

Democratizing the Party: The Effects of Primary Election Reforms in Ghana

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Political parties in new democracies increasingly use primaries to select legislative candidates. But we know little about how internal party procedures shape the field of politicians who seek elected office in patronage-oriented political systems. We propose that democratizing candidate selection by expanding the primary electorate has two consequences: the electorate will have more diverse preferences and vote buying will become a less effective strategy. These changes, in turn, affect the types of politicians who seek and win legislative nominations. We construct an original dataset to analyze the impacts of recent reforms to primary rules by one of the major parties in Ghana. We show that expanding the primary electorate opened paths to office for politicians from groups that were previously excluded, including women, members of local non-plurality ethnic groups, and members of ethnic groups outside a party's core coalition.

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1 Introduction

Political parties across the developing world increasingly rely on primaries to select legislative nominees (Öhman 2004, Field and Siavelis 2008). Parties without regular primaries also face increasing demands to open candidate selection to rank-and-file members.¹ Candidate selection processes within political parties shape the extent to which voters can control elected representatives, as parties serve as important intermediaries between citizens and government. An emerging literature has only begun to examine how primary elections operate in new democracies and to explore their implications, both for the quality of candidates and for general election outcomes (Carey and Polga-Hecimovich 2006, Kemahlioglu et al. 2009, Bruhn 2010, Ichino and Nathan 2012, 2013b, Izama and Raffler 2016). This task is complicated by the fact that candidate selection processes can vary on several dimensions, including the restrictiveness of the rules for who selects nominees and is eligible to vote in primaries (Rahat and Hazan 2001). In this paper, we investigate how increasing the number of legislative primary voters affects the pool of politicians who seek office and get onto the general election ballot.

Primaries in advanced democracies are usually modeled as contests over the nominee’s location in an ideological issue space in which party leaders and grassroots party members occupy different locations. Primary elections are an opportunity to select a nominee with high valence but at the cost of greater ideological extremism (e.g., Gerber and Morton 1998, Jackson et al. 2007, Serra 2011), which can hurt parties in general elections (Hall 2015) and increase polarization (e.g., Burden 2004, Jacobson 2004, Brady et al. 2007; but see Hirano et al. 2010). Rules such as allowing non-members to vote in party primaries (“open” primaries) can moderate the the risk of selecting ideological extremists (Gerber and Morton 1998).

Primaries are not ideological contests in new democracies where patronage dominates policy, however. Primaries are instead contests over who becomes the most important local patron in a given constituency, which affects who will benefit from particularistic patronage goods distributed by legislators (Lindberg 2010). Primaries can involve extensive vote buying (Ichino and Nathan 2012) and tend to select nominees who excel in the delivery of patronage to small groups of voters, not nominees who best represent the broad interests of the party membership or general electorate.

We argue that opening up primary voting to sufficiently large numbers of party members will have positive effects on democratic representation in patronage-based polities through two changes. First, vote buying becomes more difficult, both logistically and financially, making the distribution of private goods a less viable route to a nomination. Second, the expanded primary electorate includes new voters with different preferences from the local party activists who comprise the primary electorate when the electorate is more restricted. Many of these new voters will be from

¹For example, see Ajit Mohan, “We Need Greater Indian Primaries,” *The Wall Street Journal* 2 March 2012; Leonardo R. Arriola, Donghyun Danny Choi, and Victor Rateng, “This is how Kenyans want their democracy to work,” *Washington Post: The Monkey Cage* 15 October 2016.

groups that were excluded from local party leadership positions, such as women, ethnic groups outside a party's core base, or local ethnic minorities. Expanding the electorate increases the influence of these new voters on candidate selection, and given the infeasibility of extensive vote buying, expectations about how an aspirant will allocate local public goods once in office will have greater influence on primary outcomes.

These two changes, in turn, affect who competes in primaries and wins nominations. Aspirants who have lower capacity to buy votes face a smaller disadvantage with a larger primary electorate, and consequently, more such aspirants will choose to compete for the nomination. In particular, a greater number of women, who face a double disadvantage of often having fewer resources and being excluded from existing (predominantly male) patronage networks that can be used to channel private benefits to primary voters, will become aspirants. Similarly, more politicians from ethnic groups that are represented in the general party membership but not in the local party leadership will become aspirants. In turn, women and aspirants from previously excluded ethnic groups should win more nominations. A larger pool of people – representing more diverse interests – has a viable path to a nomination, and thus to elected office.

We study the effects of recent reforms to the primary election rules in Ghana's ruling party, the National Democratic Congress (NDC) on the number of aspirants and the characteristics of the parliamentary nominees selected in primary elections in advance of Ghana's December 2016 elections. For past elections, the NDC primary electorate in each constituency comprised several hundred local party branch executives. For 2015/16, the NDC opened primary voting to all rank-and-file members, expanding the primary electorate by an order of magnitude and substantially increasing the proportion of women voting in primaries.

The NDC's reforms are a unique opportunity to assess the effects of expanding the primary electorate because the opposition New Patriotic Party (NPP) provides an unusually good set of counterfactual primary elections for comparison. The parties have similarly-sized electoral bases and have competed to a virtual draw in recent elections. Crucially for our analysis, both parties have highly similar organizational structures, including effectively identical local leadership hierarchies and primary election rules before 2015. Moreover, before the 2012 elections the NPP considered the same electorate expansion as the NDC, for very similar reasons, and may still adopt the same reform in the future. Examining Ghana thus allows us to compare primary processes of two otherwise very similar parties that face the same electoral context. This would not be possible in other new democracies with more inchoate party systems or a single dominant party. Ghana also shares many features with other African democracies where primaries are now emerging – patronage-based competition, a weak parliament more focused on distributing goods to voters than crafting legislation (Lindberg 2010), and a history of ethnic competition. These characteristics make Ghana a useful setting to explore the possible effects that greater democratization within parties may have elsewhere in Africa.

We estimate the average effects of primary reforms in the NDC on its pool of aspirants and characteristics of its nominees (average treatment effect on the treated) using optimal full matching (Rosenbaum 1991, 2010). Our claim is not that the NDC and NPP are the same, nor that the primary reforms were randomly assigned. Rather, we argue that this matching procedure on selected political and socio-economic variables allows us to create weighted sets of comparable NDC and NPP 2015 parliamentary primary elections. Section 5 describes the details of our approach.

We construct an original dataset of biographical information on all aspirants seeking nominations in these two major parties in 2016, as well as a similar dataset of all aspirants who competed in primaries in each party ahead of Ghana’s 2012 elections. The data is assembled from a combination of official sources and by coding nearly 2,000 Ghanaian news articles from each election year. We combine this information with measures of ethnic demography of parliamentary constituencies calculated from census data and survey interviews with 125 aspirants in the NPP’s 2015 primaries. We cannot directly observe exchanges of benefits for support and the NDC did not release its party membership rolls or the number of primary voters in each constituency, which would allow us to measure the composition of the electorate or assess how the effect varies with the size of the electorate. Instead, we examine average differences between expanded and restricted electorates on outcomes that can be measured without the cooperation of the parties.

The results support our overall hypothesis that expanding the primary electorate increases participation in primaries by politicians from excluded groups. We find that expanding the primary electorate increased, on average, the total number of aspirants, the number of female aspirants, the number of aspirants from local non-plurality ethnic groups, and the number of aspirants from ethnic groups outside the party’s core coalition. These reforms also increased the probability that the nominee would be a woman or belong to a previously excluded ethnic group. At the same time, the reforms reduced the probability that the nominee would be a political outsider with significant private wealth who could have bought his way to a nomination through vote buying. We find no average effect of the reforms on whether the incumbent wins renomination, however. Incumbents continue to win primaries at very high rates in both parties, suggesting that increasing the size of the primary electorate does not undermine the considerable incumbency advantages in Ghana’s legislative elections.

This study makes several contributions. First, we advance the nascent literature on primaries in new democracies. This literature has focused on why party leaders allow for primaries in the first place (De Luca et al. 2002, Ichino and Nathan 2012, Kemahlioglu et al. 2009) or instead on the effects of having any type of primary on general election performance (Carey and Polga-Hecimovich 2006, Adams and Merrill 2008, Ichino and Nathan 2013*b*). It has not considered the effects of different institutional rules for primaries. Our findings suggest that these details are crucial for shaping the overall impact of primary elections in new democracies. We show that primaries with small electorates can create deleterious incentives for democratic representation,

while primaries with larger electorates can open up new avenues to representation of previously excluded groups.

Second, this research expands our understanding of the impacts of the extension of the franchise to new social groups, in particular to women. Existing research has focused on the historical impact of women's suffrage in advanced democracies (e.g., Aidt and Dallal 2008, Lott and Kenny 1999, Miller 2008). But there has been little research on the impact of franchise extensions in the post-colonial world because universal suffrage for men and women was often established at the same time. Examining internal democratization within parties provides a previously unexplored avenue to examine how extending the franchise shapes competition in new democracies.

Third, our results suggest that opening up primary voting to larger electorates may be a useful institutional tool for the political incorporation of women in new democracies. This may be particularly important in single-member district electoral systems, where the gender quotas and reserved seats that have received the most attention in existing research (Duflo 2005, Tripp and Kang 2008, Krook 2009, Clayton 2015) are difficult to implement without inviting backlash from men.

Lastly, we find that democratizing political parties by expanding the primary electorate gives previously excluded ethnic groups a more viable path to office through the existing party system. This may provide one means to gradually undermine the strong ties between parties and ethnic groups that exist in many new democracies, especially in Africa.

The paper proceeds as follows. Our theoretical argument for how expanding the primary electorate in a patronage-oriented system affects the field of aspirants and nominees is presented in Section 2. Section 3 describes electoral competition and primary rules in Ghana, before Section 4 applies the theory to the Ghanaian case to develop specific hypotheses. Section 5 discusses our methodological approach, which will be applied to the data described in Section 6. Our results and alternative explanations are in Sections 7 and 8, respectively. Section 9 concludes.

2 Democratizing Candidate Selection in Patronage Polities

In patronage-dominated systems with little ideological distinction between parties, substantially expanding the primary electorate can induce changes to the number and types of politicians who compete in legislative primaries and to the types of politicians who win nominations. This section builds the argument in several steps.

We begin with three types of actors: local-level party leaders, ordinary party members who far outnumber local party leaders, and aspirants competing for the nomination. Local party leaders and ordinary members value both private benefits and local public goods. Because local public goods only benefit people who live near them, individual party leaders or members who live in different locations will have different preferences about the distribution of local public goods. We assume that all local party leaders and some ordinary party members belong to one social identity group,

while the remainder of the ordinary party members belong to a second social identity group. We can think of these groups as genders, ethnicities, religions, or other politically relevant groupings. Democratization of primary elections is the switch from a smaller electorate composed only of local party leaders who all belong to one group to a larger electorate that includes ordinary party members from both groups.

Primaries are decided by plurality vote. Each member of the electorate has one vote and supports the aspirant who offers greater expected benefits. We assume that primary voters do not consider whether the aspirant is likely to win the general election – i.e., that there is no strategic voting. In strongholds of one party or another, the selection of a particular aspirant is unlikely to affect which party wins the general election. In competitive constituencies, choosing a more “electable” aspirant will not benefit a primary voter if that aspirant will not deliver private benefits or locate local public goods near the voter.

Aspirants face a budget constraint and choose one of two strategies to try to win the primary. The first strategy is vote buying, in which some primary voters are offered direct private benefits before the primary in exchange for support. The alternative strategy is to promise to deliver local public goods after the general election. For purposes of theoretical exposition, aspirants may choose only one of these strategies.

Expanding the primary electorate has two effects. First, it changes the dominant strategy for aspirants. When the electorate is small, individual voters have significant leverage to extract rents in the form of upfront payments from aspirants. Moreover, if primary voters are poor, they will have high discount rates, placing greater value on immediate rewards from vote selling than on later expected benefits from campaign promises (Kitschelt 2000). Where vote buying is financially and logistically feasible for at least some aspirants, it is the more effective strategy in the primary and crowds out aspirants who do not have the resources to engage in vote buying. When the primary electorate is sufficiently large, however, securing support through private benefits can become prohibitively expensive.² Even if the increased number of vote sellers lowers the price per vote, the logistical challenges of monitoring recipients and enforcing vote buying transactions become significantly greater. The overall consequence is to raise the marginal cost of a vote secured through private benefits. Moreover, vote buying offers to individual primary voters become less attractive as aspirants divide their resources over more voters. Where vote buying has become unfeasible, aspirants choose the second strategy of competing on promises to deliver local public goods in the future.³ Aspirants who lack the financial resources and capacity for vote buying, but

²This is similar to the logic of selectorate theory in Bueno de Mesquita et al. (2003), albeit in a different strategic context.

³This is similar to general elections, where there is also little enforceable vote buying. Much of the private benefits distributed before elections is meant to signal information to voters about candidates (Munoz 2014, Kramon 2016) or is targeted at a party’s core supporters to encourage turnout or discourage defection to an opposing party (Nichter 2008, Diaz-Cayeros et al. 2016, Nichter and Peress 2016). Parties in new democracies, including Ghana, often cannot monitor individual vote choices on a large-enough scale to enforce vote buying with a substantial number of individual voters in general elections (van de Walle 2007). Guardado and Wantchekon (2014) and Weghorst and

who have the ability to make credible promises to deliver local public goods to members of the expanded electorate, become more competitive. This type of aspirant will therefore be more likely to contest in primaries.

The second change is to the types of voters in the primary electorate. The small electorate is restricted to local party leaders who all belong to the first social group. Even if aspirants from the excluded group have the financial resources to compete in vote buying, they may lack social connections to local party leaders needed to effectively monitor and enforce vote buying. Many aspirants from this second group will thus be deterred from contesting the primary. But the expanded electorate will contain ordinary party members from both social groups. If shared group membership enhances the credibility of promises to deliver local public goods that reflect primary voters' preferences, aspirants from this previously excluded group will have a better chance of winning the nomination. When combined with the shift away from vote buying, more aspirants from the previously excluded group will enter the primary.

Finally, increased diversity in the aspirant pool creates an opportunity for the party to elect a nominee from the previously excluded group. Whether this happens in practice depends on several factors, including the population shares of the groups, coordination among potential aspirants from the same group, and the extent to which group membership corresponds to vote choice. Depending upon the context, expanding the primary electorate can increase the probability that the primary winner is from the excluded group. Below, we develop more specific predictions for how the expansion of the electorate will affect the outcome of primaries in Ghana.

3 Electoral Competition and Reform of Party Primaries in Ghana

Ghana has held regular, concurrent elections for president and a unicameral parliament since 1992. Ghana's parliament has 275 members elected from single member constituencies. Most Members of Parliament (MPs) do not play significant policy or oversight roles; similar to many other African democracies, policymaking is concentrated in the presidency (van de Walle 2003).

MPs instead serve several other functions. They control a discretionary constituency development fund (CDF) that supports the distribution of local public goods, similar to CDFs in other new democracies (Keefer and Khemani 2009). They are also *de facto* leaders of the party organization in their constituencies, serving as patrons for local party members (Lindberg 2010). Finally, a subset of MPs in the president's party are appointed cabinet ministers. The possibility of these cabinet appointments raises the value of parliamentary nominations.

Two parties dominate and have alternated in power. The ruling National Democratic Congress (NDC) and opposition New Patriotic Party (NPP) pursue very similar policy programs, and competition over policy is not a prominent feature of Ghanaian elections (Riedl 2014). While the

Lindberg (2013) suggest, for example, that local public goods distribution is relatively more important for vote choice in African general elections than pre-election distribution of private goods.

parties have some rank-and-file members from every major group, each party is associated with different ethnic groups. Voting is by no means exclusively along ethnic lines, but ethnicity remains a strong determinant of vote choice, in part because voters often expect differences in the local public goods they will receive after the election from parties associated with different groups (Ichino and Nathan 2013*a*, Nathan 2016*a*). The NPP is most closely associated with the Akan, the country's largest ethno-linguistic group.⁴ The NDC attracts support from a coalition of smaller groups, most notably the Ewe and the majority of Ghana's numerous northern, and especially Muslim, ethnic groups. The NDC also draws significant support from the Ga and Dangme, concentrated around the capital city of Accra.

National-level leaders of both parties have gradually adopted competitive primary elections to select parliamentary nominees. Primaries were initially held selectively, with national party leaders imposing favored nominees in some constituencies (Ichino and Nathan 2012). But as the primary system has become institutionalized, competitive primaries have become more widespread.

Under the system used by both parties to select candidates for the 2012 elections, the primary electorate was restricted to local party branch leaders from each polling station in each constituency. Ghana's parties are among the most densely organized in Africa (Riedl 2014), with a committee of branch executives for nearly every one of Ghana's 26,000 polling stations. For the NPP, the polling station-level executives form a primary electorate numbering between 200 and 800 in each constituency, with 5 branch leaders voting from each polling station. The NDC primary electorate in 2012 was similarly constructed. By contrast, general electorates range from 12,000 to 120,000 registered voters per constituency.

Polling station-level party leaders are typically poor, even in urban constituencies with large middle class populations (Nathan 2016*b*). With small primary electorates of just a few hundred people, distribution of private goods by aspirants has been the main mode of competition (Ichino and Nathan 2012, Ichino and Nathan 2013*b*). Aspirants woo primary voters with gifts of TVs, motorbikes, payment of school fees for their children, and the like. Many aspirants admit openly in interviews to paying primary voters and report spending upwards of 75,000 USD to secure nominations. Aspirants who have significant personal wealth, including those who primarily live abroad, can return to their hometowns to buy nominations, despite having little history of working for their party, and in some cases, of ever having lived in the constituency.

Branch leaders are said to view these primaries as their "cocoa season" or "harvesting season." This is their main opportunity to be compensated by party elites for their work for the party, as they would otherwise receive no significant funding from higher levels of the party. As an NPP aspirant in the 2011 primaries describes: "Everybody [the voters] was about 'What's in it for me? What have you brought for me? Politicians, after this election, they're not going to care about us any more... this is our chance.'"⁵ One NPP MP lamented the "money-ocracy" that has eaten into

⁴An important exception is the Fanti sub-group of the Akan, who are less closely associated with the NPP.

⁵Interview with NPP primary aspirant, Central Region, 2 August 2011.

the fiber of our politics... [The primaries] elect money into office rather than electing people based on competence.”⁶ Fearing that they will be outbid by opponents, aspirants sometimes go to great lengths to attempt to enforce vote buying.⁷

NDC leaders changed their primary rules before the 2016 election in part because they wanted to crack down on vote buying and select more locally popular candidates. They hoped that vote buying would be less feasible with a larger electorate,⁸ and this meant opening primary voting to all party members in each constituency. In 2015, the party undertook a nationwide registration drive of party members. The resulting electorate was an order of magnitude larger than that in the NPP, with approximately 2000 to 8000 members voting on each nomination.

4 Hypotheses for the Ghanaian Case

Applying our theory to the Ghanaian case, we have four main hypotheses on the effects of the NDC’s reforms on the primary aspirant pool ($H1 - H4$). First, expanding the electorate will increase the number of aspirants ($H1$). Aspirants who do not have the resources or networks to win a primary characterized by vote buying will see a more viable path to the nomination if the electorate is larger and vote buying is less feasible.

Hypotheses $H2 - H4$ build on our conjecture that expanding the electorate will increase the number of aspirants from groups underrepresented in the small primary electorate. Hypothesis $H2$ is that NDC’s reforms will increase the number of female aspirants. Similar to many other new democracies (Logan and Bratton 2006, Duflo 2005), there are significant gender gaps in the representation of women in leadership positions in Ghana, including in local party organizations. The only women holding local leadership positions in the parties in most constituencies are the women’s organizers in each branch, an official position set aside for women. When 5 local executives vote in a restricted primary, this usually means that 1 woman and 4 men vote from each branch. But when the primary electorate is expanded to include all members, up to 50% of the electorate may now be female. Even if women turn out at lower rates than men, the proportion of the primary electorate that is female will increase substantially, and female aspirants should believe they are more likely to win. Moreover, by being excluded from local leadership, female aspirants are less likely than male aspirants to have the resources and social connections needed to effectively buy the votes of male party leaders. As vote buying becomes less important in primaries, female aspirants become more viable.

When the primary electorate is small, the ethnic composition of the electorate may also be

⁶Interview with NPP primary aspirant and incumbent MP, Brong Ahafo Region, 10 November 2015.

⁷For example, aspirants are sometimes alleged to “camp” primary voters in a hotel the night before the primary, ensuring that opponents cannot outbid the aspirant at the last minute. This form of monitoring is only logistically possible when the electorate is small.

⁸For example, see “NDC’s Expanded Electoral College Will Cure Vote-Buying - Ade Coker”, *Citi FM Online*, 17 August 2015. Also discussed in author interview with senior NDC national leader, Accra, 26 October 2015.

unrepresentative of the party's broader membership in two ways. First, ethnic groups in the party's core national coalition are often overrepresented in local leadership, even though the rank-and-file party membership in each constituency usually also includes supporters from other ethnic groups.⁹ Second, ethnic groups indigenous to a local area often wield local power disproportionate to their population size (Boone 2014), including in political parties. When primary voting expands to include ordinary party members, members of ethnic groups that were previously excluded – from outside the party's core coalition or from local minorities, particularly those not indigenous to the area – will likely comprise a larger share of the electorate. Because aspirants from these groups are more likely to believe they can win when they do not face an electorate that is as strongly dominated by other groups, we expect that the reforms will increase the number of aspirants from ethnic groups not traditionally associated with the party (*H3*) and from non-plurality ethnic groups in the constituency (*H4*).

A second set of hypotheses concerns the characteristics of the nominee (*H5 – H9*). Hypothesis *H5* is that the reforms have no effect on the probability that the nominee will be the incumbent MP or have other party or government leadership experience. In Ghana, these types of politicians have resources that are useful for winning nominations under either set of primary rules. Incumbents and senior government or party officials have had opportunities to amass wealth in the public sector that can be deployed for vote buying in the primaries (Pinkston 2016). They also have name recognition and a record of past performance in the delivery of local public goods, reputational assets that help win nominations even when vote buying is a less viable strategy.

But Hypothesis *H6* is that the reforms will decrease the probability that the nominee has significant wealth but no government or party experience. As described above, political newcomers who can personally fund vote buying have been able to win small-electorate primaries even without long-standing ties to their party or constituency. The ability of these outsiders to buy nominations helped prompt the NDC to reform its rules. We expect the reforms to make it less likely that aspirants who have vote buying capacity but no other reputational assets will win nominations.

Expanding the primary electorate to all rank-and-file members may also increase the probability that the nominee is a member of a group under-represented in the branch-level leadership by bringing more voters from these groups into the electorate. While whether this happens depends in part on constituency-level factors that are specified below, we expect the reforms to increase the probability that the nominee is a woman (*H7*), from an ethnic group outside each party's ethnic coalition (*H8*), or from a local non-plurality ethnic group (*H9*).

We use two-sided hypotheses tests below because the NPP's experience with a more limited expansion of its primary electorate before the 2012 elections generated significant doubts among Ghanaian politicians about the potential direction of the effects of the NDC's 2015 reforms. The

⁹For example, Nathan (2015) finds that the polling station-level NPP leadership is overwhelmingly Akan – the ethnic group most closely associated with the party – in much of Greater Accra Region, even in constituencies where Akans are a minority.

NPP had considered two proposals before the 2012 elections: to marginally increase the number of party leaders from each polling station or to include all rank-and-file members, similar to the reforms ultimately adopted by the NDC. Advocates of these proposals made arguments similar to those that NDC leaders would make in 2015, claiming that increasing the electorate would “lead to election of people who actually... work for the party,” would “ensure that the selected... candidates... represent the popular will... [and] serve the interests of the party people as a whole,” and “reduce expenditure on internal party elections.”¹⁰ One of the main goals was to reduce vote buying.¹¹ But due to fears by one of the party’s two main aspiring presidential candidates that a larger electorate would disadvantage his campaign, the party ultimately settled on the smaller proposal. The NPP increased from 1 to 5 the number of local party leaders voting from each branch, bringing the primary electorate more in line with the NDC’s at the time.

But consistent with our argument that vote buying is only reduced if the electorate is sufficiently large, interviews with aspirants who competed in the NPP’s 2011 primaries suggest that vote buying actually became worse. With more voters, there were simply more people demanding to be paid and more resources were needed to win.¹² One veteran NPP MP complained bitterly about the new expenses: “More more more expensive. It’s unbelievable... 200 more people wanting things from you, it’s no joke. It costs you an arm and a leg.”¹³ An MP who had been a strong advocate of expanding the electorate complained that she was not renominated because a rival still paid the voters: “I had always been under the impression that it’s easier to bribe... a smaller group than a bigger one. Even if you were rich, would you go around and give so much to 700 people?... But my understanding was that about 200 people were selected and given some big money, and those voted for [her opponent].”¹⁴ Another MP reflected on the 2011 primaries, “We tend to fool ourselves that the larger the electoral college, the less we spend... In reality, it is the opposite... nobody will come and vote for you if you don’t induce him financially.”¹⁵

In our 2015 survey of NPP primary aspirants conducted before the NDC’s primaries (described in Section 6), we asked respondents to speculate about what they think would have happened if the NPP had adopted the NDC’s full electorate expansion. While many (49) echoed the arguments of NDC leaders and suggested it would reduce vote buying, nearly the same number (42) expected that the NDC’s new policy would exacerbate vote buying, based on their previous experiences with the

¹⁰Talking points circulated to national NPP leaders in 2009; obtained from a NPP national executive committee member, August 2011.

¹¹For example, see Mahama Haruna, “Should all NPP Members Elect the Party’s Presidential Candidate?,” *Ghana Web* 28 March 2009.

¹²As one aspirant recalled, “The cumulative effect was huge... on the candidate. The money became much larger.” Interview with NPP primary aspirant, Central Region, 2 August 2011

¹³Interview with NPP primary aspirant and incumbent MP, Eastern Region, 19 July 2011.

¹⁴Interview with NPP primary aspirant, Central Region, 5 August 2011.

¹⁵Interview with NPP aspirant and incumbent MP, Western Region, 10 November 2015. Another senior MP had a very similar sentiment: “The original intention of expanding it was done with the understanding that it will minimize expenditure. It doesn’t... The way we are going... only rich people can be in politics.” Interview with NPP aspirant and incumbent MP, Ashanti Region, 11 November 2015.

NPP’s smaller reforms. As one aspirant argued, “The only difference will be the people spending more money to get what they want.”¹⁶ Another agreed: “[T]hese 5000 people would expect you to do something [for them]... We will [still] have parliamentary candidanship given to the highest bidder.”¹⁷ A third argued: “Now, you are just going to pay more [school] fees, look after more people, go to more hospitals, you are going to settle more disputes. And if you don’t do that, you might lose out...”¹⁸ Whether a larger electorate would truly change the nature of competition in the primaries was an open question leading into the NDC’s 2015 primaries.

5 Methods

To analyze the effects of the NDC’s reforms on NDC primary outcomes, we use the party-constituency as the unit of analysis and define the treatment as reforms by national party leaders allowing rank-and-file members in a constituency to vote in the primaries. Our estimand is the average treatment effect on the treated (ATT). We use optimal full matching (Rosenbaum 1991, 2010) to select a control group of 2015 NPP primaries which continued to use a small electorate to compare with the 2015 NDC primaries. The basis for our inference is not the claim that the NDC and NPP are exactly the same, nor that the primary reforms were randomly assigned over the two parties. Rather, we argue that our matching procedure makes it more credible that our observational study satisfies the three assumptions required to identify the average causal effect – stable unit treatment value (SUTVA), overlap, and conditional ignorability. The Online Appendix discusses the first two assumptions.

Conditional ignorability (or selection on observables) is that the potential outcomes under treatment and control are jointly independent of treatment assignment, conditional on covariates. The fact that the NDC adopted its reforms at the national level complicates our analysis in at least two respects. First, the reform is perfectly correlated with party, and we must be careful to consider party-level and incumbency differences as alternative explanations. We do so in Section 8. Second, to specify confounding variables or covariates, we must reconceptualize treatment assignment as if party leaders considered adopting the reforms constituency-by-constituency, rather than for all constituencies at once. We also have less information than NDC leaders had when they adopted these reforms, leaving room for unmeasured confounding. Given that the parties’ explicit goals in reforming the primary system were to reduce vote buying and encourage the entry of more aspirants to allow them to select better nominees, we can imagine that constituencies that could be expected to be worse on these outcomes were more likely to have reforms to their primary election rules.

We calculate propensity scores for all party-constituencies using five variables drawing on Ichino and Nathan (2012). The first variable is the party’s vote share in the previous presidential election.

¹⁶Interview with NPP aspirant, Central Region, 4 November 2015.

¹⁷Interview with NPP aspirant, Northern Region, 7 November 2015

¹⁸Interview with NPP aspirant, Central Region, 4 November 2015.

This proxies for the expected extent of vote buying because aspirants should be willing to spend more in safer constituencies that are more likely to lead to a seat in parliament. The second variable is the party's vote share in the previous parliamentary election. When combined with presidential vote share, this reflects the performance of the party's past parliamentary nominee relative to the party's underlying level of support in the constituency, measuring the previous nominee's quality as a general election candidate. National party leaders should be more motivated to find better candidates where their past nominee underperformed. The third variable is population density, a proxy for economic development and thus for a larger pool of potential wealthy aspirants who can buy votes. The fourth variable is fractionalization among the ethnic groups in the core ethnic coalition of the party. We expect more vote buying when there is competition among a greater number of evenly matched interest groups within the party's core coalition seeking to win the nomination and control the local party organization.

Finally, we include an index based upon the 2012 values of the main outcomes that the reforms were explicitly intended to affect. For each party-constituency, this is the sum of an indicator for whether the 2012 nominee came from a private sector background with no past government or party experience; an indicator for whether the 2012 nominee is male; the difference between the mean number of female aspirants across all constituencies for the party and the number of female aspirants in the party-constituency in 2012; and the difference between the mean number of total aspirants across all constituencies for the party and the number of aspirants in the party-constituency in 2012. Higher values on this index indicate a greater problem that could be addressed by the reforms.

With propensity scores calculated from these five variables, we use optimal full matching to find control (NPP) primaries to match to treatment (NDC) primaries. Optimal matching minimizes the overall sum of distances between treated units and their matched control units on the propensity score. Treated units are each matched with at least one control, but full matching also allows for a variable number of treated units to be matched to a variable number of control units, with each control used only once (Hansen and Klopfer 2006). Optimal full matching is implemented with `optmatch` v0.9-6 in R v3.3.1.¹⁹ Treatment effects are estimated by regressing each outcome on the treatment indicator, with each set of matched treated and control units weighted in proportion to the number of treated units in the set. This implements effect of the treatment on the treated (ETT) weighting (Hansen 2004). The units within each set are further weighted so that the weighted average of the outcomes in each set is the difference in means between treatment and control units in the set. Ultimately, the credibility of our effect estimates depend upon the extent to which optimal full matching can weight our observations to generate a comparison group for the NDC primaries such that conditional ignorability is a reasonable assumption.

¹⁹Political scientists may be more familiar with nearest available, or greedy, 1:k matching algorithms, but we prefer optimal full matching for this study because it creates much better balance improvements when there are small numbers of control units.

Optimal full matching can lead to large differences in the number of treated and control units across sets. For example, we have a set with 1 control unit for 25 treated units and another set with 22 control units for 1 treated unit. Allowing the treatment-control ratio to vary widely reduces bias, but has two costs. First, it makes our estimates more dependent upon how we specify the propensity score model, and second, it reduces the precision of our estimates. As a robustness check, we restrict the treatment to control ratio in the matched sets to range from 10:1 to 1:10 only. We also estimate treatment effects using outcome-specific propensity score models that include additional prognostic variables and the lagged dependent variable in place of the index. This implicitly models a separate treatment assignment process for each outcome. Finally, we present OLS regressions using both sets of covariates, but without matching, for comparison. The results are qualitatively similar, but OLS is less preferred because the estimand puts most weight on the covariate space where there are equal numbers of treated and control units (Angrist and Pischke 2009, ch.3), which differs from our estimand of the treatment effect on the treated. The Online Appendix reports results for these alternative specifications.

6 Data

The construction of our constituency-party level dataset begins with data on primary aspirants. Official results for primaries are not publicly released or collated in Ghana. By combining information from multiple sources, however, we are able to construct a dataset of NDC and NPP aspirants for primaries that were completed by early 2016.²⁰ Our final dataset includes 1,532 parliamentary aspirants across 272 constituencies for the NDC and 271 constituencies for the NPP, out of 275 constituencies total. We define an aspirant as any candidate who at least publicly stated that he or she would compete for a party’s nomination. This includes some who filed paperwork to compete in the primaries or who announced that they would do so, but who subsequently dropped out of the primary or were disqualified. We drop some constituencies where we do not feel confident that we have identified all aspirants, leaving us with 1494 aspirants across 219 constituencies for the NDC and 252 constituencies for the NPP.

We begin with official lists of aspirants in each constituency from each party’s headquarters. These lists include the names of aspirants on the ballot on primary day, but many constituencies were missing from these official lists for both parties.²¹ We therefore supplement these official lists of names with data extracted from media coverage. From March 2015, when politicians in the NPP began announcing their candidacies, through January 2016, we saved every article mentioning parliamentary primaries in either party from 10 prominent news organizations listed in the Online

²⁰Both parties held their primaries for the 2016 elections in 2015, but legal disputes delayed nomination contests in a small handful of constituencies in both parties into 2016.

²¹This was due in part to delays to the primaries induced by legal disputes, but also to more mundane inconsistencies in record keeping.

Appendix. This yielded 1,950 articles, from which we coded names and biographical information. Biographical details include professions, government and party positions, and elected offices held.²² This allowed us to identify many additional aspirants who did not appear in the official lists from each party. To add additional biographical details, aspirant names were merged with official lists of government ministers dating back to 2000 and with data on past primary aspirants analyzed in Ichino and Nathan (2012). With these sources, the number of aspirants in the NDC ranges from 1 to 9 per constituency, with a median of 3 and mean of 3.5, and the number of aspirants in the NPP ranges from 1 to 8, with a median of 3 and a mean of 2.9. We use a similar procedure to compile similar data on the 1,285 aspirants from primaries held before the 2012 general elections to use as matching variables.

We also conducted an in-depth survey of 125 aspirants in the NPP primaries in November 2015.²³ Interviews were conducted by Ghanaian research assistants over the phone or in person. These interviews are used to supplement the coding of biographical details from the media sources.

We code the ethnicity of each aspirant based on their names, which are generally easily connected to the main ethnic categories in Ghana. We assign ethnicity based on a dictionary of 3,503 names of Ghanaian politicians, comprised of aspirants in the 2011-2012 NDC and NPP primaries as well as all candidates in the 2010 district assembly (city council) elections in Greater Accra Region, which as Ghana's largest urban area has numerous candidates from all major ethnic groups. This procedure allows us to assign aspirants to broad ethnic categories, but does not distinguish between ethnic subgroups. Details are in the Online Appendix.

Finally, we measure demographic characteristics using geo-coded enumeration area-level (tract-level) census data from 2010 from the Ghana Statistical Service which we link to a map of constituency boundaries. This is based on a 10% individual-level random sample drawn for each of Ghana's approximately 37,000 enumeration areas, aligned to a map of 20,045 localities. We drop 9 constituencies where this data is missing.

The census data measures ethnicity at two levels. First, the census records membership in 10 higher-order ethno-linguistic categories: Akan, Ewe, Ga-Dangme, Guan, Grusi, Gurma, Mole-Dagbon, Mande, Foreigner, and Other. Second, the census records membership in sub-groups within each of these categories, such as the Ashanti and Fanti within the Akan. This allows us to distinguish the Fanti sub-group from the rest of the Akan, for example, when calculating the proportion of a constituency's population that belongs to ethnic groups associated with a particular

²²For all aspirants who were incumbent MPs, we gather additional biographical information by scraping biographies from the Parliament of Ghana website.

²³Because the party ultimately declined to provide contact information for the full slate of aspirants, the survey sample is non-random and includes all aspirants in the NPP's 2011 primaries who contested again in 2015. Of the 213 aspirants contacted, 125 agreed to interviews. The NDC refused to make contact information for aspirants available for a similar survey.

party. This also allows us to collapse several of the higher-order categories and sub-groups of other categories into an indicator for Northern ethnic groups.²⁴

One of our matching variables is the ethnic fractionalization of ethnic groups associated with each political party within the constituency. This is calculated as 1 minus the standard Herfindahl index. For the NPP observations, we classify all Akan subgroups, minus the Fanti and Chokosi, as NPP-associated ethnic groups and calculate fractionalization at the subgroup level among these groups. For the NDC, we classify the Mande, Mole, Grusi, Gurma, Gonja, Mosi, Zabrama, Fulani, Hausa, Ewe, and Ga as NDC-associated ethnic groups and subgroups and calculate fractionalization among these 11 categories. Importantly, this measure does not depend on the overall population share of these NDC or NPP affiliated groups in each constituency.

Appendix A.1 reports summary statistics.

7 Results

Our analysis proceeds in two parts. First, we estimate average effects of the NDC’s reforms on the characteristics of aspirants who compete in primaries. We examine the total number of aspirants who seek nominations, the number of female aspirants, and the number of aspirants from ethnic groups likely to be underrepresented in local party organizations. Second, we assess the effects of these reforms on the characteristics of nominees who win primaries and go on to compete in the general election. We examine whether the nominee is the incumbent MP, has served in a government or party position, has private wealth without government or party experience, is a woman, or is from an ethnic group likely to be underrepresented in local party organizations. Our results indicate that the primary reforms opened up parliamentary nominations to politicians from previously under-represented groups.

7.1 Number of Aspirants

We begin with the effects of the NDC’s reforms on the characteristics of the aspirants who competed in its 2016 primaries (Table 1). We estimate these effects with weighted least squares regression after the matching procedure described in Section 5. We also report two-sided p -values from randomization inference for comparison.²⁵ The last column of Table 1 reports the effective sample size, which is the number of matched pairs equivalents (i.e., equivalent number of treated units) created by the matching algorithm. Because we are unable to identify the ethnicity of some aspirants, we drop some observations and have different sets of matches for outcomes that require identifying

²⁴This Northern category is comprised of the Grusi, Gurma, Mole-Dagbon, Mande, the Gonja ethnic group from within the Guan category, and the Hausi and Fulani ethnic groups from within the Other category.

²⁵For each of 10,000 permutations of treatment assignment, we re-match the units and calculate the treatment effect with effect of the treatment on the treated weighting. We then calculate the two one-sided p -values: the proportion of permutations that produce an estimate smaller than our effect estimate and the proportion that is larger. The two-sided p -value is twice the smaller of the two one-sided p -values.

the ethnicity of an aspirant. We have 170 treated units and 211 control units for the first two outcomes and 153 treated units and 200 control units for the outcomes that require aspirant ethnicity information.

We assess balance using the approach of Hansen and Bowers (2008). We compare treatment and control units within each set with the difference in means for each of our covariates, and we assess their combination with a χ^2 test. Our matching procedure significantly improves balance, with no significant overall differences between the NDC and NPP primaries on these variables (Table A2, rows 1 and 2, in Appendix A.2). Balance statistics and effect estimates for our alternative specifications, which include matching on the lagged 2012 value of each outcome, are presented in the Online Appendix. These additional analyses are generally consistent with the results from our main specification in Table 1.

Table 1: Estimated Average Effects on the Number of Aspirants

Outcome	Estimate	s.e.	p -value (WLS)	p -value (RI)	Effective Sample Size
Total Number of Aspirants	0.70	0.18	<0.01	0.02	119
Number of Female Aspirants	0.14	0.05	0.01	0.11	119
From Party-Associated Ethnic Grps	-0.69	0.19	<0.01	0.03	109
From Non-Associated Ethnic Groups	0.99	0.15	<0.01	<0.01	109
From Plurality Ethnic Group	-0.13	0.18	0.48	0.67	109
From Non-Plurality Group	0.43	0.16	0.01	0.04	109

Consistent with *H1* and *H2*, we find that on average, the NDC’s reforms increased the number of aspirants in a constituency by 0.70 ($p < 0.01$) and increased the number of female aspirants by 0.14 ($p = 0.01$), which implies an increase in the overall proportion of female aspirants.²⁶ The expansion of the NDC primary electorate also changed the ethnic composition of the aspirant pool. The NDC reforms increased the number of aspirants from ethnic groups not traditionally associated with the party by an average of 0.99 ($p < 0.01$), consistent with *H3*.²⁷ We also find support for *H4* in Table 1. Expanding the electorate increased the number of aspirants from local non-plurality groups by 0.43 on average ($p = 0.01$). Overall, the NDC’s reforms appear to have opened up the primaries to a much more diverse pool of politicians – with more total contestants, more women, and more members of ethnic groups outside the party’s core ethnic coalition seeking NDC nominations.

²⁶In 2012, NDC primaries averaged 0.29 female aspirants out of 2.65 total aspirants per constituency, or only 11% of all aspirants. The 0.14 additional female aspirants is 20% of the estimated average effect on the total number of aspirants.

²⁷We also find that the number of aspirants from the ethnic groups that belong to the party’s core ethnic coalition decreased by 0.69 aspirants on average under the NDC’s reforms ($p < 0.01$).

7.2 Characteristics of the Nominees

The NDC’s reforms appear to have broadened access to nominations, while reducing the probability that nominees are political outsiders who can only secure nominations through vote buying. Table 2 reports our estimated average effects on the types of politicians who win primaries. As in the previous analysis, sample sizes vary somewhat across outcome variables. For whether the incumbent is the nominee, we have 91 treated units and 90 control units. For other nominee outcomes that do not require aspirant ethnicity information, we have 170 treated units and 211 control units. For nominee outcomes that require aspirant ethnicity information, we have 170 treated units and 207 control units. Full optimal matching again significantly improves overall balance (Table A2, rows 3–5, and Appendix A.2).

Table 2: Estimated Average Effects on Nominee Characteristics

Outcome: Nominee	Estimate	s.e.	<i>p</i> -value (WLS)	<i>p</i> -value (RI)	Effective Sample Size
Is the Incumbent	-0.08	0.07	0.23	0.30	57
Is/was a Government Official	0.01	0.05	0.91	0.95	119
Is/was a Party Executive	-0.03	0.03	0.34	0.58	119
Has Private Sector Background	-0.06	0.03	0.05	0.03	119
Is Female	0.08	0.03	<0.01	0.09	119
Is a Party-Assoc. Ethnic Grp Member	-0.12	0.05	0.02	0.13	118
Is a Non-Plurality Ethnic Grp Member	0.18	0.04	<0.01	0.01	118

Note: The effective sample size is smaller for the first outcome because for each party, the sample is restricted to those constituencies where the incumbent MP is a member of that party; the incumbent cannot be re-nominated where there is not an incumbent.

We begin with three features that should be unaffected by changes to the primary electorate (*H5*): whether the nominee is an incumbent MP, whether the nominee has served as a senior government official, and whether the nominee has served in a leadership position in the party. We expect these types of politicians have advantages over other aspirants in primaries with electorates of any size, including access to the financial resources necessary for vote buying and the name recognition and reputation to make credible promises to large numbers of primary voters when vote buying is infeasible. Consistent with *H5*, We find no evidence of the effect of the NDC’s primary reforms on these three outcomes (Table 2), although the alternative specification using outcome-specific matching variables suggests somewhat different conclusions (Online Appendix).

Hypothesis *H6*, however, is that the NDC’s new rules will reduce the probability that the nominee is a politician who has significant wealth but no government or party experience.²⁸ These

²⁸Missing data precludes us from analyzing the effects of the reforms on the total number of aspirants who had private sector backgrounds. There is less discussion in the press of the career histories of less important aspirants who fared poorly in primaries.

are the political outsiders and newcomers who have the financial resources to win nominations through extensive vote buying, but who lack the reputational assets incumbents and government officials can use where vote buying is infeasible. We proxy for wealth earned outside government or party positions by coding whether the nominee has a private sector business background. We code private sector experience if there is biographical information that each aspirant served in a managerial or executive position in any private business or instead worked as a lawyer, accountant, consultant or other professional.²⁹ Because private sector experience and government and party backgrounds are not mutually exclusive, for *H6*, we code private sector background as 1 only if a nominee has private sector experience but had not served as MP or in a government or party position. Consistent with *H6*, we find that the NDC's reforms make the nominee 6 percentage points less likely to be a person with a private sector background but no government or party experience ($p = 0.05$).³⁰

We also find support for our hypotheses that expanding the electorate increased the probability that the nominee is from a group previously under-represented in the local party leadership. First, consistent with *H7*, we find that the reforms increased the probability that the NDC parliamentary nominee is a woman by 8 percentage points ($p < 0.01$). The ability of a female aspirant to win a primary may depend on constituency characteristics. For example, more restrictive gender norms may affect the willingness of primary voters to select a woman for a leadership position. In particular, women in Muslim areas may face greater obstacles than in non-Muslim areas, where gender norms are often more liberal. We re-estimate the model after splitting the sample by the national median of the Muslim constituency population share (10%). We find that in the below-median sample, the reforms led to a 15.9 percentage point increase ($p < 0.01$) in the probability that the nominee is a woman. But we find no effect on the probability of nominating a woman in constituencies with Muslim populations above the median, where fewer primary voters – even female voters – may be willing to support a female aspirant.³¹ This effect may also depend on whether the party had a female nominee in the previous election and local party members are already more accepting of women leaders. But we have little leverage to investigate these heterogeneous effects, since only 26 constituencies had female nominees in 2012. When we explicitly average over these possible heterogeneous effects by exact matching on whether the 2012 nominee in each constituency was a woman and include Muslim population share as a matching variable, we find the same results as in our main specification (Online Appendix).

The final two rows of Table 2 indicate that the reforms also increased the probability that the nominee is a member of an under-represented ethnic group. First, we find support for *H8* – the reforms increased the probability that the NDC nominee is from an ethnic group outside of

²⁹Pinkston (2016) documents how these types of private sector backgrounds help politicians amass the financial resources they use to seek elected office in Ghana.

³⁰We find slightly stronger results in our alternative specifications (Online Appendix).

³¹The Muslim share of the population is correlated with region in Ghana, and these results should not be interpreted as evidence of the moderating effects of Muslim dominance in a constituency.

the party’s core ethnic coalition by 12 percentage points ($p = 0.02$). This estimate averages over different types of constituencies and the effect may depend upon how many other aspirants from these ethnic groups choose to compete in the primary, as well as on the population size and spatial segregation of these groups within each constituency. In the alternative matching specification in the Online Appendix, we include the total constituency-level population share of the ethnic groups in the party’s traditional coalition, the number of aspirants from these groups who competed in the 2012 primaries, and spatial segregation among these associated groups (as one category) and among all other ethnic groups (as another category) as additional matching variables,³² and also exact match on whether the 2012 nominee was a member of an ethnic group not associated with the party. We find even stronger results in this alternative specification, with the nominee being 19 percentage points more likely to be from an ethnic group outside the party’s traditional coalition ($p < 0.01$). We also find support for *H9*, that the reforms increased the probability that the nominee is a member of a non-plurality, or local minority, ethnic group in the constituency. We estimate that the reforms make the NDC nominee 0.18 percentage points more likely to be from a local non-plurality group ($p < 0.01$).

8 Alternative Explanations

We can rule out several alternative explanations. First, more aspirants may have chosen to compete in the NDC primaries in 2016 simply because the NDC is the incumbent party, and nominations in the incumbent party are more valuable.³³ Ichino and Nathan (2012) shows that safer seats attract more aspirants because nominees are more likely to win the general election, so all analyses have controlled for the value of each nomination by matching on the party’s past presidential and parliamentary vote share in the constituency. We also exact match on the number of aspirants in 2012 in the alternative specification in the Online Appendix, comparing constituencies with the same demand for the nomination when both parties used the same rules. We find that the effect size on the number of aspirants in 2016 is still positive and statistically significant, but smaller (0.31 instead of 0.70), pointing to possible unmeasured differences in the value of the nominations between the parties.

We address this with a sensitivity analysis that intentionally inflates our measures of the value of each NDC nomination. We add small increments to the past presidential and parliamentary vote share variables for each treated (NDC) unit and then re-match the observations. These adjustments match gradually electorally weaker NDC constituencies to electorally stronger NPP constituencies, so that we become increasingly less likely to detect an effect on the number of aspirants if the

³²Details on the construction of this measure are presented in the Online Appendix.

³³Recent presidential elections in Ghana have had such small margins, however, that aspirants cannot confidently anticipate that they will be members of the incumbent party after the election. Parliamentary candidates are also responsible for funding their own general election campaigns and may not gain significant resource advantages from being in the incumbent president’s party unless they themselves are incumbent MPs.

effect were due to unmeasured differences in value of the nominations. But our results are robust and remain statistically significant up to adding 3.75 additional percentage points to both past vote share variables in each NDC constituency (Online Appendix). This suggests that there would have to be quite substantial unmeasured additional value to NDC nominations compared to NPP nominations to account for our results for the number of aspirants.

Second, our results on women and excluded ethnic groups could be explained by NDC leaders making greater efforts than NPP leaders to support aspirants from these groups. Both parties have made very similar attempts to recruit more women to run for parliament, however, including giving a 50% discount to female aspirants on the fees needed to register for the primaries. These efforts to encourage women to seek parliamentary nominations were already in place in both parties before the 2012 primaries and affect our treatment and control units alike.³⁴ It is more difficult to evaluate whether party leaders may be encouraging the entry of aspirants from different ethnic groups, as party leaders in Ghana typically avoid explicit ethnic rhetoric (Elischer 2013). But, in general, national leaders from both parties have made public efforts to expand their ethnic appeal, with the NPP particularly concerned in recent years with shedding its label as an “Akan party.” To whatever extent national party leaders put their thumb on the scales in favor of aspirants from non-affiliated ethnic groups, this is just as likely to have been done in our control group (NPP) as in our treatment group (NDC).³⁵

Third, other macro-level features of the electoral environment in Ghana that affect the entry and success of different types of aspirants may have changed in the run-up to the 2016 election. Both parties are running the same presidential candidates in 2016 as in 2012, however, when the NDC was also the incumbent. The 2016 elections are expected to be similarly competitive as 2012, with no major shifts in partisanship of the electorate or party platforms. The ethnic bases for each party are unchanged.

Finally, the fact that the NPP considered but rejected a full expansion of its own primary electorate in the lead-up to the 2012 election might indicate that the NPP is a less open-minded or democratic party than the NDC. If this were the case, a greater democratic culture within the NDC might explain why a larger and more diverse group of aspirants competed in and won the NDC’s primaries. This is not the case, however. The NPP national leadership has been riven by factional disputes in recent years, especially between the two main aspirants for the party’s presidential nomination in 2008, 2012, and 2016. The proposed changes to party rules before 2012 would have affected the presidential primary, and supporters of one of the presidential aspirants

³⁴If anything, the NPP – our control group – has taken the lead in efforts to ease the entry of women aspirants. The NPP was first to reduce filing fees for women and the NPP leadership has also explicitly discussed reserving seats for women, something the NDC has not yet considered.

³⁵We have anecdotal evidence, for example, of NPP leaders intervening in the primaries ahead of the 2008 and 2012 elections to help aspirants from non-affiliated groups. Akan NPP aspirants in Greater Accra, homeland of the NDC-affiliated Ga, complained in interviews that NPP leaders intervened in primaries to favor Ga aspirants in hopes that Ga nominees would boost the NPP’s local appeal. Interview with NPP primary aspirant, Greater Accra Region, 26 July 2011; interview with NPP primary aspirant, Greater Accra Region, 27 July 2011.

are believed to have blocked the full expansion because they thought it would disadvantage him in the presidential primary.³⁶ In clear contrast to the internally-divided NPP, the NDC national leadership is centralized and unified around the party’s powerful General Secretary (Osei 2016), who has more discretion to implement his preferred changes to party rules. It was easier for the NDC to adopt primary electorate reforms because the party is *less* democratic and doing so did not require building consensus among multiple factions. If anything, greater factionalism within the NPP should *bias against* our result that more aspirants compete in the NDC. Our interviews with NPP aspirants suggest that the party’s factions sometimes put forward rival candidates in the parliamentary primaries as part of their struggle for control of the party. This likely drives up the number of aspirants in our control group observations, reducing our estimate of the effect of the NDC’s reforms.

9 Conclusion

We examined reforms in Ghana’s ruling party to extend the primary electorate. Using optimal full matching to create sets of similar primaries in the NDC and NPP, we found that expanding the electorate increased both the overall number of aspirants seeking legislative nominations and the number of aspirants from groups likely to be underrepresented in local party leadership, including women. These reforms also increased the probability that the party’s nominees would be female or members of excluded ethnic groups. The reforms decreased the probability that nominees were wealthy individuals with little political experience but with the private resources to buy nominations.

These reforms are part of an ongoing process of the development of political party institutions in a consolidating democracy (Riedl 2014). Party leaders in Ghana initially relinquished their power to select nominees in some constituencies in the face of demands from local party leaders (Ichino and Nathan 2012). But this created a system that advantaged aspirants with private resources, even if they had little political experience, and also generated acrimony among losing aspirants about allegations of corruption and vote buying that ultimately weakened the ruling party in general elections (Ichino and Nathan 2013*b*). These unintended developments spurred the reforms studied in this paper.

This piecemeal development of internal party institutions raises questions about the future of democratic development in Ghana. The American historical experience provides instructive parallels for understanding this trajectory and helps show the broader relevance of the Ghanaian case for theorizing about the effects of related changes to internal party institutions in other contexts. In the late 19th and early 20th centuries, American political parties adopted similar institutional reforms to the NDC, introducing direct primaries of rank-and-file party members for most offices.

³⁶Interview with NPP primary aspirant, Central Region, 5 August 2011.

Progressive Era primary reforms had similar initial consequences, also increasing competition in American elections and bringing a broader pool of politicians into elected office (Ansolabehere et al. 2010). These similarities exist despite reforms being adopted by very different actors for different reasons in each case. In Ghana, powerful national party leaders have expanded primary electorates to try to improve upon the decisions made by local party leaders. In the US, good governance activists operating largely outside the party system pushed state governments to legally mandate the adoption of primaries to restrain powerful party bosses. But advocates of rule changes in each context seem to have shared a similar belief that “the cure for the evils of democracy is more democracy” (Ansolabehere et al. 2010, 191), a central slogan of the Progressive Era reformers. Advocates in each context viewed the adoption of primaries with electorates of all rank-and-file members as a means to reduce clientelism and other patronage-based practices that dominated the selection of candidates by local party leaders.

American primary elections became much less competitive over time, however, with incumbents eventually coming to win renomination at high rates and crowding out most challengers (Ansolabehere et al. 2010). Our results for Ghana hint at the possibility of a similar future trajectory. We find that the reforms did not reduce the probability that nominees would be incumbent MPs, party leaders, or government officials. Ghanaian politicians and voters may adapt their strategies and behavior to these new rules in future primaries, much as American politicians and voters did, and the parties are likely to keep gradually changing their rules in response. Research on future interactions of primary aspirants and voters will be crucial for understanding the implications of the continued evolution of intra-party institutions in new democracies like Ghana.

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.
- Aidt, Toke S. and Bianca Dallal. 2008. "Female Voting Power: The Contribution of Women's Suffrage to the Growth of Social Spending in Western Europe (1869-1960)." *Public Choice* 134(3/4):391–417.
- Angrist, Joshua D. and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton, NJ: Princeton University Press.
- Ansolabehere, Stephen, John Mark Hansen, Shigeo Hirano and James M. Snyder Jr. 2010. "More Democracy: The Direct Primary and Competition in US Elections." *Studies in American Political Development* 24:190–205.
- Boone, Catherine. 2014. *Property and Political Order in Africa: Land Rights and the Structure of Politics*. New York: Cambridge University Press.
- 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. 2010. "Too Much Democracy? Primaries and Candidate Success in the 2006 Mexican National Elections." *Latin American Politics and Society* 52(4):25–52.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson and James D. Morrow. 2003. *The Logic of Political Survival*. Cambridge, MA: The MIT Press.
- Burden, Barry C. 2004. "Candidate Positioning in US Congressional Elections." *British Journal of Political Science* 34:2(2):211–227.
- Carey, John M. and John Polga-Hecimovich. 2006. "Primary Elections and Candidate Strength in Latin America." *Journal of Politics* 68(3):530–43.
- Clayton, Amanda. 2015. "Women's Political Engagement Under Quota-Mandated Female Representation: Evidence From a Randomized Policy Experiment." *Comparative Political Studies* 48:333–69.
- De Luca, Miguel, Mark Jones and Maria Tula. 2002. "Back Rooms or Ballot Boxes?: Candidate Nomination in Argentina." *Comparative Political Studies* 35(4):413–436.
- Diaz-Cayeros, Alberto, Federico Estévez and Beatriz Magaloni. 2016. *The Political Logic of Poverty Relief: Electoral Strategies and Social Policy in Mexico*. Cambridge University Press.
- Duflo, Esther. 2005. "Why Political Reservations?" *Journal of the European Economic Association* 3(2–3):668–78.
- Elischer, Sebastian. 2013. *Political Parties in Africa: Ethnicity and Party Formation*. New York: Cambridge University Press.

- Field, Bonnie N. and Peter M. Siavelis. 2008. "Candidate Selection Procedures in Transitional Polities." *Party Politics* 14(5):620–639.
- Gerber, Elisabeth R. and Rebecca B. Morton. 1998. "Primary Election Systems and Representation." *Journal of Law, Economics and Organization* 14(2):304–324.
- Guardado, Jenny and Leonard Wantchekon. 2014. "Do Electoral Handouts Affect Voting Behavior?" Working Paper.
- Hall, Andrew B. 2015. "What Happens When Extremists Win Primaries?" *American Political Science Review* 109(1):18–42.
- Hansen, Ben B. 2004. "Full Matching in an Observational Study of Coaching for the SAT." *Journal of the American Statistical Association, Applications and Case Studies* 99(467):609–618.
- Hansen, Ben B. and Jake Bowers. 2008. "Covariate balance in simple, stratified and clustered comparative studies." *Statistical Science* 23(2):219–236.
- Hansen, Ben B. and Stephanie Olsen Klopfer. 2006. "Optimal full matching and related designs via network flows." *Journal of Computational and Graphical Statistics* 15(3):609–627.
- Hirano, Shigeo, James M. Snyder Jr, Stephen Ansolabehere and John Mark Hansen. 2010. "Primary Elections and Party Polarization in the US Congress." *Quarterly Journal of Political Science* 5:169–191.
- Ichino, Nahomi and Noah L. Nathan. 2012. "Primaries on Demand? Intra-Party Politics and Nominations in Ghana." *British Journal of Political Science* 42(4):769–791.
- Ichino, Nahomi and Noah L. Nathan. 2013a. "Crossing the Line: Local Ethnic Geography and Voting in Ghana." *American Political Science Review* 107(2):344–361.
- Ichino, Nahomi and Noah L. Nathan. 2013b. "Do Primaries Improve Electoral Performance? Clientelism and Intra-Party Conflict in Ghana." *American Journal of Political Science* 57(2):428–441.
- Izama, Melina Platas and Pia Raffler. N.d. "Meet the Candidates: Information and Accountability in Primaries and General Elections." Working Paper.
- Jackson, Matthew O., Laurent Mathevet and Kyle Mattes. 2007. "Nomination Processes and Policy Outcomes." *Quarterly Journal of Political Science* 2(1):67–92.
- Jacobson, Gary. 2004. *The Politics of Congressional Elections*. New York: Pearson.
- 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):339–352.
- Kitschelt, Herbert. 2000. "Linkages between Citizens and Politicians in Democratic Polities." *Comparative Political Studies* 33(3):845–879.

- Kramon, Eric. 2016. "Electoral Handouts as Information: Explaining Unmonitored Vote Buying." Forthcoming, *World Politics*.
- Krook, Mona Lena. 2009. *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*. New York: Oxford University Press.
- 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):117–142.
- Logan, Carolyn and Michael Bratton. 2006. "The Political Gender Gap in Africa: Similar Attitudes, Different Behaviors." Afrobarometer Working Paper No. 58.
- Lott, John R., Jr. and Lawrence W. Kenny. 1999. "Did Women's Suffrage Change the Size and Scope of Government?" *Journal of Political Economy* 107(6):1163–1198.
- Miller, Grant. 2008. "Women's Suffrage, Political Responsiveness, and Child Survival in American History." *Quarterly Journal of Economics* 123:1287–1327.
- Munoz, Paula. 2014. "An Informational Theory of Campaign Clientelism." *Comparative Politics* 47(1):79–98.
- Nathan, Noah. 2016a. "Local Ethnic Geography, Expectations of Favoritism, and Voting in Urban Ghana." Forthcoming, *Comparative Political Studies*.
- Nathan, Noah L. 2015. Electoral Politics amid Africa's Urban Transition: A Study of Urban Ghana PhD thesis Harvard University.
- Nathan, Noah L. 2016b. "Does Participation Reinforce Patronage? Policy Preferences, Turnout, and Class in Urban Ghana." Forthcoming, *British Journal of Political Science*.
- Nichter, Simeon. 2008. "Vote Buying or Turnout Buying? Machine Politics and the Secret Ballot." *American Political Science Review* 102(1):19–31.
- Nichter, Simeon and Michael Peress. 2016. "Request Fulfilling: When Citizens Demand Clientelist Benefits." Forthcoming, *Comparative Political Studies*.
- Öhman, Magnus. 2004. *The heart and soul of the party: Candidate selection in Ghana and Africa*. Ph.D. Thesis, Uppsala Universitet (Sweden).
- Osei, Anja. 2016. "Formal party organisation and informal relations in African parties: evidence from Ghana." *Journal of Modern African Studies* 54(1):37–66.
- Pinkston, Amanda. 2016. Insider Democracy: Poverty and the Closed Political Class in Democratic Africa PhD thesis Harvard University.
- Rahat, Gideon and Reuven Y. Hazan. 2001. "Candidate Selection Methods: An Analytical Framework." *Party Politics* 7(3):297–322.
- Riedl, Rachel Beatty. 2014. *Authoritarian Origins of Democratic Party Systems in Africa*. New York: Cambridge University Press.

- Rosenbaum, P. R. 1991. "A Characterization of Optimal Designs for Observational Studies." *Journal of the Royal Statistical Society* 53:597–610.
- Rosenbaum, Paul R. 2010. *Design of Observational Studies*. Springer.
- Serra, Gilles. 2011. "Why Primaries? The Party's Tradeoff between Policy and Valence." *Journal of Theoretical Politics* 23(1):21–51.
- Tripp, Aili Mari and Alice Kang. 2008. "The Global Impact of Quotas: On the Fast Track to Increased Female Legislative Representation." *Comparative Political Studies* 41(3):338–61.
- van de Walle, Nicolas. 2003. "Presidentialism and Clientelism in Africa's emerging party systems." *Journal of Modern African Studies* 41(2):297–321.
- van de Walle, Nicolas. 2007. Meet the New Boss, Same as the Old Boss? The Evolution of Political Clientelism in Africa. In *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition*, ed. Herbert Kitschelt and Steven I. Wilkinson. Cambridge University Press pp. 50–67.
- Weghorst, Keith R. and Staffan I. Lindberg. 2013. "What Drives the Swing Voter in Africa?" *American Journal of Political Science* 57(3):717–734.

A Appendix

A.1 Summary Statistics

Table A1: Summary Statistics

Variable	<i>n</i>	Mean	S.D.	Min	Max
NDC: Total Number of 2016 Aspirants	219	3.52	1.65	1	9
NDC: Total Number of Female 2016 Aspirants	219	0.31	0.55	0	3
NDC: Num. 2016 Asps. from Plurality Ethnic Group	191	1.89	1.52	0	7
NDC: Num. 2016 Asps. from Non-Plurality Groups	191	1.42	1.30	0	6
NDC: Num. 2016 Asps. from Party-Associated Ethnic Grps	195	1.24	1.68	0	7
NDC: Num. 2016 Asps. from Non-Associated Ethnic Grps	195	2.10	1.44	0	7
NDC: 2016 Nominee has Private Sector Background	219	0.05	0.22	0	1
NDC: 2016 Nominee is the Incumbent	219	0.35	0.48	0	1
NDC: 2016 Nominee is/was a Government Official	219	0.35	0.48	0	1
NDC: 2016 Nominee is/was a Party Executive	219	0.08	0.27	0	1
NDC: 2016 Nominee is Female	219	0.14	0.35	0	1
NDC: 2016 Nominee is a Minority Ethnic Group Member	212	0.28	0.45	0	1
NDC: 2016 Nom. is a Party-Associated Ethnic Grp Member	217	0.41	0.49	0	1
NDC: Index from 2012 Outcomes	223	-0.01	2.05	-7.08	2.92
NDC: Vote Share in 2012 Parliamentary Election	269	0.48	0.16	0.13	0.92
NDC: Vote Share in 2012 Presidential Election	268	0.53	0.19	0.14	0.96
NDC: Fractionalization of Party-Associated Ethnic Groups	264	0.62	0.26	0.01	0.93
NPP: Total Number of 2016 Aspirants	252	2.87	1.57	1	8
NPP: Total Number of Female 2016 Aspirants	252	0.20	0.46	0	2
NPP: Num. 2016 Asps. from Plurality Ethnic Group	235	1.96	1.54	0	7
NPP: Num. 2016 Asps. from Non-Plurality Groups	235	0.85	1.16	0	6
NPP: Num. 2016 Asps. from Party-Associated Ethnic Grps	240	1.66	1.53	0	7
NPP: Num. 2016 Asps. from Non-Associated Ethnic Grps	240	1.15	1.38	0	7
NPP: 2016 Nominee has Private Sector Background	252	0.10	0.29	0	1
NPP: 2016 Nominee is the Incumbent	252	0.31	0.46	0	1
NPP: 2016 Nominee is/was a Government Official	252	0.28	0.45	0	1
NPP: 2016 Nominee is/was a Party Executive	252	0.12	0.33	0	1
NPP: 2016 Nominee is Female	252	0.08	0.27	0	1
NPP: 2016 Nominee is a Minority Ethnic Group Member	243	0.24	0.43	0	1
NPP: 2016 Nom. is a Party-Associated Ethnic Grp Member	248	0.61	0.49	0	1
NPP: Index from 2012 Outcomes	234	0.002	1.84	-7.08	2.92
NPP: Vote Share in 2012 Parliamentary Election	269	0.45	0.17	0.04	0.85
NPP: Vote Share in 2012 Presidential Election	268	0.46	0.19	0.03	0.96
NPP: Fractionalization of Party-Associated Ethnic Groups	263	0.51	0.27	0.04	0.89
Population Density of Constituency (log(1000s per sq km))	263	1.95	5.79	0.01	49.86

A.2 Balance

Table A2: Overall Balance Before and After Full Matching

Outcome	Before Matching			After Matching		
	χ^2	df	<i>p</i> -value	χ^2	df	<i>p</i> -value
Number of total or female aspirants	94.19	5	<0.01	0.30	5	1.00
All other number of aspirants outcomes	79.35	5	<0.01	0.78	5	0.98
Nominee is the incumbent	51.89	5	<0.01	3.59	5	0.61
Non-ethnicity related nominee outcomes	94.19	5	<0.01	0.30	5	1.00
Other ethnicity-related nominee outcomes	91.66	5	<0.01	0.40	5	1.00