

Do Primaries Improve Electoral Performance? Clientelism and Intra-Party Conflict in Ghana

Nahomi Ichino Harvard University
Noah L. Nathan Harvard University

We consider the effect of legislative primaries on the electoral performance of political parties in a new democracy. While existing literature suggests that primaries may either hurt a party by selecting extremist candidates or improve performance by selecting high valence candidates or improving a party's image, these mechanisms may not apply where clientelism is prevalent. A theory of primaries built instead on a logic of clientelism with intra-party conflict suggests different effects of legislative primaries for ruling and opposition parties, as well as spillover effects for presidential elections. Using matching with an original dataset on Ghana, we find evidence of a primary bonus for the opposition party and a primary penalty for the ruling party in the legislative election, while legislative primaries improve performance in the presidential election in some constituencies for both parties.

Political party leaders in new democracies have often constrained for whom citizens may vote by controlling their parties' nominations (Field and Siavelis 2008). An increasing number of political parties in Latin America (Carey and Polga-Hecimovich 2006; Kemahlioglu et al. 2009) and Africa (Öhman 2004) have adopted primary elections, however, allowing party members to democratically select their candidates. But with the exception of Carey and Polga-Hecimovich (2006), the electoral impact of primaries has been little studied outside the United States, and whether political parties that use more democratic internal procedures perform better in elections in new democracies is an open question.

While some theories suggest that primaries may reconcile factions within a party or select popular nominees with local appeal, others argue that primaries lead to the selection of unpopular extremist candidates and generate intra-party conflict that could destabilize political parties and harm nascent democracies. But these theories assume competition over policy in primaries and provide limited guidance for the analysis of primaries in new democra-

ties where vote buying and patronage are more important than policy positions in determining the electoral success of candidates.

To address this, we develop a theory of primary elections in which aspiring candidates compete for nominations through the distribution of patronage to local party members, not their policy positions. This patronage spending builds ties between local party members and primary aspirants, and defeated aspirants can use this support within the local party to dispute the nomination result or defect from the party after the primary. Because local party members are crucial for mobilizing voters, these intra-party conflicts after primaries can result in a negative effect of primaries on the party's performance in the general election. For the ruling party, primaries in competitive constituencies are particularly problematic because losing aspirants will have invested heavily in a valuable nomination and withholding their support from the nominee in order to bargain for compensation can be electorally consequential. Moreover, exiting the party with one's supporters to contest the general

Nahomi Ichino is Associate Professor, Department of Government, Harvard University, 1737 Cambridge St., Cambridge, MA 02138 (nichino@gov.harvard.edu). Noah L. Nathan is Ph.D. Candidate, Department of Government, Harvard University, 1737 Cambridge St., Cambridge, MA 02138 (lnathan@fas.harvard.edu).

We thank Jorge Domínguez, Adam Glynn, Barak Hoffman, Macartan Humphreys, Joseph Luna, Amanda Pinkston, Alastair Smith, and workshop participants at Harvard and CAPERS (Columbia/NYU) for comments, and Abel Boreto, Sangu Delle, Daniel Kroop, Jitka Vinduskova, and Sumorwuo Zaza for their research assistance. An earlier version of this article was presented at the 2011 Midwest Political Science Association meeting in Chicago, IL. We gratefully acknowledge grant support from the Committee on African Studies and the Institute for Quantitative Social Science at Harvard University. Replication files and data are available at <http://dvn.iq.harvard.edu/dvn/dv/nichino>.

American Journal of Political Science, Vol. 00, No. 0, xxx 2012, Pp. 1–14

© 2012, Midwest Political Science Association

DOI: 10.1111/j.1540-5907.2012.00624.x

election may be a viable option for a losing aspirant. In an opposition party, by contrast, lower investment by primary aspirants overall generates less severe intra-party conflict, and exit options are less attractive for losing aspirants. As a result, primaries in opposition parties may benefit the party in the general election by identifying nominees with the most support in the local party. These hypotheses of differing effects on legislative elections performance for ruling and opposition parties—a primary “penalty” for the ruling party and a primary “bonus” for the opposition party—contrast with predictions from existing models of primaries.

Our theory produces an additional novel hypothesis of a spillover, or “reverse coattails,” effect on presidential elections, since local party members also mobilize voters for the party’s candidate for president, a far more important prize than a legislative seat in presidential systems. Material inducements distributed during primary elections encourage local party members and potential new members to become more involved in the party’s campaign efforts, by making participation in the party organization more financially rewarding. Therefore, regardless of whether there are internal conflicts over the legislative nomination, we expect legislative primaries to have positive effects on presidential elections in both ruling and opposition parties.

We find general support for this argument in an analysis of an original dataset on primary elections in Ghana for the 2004 and 2008 elections. Employing matching methods, we show that the electoral impact of primaries differs for the two major parties in Ghana. Primaries in the governing party, the New Patriotic Party (NPP), hurt its performance in parliamentary elections, while democratic selection of nominees in the opposition party, the National Democratic Congress (NDC), improved its performance in these elections. While our results for the opposition party conform with previous models of primary elections (Adams and Merrill 2008; Serra 2011), our overall findings for both ruling and opposition parties are more consistent with our patronage-focused model of legislative primaries. Moreover, we find some evidence for a reverse coattails effect for both parties, connecting developments in the local party to national electoral outcomes. Parliamentary primaries result in better performance in the concurrent presidential elections for the opposition NDC and in stronghold constituencies only for the ruling NPP.

By considering the impact of clientelism, we extend the literature on political parties and primaries for new democracies. With its strong presidency, a majoritarian electoral system, and concentration of economic re-

sources in the state, Ghana shares with other new democracies underlying institutional and socioeconomic characteristics that affect political competition, the pervasiveness of clientelism, and the development of political parties (Kitschelt and Wilkinson 2007). While the magnitude of the effects would likely vary with some institutional and political details of particular cases, we expect similar overall results of divergent effects from primaries in ruling and opposition parties in those cases where clientelism and vote buying are common, aspirants have only their own resources and little help from the party in pursuing elected office, and local party organizations are the vital connection between candidates and voters during campaigns. Moreover, our study highlights the significance of considering the prevalence of an informal practice like clientelism in the theoretical and empirical analysis of the effects of formal institutions on electoral outcomes.

We review the current literature on the electoral effects of primaries in the next section. We then elaborate our argument for the differing effects of primaries in ruling and opposing parties where patronage politics are prevalent and policy considerations are not significant. We present background information on the primary system in Ghana and introduce our dataset in the following sections before presenting and discussing our empirical analysis.

The Primary Bonus and Penalty

While an emerging literature examines the strategic decision of party leaders to adopt primary elections in new democracies (De Luca et al. 2002; Ichino and Nathan 2012; Kemahlioglu et al. 2009; Serra 2011), their effects on the general election outcome are generally unknown. In one of the few empirical works on the effects of primaries in new democracies, Carey and Polga-Hecimovich (2006) find that parties with presidential candidates selected through primaries perform better in the general election. They propose two mechanisms to account for this primary bonus—the influence of primaries on voter support for the nominee and the influence of primaries on consensus within the party or coalition. In the first mechanism, primaries confer a “democratic seal of approval” on nominees, important for voters who generally distrust nominations that emerge from opaque, back room negotiations (533). Moreover, as Adams and Merrill (2008) and Serra (2011) also argue, primary election voters may be better than party leaders at identifying nominees who have higher valence or broad appeal

among general election voters. In the second mechanism, primaries build consensus by providing a fair means of deciding the nomination, forestalling fractures among the party elite or coalition leaders (Carey and Polga-Hecimovich 2006, 534). With data from 90 presidential elections across 18 countries in Latin America, they estimate that candidates selected through primaries win a vote share 6 percentage points higher than those selected through other means, controlling for each party's past electoral performance, incumbency status, and current economic conditions.¹

It is not clear, however, that primaries generally improve the legitimacy and credibility of the party. The primary electorate can be restricted to a small number of delegates and may be quite different from the general electorate, so they may not select a broadly popular candidate with higher valence. They may instead choose a nominee who appeals to a narrower group of party activists with more extremist policy positions than the general public (Brady et al. 2007; Burden 2004; Gerber and Morton 1998; but also Bruhn 2011), resulting in a primary *penalty* rather than a bonus.² Moreover, if primaries involve small electorates and sparse media coverage, few general election voters may be familiar with how the candidate was selected. Even in the United States, where voters are familiar with primaries through the media, benefits from the selection of higher valence candidates may be partially offset by the loss of support from voters who are discouraged that their favored aspirant did not win the nomination (Stone 1986).

It is also not evident that primaries generally improve the legitimacy of the nominee within the party or coalition. Concerns about electoral fraud are common in new democracies, and the rules and management of the primary process itself may be the focus of disagreement and tarnish the legitimacy of the nominee. Even if the process were trusted, as in the United States, eventual nominees may be dragged through long, expensive campaigns, and attacks by opponents from within the party may harden intra-party divisions. Evidence from American presidential nominations suggests that candidates emerging from long, divisive primaries may perform worse in the general election (Kenney and Rice 1987; Lengle et al. 1995; Stone 1986; but also Atkeson 1998).

¹However, Kemahlioglu et al. (2009) find that this result is not robust to the inclusion of additional elections and primaries or the exclusion of elections of doubtful democratic quality.

²Jackson et al. (2007) argue that even in settings where the policy of nominees is an important consideration, primaries do not always select for more extremist nominees, depending on whether primary voters and aspirants can easily switch parties.

Primaries in Patronage Politics

We depart from the existing literature to study the electoral effects of primary elections where the policy positions of aspiring nominees are not a major issue in the nomination contest. Instead, we develop a theory of primaries focusing on the patronage relationships built between aspirants and local party members during primary campaigns in settings where clientelism is prevalent (Ichino and Nathan 2012).

Primary elections allow party leaders to select nominees for parliament who have support among local party members and bring their own campaign funds, instead of needing support from the resource-poor party. The local party members are crucial for mobilizing voters in the general election, and having aspirants compete over their votes with material inducements both motivates current members and attracts new or less active members to work on behalf of the party. Allowing local party members to select the nominee also means that party leaders must relinquish awarding nominations as political favors or to aspirants with policy preferences most similar to those of the leaders. The nominees' policy positions are not crucial to their election, however, and party leaders can hold elected MPs to the party line through patronage and other inducements.

Since individual MPs often have little influence on the government's policy decisions, local party members also have little concern over aspirants' policy preferences when voting in primary elections. They expect aspirants to offer favors and money for their votes in primaries and may accept inducements from multiple aspirants. Although local party members may still consider aspirants' ethnicities or other valence characteristics, patronage spending helps build connections to particular aspirants and is a major factor determining the nominee.

Consequently, patronage-rather than policy-centered competition characterizes primary elections. The overall level of spending is constrained by the aspirants' own personal contributions and fundraising, but is increasing in the expected value of the nomination.³ This value comprises several elements, the first of which is the access to personal benefits and influence in the targeting of public resources, such as control over a constituency development fund in many countries (Keefer and Khemani 2009), that comes with winning

³The entry of a single wealthy aspirant will not necessarily deter the entry of less-resourced competitors, unless one aspirant has overwhelming resource advantages. Without polling or campaign finance disclosures, primary aspirants are often uncertain about the popularity or resource constraints of their opponents.

any seat in parliament. The second is whether the party is likely to win the presidency. A seat in parliament as a member of the president's party is significantly more valuable than a seat in the opposition, since this brings access to additional connections and control over state resources, as well as possible ministerial appointments. The third is the competitiveness of the constituency, since a nominee in a party's stronghold constituency is much more likely to win the general election than a nominee for the same party in a competitive constituency.

While patronage spending in primaries can benefit local party members and make participation in the local party more attractive, it also can create intra-party divisions and conflict. A losing aspirant is left without a direct path to office, and he has only limited options to try to recover his losses. The first option is to actively challenge the primary process as unfair or rigged in order to reverse the outcome. Alternatively, a losing aspirant may try to get a valuable appointment within the party or government in return for his support for the nominee. The last option is to leave the party and run as an independent or minor party candidate, but this is quite costly. Running as an independent requires setting up a campaign organization and attracting supporters without the help of an existing party. Joining a new party may be complicated by a mismatch between the politician's ethnicity and the ethnic profile of the new party or resistance from longtime members of the new party to accommodating an opportunistic newcomer. All three options require that an aspirant have spent substantial resources to develop a strong following in the local party that may be withheld from the selected nominee.

Nominations for the expected ruling party are very valuable, so aspirants in these primaries spend significant resources to build support among primary voters. The viability of aspirants' options after losing a primary in the ruling party differ with the competitiveness of the constituency in which they seek their nominations. In stronghold constituencies, defecting from the party is unattractive to losing aspirants, even though a particularly well-resourced aspirant may be able to fund an independent campaign. The ruling party's nominee is almost certain to become the MP in a stronghold constituency, and is unlikely to direct benefits to his primary opponent's supporters who left the party. Disgruntled aspirants and party members in stronghold constituencies may still dispute the outcome of the primary, but they do not have viable alternative candidates to support. For these reasons, primaries in the ruling party's strongholds are unlikely to consistently hurt the party's performance in the parliamentary election. In competitive constituencies, however, the party is more vulnerable. A defecting

aspirant has a more realistic prospect of winning the general election, so he is more likely to pull his supporters away from the party. Challenges to the primary result without defection also can be harmful where the vote margin is small and disaffected local members can throw their support behind a viable opposition party candidate for parliament. As a result, defections and disputes in competitive constituencies are likely to harm the ruling party's performance in the general election.

By contrast, the value of opposition party nominations, in both its stronghold and competitive constituencies, is significantly lower than in the ruling party, with lower overall spending by the aspirants. Although local party members of the opposition party receive more benefits than if there were no primary, the patronage relationships between aspirants and local party members that develop during the primary are weaker than in the ruling party. It is therefore more difficult for a losing aspirant to use his supporters in the local party to engage in disputes after the primary or to withhold their support from the nominee. A losing aspirant is also less likely to run as a minor party or independent candidate, since with only weak ties, local party members are unlikely to follow an aspirant and defect with him. Therefore, in contrast with the ruling party, the opposition party is more likely to benefit from aspirant spending in primary elections without suffering the negative consequences of severe intra-party conflicts.

A complementary dynamic may contribute to the primary penalty for the ruling party. Because the overall level of resources available to a nominee after the primary affects his performance in the general election, primaries can create a penalty if they force the eventual nominee to expend substantial personal resources to secure a nomination, particularly where political parties do not provide significant supplementary funding after the primary. The more valuable nominations in the ruling party may attract wealthier aspirants, but competition among multiple wealthy aspirants will drive up the cost of each vote so that the nominee may be left with far fewer resources than if he had not faced a primary.⁴ The value of the nomination and, consequently, aspirant spending to secure a nomination are both smaller in the opposition party than in the ruling party. This limits the eventual opposition party nominee's expenditures in a potential

⁴If one aspirant in the ruling party is much wealthier than the other aspirants, he may still have significant resources remaining after securing the nomination and may not suffer a primary penalty from resource depletion. But in such cases there may not be a primary election at all since such an aspirant with overwhelming resource advantages may also deter other aspirants from seeking the nomination or induce them to withdraw from the contest.

primary, such that any penalty from resource depletion is less likely to outweigh the benefits of the patronage relationships developed during primary elections in the opposition party.

Finally, for both ruling and opposition parties, parliamentary primaries may improve performance in the presidential election. Aspirants' efforts to buy the support of primary voters generally make active participation in the party organization more attractive to local party members in both parties. Disagreements over the parliamentary nomination also need not diminish the support of local party members in either party for their presidential candidate, because the presidency is the most significant potential source of benefits. As long as defecting to another party is unattractive to those who supported defeated parliamentary aspirants, spending in the primaries can spur greater turnout in the general election and increase voter support for the party's presidential nominee. This "reverse coattails" or spillover effect on the presidential election should improve both the performance of the presidential candidate and the overall turnout in a constituency with a legislative primary.

Primary Elections in Ghana

Ghana is well suited for exploring this argument. It has competitive elections with pervasive clientelism and the major parties hold primaries for many, but not all, parliamentary nominations. In this section, we discuss the benefits MPs receive from office in Ghana, especially in the ruling party, and the nature of the primary election system.

The National Democratic Congress (NDC) and the New Patriotic Party (NPP) have dominated Ghanaian politics since the democratic transition in 1992. The NPP held the presidency and parliamentary majority from 2001 to 2009, while the NDC has controlled the presidency and parliament from 1992 to 2001 and since 2009. Two hundred thirty MPs are elected from single-member constituencies by plurality vote, while the president is elected by a majority of votes cast in the entire country in a run-off system. Approximately 40% of these constituencies swing between the NPP and NDC in each election, while the remainder are strongholds of either party. Despite the dominance of these two parties, independent and third-party candidates still influence the outcome of some parliamentary elections. On average, independent and third-party candidates together won about 10% of the parliamentary vote in 2004 and 2008. In over a fifth of the constituencies, these candidates won more than the

margin between the NDC and NPP, substantial enough to affect the outcome of the election between the major parties.

Election to parliament, particularly as a member of the party which controls the presidency, brings a series of benefits to a politician in Ghana. MPs from all parties receive personal perks from office, from improved career prospects and business opportunities to smaller rewards like favorable loans on new cars. MPs receive an annual salary of approximately US\$24,000, equal to roughly 30 times the GDP per capita, and control at least US\$43,000 each year in funding for constituency development projects (Lindberg 2010). Opposition party MPs, however, are sometimes stymied in their attempts to reward their supporters with these constituency development funds by district-level officials appointed by the president (Nugent 2001), making these funds more valuable to ruling party MPs who can more effectively distribute them. Moreover, because the Ghanaian constitution stipulates that a majority of the government's cabinet ministers must be MPs, nearly half the MPs from the ruling party have the additional benefit of serving in senior government positions in the executive branch during a legislative term (Vieta 2005). The MPs serving as ministers gain additional influence over the distribution of state resources not available to MPs from the opposition party.

The NPP and the NDC have had official policies requiring primaries in every constituency in which more than one aspirant seeks the nomination, beginning with the 2004 elections, but not all constituencies that met this criterion have held primary elections. Aspirants may only seek nominations in constituencies in which they reside or have family roots and must be dues-paying members of the local branch of the party for at least two years before the primary. These rules preclude aspirants from "constituency shopping" and prevent opposition party politicians from easily switching to the ruling party (Ichino and Nathan 2012). Additionally, aspirants must finance their own campaigns without assistance from the party (Lindberg 2003). Incumbents frequently face challengers with significant private financial resources in these primaries, and senior government ministers have lost to these challengers. Defeated primary aspirants may run as independent candidates in the general election, but only by forgoing access to an established local party organization crucial for mobilizing voters.

Each primary has between 100 and 300 primary voters, chosen by polling station-level party committees from among its members in a single neighborhood, town, or group of villages. The small number of local party members voting as delegates in the primaries have "enormous

leverage to extract personalised goods from candidates” (Lindberg 2010, 125). Aspirants estimated that primary campaigns cost many thousands of dollars,⁵ and aspirants are reported to give primary voters gifts ranging from direct cash handouts to motorcycles and cars.⁶ Senior national party leaders also acknowledged and complained about the distortionary effect of extensive payments to primary voters during the lead-up to the 2008 elections.⁷

Nominations for the ruling party generally attract more aspirants and generate more intra-party conflict than those for the opposition party. There were greater numbers of aspirants contesting primaries and more infighting over the outcome and conduct of primaries in the ruling NPP than in the opposition NDC before the 2004 and 2008 elections.⁸ Although not decided by primary elections, nominations for the 2000 general elections for the then-ruling NDC resulted in greater conflict within the party than in the then-opposition NPP (Nugent 2001). In addition, primaries held in 2011 for the 2012 election in the now-opposition NPP had far fewer disputes than primaries for the 2008 election.⁹

A First Cut

We analyze an original dataset on primaries in the major parties in Ghana for the 2004 and 2008 elections at the party-constituency-year level, also examined in Ichino and Nathan (2012). We define a contested primary election as occurring when actual voting takes place between

multiple aspirants.¹⁰ Nominations for which party leaders declare an open primary but intervene such that there is only one aspirant remaining on primary day are classified as not having a contested primary. Using these data, we estimate the total effect of primary elections on parliamentary and presidential vote share in Ghana for the 2004 and 2008 elections.

Although we obtained official general election results from the Electoral Commission of Ghana, neither the major parties nor the Electoral Commission kept systematic records on parliamentary primaries. We assembled our dataset using newspaper sources, mainly *The Daily Graphic* and *The Ghanaian Chronicle*. From these sources, we can confirm whether or not a primary was held for 461 of the possible 920 nomination contests in this period for the NDC and the NPP, with four observations dropped in 2008 because the general election result was not available.¹¹ In our sample, approximately two-thirds of the nomination processes in the NPP and half of the nomination processes in the NDC, or a combined 60% of nominations, were contested primary elections among two or more aspirants.

As a first cut, we visually examine differences between constituencies that held and did not hold primary elections for each party’s parliamentary election outcomes. Figure 1 displays (a) the share of parliamentary elections won in a bar graph, (b) vote shares for the NDC (opposition party) and (c) vote shares for the NPP (ruling party) using beanplots, which combine rug plots with estimated probability distributions (Kampstra 2008). In each beanplot, the distribution of vote shares for constituencies with primary elections is on the right side (darker color), the distribution of vote shares for constituencies without primary elections is on the left side (lighter color), and individual observations are represented by tick marks. The mean of each distribution is indicated by the horizontal black segments, and the overall mean is given by the dotted line.

These figures suggest some of the findings from the matching analysis in the following section. Figure 1 panel (a) shows that the NDC won more often and the NPP lost more often in constituencies where they held primary elections. Panel (b) shows that average NDC vote share is 4 percentage points higher for constituencies with NDC primaries than those without, but differs little between constituencies with and without NPP primaries.

⁵Author interview with 2008 NPP aspirant, Ayawaso East Constituency, Accra, May 12, 2010.

⁶See, for example, Edmond Gyebi, “Thomas Broni Denies Vote-Buying Allegation,” *The Ghanaian Chronicle*, June 25, 2004.

⁷Author interview with former NPP National Chairman, Accra, April 26, 2010; author interview with former NPP Communications Director, Accra, January 28, 2010.

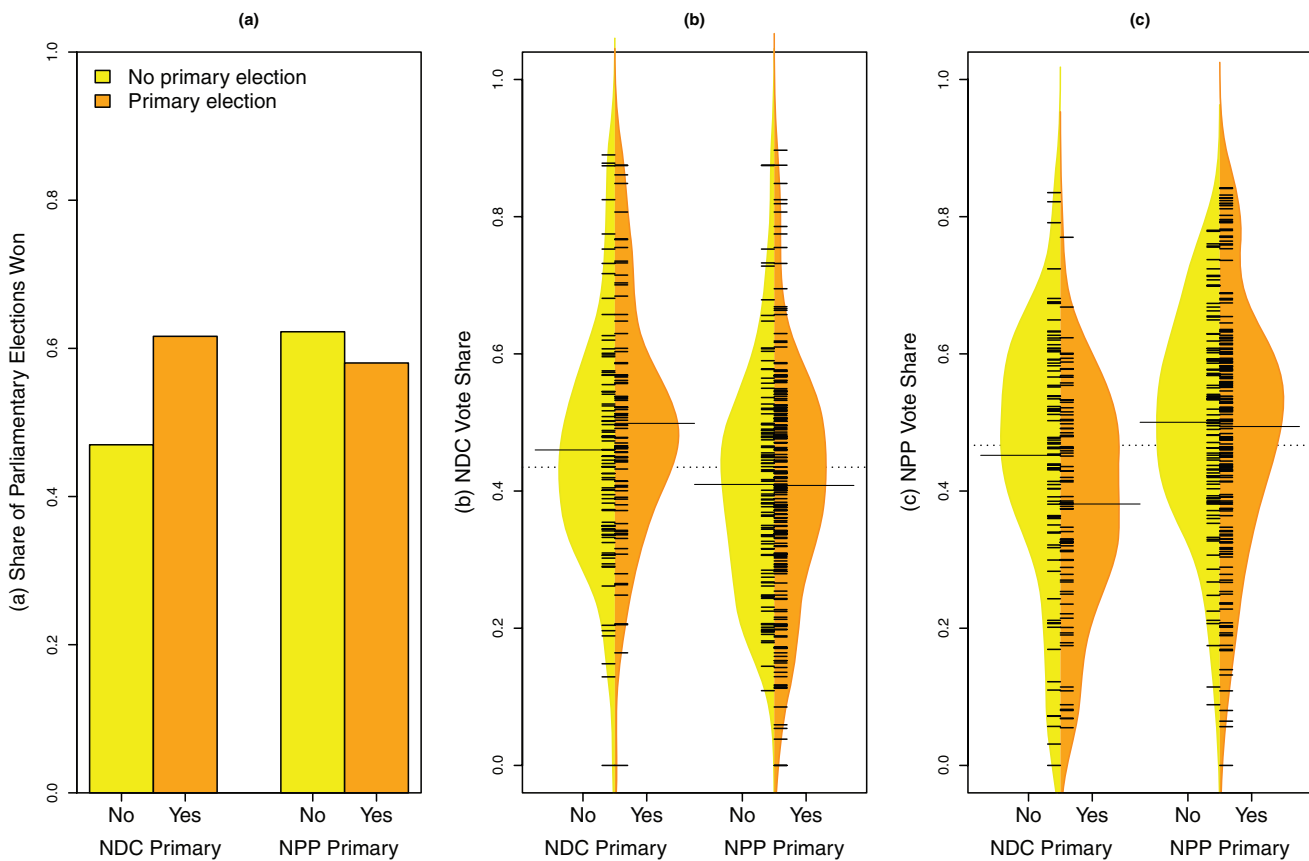
⁸In our newspaper sources, described below, we coded whether there was any mention of an intra-party dispute after the nomination was decided in each constituency. These records suggest that disputes after primaries—which include numerous legal challenges to the result, threats from losing aspirants and party members to defect from the party, and some street protests by disgruntled party members—were concentrated in the ruling NPP. We do not use these data to measure the extent to which the effects of primaries travel through intra-party disputes, however, because we are uncertain about the extent of errors of both commission and omission in the reporting of these events.

⁹Author interview with NPP Communications Director, Accra, July 19, 2011.

¹⁰This competition-based definition is also used by Ansolabehere et al. (2006) for primaries in the United States.

¹¹We have partial data, such as the number of contestants for the nomination, on a total of 620 nominations, but are unable to confirm the final candidate selection process for 159 of these.

FIGURE 1 Primary Elections and Parliamentary Election Outcomes in 2004 and 2008



Note: For each party, darker regions (right) represent nominations with primaries and lighter regions (left) represent nominations without primaries. Individual observations are represented by tick marks.

Similarly, panel (c) shows that in constituencies where the NDC held primaries, the NPP performed worse by 7 percentage points on average, suggesting that the NDC benefited from a primary bonus.

Similar plots for presidential vote share and turnout for each party at the constituency level show that constituencies with primary elections for *parliamentary* nominations have on average a higher vote share in the *presidential* election than constituencies without primary elections (see the supporting information). This is suggestive of a reverse coattails effect. Turnout in the presidential election is lower for constituencies with primary elections, with a larger difference in the NDC than in the NPP.

Matching Analysis

We cannot analyze our data as if primary elections were randomly assigned to constituencies, however, since party leaders consider the electoral competitiveness of a con-

stituency when deciding whether to allow a primary election (Ichino and Nathan 2012). The mean differences in outcomes between constituencies with and without primary elections found in the previous section could be due to baseline differences rather than primary elections. To adjust for this and other possible confounding factors, we use matching and regression methods and consider one party at a time.

To specify the covariates to be used to match the observations, we build on Ichino and Nathan (2012), which examines the treatment assignment process—the decision by national party leaders to allow for contested primaries in some constituencies and not others. Party leaders in Ghana can preempt a primary and award the party’s nomination to a favored aspirant by disqualifying all other aspirants or by quietly encouraging them to withdraw. But canceling a primary alienates local party members who lose the opportunity to receive material inducements from aspirants who would seek their votes, and the loss to primary voters may be substantial where multiple

aspirants would compete for a valuable nomination. Party leaders are concerned about the backlash that may ensue, since a constituency's local party members are both the principal means by which the party mobilizes voters in that constituency as well as the people who select the next slate of party leaders. Party leaders therefore allow primary elections more often for more valuable seats in their strongholds where they anticipate that canceling a primary would spur a substantial negative response.

We include five variables from the empirical analysis in Ichino and Nathan (2012) that influence the party leader's decision to allow a primary election. First, we include the party's vote share in the previous presidential election as a measure of the likelihood that the nominee will win the general election. We use the vote share from the previous presidential election rather than the parliamentary election because it is a more reliable measure of the underlying potential support for a future nominee from the party, since in any given year, voters face the same set of presidential candidates in all constituencies. Presidential candidate- or election-specific idiosyncrasies that affect the presidential vote share are also shared across constituencies, while parliamentary candidate- or election-specific idiosyncrasies are not, so that vote share in the previous parliamentary election is a less reliable measure.¹² Second, since more aspirants are likely to seek the nomination in more diverse areas, we include a measure of ethnic diversity of the constituency population. This is calculated as the usual Herfindahl fractionalization index using population shares of the seven major ethnic categories plus "other" used by the Ghanaian census. We also include and match exactly on the election year, whether the party won the seat in the previous election, and whether the incumbent seeks reelection if the incumbent is a member of the party.

In this main specification, we do not match on whether the other party in a constituency also holds a primary. If party leaders anticipate legitimacy and valence benefits from primaries, as proposed in Carey and

Polga-Hecimovich (2006), party leaders may allow for a primary to offset the advantages gained by the opposing party from having a primary. But where the effects of primaries are driven more by the allocation of resources and rents from aspirants to primary voters (Ichino and Nathan 2012), a party leader's decision to allow for primary elections may be influenced by the decision in the other party only when there is a direct path through which primaries voters denied rents in one party can access rents in the primary of the other. However, this is unlikely in Ghana. The local incumbent party in a constituency usually selects its nominee after the local opposition party selects its nominee, and the former is unlikely to incorporate any disappointed primary voters who defect from the latter. Accommodating these defectors means that core supporters of the local incumbent party would have to be displaced or that the rents would be divided over a larger number of local party members, possibly angering the original members and working against the party leader's main objectives. Knowing that defectors are unlikely to benefit from the local incumbent party's primary, leaders of the local opposition party need not anticipate the other party's decision when deciding whether to hold their own primary.

Although we believe the theory delineated above best accounts for the incidence of parliamentary primaries in Ghana, we include additional matching variables suggested by several alternative theories in a second specification. First, despite our argument to the contrary, party leaders may still be more likely to hold primaries when the other party in the constituency does so.¹³ To address this possibility, we include a three-level variable for the opposing party's nomination process in the alternative specification of covariates, coded as having a primary, not having a primary, or missing data. Second, party leaders may adopt primaries in response to intra-party conflicts that threaten to split the party (Kemahlioglu et al. 2009; Poiré 2002), so we include an indicator for whether there was an ongoing internal dispute within a party in a constituency prior to the decision to hold a parliamentary primary. We coded this variable from the same newspaper sources as the primary election indicator.

For nominations in the ruling party, we include an indicator for whether the incumbent MP is a government minister or deputy minister, since fewer challengers may contest against these powerful politicians and party leaders may protect members of the president's cabinet,

¹²A constituency in which the NPP parliamentary candidate won 45% could be a constituency in which the NPP has very little support but had an especially skilled candidate, a constituency in which the NPP has overwhelming support but had a breakaway faction in a particular election year, or a constituency that is consistently competitive for both the NPP and NDC. We have a particularly severe, though identifiable, version of this problem when a major political party supports an independent candidate instead of running its own parliamentary candidate in a given constituency. In this situation, a party's parliamentary vote share will be 0 even though its underlying support may be substantial. Such alliances affected 9 of 430 nominations in the 2000 and 2004 elections. Excluding constituencies with these alliances and using the previous parliamentary vote share does not substantively affect our results (not shown).

¹³The local incumbent party was equally likely to have a primary when the local opposition party had a primary (38/57, or 67%) as when the local opposition party did not have a primary (33/49, or 67%) in our data. But these rates may be different without missing data.

although the analysis in Ichino and Nathan (2012) does not support this. For both parties, we also include the distance between the incumbent MP's hometown to the centroid of his or her constituency, since party leaders may use primaries to replace an "outsider" MP. Primary elections may also be more likely in constituencies with more politically aware and active populations. To capture this, we include an indicator for whether the constituency is urban, the proportion of the constituency population that is literate in English, and the proportion of the constituency population that is employed in the public or semi-public sectors.¹⁴ We calculate the ethnic fractionalization index and the other constituency-level variables by georeferencing a constituency boundaries map and linking it to enumeration area-level records from the 2000 Ghana Population and Housing Census.

As noted earlier, we cannot confirm the candidate selection process used in nearly half of the nominations. Missingness is not related to whether the constituency is urban or its ethnic diversity, but data are missing more often for nominations where the party has historically performed poorly in elections. Consequently, our estimates of the effect of primaries on electoral outcomes should not be extrapolated beyond constituencies where the party has some realistic probability of winning the general election.¹⁵

We use one-to-one genetic matching with replacement following Sekhon (2011) and conduct matching on four subsets of the data in which each observation is a constituency-year. First we match constituencies in the same election year with and without primaries for (a) the opposition NDC and (b) the ruling NPP. For the NPP, we then match for (c) only its competitive constituencies and (d) only its stronghold constituencies, in order to examine effects at different levels of competitiveness within the ruling party. Competitive constituencies are defined as those in which neither the NPP nor the NDC won more than 60% of the vote in the previous presidential election. Stronghold constituencies are those in which the NPP presidential candidate received more than 60% of the vote in the previous election.

¹⁴The urban variable is highly correlated with several measures of economic development, such as the percentage of households in the constituency using electricity, percentage of households using modern sanitation facilities, and percentage of households with running water. Including these additional variables in the model does not substantively alter the results reported below.

¹⁵Data on the candidate selection process are also less likely to be available where a smaller proportion of the constituency population was literate in English or employed in the public or semi-public sectors, but these factors do not affect the incidence of primary elections (Ichino and Nathan 2012).

Balance

Before matching, constituencies with NDC primaries have higher NDC vote share in the previous presidential election on average, are more diverse ethnically, and are less likely to have an incumbent seeking reelection than constituencies without NDC primaries. Constituencies with NPP primaries similarly have higher NPP vote share in the previous presidential election, are more diverse, and are less likely to have an incumbent seeking reelection than those without primaries. Competitive constituencies with NPP primaries are more ethnically diverse, and stronghold constituencies with NPP primaries are slightly less diverse on average than their counterpart constituencies without primaries. NPP stronghold constituencies with primaries are significantly less likely to have incumbents seeking reelection.

Matching improves overall balance as well as univariate balance on all included variables for each of our subsets. The smallest p-values for *t* and KS tests are 0.25 for the NDC overall, 0.10 for the NPP overall, and 0.62 for the NPP in competitive constituencies. For the NPP in its stronghold constituencies, the KS test p-value for ethnic fractionalization is 0.32 but is 0.004 for vote share in the previous presidential election. We are not particularly concerned with imbalance on the latter covariate since the sample has already been restricted to stronghold constituencies that are quite similar on this dimension. With the alternative specification with additional covariates, balance for the NPP sample overall is not as good, and we are unable to obtain good balance for the NPP for competitive or stronghold constituencies.¹⁶

Effect on Parliamentary Election Results

Our estimates for the total effect of parliamentary primaries on the performance of the NDC and the NPP in parliamentary elections are presented in Table 1 panel (A). Panel (B) presents separate estimates for the ruling NPP in its competitive constituencies and its stronghold constituencies. We expect a negative average effect of primaries in competitive constituencies, where viable alternatives are available for disgruntled losing aspirants, but not in stronghold constituencies. Each row of the table is a different outcome variable and each column refers to different estimands. The first column presents OLS estimates of the effect of a primary election from a regression of the outcome on the treatment and the covariates. The second and third columns give matching

¹⁶See the supporting information for balance checks for both specifications, including q-q plots.

TABLE 1 Effect of Primary Elections on Parliamentary Election Results

Panel A						
Outcome:	NDC (Opposition)			NPP (Government)		
	OLS	ATE	ATT	OLS	ATE	ATT
Win Election	0.0907 (0.0634)	0.1399** (0.0447)	0.1358* (0.0652)	-0.0545 (0.0448)	-0.0574* (0.0295)	-0.0689 [†] (0.0358)
NPP vote share	-0.0435** (0.0153)	-0.0522*** (0.0104)	-0.0473*** (0.0131)	-0.0242* (0.0109)	-0.0121 [†] (0.0070)	-0.0232** (0.0088)
NDC vote share	0.0066 (0.0168)	0.0150 (0.0108)	0.0131 (0.0156)	0.0057 (0.0124)	-0.0004 (0.0079)	-0.0002 (0.0092)

Panel B						
Outcome:	NPP Competitive			NPP Stronghold		
	OLS	ATE	ATT	OLS	ATE	ATT
Win Election	-0.1381 [†] (0.0804)	-0.1477** (0.0520)	-0.0511 (0.0687)	0.0661 (0.0544)	0.0499 (0.0378)	0.0596 (0.0523)
NPP vote share	-0.0329* (0.0156)	-0.0262** (0.0101)	-0.0077 (0.0136)	-0.0001 (0.0200)	0.0046 (0.0120)	-0.0081 (0.0164)
NDC vote share	0.0283 (0.0196)	0.0243* (0.0123)	0.0068 (0.0150)	-0.0164 (0.0134)	-0.0229** (0.0088)	-0.0174 (0.0112)

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$. $n = 169$ for NDC, $n = 291$ for NPP overall, $n = 128$ for NPP Competitive, $n = 118$ for NPP Strongholds. There are 86 treated observations for NDC, 193 in the NPP overall, 82 for NPP Competitive, and 82 for NPP Strongholds. With post-matching regression adjustment using main set of covariates. Standard errors in parentheses.

estimates for the average treatment effect (ATE) and the average treatment effect for the treated (ATT), respectively, with post-matching adjustment with regression with our core covariates. The ATT estimate ($\hat{\tau}_{ATT}$) is the estimated average effect of having a primary for only those constituencies where primaries were actually held. The ATE estimate ($\hat{\tau}_{ATE}$), on which our discussion focuses, is the estimated average effect of having a primary for both constituencies that did and did not have primaries. Estimates without the regression adjustment are similar but have larger standard errors (not shown).

The overall results, including different effects of primaries on the electoral performance of the NPP in competitive and stronghold constituencies, support our theoretical argument. With our preferred specification, we find that primary elections in the opposition NDC decrease the vote share of the ruling NPP by about 5 percentage points and increase the probability that the NDC will win the parliamentary election ($\hat{\tau}_{ATE} = 0.14$, $p = 0.002$). The positive estimate for the effect of NDC primary elections on NDC vote share is not statistically significantly different from zero and is much smaller than the naïve difference in means of 4 percentage points presented in Figure 1. Our estimates of the effect of primaries in the ruling NPP on its vote share and the probability

that it will win the parliamentary election are negative and substantial, similar to Figure 1(b).

In the bottom panel of Table 1, we find clear evidence of a primary penalty for the ruling party in competitive constituencies. Primaries significantly decrease the probability that the NPP will win the parliamentary election in competitive constituencies ($\hat{\tau}_{ATE} = -0.148$, $p = 0.005$), while having a positive but statistically insignificant effect in stronghold constituencies, where there is little chance that an opposition party candidate could win the election *ex ante*. Consistent with these results, we also find in the main specification that primaries in the NPP have no effect on the NPP vote share in stronghold constituencies but decrease the NPP vote share in competitive constituencies ($\hat{\tau}_{ATE} = -0.026$, $p = 0.01$).¹⁷ With the exception of estimates for NPP strongholds that are not

¹⁷Our theory implies that the effect of primaries on electoral outcomes should be the same in stronghold and competitive NDC constituencies, and consequently the same in the overall NDC sample as in each of these NDC subsamples. Separate results for competitive and stronghold NDC constituencies are not reported here, however, because missing data limit us to small samples, and post-matching covariate balance is poor for the stronghold constituencies. Results for the NDC overall and for NDC competitive constituencies are similar. A more detailed discussion and analysis for these NDC subsets are in the supporting information.

TABLE 2 Effect of Primary Elections on Presidential Election Results

Panel A						
Outcome:	NDC (Opposition)			NPP (Government)		
	OLS	ATE	ATT	OLS	ATE	ATT
Party's vote share	0.0251* (0.0112)	0.0253*** (0.0073)	0.0228* (0.0099)	-0.0053 (0.0078)	-0.0038 (0.0052)	-0.0088 (0.0059)
Turnout	-0.0026** (0.0089)	0.0010 (0.0058)	0.0000 (0.0099)	0.0085 (0.0070)	0.0121* (0.0047)	0.0098† (0.0057)

Panel B						
Outcome:	NPP Competitive			NPP Stronghold		
	OLS	ATE	ATT	OLS	ATE	ATT
Party's vote share	-0.0189† (0.0130)	-0.0195* (0.0082)	-0.0050 (0.0108)	0.0251* (0.0104)	0.0200** (0.0076)	0.0158† (0.0092)
Turnout	-0.0030 (0.0094)	0.0041 (0.0057)	0.0043 (0.0073)	0.0273* (0.0129)	0.0289* (0.0098)	0.0202† (0.0110)

***p < 0.001, **p < 0.01, *p < 0.05, †p < 0.1. n = 169 for NDC, n = 291 for NPP overall, n = 128 for NPP Competitive, n = 118 for NPP Strongholds. There are 86 treated observations for NDC, 193 in the NPP overall, 82 for NPP Competitive, and 82 for NPP Strongholds. With post-matching regression adjustment using main set of covariates. Standard errors in parentheses.

significantly different from zero in either specification, the estimates using the fuller set of covariates are signed in the same direction as those from our preferred specification (see the supporting information). The general consistency of these results suggests that the additional covariates do little beyond the variables in our primary specification in capturing the treatment assignment mechanism.

Effect on Presidential Election Results

On average, primary elections in the opposition NDC improve the vote share of the NDC presidential candidate by approximately 3 percentage points (Table 2 panel (A)). This positive reverse coattails effect is consistent with our argument that transfers from parliamentary aspirants to primary voters mobilize the local party organization for the party's presidential nominee.

In its stronghold constituencies, the NPP's vote share in the presidential election increases on average by approximately 2 percentage points, where we expect the greatest expenditures by NPP aspirants for valuable nominations on the ticket of the ruling party (Table 2 panel (B)). Estimates using the fuller set of covariates are very similar (see the supporting information). These results, consistent with our argument, are particularly striking because these are constituencies where the NPP presidential candidate already has a high baseline level of support, with only limited room for any further improvement.

Primaries in competitive constituencies have the opposite effect on the presidential vote share ($\hat{\tau}_{ATE} = -0.0195$, $p = 0.018$), however. One possible explanation for this unexpected result is that negative consequences of intra-party conflict fostered by high spending for a ruling party nomination are more difficult to contain in competitive constituencies where aspirants have viable outside options. Alternatively, we may not have sufficiently accounted for unobserved underlying differences between competitive constituencies with and without primaries in our matching. Party leaders may have allowed some of these constituencies to have parliamentary primaries because they expected the presidential candidate to perform poorly in those areas, for reasons not captured by the past presidential vote share variable. Then the presidential candidate in these constituencies may still perform worse than in constituencies where primaries were not held, even if primaries have a positive spillover effect.

Discussion

Our finding of a primary penalty in the ruling party and a primary bonus in the opposition party for parliamentary elections in Ghana is consistent with our argument that the potential for damaging disputes or defections within the local party increases with the value of the nomination, leading to different effects of primaries between these parties. Apart from primaries in the ruling party's

competitive constituencies, our findings also conform to our expectation of a positive spillover effect of parliamentary primaries on presidential elections. Despite suffering a penalty in the parliamentary election, this spillover to the presidential election may mean that even the ruling party benefits overall from primaries.

All together, these results do not support Carey and Polga-Hecimovich's (2006) expectation of a universal primary bonus from improvements in voters' perceptions of party legitimacy, selection of more popular candidates, or greater consensus among party elites. Only our results for opposition parties are consistent with the predictions in Adams and Merrill (2008) and Serra (2011), which both argue that primaries will be more beneficial to opposition parties than ruling parties because less competitive parties have more to gain from selecting candidates with better valence characteristics in primary elections, which is different from our mechanism. Neither account is consistent with our finding of a negative effect of primaries in ruling parties.

Confidence in our explanation for these different effects would be bolstered with more direct tests of our proposed mechanisms, but the unavailability of data on spending by aspiring candidates or the defection of local party members limits our ability to extend the present analysis in this direction. We also cannot definitively demonstrate that the different effects for the different parties are attributable to general differences in the value of nominations in incumbent and opposition parties, rather than idiosyncratic differences between the NPP and NDC. Although data availability limits the analysis to two elections in which the incumbent president belonged to the NPP, the overarching similarities between these parties in their organizational structures and primary election institutions (Ichino and Nathan 2011) and the greater competition and acrimony over nominations in the NDC than in the NPP when the NDC was the incumbent party (Nugent 2001) suggest that the divergent effects of primaries correspond to a party's incumbency status.¹⁸

Data may be available in other countries, however, for similar analyses of the total effects of primaries on general election outcomes in incumbent and opposition parties, as well as mediation analyses that investigate our proposed mechanisms of internal disputes and defections following spending by aspirants. A test of this theory beyond Ghana requires four conditions. First, as is common in many new democracies, the distribution of patronage and targeted benefits to voters should outweigh

policy in the selection of nominees or ultimate election of legislators (Kitschelt and Wilkinson 2007). Second, vote buying should be expected and common in electoral campaigns, such that even if primary electorates are larger than they are in Ghana, we would expect primary elections to be patronage-driven spending competitions. Third, the party should be resource poor, such that candidates pursue elected office using their own financial resources rather than party funds and that the transfer of resources from aspirants to primary voters is a significant benefit for local party members. Finally, local party members and activists should provide a crucial link between parties and voters such that there is a clear connection between developments in the local party and election outcomes. This is the case in many new democracies in the developing world, but this final condition is not as clearly satisfied where candidates and parties can connect with voters directly through the mass media (Mainwaring and Zoco 2007).

Conclusion

A growing body of empirical scholarship in comparative politics has sought to explain the democratization of candidate selection for legislative office in new democracies (Carey and Polga-Hecimovich 2006; De Luca et al. 2002; Kemahlioglu et al. 2009), and additional work has examined the consequences of the adoption of primaries on representation, participation, and discipline within political parties and legislatures (Hazan and Rahat 2010; Siavelis and Morgenstern 2008). However, few works have assessed the effects of primaries in new democracies on general election outcomes. Our study is one of the first to analyze systematically the effect of legislative primaries on election results in a developing country and, to our knowledge, the first for sub-Saharan Africa. Using matching methods with an original dataset on legislative primaries in Ghana in 2004 and 2008, we find that the opposition party benefits from a primary bonus, while the ruling party suffers from a primary penalty in its stronghold constituencies for legislative elections. However, legislative primaries improve performance in presidential elections for both parties in a reverse coattails effect.

Recent studies of clientelism in contemporary new democracies have greatly improved our understanding of how parties engage with voters, demonstrating the effectiveness of particularistic and clientelistic appeals (Kitschelt and Wilkinson 2007; Nichter 2008; Stokes 2005; Wantchekon 2003). But the politics within parties, shaped by the interaction of party elites, aspiring candidates, and

¹⁸The upcoming 2012 general elections also provide an opportunity to test our theory with the NDC in government and NPP in opposition.

the local party activists who actually implement these clientelistic strategies, may significantly alter the effectiveness of various strategies for voter mobilization. The results presented in this article, and in particular our finding of a reverse coattails effect on the presidential election outcome, highlight the important role that local party members play as intermediaries between party elites or candidates and the voters in new democracies. Further theoretical development and empirical testing of the intra-party dynamics surrounding candidate selection will improve our understanding of electoral politics in new democracies with pervasive clientelism.

References

- Adams, James, and Samuel Merrill III. 2008. "Candidate and Party Strategies in Two-Stage Elections Beginning with a Primary." *American Journal of Political Science* 52(2): 344–59.
- Ansolabehere, Stephen, J. Mark Hansen, Shigeo Hirano, and James Snyder Jr. 2006. "The Decline of Competition in U.S. Primary Elections, 1908–2004." In *The Marketplace of Democracy*, ed. Michael McDonald and John Samples. Washington, DC: Brookings Institution Press, 74–101.
- Atkeson, Lonna Rae. 1998. "Divisive Primaries and General Election Outcomes: Another Look at Presidential Campaigns." *American Journal of Political Science* 42(1): 256–71.
- Brady, David W., Hahrie Han, and Jeremy C. Pope. 2007. "Primary Elections and Candidate Ideology: Out of Step with the Primary Electorate." *Legislative Studies Quarterly* 32(1): 79–105.
- Bruhn, Kathleen. 2011. "Electing Extremists? Party Primaries and Legislative Candidates in Mexico." Working Paper, University of California Santa Barbara.
- Burden, Barry C. 2004. "Candidate Positioning in US Congressional Elections." *British Journal of Political Science* 34(2): 211–27.
- Carey, John M., and John Polga-Hecimovich. 2006. "Primary Elections and Candidate Strength in Latin America." *Journal of Politics* 68(3): 530–43.
- Constitution of the National Democratic Congress*. 2002.
- Constitution of the New Patriotic Party*. 1998.
- De Luca, Miguel, Mark Jones, and Maria Tula. 2002. "Back Rooms or Ballot Boxes? Candidate Nomination in Argentina." *Comparative Political Studies* 35(4): 413–36.
- Field, Bonnie N., and Peter M. Siavelis. 2008. "Candidate Selection Procedures in Transitional Polities." *Party Politics* 14(5): 620–39.
- Gerber, Elisabeth R., and Rebecca B. Morton. 1998. "Primary Election Systems and Representation." *Journal of Law, Economics and Organization* 14(2): 304–24.
- Hazan, Reuven Y., and Gideon Rahat. 2010. *Democracy within Parties: Candidate Selection Methods and Their Political Consequences*. New York: Oxford University Press.
- Ichino, Nahomi, and Noah L. Nathan. 2012. "Primaries on Demand? Intra-Party Politics and Nominations in Ghana." *British Journal of Political Science* 42(4): 769–91.
- Jackson, Matthew O., Laurent Mathevet, and Kyle Mattes. 2007. "Nomination Processes and Policy Outcomes." *Quarterly Journal of Political Science* 2(1): 67–92.
- Kampstra, Peter. 2008. "Beanplot: A Boxplot Alternative for Visual Comparison of Distributions." *Journal of Statistical Software* 28: 1–9.
- Keefer, Philip, and Stuti Khemani. 2009. "When Do Legislators Pass on Pork? The Role of Political Parties in Determining Legislator Effort." *American Political Science Review* 103(1): 99–112.
- Kemahlioglu, Ozge, Rebecca Weitz-Shapiro, and Shigeo Hirano. 2009. "Why Primaries in Latin American Elections." *Journal of Politics* 71(1): 339–52.
- Kenney, Patrick J., and Tom W. Rice. 1987. "The Relationship between Divisive Primaries and General Election Outcomes." *American Journal of Political Science* 31(1): 31–44.
- Kitschelt, Herbert, and Steven I. Wilkinson, eds. 2007. *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition*. New York: Cambridge University Press.
- Lengle, James I., Diana Owen, and Molly W. Sonner. 1995. "Divisive Nominating Mechanisms and Democratic Party Electoral Prospects." *Journal of Politics* 57(2): 370–83.
- Lindberg, Staffan I. 2003. "It's Our Time to 'Chop': Do Elections in Africa Feed Neo-Patrimonialism Rather Than Counteract It?" *Democratization* 10(2): 121–40.
- Lindberg, Staffan I. 2010. "What Accountability Pressures Do MPs in Africa Face and How Do They Respond? Evidence from Ghana." *Journal of Modern African Studies* 48(1): 117–42.
- Mainwaring, Scott, and Edurne Zoco. 2007. "Political Sequences and the Stabilization of Interparty Competition: Electoral Volatility in Old and New Democracies." *Party Politics* 13(2): 155–78.
- Nichter, Simeon. 2008. "Vote Buying or Turnout Buying? Machine Politics and the Secret Ballot." *American Political Science Review* 102(1): 19–31.
- Nugent, Paul. 2001. "Winners, Losers and Also Rans: Money, Moral Authority and Voting Patterns in the Ghana 2000 Election." *African Affairs* 100(400): 405–28.
- Öhman, Magnus. 2004. *The Heart and Soul of the Party: Candidate Selection in Ghana and Africa*. Ph.D. Dissertation, Uppsala Universitet (Sweden).
- Poiré, Alejandro. 2002. *Bounded Ambitions: Party Nominations, Discipline and Defection; Mexico's PRI in Comparative Perspective*. Ph.D. Dissertation, Department of Government, Harvard University.
- Sekhon, Jasjeet. 2011. "Multivariate and Propensity Score Matching Software with Automated Balance Optimization: The Matching Package for R." *Journal of Statistical Software* 42(7): 1–52.
- Serra, Gilles. 2011. "Why Primaries? The Party's Tradeoff between Policy and Valence." *Journal of Theoretical Politics* 23(1): 21–51.
- Siavelis, Peter M., and Scott Morgenstern, eds. 2008. *Pathways to Power: Political Recruitment and Candidate Selection in Latin America*. University Park: Pennsylvania State University Press.

- Stokes, Susan C. 2005. "Perverse Accountability: A Formal Model of Machine Politics with Evidence from Argentina." *American Political Science Review* 99(3): 315–25.
- Stone, Walter J. 1986. "The Carryover Effect in Presidential Elections." *American Political Science Review* 80(1): 271–80.
- Vieta, Kojo T. 2005. *Know Your Ministers: 2005-2009*. Accra, Ghana: Flagbearers.
- Wantchekon, Leonard. 2003. "Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin." *World Politics* 55(3): 399–422.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

- Figure S1:** Primary Elections and Presidential Election Outcomes in 2004 and 2008 for NPP and NDC.
- Figure S2:** Quantile-quantile plot of balance on main set of covariates after matching (for ATE) for the NDC and NPP analyzed in the manuscript

Figure S3: Quantile-quantile plot of balance on main set of covariates after matching (for ATE) for NPP competitive and NPP stronghold constituencies analyzed in the manuscript

Figure S4: Quantile-quantile plot of balance on main set of covariates after matching (for ATE) for NDC competitive and stronghold constituencies.

Figure S5: Quantile-quantile plot of balance on main set of covariates after matching (ATE) using party's vote share in previous parliamentary election

Table S1: Summary Statistics for the Data

Table S2: Original Results for NDC

Table S3: Results for NDC Competitive and Stronghold Constituencies

Table S4: Results for Past Parliamentary Elections with Additional Covariates

Table S5: Results for Parliamentary Elections with Additional Covariates

Table S6: Results for Presidential Elections with Additional Covariates