

**The Direct Primary and
Candidate-Centered Voting
in U.S. Elections**

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Abstract

In this paper we document a strong correlation between the use of primaries and the transition from “party-based” voting to “candidate-oriented” voting in U.S. statewide elections. First, at the aggregate level we find that the direct primary is associated with a significant increase in “split-ticket” voting, both across states and within states over time. Second, we use a new data set of county level primary election returns to examine the relationship between primary and general election voting patterns. We find that general election candidates gather more votes in counties where they received relatively high electoral support in the primaries, even after taking into account election-specific factors and the “normal vote” across counties. We also provide some evidence that primary competition may affect the salience of particular candidate attributes in general election outcomes. [Word count 10865]

1. Introduction

U.S. elections today are relatively “candidate-centered” contests. This is true not only compared to the “party-centered” elections in western Europe and many other countries, but also compared to U.S. elections in the past.

When and why did this era of more personalistic voting emerge? Currently, the conventional wisdom is that U.S. elections became much more candidate-centered around the 1960s. Aldrich and Niemi (1990) refer to the post-1960s era as the “the sixth party system.” Aldrich (1995, p. 253) summarizes the literature as follows:¹

Together these studies show that there was an important shift in elections to all national offices in or about 1960, demonstrating that voters respond to candidates far more than previously. Voting became candidate centered, and so parties as mechanisms for understanding candidates, campaigns, and election became less relevant.

The change from partisan to personal electoral politics is generally attributed to changes in the political environment that increased the salience of individual politicians’ attributes and weakened traditional party organizations – changes in campaign advertising technologies such as the rise of television, the replacement of patronage with civil service employment, and an increase in the personal resources available to elected officials for constituency service. These factors led voters to see parties as increasingly irrelevant, and party attachments weakened. Campbell (2007, p. 68) describes the process as follows:

Since the 1960s the role of the political parties in American politics has fundamentally changed. A series of technological, institutional, legal, and cultural shifts diminished their once central function as the organizers and inclusive mobilizers of American elections. They ceded control over nominations and were pushed aside by new candidate-centered campaigns. Technological advances allowed candidates to speak directly to the people, and the parties lost their monopoly.

¹Aldrich cites numerous articles and books, including Nie, Verba and Petrocik (1979), Alford and Brady (1989), Wattenberg (1990, 1991), Jacobson (1992), and Shively (1992). Some recent literature argues that personal voting, based on incumbency and quality, may have had a role in electoral even the strong party era prior to the 1890s (e.g. Carson, et. al. 2007; Reynolds, 2006).

An earlier literature emphasizes the potential for institutional factors – such as the Australian ballot, ballot form (e.g. straight party lever, office-bloc vs. party-list), and direct primaries – to weaken party-centered voting and transition towards candidate-centered voting. Rusk (1970) finds that the split-ticket voting increased in states that adopted the Australian ballot, and the increase was especially large in states with office-bloc ballots and no party lever.² Campbell and Miller (1957) also find that ballot form influences split-ticket voting using survey data. As Campbell et. al. (1960) state in *The American Voter*, “Any attempt to explain why the voter marks a straight or split ballot must take account of the physical characteristics of the election ballot.”

Regarding direct primaries, Key (1964, p. 342) writes that “the adoption of the direct primary opened the road for disruptive forces that gradually fractionalized the party organization. [T]he primary system... facilitated the construction of factions and cliques attached to ambitions of individual leaders.”³ Some more recent scholars make similar arguments. For example, Herrnson (1988, p. 26) writes: “The introduction of the direct primary encouraged candidates to develop their own campaign organizations, or pseudo-parties, for contesting primary elections.” Jacobson (2004, p.15-16) emphasizes the impact this has had on party organizations:

A fundamental factor [in the decline of parties] is clearly institutional: the rise and spread of primary elections as the method for choosing party nominees for the general election... Primary elections have largely deprived parties of their most important source of influence over elected officials. Parties no longer control access to the ballot and, therefore, to political office. They cannot determine who runs under their label and so cannot control what the label represents... parties typically have few sanctions and little influence [on nominations].”

The argument that the introduction of direct primaries increased the electoral salience of non-partisan factors in the U.S. is also consistent with the conventional wisdom in the comparative politics literature that electoral institutions are crucial in determining the degree

²Burnham (1965) also finds an increase in split-ticket voting around this period but does not link the changes to any specific electoral institutions.

³As cited in Miller, Jewell and Sigelman (1988, p. 459).

to which elections are candidate- versus party-centered. In particular, institutions that promote intra-party competition provide incentives for candidates to cultivate “personal votes” separate from their partisan affiliation in order to compete against co-partisans (e.g. Carey and Shugart, 1993).

While many observers suspect that primary elections may contribute to making elections more candidate-centered, there is little systematic evidence directly linking primary competition to the electoral salience of non-partisan candidate attributes in the general election. A large empirical literature examines the effect of primary election competition on general election outcomes for non-presidential elections with mixed results.⁴ Most of the studies which find an effect of primaries on general election outcomes focus on the post-1960 candidate-centered election period. However, most states passed legislation making primary elections mandatory several decades prior to the widely discussed rise in personal voting that occurred in the middle of the 20th century. Thus, whether primary elections are actually connected to candidate-centered voting remains an open question.

There is an important theoretical difference between the direct primary and ballot-related explanations for candidate-centered voting. The effects of ballot form could largely occur in the polling booth at the time voting. A party lever or circle clearly lowers the cost of casting a straight party ballot. Prior to the Australian ballot, party ballots were often printed in ways that made it difficult for a voter to split their ticket and allowed party workers to monitor voting behavior (e.g. Bense, 2004). In contrast, the effects of the direct primary on candidate-centered voting, if any, operate earlier during the campaign period. As noted above, scholars argue that the direct primary weakened party organizations creating strong incentives for candidates to develop their own organizations for the primary and general election campaigns. These changes likely increased the salience of candidates’ personal attributes – e.g. issue positions, charisma, ethnicity, gender – in both the primary and the general election. This would potentially link the voting behavior in the two elections.⁵

⁴For example, Born (1981), Kenney and Rice (1984), and Romero (2003) find some evidence that divisive primaries affect general election outcomes. Hacker (1965) and Kenney (1988) find little evidence that divisive primaries have an effect on general election voting. Ware (1979) discusses why primaries may not necessarily have a negative effect on candidates’ general election prospects.

⁵In addition to direct effects on election day, changes in ballot laws may have also had important indirect

In this paper we examine the connection between primary competition and candidate-centered voting in U.S. elections. This is the first study, at least to our knowledge, that provides evidence that primary competition is related to the salience of candidate attributes in general elections, and, moreover, that this relationship existed even in the decades before the era of candidate-centered voting emphasized in the current literature.

We focus on three questions: (1) Is there any association between the growth of “candidate-centered” voting, as measured by split-ticket voting, and the introduction of direct primaries? (2) Are the candidate attributes affecting primary elections also affecting the personal vote in general elections even prior to the 1960s? (3) Does primary competition affect the degree to which the attributes salient in the primaries are also salient in the general elections?

To address the first question, we examine whether personal voting increased in a given state around the time when that state adopted direct primary elections. For this analysis we use “split-ticket voting” to indicate the degree to which votes were cast based on candidates’ personal characteristics rather than on partisan attachments. We use aggregate voting returns across statewide elected offices to construct a crude measure of “split-ticket voting” for each state and year from 1876 to 2006. Analyzing this measure, we find clear evidence of a “transition period” in the first half of the 20th century – from about 1890 to 1920 – during which the degree of split-ticket voting rose sharply in those states that adopted a comprehensive, mandatory primary. The timing of the changes, both across states and within state over time, suggests that primaries played a prominent role in this first transition. This also allows us to assess the relative importance of primary elections compared to ballot form in accounting for increases in split-ticket voting. We find that the estimated effect of the direct primary is at least as large as the effect of the straight party lever/circle.

The second question concerns whether the specific attributes salient in primaries are related to personal voting in general elections. This would provide further evidence connecting the direct primary to candidate-centered elections. For this analysis we examine whether the areas where candidates receive electoral support in the primary are also the areas where their general election vote shares are above what would be expected given the effects, weakening party organizations and inducing more candidate focused campaigns. To our knowledge, there is no systematic evidence for these indirect effects.

election-specific factors and the normal vote in the areas. Such an association suggests that the specific candidate attributes salient in the primary are also salient in the general elections. We exploit a new data set of county level primary and general election returns from 1906 to 2006 to measure areas of candidate support in the primary and general election. We find clear evidence that areas where a nominee does well in the primary election are also the areas where the nominee does well in the general election even in the early decades of the 20th century. Thus, personal voting on the basis of candidate attributes appears to have existed in the general elections even prior to the 1960s.

We also explore whether candidates' personal vote varies across general elections in relation to the attributes salient in the primary elections or whether candidates' personal votes are relatively stable and mainly reflect the salience of certain fixed attributes of the nominees in the general elections. For this analysis we exploit cases where the same Democratic and Republican candidates face each other in more than one general election, but they face different challengers in the primary elections leading up to each general election. By focusing on repeat general election nominees, we can assume that the fixed attributes of the parties' nominees (e.g. hometown locations, gender, race) remain relatively stable across elections. However, in the primaries the general election nominees may face different challengers who raise the salience of different candidate attributes in each primary. We find that even after accounting for the effect of the fixed attributes, there is still a statistically significant association between where candidates receive support in primary and general elections. This is further evidence consistent with what we would expect to observe if the attributes that are salient during primary elections are also contributing to candidates' personal vote in the general elections.

The third question concerns the causal relationship between primary competition and salience of particular candidate attributes in the general elections. While the evidence in the first two sections suggest that an association exists between the direct primary and candidate-centered politics, the analyses do not isolate the causal effect of primary competition on the salience of candidate attributes in the general election. It is possible that the attributes salient in primary elections would be salient in the general election even if the

primaries did not exist.⁶ For this analysis we employ two different research strategies to estimate the impact of primary competition on the degree to which general elections focus on personal attributes: (1) the discontinuity around the threshold for run-off elections; (2) the difference in attention given to primary elections in safe versus competitive states. While both strategies require making different assumptions for identification, they both provide some tentative evidence that primary competition may influence the salience of particular candidate attributes in the general elections.

Finally, we also provide some discussion regarding how candidate attributes for one office may spill over to the election outcomes for other offices. In particular, we focus on whether the attributes salient in primary elections for top-of-the-ticket offices are related to down-ballot general elections and vice versa. We find that the counties that support the top-of-the-ticket nominees in the primaries are also the counties where the down-ballot nominees from the same party receive higher than expected general election vote shares, even after the primary vote shares of the down-ballot nominees are taken into account. This relationship is mainly prevalent in the early decades of the 20th century. These results suggest that primary competition for top-of-the-ticket offices may have an even larger effect on electoral politics than is suggested by the previous discussion, since the personal vote of top-of-the-ticket candidates may influence the outcomes of the down-ballot races.

2. Primaries and “Split-Ticket” Voting

One indicator of candidate-centered voting is the degree to which the electorate engages in “split-ticket” voting. In party-centered systems we would expect voters to vote for all of the candidates from the same party across offices within an election. A crude measure of “split-ticket” voting is the variation in the two-party vote across offices in a given election. This is obviously a lower bound on the total amount of split-ticket voting, since individual voters may split their tickets in different ways that cancel one another. However, the correlation between split-ticket voting measured at the individual level and the aggregate-level proxies

⁶A common critique of studies of the effect of divisive primaries on general election outcomes is that the relationship may reflect a single shock to a candidate’s valence which would affect both their primary and general election support.

is quite high.⁷

We augmented the data in Ansolabehere and Snyder (2002), Ansolabehere et al (2006), and Ansolabehere et al (2010), to create a nearly complete data set of election returns for all statewide races in all states for the period 1876-2008.⁸ For each state-year in which there are 3 or more statewide races, we construct the variable *Standard Deviation* as follows:

$$\text{Standard Deviation}_{kt} = \frac{1}{N_{kt}-1} \left[\sum_{i=1}^N (V_{jkt} - \bar{V}_{kt})^2 \right]^{1/2}$$

where N_{kt} is the number of statewide races in state k in year t , V_{jkt} is the Democratic share of the two-party vote in race j in state k in year t , and \bar{V}_{kt} is the average of the Democratic percentage of the two-party vote across all races in state k in year t . We only include races contested by both major parties, and we drop races in which a third-party candidate received more than 15% of the total vote.

Figure 1 shows a graph of the average value of *Standard Deviation* in each year. The circles are for the set of states that adopted a comprehensive, mandatory primary election law during the period 1900-1915 and did not subsequently repeal the law, while the triangles are for the states that did not.⁹

The two curves are similar, showing a small but clear increase in *Standard Deviation* starting around 1900, and a larger increase between 1960 and 1980. One obvious difference between the curves is that the early increase is noticeably larger for the states that adopted

⁷Using data from exit polls and the CCES we know that split ticket voting tends to be higher at the individual level than the aggregate level differences would suggest. However the measures of split-ticket voting using state level data are highly correlated with measures using individual level data. Consider, for example, split-ticket voting for senate and governor for the period 1982-2006. For each state-year with both a Senate and Governor race, let s_{ikt} be a dummy variable equal to 1 if respondent i in the exit poll voted for candidates from different parties in the Senate and Governor races (including third-party and independent candidates), and 0 otherwise; let N_{kt} be the number of respondents in the exit poll; and let $S_{kt}^I = (1/N_{kt}) \sum_{i=1}^{N_{kt}} s_{ikt}$ be the overall amount of split-ticket voting at the individual level. Let D_{kt}^G (D_{kt}^S) be the aggregate Democratic share of the two-party vote in the Governor (Senate) race; and let $S_{kt}^A = |D_{kt}^G - D_{kt}^S|$ be the aggregate measure of “split-ticket” voting. The correlation between S^I and S^A is .72 ($N=157$).

⁸Statewide races include offices such as U.S. senator, governor, lieutenant governor, attorney general, secretary of state, treasurer, auditor/comptroller/controller, superintendent of education, commissioner of agriculture, public utility commissioner, corporation commissioner, and lands commissioner. We also include races for various statewide offices specific to certain states. See Ansolabehere and Snyder (2002), Ansolabehere et al (2006), and Ansolabehere et al (2010) for a complete list of sources and offices used in this analysis.

⁹Each state is weighted equally in each year. We group the odd-numbered years together with the previous even-numbered year – e.g., 1881 with 1880, etc.

a comprehensive mandatory primary, and that a large gap opens between these states and states without primaries starting around 1918. This is intriguing because, as noted above, the period 1900-1915 was the era in which most states adopted their primary laws.

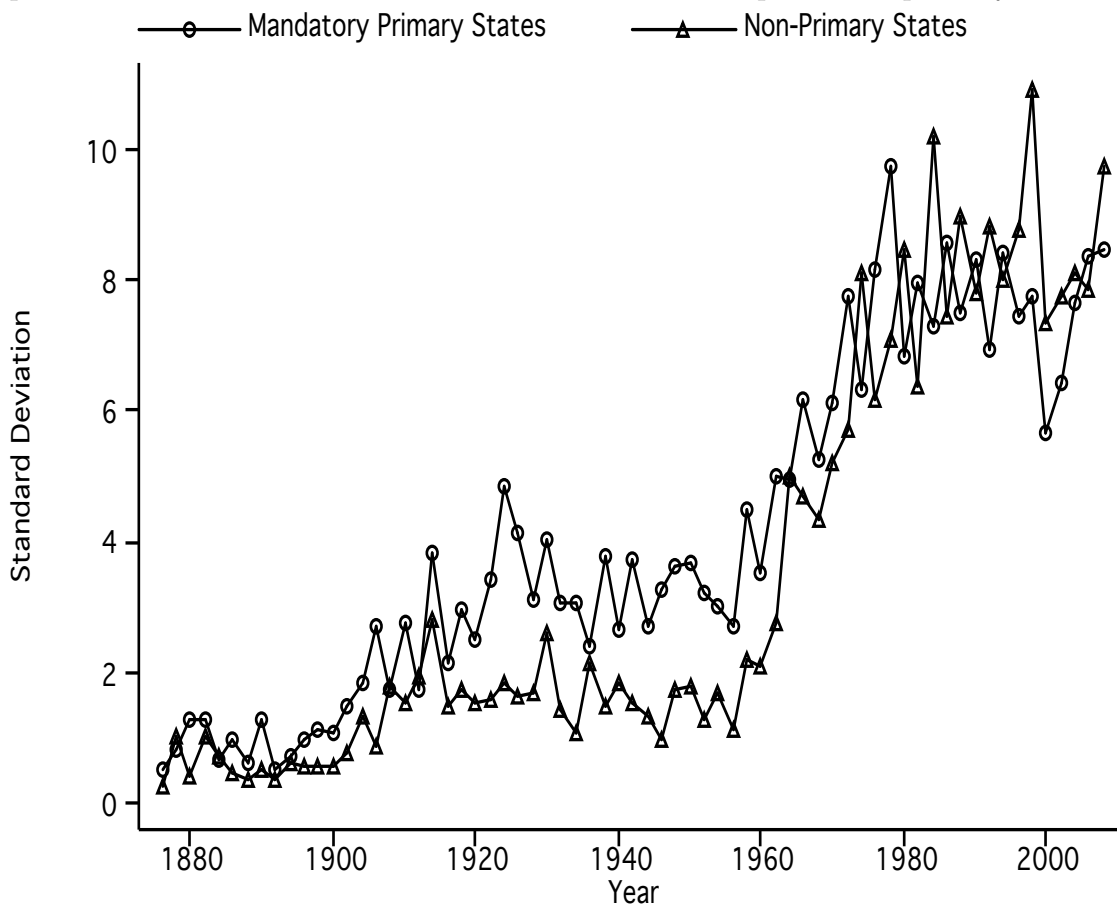


Figure 1. The circles represent the standard deviation of the statewide office vote shares for states that introduced mandatory direct primaries between 1900 and 1915. The triangles represent the states that introduced mandatory direct primaries after 1915.

For the states adopting a comprehensive mandatory primary there are three “plateaus,” one from about 1876 to 1900, another from about 1920-1958, and a third from about 1972-2006. The average value of *Standard Deviation* during the first plateau is 0.9, the average value in the second plateau is 3.3, and the average value in the third plateau is 7.8. Thus, for these states the shift from the first period to the middle period was about 35 percent of the total change between the first period and the third, clearly a non-trivial change.¹⁰

Regression analyses shows that the differences in split-ticket voting between the primary

¹⁰Calculated as follows: $100(3.3 - .9)/(7.8 - .9) = 34.7$.

and non-primary states is statistically significant and substantively important. In these analyses we can also compare the relative importance of primary elections and other institutional factors, such as ballot form. The results are shown in Table 1. The independent variables are: $Direct\ Primary_{st} = 1$ if state s employed primary elections in year t ; $Straight\ Ticket_{st} = 1$ if state s had a straight party lever/circle on the ballot in year t ; $Office\ Block_{st} = 1$ if state s used the office block ballot form in year t ; $Party\ List_{st} = 1$ if state s used the party list ballot form in year t ; $Log\ Total\ Vote_{st}$ is the logarithm of the total vote in state s and year t .¹¹ Note that the coefficients on the two ballot form variables, i.e. $Office\ Block$ and $Party\ List$, are relative to the excluded category, which is the pre-Australian ballot “party ballot”.

Table 1						
Primaries and Split-Ticket Voting, 1876-2009						
	1	2	3	4	5	6
Direct Primary	1.60 (0.49)	1.14 (0.44)	1.20 (0.44)	1.49 (0.41)	1.36 (0.39)	1.34 (0.38)
Straight Ticket		-1.79 (0.40)	-1.38 (0.36)		-0.71 (0.50)	-0.70 (0.48)
Office Block		0.89 (0.72)	0.99 (0.64)		0.36 (0.50)	0.38 (0.50)
Party List		1.08 (0.77)	0.80 (0.71)		0.26 (0.64)	0.25 (0.62)
Log Total Vote			-0.52 (0.11)			-0.34 (0.40)
State FE & State Trends	No	No	No	Yes	Yes	Yes
Observations	1,771	1,771	1,771	1,771	1,771	1,771

Year fixed effects included in all specifications. Standard errors are in parentheses. Standard errors are clustered by state in all specifications.

In columns 2, 3, 5, and 6 we include indicators for differences in ballot form, such as whether there is an easy option to vote a straight party ticket or whether candidates are

¹¹We also ran specifications including measure party competition. This variable was never statistically significant and did not substantively change the coefficient estimates on our main variables of interest.

grouped by office or party, that are often argued to affect split-ticket voting.¹² When state fixed effects and state trends are included in the regression, only the introduction of primary elections appears to be associated with a statistically significant change in split ticket voting. When fixed effects and time trends are not included, the direct primary is found to have a similar effect on split-ticket voting as whether a straight party ticket option is included on the ballot.¹³

This analysis does not necessarily demonstrate that the adoption of a mandatory primary law caused an increase in *Standard Deviation*. For example, the decline of “strong party organizations” might be the real cause of the increase in split ticket voting. Strong party organizations might have prevented the adoption of primary laws in their states and might also have reduced the amount of split-ticket voting. Of course, since the analysis includes state and year fixed-effects it must be that party organizational strength *changed* within states over time and in different states at different times (i.e., not as the result of a nationwide shock such as a transformative presidential election). A plausible alternative explanation of the pattern is that party organizations might have weakened in some but not all states during the 1900s, leading the affected states to adopt a primary law and also to experience an increase in split-ticket voting.

Nonetheless, the analysis above does establish two things: (1) there was a significant increase in “split-ticket” voting much earlier than the conventional wisdom suggests; and (2) this increase was especially noticeable in states that adopted a comprehensive mandatory primary between 1900 and 1915.

3. Candidate Attributes in Primary and General Elections

In this section we examine whether personal voting is related to the candidate attributes that affected the primary election outcomes for the general election nominees. We use a new dataset of county-level primary election returns from 1906 to 2006 to provide evidence that the candidate attributes which affect primary election outcomes also affect general election

¹²See for example Ansolabehere et. al. (2007) and Harvey and Mukherjee (n.d.).

¹³We find no statistically significant evidence that the introduction of the Australian ballot is associated with an increase in split-ticket voting. The estimated coefficients on the ballot form variables are particularly sensitive to choice of time period and specification.

outcomes. With this new dataset we can exploit the presence of multiple observations for the same primary candidates within elections and multiple observations for the same county across elections. This allows us to examine whether the areas where general election candidates had higher-than-expected vote shares are also the areas where these candidates had relatively high vote shares in the primary election.

3.1 Data and Methods

We assembled a new dataset of county-level primary election returns for the period 1906 to 2006. We collected much of the historical data on primary electoral returns from state legislative manuals and various official state reports of primary and general election returns. We also incorporated information for senatorial and gubernatorial elections in southern states between 1920 and 1972 from two ICPSR datasets (I00072 and I00071). Although the dataset does not cover all primary elections for every state during the period under investigation, we do include elections from forty-seven states over the period 1906 to 2006.¹⁴ We merge this primary data with county-level general election data. For most of this paper we focus on senate and gubernatorial elections since we have almost all county-level general election data for the period until 2006 from an updated version of ICPSR I0001 and have been able to collect most county-level primary elections data for this same period.¹⁵

We also gathered county level primary and general election returns for down-ballot statewide offices for the forty-three states that had down-ballot elections.¹⁶ This dataset includes election returns for lieutenant governor, secretary of state, treasurer, auditor, comptroller, and attorney general. Part of these data comes from ICPSR 7861. We gathered the remaining data from state legislative manuals. This dataset is not as comprehensive as the dataset for governors and senators as we are still missing the county level primary and/or general election results for a number of the down-ballot elections.

Following the literature we assume that the county-level election outcomes are determined by factors specific to local areas (e.g., partisanship), candidate-specific characteristics (e.g.,

¹⁴Alaska, Hawaii and Connecticut are not included in this analysis.

¹⁵Data for the 2004 and 2006 Senate election data were purchased from <http://uselectionatlas.org>.

¹⁶Maine, New Hampshire, New Jersey and Tennessee do not have primary elections for the down-ballot offices included in this study.

quality and incumbency), and contest-specific factors (e.g., salient issues in a particular campaign). Thus, the vote share of the Democratic candidate in county i of electoral contest j can be written as follows:

$$V_{ij} = N_i + Q_j^D + Q_j^R + \theta_1 A_{ij}^D + \theta_2 A_{ij}^R + Z_j + \epsilon_{ij} \quad (1)$$

where N_i is the partisanship of county i . Q_j^D and Q_j^R are characteristics of candidates that affect their vote share evenly throughout the district. We might think of this as the overall quality of the candidate or the incumbency advantage. A_{ij}^D and A_{ij}^R are non-partisan attributes of the Democratic and Republican candidates that affected their support in county i in the primary election leading up to general election contest j . Z_j captures partisan tides, or other factors such as specific issues, that have the same effect across all counties in race j .

Unfortunately we cannot directly measure county partisanship, N_i , for much of the period we are studying. However, if we assume that county partisanship does not vary significantly across elections within decades, then we can account for this and other time invariant county features with county fixed effects that vary by decade. Similarly, Q_j^D , Q_j^R and Z_j are also difficult to measure directly so again we assume that these factors do not vary across counties within districts. This allows us to capture these race-specific characteristics with race-specific fixed effects.

Although we cannot directly observe the candidate attributes that appeal to primary and general election voters, we can observe the variation in areas where the candidates received support in the primary election. Since primary voters presumably make decisions based upon candidate-specific attributes separate from their partisan affiliation, we would expect candidates' primary vote shares to be a proxy for support for particular candidate attributes in a particular county.

Thus, the basic specification we estimate is as follows:

$$V_{ij} = \alpha_i + \gamma_j + \theta_1 P_{ij}^D + \theta_2 P_{ij}^R + \epsilon_{ij} \quad (2)$$

The dependent variable, V_{ij} , is the general election vote share of the Democratic Party can-

didate in county i and race j .¹⁷ α_i is a fixed effect for county i , which captures characteristics of county i such as partisanship. α_i varies by decade. γ_j is a fixed effect for contest j which captures contest-specific factors such as the quality of the candidates running in contest j . P_{ij}^D and P_{ij}^R are measures of the Democratic and Republican nominees' vote share of the top two candidates in the primary election preceding general election contest j .

If candidate attributes which affect primary election outcomes are also salient in the general election, then we would expect θ_1 to be positive and θ_2 to be negative. We examine whether this relationship exists for both top-of-the-ticket offices, i.e. governor and senator, as well as down-ballot offices. We might expect the relationship to be stronger for top-of-the-ticket races since the candidates in these races tend to receive more resources and media attention to cultivate their personal vote. We also allow θ_1 and θ_2 to vary over time to examine whether the relationship between these candidate-specific attributes and general election outcomes is mainly in the post-1960 era as we would expect if elections became candidate-centered during this period.

3.2 Results

The results in Table 2 provide evidence that the candidate attributes which affect primary election outcomes also appear to influence general election outcomes. The top panel of Table 2 includes all states and all offices. The results in column 1 in this panel, which includes all years, finds that on average, the areas where candidates do well in primary election are also areas where the candidates do better than expected in the general election. If the Democratic (Republican) nominee's primary vote share is 40 percentage points higher in county A as compared to county B, then, on average, the nominee's general election vote share is about 2.8 (2.4) percentage points higher in county A compared to B.¹⁸

We also estimate separate θ_1 and θ_2 for top-of-the-ticket and down-ballot offices. The results for the top-of-the-ticket (down-ballot) offices are in the second (third) panel of Table

¹⁷We excluded uncompetitive general election races – i.e. races where the Democratic or Republican candidate received more than 95% of the vote. The main results do not substantive change when these races are not excluded.

¹⁸The standard deviation of the Democratic and Republican nominee's county level primary percentage vote share of the top two candidates is about 18.

2. The association between the county level primary and general election returns is stronger for governors and senators relative to down-ballot offices. If the Democratic (Republican) senatorial or gubernatorial nominee’s primary vote share is 40 percentage points higher in county A as compared to county B, then, on average, the nominee’s general election vote share is about 3.6 (3.2) percentage points higher in county A compared to B. For down-ballot offices nominees a 40 percentage point higher vote share in the primary election is associated with a 1.2 (1.6) percentage point higher vote share in the general election.

Table 2			
Primary Electoral Support and General Election Outcomes			
	All	Pre-1960	Post-1960
All Offices			
Dem Nominee Primary Support	0.07 (0.01)	0.06 (0.01)	0.09 (0.01)
Rep Nominee Primary Support	-0.06 (0.01)	-0.06 (0.01)	-0.07 (0.01)
Observations	252194	134091	118103
Governor and Senator			
Dem Nominee Primary Support	0.09 (0.01)	0.08 (0.01)	0.11 (0.01)
Rep Nominee Primary Support	-0.08 (0.01)	-0.08 (0.02)	-0.09 (0.01)
Observations	137121	68490	68631
Down-ballot Offices			
Dem Nominee Primary Support	0.03 (0.01)	0.02 (0.01)	0.06 (0.01)
Rep Nominee Primary Support	-0.04 (0.01)	-0.03 (0.01)	-0.04 (0.01)
Observations	115073	65601	49472

The dependent variable is the county level general election Democratic vote share of the Democratic and Republican vote. State-county fixed effects that vary by decade are included in all regressions. Race specific effects are also accounted for in all of the regressions. Standard errors clustered by state are in parentheses.

While the larger estimates of θ_1 and θ_2 for the top-of-the-ticket as compared to down-ballot offices may be determined by a number of alternative factors, one likely explanation for the difference is that voters have more exposure to information about candidates for top-of-the-ticket offices either through the media or the election campaigns. We know, at least in the recent period, that top-of-the-ticket primary candidates have significantly more newspaper mentions in the months prior to the primary election as compared to down-ballot candidates.¹⁹

Another question of interest is whether the candidate attributes that affect primary election outcomes became even more salient in the post-1960 general elections. Column 2 of Table 2 includes all elections prior to and including 1960. Column 3 includes all elections post-1960. The results in these two columns suggest that the candidate attributes salient in the primary elections were related to general election outcomes even prior to the 1960s. However, the relationship between primary and general election voters is particularly strong for Democrats in the post-1960 period – i.e. $\hat{\theta}_1$ is substantially larger in the post 1960 period relative to the pre-1960 period.

Figure 2 plots the estimates of θ_1 and $-\theta_2$ for senatorial and gubernatorial candidates by decade. This figure again illustrates that the association between primary and general election outcomes existed even in the early decades of the 20th century. Both $\hat{\theta}_1$ and $\hat{\theta}_2$ appears to have increased in magnitude in the 1970s, 80s and 90s around the same time as there was a growth in the incumbency advantage. This is also the period when scholars claim elections became more candidate-centered. The coefficient estimate on Democratic primary support, $\hat{\theta}_1$, seems to have started to increase in magnitude in the 1960s, which is perhaps not surprising given the divisions in the Democratic party during this decade. The slightly larger coefficient for the Republicans during the early decades is also consistent with the historical accounts of deep divisions within the Republican party between the progressive and stalwart factions. Somewhat surprising is the decline in magnitude of $\hat{\theta}_1$ between the

¹⁹We examined the number of times primary candidates were mentioned relative to the word election during the months prior to a primary election in the newspapers included in newslibrary.com during the period 1998 to 2006. The top-of-the-ticket candidates received significantly more newspaper mentions relative to the down-ballot candidates.

1970s the 2000s.²⁰



Figure 2. Results By Decade.

Figure 3 plots separate estimates of θ_1 and $-\theta_2$ by decade for incumbent and non-incumbent senatorial and gubernatorial candidates. In general the coefficient estimates for both incumbent and non-incumbent candidates tend to be larger in the later part of the century, which is consistent with a general rise in candidate-centered voting in the latter half of the century. The coefficient estimates for Republican candidates do not exhibit the same dramatic growth around the 1960s as is seen for the Democrats. This again may be related to the internal divisions between the progressive and stalwart factions within the Republican party, particularly in the midwestern states, during the earlier decades of the century.

²⁰One conjectures is that this decline may be related to the rise in polarization. What is driving this decline in $\hat{\theta}_1$ remains an open research question.



Figure 3. Results By Decade and Incumbency Status. d and r represent the coefficient estimates on the primary vote for non-incumbent Democrats and Republicans respectively. DI and RI represent the coefficient estimates on the primary vote for incumbent Democrats and Republicans respectively. The coefficients for Republicans are multiplied by -1.

The more striking feature of Figure 3 is the substantially larger estimates of θ_1 and $-\theta_2$ for incumbent candidates especially in the latter half of the century. This difference may in part reflect the gap in the amount of information primary voters have about the two types candidates. Like candidates for top-of-the-ticket offices, incumbents in general are given more media coverage and campaign resources. The difference may also reflect the selection of races where incumbents face primary challenges. Since incumbents, especially in the latter half of the century, are less likely to face primary challenges (Ansolabehere, et. al. 2010), when they do face a primary competition it may indicated the presence of some deep intra-party division or particularly salient candidate attribute.

We can also examine how θ_1 and θ_2 vary by state. Figure 4 plots the estimates of θ_1 and θ_2 for all offices and years by state. We see that the estimates of θ_1 and θ_2 have the expected signs – i.e. $\hat{\theta}_1 > 0$ and $\hat{\theta}_2 < 0$.²¹ Thus, in all states both Democratic and

²¹LA is dropped because only a small sample of races have competitive general elections and partisan primaries. DE is dropped because of the small number of counties.

Republican candidates tend to have higher general election vote shares in areas where they also had higher primary election vote shares. The coefficient for North Dakota Republicans is particularly large. This is consistent with the historical accounts which describe the strong factional divisions within the North Dakota Republican party due to the activities of the Nonpartisan League.²² Figure 4 helps us rule out the possibility that our results are reflecting electoral politics specific to certain regions of the country.²³

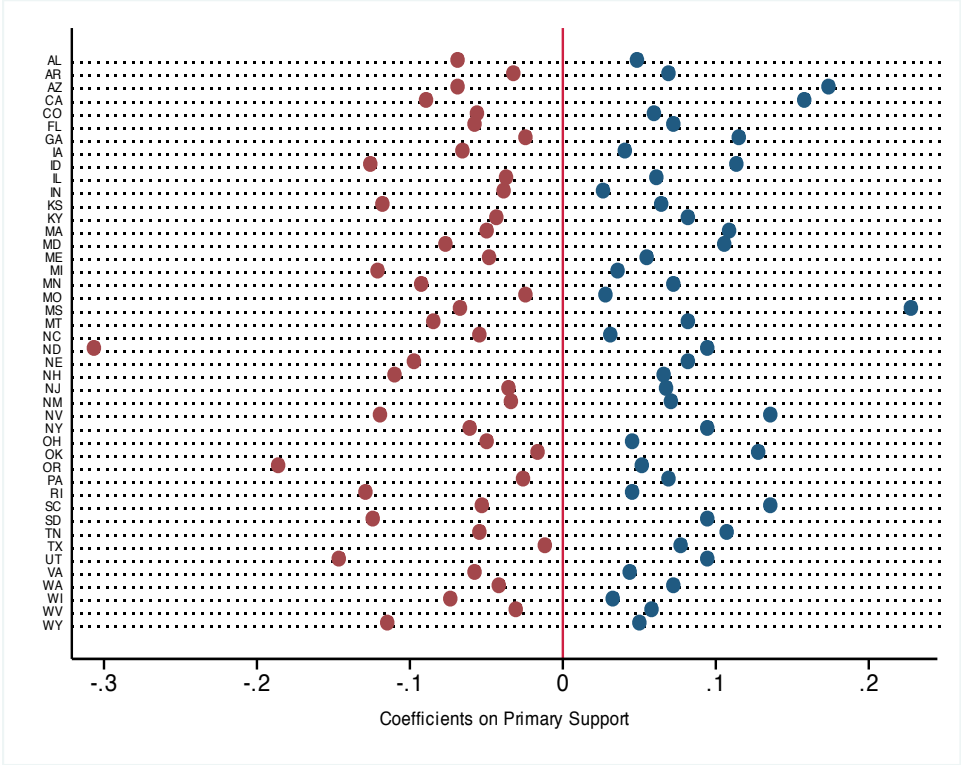


Figure 4. *State By State Results*. This figure plots the coefficient estimates on primary vote for Democrats and Republicans by state.

Finally, we also investigated how θ_1 and θ_2 vary by primary type – i.e. open versus closed.²⁴ Consider a candidate with an attribute is attractive to some voters in both parties (e.g. race, gender, religion, or some cross cutting issue position). Under open primaries voters from both parties who prefer this attribute can vote for the candidate both in the

²²The coefficients are also relatively large in MS. This may reflect the fact that MS did not have competitive general elections and primary elections until the post 1960 period when the association between county level primary and general elections was stronger.

²³The results are substantively very similar when we restrict our sample to southern or non-southern states.

²⁴We collected information about the primary election type from Gerber and Morton (1998), Kanthak and Morton (2001), *Book of the States* (Various Issues), Jewell (1977) and *www.fairvote.org*.

primary and the general election. In contrast, under closed primaries voters who have the opposite partisan affiliation from the candidate with the preferred attribute cannot easily “cross-over.” Thus, many more voters who favor that candidate in the general election will be able to vote for this candidate in the primary. As a result, one might expect that the correlation between voting in the primary and general election will be higher under open primaries. In fact, we find no robust and statistically significant evidence that the magnitudes of the estimated coefficients are related to primary type.

3.3 Repeat Challengers

While the above results suggest that county-level primary and general election outcomes are correlated, we would also like to know whether this correlation mainly reflects the salience of fixed attributes of the general election candidates, such as race, gender, hometown locations, which are present irrespective of who the nominees face in their primaries, or whether this correlation also reflects the specific attributes that are made salient in particular primary elections. If primary and general election support are still correlated even after taking into account the fixed attributes of the general election candidates, then this would suggest that the candidate specific attributes raised during primary elections are at least related to the personal vote in the general elections.

To examine whether the above result is largely capturing the salience of the fixed attributes of general election candidates, we focus on cases with repeat general election challengers who face different challengers during their primary elections. Since the fixed attributes are the same for repeat challengers, we can examine whether the variation in primary election support still has an effect on general election outcomes even when we account for these fixed attributes. To further minimize the possibility that the issues raised in the primaries affects the general election campaign strategies, we also examine cases where candidates face repeated uncontested general elections but variation in their primary competition.

The intuition behind the identification strategy is relatively straightforward. Suppose that two candidates A and B compete against each other in two different general elections, one a time t and the second at time $t + 1$. Candidates A and B each face different primary

challenges to be their party’s general election nominees at times t and $t+1$. If the coefficients in the above analyses are simply reflecting the effect of fixed attributes of A and B that have the same salience across elections, then we would expect candidates A and B ’s electoral support at times t and $t+1$ to come from the areas that are attracted to their fixed attributes – i.e. the same areas should be supporting A and B in both general elections. However, if different candidate attributes are salient in the different primary elections then we might expect differences in candidate A ’s time t and $t+1$ primary vote shares to be associated with differences in her general election vote shares in the corresponding periods.

If we assume that the salience of all the general election candidates’ attributes remain completely fixed across the general election campaigns, then this could be considered evidence regarding whether primary competition influences general election outcomes. As in the above analysis, it is still possible that the salience of a particular attribute in the general election could change even though the nominees remain the same. Thus, we cannot rule out the possibility that the variation in the salience of particular candidate attributes was not a result of the primary competition and would have affected the general election outcomes even in the absence of the primary competition. However, an association between the primary outcomes and general election outcomes even after accounting for fixed attributes of general candidates at least suggests that at least a portion of candidates’ personal votes does vary across elections. This raises the possibility that primary competition could affect the salience of particular candidate attributes in the general elections.

As in equation (1) above, the county-level votes shares of the Democratic candidate in county i of general election contest j are determined by factors specific to local areas (e.g., partisanship), candidate-specific characteristics (e.g., quality and incumbency), and contest-specific factors (e.g., salient issues in a particular campaign). However, now we assume that for every pair of general election candidates, k , there are some fixed attributes of the candidates, F , and some attributes that vary across elections, A . Equation (1) can be rewritten as follows:

$$V_{ijk} = N_i + Q_j^D + Q_j^R + \theta_1 F_{ik}^D + \theta_2 A_{ijk}^D + \theta_3 F_{ik}^R + \theta_4 A_{ijk}^R + Z_j + \epsilon_{ijk} \quad (3)$$

As above, the specification is simplified, but in this case we include county fixed effects that

vary by pairs of general election candidates, α_{ik} . Thus, the specification we estimate is:

$$V_{ijk} = \alpha_{ik} + \gamma_j + \theta_2 P_{ijk}^D + \theta_4 P_{ijk}^R + \epsilon_{ijk} \quad (4)$$

If there is variation in the salience of candidate attributes across elections that affects both the primary and general election outcomes then we would expect $\theta_2 > 0$ and $\theta_4 < 0$.

The results in the first two columns of Table 3 provide further evidence that the salience of particular candidate attributes varies across elections and the salience is associated with both the primary and general election outcomes. Column (1) contains races for all offices and column (2) focuses on senate and gubernatorial races. These first two columns only include races with contested general elections – i.e. both a Republican and a Democratic candidate. The coefficient estimates are statistically significant with the expected sign, which suggests that the results in the above section are not solely capturing the salience of fixed attributes of the general election candidates. The magnitude of the estimates are slightly larger when the sample is restricted to senate and gubernatorial elections. The estimates of θ_2 and θ_4 in column (2) suggest that on average a 40 percentage point difference in the Democratic (Republican) senate or gubernatorial candidates’ primary vote share across counties is associated with a 2.4 (1.6) percentage point difference in general election votes. This is a smaller effect than was estimated in the above section.

In the above specification, it is possible, and perhaps likely, that the primary election competition may be correlated with changes in the content of the general election campaigns even when the party nominees have not changed. In columns (3)-(5) of Table 3 we focus on cases where the same candidate competes in multiple *uncontested* general elections. In these cases there is likely to be less variation in the general election campaign strategies across the years. Uncontested elections also tend to be in states where one political party is dominant so the primary elections may be given relatively more attention in these races. We use the same specification as in equation (4), but now the dependent variable is the Democratic (Republican) vote divided by the voting age population.

The results in columns (3) and (4) suggest that Democratic nominees’ primary vote shares are positively correlated with general election turnout, even after accounting for the influence of the nominees’ fixed attributes. This relationship exists whether all statewide

offices are included, column 3, or whether only senate and gubernatorial races are included in the analysis, column 4. Unfortunately there are not enough cases of gubernatorial or senate elections with the same Republican candidate competing in more than one uncontested election. The results in column (5) include all races for statewide office where the Republican candidate was uncontested in the general election. The results in this column provide evidence for a positive relationship between primary votes shares and Republican turnout.

Table 3
Primary Electoral Support, General Election Outcomes
and Repeat Challengers

	Competitive		Uncompetitive Races		
	Vote Share		Dem Turnout	Rep Turnout	
	(1)	(2)	(3)	(4)	(5)
Dem Nominee Primary Support	0.04 (0.01)	0.06 (0.01)	0.03 (0.01)	0.04 (0.01)	
Rep Nominee Primary Support	-0.02 (0.01)	-0.04 (0.01)			0.10 (0.04)
Observations	18791	7146	14842	5866	1098

The dependent variable in the first two columns is the county level general election Democratic vote share of the Democratic and Republican vote. The dependent variable in the next three columns is the general election turnout as a proportion of the voting age population. Columns (1), (3) and (5) include all statewide elections. Columns (2) and (4) include senatorial and gubernatorial elections. State-county fixed effects that vary by pairs of general election candidates are included in all regressions. Race specific effects are also accounted for in all of the regressions. Standard errors clustered by pairs of repeat general election candidates are in parentheses.

These results using repeated uncontested general elections provide further evidence consistent with the idea that primary competition may affect the salience of particular candidate attributes for voters in the general election. We still do not know whether the turnout for the general election candidates would have been different had there been no primary election for exogenous reasons. However, these results do suggest that changes in general election campaigns are less likely to be determining whether attributes salient in primary elections

are also salient in general elections.

4. Effect of Primary Competition on Candidate-Centered Voting

While the above results suggest that particular candidate attributes affect both primary and general election outcomes, we still do not know whether primary competition contributes to the salience of these attributes or whether the attributes would still affect general election outcomes independent of what occurred in the primary election.

To examine whether primaries have an effect on general election voting, we employ two different research strategies. First, we exploit the regression discontinuity surrounding whether the general election candidates were forced to face a run-off primary election or not. This provides some variation in the length of the primary competition, and probably also in its intensity. Second, we exploit variation in state partisanship. In states where one party has an electoral advantage, we might expect that the primary election for the dominant party to receive a disproportionate amount of resources and attention. Both analyses provide some suggestive evidence that primary competition contributes to making particular candidate attributes salient in general election outcomes.

4.1 Runoff Primaries

In this section we exploit the fact that some states extend the primary election campaign by holding a runoff primary – also known as a second primary – if no candidate receives an outright majority of the votes in the first primary election. The runoff primary determines the party’s nominee. If the primaries affect general election outcomes and the length of the primary campaign strengthens this relationship then we would expect to find a stronger correlation between primary and general election vote shares when candidates are forced to compete in a runoff election.

More specifically, to identify the effect of the length of primary campaigns we use the existence of vote thresholds in determining whether a primary has a run-off election or not. The vote threshold creates a sharp discontinuity in the potential length of the primary campaign between elections where candidates are just above and just below the threshold.

When the outcome of the first primary election is close to the threshold for moving to a runoff election, under certain conditions whether a runoff primary is held is approximately randomly assigned. We view the runoff as a “treatment,” and ask whether holding a runoff affects the degree to which voting in the *first* primary is related to voting in the general election.

Having a runoff primary lengthens the primary election campaign, typically by three to four weeks. They also focus attention on the top two candidates from the first primary, since only these candidates compete in the runoff. If that was all that happened then we could interpret the treatment simply as a longer and more intense primary. Other factors, however, make the situation more complicated. One issue is that candidates from the first primary sometimes engage in strategic endorsing behavior in the runoff primary, urging their supporters to vote in a particular way (or, possibly, to abstain) in the runoff. Another complication is that the degree to which voters engage in strategic voting in the first primary may be different when voters know there will be a runoff.²⁵ Finally, the fact that many voters vote twice during the primaries, rather than once, might have a direct effect on how they vote in the general election. We must keep these factors in mind when interpreting the estimates below.

We focus on primary races where there are more than two candidates in the first round and the highest vote share a candidate received is within 5% of the threshold. Although several states have employed runoff primaries for various offices and periods of time, we focus on Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas and Virginia. These states have used runoff primaries most frequently and regularly.²⁶ We identified 187 cases of “close” first round primary elections for governor, senator, lieutenant governor, secretary of state, treasurer, attorney general, comptroller and

²⁵Although, see Bouton (2010) for a theoretical analysis showing that even in systems with runoffs the incentive to vote strategically in the first primary is quite strong, and there are always equilibria in which large amounts of strategic voting occur in the first primary and only two candidates receive positive votes.

²⁶We exclude Kentucky because it used runoff primaries for only one year in our sample. We also exclude Louisiana elections following its 1975 switch from partisan primaries to a nonpartisan blanket primary. We exclude Florida post-2001 since it eliminated the runoff primary system. Finally, North Carolina switched to a 40% threshold after 1990, so we change the threshold accordingly. Key (1949) and Bullock and Johnson (1992) provide a history of runoff primaries in the U.S.

auditor that could have lead to run-off election. 91 of these cases were senate or gubernatorial elections. In ten cases the runner-up in the first round primary chose not to compete in the second round (i.e. runoff) election. Four of these cases are gubernatorial primary races and none are senate primary races. We were forced to drop several races where we have been unable to obtain the primary or general election returns.

For this analysis we examine two dependent variables. The first is the correlation between a general election candidate’s county level first round primary and general election vote shares. Since many of the races we include are from the South during a time when Republican candidates did not regularly compete in the general election, we also use the correlation between a general election candidate’s primary vote share and their vote as a proportion of the voting age population.²⁷ We also examined the period prior to 1970 when the Democratic Party was less likely to face competition in the general election. We might expect the run-off primary to have a particularly strong effect during this early period as the Democratic primary essentially determined the general election winner. Voters were likely to have been given more information and become more informed about the Democratic primary candidates when the Democratic party dominated state politics.

The specification we use is simply:

$$C_{ijk} = \alpha_k + \theta_1 T_{ijk} + \epsilon_{ijk} \tag{5}$$

where C_{ijk} is the correlation between candidate i ’s county level general and first round primary election vote shares in race j of state k .²⁸ T_{ijk} is whether the primary for race j included a run-off election. As we noted above, there are a few cases where candidates chose not to contest the run-off election. Thus, the use of run-off elections is not completely randomly assigned. We also use whether the candidate was just above or below the threshold as an instrument for whether or not there was a run-off election.

The results in the first four columns of Table 4 provide only weak evidence that run-off primaries strengthen the correlation between county level primary and general election

²⁷The data for the voting age population from U.S. Census Reports. We linearly interpolate the values for the years between the Census reports.

²⁸The county general election vote shares are deviations from the mean vote share for all candidates of the same party who competed in that county in that decade.

outcomes. The coefficient estimates on the run-off dummy variable, θ_1 , are positive, but not statistically significant. The coefficients are slightly larger in magnitude when we focus on senate and gubernatorial races. This is true when either vote share or turnout is used as the dependent variable.

Table 4								
The Effect of Run-off Primaries on the Correlation Between Primary and General Elections								
	All Years				1970 and Earlier			
	OLS	IV	FE	IV-FE	OLS	IV	FE	IV-FE
Vote Share All Offices								
Runoff Primary	0.05 (0.06)	0.04 (0.06)	0.03 (0.06)	0.04 (0.06)	0.22 (0.08)	0.21 (0.09)	0.18 (0.08)	0.22 (0.09)
Observations	117				47			
Vote Share Senate and Gubernatorial Elections								
Runoff Primary	0.12 (0.07)	0.11 (0.08)	0.11 (0.07)	0.12 (0.08)	0.30 (0.09)	0.32 (0.11)	0.24 (0.10)	0.33 (0.12)
Observations	79				36			
Turnout All Offices								
Runoff Primary	0.04 (0.05)	0.02 (0.05)	0.04 (0.05)	0.02 (0.05)	0.09 (0.06)	0.08 (0.08)	0.07 (0.07)	0.08 (0.07)
Observations	137				66			
Turnout Senate and Gubernatorial Elections								
Runoff Primary	0.08 (0.06)	0.02 (0.07)	0.09 (0.07)	0.04 (0.07)	0.17 (0.09)	0.12 (0.10)	0.12 (0.10)	0.11 (0.11)
Observations	87				44			

The dependent variable is the correlation between primary and general election vote shares for races within the 5% vote threshold for having a runoff. Column 2 and 4 uses whether or not the top candidate's vote share is above or below the threshold for a runoff as an instrument for whether a runoff is held. Columns 3 and 4 include state fixed effects.

However, if we focus on the period when the Democratic party dominated Southern politics – i.e. the years prior to and including the 1970s – the coefficient estimates, which are in columns 5 through 8, are much larger in magnitude than the coefficient estimates for the full sample. When the dependent variable is Democratic vote share, the coefficient estimates are statistically significant. These results provide some evidence that having a runoff primary increased the correlation between county level primary and general election outcomes in southern states in the early part of the century. This is consistent with the findings in the next section that primaries in one party dominant states have a stronger association with general election outcomes.

4.2 Safe versus Competitive States

In this section we exploit the variation in the degree to which one party is favored in a particular state’s general election. In “safe” states we would expect that there would be more attention given to the favored party’s primary as the nominee for this party is most likely to be elected. If primary outcomes simply reflect the presence of candidate characteristics that would be salient in the general election irrespective of whether the primary was competitive, then a similar association between primary and general election outcomes should exist in both parties even when one party is favored in that state. However, if primaries have an effect of increasing the salience of particular attributes, then we might expect that primary and general election outcomes to be more highly correlated for “safe” party nominees compared to “non-safe” party nominees.

First, to demonstrate that candidates in the primary election for a party with a partisan advantage receives more media attention, we can examine the number of times candidates’ names are mentioned in newspapers for the primary election of candidates with a partisan advantage. Although we do not have access to a large historical database of newspapers throughout the country, we use newspapers available through *www.newslibrary.com* which allows us to examine newspapers from different regions of the US for the period 1998 to 2006. For each election during this period we counted the number of times candidates’ names were mentioned for candidates from each party. We find that the dominant party candidates

receive about twice as much newspaper coverage as the non-dominant party candidates. We find a similar pattern with respect to campaign expenditures. In the period 1992 to 2006, when no incumbent is competing in the Senate race, the losing primary candidate from the dominant party spends substantially more than the losing primary candidate from the non-dominant party.

The differences in newspaper coverage and campaign expenditures suggest that voters have more exposure to the attributes of dominant party candidates during the primary campaign than non-dominant party candidates. If primary campaigns influence personal voting in general elections, then we might expect the dominant party’s candidates’ attributes relevant in the primary elections to be more salient in the general election as compared to the non-dominant party’s candidates attributes. If the primary competition largely reflects candidate attributes that would be brought up in the general elections irrespective of whether the primary is contested, then we would expect to find a similar relationship between primary and general election outcomes for the dominant and non-dominant parties’ candidates.

To examine whether a state is “safe” – i.e. has a dominant party – we examine the electoral outcomes for president and all statewide offices in the eight years prior to each election. For each election year during those eight years we code it as a safe year if one party received more than 60% of the vote of any contested election or that same party won all of the uncontested races.²⁹ For a state to be considered safe each of the previous eight years had to be considered safe.

The Democratic vote share in county i of race j can be written as follows:

$$V_{ij} = \alpha_i + \gamma_j + \theta_1 P_{ij}^D C_j + \theta_2 P_{ij}^R C_j + \theta_3 P_{ij}^D S_j^D + \theta_4 P_{ij}^R S_j^D + \theta_5 P_{ij}^D S_j^R + \theta_6 P_{ij}^R S_j^R + \epsilon_{ij} \quad (6)$$

where P_{ij} is the primary vote share in county i of race j . C_j is an indicator for whether race j is in a state that is considered competitive. S_j^p is an indicator for whether race j is in a state that is considered safe for candidates from party p . In some specifications we also include the incumbency status of candidates in the specification to take into account the fact that the dominant party candidates in safe states are more likely to be incumbents. We

²⁹We only include years where there were more than two races for statewide offices.

know from Figure 3 above that the relationship between primary and general election voting is stronger for incumbents.

According to the logic outlined above, we would expect $\theta_3 > -\theta_4$ and $\theta_6 > -\theta_5$. This would be consistent with the claim that primary elections increase general election personal voting by focusing media, campaign resources and voter attention on candidate attributes during the primary campaign. If particular candidate attributes would be salient in the general election irrespective of the amount of resources and attention given in the primary, then we would expect the coefficients on Democratic and Republican primary votes to be of relatively similar magnitudes for both safe and competitive states.

The coefficient estimates in Table 5 provide some evidence that the competitiveness of the general elections does appear to be related to the correlation between primary and general election outcomes. Columns (2), (4) and (6) include the interaction term with incumbency. In columns (1) and (2) we include the results with all the races included. In columns (3) and (4) we focus on only gubernatorial and senate races. In columns (5) and (6) we focus on gubernatorial and senate races occurring during presidential election years.

The pattern is consistent with what we would expect if primary election campaigns contributed to making candidate attributes salient. The coefficient on the Democratic (Republican) nominee's primary vote is larger in magnitude in the Democratic (Republican) safe states as compared to the coefficient on the Republican (Democratic) nominee's primary vote. This difference is even larger when we focus on senate and governor elections. For competitive states, the top two rows of Table 5, the coefficient estimates on Democratic and Republican primary support tend to be closer in magnitude as compared to the safe states.

We also examine whether the results reflect the lack of mobilization on the part of the losing primary candidates' constituents. Since the general election outcome is often to a large extent pre-determined in safe states, the supporters for the losing candidate might not be mobilized to turnout in the general election. These same voters might have remained un-mobilized even if there was no primary election. However, if we examine the cases where the senate or gubernatorial election was in the same year as a presidential election and assume that voters are more likely to be mobilized to turnout for the presidential election,

then this would make the mobilization explanation less likely. The results in column (5) and (6) suggest that the substantive results hold even when the gubernatorial or senatorial election takes place in the same year as a presidential election.³⁰

Table 5						
Primary Electoral Support and General Election Outcomes						
in Safe versus Competitive States						
	All Races All Years		Gov & Sen All Years		Gov & Sen Pres Years	
	(1)	(2)	(3)	(4)	(5)	(6)
Dem Prim Support Comp State	0.07 (0.01)	0.07 (0.01)	0.08 (0.01)	0.08 (0.01)	0.06 (0.01)	0.06 (0.01)
Rep Prim Support Comp State	-0.06 (0.01)	-0.05 (0.01)	-0.08 (0.01)	-0.07 (0.01)	-0.06 (0.02)	-0.04 (0.01)
Dem Prim Support Dem Safe State	0.07 (0.01)	0.06 (0.01)	0.10 (0.02)	0.08 (0.02)	0.10 (0.04)	0.10 (0.05)
Rep Prim Support Dem Safe State	-0.04 (0.01)	-0.04 (0.01)	-0.03 (0.01)	-0.03 (0.01)	-0.03 (0.02)	-0.03 (0.02)
Dem Prim Support Rep Safe State	0.07 (0.02)	0.07 (0.02)	0.08 (0.03)	0.08 (0.03)	0.06 (0.05)	0.07 (0.05)
Rep Prim Support Rep Safe State	-0.15 (0.03)	-0.12 (0.03)	-0.20 (0.04)	-0.17 (0.05)	-0.21 (0.08)	-0.17 (0.08)
Dem Prim Support Dem Inc Present		0.05 (0.02)		0.05 (0.03)		0.00 (0.06)
Rep Prim Support Rep Inc Present		-0.07 (0.02)		-0.10 (0.02)		-0.12 (0.04)
Observations	244634	241866	133375	133708	59290	58415

The dependent variable is the county level general election Democratic vote share of the Democratic and Republican vote. State-county fixed effects that vary by decade are included in all regressions. Race specific effects are also accounted for in all of the regressions. Standard errors clustered by state are in parentheses.

³⁰In some states, especially in the South, the general election for statewide offices may not have been held on the same day as for the presidency. Unfortunately we have not collected information that would identify all of the cases where this difference exists between elections for state and federal offices.

Another alternative interpretation of the stronger relationship between primary and general election votes for dominant parties in safe states is that this reflects the presence of intra-party factions within the dominant party. These factional divisions may be salient in general elections irrespective of whether the primary is contested. More generally we cannot rule out the possibility that candidates for the dominant party in safe states have some attribute, such as a factional affiliation, that is salient in the general election and may be widely known even in the absence of a primary election campaign. The role of intra-party factions in primary and general elections is an area for future research.

5. Primary Election Spill-Over Effects

In this section we investigate whether the salience of candidate attributes for one office have spill-over effects on the elections for other offices. More specifically we examine whether the areas where Democratic (Republican) gubernatorial and senatorial nominees do well in the primaries are also areas where the Democratic (Republican) down-ballot candidates do well in the general elections. We might suspect that the top-of-the-ticket nominees may mobilize voters in particular areas to turnout and once they do they may continue to vote for down-ballot candidates with the same partisan affiliations. We also examine whether the reverse relationship exists – i.e. areas where the down-ballot candidate does well in the primaries are also the areas where the top-of-the-ticket candidates do well in the general elections.

The basic specification is the same as in equation 2 above except now the dependent variable is the Democratic vote share for a particular down-ballot office and the independent variables are the vote shares of the Democratic and Republican nominees for top-of-the-ticket offices.

$$V_{ij}^{DB} = \alpha_i + \gamma_j + \theta_1 P_{ij}^{DDB} + \theta_2 P_{ij}^{D_{TT}} + \theta_3 P_{ij}^{RDB} + \theta_4 P_{ij}^{R_{TT}} + \epsilon_{ij} \quad (7)$$

If the effect of the top of the ticket candidates attributes spill over to down-ballot elections, then we would expect $\theta_2 > 0$ and $\theta_4 < 0$. In this case we define $P_{ij}^{D_{TT}}$ as the higher of the gubernatorial or senatorial candidates' vote share in the primary in county i of race j .

Table 6
Spill-Overs Across Offices

	Down-ballot			Top-of-Ticket		
	All	Pre-1960	Post-1960	All	Pre-1960	Post-1960
Dem Nominee Primary Support	0.03 (0.01)	0.02 (0.005)	0.07 (0.02)	0.09 (0.01)	0.07 (0.01)	0.12 (0.02)
Down-ballot Primary Support				-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Top of Ticket Primary Support	0.02 (0.01)	0.03 (0.01)	0.00 (0.02)			
Rep Nominee Primary Support	-0.03 (0.01)	-0.03 (0.01)	-0.04 (0.01)	-0.09 (0.02)	-0.08 (0.02)	-0.10 (0.01)
Down-ballot Primary Support				-0.01 (0.01)	0.00 (0.02)	-0.01 (0.01)
Top of Ticket Primary Support	-0.02 (0.01)	-0.03 (0.01)	0.00 (0.01)			
Observations	107386	64353	43033	59288	34276	25012

In the first three columns the dependent variable is the county level general election Democratic vote share of the Democratic and Republican vote for down-ballot offices. In columns (4)-(6), the dependent variable is the county level general election Democratic vote share of the Democratic and Republican vote for top of the ticket offices. State-county fixed effects that vary by decade are included in all regressions. Race specific effects are also accounted for in all of the regressions. Standard errors clustered by state are in parentheses.

We can also examine the less likely reverse spill-over effect, where the dependent variable is the Democratic vote share for top-of-the-ticket offices and the independent variables include the primary vote shares of nominee's for down-ballot offices. As above we use the highest vote share among the down-ballot offices in county i of race j .

$$V_{ij}^{TT} = \alpha_i + \gamma_j + \gamma_1 P_{ij}^{D_{TT}} + \gamma_2 P_{ij}^{D_{DB}} + \gamma_3 P_{ij}^{R_{TT}} + \gamma_4 P_{ij}^{R_{DB}} + \epsilon_{ij} \quad (8)$$

If the effect of down-ballot candidate's attributes spill over to top-of-the-ticket elections, then we would expect to find $\gamma_2 > 0$ and $\gamma_4 < 0$.

Column 1 of Table 6 includes all down-ballot races. The estimate of the coefficient on the *Top-of-the-Ticket Primary Support* variable is consistent with the argument that the personal support for top-of-the-ticket candidates spill over to down-ballot general election

outcomes. Although substantively, the coefficient estimates are relatively small when down-ballot general election outcome is the dependent variable, the coefficient estimate on top-of-the-ticket support is about two-thirds the size of the coefficient on down-ballot primary support. The results in column 2 examine down-ballot general elections in the pre-1960 period and the results in column 3 examine the post-1960 period. These results suggest that the spill over effects from the top-of-the-ticket primaries to the down-ballot general elections are mainly in the earlier period. There is little evidence that the spill over effect from down-ballot to top-of-the-ticket races is present in the post-1960 period.

The next three columns of Table 6 examine the spill over effects from the personal vote for down-ballot offices on the top-of-the-ticket races. When the dependent variable is top-of-the-ticket general election outcomes, the coefficients on the *Down-ballot Primary Support* variable is small in magnitude and not statistically significant. This result suggest that there is little reverse spillover of the personal attributes of down-ballot candidates on the top-of the ticket general elections. This result is not very surprising since, as we mentioned above, down-ballot candidates are often given less media attention and have access to fewer campaign resources.

6. Conclusions

The results above indicate that there are significant linkages between primary and general elections. First, although scholars often discuss the rise of candidate-centered politics in the 1960s, our state level analyses indicate that there was a rise in split-ticket voting much earlier in the century, particularly in states that introduced mandatory direct primaries between 1900 and 1915. Second, our county level analyses suggest that candidate attributes salient in the primaries are also salient in the general elections, and this was true even in the decades prior to the 1960s. Third, and perhaps most interestingly, we find evidence that primary competition affects the salience of particular candidate attributes in the general elections. While the causal effect of primaries on general election voting is perhaps the most difficult to establish, the analyses of runoff elections and safe versus competitive states provide some suggestive evidence that primary competition may affect the salience

of the candidate attributes raised during the primary campaigns in the general elections. In addition, voters' preferences for top-of-the-ticket candidates appear to affect voting for down-ballot candidates, at least in the early part of the 20th century. Thus primary election competition for high level offices may have a wider impact on politics outside the specific office being contested.

The findings above establish a clear association, but do not identify the specific mechanisms. Is the relationship between candidate attributes in primary and general elections reflecting voter information about the candidates positions? Alternatively, does it merely reflect some type of psychological attachment to the candidates as suggested in the divisive primaries literature? If the former is true, then our results suggest that primary competition may play a significant role in informing the electorate about candidate attributes aside from what can be learned from their partisan affiliations.

Using information about candidates' issue positions, which are collected from newspaper reports and interest group endorsements, we find some preliminary evidence that candidates' issue positions affect their primary election votes. In a related paper we use survey data from primary elections to show that primary voters can learn about the ideological positions of the candidates over the course of the primary campaign (Hirano et. al. 2012). Such evidence, along with the results in this paper, suggests that primaries may have an important role in informing the electorate.

Our findings may understate the overall effect of primary competition, especially if candidates can adapt their positions, and also their campaign strategies, in response to issues raised by their general election opponents, or their opponents' attributes. If so, then primary competition might have broader effects on politics and policy outcomes. For example, does competition in primaries lead campaigns, even in the general election, to raise new issues? Does primary competition raise the salience of particular candidate attributes, which would have otherwise been ignored? Does primary competition even effect policy agendas and outcomes? Further theoretical and empirical research is clearly necessary to assess the true impact of primary elections.

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