

# The Anatomy of Voting, Up and Down the Ticket

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## Motivation: Partisan loyalty all the way down the ballot?

Are national and local electoral politics contested on the same partisan dimension?

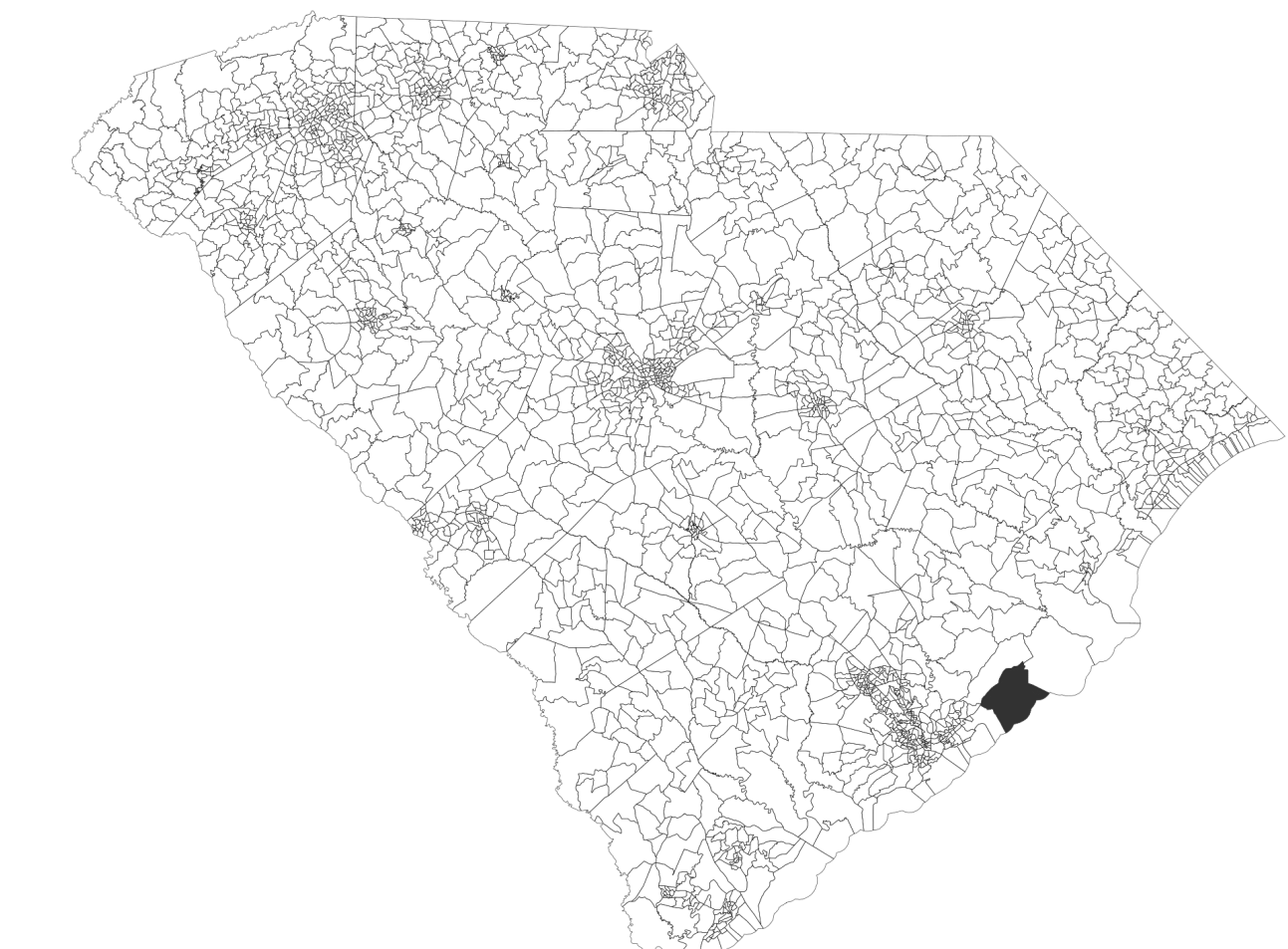
## Data: Ballot Image Logs from South Carolina

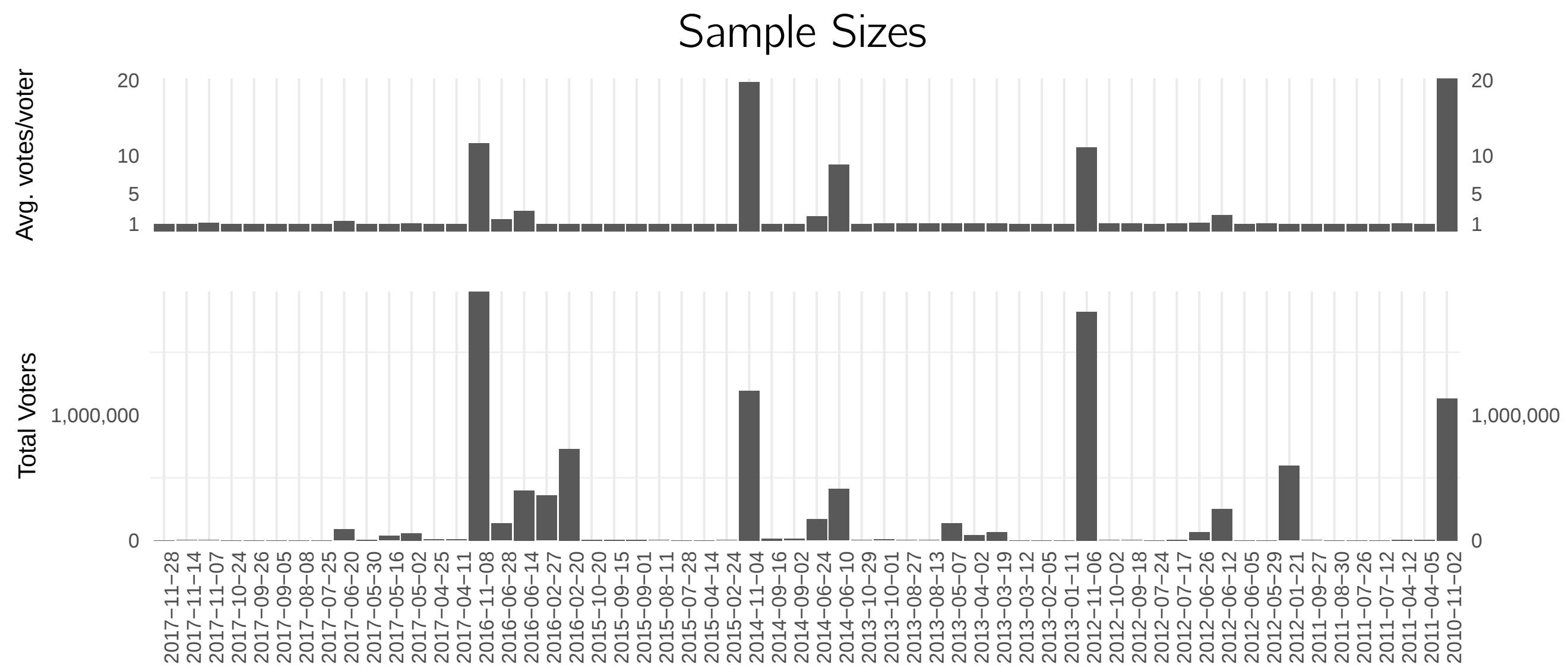
What are ballot image logs and how are they different from other datasets?

|                                          | Ballot Image Logs | Voter Files | Precinct Returns | Surveys     |
|------------------------------------------|-------------------|-------------|------------------|-------------|
| Individual-level?                        | ✓                 | ✓           |                  | ✓           |
| Vote choice observed?                    | ✓                 |             | ✓                | Self-report |
| Down-ballot races recorded?              | ✓                 |             | ✓                |             |
| Population-based (no sampling error)?    | ✓                 | ✓           | ✓                |             |
| Linkable to precinct-level demographics? | ✓                 | ✓           | ✓                |             |
| Linkable to commercial data?             |                   | ✓           |                  | ✓           |
| National Availability?                   |                   | ✓           | Imperfect        |             |

[www.scvotes.org/election-audits-south-carolina](http://www.scvotes.org/election-audits-south-carolina) makes public ballot images from all state-involved elections since the 2010 General.

Example Log (Awendaw Precinct, Charleston)

|                                                                                    |                            |                                         |
|------------------------------------------------------------------------------------|----------------------------|-----------------------------------------|
|  | VOTER A                    |                                         |
|                                                                                    | 10 Hillary Rodham Clinton  | President and Vice President            |
|                                                                                    | 18 Thomas Dixon            | U.S. Senate                             |
|                                                                                    | 27 Dimitri Cherny          | CON0001 U.S. House of Representatives   |
|                                                                                    | 53 Peter J Tecklenburg     | Auditor                                 |
|                                                                                    | 61 Andrew C Smith.         | County Treasurer                        |
|                                                                                    | 104 No                     | Question 1                              |
|                                                                                    | 107 No                     | Question 2                              |
|                                                                                    | VOTER B                    |                                         |
|                                                                                    | 14 Donald J Trump          | President and Vice President            |
|                                                                                    | 22 Tim Scott               | U.S. Senate                             |
|                                                                                    | 30 Mark Sanford            | CON0001 U.S. House of Representatives   |
|                                                                                    | 35 Stephen Goldfinch       | SEN0034 State Senate                    |
|                                                                                    | 38 Lee Hewitt              | HOU0108 State House of Representatives  |
|                                                                                    | 41 Scarlett Wilson         | Solicitor Circuit 9                     |
|                                                                                    | 44 Al Cannon               | Sheriff                                 |
|                                                                                    | 47 Julie J Armstrong       | Clerk of Court                          |
|                                                                                    | 50 Rae H Wooten            | Coroner                                 |
|                                                                                    | 54 Elizabeth Moffly        | Auditor                                 |
|                                                                                    | 59 Mary E Tinkler.         | County Treasurer                        |
|                                                                                    | 64 John H Smoak            | Soil and Water District Commission      |
|                                                                                    | 68 Tony E Lewis            | CSB City of Charleston                  |
|                                                                                    | 71 Chris Collins           | CSB North Area                          |
|                                                                                    | 74 Louis L Smith           | CSB North Area                          |
|                                                                                    | 78 Priscilla Jeffery       | CSB West Ashley                         |
|                                                                                    | 80 Michael Miller          | CSB West Ashley                         |
|                                                                                    | 84 Anita Renee Alston-Gore | SCH0001 Con SB St James Santee District |
|                                                                                    | 88 Juanita M Middleton     | SCH0001 Con SB St James Santee District |
|                                                                                    | 89 Samuel N Robinson       | SCH0001 Con SB St James Santee District |
|                                                                                    | 104 No                     | Question 1                              |
|                                                                                    | 107 No                     | Question 2                              |
|                                                                                    | VOTER C                    |                                         |
|                                                                                    | 1 Democratic               | STRAIGHT PARTY                          |
|                                                                                    | 10 Hillary Rodham Clinton  | President and Vice President            |
|                                                                                    | 18 Thomas Dixon            | U.S. Senate                             |
|                                                                                    | 27 Dimitri Cherny          | CON0001 U.S. House of Representatives   |
|                                                                                    | 44 Al Cannon               | Sheriff                                 |
|                                                                                    | 47 Julie J Armstrong       | Clerk of Court                          |
|                                                                                    | 53 Peter J Tecklenburg     | Auditor                                 |
|                                                                                    | 58 Mary Tinkler            | County Treasurer                        |
|                                                                                    | 84 Anita Renee Alston-Gore | SCH0001 Con SB St James Santee District |
|                                                                                    | 86 Thomas L Colleton Jr    | SCH0001 Con SB St James Santee District |
|                                                                                    | 87 Erma J Harrell          | SCH0001 Con SB St James Santee District |
|                                                                                    | 103 Yes                    | Question 1                              |
|                                                                                    | 106 Yes                    | Question 2                              |



## Data Processing

-1: Democrat candidate / Democratic party ticket / No on referendum

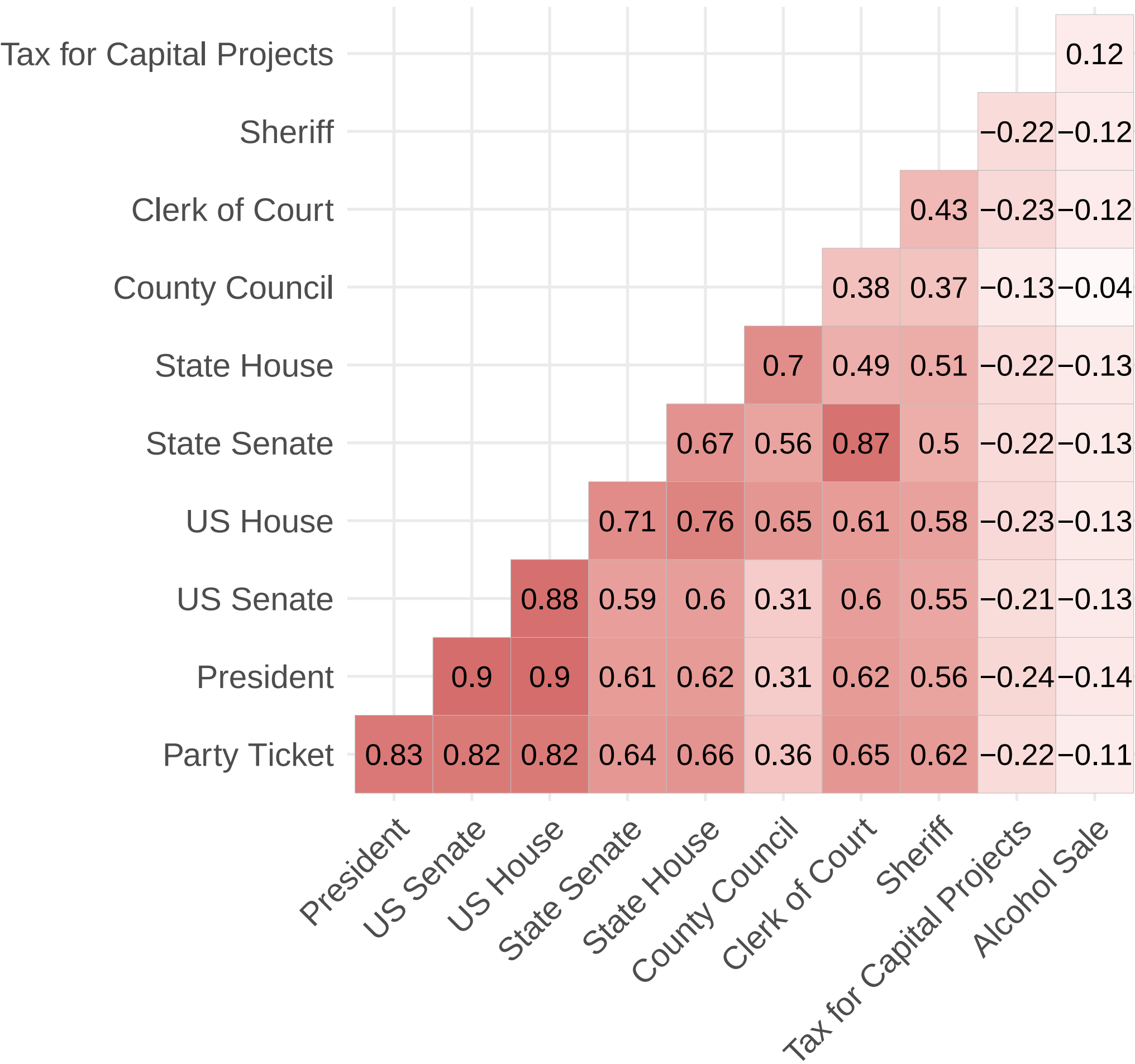
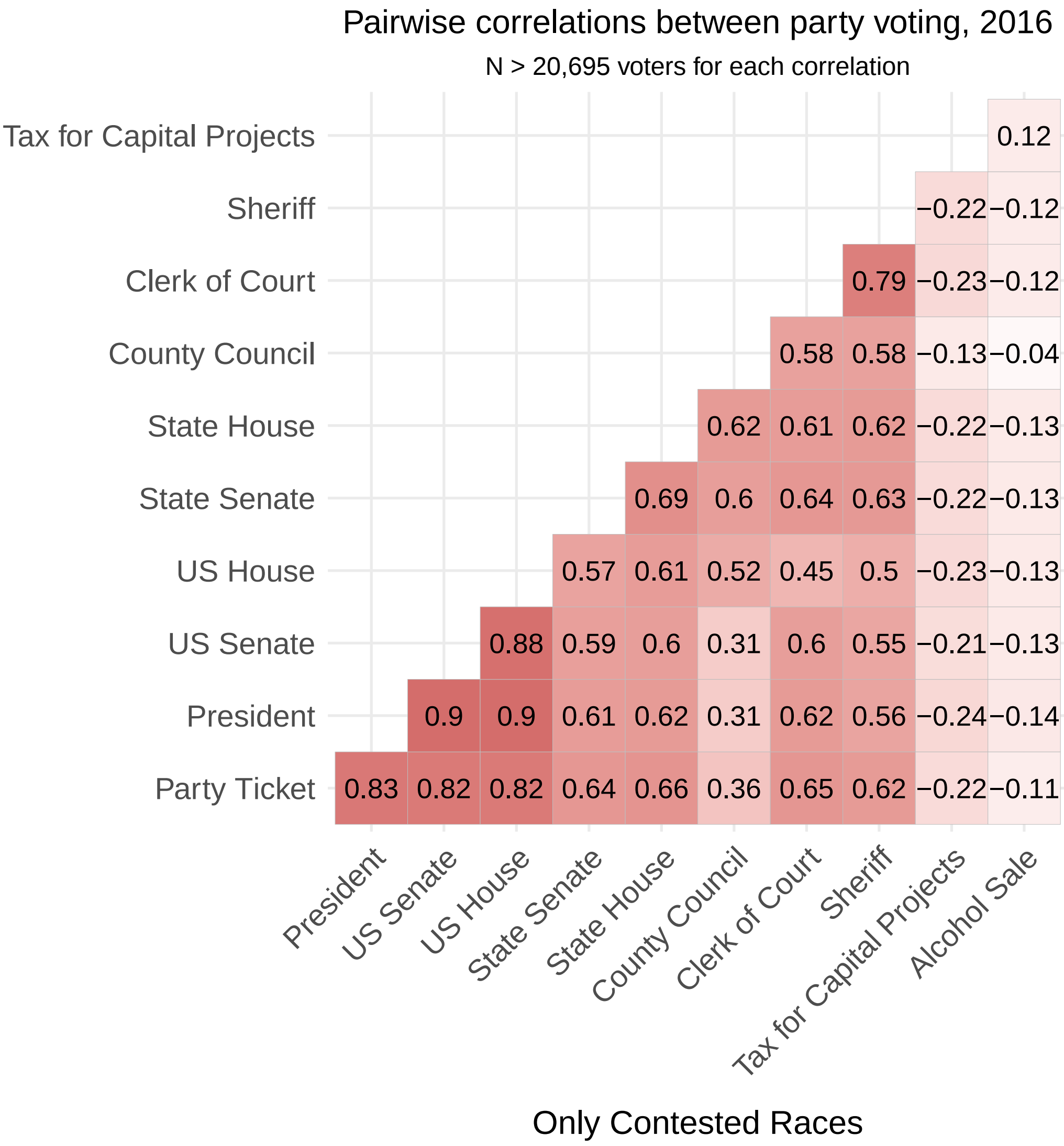
0: Abstain / Write-In / No major party ticket selected

+1: Republican candidate / Republican party ticket / Yes on referendum

NA: Office not on ballot

## Moderate to high partisan correlation among candidate voting

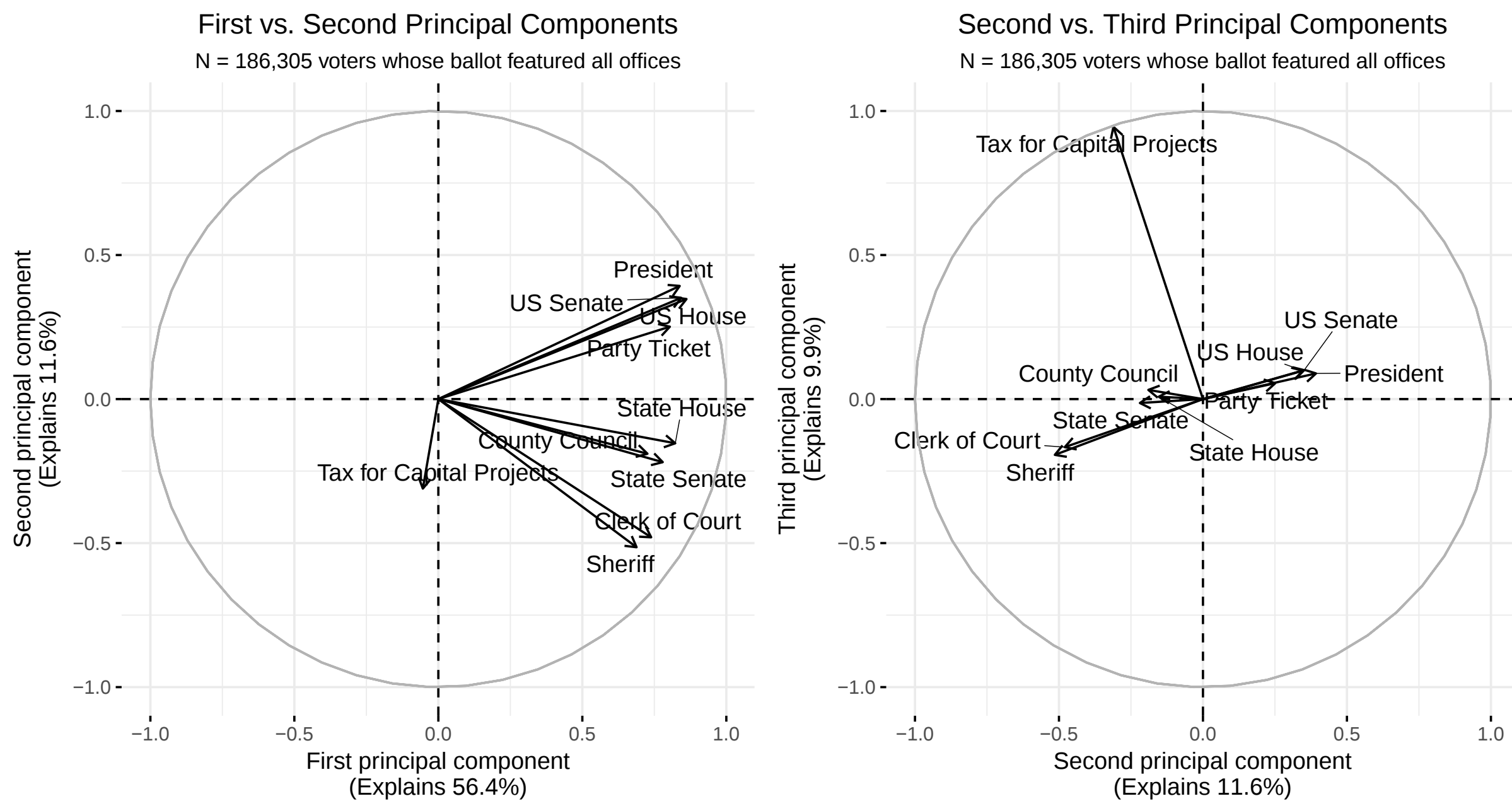
Voting for federal-level offices correlated 0.7 - 0.9. Correlation among votes for state and local offices are only around 0.4 - 0.6, even in contested races.



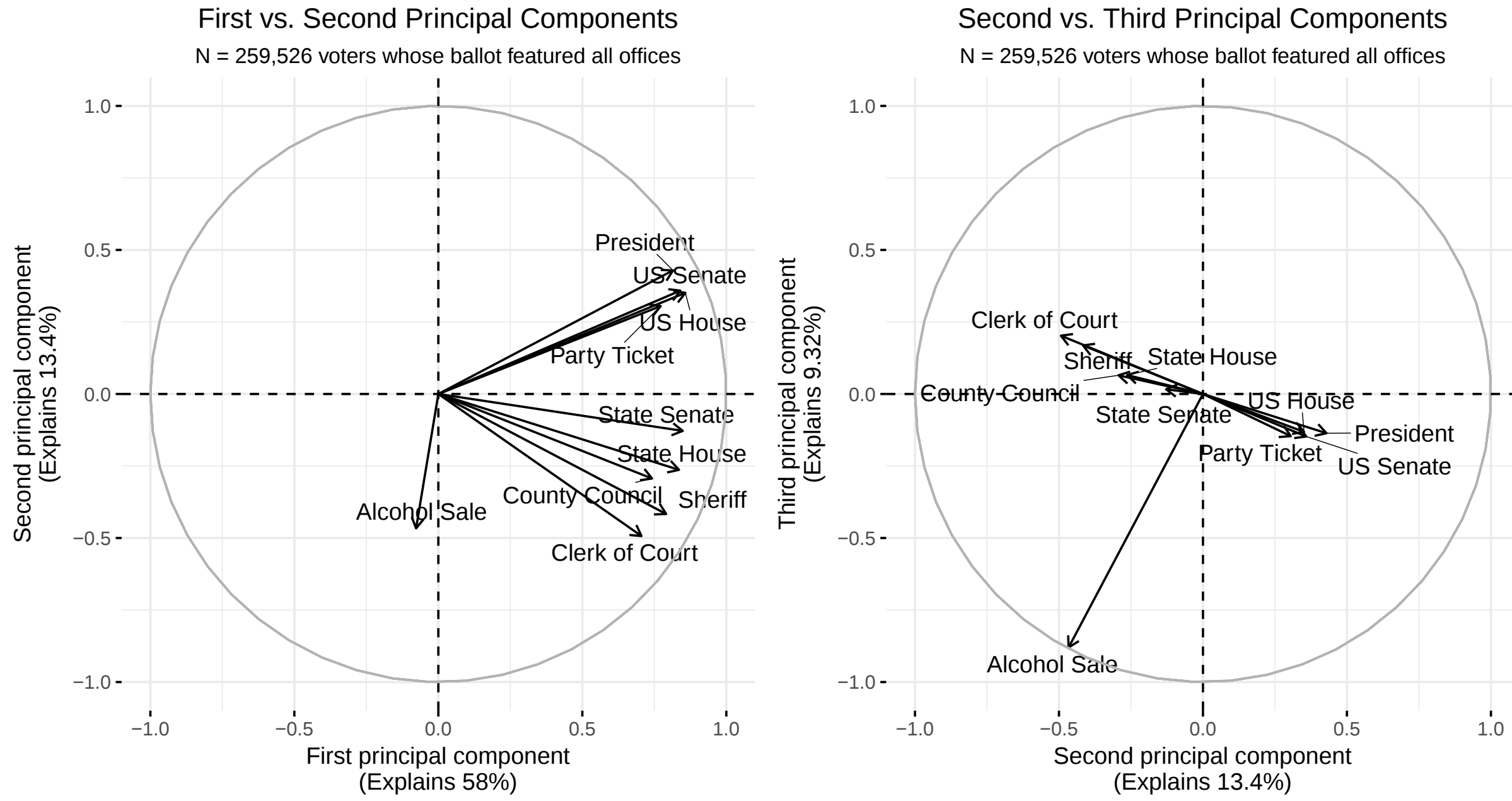
## Three Principal Components (PCA)

With major offices and a class of referendums, **three** linear combination of choice profiles explain over 80 percent of the variance (PCA via singular value decomposition). They appear to be: (1) a Left-right dimension, (2) A federal - subnational dimension, and (3) a dimension specific to referendum.

### Counties with a Sales Tax for Infrastructure Projects Referendum



### Counties with a Alcohol Sales Referendum



### Districts with Both (Orangeburg County)

