2016 and 2020 US Presidential Election Result Shifts

Data Analytics Boot Camp
Project 1 – August 2024

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Questions for the Data

1. How did votes for non-major candidates (anyone but Trump or Clinton/Biden) shift from 2016 to 2020?
2. How does that shift relate to the overall change in election outcome, from Republican in 2016 to Democrat in 2020?
3. How does that shift relate to county size?
4. How much variation was there in that shift, at a county level?
5. Did "swing states" show a significant difference in shift compared to the country as a whole?

Data Sources

- MIT Election Data and Science Lab (MEDSL)
- Two slightly different data sets, one for each election

- Also got some simple information from the FEC and Ballotpedia

Data Exploration and Cleanup

- The data sets had slightly different standards and slightly different problems:
  - Capitalization and Place Names: “Jefferson” vs ”JEFFERSON COUNTY”
  - Candidate Names: "biden, joe", "joseph biden", and "joseph r biden“
- “Statistical Adjustments”, Write-Ins, and Straight Ticket Voting
- Extra Data
  - Negative votes
  - Other “offices” that are apparently redundant votes
- How to Group Results
  - There’s “the Democrat” (Clinton in 2016, Biden in 2020), “the Republican” (Trump), and “Other” (people like Gary Johnson, and unserious entries like Donald Duck)

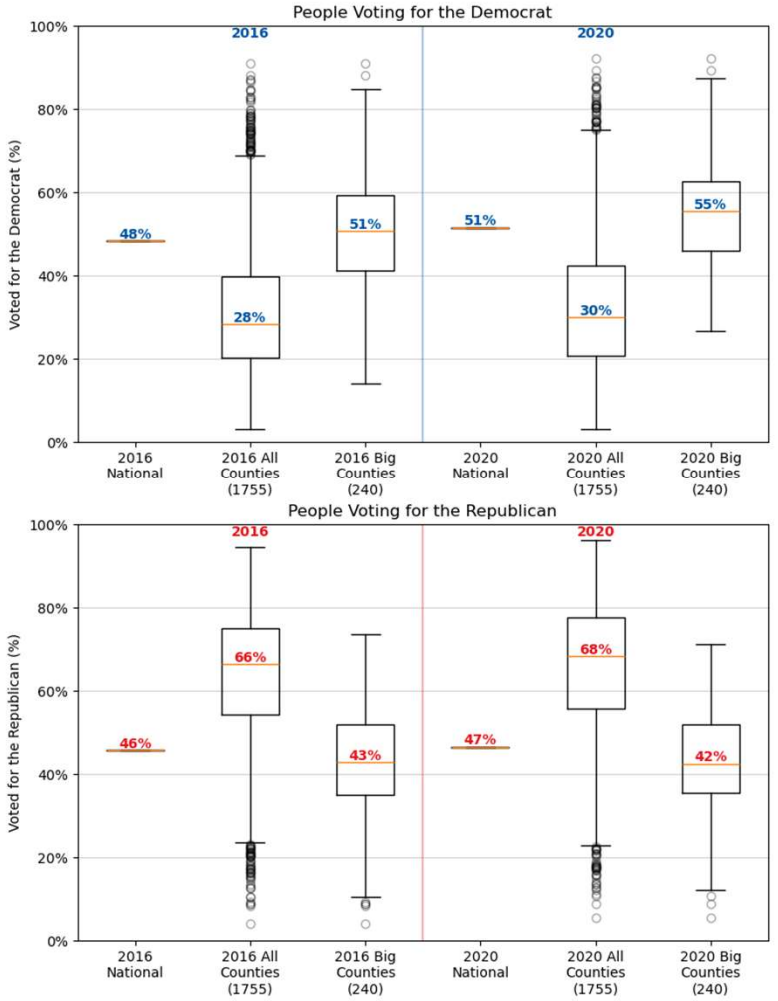
Challenge: Are My Numbers Actually Right?

- My early “clean” data had some pretty weird results, including about 4 million extra votes for “other” candidates
- I compared my final clean data to the official counts from the FEC. I’m within 0.8% for the national numbers, which feels barely adequate. I’d like to improve this, especially the extra “other” votes.

Candidate	2016 (FEC)	2016 (Me)	2020 (FEC)	2020 (Me)
The Democrat	65,853,514	65,851,734 (99.997%)	81,283,501	80,973,327 (99.618%)
The Republican	62,984,828	62,980,405 (99.993%)	74,223,975	73,662,011 (99.243%)
Total	136,669,276	137,103,464 (100.318%%)	158,429,631	157,750,726 (99.571%)

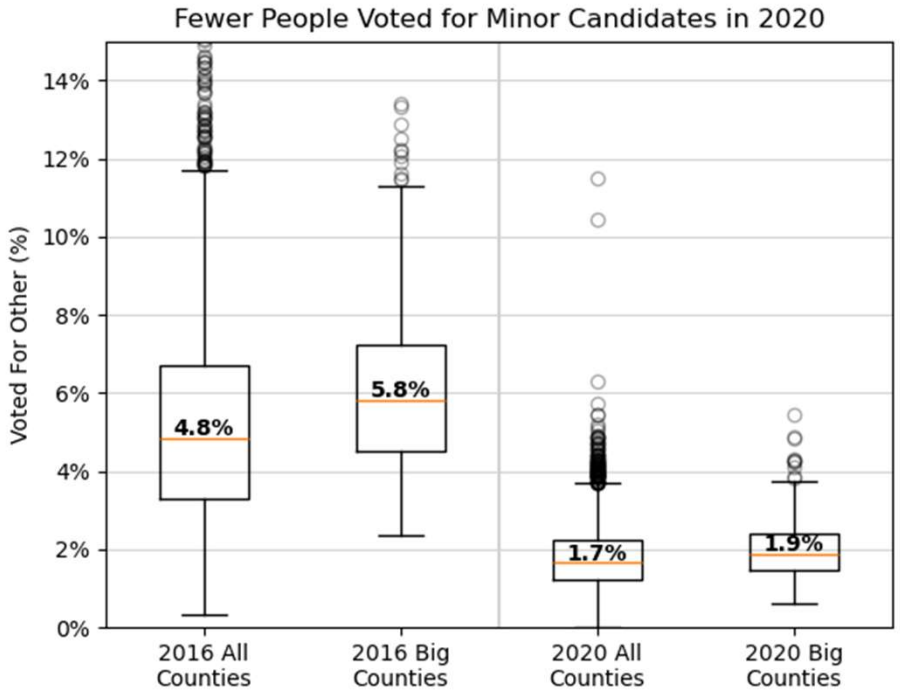
Why It Looks Weird

- I'm mostly looking at changes in percentages among counties, not actual vote counts.
- Looking at county-level results across the whole country is very different from what we see watching election results on the news.
- There are more "small" counties (<100K votes) so they influence the distribution here, but the "big" counties have much more impact on actual election results.
- And I did not consider Electoral College counts.
- I was interested to see that BOTH major candidates got a higher percentage of votes in 2020 than they did in 2016.

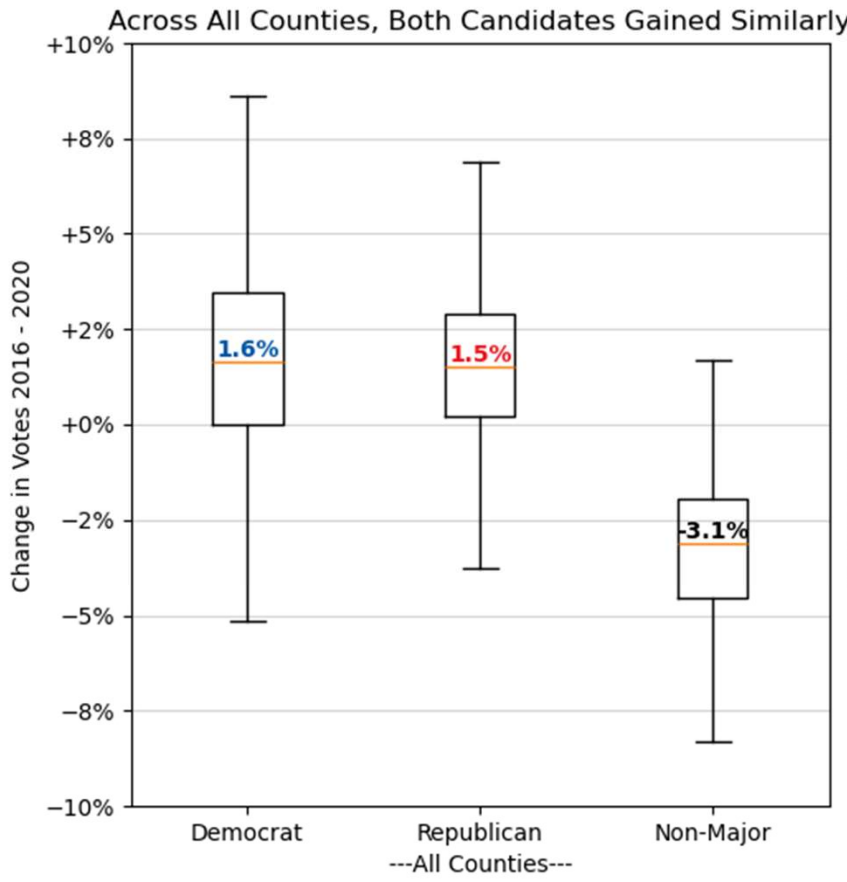


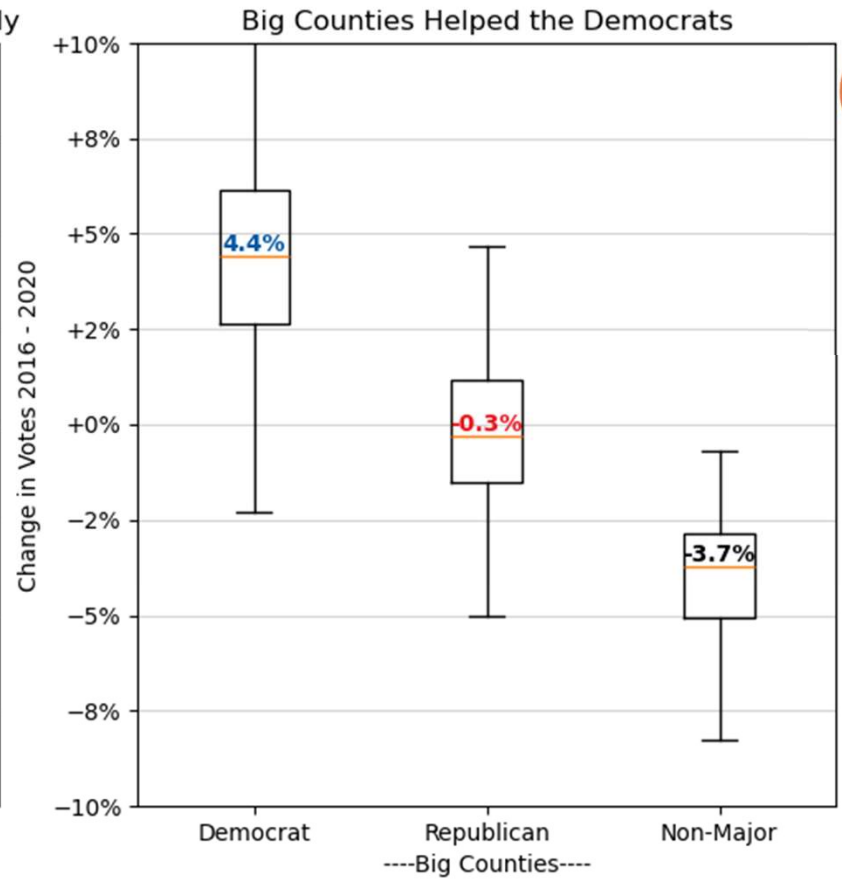
Where'd Those Votes Come From?

- Votes for "minor candidates" dropped from 2016 to 2020.
- The median percent going to minor candidates dropped by about 3% across the country, or 4% for big counties.



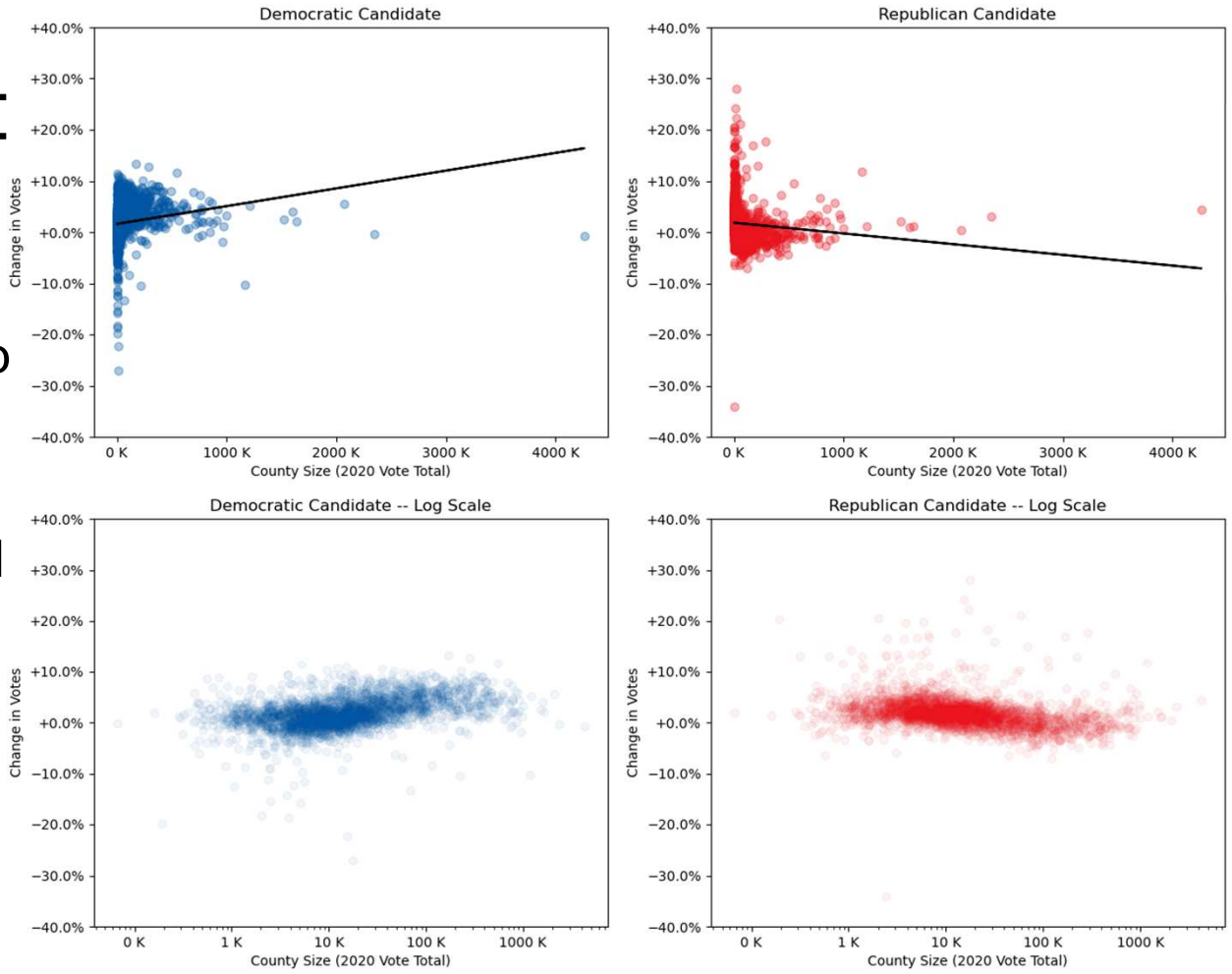
...and Where Did They Go?





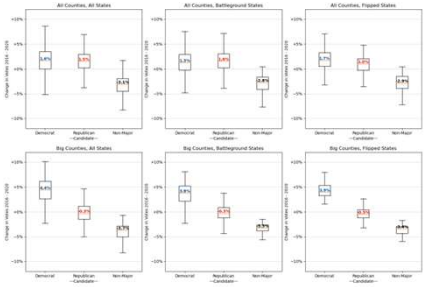
County Size and Party Shift

- With counties clustered at the small end, it's hard to visualize the trend.
- A logarithmic scale shows it, but it's hard to understand the exact values.
- Interestingly, the two largest counties defy the trend.



What About Swing States

- “Battleground” states were those widely considered competitive for 2020: AZ, FL, GA, IA, MI, MN, NV, NH, NC, OH, PA, TX, and WI
- “Flipped” states were those which went to the Republican in 2016 and the Democrat in 2020: AZ, GA, PA, WI, and MI
- Counties in all of these basically followed the trends found previously, with both parties getting a similar increase across all counties, but big counties heavily favoring the Democrat.
- One notable exception: in flipped states, across all counties (big and small), the Democrat did a bit better than the Republican. This suggests the Democrat had some extra success among smaller counties in those states.
- The charts don’t really fit well on a slide with any text:



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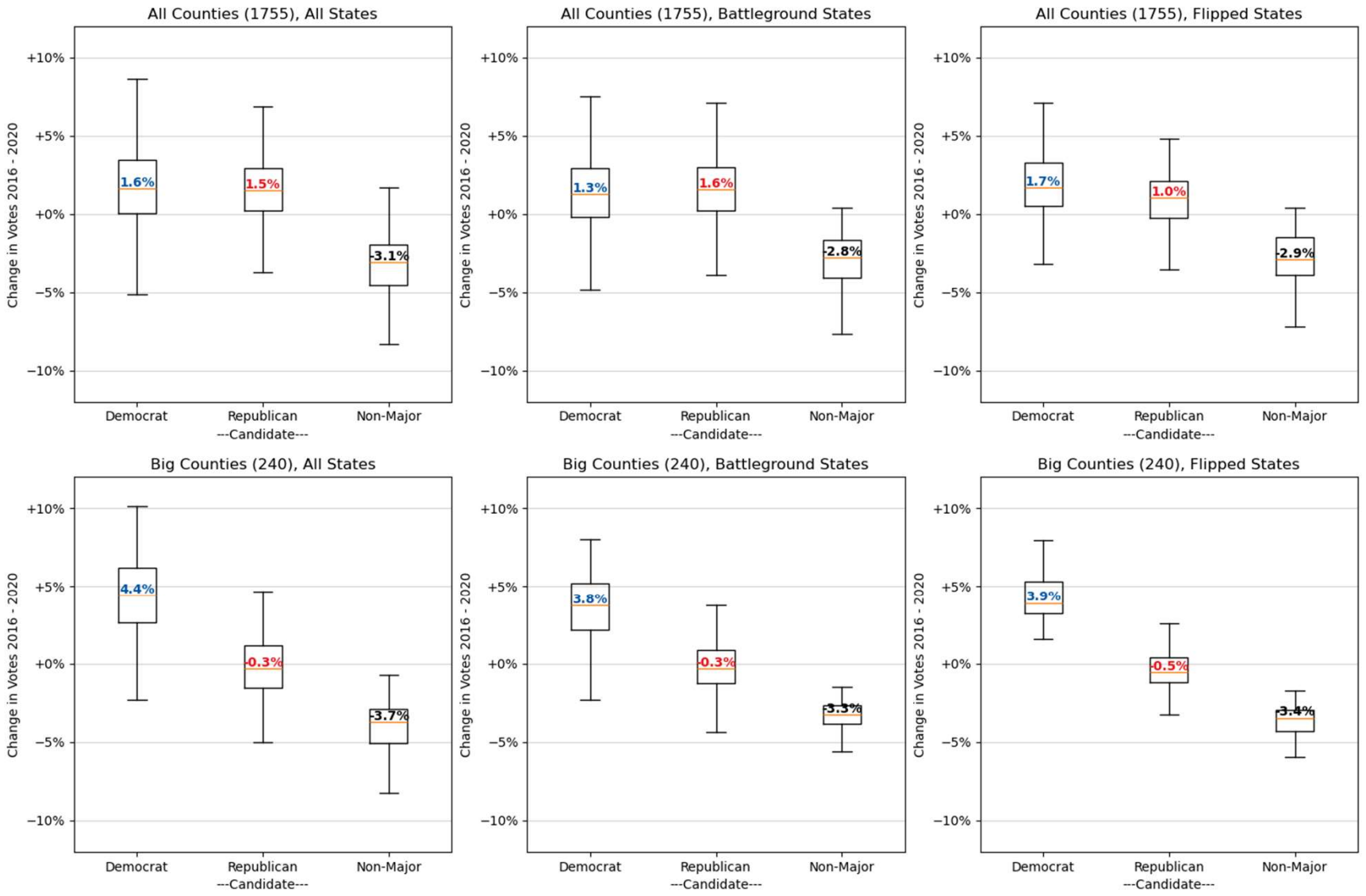
All Counties (1755), All States
All Counties (1755), Battleground States
All Counties (1755), Flipped States
Big Counties (240), All States
Big Counties (240), Battleground States
Big Counties (240), Flipped States
Change in Votes 2016 - 2020
+10%
+5%
+0%
−5%
−10%
1.6%
1.5%
-3.1%
1.3%
1.6%
-2.8%
1.7%
1.0%
-2.9%
4.4%
-0.3%
-3.7%
3.8%
-0.3%
-3.3%
3.9%
-0.5%
-3.4%
Democrat
Republican
Non-Major
---Candidate---