A Short Course in Political Economy

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Outline

1. Overview
2. Do Voters Affect or Elect Policies?
3. The Value of School Facility Investments
4. Media Bias and Influence
5. Momentum and Social Learning in Presidential Primaries
Political economy tradition

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- A literature on *social choice* emphasizes group decision making when individuals have conflicting preferences.
- A literature on *rational choice* uses game theory to study the role of political institutions in shaping economic policy, often with a focus on incomplete voter information.
- While these theoretical contributions have continued, the literature has also recently gained an empirical focus, and my course provides a selective overview of these contributions.
What can political economy learn from public economics?

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- Hummel and Knight (2014) investigate whether sequential elections or simultaneous elections are better for voter welfare.
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- For example, Cellini, Ferreira, and Rothstein (2010) exploit close bond elections in California to estimate the impact of education spending on housing values.
- Likewise, Knight (2003) uses variation in federal grants induced by Congressional representation to examine the impact of federal grants on state government finances.
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Voter Learning, the Media, and Sequential Elections
- Chiang and Knight (2010)
- Knight and Schiff (2010) and Knight and Hummel (2014)
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- Whether voters “affect” or “elect” policies has important implications for voter welfare, redistricting, and political polarization.
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If voters “elect” policies, candidate platforms are unchanged.
Voters “elect” policies

\[ \text{RC}_t \]
\[ \text{RC}_{t+1} \]

\[ D_t = 1 \]
\[ D_t = 0 \]

D \hspace{1cm} R

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Voters “affect” policies

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- Platforms in $t + 1$ as a function of the (randomly chosen) winner in $t$ can be written as:

$$\gamma = E(RC_{t+1} \mid D_t = 1) - E(RC_{t+1} \mid D_t = 0)$$

$$\gamma = \pi_0 [P^*_{t+1} - P^*_{t+1}] + \pi_1 [P^D_{t+1} - P^R_{t+1}]$$

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Data

- The authors examine various measures of voting records in the U.S. House of Representatives during the period 1946-1995:
  - Americans for Democratic Action (ADA) scores, which are higher for more liberal voting patterns.
  - DW-Nominate scores (Poole and Rosenthal, 1985).
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The authors show that the standard conditions for the RD design are satisfied (e.g., there are no discontinuities in district characteristics at 50 percent).
Total effect of Democrat at $t$ on $RC_{t+1}$
Effect of Democrat at $t$ on $RC_t$
Incumbency advantage

**Figure IIb**
Effect of Initial Win on Winning Next Election: \((P^D_{t+1} - P^R_{t+1})\)
## TABLE I

**Results Based on ADA Scores—Close Elections Sample**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total effect</th>
<th>Elect component</th>
<th>Affect component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$\pi_1$</td>
<td>$(P_{t+1}^D - P_{t+1}^R)$</td>
</tr>
<tr>
<td>$ADA_{t+1}$</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Estimated gap</td>
<td>21.2</td>
<td>47.6</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Standard errors are in parentheses. The unit of observation is a district-congressional session. The sample includes only observations where the Democrat vote share at time $t$ is strictly between 48 percent and 52 percent. The estimated gap is the difference in the average of the relevant variable for observations for which the Democrat vote share at time $t$ is strictly between 50 percent and 52 percent and observations for which the Democrat vote share at time $t$ is strictly between 48 percent and 50 percent. Time $t$ and $t + 1$ refer to congressional sessions. $ADA_t$ is the adjusted ADA voting score. Higher ADA scores correspond to more liberal roll-call voting records. Sample size is 915.
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  - If below, an increase in public spending should increase housing prices.
- The authors examine the passage of bond elections in California, which require voter approval, during the period 1988-2005 using data on housing transactions.
Consider the following regression equation linking housing prices ($y_j$) to an indicator for the passage of a bond ($b_j$):

$$y_j = \kappa + b_j \theta + u_j$$

If $\theta > 0$ then public spending is too low.

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The authors address this using a regression discontinuity design, under the assumption that failing municipalities are otherwise equivalent to passing municipalities.
Bond passage increases expenditures and capital outlays

**Figure II**
Total Spending and Capital Outlays per Pupil, by Vote Share, One Year before and Three Years after Election
Bond passage increases housing prices

**Figure V**
Log Housing Prices by Vote Share, One Year before and Three Years after Election
WTP for education spending

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If housing prices in a passing municipality increase by $\theta$, relative to a failing municipality, then we have that:

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If $\theta > 0$, then $WTP > 1$ and if $\theta < 0$, then $WTP < 1$. 
But failing municipalities are future passing municipalities

![Graph showing estimates of the effect of bond passage on the probability of passing a later bond, by years since the focal election.](image)

**Figure III**
Estimates of the Effect of Bond Passage on the Probability of Passing a Later Bond, by Years since the Focal Election
To address this, consider a two-period case in which failing municipalities in $t$ pass a bond in $t + 1$ with probability $\pi$. 

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- With estimates of $\pi$, WTP is estimated to be between $1.13$ and $1.50$. 
Other Voting RD Applications

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- This paper examines newspaper endorsements in Presidential elections. If voters account for bias, then a Republican endorsement from a right-leaning paper should have less influence than a Democratic endorsement.
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Model

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- Two candidates \(c \in D, R\) up for election differ in terms of their quality \((q_c)\) and their ideology \((i_c)\).
- Voters value quality independent of their ideology, have a preference for candidates with similar ideology, and thus receive the following payoff from candidate \(c\) winning:

\[
U_{vc} = q_c - (\omega/2)(i_v - i_c)^2
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Under certain conditions, the difference in utility for voter \( v \) can be written as a function of the difference in candidate quality \( (q = q_D - q_R) \).

\[
\Delta_v = U_{vD} - U_{vR} = q - \omega i_v (i_R - i_D)
\]
Newspapers

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- where the “credibility” of the endorsement is given by:
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  \]
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  $$\lambda_d(p_n) = \frac{\phi(p_n)}{1 - \Phi(p_n)}$$

- Endorsements for Democrats from right-leaning papers have more influence.
Illustration

Example without noise--standard normal prior
Illustration

Endorsement for Democrat from left-leaning paper
Endorsement for Democrat from right-leaning paper

Illustration
Data

- Key prediction: if voters account for media bias, then surprising endorsements should have more influence than unsurprising endorsements.
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We test this prediction using data on the timing of newspaper endorsements during the 2000 and 2004 Presidential elections.
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- date of the interview
- newspaper readership
Measuring newspaper ideology

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- Given these two sources, we measure newspaper ideology via a statistical model that includes demand side factors (reader preferences prior to the endorsement) and supply side factors (group ownership).
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- Given these two sources, we measure newspaper ideology via a statistical model that includes demand side factors (reader preferences prior to the endorsement) and supply side factors (group ownership).

- We also estimate specifications that use information on the historical pattern of Presidential endorsements.
Endorsements and voting Intentions

![Graph showing fraction supporting Democrat vs. Republican endorsements over days since endorsements.](https://www.researchgate.net/figure/Endorsements-and-voting-Intentions_Figure_2.pdf)
High credibility endorsements

According to the logic of our model, the higher probability of endorsing Gore by the *New York Times*, e.g. can be interpreted as having a lower standard in terms of information regarding the quality of Gore, relative to Bush. Thus, these low-credibility endorsements from the *New York Times* and the *Dallas Morning News* convinced less than 1% of their readers to switch their allegiance to the endorsed candidate. The endorsements with the largest effect, by contrast, came from the *Denver Post* and the *Chicago Sun Times*, both of which had surprising endorsements. According to our estimates, these endorsements convinced about 3% of readers to switch their allegiance to the endorsed candidate. Interestingly, both of these newspapers switched their endorsements in 2004, when the *Chicago Sun Times* endorsed Kerry and the *Denver Post* endorsed...
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Regression results

<table>
<thead>
<tr>
<th>TABLE 3</th>
<th>Second Stage: effect of newspaper endorsements on vote intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable: 1 if intend to vote for the Democrat</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>II</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>After × Credibility</td>
<td>0.029**</td>
</tr>
<tr>
<td>(0.013)</td>
<td>(0.026)</td>
</tr>
<tr>
<td>After × Endorsement</td>
<td>0.011</td>
</tr>
<tr>
<td>(0.008)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>High school</td>
<td>−0.047***</td>
</tr>
<tr>
<td>(0.016)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>College</td>
<td>−0.013</td>
</tr>
<tr>
<td>(0.016)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Male</td>
<td>−0.088***</td>
</tr>
<tr>
<td>(0.006)</td>
<td>(0.006)</td>
</tr>
<tr>
<td>Black</td>
<td>0.440***</td>
</tr>
<tr>
<td>(0.009)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Age</td>
<td>0.002**</td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Age squared</td>
<td>0.000</td>
</tr>
<tr>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Born-again Christian</td>
<td>−0.150***</td>
</tr>
<tr>
<td>(0.007)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Attend religious activities</td>
<td>−0.123***</td>
</tr>
<tr>
<td>(0.006)</td>
<td>(0.006)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.740***</td>
</tr>
<tr>
<td>(0.183)</td>
<td>(0.189)</td>
</tr>
<tr>
<td>Income categories</td>
<td>Yes</td>
</tr>
<tr>
<td>Newspaper fixed effects</td>
<td>Yes</td>
</tr>
<tr>
<td>Date fixed effects</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>32,014</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses, * denotes 90% significance, ** denotes 95% significance, and *** denotes 99% significance.
### TABLE 4

**Influence of top 20 newspapers in 2000†**

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Reader support for Gore (%)</th>
<th>Group owner‡</th>
<th>Probability of endorsing Gore (%)</th>
<th>Actual endorsement</th>
<th>Implied influence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York Times</td>
<td>75</td>
<td>New York Times</td>
<td>90</td>
<td>Gore</td>
<td>0.50</td>
</tr>
<tr>
<td>Washington Post</td>
<td>64</td>
<td>–</td>
<td>54</td>
<td>Gore</td>
<td>2.10</td>
</tr>
<tr>
<td>New York Daily News</td>
<td>67</td>
<td>–</td>
<td>58</td>
<td>Gore</td>
<td>1.90</td>
</tr>
<tr>
<td>Chicago Tribune</td>
<td>53</td>
<td>–</td>
<td>36</td>
<td>Bush</td>
<td>-1.70</td>
</tr>
<tr>
<td>Newsday</td>
<td>57</td>
<td>–</td>
<td>44</td>
<td>Gore</td>
<td>2.60</td>
</tr>
<tr>
<td>Houston Chronicle</td>
<td>39</td>
<td>Hearst</td>
<td>34</td>
<td>Bush</td>
<td>-1.60</td>
</tr>
<tr>
<td>Dallas Morning News</td>
<td>35</td>
<td>–</td>
<td>17</td>
<td>Bush</td>
<td>-0.87</td>
</tr>
<tr>
<td>Chicago Sun Times</td>
<td>67</td>
<td>–</td>
<td>58</td>
<td>Bush</td>
<td>-2.70</td>
</tr>
<tr>
<td>Boston Globe</td>
<td>72</td>
<td>New York Times</td>
<td>89</td>
<td>Gore</td>
<td>0.50</td>
</tr>
<tr>
<td>San Francisco Chronicle</td>
<td>74</td>
<td>Hearst</td>
<td>82</td>
<td>Gore</td>
<td>0.90</td>
</tr>
<tr>
<td>Arizona Republic</td>
<td>41</td>
<td>–</td>
<td>20</td>
<td>Bush</td>
<td>-1.00</td>
</tr>
<tr>
<td>New York Post</td>
<td>49</td>
<td>–</td>
<td>31</td>
<td>Bush</td>
<td>-1.50</td>
</tr>
<tr>
<td>Rocky Mountain News</td>
<td>47</td>
<td>–</td>
<td>28</td>
<td>Bush</td>
<td>-1.30</td>
</tr>
<tr>
<td>Denver Post</td>
<td>52</td>
<td>–</td>
<td>35</td>
<td>Gore</td>
<td>3.10</td>
</tr>
<tr>
<td>Philadelphia Inquirer</td>
<td>59</td>
<td>Knight Ridder</td>
<td>82</td>
<td>Gore</td>
<td>0.90</td>
</tr>
<tr>
<td>Union-Tribune</td>
<td>51</td>
<td>–</td>
<td>34</td>
<td>Bush</td>
<td>-1.60</td>
</tr>
</tbody>
</table>

† USA Today, Wall Street Journal, and LA Times are not in this table because those newspapers did not make an endorsement or made a non-endorsement in 2000. Star Ledger is not included because the newspaper is not in the sample due to missing ownership information in the ownership data in 2000.

‡ Missing (–) means that the newspaper is not owned by a group owner. Group owner is defined as a company that owns more than ten daily newspapers in the survey.

*Figures 2*

Endorsements and voting school, relative to high school dropouts, who are male, who attend religious services or consider themselves born-again Christians are more likely to vote for the Republican.

To provide a sense of the magnitude of this effect of endorsements and endorsement credibility, the final column of Table 4 provides our implied estimates of the influence of endorsements in the largest newspapers in the U.S. during the 2000 campaign. As shown, the least credible
Implications

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- While moving a newspaper to the right increases the likelihood of a Republican endorsement, the influence of a Republican endorsement by this newspaper falls.
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- While moving a newspaper to the right increases the likelihood of a Republican endorsement, the influence of a Republican endorsement by this newspaper falls.
- These effects cancel out such that, from an ex-ante perspective, changing the ideology of a newspaper has no impact on voting.
More on the media economics literature


- Durante and Knight, “Partisan Control, Media Bias, and Viewer Responses: Evidence from Berlusconi’s Italy”, *Journal of the European Economic Association*, 2012.


Introduction

While all voters go to the polls on the same day in many elections, states choose on different days in other cases.
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- The most prominent example of a sequential election is the Presidential primary system, under which Iowa and New Hampshire vote first.
- The key difference between sequential and simultaneous systems is the ability of late voters to observe early returns under sequential.
- In this paper, we investigate whether late voters can learn about the desirability of candidates from early returns.
Challenges to measuring social learning via
\[ V_t = f_t(V_{t-1}, V_{t-2}, \ldots) \]

- What is the information content of early returns?
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Challenges to measuring social learning via

\[ V_t = f_t(V_{t-1}, V_{t-2}, ...) \]

- What is the information content of early returns?
- How to account for unmeasured candidate quality?
- How to weigh past returns (i.e. \( V_{t-1} \) versus \( V_{t-2} \))?  
- How to account for early learning:

\[ V_{t-1} = f_{t-1}(V_{t-2}, V_{t-3}, ...) \]
Two states, early (A) and late (B) choose between two candidates, the front-runner and the dark horse.
Simple model of sequential voting

- Two states, early (A) and late (B) choose between two candidates, the front-runner and the dark horse.
- Voter $i$ in state $s$ receives the following utility from the front-runner, relative to the dark horse, winning:

\[ u_{is} = q + \eta_s + \nu_{is} \]
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- $\nu_{is}$ is distributed type-I extreme value.
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Overview: Do Voters Affect or Elect Policies? The Value of School Facility Investments, Media Bias and Influence, Momentum and Social Learning in Presidential Primaries

Information structure

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- Voters in state $s$ receive a signal $(\theta_s)$ over quality:
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- This signal is common within a state, private across states, unbiased, and normally-distributed: $\varepsilon_s \sim N(0, \sigma_{\varepsilon}^2)$.
- State-level preferences $(\eta_s)$ are private across states.
- All voters observe their signal before voting. Late voters also observe the returns from state $A$. 
Voting

- Given their information, voters support the candidate that provides the highest expected utility.
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- Given their signal over front-runner quality, early voters update as follows:

\[ E(q|\theta_A) = \alpha \theta_A + (1 - \alpha) \mu \]
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- where \( \alpha = \sigma_1^2 / (\sigma_1^2 + \sigma_\epsilon^2) \)
- Voting returns in the early state are then given by:

\[ v_A = \frac{\exp[\alpha \theta_A + (1 - \alpha) \mu + \eta_A]}{1 + \exp[\alpha \theta_A + (1 - \alpha) \mu + \eta_A]} \]
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- Late voters observe \( v_A \) and attempt to infer \( \theta_A \). This is complicated by the fact that late voters do not observe \( \eta_A \).
Empirical application

Key prediction: support should increase among late voters for candidates performing better than expected in early states.
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- In particular, we examine how voting intentions of late voters in the survey respond to the release of early returns.
Support for Dean before and after Iowa
Support for Kerry

![Graph showing support for Kerry over time]

- **Support for Kerry**
- **Fig. 2.**—Dean before and after the Iowa primary
- **Fig. 3.**—Kerry before and after the Iowa primary
- **Legend:**
  - Two day average
  - Single day
  - Primary result

Date:
- 17 Dec 2003
- 24 Dec 2003
- 01 Jan 2004
- 08 Jan 2004
- 15 Jan 2004
- 22 Jan 2004

Voteshare:
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
Support for Edwards

Fig. 4.—Edwards before and after the Iowa primary
appropriately.14 Kerry, by contrast, outperformed expectations in Iowa, and survey respondents updated accordingly. Edwards also outperformed his pre-Iowa polling numbers, and his polling numbers increased following Iowa. After a few days, however, his support fell back to pre-Iowa levels.15

B. Empirical Model
As noted above, our empirical strategy involves comparing support for candidates among late voters before and after the release of voting returns from early states. In our econometric specification, we assume that voters receive their signals just prior to the date of their primary. That is, these respondents from late states have not yet observed their

14 The “Dean scream” will be discussed in detail below.
15 These patterns are similar to those in prices from the Iowa Electronic Market, in which market participants purchased contracts that would pay $1 in the event that Kerry, e.g., is the party’s nominee in the general election, and the price of this contract can thus be interpreted as the probability that a given candidate wins the nomination (Wolfers and Zitzewitz 2004). We choose to focus on polling data, rather than these prices from prediction markets, for two reasons. First, the mapping from voting in primaries to the probability of nomination, as provided by the prediction market prices, is confounded by the presence of superdelegates, who are not pledged to the winning candidate, as well as the possibility that no candidate wins a majority of the delegates, in which case the nominee is chosen through a bargaining process at the party convention. Second, the daily polling data, but not prediction market data, include additional measures of candidate quality, and we will make use of these in our discussion of alternative explanations to follow.
Model parameter estimates

- Using this approach, we also estimate the key model parameters: the initial prior over candidate quality ($\mu_{c1}$), the degree of variation in state-level preferences ($\sigma_\eta^2$), and the key learning parameters ($\sigma_\varepsilon^2$, $\sigma_1^2$).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\mu_{D1}$</td>
<td>0.938**</td>
<td>[0.773, 1.14]</td>
</tr>
<tr>
<td>$\mu_{E1}$</td>
<td>-0.701**</td>
<td>[-0.913, -0.433]</td>
</tr>
<tr>
<td>$\sigma_\eta^2$</td>
<td>0.815**</td>
<td>[0.551, 1.194]</td>
</tr>
<tr>
<td>$\sigma_1^2$</td>
<td>3.577**</td>
<td>[1.497, 7.129]</td>
</tr>
<tr>
<td>$\sigma_\varepsilon^2$</td>
<td>1.197**</td>
<td>[0.062, 4.097]</td>
</tr>
</tbody>
</table>

[bootstrap 95% confidence interval], ** denotes significance at the 95-percent level.
Supporting evidence of learning

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- Early voters are better informed about candidate characteristics than later voters. Moreover, this gap narrows as the campaign progresses.
- A structural break analysis documents breaks in support on key early election dates (e.g. the Iowa Caucuses and the New Hampshire Primaries).
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Welfare analysis: sequential or simultaneous

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  "...for years concerns have been raised regarding the calendar that some believe gives a disproportionate influence to these two early states", David Price, Commission on Presidential Nomination Timing and Scheduling, 10/1/2005.
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- Opponents of the current system argue that early states have disproportionate influence, while supporters argue that it enhances competition.
  - "...for years concerns have been raised regarding the calendar that some believe gives a disproportionate influence to these two early states", David Price, Commission on Presidential Nomination Timing and Scheduling, 10/1/2005.
  - "We need to preserve the possibility for lesser known, lesser funded candidates to compete, and a national primary on February 5th will not do that", Terry Shumaker, 12/5/2005.
Welfare analysis: sequential or simultaneous

- We show that sequential elections place too much weight on information of early states but also provide late voters with valuable information.
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- Given these trade-offs, simultaneous elections are preferred if the front-runner initially has a small advantage, but sequential elections are preferred if the front-runner has a large advantage.
Welfare analysis: sequential or simultaneous

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- To evaluate this trade-off, we simulate the model using the Knight and Schiff (2010) parameter estimates and consider a simultaneous system and an all public system.
Information of early states is over-weighted
Preferences of early states are over-weighted
Sequential is more competitive

<table>
<thead>
<tr>
<th>System</th>
<th>Pr(Dean)</th>
<th>Pr(Edwards)</th>
<th>Pr(Kerry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>all public</td>
<td>60.88%</td>
<td>12.61%</td>
<td>26.50%</td>
</tr>
<tr>
<td>simultaneous</td>
<td>68.91%</td>
<td>8.11%</td>
<td>22.98%</td>
</tr>
<tr>
<td>sequential</td>
<td>62.24%</td>
<td>11.84%</td>
<td>25.92%</td>
</tr>
</tbody>
</table>
Implications

- Given the front runner advantage in 2004, the simultaneous system outperforms the sequential system.
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- Finally, we consider a weighted sequential system. Under the optimal weights, which gives voters from the latest state 18 times more influence than voters from the earliest state, this system dominates both sequential and simultaneous.
- Deltas, Herrera and Polborn (2010) examine a similar model but allow for differences in ideology. With more than two candidates, sequential primaries allow voters to better coordinate as the election unfolds.