How Candidates and Election Context Swing Voters and Mobilize the Base

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Motivation: Get Out The Vote vs Persuasion?

- Disclaimer: not a field experiment!
- Choice for campaigns: Mobilize supporters to turn out or persuade swing voters to their side?
- Worth knowing:
  - The relative balance of the two effects across a range of contests?
  - The factors that influence whether specific elections more likely decided by mobilization or swing voters?

Overview of academic project

- Most academic research considers separately effects of swing voters or of turnout.
- Reasons to believe both may move together systematically $\rightarrow$ should be estimated together.
- This project: theory of voter behavior that suggests when swing voters and composition should vary in effect across elections.
- Key results from theory:
  - Both effects should vary as the types of candidates contesting two elections become more distinct.
  - Both effects, but more likely mobilization, should vary with the level of campaign effort.

Today: how to measure these things

- Key difficulty is untangling the separate effect of switching voters from changes in turnout.
- This project takes considerable effort in estimating the magnitude of each in a unified framework.
- Estimates allow relating magnitude of each effect across each of a set of contests to characteristics of those contests.

Where we are going

- Tractable definitions of the net partisan effects of *switching voters* and *change in composition*.
- Estimate the magnitude of each across a set of contests in Florida, 2006, 2008, and 2010.
- On average, net effect from switching voters on vote share of 4.7 percentage points.
- On average, net effect from changes in turnout on vote share of 7.3 percentage points.
- Large variation across contests, some of it predictable by features of those contests.

How to measure effects of switching and turnout?

- One approach is to use surveys, ask respondents: "Did you vote? For whom? What about last time?"
- Advantages: individual level observations; opportunity to ask related questions; somewhat scalable.
- Problems: expensive; small samples; fallible memories $\rightarrow$ requires some coincidence in time.

How to measure effects of switching and turnout?

- Another approach: Did campaign reach turnout or vote share targets in precincts, counties, etc.?
- Advantages: actual election results; connected to campaign effort; relevant for next campaign.
- Problems: did campaign mobilize or persuade?; must know campaign targets.

How to measure effects of switching and turnout?

- My approach: use precinct election returns and voter files.
- Precinct election returns matched across elections to measure change in vote choice.
- Voter files matched across elections to measure changes in turnout.
- Statistical model to estimate how many switching voters, and vote choice of single-election voters.

How to measure effects of switching and turnout?

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- Precinct election returns matched across elections to measure change in vote choice.
- Voter files matched across elections to measure changes in turnout.
- Statistical model to estimate how many switching voters, and vote choice of single-election voters.
- Advantages: less expensive in $/£; characterize full electorate across many contests; can implement after the fact.
- Problems: more expensive in time and computation; lack of individual variables.

How to measure effects of switching and turnout?

- Before data, definitions. Who are “swing” voters?
- Swing/switching voters: those who vote for two different parties across two elections.
  - May or may not be related to those whose vote intention waivers during campaign.
- Effect of turnout: change in vote share due to those who turn out in only one of the two elections.
- Behavioral definitions of these concepts.

How to measure effects of switching and turnout?

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$
$\textbf{Rep}_2$	n_1	n_2	n_3
$\textbf{Oth}_2$	n_4	n_5	n_6
$\textbf{NoVote}_2$	n_7	n_8	n_9

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n_1 Turn out twice, vote twice for Rep.
n_2 Turn out twice, vote first for Oth, then for Rep.
n_3 Turn out at second only, vote for Rep.
n_4 Turn out twice, vote first for Rep, then for Oth.
n_5 Turn out twice, vote twice for Oth.
n_6 Turn out at second only, vote for Oth.
n_7 Turn out at first only, vote for Rep.
n_8 Turn out at first only, vote for Oth.
n_9 Stay home twice.

How to measure effects of switching and turnout?

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Swing/switching voters.

How to measure effects of switching and turnout?

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Change in composition.

The effects of switching and turnout

	Rep$_1$	**Oth**$_1$	**NoVote**$_1$
Rep$_2$	n_1	n_2	n_3
Oth$_2$	n_4	n_5	n_6
NoVote$_2$	n_7	n_8	n_9

- If electorate did not change size:
- Benefit to Republican from switching voters: $n_2 - n_4$.
- Benefit to Republican from change in turnout: $n_3 - n_7$.

The effects of switching and turnout

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$
$\textbf{Rep}_2$	n_1	n_2	n_3
$\textbf{Oth}_2$	n_4	n_5	n_6
$\textbf{NoVote}_2$	n_7	n_8	n_9

- Because electorate does change size:
- Benefit to Republican from switching voters: $(n_2 - n_4)/(n_1 + n_2 + n_3 + n_4 + n_5 + n_6)$.
- Benefit to Republican from change in turnout: $(n_1 + n_3 + n_4)/(n_1 + n_2 + n_3 + n_4 + n_5 + n_6) - (n_1 + n_4 + n_7)/(n_1 + n_2 + n_4 + n_5 + n_7 + n_8)$.

The effects of switching and turnout

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$
$\textbf{Rep}_2$	n_1	n_2	n_3
$\textbf{Oth}_2$	n_4	n_5	n_6
$\textbf{NoVote}_2$	n_7	n_8	n_9

- Due to secret ballot, we don't observe n_1 to n_8.
- Opinion surveys: ask respondents in which cell they behaved/intend to behave.
- What other data relevant to these quantities?

The effects of switching and turnout

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$
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- Vote returns and turnout statistics = row and column totals. Example:
  - Number of Republican votes received at election 2 = $n_1 + n_2 + n_3$.
  - Number of registrants who stayed home at election 1 = $n_3 + n_6 + n_9$.
- Accounting provide bounds; not always precise.
- Precinct-level returns often provide more specific bounds due to partisan segregation.

The effects of switching and turnout

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$
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- Another data source: Voter files with party of registration. Examples:
  - Number of registrants who turn out twice and are registered Democrat likely related positively to n_5.
  - Number of registrants who turn out only at election 2 and are registered Republican likely related positively to n_3.
- Statistical model maps from voter file cross-tabulation to this table.

Precinct election returns (precinct 1132, Florida 15th district, 2006 to 2010)

	Rep$_1$	**Oth**$_1$	**NoVote**$_1$	
Rep$_2$	n_1	n_2	n_3	736
Oth$_2$	n_4	n_5	n_6	439
NoVote$_2$	n_7	n_8	n_9	
	603	643		

Tabulations from voter files (precinct 1132, Florida 15th district, 2006 to 2010)

	Rep$_1$	**Oth**$_1$	**NoVote**$_1$	
Rep$_2$	n_1	n_2	n_3	736
Oth$_2$	n_4	n_5	n_6	439
NoVote$_2$	n_7	n_8	n_9	
	603	643		

Democrats

	Vote '06	Abstain '06
Vote '10	308	162
Abstain '10	250	

Republicans

	Vote '06	Abstain '06
Vote '10	648	249
Abstain '10	211	

Others

	Vote '06	Abstain '06
Vote '10	108	77
Abstain '10	65	

Example precinct estimates (precinct 1132, Florida 15th district, 2006 to 2010)

[Statistical model ...]

Example precinct estimates (precinct 1132, Florida 15th district, 2006 to 2010)

	$\textbf{Rep}_1$	$\textbf{Oth}_1$	$\textbf{NoVote}_1$	
$\textbf{Rep}_2$	548	113	73	736
$\textbf{Oth}_2$	1	438	26	469
$\textbf{NoVote}_2$	51	95		
	603	643		

Note: Posterior median estimates.

Example precinct estimates (precinct 1132, Florida 15th district, 2006 to 2010)

	Rep$_1$	**Oth**$_1$	**NoVote**$_1$	
Rep$_2$	548	113	73	736
	[453,590]	[57,170]	[9,200]	
Oth$_2$	1	438	26	469
	[0,32]	[349,466]	[2,115]	
NoVote$_2$	51	95		
	[1,146]	[33,199]		
	603	643		

Note: Posterior median estimates with 95 percent credible intervals in brackets.

Example precinct estimates (precinct 1132, Florida 15th district, 2006 to 2010)

	$\mathbf{Rep}_1$	$\mathbf{Oth}_1$	$\mathbf{NoVote}_1$	
$\mathbf{Rep}_2$	548	113	73	736
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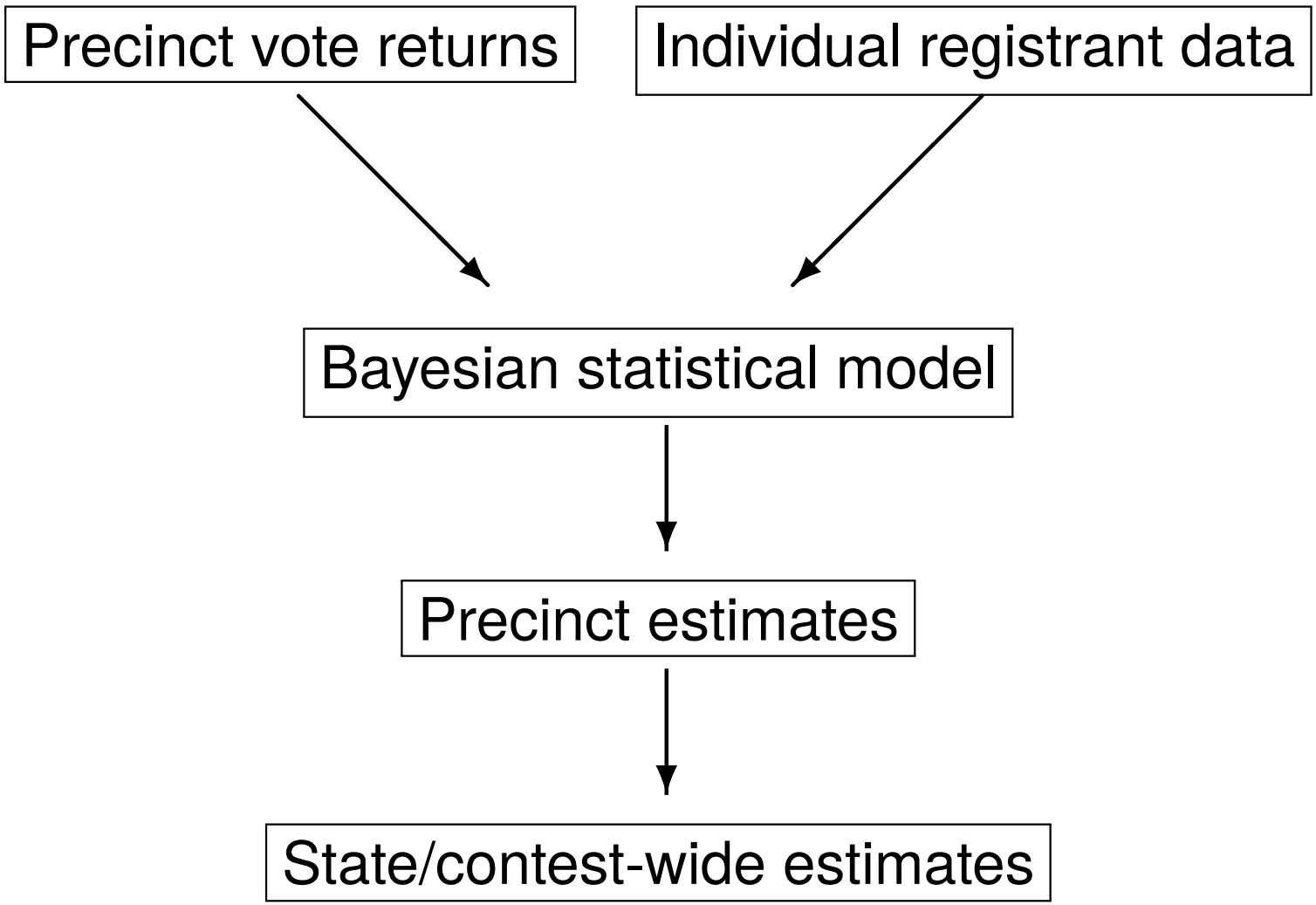
	603	643		

- Benefit to Republican from switching voters: $(n_2-n_4)/(n_1+n_2+n_3+n_4+n_5+n_6) = (113-1)/1205 =$ 9.3 points.
- Benefit to Republican from change in turnout: $(n_1+n_3+n_4)/(n_1+n_2+n_3+n_4+n_5+n_6)-$ $(n_1+n_4+n_7)/(n_1+n_2+n_4+n_5+n_7+n_8) =$ $(548+73+1)/1205-(548+1+51)/1246 =$ 3.5 points.

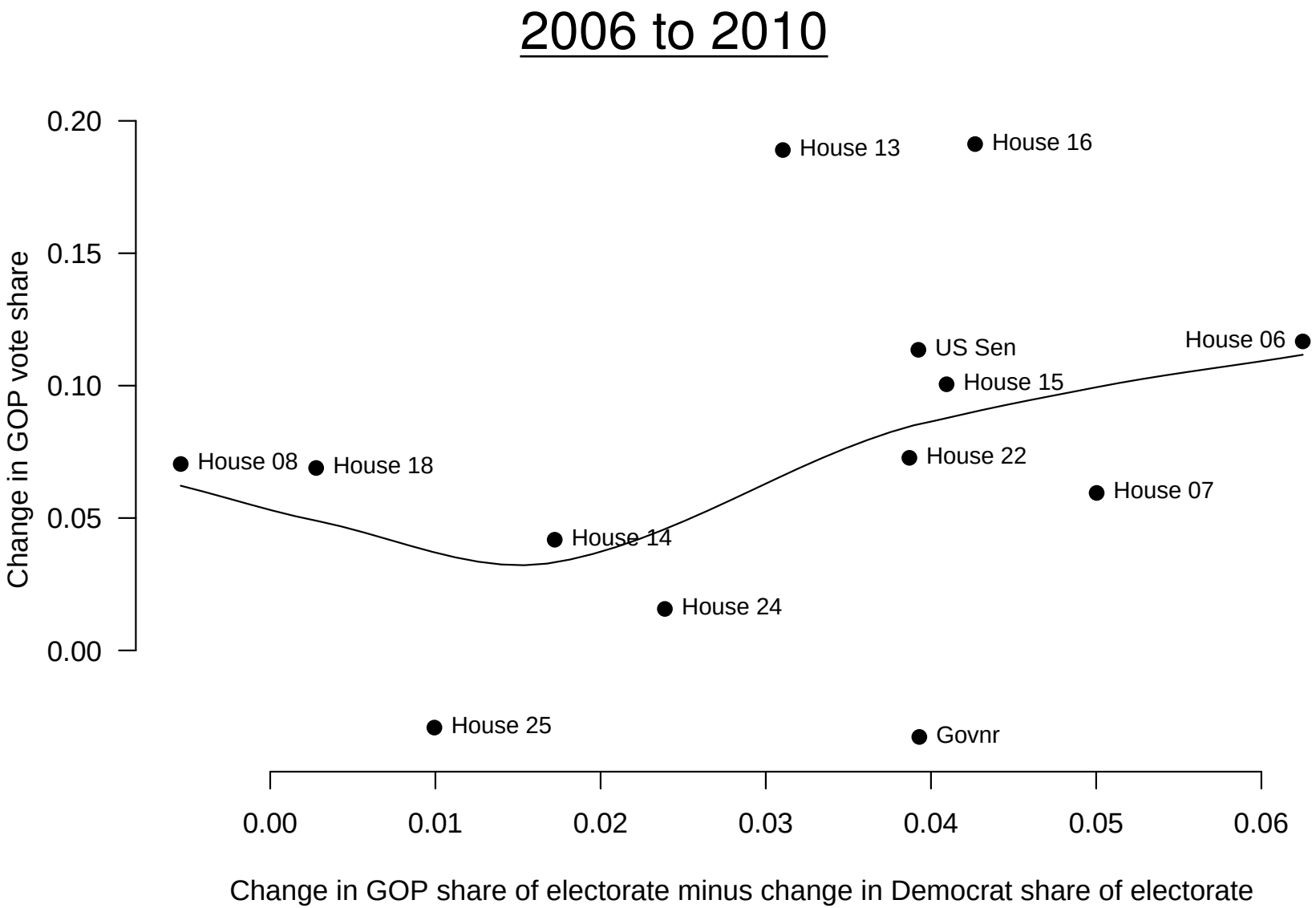
Statistical model



Elections and data sources

- Implement model in state of Florida.
- Precinct returns from legislative redistricting website; around 7,500 precincts.
- Voter files from Secretary of State; around 12,500,000 registrants.
- Comparison of U.S. House and Senate, and state governor contests from 2006 to 2010.
- Comparison of Presidential to U.S. House and Senate, and state governor contests from 2008 to 2010.

Change in Republican vote share in Florida contests



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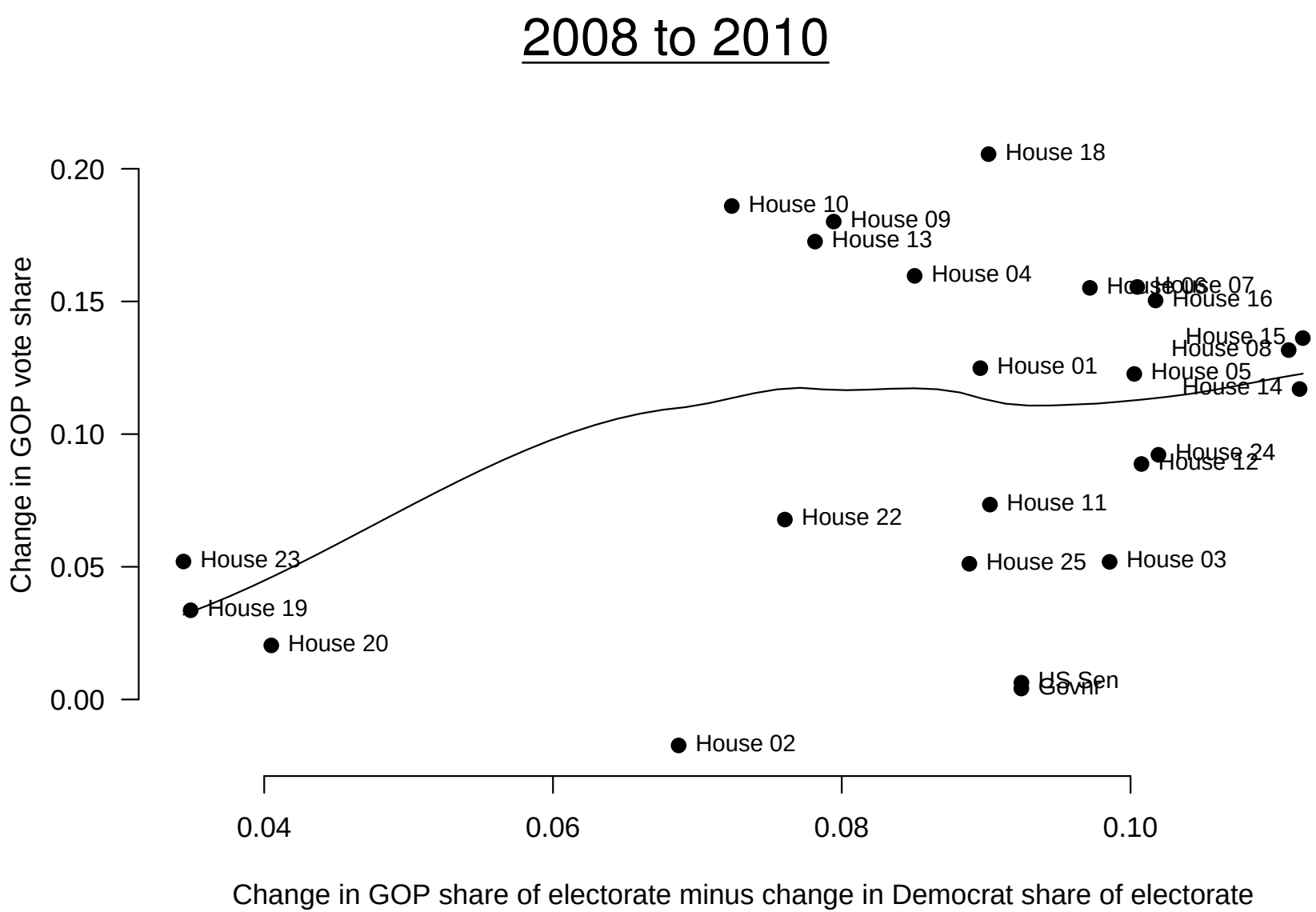
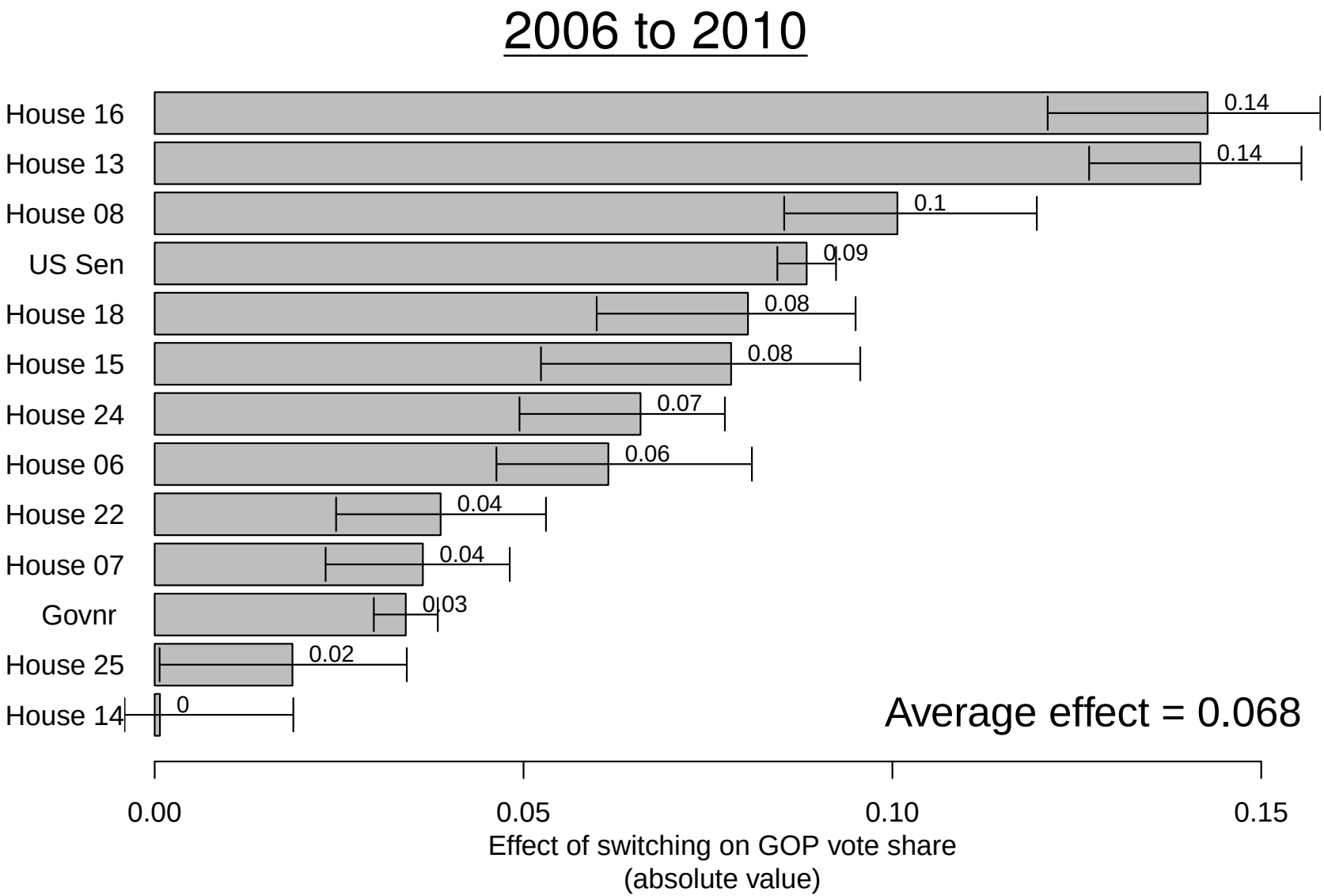


Estimated effects of switching voters across contests



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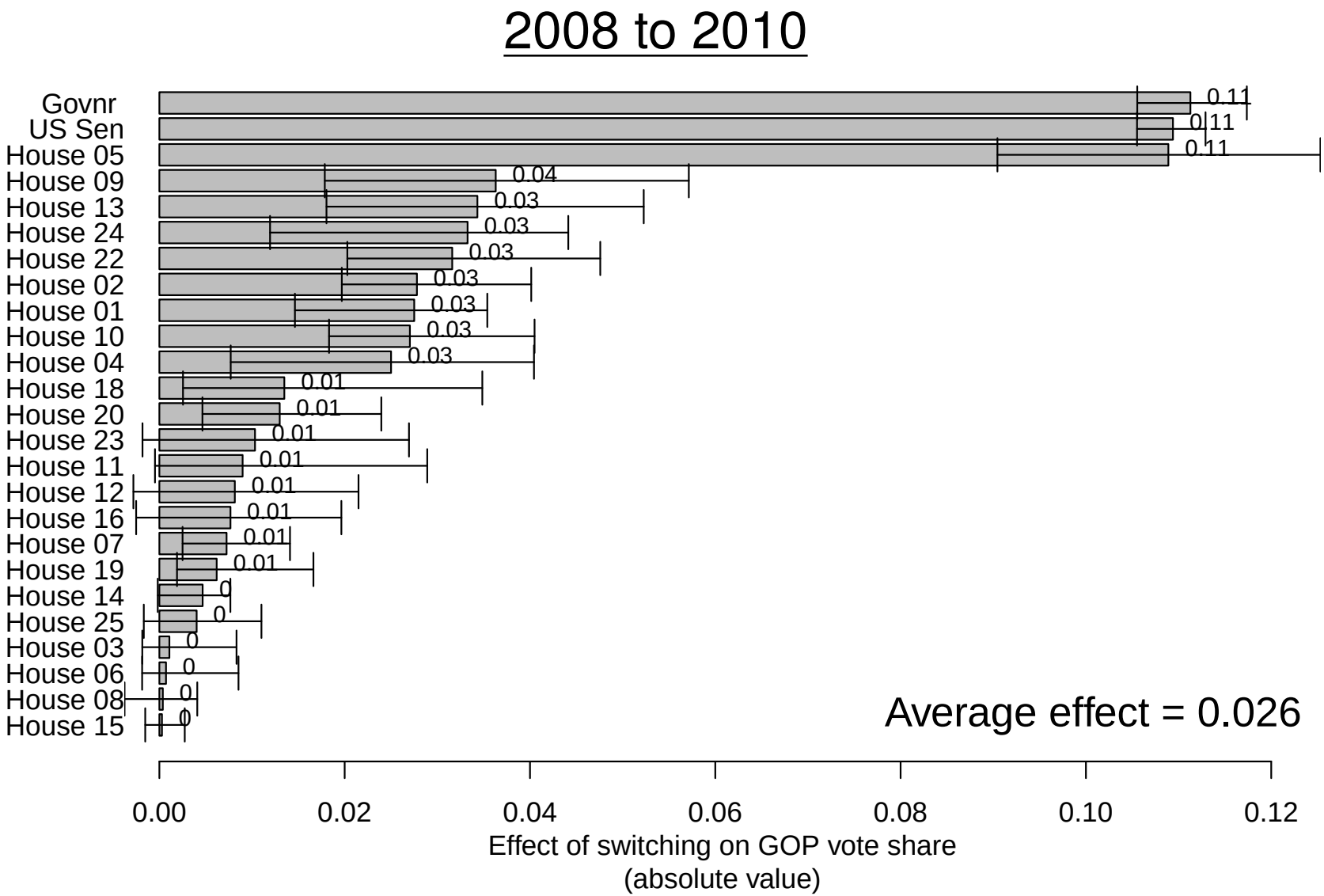
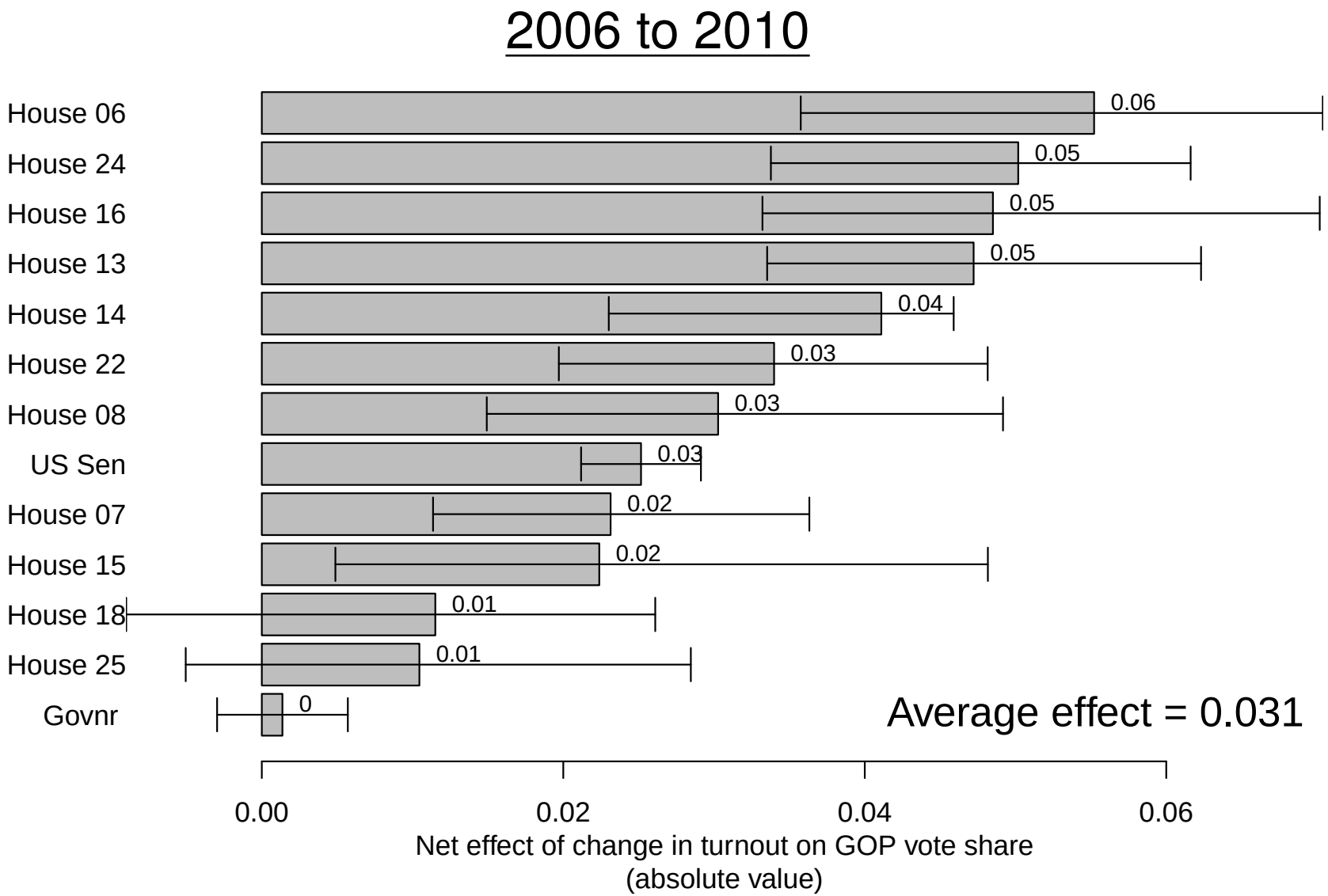
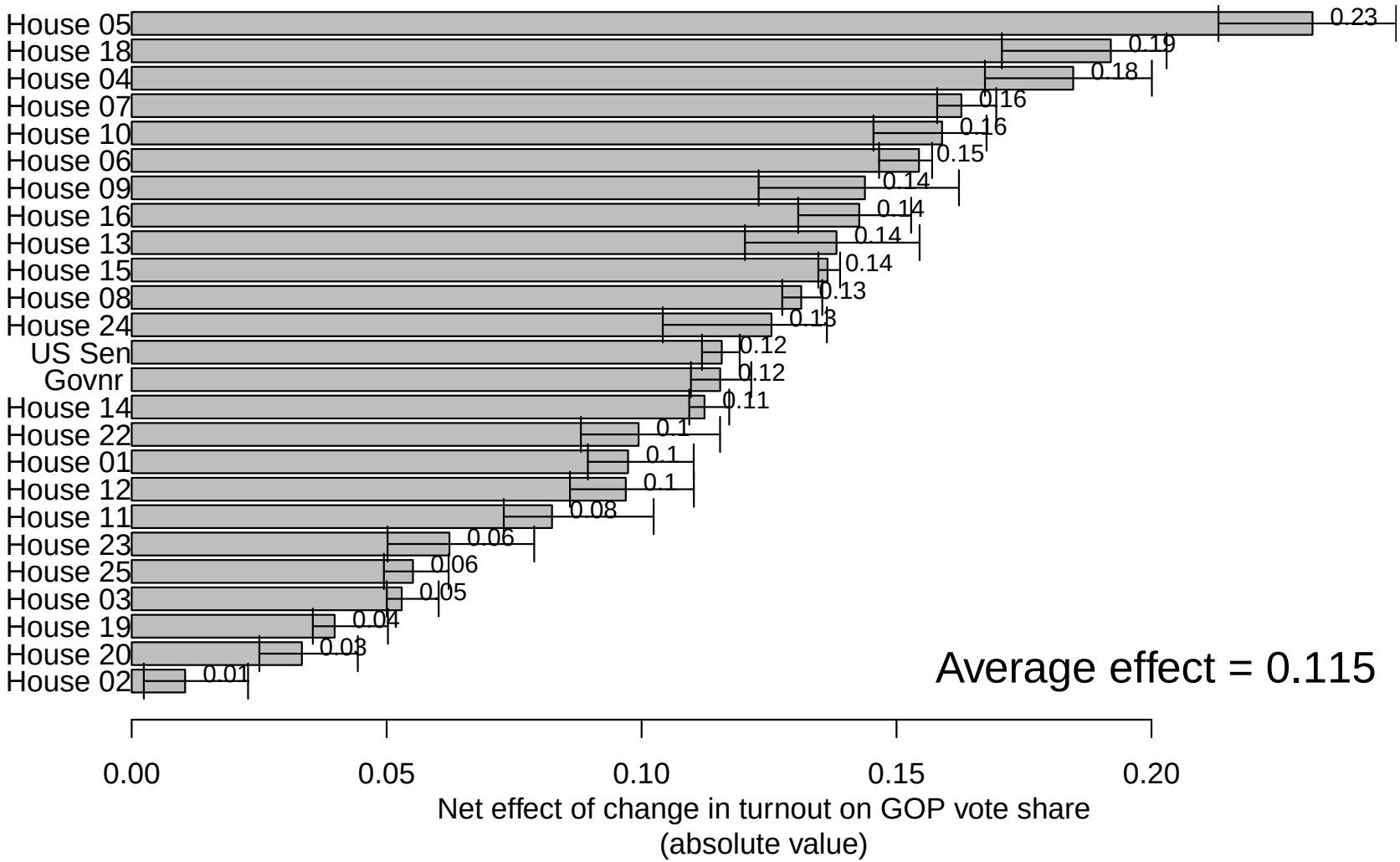


Estimated effects of changes in turnout across contests



Estimated effects of changes in turnout across contests

2008 to 2010



Average net effects across contests

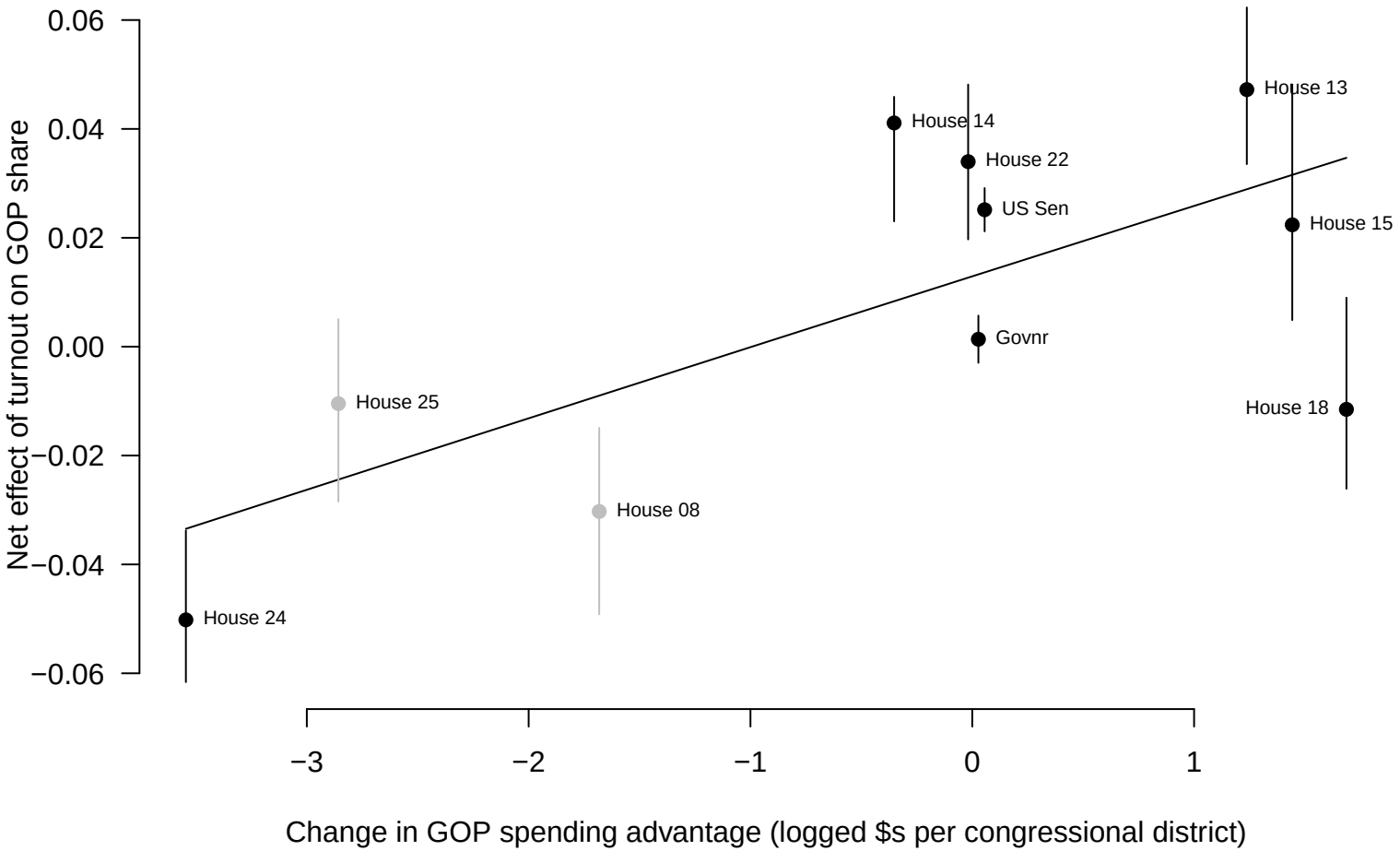
	2006 to 2010	2008 to 2010	Average
Switching voters	6.8	2.6	4.7
Change in turnout	3.1	11.5	7.3

Note: Effects are net percentage points of vote share from first to second election.

Characteristics of the contest

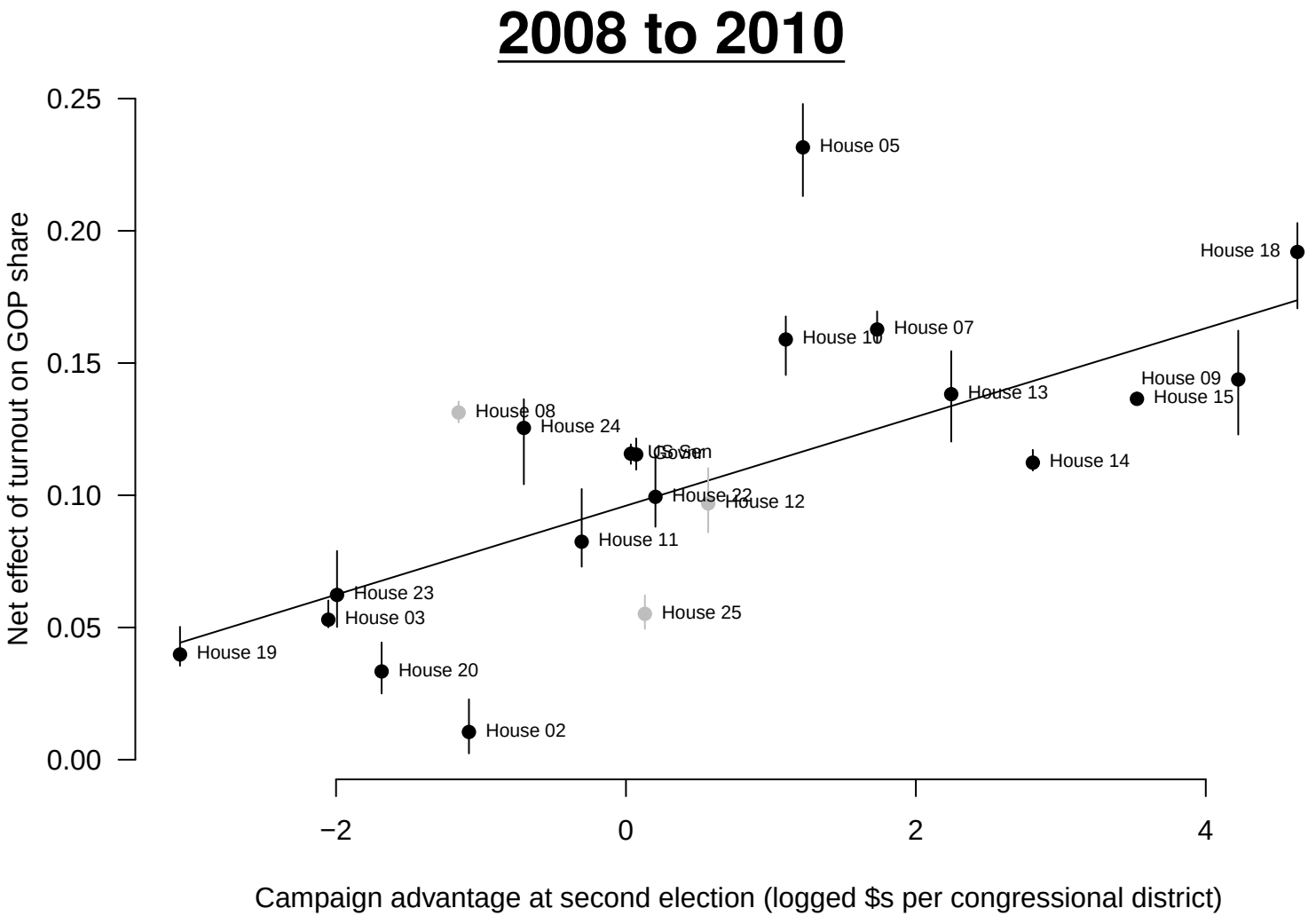
- Implication from the theory: the greater the imbalance in campaign expenditures between the two sides, the larger the effect on vote share off changes in turnout.
- Measured by money spent by Republican minus money spent by Democrat as reported to the Federal Election Commission.
- (Logged and differenced.)

Change in turnout and campaign spending



Note: Campaign spending is in logged dollars Republican advantage; increasing values means the Republican was increasingly advantaged in spending in the second election. Gray points are contests that include a Tea Party candidate in addition to a Republican candidate. Error bars extend to 95 percent credible interval.

Change in turnout and campaign spending



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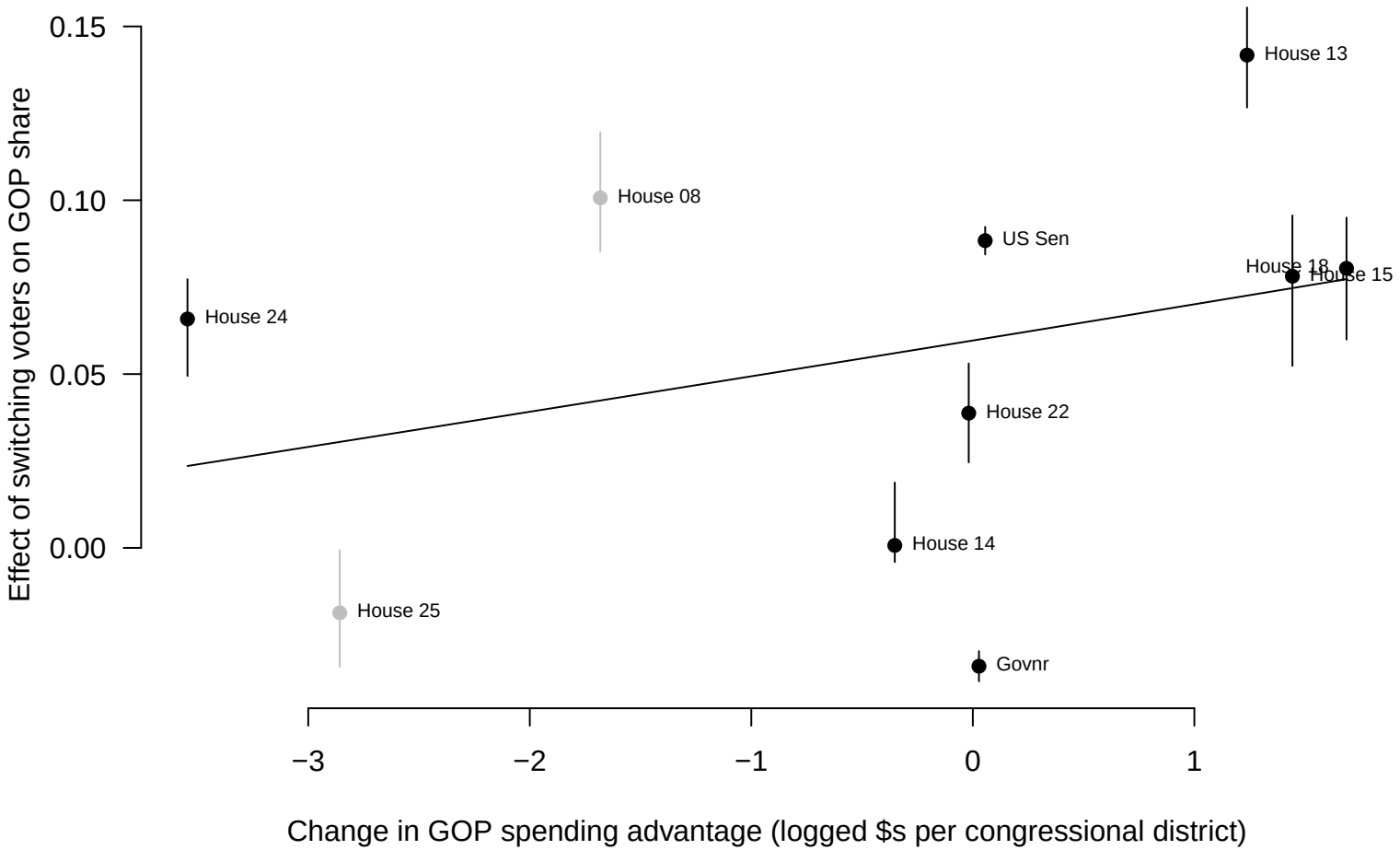

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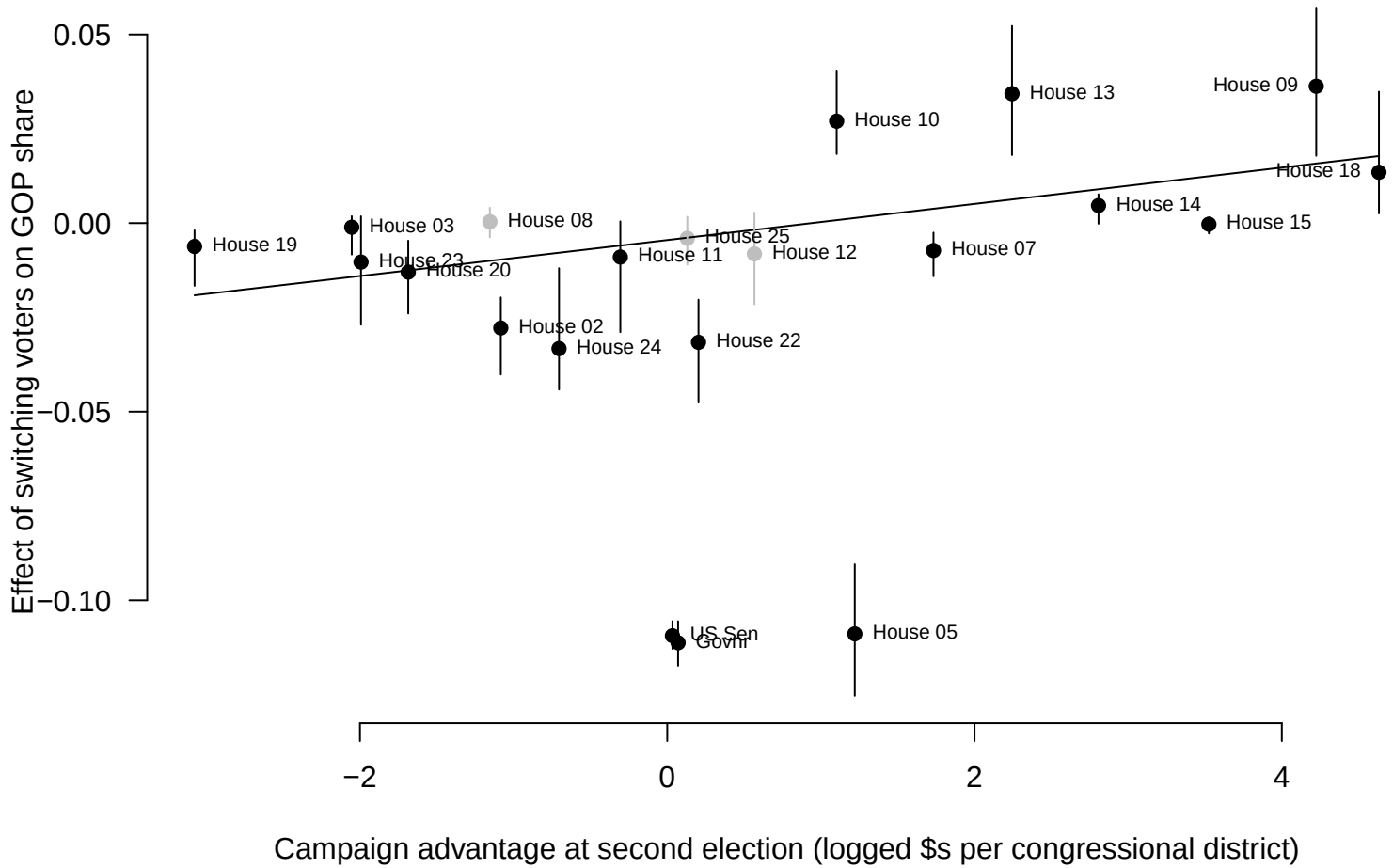

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Characteristics of the competing candidates

- Implication from the theory: the more distinct the two sets of candidates, the more swing voters.
- Across two contests in the same district:
  - Same two candidates $\rightarrow$ fewer swing voters,
  - When one contest has a noted moderate, or a noted extremist $\rightarrow$ more swing voters.

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- Across two contests in the same district:
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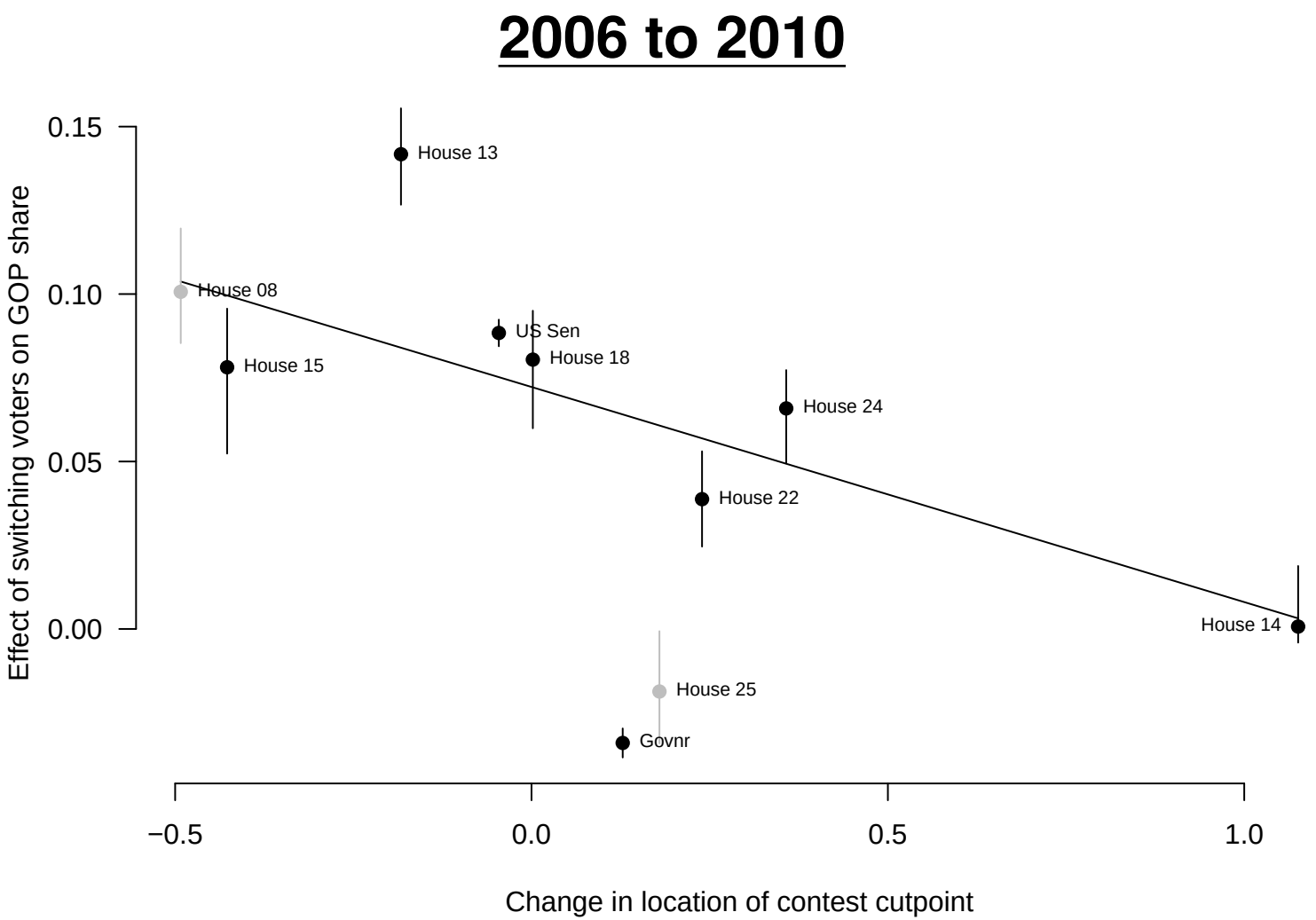
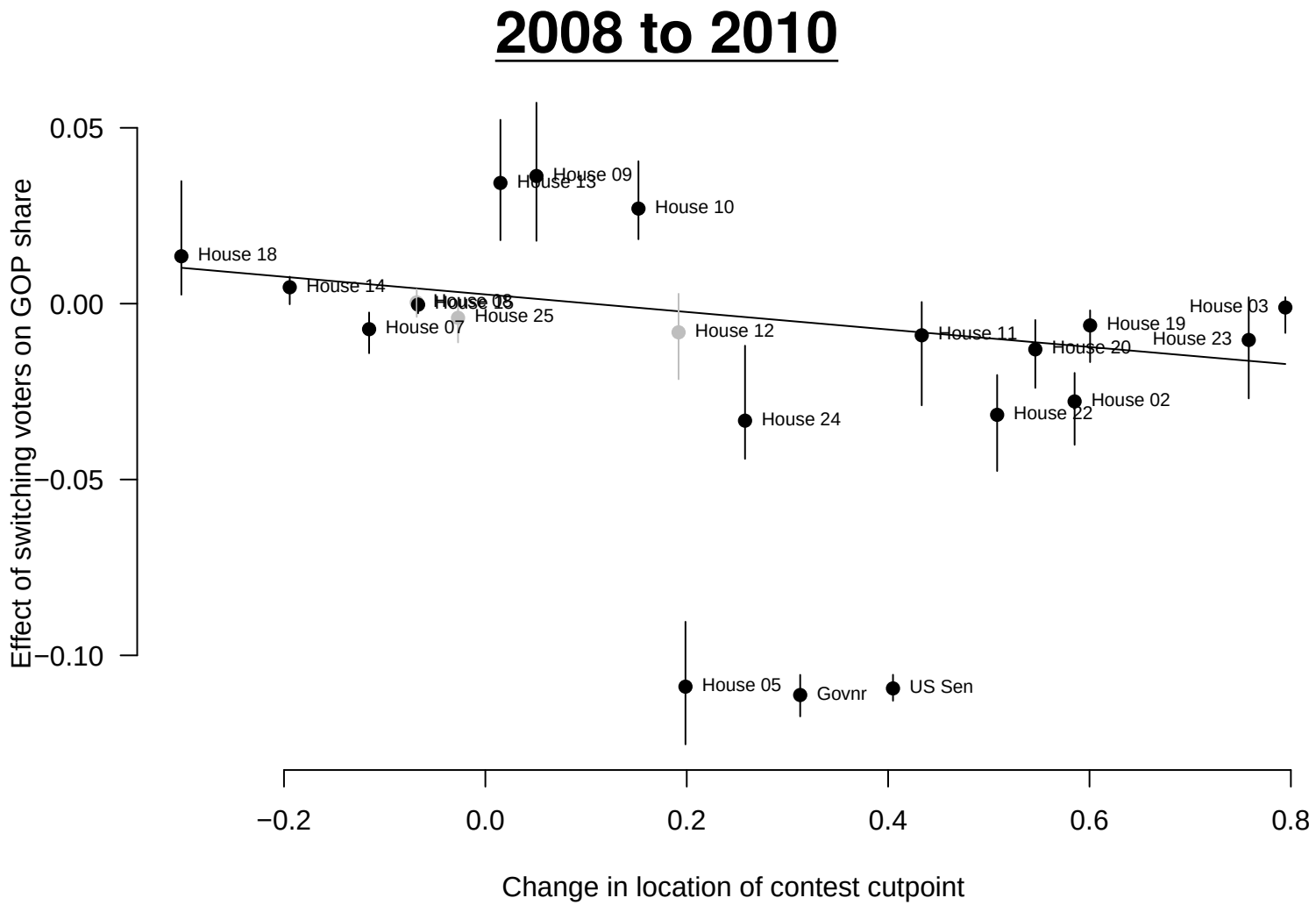
  - When one contest has a noted moderate, or a noted extremist $\rightarrow$ more swing voters.
- How to measure? Ideology estimates of candidates based on campaign contributions (Adam Bonica).
- Summarize each contest by the cutpoint/midpoint/dividing line between the candidates.
- Two cutpoints at 0.0 mean two similar contests. One cutpoint at -1 and the other at 1 means lots of swing voters.

Switching voters and contest cutpoint



Change in the contest cutpoint measured by Bonica CFScores; increasing values means that the cutpoint moved to the right, decreasing values to the left. Gray points are contests that include a Tea Party candidate in addition to a Republican candidate. Error bars extend to 95 percent credible interval.

Switching voters and contest cutpoint



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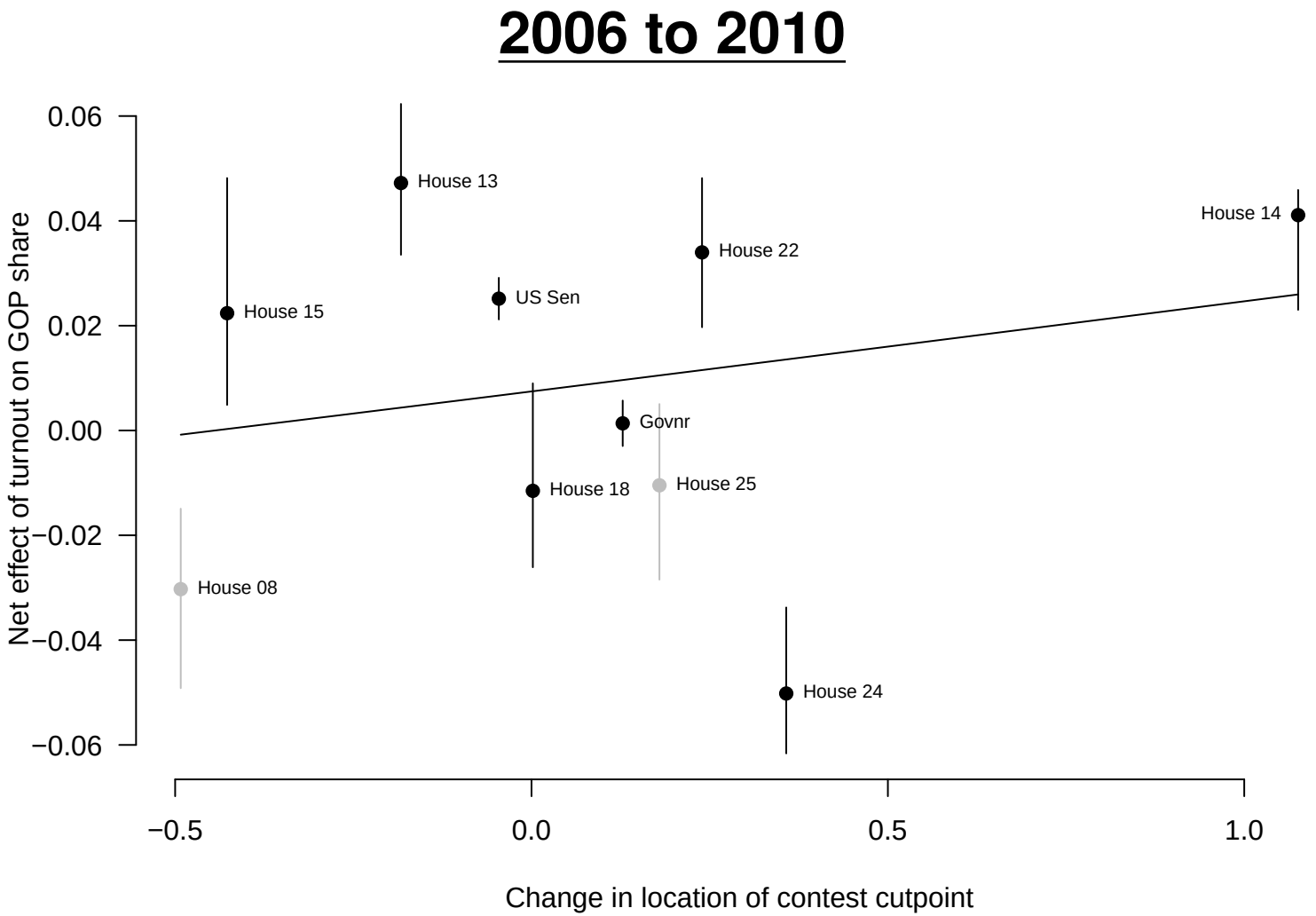
Change in turnout and contest cutpoint



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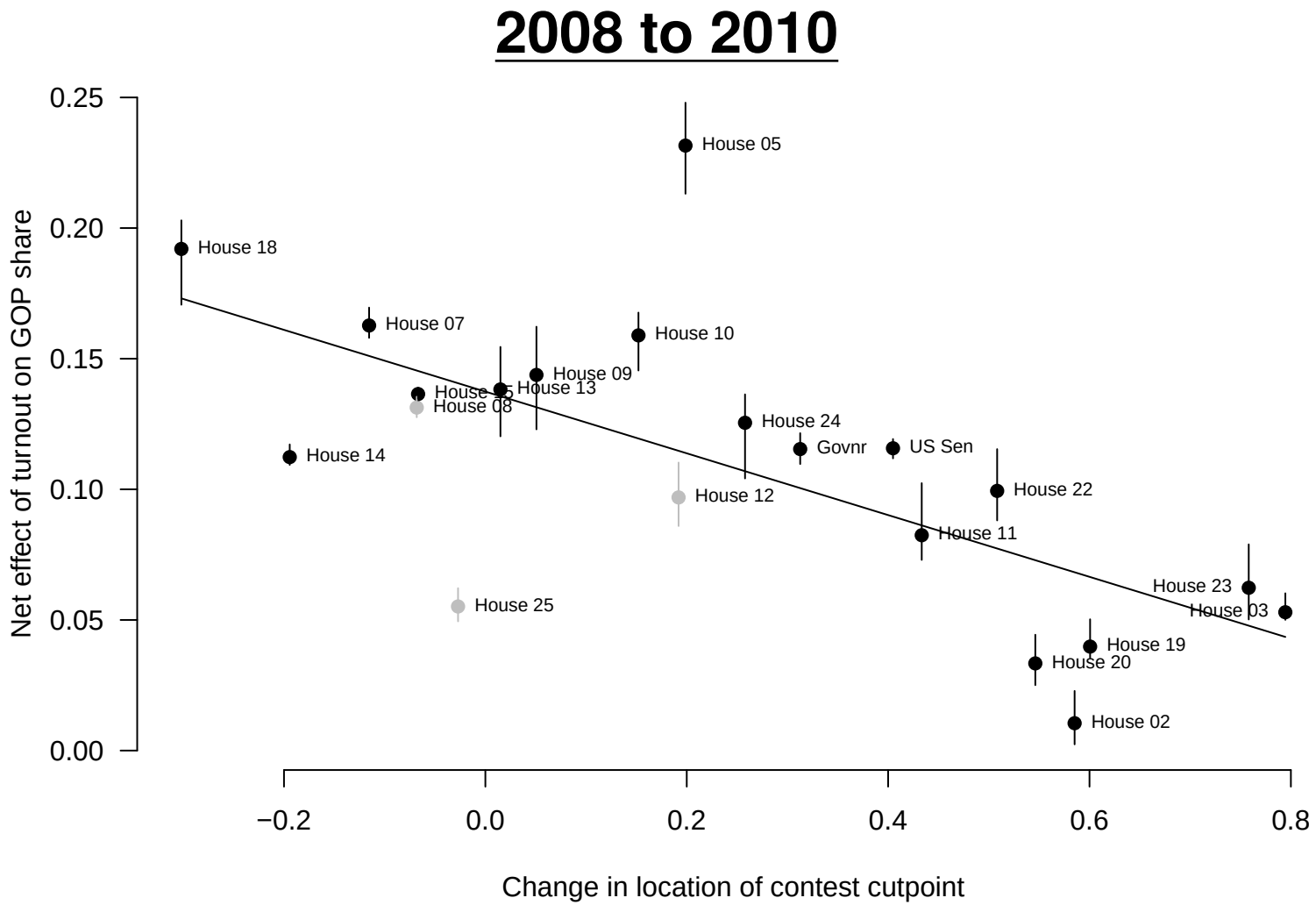

Change in the contest cutpoint measured by Bonica CFScores; increasing values means that the cutpoint moved to the right, decreasing values to the left. Gray points are contests that include a Tea Party candidate in addition to a Republican candidate. Error bars extend to 95 percent credible interval.

Effects of candidate and context on switching and turnout

2006 to 2010

	Effect of switchers	Effect of composition
Intercept	0.062	0.012
	(0.002)	(0.002)
Change in cutpoint	-0.067	0.024
	(0.006)	(0.006)
Change in GOP spending advantage	0.006	0.010
	(0.002)	(0.002)

Note: Dependent variables are net effect of switching voters and net effect of change in composition on GOP vote share. Change in cutpoint and change in spending advantage are both mean-deviated.

Effects of candidate and context on switching and turnout

2008 to 2010

	Effect of switchers	Effect of composition
Intercept	-0.012	0.122
	(0.002)	(0.003)
Change in cutpoint	-0.029	-0.053
	(0.008)	(0.009)
Spending advantage at second election	0.002	0.015
	(0.001)	(0.001)

Note: Dependent variables are net effect of switching voters and net effect of change in composition on GOP vote share. Change in cutpoint and change in spending advantage are both mean-deviated.

Conclusions and implications

- Importance of defining the benchmark against which changes in election results should be compared.
- Behavioral definition only one option. Others might be normal vote, pre-campaign intentions, etc.
- Presidential battleground turnout operation dominates here – 11.5 point average effect of turnout 2008 to 2010.
- Even so, average effect of change in turnout of 3.1 points 2006 to 2010.
- Average effect of swing voters 6.8 points 2006 to 2010, 2.6 points 2008 to 2010.
    - 2010 was not a referendum. About 20 percent of electoral change in FL from 2008 to 2010 due to swing voters, 80 percent due to change in turnout.

Conclusions and implications

- Campaign spending advantage directly connected to the effect of change in turnout.
- But, candidate ideology also appears related to the effect of changes in turnout on vote share.
  - How much are the turnout decisions of voters influenced by the ideological characteristics of their candidates? Or, is this apparent relationship spurious, instead elite enthusiasm or funds raised?
- Net effect of swing voters related to ideological characteristics of candidates, and, less so, to campaign spending advantage.

Conclusions and implications

- Tentative takeaway:
- Candidates structure the effect of swing voters and, to a lesser degree, the basics of turnout;
- Campaign spending can influence turnout depending upon the balance of resources.

Extensions

- Presented today contest-level estimates. I have precinct-level estimates, but they are noisy.
- Perhaps with more data or modeling, precinct estimates could be more precise;
  - Places that are more or less responsive to candidate characteristics.
  - Places where relationship of turnout to vote share is most responsive.
- More contests, places, times.
- Integration of survey estimates for low-level geographies.

Seth J. Hill, "How Candidates and Election Context Swing Voters and Mobilize the Base"

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Paper at

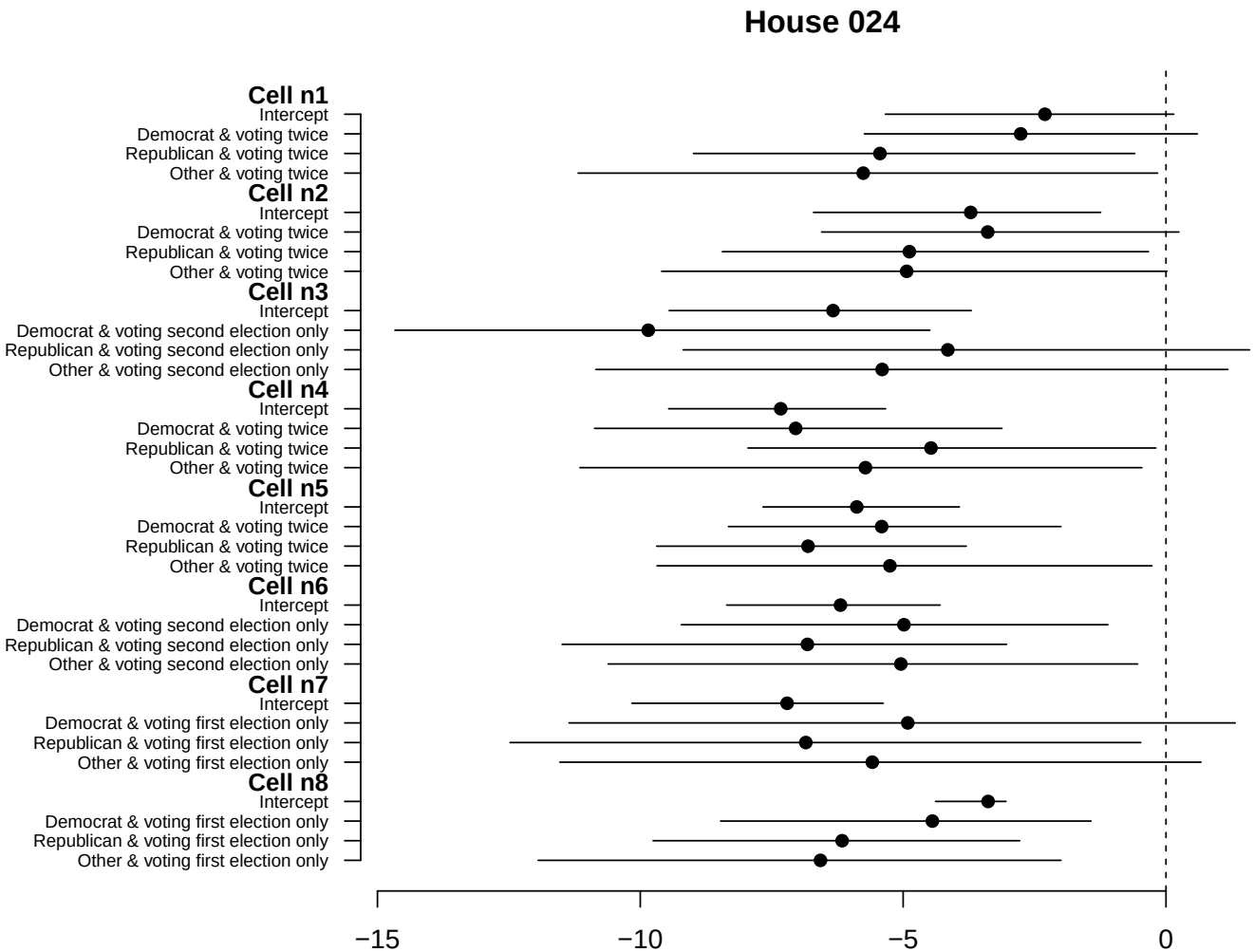
http://www.sethjhill.com/SJH_CandidatesAndContext.pdf

Appendix

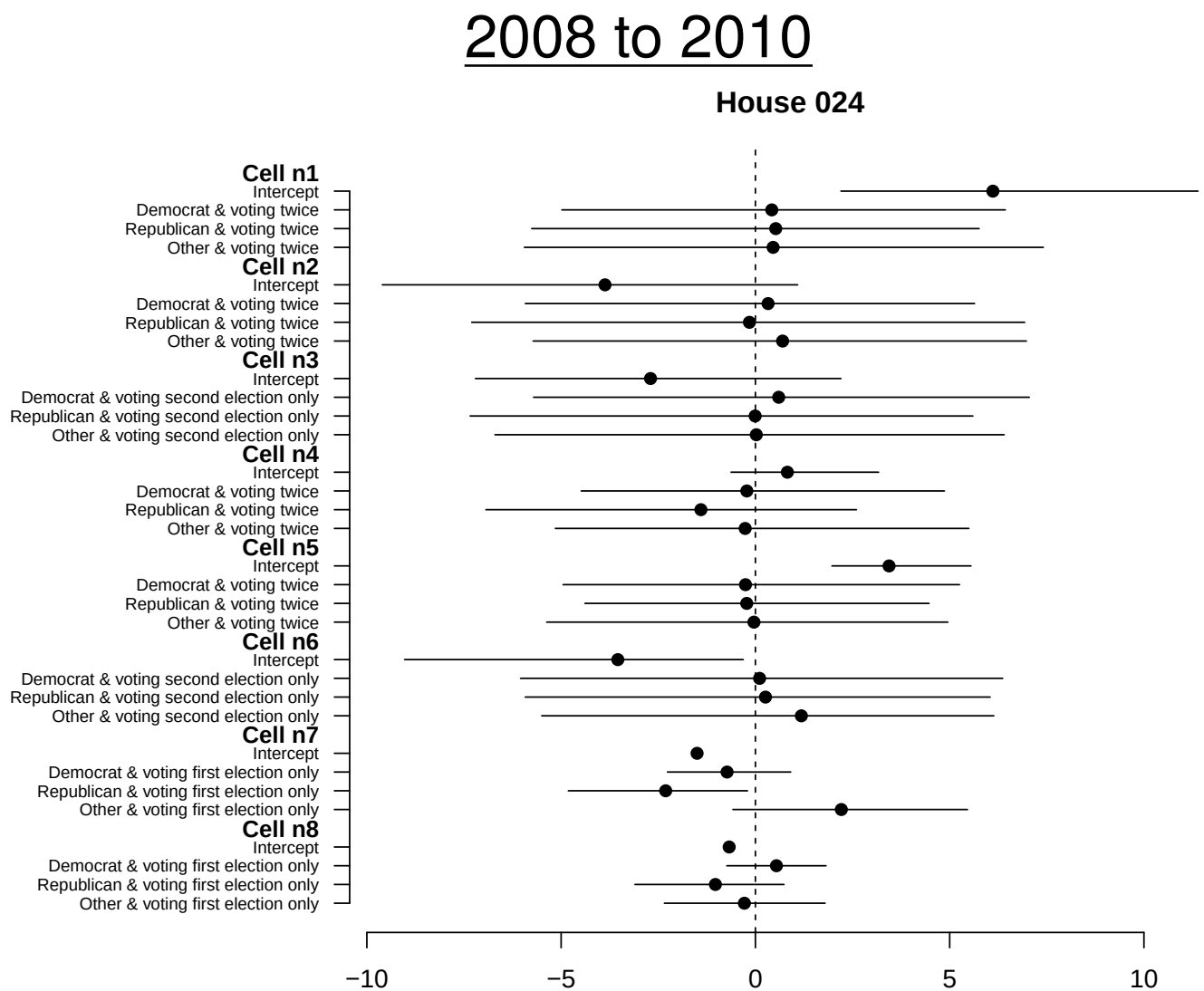
- ▸ Example model coefficients
- ▸ Statistical model

Example model coefficients for Florida 24th

2006 to 2010



Example model coefficients for Florida 24th



Bayesian hierarchical model

$$
\begin{aligned}
(n_{i1}, n_{i2}, n_{i3}) &\sim \text{Multin}(r_i^1,\ (p_{i1}, p_{i2}, p_{i3})) \\
(n_{i4}, n_{i5}, n_{i6}) &\sim \text{Multin}(r_i^2,\ (p_{i4}, p_{i5}, p_{i6})) \\
(n_{i7}, n_{i8}, n_{i9}) &\sim \text{Multin}(r_i^3,\ (p_{i7}, p_{i8}, p_{i9})) \\
c_i^1 &= n_{i1} + n_{i4} + n_{i7} \\
c_i^2 &= n_{i2} + n_{i5} + n_{i8} \\
c_i^3 &= n_{i3} + n_{i6} + n_{i9}
\end{aligned}
$$

Bayesian hierarchical model

$$p_i^j = \frac{exp(\boldsymbol{X}[i,j,]'\beta[i,j,])}{\sum_{k=1}^{9} exp(\boldsymbol{X}[i,k,]'\beta[i,k,])}$$

$$\begin{aligned}
\beta[i,j,k] &\sim N(\alpha[j,k], \Sigma[j,k]) \\
\alpha[j,k] &\sim N(b0, B0) \\
\Sigma[j,k] &\sim U(a,b),
\end{aligned}$$

Appendix

- ▸ Example model coefficients
- ▸ Statistical model