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Title of Talk: Shapley/Owen Voting Power Analysis for Electoral College

Abstract:

I have been studying the statistical methods of George Rabinowitz and Stuart MacDonald in their 1986 American Political Science Review article "The Power of the States in the U. S. Presidential Elections". Their paper uses presidential election data from 1944 to 1980 to determine the most powerful states in the Electoral College in terms of how often they are "pivotal" to the election outcome. Massachusetts, for instance, has a large number of electoral votes but has little power because it is so reliably Democratic. I have been redoing their calculations using the much newer data since 1980. A lot has obviously changed in the twenty years that provide new data for my study. 1980 is now viewed as the affirmation of a political realignment that had begun with the presidential campaigns of Richard Nixon. Conservative southern states, having been solidly Democratic for a hundred years, have now moved to the Republican Party. Additionally, northern liberal Republicans have become a dying breed. These movements polarized the American electorate, because both parties lost much of their ideological balance. Such a political shift will have a profound impact on the relative power of states in the Electoral College; this makes updating Rabinowitz and MacDonald's study all the more necessary. I have not completely finished the analysis as of yet, but I am on schedule to complete the project by the end of July. I expect the power of states in the Electoral College to have substantially changed since 1980.

This study has required statistics and game theory to analyze the data. It uses Owen's modification of the Shapley value to account for which states are more likely to be pivotal in electoral voting. A principal components analysis is used to describe the likelihood of certain states being pivotal.