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An Analysis of Colorado, Illinois, and Ohio’s Redistricting Policies and Their Effects on Gerrymandering

For this I retrieved map data for each state from davesredistricting.org. I downloaded CSV files of each state’s newly enacted map and a CSV file of a map that would be proportional to how the state has voted in the past. I took each of these maps and loaded them into RStudio.

In RStudio I wrote a function that would take two maps, the number of districts the map has, and an offset variable because I ran into an issue with the Illinois map, and it just needed to be offset. In this function the competitiveness is determined by getting the difference of the partisan divide for each district. A competitive district is a district with a difference less than or equal to 0.1. The number of competitive districts is counted as well as the number of districts that favor Democrats and the number of districts that favor Republicans. A Democratic district is a district with a difference greater than 0.1 and a Republican district is a district with a difference less than -0.1. Once I have totals for each of those from each map, I get the difference from each compared to the proportional map. This will determine how fair each enacted map is by seeing how different it is from a similar proportional map. If a map has a low difference, then it is closer to a fair map. Before returning the final difference, it is divided by the number of districts the state has so that the difference is proportional to each state regardless of size and this will be the final fairness score.

For the maps that I got form Ohio, Illinois, and Colorado it was determined that Colorado has the fairest map with a fairness score of 0.25. Illinois has the least fair map with a score of 0.47 and Ohio has a fairness score of 0.26. This is not a surprising conclusion considering that Colorado has an Independent Commission draw its districts and Ohio and Illinois districts are drawn by state legislatures. The interesting thing here is that Ohio has a close fairness score to Colorado. I believe that the reason for this would be because partisan gerrymandering is illegal in Ohio, and they did not want the map to be overturned by the state court. Illinois does allow partisan gerrymandering and that would be why they can get away with a much more heavily gerrymandered map.