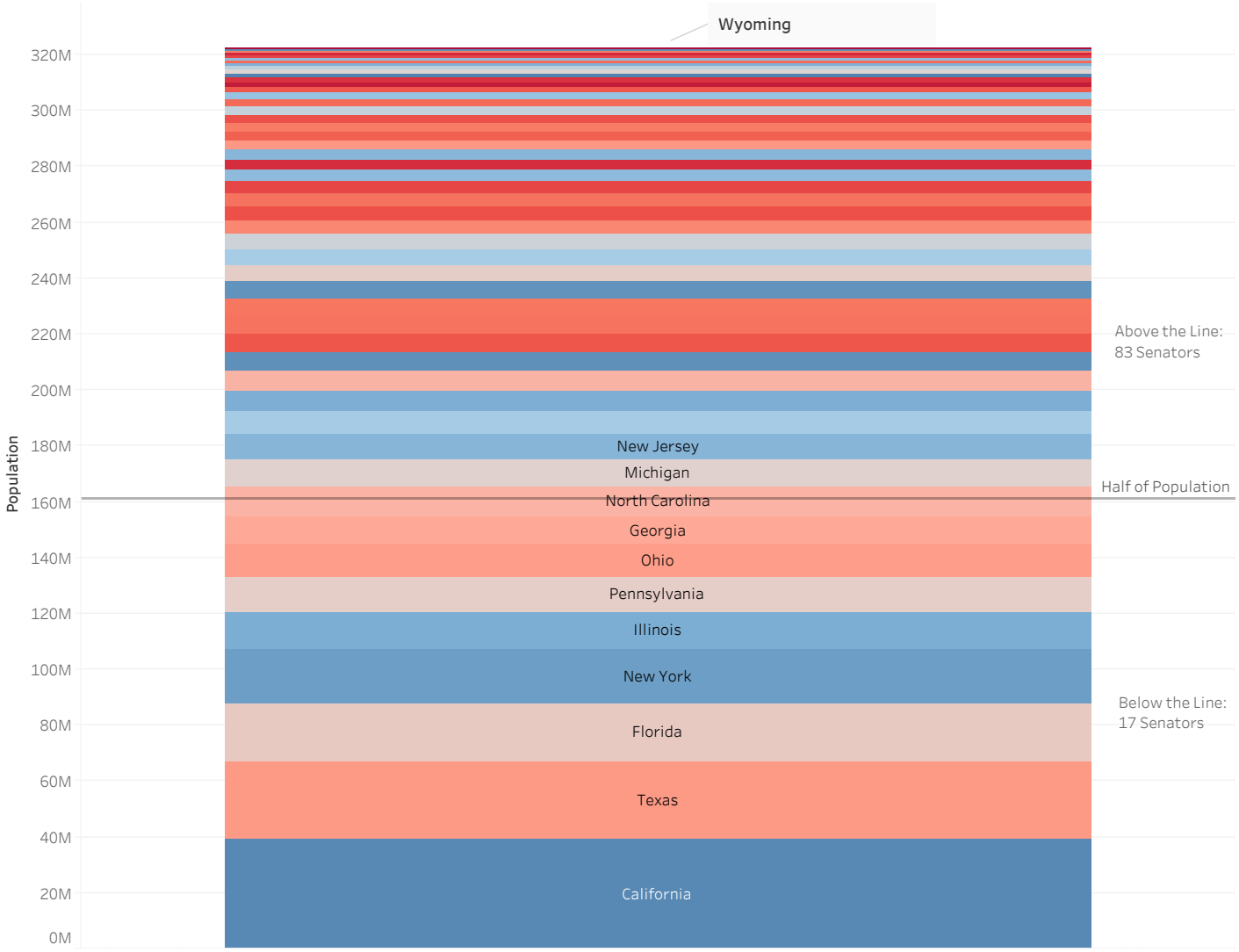
<Senate Population by State Visualization on next page>

<Senators by State Visualization on following page>



Population per pair of senators varies greatly by state. The color shows the ratio of popular vote that went to the Democratic (blue) or Republican (red) presidential candidate in that state.

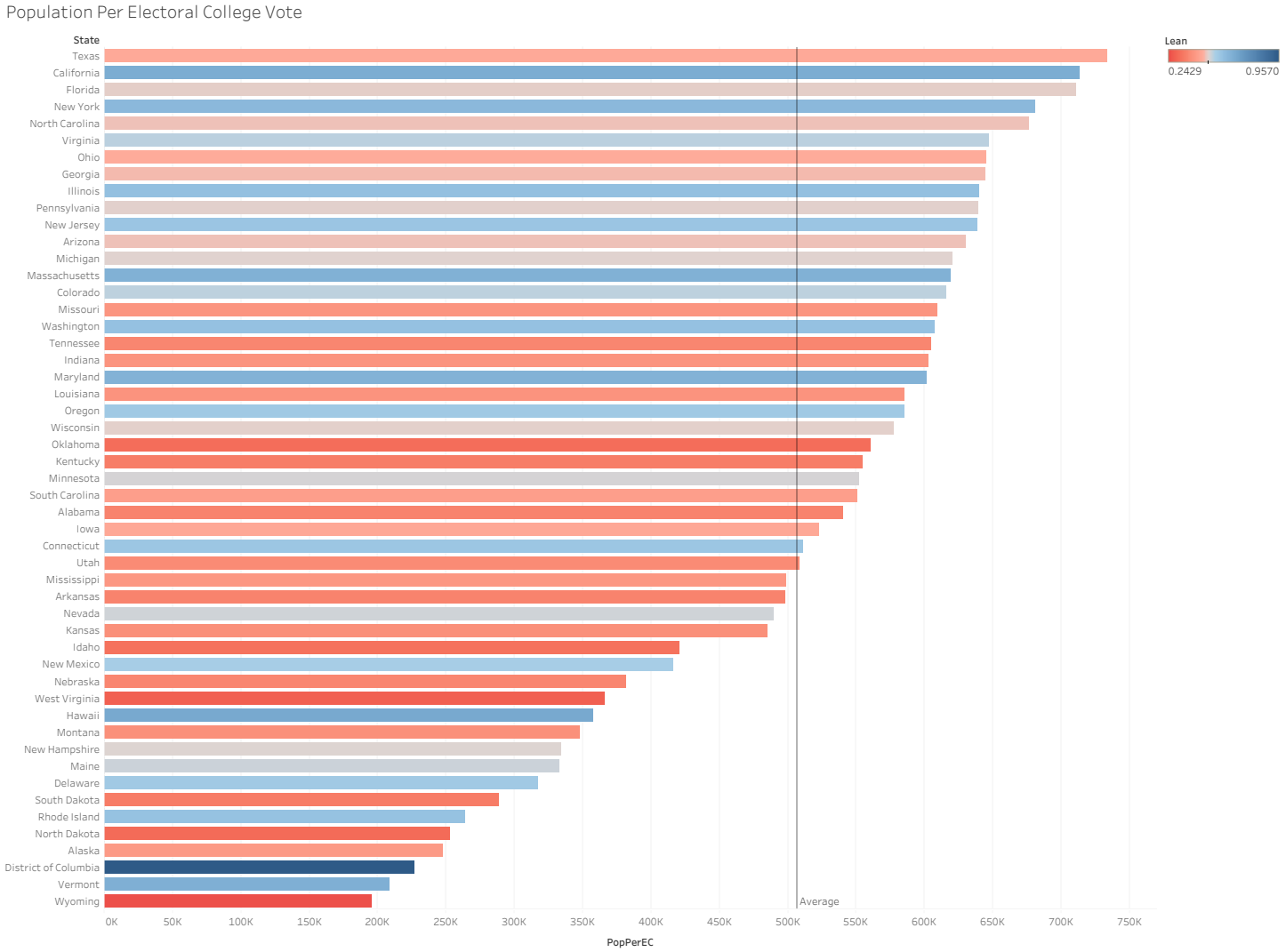
Population by State and the Senate



People below the line, half the population of the United States, get 17 senators, and people above the line, the other half, get 83. Many of the most Republican-leaning states—those which are dark red—are above the line. People in those states effectively get more senators per capita.

The Electoral College suffers from the large geographic inequities of the Senate and, to a lesser extent, from the smaller ones in the House, because the number of Electoral College votes is the sum of the state's congressional districts and the state's Senate seats. Wyoming gets a congressional district with less than 600,000 people, because they cannot have less than one district. Meanwhile the math works out to 53 districts in California, averaging over 735,000 people per district. Both states get two Senate seats. Wyoming comes out with three electoral votes for under 600,000 people, or around one per every 200,000 people. California ends up with 55 electoral votes for over 39 million people, or around one per every 715,000 people.

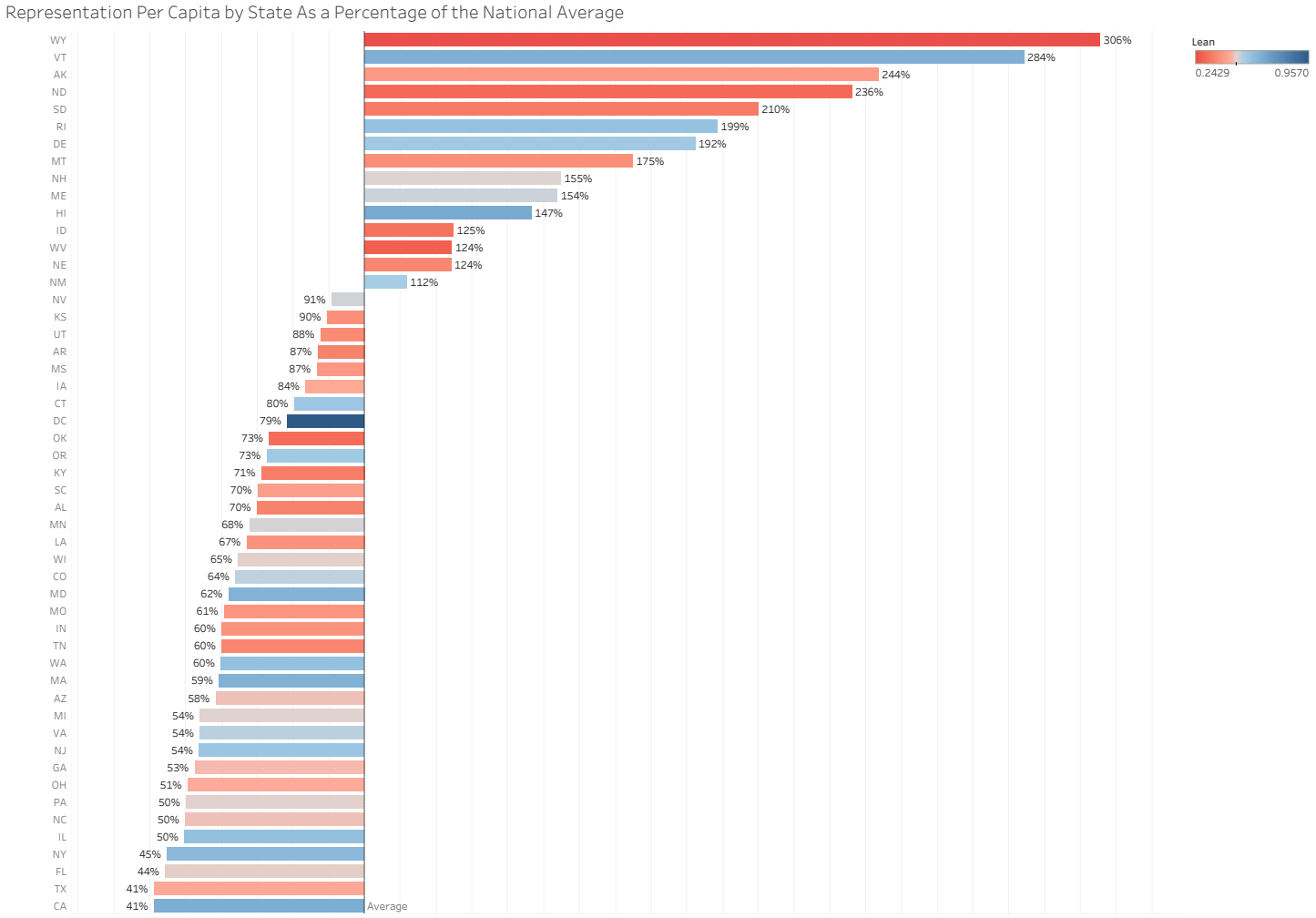
<Electoral College Vote Population by State Visualization on next page>



Population per Electoral College vote varies quite a bit by state. The color shows the ratio of popular vote that went to the Democratic (blue) or Republican (red) candidate in that state.

The impact of these geographic variations is that people in rural states have more voting power for the presidency, and dramatically more voting power for the Senate, than do people living in more populated states. Another way of thinking about the situation is that there are dramatic differences in per capita representation. Consider for example that someone in Wyoming gets about 1/585,00th of a representative, who in turn is 1/435th of the house. That person also gets 1/585,000th of 2 senators, who together are 1/50th of the senate, and 1/585,000th of 3 Electoral College votes, which constitute 3/538th of the Electoral College. Someone in California gets about 1/713,00th of a representative, 1/39,000,000th of 2 senators, and 1/39,000,000th of 55 Electoral College votes. All told, that person in Wyoming gets 306% of the per capita representation of the average for all Americans. The person in California gets 41% of the per capita representation of the average for all Americans. In relative terms, the person in Wyoming gets roughly 643% more representation in the federal government than the person in California.

<Total Representation Per Capita Visualization on next page>



Representation per capita varies dramatically between states. The most Republican-leaning states generally receive more representation per capita than do other states.

Making presidential elections fairer would be even easier than curtailing gerrymandering. Ignoring the Electoral College and determining the winner directly through the popular vote would vastly improve the situation. This change would not require a Constitutional amendment. Several states have signed on to a proposal, the National Popular Vote Interstate Compact (NPVIC), that would commit their delegates to cast all of their Electoral College votes for whoever wins the popular vote nationally, beginning once the NPVIC reaches a critical mass of states representing more than half of the total Electoral College votes.

The most difficult case to solve is unfortunately the most extreme: the Senate. It would likely take a Constitutional amendment to make a reasonable dent in the inequity of Senatorial representation, something not likely to happen anytime soon. But we shouldn't let that discourage us.

The people of the United States can and should make our election system fairer and more representative. We can begin with the easiest and most obvious solutions. We should lobby every state not yet onboard to agree to the NPVIC, and we should demand that all states turn over redistricting to non-partisan commissions required to justify their maps using objective, quantitative measures. Until we do, we will not restore the promise of American democracy.