NBER WORKING PAPER SERIES

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Working Paper 26160
http://www.nber.org/papers/w26160

NATIONAL BUREAU OF ECONOMIC RESEARCH
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August 2019

Corresponding author: 655 Knight Way, Stanford CA 94305, +1 (650) 725-2167. We thank the All People's Congress, the Sierra Leone People's Party, Search for Common Ground, the Political Parties Registration Commission, and the National Electoral Commission of Sierra Leone for their collaboration. We thank Chiara Amato, Abdulai Bah, Arthur Baker, Tom Bangura, Chris Boyer, Fatu Conteh, Arja Dayal, Linda Gassama (in memoriam), Yuen Ho, Fatoma Momoh, Alfred Rasheed, Andrés Rodríguez, Marcos Salgado, Rosemarie Sandino, Osman Siddiqi, Korinayo Thompson, and the entire Innovations for Poverty Action team in Freetown for excellent research assistance and fieldwork. We are especially indebted to Rachel Glennerster for her comments and support, as well as to Dave Baron, David Broockman, Steve Callander, Fred Finan, Emmanuel Gaima, Pedro Gardete, Guido Imbens, Saum Jha, Alhassan Kanu, Eddie Lazear, Herbert M'cleod, Ben Olken and Stephan Seiler for insightful feedback. We gratefully acknowledge financial support from the Economic Development Initiative funded by UK Aid, the Governance Initiative at J-PAL, and the International Growth Centre. All errors are our own. This study was pre-registered on the AEA registry of randomized controlled trials, where our entry can be found here: https://www.socialscienceregistry.org/trials/2485/history/23509. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 26160
August 2019, Revised January 2020
JEL No. D72,H1,P16

ABSTRACT

Are ordinary citizens or political party leaders better positioned to select candidates? While the American primary system lets citizens choose, most democracies rely instead on party officials to appoint or nominate candidates. The consequences of these distinct design choices are unclear: while officials are often better informed about candidate qualifications, they may value traits—like party loyalty or willingness to pay for the nomination—at odds with identifying the best performer. We partnered with both major political parties in Sierra Leone to experimentally vary how much say voters have in selecting Parliamentary candidates. Estimates suggest that more democratic procedures increase the likelihood that parties select voters' most preferred candidates and favor candidates with stronger records of public goods provision.

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I. Introduction

The competence and integrity of political leaders is a key determinant of government performance. James Madison went so far as to argue that the primary objective of any political constitution ought to be leadership selection, specifically to yield rulers with the wisdom and virtue to best pursue the common good (1788). And yet despite the importance of selection becoming ever more apparent, Besley (2005) writes that much of the modern political economy literature "has not only neglected the problem of political selection, it has been positively hostile to the topic" (p. 44).[1]

One critical component of selection is how political parties choose candidates. In most countries, this is by appointment or nomination by party elites. This contrasts sharply with the direct vote primary system in the United States, which devolves control to ordinary citizens. The divergence raises questions about which selection method works better, and what the consequences of voter versus party leader control might be for the overall electoral system.

How much say citizens versus party elites have in selecting candidates could be consequential for two main reasons: they may have access to different information sets, or hold divergent preferences. On the first point, if voters are poorly informed about politics, giving them control straightforwardly delivers representation—i.e. citizens get their most preferred candidate—but it may come at the cost of selection on quality. If severe enough, voters would be better off delegating the choice to party elites, who use their superior information and expertise to screen candidates' on their technical merits and identify the best performers. This is the primary skeptic view.

The countervailing concern is that elite choices may diverge from voter preferences. This happens, for instance, if elites' political preferences are shaped by their privileged status, or they value candidate traits unrelated to performance in office (like party loyalty or willingness to pay for the nomination). And fundamentally, if no primary is held, party elites may have little idea what voter preferences are, leading the selections of even the best intentioned party delegates away from what voters are looking for in candidates.

There is scant evidence about how these tradeoffs between a poorly informed citizenry and a potentially misaligned political elite are resolved in practice, and what their implications are for representation and the quality of selected candidates. Empirical progress on this front has been

[1] We review the more recent literature on political selection below.

constrained by the fact that political parties are generally loathe to vary how they choose candidates for anything but purely strategic (and thus endogenous) reasons.

This paper overcomes this identification challenge by partnering with both major political parties in Sierra Leone on a novel experiment that varied how much say registered voters, as compared to party officials, have in selecting candidates for the 2018 Parliamentary elections. In the status quo, parties chose among potential candidates, referred to as "aspirants," in a given constituency via recommendations from party officials at various levels, with no direct participation by voters. For a randomly selected subset of races, the parties implemented a new selection method with two components: i) a party convention where aspirants presented their qualifications to party officials and local residents, and engaged in informative policy-oriented debate that was broadcast over radio; followed by ii) opinion polling, representative of all registered voters in the constituency, that elicited and aggregated voter preferences over aspirants, which was shared with party officials via a one page report. Neither component is binding on the party's ultimate choice of candidate, and both are best characterized as alleviating information constraints. Yet note that if party officials followed the voter reports in all cases (which they did not), the intervention approximates a direct vote primary with mandatory turnout.[2]

The research team randomly assigned the intervention for each party independently, with 23 treated and 23 control races (for a total sample of 92 party-races nationwide); implemented the opinion polls; and collected rich data from voters, aspirants and party officials in both treated and control races. A well-known media group worked with the parties to moderate the party conventions and put them on the radio. We use the data to first characterize candidate selection in the status quo, and then estimate causal effects of the new selection method on key outcomes of interest, focused on representation and its relationship to selection on quality.

We find evidence that the status quo method of delegating candidate selection to party officials distorts choices away from voter preferences. This impedes representation, as defined as the candidate chosen to run in the general election being the aspirant who ranks first among voters. In control races, party officials selected the voters' first choice aspirant only 39 percent of the time. This rate increases to 63 percent with treatment, a large and highly statistically significant effect. Back of the envelope calculations suggest that this positive representation effect corresponds to

[2] The leap from voluntary to mandatory turnout is not unreasonable in this setting, as voluntary turnout reached 87% in the general election studied. Turnout could, of course, be lower or more selective in the primary stage.

party officials choosing a different candidate than they would have otherwise in 11 races, and thereby changing the identity of 6 elected Members of Parliament (i.e. those from the half of treated races located in regional strongholds where the party was likely to win the general election).

To explore whether the status quo distortion is driven by a conflict in preferences, we identify which aspirant characteristics predict their popularity among voters, and compare these to the traits that make them popular among constituency-level party officials. We find little evidence of conflict: both voters and party officials prefer aspirants with a stronger record of having previously provided local public goods, and those who are more conscientious. The former is measured by the aspirant's involvement in development-oriented projects, like small scale public infrastructure (constructing a bridge or community center), support to education (rehabilitating classrooms) and agriculture (procuring farm tools and tractors) over the past three years. The latter is measured by a behavioral indicator of how carefully the aspirant handled a financial reimbursement for transport expenses (described in detail in Section VI.A.).

Given the lack of strong preference divergence, what else might explain why party officials often fail to select the most popular candidate in the status quo? The data point strongly to information constraints, which are pervasive in poor countries where transport and communication costs are high. They are arguably important in rich countries as well, where local party leaders and representatives in the U.S. have been shown to hold inaccurate views of public opinion (Butler and Nickerson 2011, Broockman et al. 2019). In Sierra Leone, constituency-level party officials presume local voters share their first choice over aspirants in 90 percent of races, when voters in fact only agree with them in 56 percent; and in a third of races, not a single party official (among multiple surveyed per race) accurately guessed which aspirant ranked first among voters. Their responsiveness to the voter reports reveals the usefulness of the primary stage in informing party officials about voter preferences.

Did the documented increase in representation come at the expense of selection on quality? To answer this, we compare the characteristics of candidates ultimately sent to the general election across treatment and control races. Experimental estimates suggest that the more democratic method led to the selection of candidates with stronger public goods records, meaning that aspirants who had provided more development projects in the past were more likely to be chosen to advance to the general election. To the extent that past provision predicts future provision, this is a cautiously optimistic result. Estimates for conscientiousness are directionally similar but

imprecise. Voter learning from the conventions and radio broadcasts likely aided these positive results, as the data show that voters in treatment races were substantially better informed about aspirant qualifications compared to voters in control races. Our headline results thus demonstrate scope for party officials to incorporate the preferences of voters—even those who are very poor and lack formal education—in a way that facilitates representation without compromising the quality of selected candidates.

We can largely rule out two alternative channels—aspirant entry and financial contributions—as drivers of the observed empirical patterns. First, differential aspirant entry into treated races is unlikely to explain our estimated treatment effects, as we find little evidence that advance announcement of the initiative, which was only partially implemented, induced entry. Second, financial contributions to secure the nomination appear unlikely to explain distortions away from voter preferences in either control or treatment races. Average aspirant contributions (in official application fees and unofficial payments) amount to an unadjusted mean of $2,488, which is equivalent to 1.3 months of an MP's salary and 34 times the monthly minimum wage (data we elicited via survey). While this presents a substantial barrier to entry, the data are not consistent with some of the more nefarious interpretations of these payments, like seats being sold to the highest bidder[3] or used as a means to override the voter reports. Empirical patterns are instead more consistent with contributions being tied to the expected returns to candidacy.

Our analysis contributes to the relatively new literature on political selection (see Dal Bó and Finan 2018 for review). There is emerging consensus that higher returns to holding office (Ferraz and Finan 2011, Gagliarducci and Nannicini 2013, Fisman et al. 2015) and greater political competition (Galasso and Nannicini 2011, De Paola and Scoppa 2011, Dal Bó et al 2017) facilitate positive selection.[4] Much less is known about the influence of party leaders on selection, and the two most related studies provide contrasting results. Dal Bó et al (2017) point to the role of party leaders in making merit-based promotions (among other factors) in contributing to Sweden's "inclusive meritocracy," one characterized by positive candidate selection on competence across the socioeconomic spectrum. By contrast, Besley et al (2017) use the same data and find that party officials have incentives to select competent candidates, but only to the extent that they do not

[3] This concern is not limited to new or weak democracies, as the (now former) Illinois Governor's attempt to sell President Obama's vacated Senate seat attests (see Davey and Healy 2008).
[4] Noting the caveat that higher illicit (as opposed to official) returns may have the opposite effect (Brollo et al 2013).

pose an internal leadership threat, a tension that induces lower competence leaders to field lower competence candidates. Mattozzi and Merlo (2007) come to a similar conclusion, modeling party recruitment of candidates as a rent maximization opportunity that promotes "mediocracy."

Historically, skepticism about the role party elites play in candidate selection was a key driver of the Progressive movement to adopt direct vote primaries in the U.S. Hirano and Snyder (2019) describe the appeal of primaries as "a straightforward reform that would limit the ability of political and economic elites to manipulate and profit from the nomination process" (p. 15). They find evidence via difference-in-differences analysis that primaries promote the selection of competent candidates in safe, open seats (Hirano and Snyder 2014, 2019). This idea is supported by theoretical work arguing that primaries produce higher quality candidates, defining quality as campaign skill (Adams and Merrill 2008), but potentially at the cost of ideological extremity (Serra 2011). More broadly, other models suggest that primaries regulate internal competition to induce greater effort developing policy (Caillaud and Tirole 2002) and promote the provision of public goods over private transfers (Ting et al 2018). In developing countries, Carey and Polga-Hecimovich (2006) and Ichino and Nathan (2013) investigate the impact of primaries on general election vote shares, but do not look at candidate selection. We follow the pioneering approach of Wantchekon (2003) in working with political party leaders on a randomized controlled trial.

Our paper brings these two literatures on political selection and primaries together by measuring what happens to representation and candidate quality when voters, as compared to party leaders, are afforded more say in selecting candidates. Treating primaries as a mechanism to alleviate information constraints distinguishes our approach from much of the literature. While Adams and Merrill (2008), Folke et al (2016) and Gulzar et al (2019) share our view of primaries as a way for party leaders to learn about aspirant popularity, our results go further by showing that they deliver additional information about candidate attributes (i) to voters (as in Hirano et al 2014), and (ii) from voters to party officials, both of which, importantly, appear to aid selection on quality. Overall, our results suggest that the more democratic selection method creates value for voters, in that they are more likely to get their preferred candidates, who have stronger public goods records.

The rest of this paper is organized as follows. Section II discusses variation in candidate selection processes around the world and introduces a simple framework to structure the analysis. Section III details the experimental design and interventions. Sections IV through VII analyze key tradeoffs in the status quo, and estimate how they are impacted by the new selection mechanism,

focusing on representation, preference divergence, and selection on quality. Section VIII explores alternative mechanisms related to aspirant entry and contributions. Section IX concludes.

II. Candidate Selection in Perspective

II.A. Empirical Variation

There is substantial variation across country and over time in how political parties select candidates. To provide a sense of the dispersion in the relative control of party officials versus voters, consider first the case of France: central party leaders historically chose all candidates and allocated them across space to populate sub-national races (Valen et al 1988). Parties in the United Kingdom have traditionally used a more decentralized approach, where the Labour party for instance delegates candidate selection to constituency-level party members. Historically, relatively high barriers to membership—via financial dues and time requirements—have meant that this group is quite narrow: data from the 1980's suggests that on average 40 Labour Party members chose the candidate on behalf of some 70,000 constituents (Bochel and Denver 1983).

The U.S. anchors the other end of the spectrum, where all states now use some form of direct primary. Yet the direct vote phenomenon is relatively new: most states adopted mandatory primary laws between 1900 and 1920, with additional uptake staggered over subsequent decades (Hirano and Snyder 2019, p. 23). At the Presidential level, the outcome of state-level primaries in determining each party's candidate only began to bind after the contentious 1968 Democratic convention in Chicago. More recently, the 2016 Presidential race divided the two major parties over whether there is now "too little" or "too much" democracy. On one side, members of the Democratic National Convention increased voter control by circumscribing the role of so-called "superdelegates," or party elites not beholden to vote the way the primaries went in their respective states (Levy 2018). Across the aisle, some troubled by the prospect of Donald Trump's candidacy called for a return to the historically stronger role for party elites as gatekeepers of the nominating process, and as a check on the excesses of "hyperdemocracy" (Sullivan 2016). Globally, the demand for direct vote primaries is on the rise: primaries are becoming popular in Latin America (Carey and Polga-Hecimovich 2006); and for the first time in French history, both major political parties held direct vote primaries to select their Presidential candidates in 2016 (Briançon 2016).

The consequences of these disparate design choices on the performance of the electoral system in delivering high quality, representative candidates and elected politicians are poorly

researched. This study is designed to address this gap. We explore selection of Parliamentary candidates in Sierra Leone, which in the status quo shares features of the traditional British and French approaches and is similar to many selection processes across Sub-Saharan Africa. Both major parties rely on the recommendations of party officials at various levels, beginning with constituency-level officials, and neither party has a clear mechanism in place to capture the preferences of voters or rank-and-file party members. The experimental treatment we evaluate—conventions combined with polling—moves candidate selection in the direction of an American-style process, by increasing the amount of say that ordinary voters have in selecting candidates, without getting all the way to a binding direct vote primary that currently reigns in the U.S.

II.B. Conceptual Framework

There is no model in the literature that speaks directly to how a shift from party leader control to a process that gives more voice to voters affects candidate selection. A simple framework is thus useful to define key concepts, illuminate tradeoffs between poorly informed voters and potentially misaligned elites, and frame the experiment studied with respect to information constraints.

Set up: Suppose each jurisdiction has a single representative voter and a party official, either of whom could select one candidate from a finite pool of aspirants. Aspirants are heterogeneous in quality, which is a vector of universally valued traits (like ability, integrity) and match-specific traits associated with the jurisdiction (fluency in local languages, knowledge of local priorities). Quality traits contribute positively to a single dimension of performance in office. To fix ideas, define performance as the local population's valuation of the bundle of public goods the candidate will produce if elected, which is a function of two traits: competence, or the volume of goods produced from a fixed public budget; and alignment, where local voters value a school more than a clinic if there are few schools and many clinics nearby, or if they prefer education over health. There is a third factor (such as party loyalty or willingness to pay for the nomination) that does not directly contribute to performance but is potentially correlated with quality.

Information: As is standard in principal agent models (see for example Banks and Sundaram 1993, Fearon 1999), aspirants have private information about their type, meaning that both the voter and party official select under information constraints. We focus on the intuitive case where the voter is relatively better informed about local alignment, and the party official relatively better informed about competence.

Outcomes: We are interested in how allocating more say to the voter as compared to the party official affects two outcomes: i) representation, defined as the likelihood that the selected candidate is the voter's first choice, where her choice is conditioned on her information set; and ii) selection on quality, which is the expected performance (value of public goods produced) of the candidate selected. We seek to understand when improvements in representation come with consequences (positive or negative) for selection on quality, and the role of a non-binding information treatment in this process.

Preference divergence: A standard concern about the status quo of delegating the choice solely to the party official is that only the official values the third factor (call it party loyalty). He thus maximizes a combination of loyalty and quality that at times selects a loyal aspirant over a more competent one. If the voter and party official's information sets are similar, then giving the voter more say straightforwardly enhances both representation and selection on quality. This was a key argument made by Progressive reformers in the U.S. All else equal, however, the extent to which preference divergence compromises selection depends on the correlation between loyalty and quality: if sufficiently negative, the effects could be pernicious; however if sufficiently positive, it could be of little consequence.

Screening: A countervailing concern is that the voter is at an absolute screening disadvantage compared to the party official. This could be the case if her information set is strictly worse, or if the trait she can observe (alignment) has a lower marginal product with respect to performance. If so, then giving the voter more voice could increase representation (she gets her most preferred aspirant), but at the cost of selection on quality (if she had the party official's information on competence, she would have chosen a different aspirant to maximize performance).

Experimental treatment: Under this framework, the intervention studied can be interpreted as alleviating information constraints: i) the conventions reveal information about competence to the party official and the voter (via radio), enhancing both of their ability to select on it; and ii) the opinion polling delivers the voter's information about alignment to the party official, enhancing his ability to select on it. As the polling data is delivered with free disposal, the party official retains control. While we do not have sharp predictions to take to the data, it seems plausible that under a reasonable set of parameters this treatment would: i) increase representation, but not to 100 percent, as the party official will deviate from the voter's first choice either to increase performance or for a more loyal aspirant; and ii) enhance selection on quality, via both the

competence and alignment channels, and hence increase expected performance.

Other considerations: This simple framework abstracts away from aspirant entry, which is a key driver in the models of Dal Bó and Finan (2018) and Hirano and Snyder (2019). As entry is largely shut down in our context, we focus on how information and preferences affect the choice of the voter versus the party official, conditional on the aspirant pool. There is also a vast literature in political science about the interaction between primaries and ideology. As the political parties in Sierra Leone are not strongly differentiated by ideology, it allows us to better isolate factors that contribute to selection on quality. It is worth noting that the lack of strong ideological labeling is not unique to Sierra Leone: Cruz et al (2016) compile data on parties in 179 countries and find that roughly half are "non-programmatic," which means they cannot be classified on a left, center, right scale or other metric of economic policy.[5]

III. Experimental Design

This study explores how political parties in Sierra Leone chose candidates to compete in the 2018 Parliamentary elections. Parliament consists of 132 single-member jurisdictions, won by plurality, and the general election of interest was declared largely free and fair by domestic and international observers.[6]

Status quo selection in Sierra Leone is guided by the country's Constitution,[7] which specifies eligibility requirements for becoming a Member of Parliament (MP), and the parties' own constitutions and regulations, which outline their internal procedures. In principle, both major parties begin the process with constituency-level executives screening candidates. These officials make recommendations to district- or regional-level executives, who in turn make recommendations to national executives, who have the final say. For the Sierra Leone People's Party (SLPP), the first, most local, step in this chain involves selection by three to ten constituency-level officials, compared to an average of 24,000 registered voters per constituency. When multiple aspirants are under consideration, this group is meant to vote among themselves to determine which aspirant to recommend upward. The All People's Congress (APC) party takes a more centralized approach. Its constitution enshrines the right to "elect or select" all candidates,

[5] In 2015 data, 54% of parties are non-programmatic (authors' calculation). See also Cruz and Keefer 2015 (p. 1949).
[6] See, for example, the report of the European Union Election Observation Mission, available at: https://eeas.europa.eu/sites/eeas/files/eu_eom_sl_2018_final_report_4.pdf
[7] See the Constitution of Sierra Leone (1991) available at http://www.sierra-leone.org/Laws/constitution1991.pdf.

for all levels of office, and mandates that the party's National Advisory Committee approve all candidates. Neither party has a mechanism to systematically elicit or aggregate voter preferences.

For a randomly selected subset of races, the parties experimented with a new selection mechanism that had two components, implemented in tandem at the constituency-party level: i) a town hall-style party convention, broadcast over local radio; and ii) representative opinion polling of registered voters, aggregated into one page reports and shared with party officials. The offer to participate in the initiative and associated research was managed by the Political Parties Registration Commission (PPRC) of Sierra Leone, which has the constitutional mandate to register, supervise, and monitor the conduct of parties. Its remit includes monitoring the accountability of parties to their members and the broader electorate.[8] The PPRC extended the offer to participate to all registered parties, whose leadership decided whether or not to opt in.

The parties, the PPRC, the research team, and a civil society group called Search for Common Ground (SFCG) worked together to design and implement the two-pronged initiative. SFCG produces programs to promote transparency and accountability around the political process, providing neutral and reliable content through a broad network of local radio and television broadcasters. It played a leading role in coordinating broader civil society efforts to support the 2018 (and previous) elections.[9]

III.A. Party Conventions

The first component of treatment, a constituency-level party convention, provides an opportunity for aspirants to present their qualifications and debate each other on policy issues in front of an audience of party officials, rank-and-file party members, and local residents. These town-hall style gatherings typically began with a moderator, trained by SFCG, introducing the aspirants to the audience, and then posing a series of policy questions. Standard questions included: i) explain who you are and what qualifies you to be a good MP; ii) how would you spend the constituency facilitation fund, a pot of public money given annually to each elected MP; and iii) what makes you a good representative of local people, including how you would know what local people want and how you would represent their interests in Parliament?[10] Additional questions followed,

[8] For more information, see https://www.pprcsierraleone.org/.
[9] For more information, see https://www.sfcg.org/sierra-leone.
[10] Moderators gave each aspirant 2 minutes to respond to each question, alternating who spoke first across questions.

tailored to the local area, covering topics such as how to deal with local power supply constraints and allocating mining royalties. Shortly after each convention finished, SFCG delivered audio recordings of the event to independent local radio stations that re-broadcast the convention multiple times over subsequent days.

While the conventions were open to all interested party officials, a core set of three standard constituency-level positions—the party's constituency chair, secretary and treasurer—were explicitly encouraged to attend their respective convention. SFCG also publicized these events to local residents via radio jingles and community visits, encouraging them to attend the town hall or listen to the broadcasts. The data collection team further provided 25 voters per constituency with advance notice of the events via survey (see V1 survey described below). In post-convention surveys, 26 percent of voters in treatment areas reported having attended the town hall or listened to a broadcast. These rates are higher for those notified in advance (46 versus 21 percent).

III.B. Voter Reports

A few days after the conventions and associated radio broadcasts, the research team fielded an opinion poll of registered voters in the constituency, visiting voters in-person at their residence. We sampled individuals from the official registry of voters maintained by the National Electoral Commission (NEC), which includes names, demographics and home address. To ensure representation, we first randomly selected 10 voter registration centers (or 40 percent) per constituency, and then randomly selected ten voters per center, stratifying on age and gender. The respondent contact rate was high: on average, 94 voters were surveyed per constituency, where 67 percent of those polled were the target respondent, 20 percent were the first replacement, and 13 percent were the second replacement.[11] These surveys are thus substantially more representative than the telephone polls commonly conducted in the U.S. where, for example, the Gallup poll currently has a survey response rate of 7 percent (Marken 2018).

The research team aggregated this opinion poll data, weighted by demographics, into one page voter reports that displayed the share of votes each of the party's aspirants received among poll respondents in the constituency (see example in Appendix Figure A1). The top of the report read as follows: "The first choice of voters in this constituency for the [*party*] MP symbol[12] is:

[11] Each target respondent was accompanied by two potential replacements from the same demographic bin.
[12] In local parlance, "award the party symbol" means select the candidate to proceed to the general election.

[*name of top ranked aspirant*] who has [*X*]% of the popular vote. This is based on polling results from a representative sample of [*N*] registered voters living near 10 different polling centers in this constituency." The report includes two bar charts showing the vote shares each aspirant received, first among all voters surveyed, and second for self-reported party supporters only. Due to strong geographic sorting by partisan affiliation, these two tabulations rarely identified a different frontrunner. For analysis, we focus on the former. The two parties diverged in how many copies of these reports they requested printed: the research team delivered over two hundred copies to the SLPP for distribution to all affected constituency-, district- and national-level executives; and delivered 25 reports to national executives of the APC.

III.C. Treatment Assignment

For each party that responded positively to the initial invitation to participate, the PPRC asked its national leaders for a list of 46 constituencies from the universe of 132 nationwide where they were willing to experiment with the new candidate selection mechanism. The research team then randomly assigned, via computer program, half of each party's constituency list to treatment and half to control, stratifying by small geographic bins. For the two major parties, this generates an experimental sample of 92 party-races.[13] As the two parties occasionally picked the same constituency for inclusion, these 92 party-race observations cover 80 unique constituencies.

Figure 1 presents an overview of the random assignment and implementation timeline.[14] The conventions launched in mid-November 2017 and all were completed and voter reports delivered before the parties submitted their official list of candidates to NEC in early January 2018. Final outcomes of interest relate to which aspirants were registered with NEC to represent their party as candidates in the March 2018 Parliamentary elections.

While the original implementation plan further included advance announcement of which races would use the new selection method, this was only partially implemented (and is thus bracketed in Figure 1). This is for two reasons: i) the country's constitution stipulates that MP candidates in public employment (including teachers) must vacate their post a year before the

[13] In addition to the two major political parties, three minor, or "emerging," parties expressed interest in participating, however did not have any races with more than one aspirant under consideration, so did not proceed to the implementation stage. One more expressed interest after the implementation window had closed.

[14] To protect the anonymity of research participations, Panels A and B mask locations and show arbitrary assignments using the old 2007 constituency boundaries (the boundaries were redrawn before the 2018 election).

election, and this initiative launched too late to affect the entry decisions of those potential aspirants; and ii) only one of the two participating parties did any advance announcement (the SLPP publicized the list of treated races and what treatment entailed two months before the conventions). We thus consider the entry channel largely shut down in this context (see Section VIII.A. for treatment effect estimates), however expect that it could be consequential in other settings.

Data collection was implemented in parallel for both treatment and control constituencies, and included pre- and post-convention surveys of voters (labeled V1 and V2, respectively), aspirants (A1 and A2), and party officials (P1 and P2). Data collection rolled out sequentially across stratification bins and treatment assignment, which is important since the information environment was evolving over time in all races. On average there were 11 days between the pre- and post-convention voter surveys. The only exception to the symmetry of data collection is that P2 was not collected in controls, as it was socially awkward for enumerators to ask party officials an identical set of questions a few days apart, when no observable event had occurred in the interim (P2 is for descriptive purposes only and no outcomes depend on P2 data). See summary statistics in Table 1 (discussed further in Section IV.A.).

Voter reports were compiled based on post-convention (V2) polling data, the sampling of which is described above. Respondents in the pre-convention (V1) survey are a subset of the voters targeted for V2: specifically, V1 covered 25 voters registered to 3 of the 10 sampled registration centers in V2. For party official surveys (P1 and P2), enumerators surveyed those holding the same standard constituency-level positions (constituency chair, secretary and treasurer) who were encouraged to attend the conventions. These respondents were replaced as necessary with holders of similar constituency positions (e.g. deputy constituency chair) or higher level party officials (e.g. district chair). Overall, 81 percent of officials surveyed hold constituency-level positions, 6 percent hold district-level positions, and 13 percent hold other positions.

IV. Characterizing Selection in the Status Quo

This section uses the data to explore three aspects of candidate selection in the status quo: i) who self-selects into politics; ii) which types of races party leaders chose to include in the experimental sample; and iii) how frequently voters get their most preferred candidates in control races where selection is fully delegated to party officials.

IV.A. Self-selection into Politics

Comparing the characteristics of voters, party officials and aspirants reveals strong positive self-selection into politics on education and wealth. It further suggests that tradeoffs emphasized in the conceptual framework between a poorly informed electorate and a potentially misaligned political elite could be relevant in Sierra Leone.

Table 1 shows that voters (in the V2 survey) have on average completed 5 years of education, 43 percent of them have no formal schooling, and only 4 percent have been to university. Aspirants, by contrast, have completed over 15 years of education, none lack formal schooling, and 80 percent have been to university. Party officials sit in between the two, with 12 years of education, 5 percent without schooling, and 34 percent with some university. Such pronounced selection on education suggests that party officials might be better able than voters to screen aspirants on their technical merits. As a concrete example, the first formal step for aspirants is to file an application with the party, which covers items like eligibility requirements and their standing in the party. Most voters would find it difficult to read the aspirants' applications, or review their curriculum vitae (even if they were publicly available), while party officials will both be able to read the documents and use their knowledge of government to assess which qualifications are important for carrying out the duties of Parliament.[15]

The countervailing concern is that the socioeconomic divide between voters and party officials will lead the latter to select candidates who are not aligned with voter interests. This would obtain under a citizen candidate model (Osborne and Slivinski 1996, Besley and Coate 1997), for example, if the elite status of party officials and candidates shapes their policy preferences away from those of voters. Inequities apparent in proxies for wealth lend some credence to this concern: voters on average own fewer than 3 assets from a list of 11 household items (e.g. mobile phone, radio) and only 11 percent have a formal bank account. Aspirants, by contrast, on average own 9.5 of these assets and nearly all of them (98 percent) have an account. Party officials again fall in between: they on average own 6 assets and 77 percent have an account. As to demographics, politics is a male-dominated activity: 80 percent of party officials and 90 percent of aspirants are male, compared to 47 percent of registered voters. Politicians are roughly ten years older (46 for party officials and 48 for aspirants) than voters (37 years). These summary statistics make it unclear *ex ante* whether voters or party officials are better positioned to select

[15] As a point of reference, 33 percent of voters (in the V1 survey) could not name a single MP job responsibility.

candidates, and point to potential tensions between representation and selection on quality.

IV.B. Where Parties Chose to Experiment

Recall that participating parties selected 46 races from 132 Parliamentary constituencies nationwide for inclusion in the research sample and thus the lottery that assigned the initiative. It is instructive to classify their choices with respect to how competitive the general election is likely to be, which can be done using census data on constituency-level ethnic composition.

As background, the APC is historically associated with ethnic groups in the north of the country, including the Temne, and the SLPP is historically tied to groups in the south, including the Mende (Kandeh 1992). While national politics is quite competitive—as these two respective groupings are comparable in overall population size—geographic sorting means that most sub-national jurisdictions are not, as they are located inside one of the two party's regional strongholds. Figure 2 maps these allegiances. For each constituency, we compute the difference in population shares of ethnic groups historically associated with the APC versus the SLPP. The darkest red shading indicates a constituency populated almost entirely by APC-affiliated groups, and the darkest green indicates one populated wholly by SLPP-affiliated groups. To demonstrate how strong these allegiances are, regression analysis shows that differences in ethnic population shares explain 92 percent of the variation in the two party vote for the 2007 Parliamentary elections.[16]

Thus for the majority of subnational races, the locally dominant party's candidate is delivered on the strength of ethnicity-based ties by a large margin. This underscores the importance of internal party selection, as the process the party uses to choose a candidate effectively determines the identity of the elected MP. Note that strongholds are not unique to Sierra Leone, nor a curiosity of the developing world: Hirano and Snyder (2014) calculate that a minority (44 percent) of U.S. House of Representatives races from 1952 to 2010 were decided by fewer than 15 percentage points, which is a fairly lax standard for competitiveness.[17,18]

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[16] Specifically, we regress the constituency-level difference in vote shares for the APC minus the SLPP Parliamentary candidate on the population share of APC-affiliated ethnic groups minus the population share of SLPP-affiliated groups (as displayed in Figure 2). This yields an R^2 of 0.92. The estimated coefficient on the ethnicity-based measure is, as expected, positive, large in magnitude (0.76), and precisely estimated (standard error 0.02).

[17] Caste loyalties create strongholds in India, where the literature is mixed as to whether this facilitates (Munshi and Rosenzweig 2016) or hinders (Banerjee and Pande 2009) selection on quality for the locally dominant caste.

[18] As another benchmark, the average constituency in Sierra Leone has the same partisan leaning as the 18th Congressional district in California, which contains Palo Alto. This is based on 2018 U.S. House Elections and 2007 Parliamentary Elections in Sierra Leone (pooling votes for the SLPP splinter party, the PMDC, with the SLPP vote).

These stronghold races are the ones where party leaders were most interested in piloting the new selection initiative. Table 2 Panel A shows that while 36 percent of races nationwide are expected to be safe for a given party, safe seats compose 52 percent of the experimental sample, reflecting statistically distinct positive selection by party leaders.[19] Parties demonstrate neutral selection for swing seats: the proportion in the experimental sample is not statistically distinct from that nationwide (30 versus 28 percent). This leaves strong negative selection out of weak seats, which constitute only 17 percent of the sample, and suggests that parties did not see much value in experimenting with selection where they were likely to lose the general election. This first stage of selective inclusion is important for interpreting our experimental results: they are representative of races where party leaders were willing to experiment, where the modal race is in the party's respective stronghold. It further suggests that parties did not view the initiative primarily as a way to garner general election votes, as they were near guaranteed to win these races.

IV.C. Status Quo Distortion

We can use the polling data from control group races to assess how frequently the status quo model of delegating candidate selection to party officials gives voters their most preferred candidates.

The data reveal that this baseline rate is low: in the control group, the two political parties selected the aspirant who ranked first among local voters in 34.8 and 43.5 percent of races, respectively. Pooled together, this suggests that in the status quo voters get their most preferred candidate to represent them in the general election only 39 percent of the time, which constitutes a clear and sizeable distortion away from voter preferences. This distortion is particularly important in light of the fact that most of these races are located in party strongholds, as it means that party officials are not only picking candidates—but effectively future Members of Parliament—who diverge from voter preferences.

V. Treatment Effects on Representation

The first prediction from the conceptual framework is that the new selection mechanism will reduce the status quo distortion away from voter preferences and thereby enhance representation, as defined as whether or not the selected candidate is the aspirant who ranks first among local

[19] We double over the map to accommodate both parties simultaneously, and classify competitiveness at the district level (the next higher administrative unit) since constituency boundaries were redrawn for this election.

voters. This section evaluates this hypothesis.

V.A. Econometric Specification

To capture how the new candidate selection mechanism affects representation, we estimate:

$$Y_{ipc} = \beta + \beta_T T_{pc} + \boldsymbol{\tau}_{pc} + \varepsilon_{icp} \quad (1)$$

where outcome Y is an indicator variable equal to one if candidate i that represented party p in the general election for constituency c ranked first among a plurality of voters in the V2 opinion polls; treatment indicator T signals assignment to the more democratic selection model, which recall was assigned at the party-constituency level; $\boldsymbol{\tau}$ are fixed effects for 26 party-region strata used in the random assignments; and ε is an idiosyncratic error.[20] We estimate intention-to-treat effects, where the parties complied with treatment in 43 of 46 races (93.5 percent) and there was no non-compliance in controls (generating a scaling factor of 1.07 for treatment-on-the-treated estimates). In our view, this high rate of compliance is quite extraordinary and attests to the willingness of the political parties to experiment at the frontier of democratic practice.

V.B. Treatment Effect Estimates

The new selection mechanism has a large positive impact on representation: the estimated treatment effect on selecting the voters' first choice aspirant is 23.9 percentage points, standard error 10.6 (first panel of Table 3). On a base rate of 39.1 percent in control races, this effect corresponds to a 61 percent increase in representation (as we have defined it), which is materially substantive and statistically distinct from zero at the 95 percent confidence level. To put this in perspective, it suggests that parties responded to the information provided via the conventions and voter reports by picking a different candidate than they would have otherwise for 11 races (i.e. 0.239*46 treatment group races). As 52 percent of the experimental sample is located in ethnic strongholds where the target party is likely to win the general election, this further implies that party officials thereby likely changed the identity of 6 elected MPs. Column 2 finds little evidence for heterogeneous treatment effects by party: the coefficient on the interaction between treatment and ruling party is not statistically different from zero.[21] As we also find little evidence for

[20] Selected candidates are those listed in the NEC official candidate registration data. Voter preferences are from V2 polling data, see Section VII.C. for estimates using V1 polling data, which are quite similar.

[21] At the launch of the experiment the APC was the ruling party, however this changed when the SLPP won the Presidency in the general election studied.

heterogeneity by party for other outcomes, we focus on pooled estimates in all following tables.

V.C. Heterogeneity in the Representation Effect

The treatment effect on representation is wholly concentrated in safe and weak seats, where competition in the general election was expected to be low. To see this, Table 2 Panel B reports the baseline rate of selecting the voters' preferred aspirant in each type of race (safe, swing and weak seats); the difference in these rates across treatment assignment; and the associated *p*-value that the difference is equal to zero. It is evident that the treatment effect on representation is driven by responsiveness in safe and weak seats, where representation increases by 29 and 50 percentage points, respectively. There is no apparent response to treatment for swing seats, where the likelihood of selecting voters' preferred aspirant is 50 percent in both treated and control races.

Estimates from an analogous regression, which further includes the randomization strata, are comparable. Appendix Table A1 shows that the treatment effect in non-competitive general election races (safe pooled with weak seats) is a highly significant 34.4 percentage points (standard error 11.7). The coefficient on the interaction between treatment and swing seat is an equally sized negative term (-34.4, standard error 24.5), however falls below the 90 percent confidence level (*p*-value = 0.17). In interpreting these results, note that the 50 percent baseline rate (e.g. for control races) in swing seats is substantially higher than that in safe (33 percent) and weak seat (38 percent) races. This pattern is consistent with the parties already investing more resources in determining who is locally popular for more competitive general election races.

V.D. Downstream Effects on General Election Vote Shares

Did this representation effect in the candidate selection stage lead to a downstream increase in the party's general election vote share? We find little evidence that it did: the estimated effect of the new selection method on the general election vote share of the targeted party is small in magnitude and imprecisely estimated (-0.48 percentage points, standard error 2.96 in Table 3 Panel B). Column 2 breaks this out by the level of competition, where we see that moving from a swing to safe seat increases a party's general election vote share on average by 28 percentage points. Moving from a swing to weak seat decreases this expected shared by 26 points. Both estimates are significant at 99 percent confidence. None of the estimated coefficients on treatment or its interactions with competitiveness are statistically distinct from zero.

This null result makes sense in light of the accumulated estimates thus far: Figure 2 reveals that the general election is strongly determined by ethnicity-party ties, limiting the scope for the candidate selection treatment to affect cross-party vote choices in the general election, at least for partisan strongholds. While there may be more scope for a downstream effect in swing areas, recall from Table 2 that there is no "first stage" of the experiment in swing races, as parties were already substantially more likely to pick the local favorite in the status quo and this does not vary with treatment.

The null result further aligns with historical evidence regarding the introduction of direct vote primaries in the U.S.: while Ware (2002) suggests that incumbent party elites expected an electoral benefit, Hirano and Snyder (2019, p. 37) find no evidence that primaries affected the general election vote share of the advantaged party. This contrasts with contemporary evidence from other regions, where adopting primaries has been shown to boost general election prospects, at least for subgroups like "underdog" parties in Latin American Presidential races (Carey and Polga-Hecimovich 2006) and opposition parties in Ghanaian legislative elections (Ichino and Nathan 2013). Similarly, Gulzar et al (2019) show that party leaders in Nepal respond to polling data by changing which candidates they put forward onto a party ticket, which in turn increases their general election vote share. None of these latter papers investigate selection on quality.

VI. Preference Divergence

What causes the status quo distortion in representation: is it due to a conflict in preferences between voters and party leaders, or something else? To explore this question, this section evaluates which characteristics of aspirants appear to make them popular with voters, and compares them to the characteristics that make them popular with party officials.

VI.A. Data and Econometric Specifications

Analysis leverages rich data on aspirant characteristics collected during in-person interviews (via the A1 and A2 surveys). We organized survey questions into eight categories: i) professional qualifications, including education, incumbency and previous elected office experience; ii) wealth, including assets and reported income; iii) economic development record, including the number and value of local public goods the aspirant was involved in providing in the constituency over the previous three years; iv) cognitive ability, based on a series of election-oriented questions that

involve numeric computations; v) party loyalty, including history of membership and leadership positions; vi) public service motivation, using questions adapted from Perry (1996); vii) local networks, including membership in constituency-level social and occupational groups (e.g. saving clubs); and viii) campaign effort and expenditure during the primary stage. See Appendix Table A2 for complete variable list and summary statistics.

We complement this survey data with one measure of directly observed behavior designed to capture conscientiousness and attention to detail. Since field enumerators requested that aspirants meet them in the constituency headquarter town to conduct the interviews, they followed local practice and reimbursed aspirants a set fee to cover their travel expenses. After the survey, enumerators handed aspirants an envelope explaining that they were giving them 150,000 Leones (approximately US$20) to cover their travel costs and asked them to verify that the money was correct. Inside each envelope were eighteen, not fifteen, 10,000 Leone notes. The measure of conscientiousness is whether the aspirant detected and returned any of the extra three bills. As nearly all who gave back any money returned all three notes, we focus on the binary measure of whether any money was returned. Overall, 46 percent of aspirants returned some money.

Analysis identifies which of the many aspirant characteristics collected appear to be valued by voters, and whether these are the same traits that party officials value. To do so, we estimate variants of the linear model:

$$V_{ipc}^{s} = \alpha + \sum_{k=1}^{K} x_{ipc}^{k} \beta^{sk} + \boldsymbol{\tau}_{pc} + \nu_{ipc} \quad (2)$$

where V_{ipc}^{s} is the vote share aspirant i who is vying to represent party p in constituency c received in among selectors s, where $s \in \{v, o\}$ denotes voters and party officials, respectively; x^{k} is one of K aspirant traits collected in the data (like education or wealth); $\boldsymbol{\tau}$ contains the 26 party-region strata from Equation (1); and ν is an idiosyncratic error term. To identify which traits predict preferences, we test null hypotheses of the form $\hat{\beta}^{sk} = 0$, and to assess whether voters and party officials have common preferences over traits, we test $\hat{\beta}^{vk} = \hat{\beta}^{ok}$. Since the voter data was collected after the conventions and radio broadcasts (in V2), we estimate a second version of Equation (2) that includes interaction terms between treatment assignment and the vector of traits to capture whether voter learning about aspirant characteristics affects their rankings. For completeness, we present the same interaction model for party officials, noting that this data is pre-convention (collected via P1) so estimates for these terms should be null.

As we collected data on a large number of characteristics relative to a modestly sized

sample of aspirants (N = 370), candidate selection is a high dimensional problem. We respond to this challenge in two ways. First, we implement traditional approaches to reducing the number of statistical tests without culling any traits. We roll up the K characteristics into standardized indices for each of the eight survey areas outlined above (following Kling, Liebman and Katz 2007) and enter the indices, along with our single behavioral measure, into the unified regression of Equation (2). Second, we use regularized regression methods to select a subset of individual traits with the greatest predictive power (Zou and Hastie 2005). This affords flexibility in searching over all K traits (instead of eight indices) and retaining only those found to be relevant, which is useful since some of the measures collected are likely extraneous in practice, but *ex ante* we do not know which ones these are (see discussion in Belloni et al 2014). To stabilize estimates, we run the regularization technique with k-fold validation 200 times for voters and party officials, respectively, keeping track of the total number and which specific traits are selected in each iteration. We triangulate results across these two complementary approaches, gaining confidence if the distinct methods produce similar estimates.[22]

VI.B. Estimates of Preference Divergence

Overall we do not find much evidence for a strong conflict in the preferences of voters versus party officials. Starting with the index-level approach, the two strongest drivers of voter preferences in Table 4 are the aspirant's record of having provided local public goods and other economic development projects in the constituency, and their conscientiousness with respect to returning the extra transport allowance. The estimated coefficients are positive and statistically significant in both column 1, which pools all voters together, and column 2, which splits voters out by treatment assignment. In terms of magnitude, the coefficient on development record of 0.04 (standard error 0.01) implies that a one standard deviation unit increase in public goods provision is associated with a 4 percentage point increase in support among voters in the opinion polls. For conscientiousness, the estimate suggests that returning the extra money is associated with a six percentage point increase in popularity among voters (significant at 95 percent confidence). There is also somewhat weaker evidence that voters prefer aspirants with higher levels of wealth, public

[22] This combination of machine learning and traditional econometric methods is useful given that analysis here and in Section VII has elements of both prediction (which traits predict preferences?) and inference (does the new process affect selection on these traits?). See Athey and Imbens (2019) for discussion.

service motivation and connectivity to local networks, as the associated coefficients are positive and at least marginally significant (in column 1 and/or 2).

Similar characteristics also drive party leader preferences over aspirants. Coefficients in column 3 are again positive and at least marginally statistically significant for an aspirant's local economic development record and their conscientiousness with the transport allowance, as well as for wealth. The one area where there is evidence of a potential divergence in preferences regards professional qualifications: aspirant qualifications positively and significantly predict party official appraisals (with a coefficient of 0.11 and standard error 0.04), but do not register among voters. The associated *p*-value in column 5, which tests for equivalence of the coefficients estimated for voters and party officials in control races (columns 2 versus 4), rejects equality at the 98 percent confidence level. This is consistent with the human capital advantage party officials have compared to voters in screening on technical merits. It could further reflect differences in their respective information sets, a question we return to in Section VII.C. The lower half of the table, as expected, finds little evidence for differences in party officials' preferences in treated versus control races, as recall this is estimated on pre-treatment data (from the P1 survey).

Reassuringly, the regularization methods produce a similar pattern of results. Appendix Table A3 shows that the specific measure of how many development projects the aspirant provided in the constituency (an item in the economic development index) stands out as the most consistent predictor of both voter and party leader preferences. This trait was selected in 192 iterations for party officials and all 200 iterations for voters. Incumbency (an item in the professional qualifications index) also registers frequently for both voters and party leaders, and is the only additional trait that consistently survives penalization for party officials. For voters, conscientiousness with respect to returning the extra transport allowance is one of four additional traits consistently identified as relevant across iterations (the other three are aspirant education and two measures of party loyalty). As such, allowing the data to speak to which specific measures have predictive power identifies items in the same three broad areas (development record, qualifications and conscientiousness) that the index-level approach deemed important.

Table 5 presents the post-regularization prediction results for the union of these six traits. The number of development projects and incumbency are the strongest predictors of voter and party official preferences, entering positively at above 95 percent confidence. The other measures are less strongly predictive: education registers positively for officials but not voters, and two

measures of party loyalty (willingness to spend money on the party's versus the aspirant's own campaign, and number of relatives in party leadership) register at least weakly positively for both.

VI.C. Information Constraints

Give the lack of evidence for strong preference divergence between voters and party officials, what else might explain why party officials frequently fail to select the most locally popular aspirants in the status quo? Our data point strongly to the importance of information constraints.

Sierra Leone is a poor country with high transport and communication costs, which create pervasive information asymmetries throughout the electoral process. There is importantly no large scale, cost-effective polling technology accessible in this market, implying that party officials are particularly constrained in attempting to elicit and aggregate local voter preferences over 132 pools of aspirants. Quite simply, if there is no primary, party officials may have little idea which aspirant local voters prefer.

To gauge how important this constraint is in practice, before the conventions the research team asked party officials (via the P1 survey in both treated and control races) two questions about the local pool of aspirants under consideration by their party: i) "if the choice to award the symbol was up to you today, who would be your first choice?" and ii) "if the registered voters in this constituency voted directly today for the symbol, who do you think would get the most votes?" Answers to these questions reveal that party officials are imperfectly informed about voter preferences over aspirants.

Specifically, 90 percent of party officials indicated that local voters shared their first preference, e.g. that the aspirant the leader himself preferred would win a local primary in that constituency. This is incorrect: only 56 percent of presumed shared preferences were in fact a match with the polling data on voter preferences (from the V2 polling data). Overall, party officials correctly guessed who would win a local primary only 53 percent of the time. This disconnect is severe: in 31 percent of races, no party leader (among multiple surveyed per race) correctly guessed which aspirant was the most popular with local voters.

This information asymmetry is not limited to poor countries. Folke et al. (2016) study open-list proportional representation systems in Sweden and Brazil. Drawing an analogy to primaries, they argue that preference vote tallies reveal information about popularity to party

leaders, who are then more likely to promote a first versus second place finisher of equal ability.[23] A natural next question is what this implies for selection: namely, when party officials accommodate voter preferences, and switch to more popular candidates, does it affect the quality of those chosen? The impact could be negative, if voters are poorly informed and less able to identify high performers. Or it could be positive, if voters possess complementary information on traits that contribute to performance (e.g. about local alignment from the conceptual framework).

VII. Impacts for Selection on Quality

Assessing whether the documented increase in representation affects selection on quality requires comparing the characteristics of candidates chosen via the new versus status quo mechanisms.

VII.A. Econometric Specifications

To test whether varying how the primary process is run has a causal impact on the types of candidates thereby selected, we estimate a series of regressions of the form:

$$x_{pc}^{k} = \gamma^{k} + \gamma_{T}^{k} T_{pc} + \boldsymbol{\tau}_{pc} + \eta_{pc} \quad (3)$$

where x^k is a characteristic (e.g. education or wealth, as in Equation (2)) of the candidate selected to compete in the general election on behalf of party p in constituency c; T_{pc} and $\boldsymbol{\tau}_{pc}$ are the treatment assignment and randomization strata as defined for Equation (1); and η_{pc} is an error.

We link this estimation directly to the two-pronged approach used to explore preference divergence in Section VI. First, we carry forward all eight indices of aspirant traits and the behavioral measure used previously. For each one, we estimate whether candidates selected under the new mechanism are more or less likely to be strong on that dimension. As this requires nine distinct iterations of Equation (3), we adjust standard errors on these estimates to control the false discovery rate (FDR) across the nine regressions (following Benjamini et al 2006 and Anderson 2008). Second, we carry forward the union of six specific traits identified as important under the regularization approach. We again estimate treatment effects for each one, and implement FDR adjustments. A caveat for both approaches is that statistical power to support such multiple inference adjustments is strained, as at this stage, estimation operates over the pool of selected candidates, where there are only 92 observations.

[23] By honing in on the discontinuity between close winners and runners up, their empirical strategy by design identifies a preference for popularity holding candidate quality fixed (in expectation).

VII.B. Treatment Effects on Selection

Estimates suggest that candidates selected under the more democratic mechanism look somewhat stronger on their observable characteristics as compared to those chosen via the status quo method. Candidates selected by the new process on average have stronger records of having previously provided public goods in the constituency (in Table 6 Panel A). The estimated treatment effect for the economic development index is 0.29 standard deviation units (standard error 0.13), which is a materially large and highly significant effect on a naïve, or per comparison, basis (p-value = 0.03). There is also a positive treatment effect estimate for conscientiousness, of 15 percentage points, but it does not reach significance at conventional levels (p-value = 0.16). Positive effects for these particular traits are noteworthy in light of the fact that they are strong drivers of voter preferences (in Table 4). There is further a positive and significant effect on selecting aspirants with stronger local networks (e.g. membership in local groups), which intuitively aligns with discussion in the conceptual framework but is empirically unexpected since it did not rank as consistently as a predictor of voter preferences.

Implementing FDR adjustments over all nine index-level regressions sends these estimates below standard significance levels: the corresponding q-values for the two most precise estimates inflate to 0.22. This is perhaps not surprising given the strains on statistical power. While not a main focus, note further that we do not find treatment effects on demographics: 85 percent of selected candidates are male, average age 46, neither of which varies significantly with treatment assignment (Appendix Table A4).

Encouragingly, the regularization approach again provides similar results. Panel B of Table 6 estimates treatment effects on the union of six specific traits that were identified as being predictive of voter or party official preference rankings over aspirants. The only estimate that is statistically distinct from zero is the large positive effect on the number of development projects (0.50 with standard error 0.21). In terms of magnitude, it implies that candidates selected via the more democratic primary process on average had been involved in providing half an additional local public good or other development project in the past three years. Given the control group mean of 2.1 projects, this effect constitutes a 24 percent increase in such provision. As seen already, the estimate for conscientiousness is positive in sign but not quite significant at conventional levels (p-value = 0.16). In column 4, the FDR adjustments reduce the significance

of the number of development projects result to the 86 percent confidence level.

As the estimated treatment effect on economic development record is a key result, it is worth providing additional context from the data. Overall, 81 percent of aspirants have been involved in at least one project. Enumerators collected detailed data (project location, timeframe, expenditure, sources of funds, status of completion etc.) for up to three most relevant projects. In this project dataset, the modal project is construction of small scale public infrastructure (roads, bridges, community centers), followed by support to education (classroom construction and rehabilitation), agriculture (provision of farming inputs, like seeds, tools and tractors), and healthcare (clinic construction and rehabilitation).

Does incumbency drive these public goods results? While incumbents have provided more projects than others (a statistically significant difference of 2.5 versus 1.9 projects on average), incumbency does not account for these findings. Specifically, all estimates that show how an aspirant's economic development record predicts voter preferences in Tables 4 and 5, do so while controlling for incumbency (which voters also value). Moreover, there is evidence for a positive treatment effect on selecting high development record candidates, accompanied by a null result for (re-)selecting incumbents, in Table 6. Note further that incumbency is much less entrenched in Sierra Leone than in the U.S. There were 25 incumbents seeking re-nomination in our sample, which covers 27 percent of the races (reassuringly incumbency is balanced across party and treatment assignment). Roughly half of them secured re-nomination from their party. Compare this to the 2018 U.S. House elections, where 88 percent of incumbents sought re-nomination and only 1 percent lost their primary.

Overall, the headline results that come through this triangulation approach are first, that both voters and party officials value aspirants who have a demonstrated record of providing public goods in the constituency. And second, the more democratic selection method increases the likelihood that aspirants who are strong in this regard are selected to then compete in the general election. Results for conscientiousness are directionally similar, yet estimated with less precision. To the extent that past public goods provision predicts future provision, which is a question that ongoing data collection seeks to address, these are guardedly optimistic results.

VII.C. Voter Learning about Technical Merits

The results of this experiment do not bear out concerns of primary skeptics that giving more say

to poorly informed voters increases representation at the cost of screening on quality. This downside risk appears to have in part been mitigated by voter learning about aspirant qualifications from the town hall conventions and associated radio broadcasts. To substantiate this channel, Appendix Table A5 presents treatment effect estimates on what voters know about aspirants, using the post-convention V2 data. It shows that voters in treated races are more likely to accurately identify which aspirant in the local pool has the most education (by 15 percentage points), the one with most public office experience (by 16 percentage points), and the one with the strongest record of previously providing local public goods (by 10 percentage points). All three estimates are significant above the 95 percent confidence level. Given baseline rates for correct answers between 30 and 36 percent, these estimates suggest that voter knowledge of aspirant qualifications increased by 42 percent on average compared to control races.

Referring back to Table 4, there is suggestive evidence that this knowledge gain increased the weight treated voters place on qualifications in ranking aspirants. In the bottom half of column 2, the interaction between treatment and an aspirant's professional qualification index is positive and marginally statistically significant (0.10 with standard error 0.06). This indicates that more qualified aspirants were somewhat more likely to be chosen by voters as their first preference for candidacy in treated versus control races.

We can further rule out that treated voters are simply acting as party stooges who learn from the conventions which aspirant party leaders endorse and adopt their point of view. To assess this, Appendix Table A6 estimates the treatment effect on representation using pre-convention V1 polling data, which effectively shuts down the voter learning channel and fixes their preferences at baseline. We again find a positive and highly significant treatment effect of the initiative on the likelihood that voters get their most preferred candidates, equal to 30 percentage points.

More broadly, the learning results are consistent with earlier work showing that publicizing policy-oriented debates between candidates in the general election is an effective way to build voter knowledge in this context (Bidwell et al 2019), and resonates with evidence from Uganda that debates build voter knowledge in both the primary and general election stages (Platas and Raffler forthcoming). It also aligns with survey evidence from the U.S. showing that voters learn about candidate policy positions and move into stronger ideological congruence as the primary campaign progresses (Hirano et al 2014).

VIII. Alternative Explanations

This section investigates two alternative channels—aspirant entry and financial contributions—and finds little evidence that either explain much of the observed variation in the data.

VIII.A. Aspirant Entry

Differential aspirant entry into treated races is unlikely to explain these results, largely because the advance announcement needed to induce entry was only partially implemented. Recall that only one of the two parties announced in advance which constituencies would participate in the new selection process. Two months before the conventions began, the SLPP publicized the list of its 23 treatment constituencies—via public announcement and paper leaflets—during their national delegates' convention to nominate their Presidential candidate. Their promotional materials, which dub the initiative "Aspirant Voice and People's Choice," describe the two components and characterize them as a "pilot" designed to "strengthen the internal democracy of our party" (see flyer in Appendix Figure A2). This could have altered the entry decision of potential SLPP aspirants. The APC, on the other hand, joined the initiative later and therefore did not announce the program or targeted constituencies at its own national convention. While the party did inform all national executives and a cross-section of district executives about the initiative at a subsequent meeting, this came too late in the process to affect entry decisions.

To nonetheless test whether the aspirant entry channel is operational in this experiment, Appendix Table A7 presents treatment effect estimates for the total number of aspirants considered by each party per constituency. The first two columns use administrative data from the Secretaries General of the parties. Estimates in column 1 show that just under three aspirants on average competed for the SLPP's symbol in control races. The estimated treatment effect is 1.00 (standard error 0.59), which is a marginally significant increase in entry to just under four aspirants per race. Column 2 shows that the APC on average considered 4 aspirants per constituency, and the estimated treatment effect is small in magnitude and not statistically distinct from zero (0.20, standard error 0.59), as one would expect in the absence of advance notification. These data reflect the number of aspirants who were under consideration at the end of the process when candidate selections were made.

We can compare this to the number of aspirants who were surveyed earlier in the process as part of the research, which captures those who were under consideration by the party at the time

of the conventions. This could be a larger number if some aspirants dropped out or were disqualified in the interim. Estimates for the APC are nearly identical. For the SLPP, the mean number of aspirants increases to 4 per race and there is no evidence of a treatment effect. Putting the survey and administrative estimates together suggests that the initiative may have helped some SLPP aspirants stay under consideration longer. In light of this, our results are best considered as partial equilibrium effects holding the pool of aspirants largely fixed. If the new selection process were to become internalized by parties and scaled up, we anticipate that the entry channel could become important in general equilibrium. We leave this question for future research.

VIII.B. Financial Contributions

Another factor that could influence candidate selection—both in the status quo and in response to treatment—is financial contributions to secure the nomination. To measure contributions, enumerators asked aspirants shortly after candidate selections were formally announced (in January 2018) how much they had paid to the party in official fees and other payments. Note that these are distinct from the aspirant's own campaign expenses, which were recorded separately. Enumerators further asked unsuccessful aspirants how much they thought the selected candidate in their pool had contributed (see Appendix B for survey wording).[24]

Self-reports from control group races suggest that nearly all aspirants made contributions: 89.7 percent of aspirants report non-zero contributions, with an unadjusted mean converted to US dollars of $2,428. To put this amount in perspective, it is equivalent to 1.3 months official salary of an elected MP. This looks modest compared to the 17 months of salary that public healthcare workers paid to secure a promotion in another low income country (Weaver 2018), but lies well out of reach for ordinary Sierra Leoneans, where for instance the monthly minimum wage is $71. These official fees and other contributions thus constitute a substantial barrier to entry into politics.

Two of the more nefarious interpretations of these contributions are not consistent with the empirical patterns we find. First, the data do not suggest that candidacy is being sold to the highest bidder in the status quo. Selected candidates self-reported the highest contribution in their pool in only 35 percent of control races. While this top payer rate increases to 54 percent when substituting

[24] The specific question asked, "How much contribution in total have you given to the party leaders for acquiring the party symbol from the start of your campaign? This includes registration/application fees, tips, small or big token to all the party leaders, kola [gratitude] money and transportation reimbursement tips."

out low candidate self-reports with the average report of unsuccessful aspirants (about how much they think the selected candidate contributed), it remains well below 100 percent. Overall, selected candidates contribute somewhat less on average than unsuccessful aspirants in control group races.

Second, in treated races, the data are not consistent with contributions being used to compensate for low popularity levels, i.e. to buy off party officials so that they deviate from the voter reports. Specifically, selected candidates do not contribute differentially more than unsuccessful aspirants in treatment races where the party ultimately chose someone other than the voters' first choice (the mean difference is $1,348) compared to races where party officials went with the voters' first choice (mean difference of $1,696).

An alternative way to conceptualize these payments is with respect to the expected return to candidacy, which is increasing in three multiplicative components: the returns to office, the probability the party wins the seat in the general election, and the likelihood of being selected as candidate. The first component includes the salary of an MP, scope for promotion (e.g. to a ministerial post), and other remunerative opportunities that positions in government afford access to. It is likely that there are returns even for those who lose the general election, particularly for members of the ruling party, as candidacy opens up avenues to public sector employment and positions within the party organization (see Colonnelli et al 2019 for estimates in Brazil). In light of this, both major parties were able to recruit aspirants in all 132 Parliamentary races nationwide.

As to the second term, the likelihood that the party wins the seat in the general election is increasing in the ethnic-party allegiance of voters in the constituency. This implies that willingness to contribute should be higher in stronghold races, which is exactly what we see in the control group data: mean contributions increase from $1,089 in weak seats, to $1,530 in swing seats, to $2,983 in safe seats. Appendix C discusses how this increase in expected returns in turn affects aspirant entry in the status quo, and finds evidence that there are more aspirants in the pool, who are of higher average quality, in stronghold races, which is consistent with findings from Brazil (Ferraz and Finan 2011), Italy (Gagliarducci and Nannicini 2013), Sweden (Dal Bó et al 2017) and the U.S. (Hirano and Snyder 2019).[25]

Regarding the third factor, willingness to contribute should be higher for aspirants with a better chance of being selected as the candidate, which is an object that the experimental treatment

[25] While interesting, note that this does not affect our experimental estimates as treatment assignment is stratified within small geographic areas and we include fixed effects for these strata in all relevant specifications.

might affect. To see this, recall the assumption in the conceptual framework that aspirants have private information about their type, which the conventions and opinion polling deliver (at least in part) to party officials. For high types, this implies that their probability of being selected increases, and thus their willingness to pay should as well. For low types, the opposite should hold. A simple way to capture this in the data is to test whether selected candidates contribute differentially more than unsuccessful aspirants in treated versus control races.

Appendix Table A8 tests this hypothesis by regressing contributions on whether the aspirant was selected to be the candidate, treatment assignment, and the interaction of the two terms. The positive and significant coefficient on the interaction between being selected and treatment implies that the spread between how much successful and unsuccessful aspirants contributed is indeed wider in treatment races. This spread is more pronounced in column 4, which restricts attention to stronghold races. These estimates suggest that unsuccessful aspirants in treated races contributed less (by $781 on average), and selected candidates contributed more (by $1,947), than their counterparts in control races.

Overall, these results are consistent with aspirant willingness to pay being tied to the expected returns to candidacy, and thus for those whose expected returns increase with treatment—because they are more likely to be selected under the new process—their contributions increase as well. The offsetting reduction by aspirants who become less likely to be selected generates no net effect of treatment on mean contributions for the aspirant pool overall (reported in column 1 of Table A8). This is one speculative interpretation of the data, and there may well be others that align with this constellation of results.

IX. Conclusion

Elections are large public investments: the United Nations Development Programme, the largest international donor in the electoral space, expended more than three billion dollars to support elections in poor countries over the past fifteen years (UNDP 2019). The efficacy of such investments in delivering representative and competent elected politicians depends critically on how candidates are selected. If party officials select candidates with little input from voters, citizens may well be perfectly enfranchised on paper—entitled to participate in free and fair general elections—but wholly irrelevant in practice, at least for partisan strongholds. This problem is largely absent from discussions about the design of donor support for elections: to illustrate, as

late as 2004 there was no explicit reference to political parties anywhere in the UNDP's own multi-year funding framework (UNDP 2006 p. 11). This neglect arises in part from concerns about impartiality that lead donors to shy away from direct engagement with parties.

The two major political parties in Sierra Leone demonstrate that there are practical ways to improve candidate selection. An alternative approach to selection was offered in a party-neutral, equitable fashion, and relied on party leadership to determine whether it was in their party's interest to opt in. By revealed preference, the fact that both parties participated and put forward their stronghold races for inclusion suggests that they saw value in the initiative. That they (for the most part) complied with treatment assignment attests to their willingness to experiment at the frontier of democratic practice.

The experiment demonstrates that the primary selection stage plays an important role in reducing information asymmetries. Results show that voters learn about candidate qualifications and party officials learn about voter preferences. The finding that party officials responded to the information relayed by selecting different types of candidates, and that these candidates have stronger records of local public goods provision, is a cautiously optimistic result.

In thinking about external validity, a few factors about the context and intervention are worth emphasizing. A concern about the U.S. primary system is that it leads to the selection of candidates who are more ideologically extreme than the general population. This is less of an issue in our context as parties in Sierra Leone are largely non-ideological, as are about half of all parties worldwide (Cruz et al 2016). Moreover, in this study, preferences over candidates were gathered from a representative sample of voters via home visits. This again reduces the risk that those with more extreme views, or particular demographic groups, wield disproportionate influence. Results might be different where there are higher barriers to participate, such as travel and time costs to reach polling centers or attend meetings. In addition, weak advance announcement, combined with the nonbinding nature of the treatment, dampened incentives for new or different types of candidates to come forward. This effectively closes an entry channel that is likely to be consequential in other settings. While these factors help us isolate the role of information revelation in the candidate selection stage, they limit our ability to extrapolate from these results to what might happen when a well-publicized, binding, direct vote primary is introduced.

Analysis in this paper has focused on the question of selection. Ongoing data collection turns to the question of accountability. Through a combination of Parliamentary administrative

records and field audits of public spending by elected MPs, we will soon have evidence on whether these candidates who were selected via a more democratic primary process perform any better or worse once they get into public office.

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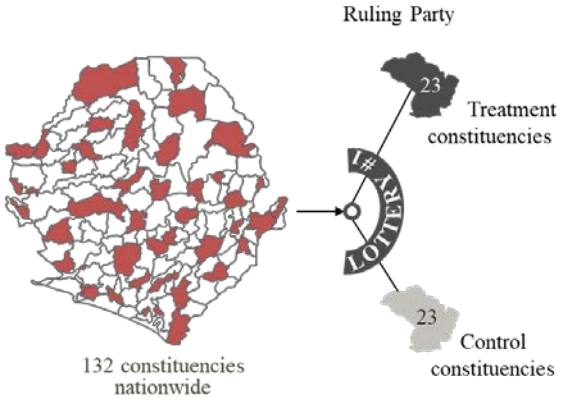
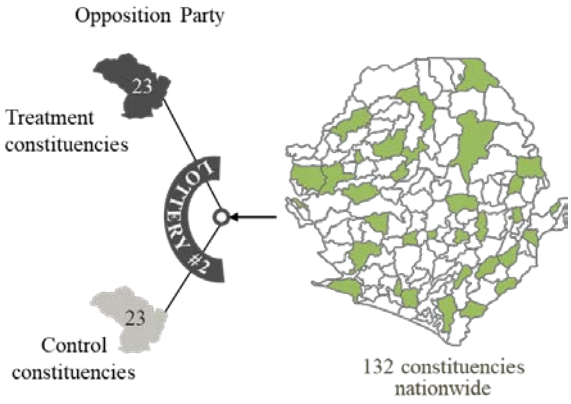
Figure 1: Experimental Design

Panel A: Ruling party (APC) constituency selection and assignment (locations masked)



Panel B: Opposition party (SLPP) constituency selection and assignment (locations masked)



Panel C: Implementation timeline

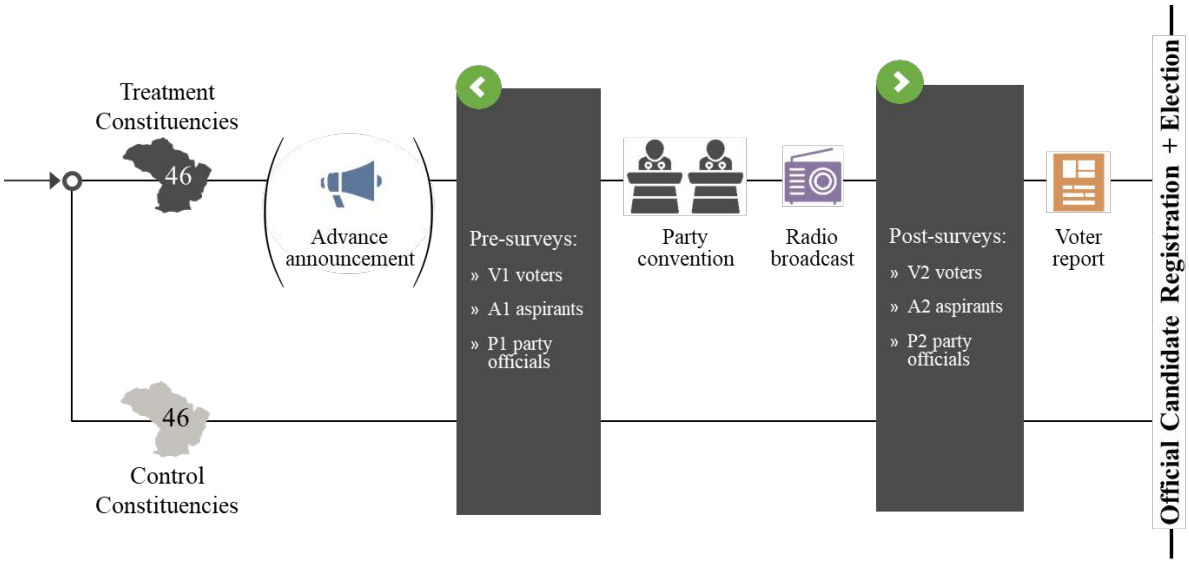
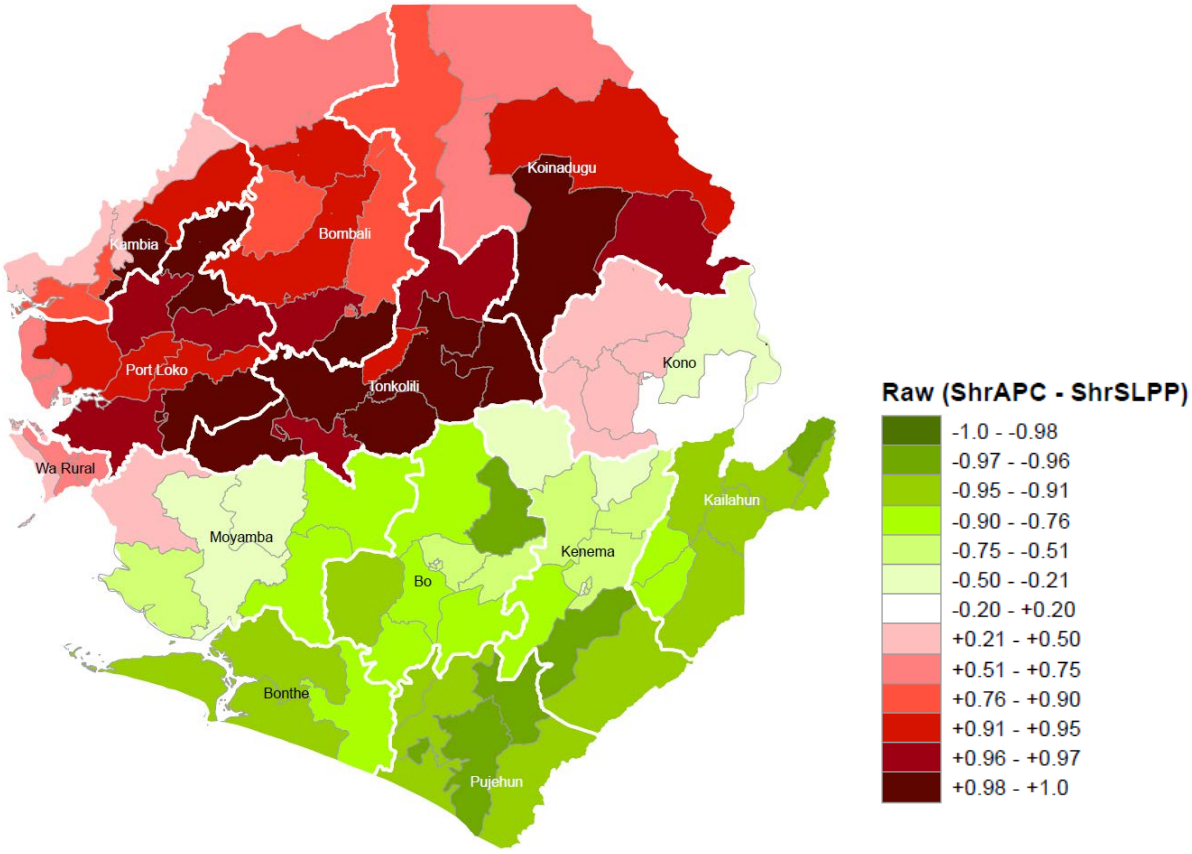


Figure 2: Ethnic-party Strongholds



Notes: this map shows the geographic distribution and intensity of ethnicity-based ties to the two major political parties for Parliamentary constituencies in Sierra Leone. For each constituency, we compute the difference in population shares of ethnic groups historically associated with the All People's Congress (APC) minus those of ethnic groups associated with the Sierra Leone People's Party (SLPP). Darker red shading indicates a constituency-level ethnic-party bias closer to 1.0 (e.g. where 1.0 indicates that the constituency is 100 percent populated by APC-affiliated ethnic groups) and darker green implies closer to -1.0 (e.g. a 100 percent SLPP-affiliated population). Color choices reflect party symbols: the APC's logo is a red rising sun and the SLPP's is a green palm tree. Mappings between ethnic groups and parties are from Kandeh (1992) and Casey (2015). Ethnicity data is from the 2004 census (Statistics Sierra Leone 2004), mapped into constituency administrative boundaries for the 2007 Parliamentary elections. Note that constituency boundaries were redrawn before the 2018 elections studied here.

Table 1: Self-Selection into Politics

	Mean, voters	Mean, party officials	Mean, aspirants	*p*-value on (1) vs (2 and 3)
	(1)	(2)	(3)	(4)
Years of education	4.86	12.14	15.28	<0.001
Percent with no formal schooling	43%	5%	0%	<0.001
Percent with some university education	4%	34%	80%	<0.001
Asset ownership (of 11 household items)	2.66	6.44	9.49	<0.001
Proportion that have a bank account	0.11	0.77	0.98	<0.001
Proportion male	0.47	0.80	0.90	<0.001
Years of age	37.37	46.09	47.50	<0.001
Observations	7,544	245	433	

Notes: i) this table compares characteristics of voters (from survey V2), party officials (from survey P1) and aspirants (from survey A1); ii) p-values in column 4 refer to t-tests rejecting equality of means for voters as compared to party officials and aspirants pooled together; iii) the list of assets includes radio, personal computer, mobile phone, DVD player, refrigerator, bicycle, motor vehicle, generator, television, electric fan, and flashlight; and iv) bank account includes either domestic or foreign accounts.

Table 2: Heterogeneity with Respect to General Election Competitiveness

	Panel A: Selection of races for the initiative				Panel B: Selected candidate is voters' 1st choice			
	Proportion nationwide	Proportion in sample	Difference (2) vs (1)	*p*-value for (3)	Mean controls	Mean treatment	Difference (6) vs (5)	*p*-value for (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Safe seat constituencies	36.0	52.0	14.0	<0.01	33.3	62.5	29.2	0.04
Swing constituencies	28.0	30.0	2.0	0.60	50.0	50.0	0.0	0.99
Weak seat constituencies	36.0	17.0	-20.0	<0.01	37.5	87.5	50.0	0.04
Observations (party-races)	264	92						

Notes: i) this table shows heterogeneity for two outcomes--where party officials chose to experiment and how responsive they were to the voter reports--by the level of likely competition in the general election; ii) p-values are from t-tests on the equality of means across samples, which compares the national population of races to those included in the experimental sample for panel A, and across treatment and control group races for panel B.

Table 3: Estimated Treatment Effects on Representation

Panel A: Direct Effect on Representation		
	Selected candidate is voters' first choice	
	(1)	(2)
Treatment	23.91	26.09
	(10.56)	(16.02)
Ruling party		27.17
		(39.60)
Ruling party X Treatment		-4.35
		(21.27)
Mean in controls	39.13	
Observations	92	92
Panel B: Indirect Effect on General Election Vote Shares		
	Party's vote share in the general election	
	(1)	(2)
Treatment	-0.48	-0.64
	(2.96)	(3.40)
Safe seat		27.90
		(6.64)
Safe seat X Treatment		-2.01
		(6.13)
Weak seat		-25.95
		(6.89)
Weak seat X Treatment		6.91
		(5.54)
Mean in controls	44.98	
Observations	91	91

Notes: i) this table reports treatment effects on representation in the candidate selection stage and downstream effects on the party's general election vote shares; ii) ordinary least squares regression with robust standard errors; iii) specifications include fixed effects for 26 party-region strata used in the random assignments; and iv) one race is missing in Panel B since the general election was disputed and is being resolved by the courts.

Table 4: Voter and Party Official Preferences over Aspirant Characteristics

	Aspirant's share in voter polls		Aspirant's share in party official survey		*p* -value (2 vs 4)
	(1)	(2)	(3)	(4)	(5)
Professional qualifications index	0.04	-0.01	0.11	0.13	0.02
	(0.03)	(0.04)	(0.04)	(0.05)	
Wealth index	0.03	0.04	0.05	0.06	0.60
	(0.01)	(0.02)	(0.03)	(0.03)	
Economic development record index	0.04	0.04	0.04	0.05	0.75
	(0.01)	(0.02)	(0.02)	(0.03)	
Public service motivation (PSM) index	0.04	0.05	0.03	0.01	0.38
	(0.02)	(0.03)	(0.03)	(0.04)	
Party loyalty index	0.04	0.02	0.04	-0.04	0.44
	(0.03)	(0.06)	(0.06)	(0.08)	
Cognitive ability index	0.01	-0.00	0.02	-0.02	0.65
	(0.02)	(0.03)	(0.03)	(0.04)	
Local network index	0.03	0.10	0.05	0.13	0.69
	(0.03)	(0.04)	(0.05)	(0.07)	
Campaign effort and expenditure index	-0.03	-0.01	-0.02	0.03	0.48
	(0.02)	(0.03)	(0.04)	(0.04)	
Conscientiousness indicator	0.06	0.07	0.09	0.09	0.53
	(0.02)	(0.03)	(0.03)	(0.04)	
Professional qualifications X Treatment		0.10		-0.04	
		(0.06)		(0.08)	
Wealth X Treatment		-0.02		-0.02	
		(0.03)		(0.05)	
Development record X Treatment		0.01		-0.00	
		(0.03)		(0.05)	
PSM X Treatment		-0.02		0.04	
		(0.04)		(0.06)	
Party loyalty X Treatment		0.05		0.15	
		(0.07)		(0.12)	
Cognitive ability X Treatment		0.01		0.07	
		(0.05)		(0.06)	
Local network X Treatment		-0.14		-0.15	
		(0.06)		(0.09)	
Campaign X Treatment		-0.03		-0.09	
		(0.04)		(0.07)	
Conscientiousness X Treatment		-0.02		0.00	
		(0.03)		(0.05)	
Observations	370	370	369	369	368

Notes: i) columns 1 and 2 (3 and 4) use aspirant characteristics to predict their popularity among voters (party officials) in the V2 opinion polls (P1 survey); ii) column 5 tests for differences in preferences between voters and party officials in control races, reporting the p-value from chi-squared tests of equality of coefficients across estimates in columns 2 and 4 from a seemingly unrelated regression framework; iii) robust standard errors clustered by party-constituency; iv) specifications include fixed effects for 26 party-region randomization strata; and v) independent variables are eight indices of aspirant traits expressed in standard deviation units plus the binary behavioral measure of conscientiousness.

Table 5: Voter and Party Official Preferences in Post-Regularization Regressions

	Aspirant's share in voter polls	Aspirant's share in party official survey
	(1)	(2)
Number of development projects	0.04	0.04
	(0.01)	(0.01)
Incumbent MP	0.16	0.21
	(0.06)	(0.09)
Years of schooling	-0.01	0.03
	(0.01)	(0.01)
Party versus own campaign expenditure	0.04	0.08
	(0.02)	(0.03)
Number of relatives in party leadership	0.03	0.04
	(0.02)	(0.02)
Conscientiousness indicator	-0.02	-0.03
	(0.01)	(0.02)
Observations	370	369

Notes: i) this table presents post-regularization estimates that retain only those aspirant traits with the greatest predictive power selected via 200 iterations of k-fold elastic net procedures; ii) robust standard errors clustered by party-constituency; iii) specifications include 26 party-region randomization strata; iv) all traits expressed in natural units; and v) party versus own expenditure indicates an affirmative response to the question "Are you willing to spend more money on your party's campaign versus your own?"

Table 6: Estimated Treatment Effects on Candidate Selection

	Treatment effect	Standard error	Naïve *p*-value	FDR *q*-value
	(1)	(2)	(3)	(4)
Panel A: Index-level Regression Estimates				
Personal qualifications index	-0.03	(0.10)	0.75	0.75
Wealth index	-0.12	(0.13)	0.37	0.56
Economic development index	0.29	(0.13)	0.03	0.22
Public service motivation index	-0.08	(0.15)	0.60	0.75
Party loyalty index	0.04	(0.09)	0.62	0.75
Cognitive ability index	-0.13	(0.12)	0.29	0.53
Local networks index	0.19	(0.09)	0.04	0.22
Campaign expenditure index	-0.16	(0.12)	0.19	0.49
Conscientiousness indicator	0.15	(0.10)	0.16	0.35
Panel B: Regularized Regression Estimates				
Number of development projects	0.50	(0.21)	0.02	0.14
Incumbent MP	-0.09	(0.07)	0.23	0.57
Years of schooling	-0.17	(0.23)	0.45	0.72
Party versus own campaign expenditure	-0.13	(0.19)	0.50	0.72
Number of relatives in party leadership	0.24	(0.22)	0.29	0.57
Conscientiousness indicator	0.15	(0.10)	0.16	0.57
Observations	92			

Notes: i) this table reports treatment effect estimates on the characteristics of selected candidates for 9 indices of traits in Panel A and for the 6 individual traits selected via regularized regression in Panel B; ii) each row reports results from a separate OLS regression with robust standard errors that includes fixed effects for 26 party-region randomization strata; iii) in Panel A, all indices are equally weighted sums of underlying traits expressed in standard deviation units (following Kling, Liebman and Katz 2007) and conscientiousness is a binary indicator; iv) in Panel B all traits are in natural units; v) party versus own expenditure indicates an affirmative response to the question "Are you willing to spend more money on your party's campaign versus your own?;" and vi) column 4 presents false discovery rate (FDR)-sharpened q-values that adjust for multiple inference over all estimates by panel, following Benjamini, Krieger and Yekutieli (2006) and Anderson (2008).

FOR ONLINE PUBLICATION

Supplemental Materials for "An Experiment in Candidate Selection"

By Casey, Kamara and Meriggi

Contents

Figure A1: Example voter report (aspirant names redacted)

APC Voter Report: District Constituency

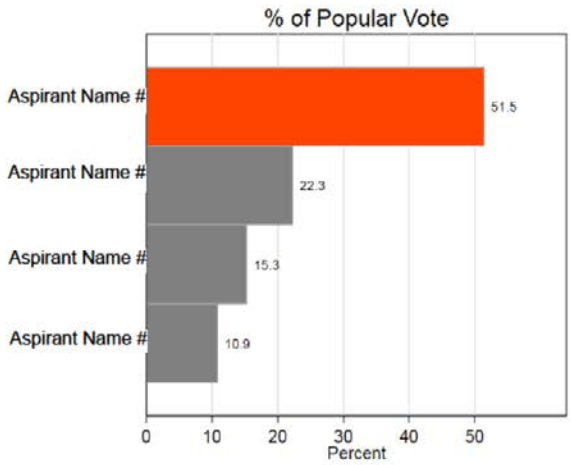
People's Choice

The first choice of voters in this constituency for the APC MP symbol is:

Aspirant Name 1 who has 51.46% of the popular vote.

This is based on polling results from a representative sample of 90 registered voters living near 10 different polling centers in this constituency.

Results Table: All Voters



Results Table: APC Supporters Only

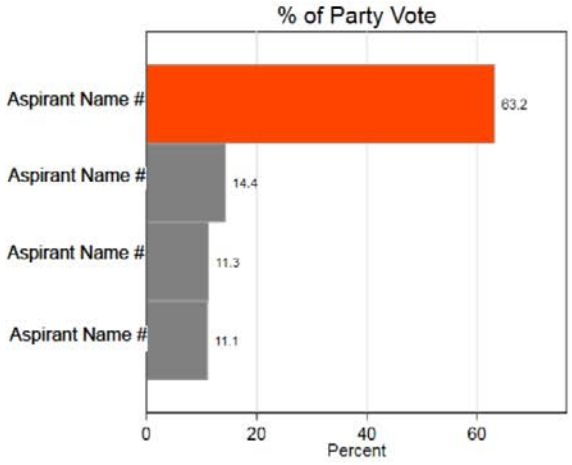
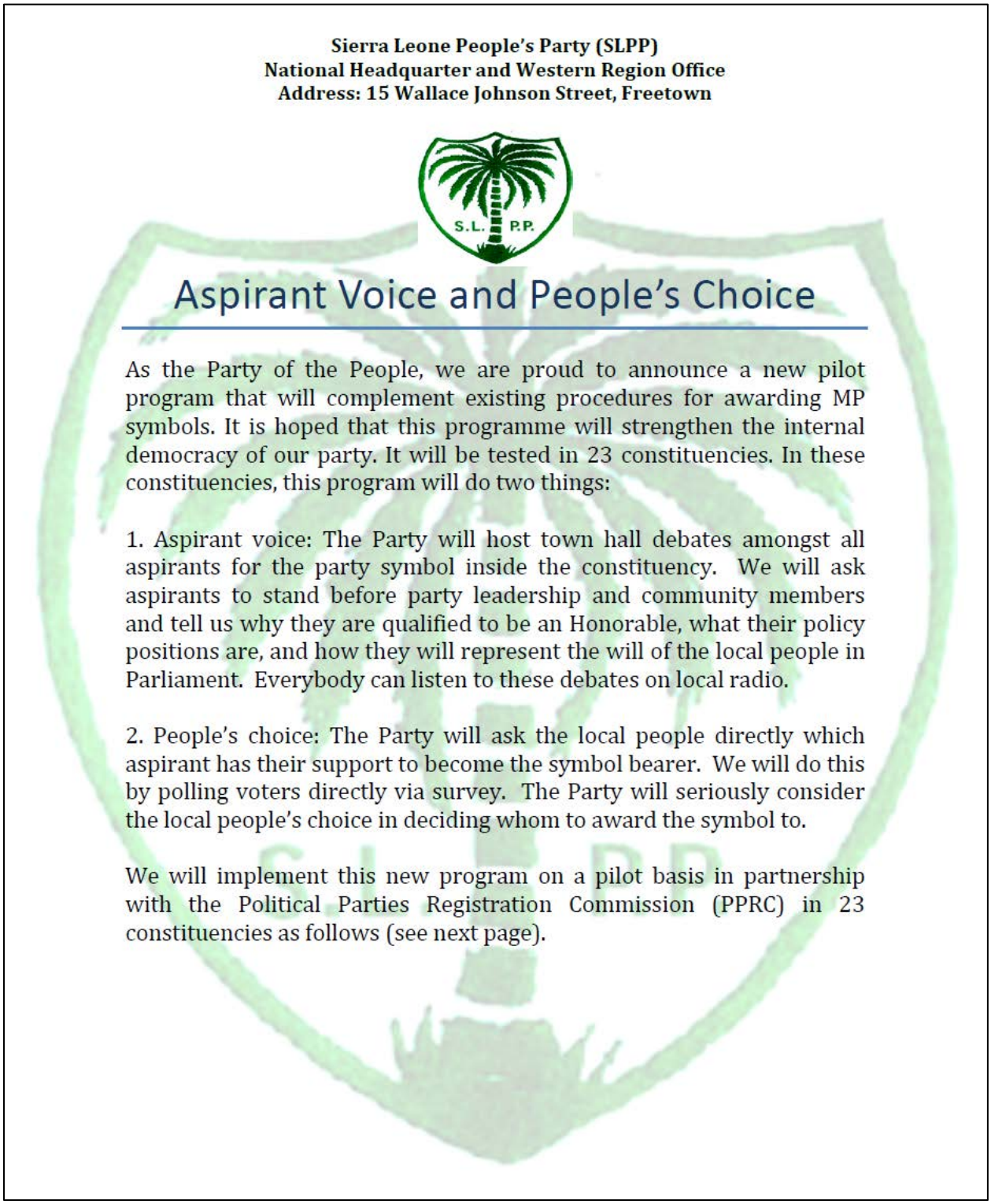


Figure A2: SLPP Advance Announcement Flyer (constituency list redacted)



Sierra Leone People's Party (SLPP)
National Headquarter and Western Region Office
Address: 15 Wallace Johnson Street, Freetown

S.L. P.P.

Aspirant Voice and People's Choice

As the Party of the People, we are proud to announce a new pilot program that will complement existing procedures for awarding MP symbols. It is hoped that this programme will strengthen the internal democracy of our party. It will be tested in 23 constituencies. In these constituencies, this program will do two things:

1. Aspirant voice: The Party will host town hall debates amongst all aspirants for the party symbol inside the constituency. We will ask aspirants to stand before party leadership and community members and tell us why they are qualified to be an Honorable, what their policy positions are, and how they will represent the will of the local people in Parliament. Everybody can listen to these debates on local radio.

2. People's choice: The Party will ask the local people directly which aspirant has their support to become the symbol bearer. We will do this by polling voters directly via survey. The Party will seriously consider the local people's choice in deciding whom to award the symbol to.

We will implement this new program on a pilot basis in partnership with the Political Parties Registration Commission (PPRC) in 23 constituencies as follows (see next page).

Table A1: Heterogeneous Representation Effect by General Election Competitiveness

Dependent variable	Selected candidate is voters' first choice
	(1)
Swing seat	17.19
	(35.10)
Treatment	34.38
	(11.74)
Swing seat X Treatment	-34.38
	(24.47)
Observations (races)	92

Notes: i) this paper reports heterogeneous treatment effects on the likelihood that the party selected the aspirant who ranks first among voters by the expected level of competition in the general election; ii) ordinary least squares regression with robust standard errors; iii) specifications include fixed effects for 26 party-region strata used in the random assignments; and iv) the omitted category for the swing seat indicator is uncompetitive genereal election seats, e.g. safe and weak seats pooled together.

Table A2: Aspirant Characteristics Summary Statistics

Professional qualifications	**Mean**	**SD**	**N**	**Min**	**Max**
Years of education	15.32	1.56	385	4	16
Current or most recently held job is white collar	0.76	0.43	385	0	1
Years spent serving in elected office	2.07	4.64	382	0	39
Is an incumbent member of parliament	0.06	0.25	385	0	1
Wealth	**Mean**	**SD**	**N**	**Min**	**Max**
Monthly income from current or most recently held job (in USD)	848.32	922.44	385	35.71	2857.14
Assets and accounts (1 point for each that aspirant owns of: bicycle, DVD player, fan, generator, mobile phone, personal computer, radio, refrigerator, flashlight, television set, motor vehicle, national bank account, foreign bank account)	10.71	1.75	385	0	13
Economic development record					
Has been involved with or managed any development projects in their own constituency in the past 5 years	0.82	0.38	385	0	1
Number of development projects involved with or managed in the past 3 years (list up to 3 with detailed accounting of location, type, budget, source of funds)	1.90	1.17	385	0	3
Total funding for listed development projects (log Leones + 1)	12.49	8.65	385	0	26.94
Cognitive ability	**Mean**	**SD**	**N**	**Min**	**Max**
Percentage of **correct** answers to the following questions: 1) "How many members of the Parliament of Sierra Leone were directly elected from single member constituencies in 2012?" 2) "How many other members of the Parliament of Sierra Leone were there in 2012?" 3) "How many members were there in total in the Parliament of Sierra Leone in 2012?"	0.40	0.49	300	0	1
Percentage of **correct** answers to the following questions: 1) "How many members of the Parliament of Sierra Leone were directly elected from single member constituencies in 2017?" 2) "How many other members of the Parliament of Sierra Leone were there in 2017?" 3) "How many members were there in total in the Parliament of Sierra Leone in 2017?"	0.35	0.48	283	0	1
Correctly estimated the number of women in their constituency	0.60	0.49	357	0	1

Aspirant's estimated percentage match their raw estimates for women and total population (mathematics)	0.49	0.50	268	0	1
Correctly estimated constituency population given 3% growth rate (mathematics)	0.52	0.50	357	0	1
Correctly estimated national population given 3% growth rate (mathematics)	0.48	0.50	383	0	1
Aspirant's estimated percentage match their raw estimates for youth and total population (mathematics)	0.40	0.49	354	0	1
Party Loyalty	**Mean**	**SD**	**N**	**Min**	**Max**
Preference for personal vs. campaign spending	3.18	0.89	385	1	5
Number of family relatives within the party leadership	0.67	0.96	385	0	7
Number of different party leaders the aspirant has met with	3.31	2.30	385	0	8
Number of Meetings held with party leaders	15.13	21.61	385	0	195
Time spent as a member of party (years)	18.19	11.76	385	0	60
Has previously run for elected office as a member of their party	0.28	0.45	385	0	1
Number of party roles or positions held since joining the party	1.24	1.43	385	0	9
Aspirant is from a chief/ruling family	0.47	0.50	385	0	1
Has provided any monetary or in kind support to their party this election cycle	0.37	0.48	385	0	1
Has you received any monetary or in kind support from their party this election cycle	0.05	0.22	385	0	1
Local Networks	**Mean**	**SD**	**N**	**Min**	**Max**
Born in this constituency	0.81	0.39	385	0	1
Has primary residence in constitutency	0.84	0.36	334	0	1
Is registered to vote in constituency	0.96	0.19	385	0	1
Member of constituency Women's Group	0.37	0.48	385	0	1
Member of constituency Youth Group	0.65	0.48	385	0	1
Member of constituency Farmers' Group	0.55	0.50	385	0	1
Member of constituency Fishing Group	0.13	0.33	385	0	1
Member of constituency Savings Group	0.34	0.47	385	0	1
Member of constituency Elderly Group	0.68	0.47	385	0	1
Member of constituency Employers' Group	0.28	0.45	385	0	1
Member of constituency Workers’ organizations and Trade Unions Group	0.37	0.48	385	0	1
Member of constituency Environmental Group	0.41	0.49	385	0	1

Member of constituency Journalist Group	0.08	0.28	385	0	1
Campaign Expenditure	**Mean**	**SD**	**N**	**Min**	**Max**
Numer of rallies aspirant has held in their constituency over the past six weeks	1.15	2.36	384	0	20
Number of communities or villages have visited in constituency over the past six weeks	31.17	41.77	385	0	300
Number of times aspirant has interviewed or put a jingle on the radio over the past six weeks	1.09	1.76	385	0	10
Aspirant has provided any in kind support to their campaign in the past six weeks	0.64	0.48	385	0	1
Amount of personal money aspirant has spent on their campaign in the past six weeks (log Leones + 1)	16.11	4.53	385	0	20.37
Public Service Motivation* *(all coded from 1= disagree strongly to 5 = Agree strongly; ** indicates disagreement signals higher PSM)*	**Mean**	**SD**	**N**	**Min**	**Max**
a. I respect public officials who can turn a good idea into law	4.14	1.51	349	1	5
b. I would prefer seeing elected politicians do what is best for my constituency	4.15	1.48	349	1	5
c. Politicians can create a large impact to make society more equal and just	4.02	1.51	349	1	5
d. It is hard for me to get intensely interested in what is going on in my community**	3.97	1.42	349	1	5
e. I would prefer seeing public officials do what is best for the whole community	4.05	1.52	349	1	5
f. An official's obligation to the public should always come before loyalty to superiors	3.93	1.52	349	1	5
g. I do not believe that government can do much to make society fairer.	3.57	1.56	349	1	5
h. If any group does not share in the prosperity of our society, then we are all worse off.	3.56	1.60	349	1	5
i. I am not afraid to go to bat for the rights of others even if it means I will be ridiculed	4.05	1.45	349	1	5
j. When public officials take an oath of office, I believe they accept obligations not expected of other citizens	3.83	1.60	349	1	5
k. I believe everyone has a moral commitment to civic affairs no matter how busy they are	4.13	1.46	349	1	5
l. I have an obligation to look after those less well off.	4.00	1.50	349	1	5
m. Most social programs are too vital to do without.	3.56	1.49	349	1	5
n. I seldom think about the welfare of people whom I don't know personally.**	3.38	1.66	349	1	5
o. I have little compassion for people in need who are unwilling to take the first step to help themselves**	3.17	1.59	349	1	5
p. Making a difference in society means more to me than personal achievements.	4.11	1.49	349	1	5
i. Serving citizens would give me a good feeling even if no one paid me for it.	4.10	1.49	349	1	5
i. I feel people should give back to society more than they get from it.	4.09	1.50	349	1	5

Conscientiousness Behavioral Measure	Mean	SD	N	Min	Max
Returned any of up to 3 extra 10,000 Leone notes given in reimbursement for transport expenses	0.46	0.50	370	0	1

Table A3: Aspirant Traits Selected via Regularized Regression

Panel A: Aspirant vote share in leader survey	
Variable	Frequency
Number of Development Projects	192
Incumbent MP	103
Number of Meetings with Party Leaders	80
Number of Relatives in Party Leadership	31
Years Spent Serving in Elected Office	17
Conscientiousness	17
Party Versus Own Campaign Expenditure	3
Has Previously Run for Public Office within Party	3
Lives in Home Constituency	2
From a Chiefly "Ruling" Family	2
Years of Schooling	1
Number of Visits to Constituency in Past 6 Weeks	1
Has Received in-kind Support from Party	1
Log of Development Project Spending	1
Number of Different Party Leaders Candidate Met With	1
Number of Rallies Hosted in Constituency	1
Registered to Vote in This Constituency	1
Has a White-Collar Job	1
Number of Iterations	**200**

Panel B: Aspirant vote share in voter polls	
Variable	Frequency
Number of Development Projects	200
Incumbent MP	200
Number of Relatives in Party Leadership	200
Years of schooling	199
Party Versus Own Campaign Expenditure	181
Conscientiousness	100
Time Spent as Member of Party	37
Number of Rallies Hosted in Constituency	7
Number of Iterations	**200**

Notes: i) this table ranks aspirant traits by the number of times each was selected across 200 iterations of regularized regression; ii) the dashed line indicates the median number of traits selected over the 200 iterations, where traits above this frequency are carried forward into the post-regularization regressions of main text Table 5; iii) to tune the penalization parameters, each iteration uses k-fold cross validation, making ten random subsets of the data, using nine to train the model and the tenth as the validation sample; and iv) with an eye toward sparsity, we instruct the algorithm to search for optimal α values in the range (0.5, 1), where α=1 corresponds to LASSO with zero traits retained and α=0 corresponds to ridge regression with all traits retained.

Table A4: Estimated Treatment Effects on Candidate Demographics

	Mean in controls	Treatment effect	Std. error
Dependent variables:	(1)	(2)	(3)
Proportion male	0.85	0.07	(0.07)
Age	46.35	0.33	(1.93)
Observations	92		

Notes: i) this table reports estimated treatment effects on the demographic characteristics of selected candidates; ii) each row reports results from a separate ordinary least squares regression; and iii) specifications include fixed effects for 26 party-region strata used in the random assignments.

Table A5: Voter Learning from Conventions and Broadcasts

	Mean in controls	Treatment effect	Std. error
Dependent variables:	(1)	(2)	(3)
Identify most educated aspirant	0.36	0.15	(0.05)
Identify most public office experience	0.30	0.16	(0.06)
Identify strongest development record	0.32	0.10	(0.05)
Observations	4,097	8,961	

Notes: i) this table reports estimated treatment effects on the political knowledge of voters; ii) each row reports results from a separate ordinary least squares regression using V2 data with robust standard errors clustered by party-race; and iii) specifications include fixed effects for 26 party-region strata used in the random assignments.

Table A6: Estimated Treatment Effects on Representation in V2 versus V1 Data

Dependent variable	Selected candidate is voters' first choice	
	V2 data	V1 data
	(1)	(2)
Treatment	23.91	30.43
	(10.52)	(9.54)
Mean in controls	36.96	26.09
Observations	92	92

Notes: i) this table compares the estimated treatment effect on representation using pre- and post-convention polling data; ii) OLS with robust standard errors; iii) specifications include fixed effects for 26 party-region strata used in the random assignments; and iv) column 1 reproduces estimates from Table 3, panel A to show the treatment effect on representation using post-convention V2 data to define voter preferences over aspirants, while column 2 runs the same specification but instead uses pre-convention V1 data to define voter preferences over aspirants.

Table A7: Estimated Treatment Effects on Aspirant Entry

	Party administrative data		Research survey data	
	SLPP	APC	SLPP	APC
	(1)	(2)	(3)	(4)
Treatment	1.00	0.20	0.30	0.52
	(0.59)	(0.59)	(0.70)	(0.66)
Control mean	2.68	4.00	4.00	3.96
Observations (races)	45	38	46	46

Notes: i) this table estimates treatment effects on the total number of aspirants considered per party-race; ii) ordinary least squares regression with robust standard errors; iii) specifications include fixed effects for each party's respective randomization strata; and iv) columns 1 and 2 use administrative data from each party's Secretary General, columns 3 and 4 use the number of aspirants surveyed by the research team.

Table A8: Estimated Treatment Effects on Contributions to Parties

	All aspirants	Selected candidates	All aspirants	All aspirants in stronghold races
	(1)	(2)	(3)	(4)
Treatment	-66	816	-358	-781
	(248)	(460)	(311)	(409)
Selected candidate			-611	-826
			(352)	(503)
Selected X Treatment			1174	1947
			(557)	(822)
Observations	385	92	385	237

Notes: i) this table estimates how contributions (demarcated in US$) from aspirants to parties are affected by the experimental treatment; ii) ordinary least square regression with robust standard errors clustered by party-race; iii) specifications include fixed effects for 26 party-region strata used in the random assignments; and iv) contributions are winsorized at the 95th percentile.

Appendix B: Aspirant Contributions Survey Script

ENUMERATOR PROMPT: “Now I would like to ask you some questions about the campaign for the symbol. We know it's expensive to campaign and we know parties are short of funding.” [Enumerator: Remind everyone that their answers will be kept secret.]

EXPENSE QUESTION: “How much contribution in total have you given to the party leaders for acquiring the party symbol from the start of your campaign? This includes registration/ application fees, tips, small or big token to all the party leaders, kola money and transportation reimbursement tips.”
[Enumerator: Please list the total amount in Leones. For example, if the amount is 100,000 Leones (one hundred thousand) enter 100000. If none, please enter ZERO.]

WINNER EXPENSE QUESTION: “To the best of your knowledge, how much contribution do you think the aspirant who received the symbol has given in total to the party leadership for receiving the party symbol?”
[Enumerator: Please list the total amount in Leones. For example, if the amount is 100,000 Leones (one hundred thousand) enter 100000. If none, please enter ZERO.]

Appendix C: Status Quo Self-Selection in Strong versus Weak Seats

A key idea in the existing literature is that higher returns to office induce positive selection into the pool of aspirants, which has been documented empirically with data from Brazil (Ferraz and Finan 2011), Italy (Gagliarducci and Nannicini 2013), Sweden (Dal Bó et al 2017) and the U.S. (Hirano and Snyder 2019). We can leverage the fact that differences in ethnic composition in Sierra Leone directly affect how likely the party is to win the Parliamentary seat, which in turn determines the expected returns to candidacy. Under this view, in the status quo we would expect there to be more aspirants, and of higher average quality, in stronghold races.

To explore this idea, Appendix Table A9 presents characteristics of the aspirant pool by the expected level of general election competition. It shows that there are more aspirants under consideration for stronghold safe seats, 5 on average, which is statistically distinct from the 4 vying for the nomination in swing seats and the just over 2 in weak seats. Aspirants on average appear to be of higher quality in stronghold areas: they on average have completed an additional half year of education (15.6 years in safe seats versus 15.0 in swing and 14.7 in weak) and are more likely to have some university training (86 percent versus 74 and 62). They also appear a bit wealthier, although the differences are only significant comparing safe to weak seat aspirants, where the mean number of assets owned is 9.6 versus 8.2 (of 11). No clear pattern emerges with respect to demographics.

As mentioned in the main text, it is clear from the last row of estimates that contributions to the party are also increasing in the likelihood that the aspirant's party will win the general election. Together these estimates are consistent with the probability of winning driving much of the expected return to office and thereby inducing positive selection into the aspirant pool.

Table A9: Aspirant Characteristics by General Election Competitiveness

	Mean, safe seats (1)	Mean, swing seats (2)	Mean, weak seats (3)	*p*-value (1) vs (2) (4)	*p*-value (2) vs (3) (5)	*p*-value (1) vs (3) (6)
Number of aspirants	4.94	4.04	2.31	0.09	<0.01	<0.01
Years of education	15.58	14.95	14.70	<0.01	0.51	<0.01
Percent with some university education	0.86	0.74	0.62	0.01	0.18	<0.01
Asset ownership (of 11 household items)	9.64	9.61	8.24	0.88	<0.01	<0.01
Proportion that have a bank account	0.97	0.96	0.92	0.91	0.27	0.17
Proportion male	0.90	0.86	0.95	0.20	0.15	0.40
Years of age	48.21	45.23	49.76	0.01	0.02	0.39
Average contribution to party (controls only)	$2,983	$1,530	$1,089	0.14	0.61	0.25
Observations (party-races)	48	28	16			
Observations (all aspirants)	237	113	37			
Observations (aspirants, control races only)	118	51	16			

Notes: i) this table compares characteristics of aspirants across races where the general election is expected to be a safe, swing or weak seat for the aspirant's party; ii) p-values refer to t-tests rejecting equality of means across columns; iii) the list of assets includes radio, personal computer, mobile phone, DVD player, refrigerator, bicycle, motor vehicle, generator, television, electric fan, and flashlight; iv) bank account includes either domestic or foreign accounts; and v) payment refers to self-reported official and unofficial fees paid by aspirants to party leaders in control group races only.