

GETTING A SEAT AT THE (ELECTORAL) TABLE: PARTISAN POLL WORKERS AND ELECTORAL BIAS*

RAÚL DUARTE[†]

ANDRÉS CARRIZOSA[‡]

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Does poll workers' partisanship affect electoral outcomes? Many countries use partisan and adversarial vote-counting systems where poll workers are party representatives and mutual control is expected to provide fairness. Yet in countries with established party regimes, parties often have *de facto* unequal capacities to send representatives to all booths. Exploiting quasi-random assignment of voters to booths in Paraguay's 2018 general elections, we estimate that partisan poll workers decrease an opposing party's vote share by up to 1.1 percentage points (pp) and increase theirs by up to 0.7 pp. Our analyses also expose differential effects according to the electoral system. In proportional representation races, established parties have incentives to increase their support at the expense of smaller parties. In contrast, single-winner plurality races dampen this effect due to the winner-take-all aspect of these races. Our results have practical implications for politicians and policymakers, and theoretical implications for elections in developing democracies.

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[†]Harvard University (rduarte@g.harvard.edu). Corresponding author.

[‡]Instituto Desarrollo (acarrizosa@desarrollo.edu.py).

“... it does not matter how many votes a candidate gets, but how many the poll workers record on the vote tallies.”

– Carlos María Ljubetic, electoral justice adviser quoted in ABC Color (2018a)

“Indeed, you won the elections, but I won the count.”

– Anastasio Somoza, Nicaraguan dictator quoted in Gott (1977)

In developing democracies, ensuring the integrity of the vote count is an ongoing process. One approach adopted by several countries to ensure the quality of elections has been the use of adversarial controls. In these systems, *political parties* are given roles in polling stations, and through mutual controls between the competing parties, fair electoral results are expected to be registered on election day. Partisan poll watchers who observe the vote count process are found in countries throughout the globe, including Argentina (Casas, Díaz and Trindade 2017), Mexico (Ascencio and Rueda 2019), Turkey (Duvar 2021), and the United States (Brennan Center 2021). Countries where explicitly partisan representatives can be polling station administrators or poll workers (i.e., those counting votes) include Nicaragua, Honduras, Paraguay, Armenia, Yemen, Ukraine, Kosovo, El Salvador, Costa Rica, and Colombia (Pomares et al. 2015; Sjoberg 2016).

However, a potential vulnerability of adversarial control systems is that their fairness depends on the operational capacities of different political parties. In particular, larger parties with stronger operational capacities are more capable of ensuring that their votes are correctly counted and protected, while smaller parties are left more vulnerable to distortions if they cannot cover all voting booths. This paper explores whether unequal party capacities affect the fairness of adversarial, partisan vote-counting systems. That is, do adversarial vote control systems work in contexts with differing party capacities?

Identifying the effect that political party capacity has on electoral outcomes has been difficult to measure for several reasons. First, democratic voting is often protected by the secret ballot. Although the secret ballot is useful in protecting voters from undue coercion (Baland and Robin-

son 2008), it also makes it more difficult to determine whether each vote counted represents a voter's stated preference, or whether some intermediate factor distorted voters' preferences during the counting process. Second, the operational capacity of a political party is not necessarily independent from the popularity of that party, which makes it difficult to discern what factor causes revealed favorable electoral results for a given party.

In this article we explore how party capacity affects the fairness of adversarial control systems by studying the 2018 Paraguayan General Elections. Paraguay provides a great testing ground for examining adversarial control systems for various reasons.

First, although Paraguay transitioned to democracy in 1989, the party of the former dictatorship, the National Republican Association (also known as the *Colorado* party), continues to have higher levels of resources and operational capacities than the second-largest party, the Authentic Radical Liberal Party (also known as the *Liberal* party), and all other smaller political parties. Therefore, Paraguay is an interesting case to explore how variation in parties' operational capacity affects elections.

Second, we assembled fine-grained election data on the explicit partisanship of poll workers, which allows us to test our expectations in a rigorous manner. The lowest level of the Paraguayan electoral administration is the electoral table, which is equivalent to a voting booth. Through a combination of soliciting public records from the electoral administration, and hand-coding thousands of scans of election-day vote tallies, we assembled a painstakingly detailed database of all 21,211 electoral tables of this election. Importantly, on these tallies the poll workers signed and included their ID numbers, which we match to partisan affiliation data sets to uncover the partisan composition of poll workers at each electoral table. These data demonstrate that political parties have unequal poll worker representation across voting booths, as had been argued in previous electoral observation missions in Paraguay (EU 2013).

Third, within polling stations, which contain multiple voting booths, voters are assigned to booths alphabetically and we show that voters' names are orthogonal to their political preferences.

Therefore, this quasi-random assignment of voters to booths implies that on average, voters across voting booths within a given polling station should have similar political preferences. By exploiting this aspect of the data generating process we are able to credibly isolate how characteristics of electoral tables—namely the party identification of poll workers—affect electoral outcomes independent of the preferences of voters.

Finally, the 2018 Paraguayan elections are interesting because of the structure of the ballots used for all six elections. These are for President, the Senate, the Chamber of Deputies, Governor, Departmental Council, and MERCOSUR parliament. The president and governors are elected by single-member district plurality (SMDP) voting, while the remaining four races have a proportional representation (PR) system. For each electoral race a single ballot contains all available party options, and Paraguay uses separate ballots for each race.¹ This ballot structure allows us to explore how poll workers behave strategically in their attempts to protect or discard votes. Given that within each electoral table the *same* voters and the *same* poll workers are counting *different* races with *different* electoral rules, this gives us an unprecedented opportunity to explore how different electoral systems affect incentives for partisan poll workers. Specifically, we examine how smaller parties work with established parties in SMDP elections—allowing small-party votes to be protected by high-capacity parties—but small parties tend to be adversaries to established parties in PR elections—leaving small-party voters vulnerable in these PR elections.

Our results show that it is always beneficial for a political party to be represented at an electoral table—meaning that parties with higher operational capacity systematically benefit. In terms of how electoral systems affect the relationship between partisan poll workers and electoral outcomes, we find that the effects of partisan poll workers are stronger in PR races rather than SMDP races. We posit this occurs because in SMDP elections established parties often enter in coalitions

¹See Online Appendix (OA) Figure A1 for an image of the ballot used for the senatorial election.

with smaller parties, such that smaller parties benefit from the protection of these larger parties. However, in PR systems, the established parties often run separately from smaller political parties, leading to established parties benefiting from their own partisan controls, while smaller parties miss out on these protections.

Our results demonstrate how elections can be skewed in developing democracies in multiple ways. Our findings and others such as (Duarte et al. 2019; Finan and Schechter 2012), convey how traditionally dominant political parties seek to maintain their power despite advances in democratization. Across several countries, particularly those of Latin America, established parties have foundered in recent years as these countries have further democratized (Lupu 2016). Our findings point to some methods through which established, high-operational-capacity parties can tilt the playing field through alternative means, such as using their operational capacities to provide better protections for their votes, and fewer protections for the votes of others. Operational capacity in this account can reinforce the effects of electoral institutions that foment a two-party system by further advantaging established parties in PR elections.

In practical terms, our results suggest to parties in adversarial systems that ensuring their parties' poll worker representation is advisable. This has been commented on intuitively in Paraguayan political circles and the media before (ABC Color 2018a; Colmán Gutiérrez 2018; Ferrara 2016), yet our study provides the first empirical analysis that the composition of partisan poll workers counting votes significantly affects electoral outcomes.

1 Literature Review

A broad literature analyzes election irregularities at different stages (Birch 2011; Lehoucq 2003; Simpser 2013). A closely related literature studies the role of partisan poll watchers who oversee the vote count and may indirectly influence electoral results (Ascencio and Rueda 2019; Casas, Díaz and Trindade 2017). These papers highlight how parties spend resources to have more poll

watchers, how this advantages parties with greater organizational capacity, and how parties may allocate poll watchers to electoral tables strategically.

In contrast, our paper is about poll *workers*— those actually counting votes and thus more able to influence election results. A more recent literature has analyzed poll workers. For example, Challú, Seira and Simpser (2020) show that nonpartisan benign errors are made by Mexican poll workers with lower education and higher workload. Similarly, Warner et al. (2021) find that vote tally irregularities in Kenya’s 2013 presidential election do not correlate with election outcomes.

We contribute to the nascent literature on poll workers in three ways. We showcase a research design that allows one to identify if partisan poll workers affect electoral outcomes in a way that is independent from voters’ preferences. Second, by obtaining data on both the pre-registered and election-day poll workers, we can quantify how parties’ capacity vary between their aspirations and *de facto* capacity on election day. These analyses show how smaller parties may ambitiously pre-register more poll workers than they can actually turn out on election day, which eventually benefits the parties with greater capacity.

Finally, the ballot structure of Paraguayan elections gives us a unique opportunity to explore how poll-worker effects can vary depending on the electoral system. Because each electoral race uses an independent ballot, each ballot provides an independent opportunity for irregularities within each electoral table. For example, poll workers can decide to annul a voter’s ballot for the legislative elections, but choose not to do so for the executive election ballot. Our study leverages data from six different elections nationwide, which allows us to test new hypotheses compared to Ascencio and Rueda (2019) and Casas, Díaz and Trindade (2017).

Historically, it has been difficult to explore how different electoral systems either promote or prevent electoral irregularities. In a cross-national study of 24 postcommunist countries, Birch (2007) finds that elections held under plurality rule are more likely to be the object of malpractice than those run under PR, as the author argues that candidates in SMD have more to gain from malfeasance and that the number of votes needed to change the outcome is often smaller. In

a similar vein, Lehoucq and Molina (2002) find that plurality districts generated more electoral fraud complaints than multiseat PR districts in Costa Rica. Norris (2017) provides expert survey evidence that list PR electoral systems are perceived to have higher electoral integrity.

Yet the identification of the effect that electoral systems have on irregularities is difficult to disentangle because we expect individuals to vote strategically. That is, even voters with stable and sincere preferences across different races behave quite differently depending on the number of candidates available. For example, in a single-member district election, citizens might decide to vote for one of the top two candidates available rather than voting for a third candidate they prefer, because voting for a third party would be a “wasted” vote. However, under a multi-member district election, voting for third parties should increase (Cox 1997). In exploring whether partisan workers behave differently from one electoral race to another, it would therefore be necessary to subtract the effect that strategic voting has on electoral behavior, and this would allow us to isolate the differential effect of partisan poll workers on outcomes relative to electoral rules.

In Paraguay, this is possible because separate ballots are used for each electoral race. As we explain in further detail on Section 4, by leveraging electoral race within polling station fixed effects (e.g., indicator variables for presidential races at polling station 1, 2, etc.) we can capture strategic voting within each polling station. Doing this essentially allows our regression models to take into account and subtract strategic voting from our estimated poll worker effects. Because voters within voting booths but across races are constant, absorbing strategic voting should allow us to equalize voter behavior across different races. Hence, the main variance between booths across races after taking our fixed effects into account should be a function of the behavior of poll workers instead of voters across different ballots. Thus, the ballot structure of Paraguayan elections allows for differential poll-worker behavior at the electoral race level within each voting booth. This provides us with a unique opportunity to explore whether poll workers are more or less protective of votes under different electoral systems.

2 Paraguayan Election Administration Institutions

In this section we briefly overview how electoral institutions work in Paraguay. The electoral system in Paraguay has a judicial arbiter between competing partisan actors at the national, departmental, district (municipalities), polling station, and electoral table (voting booth) levels. At the national level the judicial arbiter is the Supreme Tribunal of Electoral Justice (TSJE), which manages lower levels of the electoral court.

At the lowest level of the electoral administration structure are polling stations, which are usually schools, and within these polling stations are the electoral tables. At the table level all parties are entitled to send *veedores* (poll watchers).² In contrast, the Electoral Code establishes that **only the three largest parties**—in terms of their representation in the legislature—are each entitled to one poll worker seat in each electoral table.³ As the Colorado and Liberal party have always had the most or second most seats in Congress, in practice this rule implies that these parties are *always* entitled to at least one seat in every electoral table. The third spot has been assigned to different parties throughout Paraguay’s democratic period, but in the 2018 elections, this spot was reserved for the left-wing *Frente Guasu* (FG) party which had the third most seats in Congress at

²More information about the role of poll watchers is on OA Section B. Unlike the poll worker data we are able to collect, the election authority only collects data on the partisan poll watchers pre-registered in advance of the election and does not require poll watchers to sign and include their ID numbers on vote tallies on election day. Hence, we are not able to determine the *de facto* poll watchers at each voting booth. Still, OA Tables E1 and E2 confirm the robustness of our main results after controlling for pre-registered poll watchers.

³The determination of electoral rules in the most recent Electoral Code of 1996 was largely dominated by the Colorado and Liberal parties, which at the time faced the most competition by another third party and the three-member electoral table rule has remained.

the time.⁴ Thus, all other political parties are excluded from having electoral table poll workers unless the top three parties do not pre-register for all the spots they are entitled to.⁵

Weeks before the election, political parties pre-register their poll workers and poll watchers.⁶ Among the pre-registered poll workers of each electoral table one is randomly selected to be the “president” of the table, while the two others are called *vocal 1* and *vocal 2*.⁷ Despite the on-paper hierarchy, all three poll workers are mostly equal in terms of attributions, and any conflicts are decided by a simple majority decision. At the end of the election day, all three poll workers count the votes together and each writes up a vote tally (called *acta electoral*) for each race of the table. All three are required to sign each vote tally, acknowledging that they agree with the counted and registered results. Importantly, by 2018 the Electoral Code stipulated that after the elections take place the actual paper ballots are discarded, leaving the table-level tally as the lowest-level electoral document which can be inspected by parties and electoral administrators after the election day (Última Hora 2018).

⁴Technically, the FG is an electoral alliance of smaller left-wing political parties which run together under the FG name for elections. The FG member parties are PPS, PFA, PPC, PPT, PCP, PCPS, PMPP, and PUP. All party acronyms are described in OA Section B.1.

⁵These limits on the number of poll workers at each booth are common throughout Latin America and vary between three to five (Pomares et al. 2015).

⁶They also pre-register substitute poll workers and poll watchers which are meant to have priority in substituting those that do not show up.

⁷See OA Figure A2 for a picture of a typical electoral table setup. OA Table E3 tested whether the partisanship of the poll worker president has an independent effect on electoral results. The results do not show a clear pattern, which could be explained by the fact that ultimately the official result that counts within the tables is that of the majority (a minimum of 2 out of 3 poll workers).

Despite this formal structure created to protect votes, there are several ways in which this setup can be subverted to benefit certain political parties through informal institutions (Helmke and Levitsky 2004). For example, although the electoral code stipulates that each party with reserved seats should have at most one poll worker at each table, in practice this is not always followed as vacancies on the day of the election often occur. These vacancies are most often filled by the Colorado and Liberal parties through election-day replacements of poll workers.⁸ Through our own conversations with political party activists and through focus groups done with political brokers by a local political scientist (Lachi 2009), we learned how poll worker representation is “fundamental” for parties and how some poll workers are bribed to skew results or not show up (Lachi 2009; Paraguay 2018).⁹ Although these quotes may be hyperbole, they indicate a possible scope for malfeasance and that political parties care about having partisan poll workers present. While poll workers are not paid by the election authority, established parties pay their poll workers that volunteer. In addition, political parties use their own funds to pay for transportation and meals for poll workers as this is also not covered by the election authority (Lachi 2009), which favors

⁸If a pre-registered poll worker does not appear, they can be substituted by a pre-registered substitute poll worker if a party has one available in the polling station. If there are no pre-registered substitute poll workers at the polling station when a vacancy occurs, then any voter at the polling station can become a poll worker if they are available to do so for the remainder of the day. Often some partisan poll watchers become poll workers if the substitute poll workers also do not appear. Anecdotally, the empowered party officers (which are described in Appendix Section B) present at a polling station will discuss and negotiate the possibility of seating their party affiliates at tables within a polling station.

⁹The news article from Paraguay (2018) is linked to a video where journalists interview an anonymous political broker who claims that electoral tables can be “bought” by bribing poll workers to distort the electoral results.

better funded parties. Finally, political party activists revealed to us that some political parties encourage their voters to show up to their polling stations early, in case the pre-registered poll workers do not show up. Given that by law each electoral table has to have three members, if the pre-registered poll workers do not show up they can be replaced by any voter present in the polling station. We expect that this practice also tends to favor the established parties which have more registered voters.

Given that poll workers can be replaced from “fair allocations” (poll worker party distributions where no party has more than one poll worker) to “unfair” allocations where some party or coalition has a majority, our first two hypotheses concern the partisan allocations of electoral tables:

Hypothesis 1: A established party that has a majority of poll workers in an electoral table (that is, either two or three out of three) will have higher vote shares in those tables, or the parties opposing that party with a majority will have lower vote shares in those tables.

Hypothesis 2: Parties completely lacking poll workers at an electoral table will tend to receive a lower vote share in those tables.

In terms of actual poll worker behavior, what is anecdotally said to occur is that Colorado and Liberal poll workers defend their votes, and may distribute among themselves the votes for remaining parties that do not have a representative at the voting booth (ABC Color 2018a; Lachi 2009).¹⁰ Allegations like this also emerged after the 2018 elections. A Paraguayan columnist remarked that his vote for a small party representing indigenous peoples was stolen (Colmán Gutiérrez 2018) since he observed *zero* votes for his party on the electoral table result published by the election authority. A similar allegation was made by another voter who voted for another small party (ABC Color 2018b). Further reports can be found in the OA. Results at the voting booth level can only

¹⁰See OA Figure B4 for a newspaper infographic from ABC Color (2018a) alluding to how colluding coalitions of poll workers could alter the count.

be challenged during the counting process among poll workers, poll watchers, and party officers that are present, which limits the ability of smaller parties to protect their votes.

In addition, electoral systems can affect the protection and competition between larger, established parties and smaller, newer parties. Specifically, because strategic voting under SMDP promotes the fielding of fewer candidates, small parties often enter in coalitions with larger parties in these races, meaning that small-party voters are more likely to be protected by larger parties in these races. In contrast, PR promotes the fielding of more party lists, so small-party voters are less likely to have their votes protected by established parties. Therefore we predict:

Hypothesis 3: In proportional representation electoral races, small-party voters are less likely to receive the same level of protection as larger-party voters. That is, a majority of established party poll workers will have a stronger negative effect on the proportion of votes cast for small, non-established parties.

3 Data

We assembled a highly disaggregated database for the 2018 Paraguayan general election. These elections had around 1,100 polling stations with approximately 21,000 electoral tables nested within them.¹¹ The median and mean number of tables within a polling station are 16 and 19 respectively. Again, within each electoral table, paper ballots are given for each of six individual

¹¹Given that Paraguay by 2018 had a voting-age population of around 4.2 million, covering all 21,000+ electoral tables with a poll worker entails having volunteers equal to around half a percent of this population. This requires a relatively high level of party capacity, which compounds itself if we also take into account other electoral agents such as poll watchers.

racas and thus six table-level vote tallies exist.¹² To explore our research questions we rely on three kinds of data: (1) the electoral results, (2) data on the characteristics of voters, and (3) data on the characteristics of electoral tables—including the partisan support of the poll workers.

The most straightforward data we obtained were the electoral results. The TSJE published the electoral results at the voting-booth level online for this election. Thus, to access these data we simply downloaded it from TSJE data repositories online.

Second, we obtained data on the characteristics of voters from a variety of sources. First, we relied on the 2018 electoral registry from the TSJE. This dataset gives us information about all registered voters in the country, including their national identification number, and information about which polling station and electoral table each voter was assigned to by the TSJE. In addition, because the TSJE assists political parties with organizing their party primaries, it collects data on the partisan affiliation of each registered voter from political parties. We match the 2018 electoral registry to the partisan support data through voters' ID numbers, which allows us to identify the proportion of partisan support for each party at each electoral table in the 2018 general election.

Finally, we obtained data on the partisanship of poll workers from two different sources. First, before each election, political parties pre-register their volunteer partisan poll workers with the TSJE. These data from the TSJE gives us the “planned” allocation of poll workers to electoral tables and the party they support. However, one limitation of these data is that on election day only some of the pre-registered poll workers make it to their electoral tables, thus some electoral tables experience election-day absences. Simply looking at the pre-registered allocation of poll workers to tables is insufficient, because we need to observe the *de facto* allocation of poll workers to electoral tables—that is, those that actually showed up on election day.

¹²One exception is the capital Asunción because it is a federal district, so governors and departmental legislators are not elected there. Also, Paraguayan voters abroad could only vote for president, senators, and the MERCOSUR parliament.

To acquire information on the *de facto* allocation of poll workers to electoral tables we scraped the TSJE's website for scans of quick count vote tallies of each electoral table for each electoral race.¹³ This gave us around 120,000 quick count vote tallies for all electoral tables.¹⁴ Interestingly, these vote tallies required poll workers to sign them and write their national ID numbers at the bottom of the tallies.¹⁵ We then digitized the national ID numbers written by poll workers on their vote tallies, and checked whether these corresponded to the pre-registered poll workers or whether a poll worker was replaced by merging our datasets at the national ID level. To obtain the partisan support of replacement poll workers we merge in the partisan support datasets mentioned above.

To summarize our main results from these comparisons, in Figure 1 we find that most electoral tables had one or more poll workers replaced, as we graph the frequency of tables that had a certain number of poll workers replaced. In fact, more than 21,000 poll workers (more than a third of the

¹³Quick count tallies allow the election authority to have a provisional scrutiny of all votes within a few hours after voting ends. We only use the quick count tallies to uncover the identity of the poll workers, as we rely on the finalized election results obtained from the election authority.

¹⁴OA Figure C1 shows all the quick count tallies from one electoral table.

¹⁵Although it is possible that some poll workers could have forged the signature and ID number of pre-registered poll workers we find this unlikely for several reasons. First, as is shown in the paper, more than a third (more than 21,000) of all pre-registered poll workers get replaced according to our data, showing that a substantial number of replacement poll workers are willing to acknowledge they are not the pre-registered poll workers. Second, it was not expected that the quick count vote tallies would be made available to the wider public, because these elections were the first ones where this occurred. Third, working as a poll worker or political broker are anecdotally tasks that many ambitious members of the established political parties (Colorado and Liberal) perform to climb up the political ladder of these parties. Recording their names and ID numbers honestly allows party officials to know who supported the party as poll workers during the elections.

pre-registered poll workers) were replaced. In Figure 2 we show how these replacements favored some parties at the expense of other parties, as we show the proportion of electoral tables with a certain number of Colorado, Liberal, and FG poll workers. The histograms in gray show how the pre-registered allocation of poll workers is relatively balanced as the main parties have only one poll worker per electoral table at most electoral tables.¹⁶ In contrast, the election-day *de facto* allocation of poll workers outlined with dashed lines is more skewed towards the two main parties (Colorado and Liberal), particularly the Colorado party. Instead, the FG loses a substantial portion of their poll workers on election day. Further details on the data construction, descriptive statistics, and comparisons between the pre-registered and *de facto* poll workers are contained in the OA Section C.

¹⁶While the pre-registered poll worker allocations are relatively more balanced, we can still notice that in some cases the established parties have 2 pre-registered poll workers. This can occur because some parties may not pre-register their poll workers due to lacking volunteers at remote polling stations, which seems to affect the FG party the most.

Figure 1: Total poll workers replaced at each voting booth

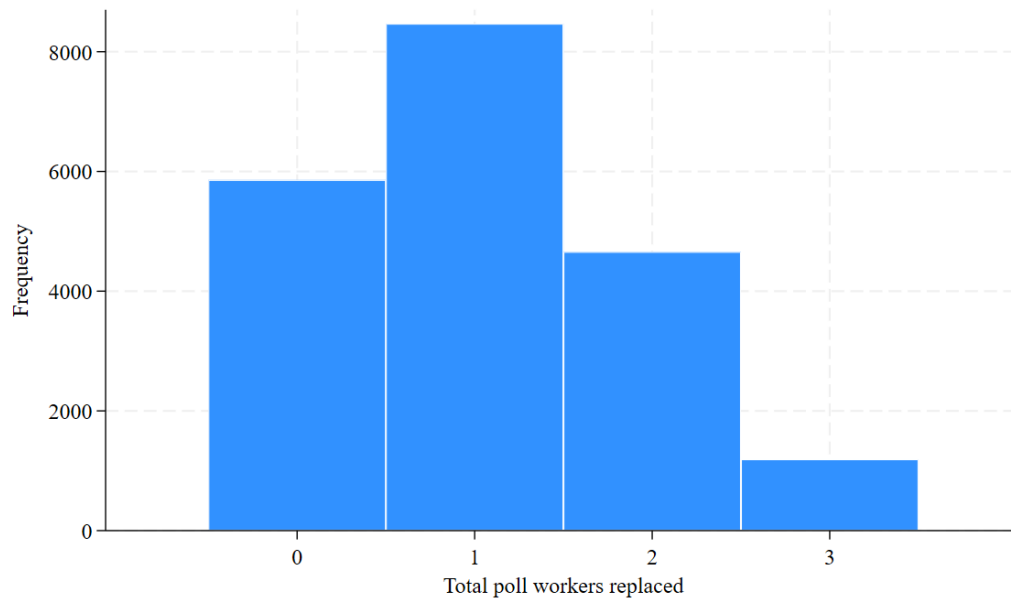
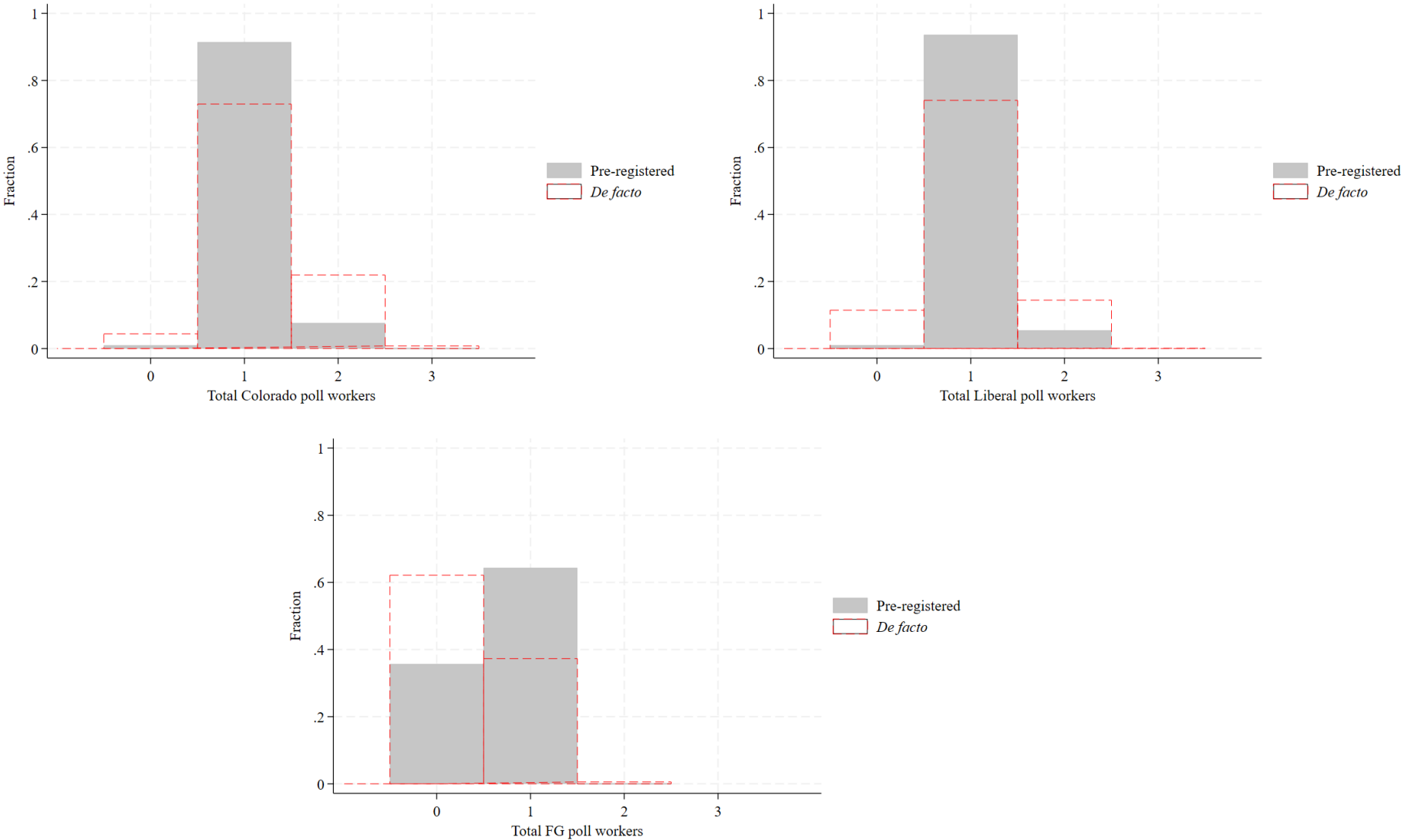


Figure 2: Pre-registered and *de facto* allocation of partisan poll workers



4 Empirical Strategy

The difficulty with disentangling the effect of partisan poll workers on electoral results is the secret ballot. Although it is quite beneficial as it allows voters to express themselves honestly at the polls (Baland and Robinson 2008), the secret ballot makes it difficult to identify irregularities because we cannot observe whether the final votes were accurately registered at a booth or not, as we can never see the original individual votes.

What is interesting about the Paraguayan case is the quasi-random allocation of voters to voting booths. In Paraguay, citizens vote at polling stations which tend to be close to their homes and are usually schools. Within polling stations, voters are assigned to voting booths alphabetically—according to the first letters of their surnames. Voters are ordered alphabetically among those from their polling station and every group of 200 voters gets their own voting booth. Thus, the first 200 voters get assigned to voting booth number 1, the next 200 voters get assigned to voting booth number 2, and so on until all voters are assigned to a voting booth.¹⁷ Similarly to Casas, Díaz and Trindade (2017), we test whether the first letters of surnames are uncorrelated with political preferences and electoral results. If so, we have a quasi-random assignment of voters to electoral tables which allows us to credibly assume that similar electoral outcomes should be recorded across tables within the same polling station. Hence, any strong deviance in electoral results within polling stations suggests that differences across tables are due to qualities of the tables themselves (particularly the partisan poll workers) and not the preferences of voters.

We run tests to confirm whether the alphabetical assignment of voters to voting booths within polling stations can be considered quasi-random. We do this by testing directly for the association between voters' partisan support and their surname initials. To our knowledge, this is the

¹⁷Given that most polling stations do not have an exact multiple of 200 voters, the last voting booth in each polling station most often does not have exactly 200 voters.

strongest and most direct test of this identification strategy thus far in the literature. Other papers that rely on this identification strategy have used proxies for the political preferences of voters instead of their partisan affiliation and support according to the election authority. Cantú (2014) tests whether voters' surname initials correlate with TV viewership or being an *Oportunidades* (conditional cash transfer) recipient. Casas, Díaz and Trindade (2017) test whether surname initials correlate with congressional candidates' parties and whether surname initials correlate with employee wages from a specific municipality. Our test with voters' actual political preferences and surname initials is more direct. Our analyses, which confirm that voters' political preferences are uncorrelated with their names, can be found in OA Section D.

The results from our test provides a rationale for our assumption that the assignment of voters to voting booths is a quasi-random assignment. Thus, any strong deviance in results recorded across booths within a polling station are likely due to the partisan representation of poll workers in booths after we control for polling station fixed effects. Then by focusing on differing allocations of partisan poll workers in booths and using polling station fixed effects, we explore variation *within* polling stations *between* booths. There is a large literature on the determinants of election irregularities that highlights variables such as socioeconomic inequality (Ziblatt 2009), political competitiveness (Lehoucq 2003), community social networks (Duarte et al. 2019), among others. This design controls for these variables and others such as local state capacity, partisan control of the municipal or state government, urban vs. rural districts, among others. That being said, one caveat from our empirical strategy is that we do not capture variation in electoral malfeasance across polling stations, given that we net these out with the polling station fixed effects.

To operationalize the allocation of partisan poll workers, we developed several different indicator categories. When all three poll workers at an electoral table support the same party, we have what we call a “trifecta.” In our most common regression specifications, we then include dummy variables for Colorado and Liberal party trifectas separately. We also generate additional variables for when two out of the three poll workers at an electoral table support the same party,

which we refer to as an “advantage.” For the “advantage” indicator variables we separate these into four types: “Colorado advantage + Liberal,” “Colorado advantage + Other,” “Liberal advantage + Colorado,” and “Liberal advantage + Other.” For these variables, “other” refers to a poll worker that is not registered as supporting either the Colorado or Liberal party. Our excluded category corresponds to voting booths with “fair allocations” having only one Colorado poll worker and one Liberal poll worker. Finally, we have an indicator variable for “other poll worker allocations”, which refer to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced above. For example, a voting booth with two FG poll workers or a voting booth with two poll workers not registered as supporting any party would correspond to this “other poll worker allocation” category. Given the way these indicator variables are defined, they are all mutually exclusive and together cover all voting booths in our data.

If we treated our data as resulting from a natural experiment, we would include polling station-level fixed effects and model several sets of dependent variables of interest, such as vote shares at the booth level for (1) the Colorado party, (2) the Liberal party or GANAR Alliance,¹⁸ and (3) all other parties. Hence, we would run regression specifications with the following format:

$$Y_{ab} = \beta_0 + \beta_1 \text{Colorado_Trif}_{ab} + \beta_2 \text{Colorado_Adv_Oth}_{ab} + \beta_3 \text{Colorado_Adv_Liberal}_{ab} \\ + \beta_4 \text{Liberal_Adv_Colorado}_{ab} + \beta_5 \text{Liberal_Adv_Oth}_{ab} + \beta_6 \text{Liberal_Trif}_{ab} + \beta_7 \text{Other_pw_alloc}_{ab} \\ + \theta_a + \epsilon_{ab},$$

¹⁸For the presidential race, the Liberal party and several smaller parties banded together to present a single candidate under the GANAR alliance. The full list of parties that were part of GANAR are: Liberal party, PRF, PDP, PEN, AP, PMAS, and the FG member parties. This alliance also existed for a few other races for deputy, governor, and departmental council. Yet in practice, the Liberal party mainly ran its own candidates through it, and the FG often fielded separate candidates for these other races too. All party acronyms are described in OA Section B.1.

where Y is some electoral outcome for voting booth b belonging to polling station a , and θ is a polling station fixed effect. Our coefficients of interest are the β 's which capture the potential effect of different partisan poll worker allocations on electoral results.

Still, we address two potential selection issues. First, given that political party leaders are aware that poll workers matter for electoral results, prior to the elections they may prioritize pre-registering their poll workers at certain electoral tables over others. Second, because political parties have different operational capacities and party membership at certain localities, locally high-operational capacity parties are more capable of filling poll worker vacancies.¹⁹ To make sure our causal inference design is sound, we explore these two potential selection problems in the following section.

4.1 Exploring Selection

Political parties can use several strategies to assign poll workers to polling stations and voting booths to skew electoral outcomes in their favor. Yet through the use of polling station-level fixed effects, the remaining selection problems we must deal with relate to within-station selection strategies that political parties may pursue. We posit that there are two main selection strategies, and we will call them *central strategies* and *capacity-based network strategies*. Neither of these are necessarily "better" or "worse" in terms of electoral fairness, but they do present potential threats to our identification strategy.

Central strategies deal with the role that centralized party organizations play months before

¹⁹That being said, if we compare the voting booth where the *de facto* poll workers worked at with the booth where they would have voted if they were regular voters, we find that only around 3% of them worked at the booth where they would've voted if they were regular voters. This figure is quite small, which allays concerns that the observed effects from partisan poll workers derives from the partisanship of voters at the booth.

the elections take place. Parties can use information that they have at hand about their electorate to strategically pre-register their copartisans at electoral tables. One key piece of information that we expect party organizations to have is the proportion of voters affiliated to their parties assigned to each electoral table. With this information parties may: (1) place copartisan poll workers in tables with higher proportions of *their own* voters to protect the votes for their own party, or (2) place copartisan poll workers in tables with higher proportions of *opposing party affiliates* to dampen the votes of the opposition. The key idea here is that these party strategies are centralized and premeditated actions taken to protect (or undermine) votes. Because this behavior may be systematic, it can create selection problems that undermine our identification strategy if not controlled for.

Next, *capacity-based network strategies* allow certain parties to achieve a copartisan replacement of poll workers at tables where parties have more affiliated copartisans. This selection issue may be systematically related to outcomes recorded at electoral tables because: (1) electoral tables with more copartisans are more likely to have favorable outcomes for that party, and (2) a party's ability to place copartisan poll workers after a vacancy should be more likely with higher levels of registered copartisan affiliates. Hence, this mechanism results from copartisan networks acting in a decentralized manner.

To explore these two selection mechanisms we run three different regression models on Table 1. For both strategies we expect that the probability of a political party assigning a poll worker to an electoral table to correlate with the proportion of party affiliates at said table. Therefore, our three dependent variables are the proportion of: (1) Colorado party affiliates at a given table, (2) Liberal party affiliates at a given table, and (3) affiliates to any other political party at a given table. We include two groups of independent variables: (1) the centrally-planned *pre-registered* partisan allocation of poll workers to tables, and (2) the decentralized *de facto* partisan allocation of poll workers to tables. These groups of independent variables get at our two selection mechanisms mentioned above, and the partisan allocations of poll workers are operationalized using the

indicator variable combinations of partisan poll workers previously discussed.

The main take-away from Table 1 is that the aforementioned strategies seem to be executed, even after controlling for polling station fixed effects. This implies that political parties may strategize at the table level in their attempts to fill poll worker positions in a way that correlates with the proportion of partisans that they have registered to vote at each table. The Colorado party, Paraguay's largest party and the party of the 1954-1989 dictatorship, seems to take a more centralized approach with the pre-registered poll workers. The Colorado party appears less concerned with gaining a majority of poll workers where it has fewer Colorado supporters, given the negative correlation between the proportion of Colorado voters at tables and the pre-registered allocations with two Liberal poll workers and one poll worker from another party, as well as the residual "other" poll worker allocation. In contrast, the Liberal party's behavior seems related to election-day replacements (through the *capacity-based network* mechanism). The Liberal party is less well-resourced than the Colorado party and is likely relying more explicitly on its local networks of supporters to volunteer as poll workers on election day if any poll worker is absent from their voting booth. Table 1 shows that a *de facto* allocation with two Liberal poll workers and a poll worker from another party is more likely at tables with more Liberal voters. Finally, the third regression on Table 1 shows that a pre-registered Colorado party trifecta is less likely at tables with a high proportion of voters supporting other political parties (i.e., neither the Colorado nor Liberal party).²⁰

In short, political parties in Paraguay appear strategic in terms of how they allocate poll workers to electoral tables, even after controlling for polling station-level fixed effects. These selection issues are important to take into account when we focus on the effects that poll workers have

²⁰As will be seen in subsequent regression tables, the coefficients for trifectas are usually not significant, and most likely this is because trifectas are so infrequent that the statistical power for this dummy variable is low.

Table 1: Exploring party allocation strategies according to the proportion of affiliated voters

	% of Colorado voters (1)	% of Liberal voters (2)	% of other party voters (3)
Prereg. Colorado trifecta	1.5656 (1.9736)	-0.8783 (1.2282)	-1.3278** (0.6598)
Prereg. Colorado advantage + Other	-2.4710* (1.2812)	-0.3698 (1.0738)	-0.1382 (0.4615)
Prereg. Colorado advantage + Liberal	0.0903 (0.2092)	-0.1924 (0.1768)	0.0870 (0.0638)
Prereg. Liberal advantage + Colorado	0.0156 (0.2296)	0.1055 (0.2105)	0.0388 (0.0703)
Prereg. Liberal advantage + Other	-5.9477** (3.0004)	4.2494 (6.0294)	0.2792 (0.2751)
Prereg. other poll worker allocation	-5.8645** (2.6991)	3.4061 (2.5910)	-0.3407 (0.4298)
<i>De facto</i> Colorado trifecta	0.3145 (0.4248)	-0.0798 (0.3145)	-0.0640 (0.1851)
<i>De facto</i> Colorado advantage + Other	0.0704 (0.2201)	-0.1808 (0.1773)	0.0263 (0.1009)
<i>De facto</i> Colorado advantage + Liberal	0.0852 (0.1605)	-0.0987 (0.1334)	-0.0356 (0.0595)
<i>De facto</i> Liberal advantage + Colorado	-0.0340 (0.1718)	0.0701 (0.1505)	-0.0230 (0.0658)
<i>De facto</i> Liberal advantage + Other	-0.1820 (0.3648)	0.6906** (0.3390)	-0.0661 (0.1299)
<i>De facto</i> Liberal trifecta	2.1087 (1.4418)	0.0757 (1.2114)	-0.4266 (0.4629)
<i>De facto</i> fair allocation	0.1349 (0.1352)	-0.1771 (0.1116)	-0.0144 (0.0523)
Mean of Dependent Variable	34.1749	17.3445	17.3445
Polling station FE	X	X	X
Observations	20,354	20,354	20,354
R^2	0.7523	0.7930	0.4503

Note: A unit of observation is a voting booth. Standard errors are robust. The regressors correspond to either pre-registered or election-day (*de facto*) partisan poll worker allocations. A trifecta indicates all three poll workers from the same party work at the voting booth. There is no pre-registered Liberal trifecta in our data so we do not include it as a regressor. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with a pre-registered “fair allocation” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The *de facto* “other poll worker allocation” variable is collinear with the remaining regressors and is thus omitted from the output.

on electoral outcomes in Section 6. We thus control for the proportion of voters supporting the Colorado, Liberal, and other political parties at the electoral tables to control for the possibility of strategic allocations by parties.²¹ This allows us to further isolate how the partisan allocation of poll workers affects electoral outcomes independent of the preferences of voters and political parties' allocation strategies.

In addition, given that in Section 6 we emphasize analyses pooling all electoral races together, we add fixed effects for every combination of polling station and electoral race.²² This allows us to only compare across voting booths from the same polling station and electoral race. This way we can account for differences between electoral races within each particular polling station—differences such as candidate characteristics and party options. We do not control for pre-registered allocations since this would be collinear with the *de facto* allocations and these are less relevant compared to the true poll worker representation during the election. Thus, our main regression specification has the following format:

$$\begin{aligned}
Y_{abc} = & \beta_0 + \beta_1 \text{Colorado_Trif}_{ab} + \beta_2 \text{Colorado_Adv_Oth}_{ab} + \beta_3 \text{Colorado_Adv_Liberal}_{ab} \\
& + \beta_4 \text{Liberal_Adv_Colorado}_{ab} + \beta_5 \text{Liberal_Adv_Oth}_{ab} + \beta_6 \text{Liberal_Trif}_{ab} + \beta_7 \text{Other_pw_alloc}_{ab} \\
& + \delta_1 \text{voter_prop_Colorado}_{ab} + \delta_2 \text{voter_prop_Liberal}_{ab} + \delta_3 \text{voter_prop_Other}_{ab} + \eta_{ac} + \varepsilon_{abc}.
\end{aligned}
\tag{1}$$

where Y is some electoral outcome for electoral race c at voting booth b belonging to polling station a , and η is a fixed effect for each combination of electoral race and polling station. Our

²¹This is an informative covariate as around 77% (3.25 out of 4.24 million) of the electorate had a partisan affiliation by the time of the election. Although many have multiple affiliations, which we consider distinct from “pure” partisans for a single party.

²²OA Tables E4 to E9 show our patterns hold for each electoral race separately.

coefficients of interest here are still the β 's which capture the potential effect of different partisan poll worker allocations on electoral results, after further controlling for voters' preferences and political parties' allocation strategies.²³

5 Modeling Electoral System Effects

So far we have discussed in Section 4 how we leverage quasi-random assignment in our models, and in Section 4.1 how we adjust our models to address two potential selection effects we identified, where parties may systematically anticipate table-level trends in their choices for poll worker assignments. In this subsection we describe how our data can be used to identify differential incentives for partisan poll workers by electoral system. As there are separate ballots for separate races, table members have independent opportunities to change their behavior when registering votes for one race (say Presidential race), and another (say Senate race).

To test for the possibility of differential incentives for partisan poll workers by electoral system, we generate an indicator variable for electoral races with a proportional representation (PR) system (i.e., the senatorial, MERCOSUR parliament, deputies', and departmental council races). In regressions including observations from all electoral races, we interact the PR race indicator variable with each of the indicator variables for different allocations of partisan poll workers.²⁴

²³Throughout our analyses we use robust standard errors, given that our polling station fixed effects are nested within other clusters we could potentially use (e.g., municipality).

²⁴On OA Table E10 we also interact the PR race indicator variable with the proportions of voters from the Colorado, Liberal, and other parties registered to vote at each voting booth (Beiser-McGrath and Beiser-McGrath 2020) and the results are qualitatively similar.

Our regression specification for this test is as follows:

$$\begin{aligned}
Y_{acb} = & \beta_0 + \alpha_1 \text{Colorado_Trif}_{ab} \times PR_c + \alpha_2 \text{Colorado_Adv_Oth}_{ab} \times PR_c + \alpha_3 \text{Colorado_Adv_Liberal}_{ab} \times PR_c \\
& + \alpha_4 \text{Liberal_Adv_Colorado}_{ab} \times PR_c + \alpha_5 \text{Liberal_Adv_Oth}_{ab} \times PR_c + \alpha_6 \text{Liberal_Trif}_{ab} \times PR_c \\
& + \alpha_7 \text{Other_pw_alloc}_{ab} \times PR_c \\
& + \beta_1 \text{Colorado_Trif}_{ab} + \beta_2 \text{Colorado_Adv_Oth}_{ab} + \beta_3 \text{Colorado_Adv_Liberal}_{ab} \\
& + \beta_4 \text{Liberal_Adv_Colorado}_{ab} + \beta_5 \text{Liberal_Adv_Oth}_{ab} + \beta_6 \text{Liberal_Trif}_{ab} + \beta_7 \text{Other_pw_alloc}_{ab} \\
& + \delta_1 \text{voter_prop_Colorado}_{ab} + \delta_2 \text{voter_prop_Liberal}_{ab} + \delta_3 \text{voter_prop_Other}_{ab} + \eta_{ac} + \varepsilon_{abc},
\end{aligned} \tag{2}$$

where Y is some electoral outcome for electoral race c at voting booth b belonging to polling station a , and η is a fixed effect for each combination of electoral race and polling station. The coefficient for PR race is omitted because it is collinear once we control for polling station-electoral race fixed effects. Our coefficients of interest are the α 's which capture the differential effect of partisan poll worker allocations on electoral results from PR races.

6 Main Results

We now turn to our main dependent variables of interest, which are the vote shares each political party receives.²⁵ We explore whether the allocation of partisan poll workers affects registered elec-

²⁵The vote shares have valid votes (turnout minus null and blank votes) as the denominator because only valid votes are taken into account when calculating the congressional seat shares of parties in PR races and determining the winner in plurality races. We focus on vote shares instead of absolute votes because vote shares do not confound the results with differences in turnout. In OA Section F we estimate the total number of votes affected by partisan poll workers through a simulation exercise.

toral results *independent of voters' preferences*. Overall, our results show a small but consistently significant effect of partisan poll workers on electoral outcomes independent of the preferences of voters. In other words, having more Colorado poll workers is advantageous to the Colorado party and detrimental to the Liberal party, and having more Liberal poll workers is advantageous to the Liberal party and detrimental to the Colorado party.

To test hypotheses (1) and (2) from Section 2, Table 2 examines the effect of poll workers on parties' vote share by pooling together observations from all elections and running equation (1). The dependent variables are the vote shares for the Colorado party, the Liberal party or GANAR alliance (which primarily ran Liberal party candidates), and other parties. In Column (1) we can observe that the Colorado party vote share increases significantly by around 0.43 and 0.51 pp, when the Colorado party has two poll workers counting votes. We also observe that if only the Liberal party is counting votes through a trifecta, the Colorado party vote share decreases significantly by 1.95 pp. Yet we take these trifecta results with a grain of salt because only 17 electoral tables have a Liberal trifecta, whereas the Colorado party has a trifecta at 157 electoral tables.

In Column (2) we can notice that the Liberal/GANAR vote share increases significantly by around 0.21 pp when there are two Liberal poll workers and a poll worker registered to the Colorado party counting votes. We can also notice how the Liberal/GANAR vote share decreases significantly whenever the Colorado party has two or three poll workers counting votes. This result is robust to controlling for the proportion of partisan voters at each voting booth and it is interesting how this result varies symmetrically depending on which party has a poll worker majority at the electoral table. In particular, the average decrease in the Liberal/GANAR vote share is 0.38 when there are two Colorado party poll workers and one Liberal poll worker, around 0.5 when there is a Colorado poll worker and a poll worker not registered to the Colorado or Liberal party, and 0.51 if only the Colorado party is counting votes with a trifecta. We can also notice that "other poll worker allocations" lead to a significant decrease of approximately 0.16 pp. This is plausible because these other poll worker allocations (which occur at 2,563 electoral tables in total, around

12% of our sample of tables) include poll worker allocations where other parties have a majority of poll workers.

In Column (3) we can observe that if other parties lack representation at an electoral table and only the Colorado and Liberal party are counting votes, then other parties experience a significant decrease in their vote share. In particular, they experience a decrease of around 0.13 pp and 0.17 pp if either the Colorado or Liberal party have two poll workers and the remaining party poll worker also belongs to the Liberal party or Colorado party. We also observe a positive and significant increase in other parties' vote share whenever the Liberal party has a trifecta counting votes. OA Table E9 indicates this result appears to be driven by the effect of Liberal trifectas on the departmental council elections. This result may be due to the Liberal party supporting other parties in the vote count, because often the Liberal party and other parties find themselves in the opposition to the Colorado party, yet it might also be idiosyncratic because there are only 17 electoral tables with Liberal trifectas. Lastly, we find that other poll worker allocations lead to a significant increase of approximately 0.13 pp in other parties' vote share. This is again plausible because other poll worker allocations include the cases where other parties have a majority of poll workers counting votes. In short, having a poll worker majority tends to be beneficial for parties' vote share while lacking a majority or having no representation tends to reduce parties' vote share, as posited in Hypotheses (1) and (2). In the OA we show this also holds for each electoral race separately.²⁶

In OA Section E we present additional regression specifications and robustness checks that we performed on our main findings and additional regression specifications. Among these, we

²⁶OA Tables E4 to E9 show our patterns hold for each electoral race separately. We also observe the highest coefficients in Table E9 for the departmental council elections as the electorate is smaller and the winning margins are more narrow. Here we find negative effects of around 1.1 pp and positive effects of around 0.7 pp. The results for each race separately are discussed in the OA, and broadly results are similar among elections of the same type: PR or SMD.

Table 2: Effect of partisan poll worker composition on election results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta	0.2820 (0.2029)	-0.5121*** (0.1847)	0.2301 (0.1752)
Colorado advantage + Other	0.4318*** (0.0954)	-0.4969*** (0.0790)	0.0651 (0.0820)
Colorado advantage + Liberal	0.5125*** (0.0493)	-0.3800*** (0.0455)	-0.1325*** (0.0433)
Liberal advantage + Colorado	-0.0328 (0.0525)	0.2063*** (0.0505)	-0.1735*** (0.0483)
Liberal advantage + Other	-0.2126 (0.1611)	-0.0035 (0.1406)	0.2161 (0.1442)
Liberal trifecta	-1.9481*** (0.5951)	0.4756 (0.5947)	1.4724*** (0.4649)
Other poll worker allocation	0.0246 (0.0646)	-0.1593*** (0.0597)	0.1347** (0.0578)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	117,229
R^2	0.8425	0.8869	0.9308

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker, one Liberal poll worker, and one “other” poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables.

examined whether the presence of any partisan poll worker (regardless of the number) can explain the electoral results on the electoral races (OA Tables E11 to E16). To do so, we generate indicator variables for whether there is at least one of the following types of poll workers in an electoral table: Colorado supporter, Liberal supporter, other party supporter, and so on. Although we obtain some similar results to the ones we show on the main text, these regressions are less informative because the official results for each voting booth are decided by what the majority of poll workers choose at an electoral table. That is, it seems that our effects are significant when a party has a majority at a voting booth, which makes intuitive sense since legally only a majority of poll workers is required to officialize results within each booth.

6.1 Heterogeneity by Electoral System

Next, to test Hypothesis (3) we explore the heterogeneous effect of partisan poll workers by electoral system, which differs depending on the electoral race. Two of these races are defined by SMDP voting (president and governor), whereas the remaining four are defined by a PR system (senator, MERCOSUR parliament, deputies, and departmental council). These electoral systems provide distinct incentives for poll workers of large, established parties. Because SMDP races promote the fielding of fewer candidates, established parties often enter in coalitions with smaller parties for these races—making small parties the allies of certain established parties. However, in PR, because this system promotes the fielding of more candidates, established parties become adversaries of smaller parties. Therefore, we suspect small party voters are more likely to have their votes protected by established parties in SMDP elections—where they are allied to established parties and therefore they benefit from this shared operational capacity—and do not have their votes as protected in PR elections—where smaller parties are adversaries of large-capacity parties.

Table 3 pools observations from all elections together and runs equation (2) to examine the differential effect of partisan poll workers by electoral system. With the Colorado party vote share we find no differential effect of partisan poll worker allocations by electoral system because none

of the coefficients from the interaction terms are significant. With the Liberal/GANAR vote shares we find that the interaction coefficient of PR race and having two Colorado party poll workers and one Liberal poll worker is *positive* and significant at the 10 percent level, with a coefficient of around 0.17 pp for the Liberal/GANAR vote share. Hence, although the allocation of two Colorado party poll workers and one Liberal poll workers tends to lower the Liberal/GANAR vote shares in SMD plurality races, this is compensated for in PR races. This is what we would expect to find if the Colorado and Liberal poll workers colluded more often in PR races, to the detriment of other parties not represented by their own poll workers. This also suggests that the behavior found on the vote tally from OA Figure B1 with two Colorado poll workers and one Liberal poll worker might be more systematic than anecdotal.

Yet we do not find an additional increase in the vote share of the Colorado party in PR races, meaning that the benefit that Colorados earn from having a majority in a booth in SMD and PR races is similar. These results seem to indicate the existence of differential incentives for the Liberal party (the largest party in the opposition) and that alliances matter. Several smaller parties in the opposition are “one” in SMDP races through GANAR. Hence, poll workers from parties in the alliance have incentives to defend the GANAR votes, but they’re opponents in PR races, which allows Liberals to potentially take other party votes in PR races. Colorados are never in alliances, so they have the same incentives to take advantage of the opposition regardless of election type, so they have no differential incentives between PR and SMD.

With the vote share of other parties, we observe two main results. First, in PR races when the Colorado party has two poll workers and the Liberal party has one poll worker counting votes the vote share of other parties decreases significantly by 0.29 pp. Second, in PR races two Liberal poll workers and one Colorado party poll worker lead to a significant (at the 10 percent level) decrease of 0.14 pp on the vote share of other parties. These findings are also consistent with Hypothesis (3), indicating a pattern of differential incentives for partisan poll workers in PR races. Both of these partisan poll worker allocations have other parties lacking poll worker representation

Table 3: Effect of partisan poll worker composition on election results by electoral system

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta $\times$ PR race	-0.5625 (0.4166)	0.1364 (0.3948)	0.4261 (0.3124)
Colorado advantage + Other $\times$ PR race	0.0317 (0.1976)	0.0117 (0.1750)	-0.0434 (0.1440)
Colorado advantage + Liberal $\times$ PR race	0.1232 (0.1032)	0.1718* (0.0982)	-0.2949*** (0.0754)
Liberal advantage + Colorado $\times$ PR race	0.0514 (0.1097)	0.0887 (0.1072)	-0.1401* (0.0848)
Liberal advantage + Other $\times$ PR race	0.1243 (0.3316)	-0.1741 (0.3116)	0.0498 (0.2596)
Liberal trifecta $\times$ PR race	0.0301 (1.1852)	-0.6823 (1.2005)	0.6522 (0.8066)
Other poll worker allocation $\times$ PR race	0.1203 (0.1356)	-0.1856 (0.1292)	0.0653 (0.1024)
Colorado trifecta	0.6614** (0.3292)	-0.6040* (0.3248)	-0.0574 (0.1983)
Colorado advantage + Other	0.4104*** (0.1575)	-0.5047*** (0.1485)	0.0943 (0.0877)
Colorado advantage + Liberal	0.4295*** (0.0831)	-0.4957*** (0.0816)	0.0663 (0.0449)
Liberal advantage + Colorado	-0.0673 (0.0883)	0.1469* (0.0874)	-0.0796 (0.0511)
Liberal advantage + Other	-0.2959 (0.2627)	0.1130 (0.2648)	0.1830 (0.1667)
Liberal trifecta	-1.9683** (0.9019)	0.9328 (0.9306)	1.0355** (0.4775)
Other poll worker allocation	-0.0564 (0.1096)	-0.0345 (0.1075)	0.0909 (0.0635)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	117,229
R^2	0.8425	0.8869	0.9308

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “PR race” is an indicator variable for electoral races with a proportional representation (PR) system. The coefficient for PR race is omitted because it is collinear after controlling for polling station-electoral race fixed effects. 32

at these tables and these allocations lead to significantly lower vote shares for the other parties while the traditional parties represented benefit. Thus, results from this table show suggestive evidence that established parties are less concerned about protecting the votes of smaller parties in PR races. We suspect this is because smaller parties tend to ally themselves to established parties in SMDP—sharing in on their protection capabilities—but they are vulnerable in PR races where smaller parties often run separately from established parties.

While one ex-ante may expect some “vote trading” to occur where, for example, small parties help large parties in SMDP races and larger parties return the favor in PR races, we do not find evidence of this occurring. If this were the case, the other party vote share would drop significantly in SMDP elections despite the presence of an other party poll worker and it would rise significantly in PR races at booths with an other party poll worker. Instead, we do not observe any significant effect on the other party vote share in SMDP races and we only observe a negative effect on the other party vote share when no other party poll worker is present.

6.2 Mechanisms

In the previous two sections we have shown evidence that partisan poll workers are important. When a single party holds a majority of poll workers in a given voting booth, that party tends to benefit from it, and other parties seem to be harmed by that majority. In this context, it is less likely these effects indicate “honest mistakes” given that the electoral results systematically benefit the party of the poll workers represented. Yet the small magnitude of our observed results suggest there is no large-scale manipulation.

Our main findings argue parties that lack poll-worker majorities in a given table tend to lose out. We also found that the extent to which they lose out varies by electoral system, likely due to the fact that in SMDP most small parties ally themselves with the main opposition party, the Liberal party, while parties run separately in PR races. Therefore, in PR races the Liberal party in conjunction with the Colorado party can choose not to protect the votes of smaller parties and

media reports (ABC Color 2018a; Última Hora 2018) allege that some votes may even be taken away by established parties that are present and have a majority at a voting booth during the count. Though even with this, it is unclear exactly what poll workers are doing to provide this systematic advantage to their political parties. We explored several potential mechanisms of how exactly poll workers benefit their parties.

First, there is a possibility that partisan poll workers are better at *monitoring* whether voters make good on their turnout-buying agreements. If this were the case, we would expect higher turnout in tables where a given party had a majority of table members. Second, we explored whether poll workers affected null votes—as partisan poll worker majorities could exert influence by unfairly annulling votes cast for the opposition party. If this were the case, we would expect more null votes in a table where a party held the majority of poll workers. Finally, we explored whether poll workers affected blank votes—as partisan poll worker majorities could decide to fill-in blank votes with votes for their parties. If this were the case we would expect fewer blank votes in tables where a party held a majority of poll workers. By treating turnout, null and blank votes as dependent variables, we attempt to disentangle how partisan poll workers benefit their parties.

OA Table E17 examines the effect of poll workers on turnout, null votes, and blank votes. In terms of turnout, we may have expected that tables where the Colorado party has a majority to have higher turnout—since the Colorado party is the highest-capacity party—but we actually find that Colorado trifectas have, on average, a *negative* effect on turnout. In terms of null votes, we may have expected that when the Colorado party has a majority, or when the Liberal party has a majority, then there might be *more* null votes, as these majority partisan poll workers could use their majorities to discard the votes of their opposition. This is not what we find, and in fact Liberal and Colorado party majority poll workers tend to register fewer null votes on average. This result suggests that perhaps established party poll workers could be awarding themselves null votes instead of discarding these. Still, the magnitude of these coefficients is an order of magnitude lower than the effects we observe on party vote shares, therefore this result does not

explain the magnitude of effects we observe. Finally, in terms of blank votes, conceivable Liberal and Colorado majority poll workers could use their positions to fill in blank votes in support for their parties, thus increasing votes for their parties. Hence, we would expect tables with Liberal or Colorado majorities to have fewer blank votes on average, yet we do not observe this.

In short, while we are quite confident that partisan poll workers provide a small yet significant benefit for high-capacity parties, there is no clear single mechanism through which these advantages are produced. This may be due to different tables using different strategies, which cumulatively produce an effect, but separately are too small to be identified, or it might be that another mechanism that we did not consider is under play. In short, while we do know that partisan poll workers provide advantages to their parties, our findings are mixed about the exact strategies they use to produce these advantageous results.

6.3 Additional tests

On OA Tables E18 and E19 we tested whether the effect of the partisan poll worker allocations varied depending on whether the Colorado or Liberal party was the incumbent party. The incumbent party here was defined as the party of the municipal mayor as these usually have a local organizational advantage, particularly the established parties. We find that the Colorado vote share increases most when there are two Colorado and one Liberal poll worker at a voting booth and the Colorado party is the incumbent party. We also find that the Liberal vote share rises most when there are two Liberal and one Colorado party poll worker at a voting booth and the Liberal party is the municipal incumbent. OA Table E20 explores whether the effect of partisan poll worker allocations varies depending on the competitiveness of the municipality of the polling station. We define competitive municipalities as those where the victory margin for the most recent municipal mayor race (held 3 years before the general elections we study) was smaller than 5%. We can observe that Colorados tend to fare better in competitive municipalities, while Liberal poll workers tend to have lower vote shares. These results imply that the Colorado party (the dominant party in

Paraguay) exerts additional effort on competitive districts.

Finally, OA Table E21 shows post-election contestations are much less common when a established party controls a voting booth through a poll worker trifecta. This is unsurprising because if no poll worker from another party is around, it is less likely any irregularity will be called out.

7 Discussion

Substantively, our empirical results show four things. First, we show that having more poll workers benefits political parties. On average, having one more partisan poll worker compared to a “fair allocation” of poll workers (one Colorado, one Liberal, and one non-Colorado/Liberal) yields about a 0.5 pp (0.2 pp) vote share increase for the Colorado party (Liberal party) at each voting booth.

Second, our identification strategy focuses on analyzing variance *within* polling stations, and effectively discards variance *between* polling stations. This means we are able to rigorously identify how the partisanship of poll workers affects electoral outcomes independent of the preferences of voters *within* polling stations, but we cannot measure differences *between* polling stations. This implies that we cannot measure the effect on electoral outcomes that arises in polling stations with the same partisan poll worker allocation at all booths, as there would be no variation in partisan allocation among booths within the polling station. Notwithstanding, in OA Section F we find that one departmental council seat would have been won by the Liberal party instead of the Colorado party if we simulate the electoral results with each electoral table as having a “fair” poll worker allocation (one Colorado, one Liberal, and one poll worker that is neither Colorado nor Liberal). These simulations help us measure how many votes are potentially affected by partisan poll workers (at least those we can measure through our empirical strategy).

Third, we also found effects for smaller political parties. In short, these parties often lost out because of their inadequate capacity to deploy poll workers. When all three poll workers at an electoral table belonged to the Colorado and Liberal parties, then other parties tended to lose

votes—regardless of which of the two parties held a poll worker majority. This finding shows that those parties that lack poll worker representation at voting booths are harmed by the adversarial system which relies on explicit interests being represented.

Perhaps it is not a coincidence that most of the countries where explicitly partisan representatives can be poll workers or polling station administrators correspond to flawed democracies and hybrid regimes (Economist Intelligence Unit 2022). For example, The Economist (The Economist 2017) revealed recordings of training sessions for partisan poll workers from Honduras’s incumbent party in 2017 that included advocating for electoral irregularities. Among the main methods mentioned was obtaining poll workers’ credentials from smaller parties (in an effort similar to the replacements we document in our context). The 2017 Honduran elections, which were narrowly won by the incumbent amid numerous irregularities (New York Times 2017), could have been determined by partisan poll workers. Consistent with this, if we follow the definition of established parties from Lupu (2016) and use data on 111 Latin American presidential elections going from 1990 to 2018, we find a positive relationship between partisan poll workers and established party support. That is, established parties in Latin America receive higher vote shares in countries with partisan poll workers (see Appendix Section G).

Finally, given the independent paper ballots used in Paraguay for each electoral race, we explored whether partisan poll workers behave strategically. Cox (1997) has previously argued that voters act strategically to minimize “wasted votes” when choosing a candidate. At the same time, poll workers face strategic choices when deciding when to count votes accurately—and maybe when not to. For example, we had indicated that in SMDP races, because fewer candidates are fielded, small parties often enter in coalitions with established parties—thus sharing in these larger parties’ protections. However, in PR races smaller parties are often adversaries of established parties—leaving them vulnerable when it comes to protecting their own votes. We found evidence that other party vote shares are harmed *more* by their absence in voting booths under PR races than under SMDP races. This suggests that established parties are less defensive of small party voters

in PR races than they are in SMDP races. Hence, although SMDP electoral systems incentivize voters to gravitate towards established parties' candidates through strategic voting (Cox 1997), we find that poll worker allocations can be used by established parties to artificially lessen the political prospects made available to smaller parties through PR elections. In other words, even if PR enhances the prospects of smaller parties relative to SMDP, small parties' lack of capacity to send poll workers can further dampen the prospects of smaller parties *even in more permissive PR races*.

8 Conclusion

Elections are designed for representing voters' political preferences and subsequently affecting political outcomes. In Paraguayan elections, the system for counting votes is partisan and adversarial. In theory this is a neutral system which protects votes because parties mutually control results, leading to an accurate count. Yet we have shown that in Paraguayan elections political parties have unequal poll worker representation across voting booths and that this affects how their votes are counted. In other words, parties' operational capacity has an electoral effect which is independent from the choices of voters.

Our models showed that parties able to have a majority of poll workers in a single booth receive a systematic advantage in the electoral results registered in those same booths—independent of voter preferences. We also uncover how incentives for partisan poll workers vary by electoral system. Our findings also suggest that party capacity matters *more* in PR elections. This is because alliances between established parties and smaller parties in SMDP races benefit these SMDP candidates, whereas PR races promote more small-party candidates—which do not enjoy the protections of established parties' capacity.

In sum, our paper shows another reason why political parties are important to the functioning of democratic political systems. If “ambition must be made to counteract ambition” as James Madison famously stated in Federalist No. 51, then it is important that the different parties or factions are of

somewhat equal capacity, so that none may fully dominate. The comparable capacity of parties to access, defend, and lobby for their rights is not a given throughout the world. As Lehoucq (2002) and Hartlyn, McCoy and Mustillo (2008) argue, electoral systems where non-partisan officials are responsible for organizing and certifying election results tend to fare better in terms of electoral integrity than those where partisan officials are in charge. Our study points to the conclusion that capacity-matched parties may produce fair results through adversarial electoral systems as much as it provides evidence that varying-capacity parties may produce unfair results.

As a whole, we have shown that party capacity matters for elections. One could replicate our methodology for measuring the difference between parties' aspirations and actual capacity by comparing pre-registered and *de facto* poll workers on other elections.²⁷ In the future, reformers and academics should pay attention not only to the electoral institutions that structure how elections work, but also to the party system with similar-capacity or varying-capacity political parties. Overall, having fewer parties which are similar in operational capacity is likely to produce fairer electoral results—particularly with adversarial control systems.

²⁷ Although Paraguay has had general elections last year once again, we are unable to replicate our methodology since the election authority no longer required poll workers to include their ID numbers on the quick-count vote tallies (a reduction in transparency).

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Getting a seat at the (electoral) table: Partisan poll workers and electoral bias

Online Appendix

A	Online Appendix Figures	2
B	Additional Background Information and Context	4
C	Data Construction and Description	13
D	Tests for Correlation Between Voter Preferences and Names	23
E	Additional Results	31
F	Simulation Exercise	66
G	Establishment party support and partisan poll workers	70

A

Figure A1: Image of the paper ballot for the senatorial election



TEMINOIMBY JEPORAVORA
Justicia Electoral
TETUHA REIMPORA NANGARONA
GUASTO DE LA AGUINIA POPULAR
PARAGUAI RETA
REPUBLICA DEL PARAGUAY

CAMPAÑA

JEPORAVORA KUATIA TEETE

BOLETIN DE VOTO OFICIAL

PARAGUAI RETA MEGUA SENADO MBURUVICHA JEPORAVOPY

CANDIDATOS A SENADORES DE LA REPUBLICA DEL PARAGUAY

2018 GUIVE - 2023 PEVE
PERIODO 2018 - 2023

Nuestro compromiso es garantizar la transparencia en el proceso electoral y la participación ciudadana. Los resultados de las elecciones serán publicados en el sitio web de la Justicia Electoral.



ELECCIONES
Comunes 2018
LA ELECCION EN VOTO
APERTURA DE LA VOTA
SE ANUNCIA EN EL VOTO
REPUBLICANA. MUY

BHAI BIROME-PE MBURUVICHARA RBPORAVOVA RA' ANGA GUYPE

MARCAR CON BOLIGRAFO DENTRO DEL RECUADRO LA CANDIDATURA DE SU PREFERENCIA

 1 PARTIDO COLORADO A.N.R.	 2 PARTIDO LIBERAL RADICAL AUTENTICO P.L.R.A.	 3 PARTIDO REVOLUCIONARIO FEBRERISTA P.R.F.	 6 PARTIDO DEMOCRATA CRISTIANO P.D.C.	 7 PARTIDO UNACE UNACE	 8 PARTIDO PATRIA QUERIDA P.P.Q.	 9 PARTIDO ENCUENTRO NACIONAL P.E.N.	 10 MOVIMIENTO COMPROMISO CIUDADANO M.C.C.
↑ MARQUE AQUI EHAH KO APE							
 11 PARTIDO DEL MOVIMIENTO AL SOCIALISMO P.M.A.S.	 12 PARTIDO FRENTE AMPLIO P.F.A.	 14 CONCERTACION NACIONAL AVANCEMOS PAIS A.P.	 15 MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY M.N.A.P.	 19 MOVIMIENTO POLITICO INDIGENA PLURINACIONAL M.P.I.P.	 20 PARTIDO HAGAMOS P.P.H.	 22 MOVIMIENTO SOBERANIA NACIONAL S.N.	 23 PARTIDO VERDE PARAGUAY P.V.P.
↑ MARQUE AQUI EHAH KO APE							
 30 MOVIMIENTO RESERVA PATRIOTICA M.R.P.	 40 CONCERTACION NACIONAL FRENTE GUASU F.G.	 45 PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS P.S.D.H.	 60 MOVIMIENTO CIVICO NACIONAL UNANIMOS UNANIMOS	 69 MOVIMIENTO KUÑA PYRENDIA M.K.P.	 77 MOVIMIENTO UNIDOS TODOS POR PARAGUAY M.U.T.P.Y.	 100 PARTIDO DEMOCRATICO PROGRESISTA P.D.P.	 111 MOVIMIENTO POLITICO UNION E IGUALDAD M.U.I.
↑ MARQUE AQUI EHAH KO APE							
 123 MOVIMIENTO POLITICO SOMOS PARAGUAY M.S.P.Z.	 500 PARTIDO DE LA A P.D.A.	 777 MOVIMIENTO POLITICO NOSOTROS M.P.N.	 911 MOVIMIENTO POLITICO PARAGUAY SEGURO P.A.S.	 999 MOVIMIENTO GUERUZA NACIONAL G.N.			
↑ MARQUE AQUI EHAH KO APE			↑ MARQUE AQUI EHAH KO APE				

Figure A2: Image of an electoral table with voting booth and poll workers



Note: this figure shows a common setup for electoral tables in Paraguayan elections. Polling stations tend to be in public schools and voting booths tend to be installed in classrooms. The three poll workers set up a table for checking voters' ID cards outside a classroom before allowing them to vote. The picture is from: <https://es-us.finanzas.yahoo.com/noticias/paraguay-celebrar%C3%A1-elecciones-municipales-10-204613200.html>.

B Additional Background Information and Context

As a motivating example of what is mentioned in Section 2, we consider an electoral table where the official results were challenged because the quick count tally had visible modifications to its counts.¹ Figure B1 shows the senatorial race quick count tally for an electoral table with visible modifications. The modifications to the results are as follows: Colorado party +15, Liberal party +15, PPQ -20, PPH (*Hagamos*) party -10. Figure B2 shows Stata output of the official senate race results for the voting booth that had its official results challenged. These official election results data was obtained from the election authority (the TSJE). Comparing this figure with the previous one we can confirm that the modifications remain in the official results. This electoral table that had its official results challenged had two poll workers from the Colorado party and one from the Liberal party. Neither PPQ nor PPH had poll worker representation at this electoral table. Thus, with this electoral table we observe a presumptive case of collusive irregularities benefiting the established parties present, at the expense of smaller parties.² We expect this type of collusive irregularities to be more common with the PR races for legislative positions compared to the executive elections (president and governor) which are determined by plurality voting.

As mentioned in Section 2, besides the poll workers, some parties may have poll watchers

¹As mentioned in Section 2, results at the voting booth level can only be challenged during the counting process among poll workers, poll watchers, and party officers that are present, which limits the ability of smaller parties to protect their votes.

²The case with this electoral table is particularly flagrant given the visible modifications to the tally. There are other cases where the counts were presumably modified from the start, so there are no visible modifications. For example, the cases mentioned by Colmán Gutiérrez (2018) and ABC Color (2018b) show that the parties they voted for received 0 votes according to the quick count tallies of their voting booths.

(*veedores*) and empowered party officers (*apoderados*) witnessing the count, though their presence at the count is not required and they cannot count the ballots themselves. Poll watchers are allowed to access the polling station where they are posted and sit next to the electoral table where they will observe the voting process. They can also present written claims and protests, and are allowed to sign the vote tallies, though their signature is not required (unlike that of poll workers). Empowered party officers have the right to freely access the polling stations, examine the count process, to make claims, protest results, and to receive a copy of the vote tallies filled out by a poll worker. While poll watchers tend to stick with a specific electoral table throughout the election, empowered party officers work at the polling station level and can observe the electoral process at multiple distinct electoral tables.³ Collectively, the poll workers, poll watchers, and empowered party officers are called electoral agents (*agentes electorales*). The presence of poll watchers and empowered party officers tends to vary depending on how remote the polling station is, with urban localities having a greater number of electoral agents. Anecdotally, the inequality in overall electoral agent representation among parties tends to be greater in more rural and remote areas, which benefits parties capable of sending poll workers to these locations.

The 2018 general elections involved six different electoral races: (1) president and vice-president, (2) senators, (3) MERCOSUR (regional trade bloc) parliament, (4) deputies, (5) departmental governor, and (6) departmental council. The first three positions are elected nationally among all Paraguayan voters, whereas the latter three are elected at the departmental level. Paraguay is divided into 17 departments and one capital district. Given that the capital district is not a department, voters from the capital district do not elect a departmental council or governor (a similar function is already covered by the capital's municipality mayor and municipal council). The capital district still elects deputies who represent the capital however. In addition, Paraguayans voting

³Because empowered party officers work at the polling station level, our polling station fixed effects already absorb their effect.

abroad in polling stations setup in Argentina, the US, Spain, and Brazil did not vote for deputies, the departmental council, or departmental governor.

Figure B1: Quick count tally of voting booth whose official results were challenged, with visible modifications

Elecciones Generales y Departamentales - 2018

Justicia Electoral
CUSTODIO DE LA VOLUNTAD POPULAR

A 085884

TRANSMISION DE RESULTADOS ELECTORALES PRELIMINARES - TREP

SENADORES CTX : 851

Departamento : (11) CENTRAL
Distrito : (3) FERNANDO DE LA MORA
Zona : (0) FERNANDO DE LA MORA
Local : (1) COL.NAC. FERNANDO DE LA MORA

Mesa N°: 066
Seguridad: 206403

Nro. Lista	Partido/ Movimiento/ Alianza/ Concertación	Votos en números	Votos en letras
1	PARTIDO COLORADO	350	(treinta y cinco) Cincuenta
2	PARTIDO LIBERAL RADICAL AUTENTICO	132	(diezy siete) Treinta dos
3	PARTIDO REVOLUCIONARIO FEBRERISTA	1	uno
6	PARTIDO DEMOCRATA CRISTIANO	0	cero
7	PARTIDO UNACE	2	dos
8	PARTIDO PATRIA QUERIDA	25	(veinticinco) Cinco
9	PARTIDO ENCUENTRO NACIONAL	1	uno
10	MOVIMIENTO COMPROMISO CIUDADANO	2	dos
11	PARTIDO DEL MOVIMIENTO AL SOCIALISMO	2	dos
12	PARTIDO FRENTE AMPLIO	0	cero
14	CONCERTACION NACIONAL AVANCEMOS PAIS	0	cero
15	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	cero
19	MOVIMIENTO POLITICO INDIGENA PLURINACIONAL	1	uno
20	PARTIDO HAGAMOS	10	diez
22	MOVIMIENTO POLITICO SOBERANIA NACIONAL	1	uno
23	PARTIDO VERDE PARAGUAY	2	dos
30	MOVIMIENTO RESERVA PATRIOTICA	3	tres
40	CONCERTACION NACIONAL FRENTE GUASU	6	seis
45	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	cero
60	MOVIMIENTO CIVICO NACIONAL UNAMONOS	0	cero
69	MOVIMIENTO KUÑA PYRENDA	2	dos
77	MOVIMIENTO UNIDOS TODOS POR PARAGUAY	0	cero
100	PARTIDO DEMOCRATICO PROGRESISTA	7	siete
111	MOVIMIENTO POLITICO UNION E IGUALDAD	0	cero
123	MOVIMIENTO POLITICO SOMOS PARAGUAY	3	tres
500	PARTIDO DE LA A	1	uno
777	MOVIMIENTO POLITICO NOSOTROS	0	cero
911	MOVIMIENTO POLITICO PARAGUAY SEGURO	1	uno
999	MOVIMIENTO CRUZADA NACIONAL	7	siete
VOTOS NULOS		6	seis
VOTOS EN BLANCO		2	dos
SUMA TOTAL DE VOTOS		138	ciento treinta y ocho

FIRMA DEL VOCAL DE MESA
C.I.N.: 7-657-746

FIRMA DEL PRESIDENTE DE MESA
C.I.N.: 7-116-605

FIRMA DEL VOCAL DE MESA
C.I.N.: 7-111-15

Note: the picture above shows the senate race quick count tally for a voting booth whose official results were challenged with visible modifications. The modifications to the results are as follows: Colorado party +15, Liberal party +15, PPQ -20, PPH (Hagamos) party -10.

Figure B2: Stata output showing the electoral results of a voting booth that had its official results challenged

```
list res_part_anr res_part_plra res_part_prf res_part_pdc res_part_unace res_part_ppq res_part_pen res_part_mcc res_part_p_mas ///
res_part_pfa res_part_ap res_part_mnap res_part_mpip res_part_pph res_part_sn res_part_pvp res_part_mrp res_part_fg ///
res_part_psdh res_part_unamonos res_part_mkp res_part_mutpy res_part_pdp res_part_mui res_part_mspy res_part_pda ///
res_part_mpn res_part_pas res_part_cn if mesaid=="11_3_0_1_66" & candidatura==2
```

res_p~nr 50	res_p~ra 32	res_p~f 1	res_p~dc 0	res_p~e 2	res_p~q 5	res_p~en 1	res_p~cc 2	res_~mas 2	res_p~fa 0	res_~ap 0	res_~nap 0
res_~pip 1	res_p~ph 2	res_p~sn 1	res_p~vp 2	res_p~rp 3	res_p~ag 6	res_p~dh 0	res_p~os 0	res_p~kp 2	res_~tpy 0	res_p~dp 7	res_p~ui 0
res_~spy 3		res_p~da 1		res_p~pn 0		res_~pas 1		res_p~cn 7			

Note: the picture above shows Stata output of the official senate race results for a voting booth that had its official results challenged. The official election results data was obtained from the election authority (the TSJE). Comparing this figure with the previous one we can confirm that the following modifications remain in the official results: Colorado party +15, Liberal party +15, PPQ -20, PPH (*Hagamos*) party -10.

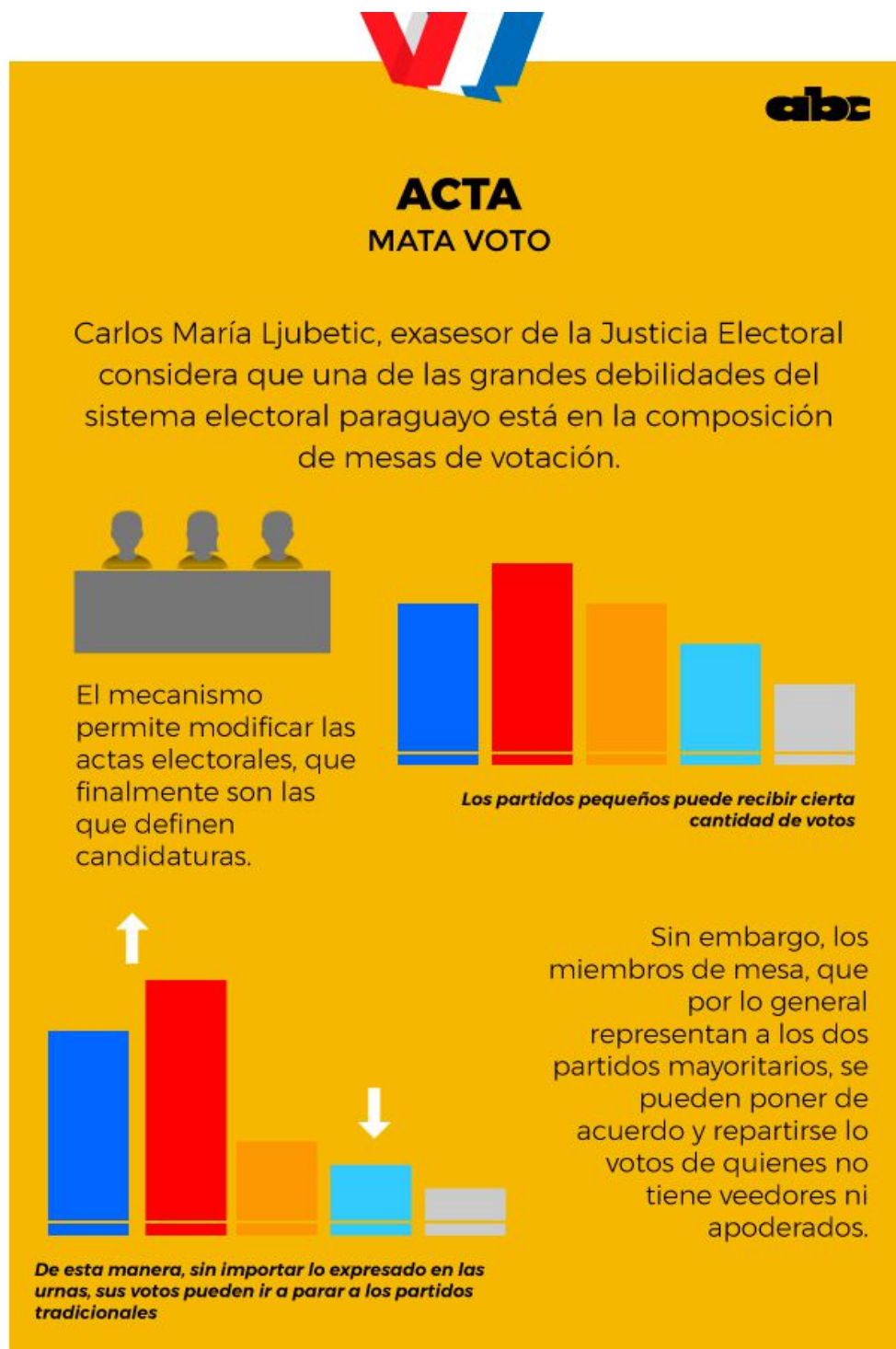
Figure B3: Stata output showing the partisan support and ID numbers of poll workers from a voting booth that had its official results challenged

mesaid	f_v1_part	f_p_part	f_v2_part	f_v1_cedula	f_p_cedula	f_v2_cedula
11_3_0_1_66	PLRA	ANR	ANR	3653742	1540605	4177951

Note: the picture above shows Stata output of the partisan support and the ID numbers of the poll workers from an electoral table that had its official results challenged. The data on partisan support and registration come from the election authority (the TSJE) and the political parties themselves. Two of the poll workers belong to the Colorado party and one belongs to the Liberal party. Neither the PPQ nor PPH had poll worker representation at this electoral table.

The main irregularities that colluding coalitions can perform with paper ballots include miscounting and tampering with the paper ballots (see Figure B4 for a newspaper infographic from ABC Color (2018a) alluding to how colluding coalitions of poll workers could alter the count). ABC Color (2018a) also indicates how vote monitoring (violations of voting secrecy) could occur with paper ballots (Rueda 2017). Carlos María Ljubetic, a previous director of the TSJE, acknowledged this can occur as follows. Political brokers buying votes tell voters to write in particular marks on their paper ballots that the partisan poll workers could tally to confirm the vote buying agreements were followed through on. Another vote-monitoring method that Ljubetic indicated during a lecture to DENDE (a civil society NGO) that one of us attended was that partisan poll workers could mark ballots given to certain voters such that when they count the votes for these voters they can determine who they voted for. In particular, because the poll workers have to sign the paper ballots given to voters before the voters submit their paper ballot, these poll workers can modify their signatures to later on recognize these ballots during the vote count. Finally, poll workers could become more or less careful when counting votes depending on the presence of poll workers from other parties.

Figure B4: Newspaper infographic describing collusion at electoral tables for tabulation irregularities



Note: the text above states: “Vote tallies ‘kill’ votes: Carlos María Ljubetic, former electoral justice adviser considers that one of the great weaknesses of the Paraguayan electoral system is in the composition of electoral tables. This mechanism allows for the modification of the vote tallies, which are ultimately the ones that define the candidacies. Small parties can receive a certain number of votes. However, the poll workers of the table, who generally represent the two major parties, can agree and share the votes of those who do not have their own poll watchers or empowered party officers. In this way, regardless of what is expressed at the polls, their votes can go to the traditional parties.”

These sorts of irregularities have been an open secret even among the diplomatic community in Paraguay. A leaked diplomatic cable due to Wikileaks coming from the U.S. Embassy of Asunción (2008) remarked the following a few weeks before the 2008 Paraguayan general elections:

In coming weeks before the elections, all sides will engage in vote-buying, as well as buying (or attempted buying) of the political party representatives who will sit at each polling station on election day. No one does this better than the Colorados. Castiglioni supporters predict the Colorados will steal around 100,000 votes at roughly 700 polling stations (where they already dominate) by altering the electoral tally sheets ("Actas"). Most agree (and history proves) that this is easy to do and difficult to prove, because the ballots are destroyed once voting ceases and the Actas are signed.

The previous quote highlights how diplomats from the U.S. Embassy in Paraguay were convinced that political parties would bribe poll workers sitting at the electoral tables. It also highlights their belief that the hegemonic Colorado party does this better than other political parties. Castiglioni was Paraguay's vice president from 2003-2008 and a Colorado presidential candidate who lost the party's 2008 primaries. Finally, the cable also claims that vote counting irregularities are "easy to do and difficult to prove" given that the paper ballots are destroyed.

B.1 Political party name acronyms

In this subsection we list out all the political party name acronyms we mentioned in the main text:

- **AP:** *Avanza Pais*
- **PCP:** *Partido Comunista Paraguayo*
- **PCPS:** *Partido Convergencia Popular Socialista*
- **PDP:** *Partido Democratico Progresista*

- **PEN:** *Partido Encuentro Nacional*
- **PFA:** *Partido Frente Amplio*
- **PMAS:** *Partido del Movimiento al Socialismo*
- **PMPP:** *Partido del Movimiento Patriótico Popular*
- **PPC:** *Partido de Participacion Ciudadana*
- **PPS:** *Partido Pais Solidario*
- **PPT:** *Partido Popular Tekojoja*
- **PRF:** *Partido Revolucionario Febrerista*
- **PUP:** *Partido de la Unidad Popular*

C Data Construction and Description

The pre-registered poll worker allocation data comes from a spreadsheet obtained from the election authority (the TSJE), which indicates the partisan poll worker representation that was officially approved two weeks in advance of the elections. It notes all the pre-registered electoral agents, that is, poll workers, poll watchers (*veedores*), and empowered party officers (*apoderados*). Most importantly, this data has the political party these pre-registered electoral agents will work for during the election and their national ID numbers.

In addition, the TSJE uploaded scans of every single quick count tally for all electoral races at each electoral table. The data on *de facto* poll workers was compiled by us on the basis of scans of these approximately 120,000 hand-written election-day quick count tallies written by the poll workers themselves. These were briefly published by the election authority on their website and we scraped the election authority's website for them. As the TSJE already shared the electoral results at the voting booth-level, the key additional piece of information that the tally scans provide are the ID numbers of the poll workers at the bottom of each tally (see Figure C1). Figure C2 shows the pre-registered poll workers for the electoral table from Figure C1. Comparing the pre-registered poll workers with those on the tallies shown, we can observe that the Colorado and Liberal pre-registered poll workers showed up on election day, while the FG one was replaced. Using data from the election authority and political parties, we can match the IDs of the poll workers to the parties they work for (if they are a pre-registered electoral agent) and the parties they are registered to.

Although there were a few quick count tallies where none or only a subset of the ID numbers were visible, these are a small minority of all the electoral tables. Out of the 21,211 electoral tables from this election, we have all the ID numbers for 20,365, which is more than 96% of all electoral tables. Hence, there are 846 tallies with at least one missing ID number: 148 with one missing ID, 10 with two missing IDs, and 688 with three missing IDs. Although vote tallies missing one and

especially all three ID numbers could be considered irregular, 631 of the vote tallies missing all ID numbers come from special quick count tallies derived from polling stations in remote areas. These are areas where sending a scanned vote tally filled out by the poll workers would have been more difficult due to low internet connectivity. In addition, these were also used in sparsely populated areas which had polling stations with less than three voting booths. For these electoral tables, the results are transmitted through calls via voice.⁴ See Figure C3 for a picture showing a voice-transmitted vote tally for a booth in a polling station in the Carmelo Peralta district from the Alto Paraguay department in the Chaco region.

The problem with the *de jure* pre-registered poll workers is that those who were assigned to be a poll worker according to this data do not always correspond with the *de facto* poll workers on election day. There is usually a considerable number of absentees and replacements that could make the *de facto* poll workers considerably different from those certified in the original list of pre-registered poll workers. Figure 1 shows a histogram of how many poll workers were replaced in our sample of electoral tables where we have the IDs of all three *de facto* poll workers (around 96% of all electoral tables in this election). The figure shows most electoral tables have at least one replacement, and there are around 1,200 electoral tables where all three pre-registered poll workers were replaced. More than a third of the pre-registered poll workers get replaced, as the total number of poll workers replaced from this figure is 21,358.

As mentioned above, to find the *de facto* poll workers we rely on the quick count vote tallies that the TSJE scanned and uploaded to its website after the elections. From the tallies we digitized the ID numbers of those poll workers who were actually present at the electoral table on election day. We merge these ID numbers with nation-wide party registration data sets we obtained from the TSJE (because the election authority collects this data from individual parties) and individual

⁴More information about the quick count tallies, including the voice-transmitted ones, can be found here: https://www.tsje.gov.py/static/ups/docs/archivos/2018/abril/trep_manual.pdf.

Figure C1: Example quick count vote tallies from a single voting booth

Elecciones Generales y
Elecciones Municipales - 2015

Justicia Electoral
OFICIO DEL Jefe del Votante

A 096131

TRANSMISION DE RESULTADOS ELECTORALES PRELIMINARES: 147

PRESEDENTE DE LA REPUBLICA

CTX: -119

Consejeros (1) CONCORDIA
Distrito: (6) CONCORDIA
Zona: (6) CONCORDIA
Local: (11) C.R.E. JUAN E. OLIVARI

Mesa N°: 0000

Sufragantes: 858850

Edad	Partido	Presidencia/Consejeria	Votos en blanco	Votos en mesa
11	PARTEIDO COLONDO		65	<i>Se cuenta a cargo</i>
12	ALIANZA VERDE		46	<i>Se cuenta a cargo</i>
13	PARTEIDO REPUBLICANO		1	<i>Una</i>
15	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY		0	<i>Cero</i>
22	MOVIMIENTO SOBERANIA NACIONAL		0	<i>Cero</i>
23	PARTEIDO VERDE PARAGUAY		2	<i>Dos</i>
30	MOVIMIENTO REDESARROLLO		0	<i>Cero</i>
40	PARTEIDO SOCIALISTA DEMOCRATICO INTERIOR PARAGUAY		2	<i>Dos</i>
48	PARTEIDO DEL MOVIMIENTO PATRIOTICO POPULAR		2	<i>Dos</i>
60	MOVIMIENTO CIVICO NACIONAL URUQUIVO		1	<i>Una</i>
	VOTOS MALOS		2	<i>Dos</i>
	VOTOS EN BLANCO		3	<i>Tres</i>
	SUMA TOTAL DE VOTOS		123	<i>Se cuenta a cargo</i>

Firma del Jefe del Mesa
Firma del Jefe del Mesa
Cada el Jefe del Mesa

Firma del Presidente de Mesa
Firma del Presidente de Mesa
Cada el Presidente de Mesa

Firma del Jefe del Mesa
Firma del Jefe del Mesa
Cada el Jefe del Mesa

Dirección General de
Electorales y
Departamentales - 2018

Justicia Electoral
OFICINA GENERAL DE PROCESOS
ELECTORALES

A 096189

TRANSICIÓN DE GOBIERNO LOCAL ELEGIDOS EN PRIMERA VUELTA

SENADORES

CTX: 147

Departamento : (1) CONCEPCION
Distrito : (8) CONCEPCION
Zona : (1) CONCEPCION
Localidad : (1) C.A.E. JUAN E. OLIVERA

Mesa No: 001

Secuencia: 890848

Linea	Partido Representación/Identificación	Votos en blanco	Votos en mesa
1	PARTIDO COLOMBIANO	47	
2	PARTIDO LIBERAL, RADICAL, ATTERISTA	29	Veintinueve
3	PARTIDO REVOLUCIONARIO FERRERISTA	1	Uno
6	PARTIDO DEMOCRATICA CRISTIANO	0	Cero
7	PARTIDO UNICO	0	Cero
8	PARTIDO PATRIA GUERRA	10	Diez
9	PARTIDO FASCISTA NACIONAL	0	Cero
10	MOVIMIENTO COMPROMISO CIUDADANO	0	Cero
11	PARTIDO DEL MOVIMIENTO AL SOCIALISMO	0	Cero
12	PARTIDO FRENTE AMPLIO	0	Cero
14	CONCERTACION NACIONAL AVANZADOS PAIS	0	Cero
15	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	Cero
19	MOVIMIENTO POLITICO INGENIERIA PLURINACIONAL	0	Cero
20	PARTIDO HAGAMOS	4	Cuatro
22	MOVIMIENTO POLITICO SOBORNADA NACIONAL	0	Cero
23	PARTIDO VERDE PARAGUAY	3	Tres
30	MOVIMIENTO RESERVA PATRIOTICA	9	Nueve
40	CONCERTACION NACIONAL FRENTE GUAY	0	Cero
46	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	Cero
60	MOVIMIENTO CIVICO NACIONAL GUAY	0	Cero
69	MOVIMIENTO KURA PYRENIA	1	Uno
77	MOVIMIENTO UNIDOS TOROES PARA PARAGUAY	0	Cero
109	PARTIDO DEMOCRATICO PROGRESISTA	3	Tres
111	MOVIMIENTO POLITICO UNIDOS E IGUALDAD	0	Cero
123	MOVIMIENTO POLITICO SOMOS PARAGUAY	0	Cero
600	PARTIDO DE LA A	0	Cero
777	MOVIMIENTO POLITICO NOROCCIOS	0	Cero
911	MOVIMIENTO POLITICO PARAGUAY SEGURO	3	Tres
999	MOVIMIENTO CRUZADA NACIONAL	1	Uno
	VOTOS NULOS	3	Tres
	VOTOS EN BLANCO	6	Seis
	SUBA TOTAL DE VOTOS	123	Ciento Veintitres

Impresión: Censura/Conteo -
Firma del Jefe de Mesa

Firma del Representante de Mesa

Firma del Jefe de Mesa

Elecciones Generales /
Departamento: 2915

Justicia Electoral
CERTEFICADO DE VOTACIÓN POPULAR

A 096187

DIPUTADOS DE REGIÓN LAZCA ELECTORALES PRELIMINARES: 147

TRIPARTITO

CTX: 737

Departamento: (1) CONDEPACION
Distrito: (19) CONDEPACION
Mesa No: (1) CONDEPACION
Local: (11) C.R.E.C. JUAN E. OLIVERA

Mesa No: 001

Seguridad: 435817

Boleta	Partido	Concurrencia	Nombre en letra	Votado en letra
1	PARTIDO COLOMBIANO	0	Colombiano	7
2	PARTIDO LIBERAL, NACIONAL AUTENTICO	54	Colombiano	7
7	PARTIDO UNICO	0	Unico	0
8	PARTIDO ENCUENTRO NACIONAL	0	Unico	0
9	PARTIDO DEL MOVIMIENTO AL SOCIALISMO	0	Unico	0
11	PARTIDO FRENTE AMPLIO	0	Unico	0
16	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	Unico	0
23	PARTIDO VERDE PARAGUAY	1	Unico	0
40	CONCERTACION NACIONAL FRENTE GUAY	6	Unico	0
46	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	Unico	0
777	MOVIMIENTO POLITICO NOROCCIDENTAL	0	Unico	0
	PARTIDO VECES	0	Unico	0
	VOTOS EN BLANCO	0	Unico	0
	SUMA TOTAL DE VOTOS	122	Unico	0

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

PRIMA DEL VOTO DE MESA

Justicia Electoral
COURT OF THE ELECTORAL PROCESS

A 096120

Elecciones Generales y Departamentales - 2016

TRANSACCION DE RESULTADOS ELECTORALES PRELIMINARES - TRP

GOBERNADOR

CTX: 147

Mesa N°: 001

Seguridad: 126772

Código	Partido Movimiento/Lista/Concurrencia	Votos en blanco	Votos en letras
1	PARTIDO COLOMBIANO	55	Cinco y cinco
2	PARTIDO LIBERAL, RACIAL, ANTIOQUEÑO	59	Cinco y nueve
3	PARTIDO REVOLUCIONARIO FERRERISTA	1	Uno
7	PARTIDO FARC	0	Cero
8	MOVIMIENTO NACIONAL, ANTIOQUEÑO DEL PARAGUAY	0	Cero
21	PARTIDO VERDE PERUANO	2	Doce
46	PARTIDO SOCIEDAD DEMOCRATICA-HEREDEROS	0	Cero
	VOTOS MALOS	2	Doce
	VOTOS EN BLANCO	5	Cinco
	SUMA TOTAL DE VOTOS	122	Ciento veintidos

Tricia Camacho

PRIMER VICE PRESIDENTE DE MESA

PD

PRIMER DEL PRESIDENTE DE MESA

Stefani

PRIMER DEL VICE PRESIDENTE DE MESA



Justicia Electoral
GOBIERNO DEL ESTADO DE VERACRUZ

A 095186

Diciembre Gubernativo
Departamento - 2016

TRANSACCION DE VOTOS PARA LOS OFICIALES PRESIDENCIALES, 1107

JUNTA DEPARTAMENTAL

Departamento: (1) CONSEJO CON
Zona: (6) CONSEJO
Municipio: (1) CONSEJO
Local: (1) C.A.E.S. JUAN E. OLIVERA

CTX. 147

Mesa N°: 001

Secundaria: 800902



No.	Partido Representado/Concertado	Votos en	Votos en mesa
1	PARTIDO COLORADO	45	
2	PARTIDO LIBERAL RADICAL, AUTENTICO	18	
3	PARTIDO REVOLUCIONARIO FIBERISTIA	4	
7	PARTIDO UNIDO	1	
9	PARTIDO ENCUENTRO NACIONAL	1	
12	PARTIDO FRENTES AMBOS	1	
14	CONCERTACION NACIONAL, AVANZADOS DEL PARAGUAY	4	
15	MOVIMIENTO NACIONAL, ARTISTAS DEL PARAGUAY	1	
23	PARTIDO VERDE PARAGUAY	1	
40	CONCERTACION NACIONAL, FRENTE GUAYU	4	
46	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	
80	PARTIDO DEL MOVIMIENTO PATRIOTICO POPULAR	0	
911	MOVIMIENTO PARAGUAY SIGUENO	4	
VOTOS EN BLANCO		3	
SUMA TOTAL DE VOTOS		78	
		132	

Veracruz, Gubernativo, 2016

FIRMA DEL VOTANTE DEL MESAJE
C.A.P. C.A.P. C.A.P.

FIRMA DEL REPRESENTANTE DE MESA
C.A.P. C.A.P. C.A.P.

FIRMA DEL VOTANTE DEL MESAJE
C.A.P. C.A.P. C.A.P.

Dirección General y
Departamental - 2016

Justicia Electoral
ORDEN DE VOTACIONES PRELIMINARES

A 096188

TRANSACCION DE LA REUNION DISTRITO Nº 117
PARLAMENTARIOS DEL MERCOSUR CTX : 147

Departamento: (1) CONCEPCION

Ciudad: (1) CONCEPCION

Zona: (1) CONCEPCION

Local: (1) C.A.E.E. JUAN H. GLEARY

Mesa N°: 001

Seguridad: 005450

Partido / Inscripción/Contestante		Votos en mesa	Votos en la mesa
1	PARTIDO COLORADO	49	49
2	PARTIDO LIBERAL, RADICAL, APERTISTA	40	40
3	PARTIDO REVOLUCIONARIO FERRERISTA	1	Uno
6	PARTIDO DEMOCRATICO CRISTIANO	0	Cero
7	PARTIDO UNACE	1	Uno
8	PARTIDO PARTIDA GUERDA	0	Cero
9	PARTIDO EXCELSIONARIO NACIONAL	1	Uno
10	MOVIMIENTO COMPROMISO COLOMBIANO	0	Uno
11	PARTIDO DEL MOVIMIENTO AL SOCIALISMO	0	Uno
12	PARTIDO FRENTE AMPLIO	2	Cero
14	CONCERTACION NACIONAL AVANZADOS PAS	1	Uno
15	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	Cero
19	MOVIMIENTO POLITICO INGENIERIA FLUMINARIANA	1	Uno
20	PARTIDO HOGAR	3	Tres
21	PARTIDO LA JARDINERA	1	Uno
22	MOVIMIENTO SINDERANA NACIONAL	0	Cero
23	PARTIDO VERDE PARAGUAY	1	Uno
30	MOVIMIENTO RESERVA PATRIOTICA	9	Dos
40	CONCERTACION NACIONAL FRENTE GUAY	4	Cuatro
45	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	Cero
50	PARTIDO DEL MOVIMIENTO PATRIOTICO POPULAR	0	Cero
60	MOVIMIENTO CIVICO NACIONAL, UNIMOROS	0	Cero
77	MOVIMIENTO UNION TODOS POR EL PARAGUAY	1	Uno
140	PARTIDO DEMOCRATICO PROGRESISTA	1	Uno
111	MOVIMIENTO POLITICO UNION Y IGUALDAD	0	Cero
123	MOVIMIENTO POLITICO SOMOS PARAGUAY	0	Cero
909	PARTIDO DE LA A	0	Cero
951	MOVIMIENTO POLITICO PARAGUAY SEGURO	1	Uno
999	MOVIMIENTO CRUZADA NACIONAL	0	Cero
VOTOS EN BLANCO		3	Tres
SUMA TOTAL DE VOTOS		127	127

Yo, Encargado/a

Firma del Encargado/a

Firma del Encargado/a de Mesa

Yo, Encargado/a

Firma del Encargado/a de Mesa

19

Note: This figure shows scans of all the quick count vote tallies from a single electoral table.

Figure C2: Pre-registered poll workers from example quick count tally shown

0	CONCEPCION	0	CONCEPCION	1	C.R.E.C JUAN E. O'LEARY	1	3561873	F	9/16/1980	PRESIDENTE	TITULAR	1	ANR
0	CONCEPCION	0	CONCEPCION	1	C.R.E.C JUAN E. O'LEARY	1	3563089	F	9/13/1980	VOCAL	TITULAR	2	PLRA
0	CONCEPCION	0	CONCEPCION	1	C.R.E.C JUAN E. O'LEARY	1	5587364	F	12/24/1989	VOCAL	TITULAR	40	FG

Note: This figure shows the pre-registered poll workers from the quick count vote tally shown on Figure C1. Comparing the pre-registered poll workers with those on the tally, the Colorado and Liberal pre-registered poll workers showed up on election day, while the FG one was replaced.

Figure C3: Example vote tallies transmitted via voice for remote polling stations

Elecciones Generales y Departamentales - 2018

TRANSMISION DE RESULTADOS ELECTORALES PRELIMINARES - TREP - VIA VOZ

GOBERNADOR CTX: 1220

Departamento: (16) ALTO PARAGUAY
Distrito: (2) CARMELO PERALTA
Zona: (11) PUERTO SANTISIMA LA ESPERANZA
Local: (501) LIC. NAC. LA ESPERANZA

Mesa N°: 002
Seguridad: 734211

No. Lista	Partido/ Movimiento/ Alianza/ Concertación	Votos en blanco	Votos en letras
1	PARTIDO COLORADO	58	Cinuenta y siete
5	ALIANZA GANAR	42	Sesenta y dos
23	PARTIDO VERDE PARAGUAY	0	Cero
40	CONCERTACION NACIONAL FRENTE GUARU	0	Cero
77	MOVIMIENTO UNIDOS TODOS POR PARAGUAY	0	Cero
	VOTOS NULOS	2	Dos
	VOTOS EN BLANCO	4	Cuatro
	SUMA TOTAL DE VOTOS	135	Ciento treinta y cinco

NOMBRE DEL FUNCIONARIO TREP RECEPTOR: Miguel Juste
NRO. DEL RECEPTOR: 35 NRO LINEA RECEPTOR: 6180154

Elecciones Generales y Departamentales - 2018

TRANSMISION DE RESULTADOS ELECTORALES PRELIMINARES - TREP - VIA VOZ

PRESIDENTE DE LA REPUBLICA CTX: 1220

Departamento: (16) ALTO PARAGUAY
Distrito: (2) CARMELO PERALTA
Zona: (11) PUERTO SANTISIMA LA ESPERANZA
Local: (501) LIC. NAC. LA ESPERANZA

Mesa N°: 002
Seguridad: 379176

No. Lista	Partido/ Movimiento/ Alianza/ Concertación	Votos en blanco	Votos en letras
1	PARTIDO COLORADO	74	Sesenta y cuatro
5	ALIANZA GANAR	53	Cincuenta y tres
12	PARTIDO FRENTE AMPLIO	0	Cero
16	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	Cero
22	MOVIMIENTO SOBERANIA NACIONAL	0	Cero
23	PARTIDO VERDE PARAGUAY	0	Cero
30	MOVIMIENTO RESERVA PATRIOTICA	0	Cero
45	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	Cero
60	PARTIDO DEL MOVIMIENTO PATRIOTICO POPULAR	0	Cero
60	MOVIMIENTO CIVICO NACIONAL UNANIMOS	0	Cero
	VOTOS NULOS	0	Cero
	VOTOS EN BLANCO	8	Ocho
	SUMA TOTAL DE VOTOS	135	Ciento treinta y cinco

NOMBRE DEL FUNCIONARIO TREP RECEPTOR: Miguel Juste
NRO. DEL RECEPTOR: 35 NRO LINEA RECEPTOR: 6180154

Elecciones Generales y Departamentales - 2018

TRANSMISION DE RESULTADOS ELECTORALES PRELIMINARES - TREP - VIA VOZ

SENADORES CTX: 1220

Departamento: (16) ALTO PARAGUAY
Distrito: (2) CARMELO PERALTA
Zona: (11) PUERTO SANTISIMA LA ESPERANZA
Local: (501) LIC. NAC. LA ESPERANZA

Mesa N°: 002
Seguridad: 828567

No. Lista	Partido/ Movimiento/ Alianza/ Concertación	Votos en blanco	Votos en letras
1	PARTIDO COLORADO	48	Cuarenta y siete
2	PARTIDO LIBERAL RADICAL AUTENTICO	9	Nueve
3	PARTIDO REVOLUCIONARIO FERRERISTA	0	Cero
6	PARTIDO DEMOCRATA CRISTIANO	0	Cero
7	PARTIDO UNICE	0	Cero
8	PARTIDO PATRIA GUERRA	12	Doce
9	PARTIDO ENCuentRO NACIONAL	0	Cero
10	MOVIMIENTO COMPROMISO CIUDADANO	0	Cero
11	PARTIDO DEL MOVIMIENTO AL SOCIALISMO	0	Cero
12	PARTIDO FRENTE AMPLIO	0	Cero
14	CONCERTACION NACIONAL AVANCEMOS PAIS	6	Six
15	MOVIMIENTO NACIONAL ARTISTAS DEL PARAGUAY	0	Cero
19	MOVIMIENTO POLITICO INDIGENA PLURINACIONAL	0	Cero
20	PARTIDO HAGAMOS	0	Cero
22	MOVIMIENTO POLITICO SOBERANIA NACIONAL	0	Cero
23	PARTIDO VERDE PARAGUAY	0	Cero
30	MOVIMIENTO RESERVA PATRIOTICA	0	Cero
40	CONCERTACION NACIONAL FRENTE GUARU	4	Cuatro
45	PARTIDO SOCIALISTA DEMOCRATICO HEREDEROS	0	Cero
60	MOVIMIENTO CIVICO NACIONAL UNANIMOS	0	Cero
69	MOVIMIENTO KURA PYRENDA	0	Cero
77	MOVIMIENTO UNIDOS TODOS POR PARAGUAY	0	Cero
100	PARTIDO DEMOCRATICO PROGRESISTA	0	Cero
111	MOVIMIENTO POLITICO UNION E IGUALDAD	0	Cero
123	MOVIMIENTO POLITICO SOMOS PARAGUAY	0	Cero
500	PARTIDO DE LA A	0	Cero
777	MOVIMIENTO POLITICO NOSOTROS	0	Cero
911	MOVIMIENTO POLITICO PARAGUAY SEGURO	0	Cero
999	MOVIMIENTO CRUZADA NACIONAL	0	Cero
	VOTOS NULOS	4	Cuatro
	VOTOS EN BLANCO	53	Cincuenta y tres
	SUMA TOTAL DE VOTOS	135	Ciento treinta y cinco

NOMBRE DEL FUNCIONARIO TREP RECEPTOR: Miguel Juste
NRO. DEL RECEPTOR: 35 NRO LINEA RECEPTOR: 6180154

Note: This figure shows a picture of a quick count vote tally for remote polling stations where electoral results were transmitted to the election authority through a call (via voice) instead of a scan of the vote tally. The vote tally is for a booth in a polling station in the Carmelo Peralta district from the Alto Paraguay department in the Chaco region. Instead of showing the ID numbers of the poll workers at the bottom, it has the name of the election authority employee who received the results via a call.

parties themselves. By merging these data sets we can uncover who the poll workers support even if they are not on our pre-registered electoral agents data. By merging these data, we find some cases of poll workers registered to multiple parties. Among all *de facto* poll workers, less than 4% of them (2,514 out of 63,633) are multi-party poll workers and we consider them as a separate category because they are not “pure” partisans.⁵ We also find 5,166 poll workers (around 8% of all poll workers) that are not registered to any political party. Although these poll workers may be working for some party and we cannot determine this, it is also possible they are truly independent voters who replaced pre-registered poll workers that did not show up on election day.

Figure 2 shows how the allocation of partisan poll workers changes for the main parties due to replacements of pre-registered poll workers. The histograms show how the pre-registered allocation of poll workers in gray is relatively balanced as the main parties have only one poll worker per electoral table at most electoral tables. In contrast, the election-day *de facto* allocation of poll workers is more skewed towards the two main parties (Colorado and Liberal), particularly the Colorado party. With the *de facto* allocation, the Colorado party has two or more poll workers (a majority) represented at 4,473 electoral tables (around 21% of all electoral tables). The Liberal party has two or more poll workers represented at 2,947 electoral tables (around 14% of all electoral tables). Instead, the FG loses a substantial portion of their poll workers on election day. The FG has two poll workers represented at only 113 electoral tables (around 0.5% of all electoral tables) and it never has three poll workers within a single electoral table.

We can also discuss the partisanship of poll workers by poll worker function: president, *vocal* 1, and *vocal* 2. With regards to the pre-registered poll workers, we can observe on Table C1 that the table “president” is the most equally distributed among parties. Yet we can notice how the FG and other parties have less booth presidents than the Colorado and Liberal parties (although the Colorado party still has approximately 500 more booth presidents than the Liberal party). With

⁵In Paraguay it is not illegal to be registered to multiple parties because this is not regulated.

the *de facto* poll workers the Colorado and Liberal party have an increase of 758 and 147 table presidents respectively. On the other hand, the FG and other parties lose 2,210 and 644 table presidents respectively. Given that the *vocal* 1 and 2 share the same role and are interchangeable, we can just consider the sum of the two. The Colorado and Liberal party have roughly the same number of *vocal* poll workers at around 15,050. On the other hand, the FG and other parties have 8,743 and 3,084 respectively. With the replacements we can observe that the Colorado party gains 1,046 more *vocal* poll workers, whereas the other parties lose poll workers. The Liberal party loses 1,137, the FG loses 3,555, and the other parties lose 1,350. Finally, we can observe that the replacements vis-à-vis the pre-registered poll worker allocations only fully benefit the Colorado party, as only the Colorado party obtains more poll workers than its pre-registered amount.

Table C1: Partisan representation of pre-registered and *de facto* poll workers by poll worker function

	President	Vocal 1 + Vocal 2	Vocal 1	Vocal 2
Pre-registered poll workers				
Colorado	7,523	15,048	13,901	1,147
Liberal	7,060	15,053	7,066	7,987
FG	4,877	8,743	1	8,742
Other party	1,508	3,086	2	3,084
De facto poll workers				
Colorado	8,281	16,094	9,550	6,544
Liberal	7,207	13,916	6,800	7,116
FG	2,667	5,188	1,939	3,249
Other party	864	1,736	629	1,107
Multi-party	732	1,782	754	1,028
Unaffiliated	1,460	3,706	1,539	2,167
Difference between number of <i>de facto</i> and pre-registered poll workers				
Colorado	758	1,046	-4,351	5,397
Liberal	147	-1,137	-266	-871
FG	-2,210	-3,555	1,938	-5,493
Other party	-644	-1,350	627	-1,977

Note: This table indicates the partisan support of the pre-registered and *de facto* poll workers and their difference by poll worker function. The electoral table president has a few more responsibilities (including opening up the ballot box) compared to the other two poll workers called *vocal 1* and *vocal 2*. Given that the *vocal 1* and *2* share the same role and are interchangeable, we calculate and mainly consider the sum of the two in the second column. The pre-registered poll workers data come from the election authority and indicate those registered in advance to work at the polls as representatives of a particular party. The data on pre-registered poll workers was not available for the electoral tables abroad, two municipalities in the Paraguari department, and 8 additional electoral tables for particular poll worker functions. This explains the approximately 250 pre-registered poll workers less than the *de facto* poll workers. The *de facto* poll workers data is collected by us by digitizing the ID numbers of the poll workers in vote tallies and merging these ID numbers with party registration datasets (for those poll workers that are not pre-registered). The multi-party poll workers are those registered to multiple parties, which are considered as a separate category because they are not “pure” partisans. The “unaffiliated” poll workers are those neither pre-registered as electoral agents nor registered to any political party.

Next, we also have the electoral register disaggregated to the electoral table level for the 2018 elections, which gives us the electoral table every voter was assigned to vote in. We merge this electoral register with the partisan support data we have to also measure the proportion of partisans for each party at the electoral table level.

Finally, we obtained legal documents from the election authority indicating all electoral tables where electoral results were contested (*impugnaciones electorales*) at the electoral race level and we codified these into a dataset. For each electoral contestation, we have information on the voting booth and particular electoral race contested, the parties contesting the results, and whether the contestation was accepted. Among the contestation outcomes possible is annulling the tally of the electoral table for the particular race being contested, which entails that zero votes are counted from that electoral table for that particular race. To determine whether a contestation is accepted, the election authority checks the tallies submitted by each of the poll workers. If a majority (two or three) of the poll workers' tallies agree with the electoral contestation, then the results of the tallies are amended. Yet given how this system works and that some parties have an outright majority or collude at a booth, contestations may not be successful despite being legitimate. Overall, there are not many electoral contestations: 3,213 out of 122,595 possible electoral table-race combinations. Out of 3,213 contestations in this election, only 738 were accepted. The low number of contestations may be partly because parties need to have either poll workers, poll watchers, or empowered party officers present to observe irregularities, and only the established parties are well-resourced enough to cover most of the country. In addition, given that ultimately the contestations are decided by what the majority of poll workers wrote down, some parties may not even submit a contestation which they expect to be ultimately rejected. This was confirmed to us by some party activists from smaller parties.

Table C2 provides summary statistics for all the variables used in the main tables of the paper, except the voting outcome variables, which are on Table C3. These variables are defined in detail on Section 4. In contrast to the vote share variables, turnout is measured in terms of number of

votes. Table C4 shows summary statistics for all the variables used in the OA tables, and these variables are defined on OA Section E.

Table C2: Main summary statistics

	Observations	Mean	Standard Deviation
Total pre-registered poll workers replaced at voting booth	21,211	1.1371	0.9316
Percent of Colorado voters at voting booth	21,211	34.2220	10.4397
Percent of Liberal voters at voting booth	21,211	17.3346	9.8823
Percent of other party voters (excluding the Colorado and Liberal parties) at voting booth	21,211	4.0607	2.4103
Number of registered voters at voting booth	21,211	199.9673	14.4187
Equation (1) indicator variables:			
Colorado trifecta	21,211	0.0074	0.0857
Colorado advantage + Other	21,211	0.0415	0.1995
Colorado advantage + Liberal	21,211	0.1693	0.3751
Liberal advantage + Colorado	21,211	0.1259	0.3318
Liberal advantage + Other	21,211	0.0130	0.1133
Liberal trifecta	21,211	0.0008	0.0283
Other poll worker allocation	21,211	0.1208	0.3259
Fair poll worker allocation	21,211	0.5211	0.4996

Note: All the means and standard deviations are rounded up to the fourth digit after the decimal.

Table C3: Vote share summary statistics

	Observations	Mean	Standard Deviation
Presidential election vote shares:			
Colorado vote share	21,139	48.625	12.311
GANAR vote share	21,139	45.439	12.564
Other party vote share	21,139	5.936	5.836
Blank vote share	21,139	2.435	2.333
Null vote share	21,139	2.751	1.984
Turnout	21,139	122.900	18.592
Senatorial election vote shares:			
Colorado vote share	21,107	32.765	12.558
Liberal vote share	21,107	24.484	12.643
Other party vote share	21,107	42.752	15.775
Blank vote share	21,107	5.366	4.069
Null vote share	21,107	3.621	2.660
Turnout	21,107	122.627	18.876
MERCOSUR parliament election vote shares:			
Colorado vote share	21,122	42.199	13.042
Liberal vote share	21,122	30.512	13.659
Other party vote share	21,122	27.289	14.068
Blank vote share	21,122	8.562	5.190
Null vote share	21,122	3.904	2.726
Turnout	21,122	122.630	18.744
Deputies election vote shares:			
Colorado vote share	20,932	39.295	14.101
Liberal/GANAR vote share	20,932	30.441	14.704
Other party vote share	20,932	30.264	19.012
Blank vote share	20,932	5.220	3.432
Null vote share	20,932	3.055	2.236
Turnout	20,932	123.369	17.111
Governor election vote shares:			
Colorado vote share	18,910	46.846	12.432
Liberal/GANAR vote share	18,910	42.390	13.713
Other party vote share	18,910	10.764	11.016
Blank vote share	18,910	3.727	2.641
Null vote share	18,910	2.585	1.895
Turnout	18,910	122.279	16.615
Departmental council election vote shares:			
Colorado vote share	18,893	40.423	12.872
Liberal/GANAR vote share	18,893	34.377	13.223
Other party vote share	18,893	25.200	13.246
Blank vote share	18,893	6.735	3.603
Null vote share	18,893	3.465	2.526
Turnout	18,893	122.079	16.661

Note: All means and standard deviations are rounded up to the fourth digit. Vote shares for parties are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for blank and null votes are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations for the deputies' vote shares is lower as there is no deputies' election for Paraguayan voters abroad. The number of observations is lower for the governor and departmental council vote shares as there is no governor or departmental council election for Paraguayan voters abroad and those in the capital district. There are still slight differences in observations across races due to electoral contestations annulling the vote counts for certain races at some voting booths and missing vote tallies that were not received by the election authority for certain electoral races.

Table C4: OA analysis summary statistics

	Observations	Mean	Standard Deviation
Equation (6) indicator variables:			
Traditional party trifecta	21,211	0.3035	0.4598
Traditional party advantage + Other party	21,211	0.4130	0.4924
Other party advantage + Traditional party	21,211	0.0136	0.1157
Other party trifecta	21,211	0.0002	0.0154
Other poll worker allocation	21,211	0.2227	0.4160
Fair poll worker allocation	21,211	0.0470	0.2117
Electoral contestation variables:			
Contested electoral result	122,595	0.0262	0.1598
Contested electoral result by a party that is not the Colorado party	122,595	0.0228	0.1493
Contested electoral result by a party that is not the Liberal party	122,595	0.0189	0.1360
Contestation of electoral result accepted	122,595	0.0060	0.0774
Electoral result annulled	122,595	0.0038	0.0615

Note: All the means and standard deviations are rounded up to the fourth digit after the decimal.

D Tests for Correlation Between Voter Preferences and Names

Figure D1 plots the distribution of Colorado and Liberal party support among registered voters of the 2018 election for each of the indicated initials of voters' surnames. The horizontal line plots the overall average of Colorado and Liberal party support. If surnames are independent of party identification, we expect a flat distribution of partisan support among the surname initials. We see that voters support these two parties at around the same overall rate across almost all surname initials. Thus, we have an overall flat distribution of Colorado and Liberal party support among most surname initials. Although there are a few outliers (h, k, w, x, and y), they are spread around different letters and these are letters which have comparatively fewer voters. OA Figure D2 shows that the few surname initials that are farther away from the overall means all have substantially lower frequencies. This can explain why the proportions for these letters do not approach the overall mean as much as other surname initials. Also, neither Colorado nor Liberal party supporters have surnames concentrated towards the end of the alphabet or vice versa. Hence,

voters' first letter of their last name does not correlate with their political preferences.

Tables D1 to D3 additionally test whether the alphabetical ranking of voters' surnames (which determines the voting booth where citizens vote) is uncorrelated with electoral results for this election. To do so, we first calculate the alphabetical ranking of voters' last names within their polling station. This ranking is normalized by the number of voters in each polling station such that all within-polling station rankings go from 0 to 1. That is, voters with the earliest names in the alphabet in their polling station have a ranking that is very close to 0, whereas the voter with the latest name in the alphabet has a ranking of 1. We then calculate the average voter alphabetical ranking that each voting booth has. One table shows regressions of the Colorado party vote share for each electoral race on the alphabetical ranking of the voting booths. We find no significant correlation between the order of voters' last names and their preference towards the Colorado party. The other two tables run similar tests but instead use the Liberal party and GANAR vote share respectively. Both of these tables show similar non-significant results. Hence, these placebo tests also indicate that voters' first letters of their last names do not correlate with their political preferences.

Table D1: Relationship between voters' within-polling station alphabetical ranking and Colorado party votes

	President vote share (1)	Senator vote share (2)	MERCOSUR parliament vote share (3)	Deputies vote share (4)	Governor vote share (5)	Departmental council vote share (6)
Avg. surname alphabetical ranking	0.3681 (0.2935)	-0.0366 (0.3007)	0.1144 (0.3123)	-0.0515 (0.3384)	0.0583 (0.3157)	-0.0391 (0.3269)
Mean of Dependent Variable	48.6974	32.6445	42.1395	39.1594	46.9023	40.3697
Observations	20,298	20,268	20,284	20,149	18,153	18,139
R^2	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for each electoral race are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. The “Avg. surname alphabetical ranking” is calculated by ranking all voters within each polling station in terms of the alphabetical order of their surname and then calculating the average ranking per voting booth. The number of observations on column (4) is lower for this electoral race as there is no deputies’ election for Paraguayan voters abroad. The number of observations in columns (5) and (6) is also lower for these electoral races as there is no governor or departmental council election for Paraguayan voters abroad and those in the capital district. There are still slight differences in observations between columns (1)-(3) and columns (5)-(6) due to electoral contestations annulling the vote counts for certain races at some voting booths and missing vote tallies that were not received by the election authority for certain electoral races. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table D2: Relationship between voters' within-polling station alphabetical ranking and Liberal party votes

	Senator vote share (1)	MERCOSUR parliament vote share (2)	Deputies vote share (3)	Governor vote share (4)	Departmental council vote share (5)
Avg. surname alphabetical ranking	-0.2408 (0.3071)	-0.3436 (0.3305)	-0.4191 (0.4649)	-0.0390 (0.4473)	-0.6417 (0.4118)
Mean of Dependent Variable	24.5030	30.5376	28.7323	44.8315	36.1613
Observations	20,268	20,285	12,489	8,812	11,032
R^2	0.0000	0.0001	0.0001	0.0000	0.0002

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for each electoral race are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. The “Avg. surname alphabetical ranking” is calculated by ranking all voters within each polling station in terms of the alphabetical order of their surname and then calculating the average ranking per voting booth. The number of observations on column (3) is lower for this electoral race as there is no deputies’ election for Paraguayan voters abroad and the Liberal party ran independently for the deputies race at only some departments of the country (in the rest it ran as part of the GANAR alliance). The number of observations in columns (4) and (5) is lower for these electoral races as there is no governor or departmental council election for Paraguayan voters abroad and those in the capital district. Also, the Liberal party ran independently for the governor and departmental council race at only some departments of the country (in the rest it ran as part of the GANAR alliance). There are still slight differences in observations between columns (1)-(2) and columns (4)-(5) due to electoral contestations annulling the vote counts for certain races at some voting booths and vote tallies that were not received by the election authority for certain electoral races. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

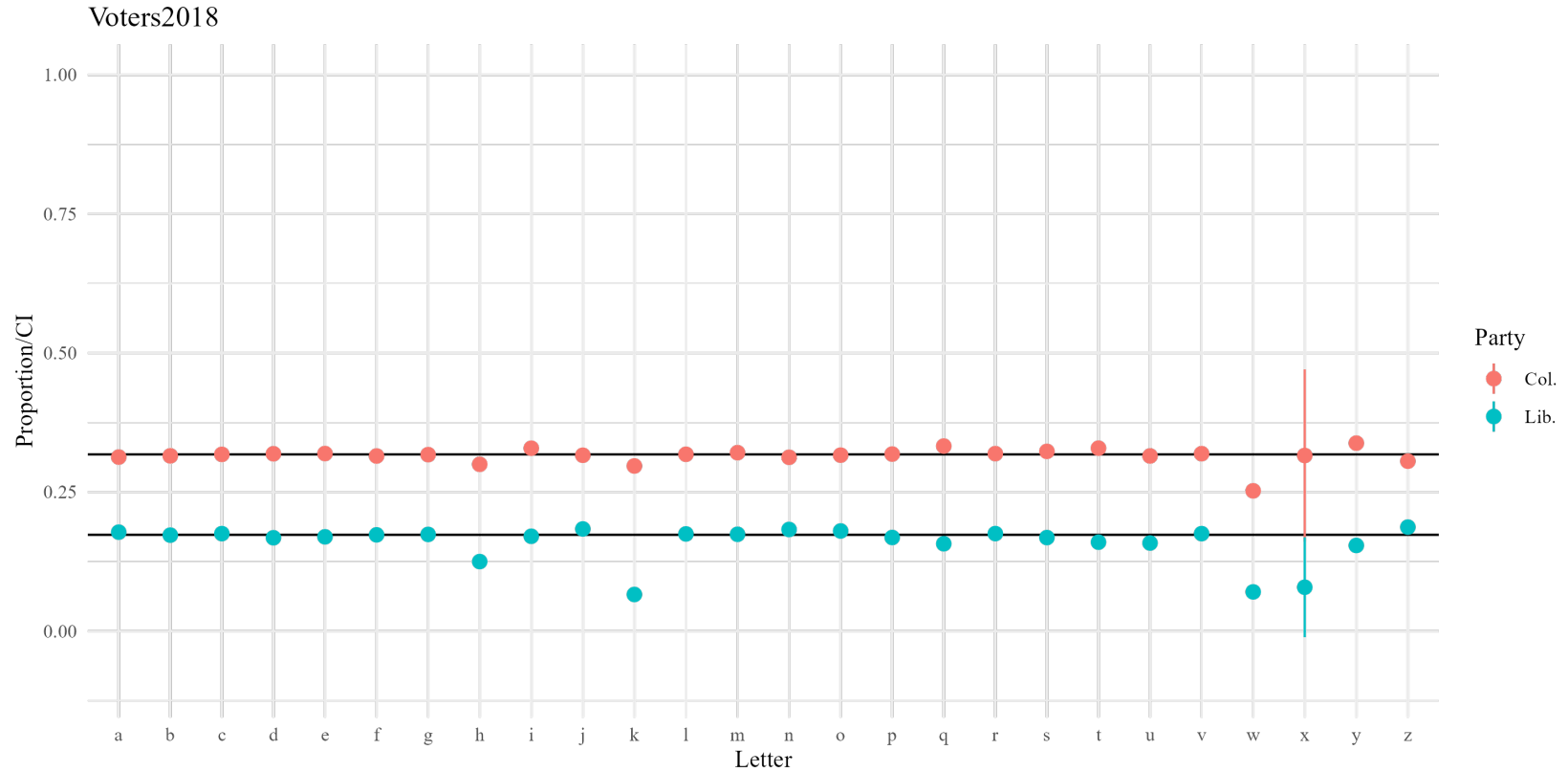
Table D3: Relationship between voters' within-polling station alphabetical ranking and GANAR votes

	President vote share (1)	Deputies vote share (2)	Governor vote share (3)	Departmental council vote share (4)
Avg. surname alphabetical ranking	-0.3711 (0.3005)	0.1472 (0.5413)	0.3387 (0.5169)	0.2284 (0.5635)
Mean of Dependent Variable	45.3860	32.8310	40.0363	31.6273
Observations	20,298	7,660	9,341	7,107
R^2	0.0001	0.0000	0.0000	0.0000

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for each electoral race are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. The “Avg. surname alphabetical ranking” is calculated by ranking all voters within each polling station in terms of the alphabetical order of their surname and then calculating the average ranking per voting booth. The number of observations on column (2) is lower for this electoral race as there is no deputies’ election for Paraguayan voters abroad and the GANAR alliance ran for the deputies race at only some departments of the country (in the rest several of its component parties ran separately). The number of observations in columns (3) and (4) is also lower for these electoral races as there is no governor or departmental council election for Paraguayan voters abroad and those in the capital district. In addition, the GANAR alliance ran for the governor and departmental council races at only some departments of the country (in the rest several of its component parties ran separately). The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

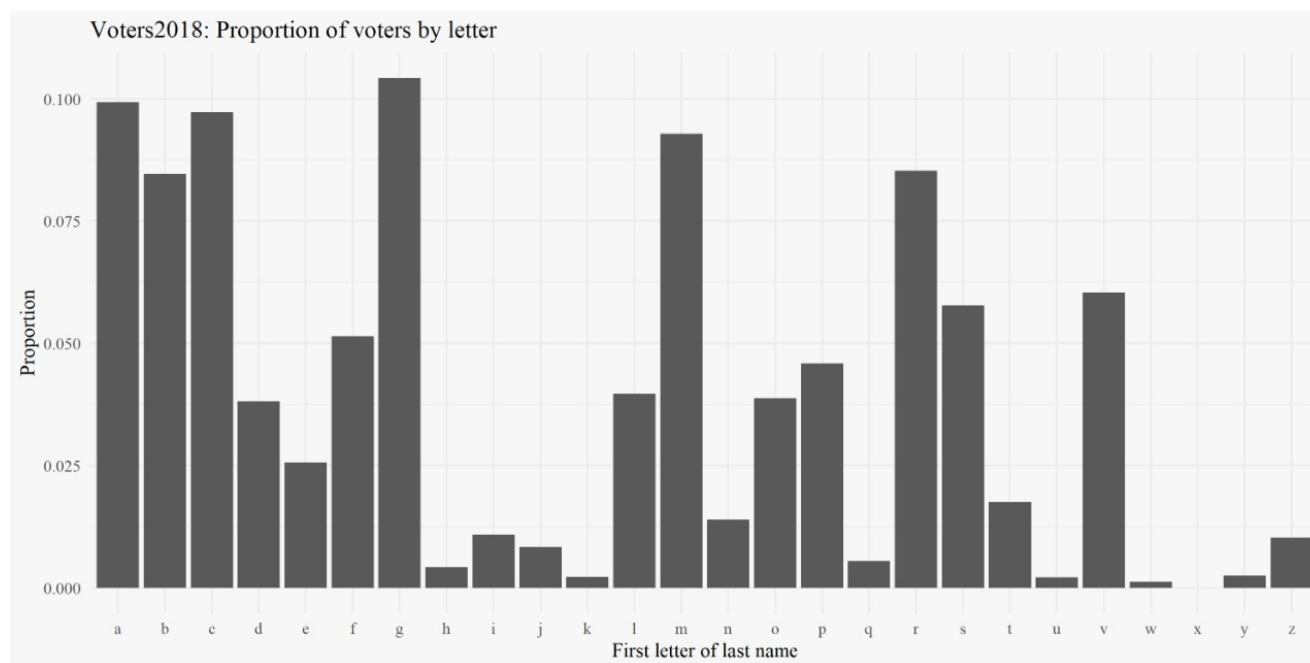
Our analyses using data on voters' surnames and their political preferences provide a rationale for our assumption that the assignment of voters to voting booths is a quasi-random assignment. Hence, any strong deviance in results recorded across booths within a polling station are likely due to the partisan representation of poll workers in the booth after we control for polling station fixed effects.

Figure D1: Distribution of Party Support by Voter Initials



Note: This figure plots the distribution of Colorado and Liberal party support among registered voters of the 2018 election for each of the indicated initials of voters' surnames. The horizontal line plots the overall average of Colorado and Liberal party support. OA Figure D2 shows that the surname initials that are farther away from the overall means (h, k, w, x, and y) have substantially lower frequencies. This can explain why the proportions for these letters do not approach the overall mean as much as other surname initials.

Figure D2: Proportion of voters' surname initials by letter



Note: This figure plots the proportion of voters' surname initials by letter. This figure shows how the surname initials that are farthest away from the overall means (h, k, w, x, and y) in Figure D1 have substantially lower frequencies.

E Additional Results

Tables E1 and E2 below confirm the robustness of our main results after controlling for pre-registered poll watchers. The coefficients for the Colorado and other party poll watchers align with what we would have expected. While the direction of the coefficients for Liberal poll watchers might not be intuitive, this could be due to two main reasons we can think of: (1) there is measurement error given that we only have data on the pre-registered poll watchers and not the *de facto* ones; (2) perhaps Liberal poll watchers are strategically sent by the Liberal party to voting booths where the Colorados are expected to perform particularly well.

Table E1: Effect of partisan poll worker composition on election results, controlling for pre-registered poll watcher presence

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta	0.2865 (0.2029)	-0.5233*** (0.1847)	0.2368 (0.1754)
Colorado advantage + Other	0.4358*** (0.0954)	-0.5043*** (0.0790)	0.0685 (0.0820)
Colorado advantage + Liberal	0.5175*** (0.0494)	-0.3865*** (0.0455)	-0.1310*** (0.0433)
Liberal advantage + Colorado	-0.0269 (0.0525)	0.1988*** (0.0506)	-0.1719*** (0.0483)
Liberal advantage + Other	-0.2032 (0.1610)	-0.0099 (0.1406)	0.2131 (0.1442)
Liberal trifecta	-1.9268*** (0.5972)	0.4565 (0.5953)	1.4702*** (0.4658)
Other poll worker allocation	0.0279 (0.0646)	-0.1633*** (0.0597)	0.1354** (0.0579)
Colorado poll watcher	0.1551* (0.0929)	-0.2489*** (0.0877)	0.0938 (0.0866)
Liberal poll watcher	0.8295*** (0.1547)	-0.5486*** (0.1520)	-0.2809** (0.1234)
Other poll watcher	-0.0880 (0.0786)	-0.0714 (0.0737)	0.1594** (0.0730)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	117,229
R^2	0.8425	0.8869	0.9308

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker, one Liberal poll worker, and one “other” poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables.

Table E2: Effect of partisan poll worker composition on election results by electoral system, controlling for pre-registered poll watcher presence

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta $\times$ PR race	-0.5626 (0.4164)	0.1363 (0.3948)	0.4263 (0.3126)
Colorado advantage + Other $\times$ PR race	0.0319 (0.1975)	0.0112 (0.1749)	-0.0431 (0.1440)
Colorado advantage + Liberal $\times$ PR race	0.1232 (0.1032)	0.1715* (0.0982)	-0.2948*** (0.0754)
Liberal advantage + Colorado $\times$ PR race	0.0514 (0.1098)	0.0886 (0.1071)	-0.1400* (0.0848)
Liberal advantage + Other $\times$ PR race	0.1244 (0.3315)	-0.1742 (0.3116)	0.0498 (0.2596)
Liberal trifecta $\times$ PR race	0.0288 (1.1897)	-0.6830 (1.2019)	0.6541 (0.8081)
Other poll worker allocation $\times$ PR race	0.1204 (0.1356)	-0.1859 (0.1292)	0.0655 (0.1024)
Colorado trifecta	0.6659** (0.3291)	-0.6151* (0.3248)	-0.0509 (0.1986)
Colorado advantage + Other	0.4143*** (0.1574)	-0.5118*** (0.1484)	0.0975 (0.0877)
Colorado advantage + Liberal	0.4345*** (0.0831)	-0.5021*** (0.0816)	0.0676 (0.0449)
Liberal advantage + Colorado	-0.0614 (0.0884)	0.1395 (0.0875)	-0.0780 (0.0511)
Liberal advantage + Other	-0.2866 (0.2626)	0.1067 (0.2648)	0.1799 (0.1668)
Liberal trifecta	-1.9461** (0.9057)	0.9141 (0.9319)	1.0320** (0.4785)
Other poll worker allocation	-0.0531 (0.1096)	-0.0383 (0.1075)	0.0914 (0.0636)
Colorado poll watcher	0.1553* (0.0929)	-0.2488*** (0.0877)	0.0935 (0.0866)
Liberal poll watcher	0.8294*** (0.1548)	-0.5487*** (0.1520)	-0.2807** (0.1234)
Other poll watcher	-0.0880 (0.0786)	-0.0715 (0.0737)	0.1595** (0.0730)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	117,229
R ²	0.8425	0.8869	0.9308

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “PR race” is an indicator variable for electoral races with a proportional representation (PR) system. The coefficient for PR race is omitted because it is collinear after controlling for polling station-electoral race fixed effects.

On Table E3 we tested whether the partisanship of the poll worker president has an independent effect on electoral results. The results do not show a clear pattern, which could be explained by the fact that ultimately the official result that counts within the tables is that of the majority (a minimum of 2 out of 3 poll workers). Hence, even if the poll worker president tallies results a certain way but the two vocals indicate something else (and the vocals' results agree with each other), the official result for that table is what the vocals indicated.

Table E3: Effect of poll worker president's party on election results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado poll worker president	0.1320 (0.0977)	-0.3191*** (0.0897)	0.1871** (0.0863)	-0.0048 (0.0444)	-0.0733* (0.0383)	-1.0397*** (0.2032)
Liberal poll worker president	0.0910 (0.0983)	-0.2154** (0.0903)	0.1243 (0.0868)	-0.0190 (0.0446)	-0.0891** (0.0385)	-1.2720*** (0.2035)
Other party poll worker president	0.0024 (0.1027)	-0.3195*** (0.0948)	0.3171*** (0.0906)	-0.0253 (0.0470)	-0.0080 (0.0403)	-0.6583*** (0.2128)
Multi-party poll worker president	-0.1127 (0.1275)	-0.1843 (0.1202)	0.2970** (0.1179)	-0.0972 (0.0591)	-0.0893* (0.0518)	-1.7866*** (0.2799)
Mean of Dependent Variable	41.5808	34.4445	23.9746	34.4445	23.9746	23.9746
Polling station-elect. race FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	117,229	117,229	117,229	117,229	117,229	117,229
R^2	0.8423	0.8868	0.9308	0.6147	0.2120	0.5552

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Colorado poll worker president” is an indicator variable for whether the poll worker president at the voting booth supports the Colorado party. “Liberal poll worker president” is an indicator variable for whether the poll worker president at the voting booth supports the Liberal party. “Other party poll worker president” is an indicator variable for whether the poll worker president supports a party that is not support the Colorado or the Liberal party. “Multi-party poll worker president” is an indicator variable for whether the poll worker president at the voting booth supports multiple parties. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

To examine results for the presidential race, we use similar indicator variables to equation (1) except we consider GANAR alliance poll workers instead of just Liberal poll workers. GANAR alliance poll workers are those supporting either the Liberal party, the FG, or other smaller left-wing parties that form part of the alliance.⁶ This change also affects who we consider as “other” in the “GANAR advantage + Other” and “Colorado advantage + Other” variables, which now consists of those poll workers not registered as supporting either the Colorado party or the GANAR alliance. Our excluded category then corresponds to voting booths with “fair allocations” having one Colorado poll worker and one GANAR poll worker. Lastly, the indicator variable for “other poll worker allocations” here refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced above. These indicator variables are all mutually exclusive and together cover all voting booths. Our regression specification for presidential race analyses is then as follows:

$$\begin{aligned}
Y_{ab} = & \beta_0 + \beta_1 GANAR_Trif_{ab} + \beta_2 GANAR_Adv_Oth_{ab} + \beta_3 GANAR_Adv_Colorado_{ab} \\
& + \beta_4 Colorado_Adv_GANAR_{ab} + \beta_5 Colorado_Adv_Oth_{ab} + \beta_6 Colorado_Trif_{ab} + \beta_7 Other_pw_alloc_{ab} \\
& + \delta_1 voter_prop_Colorado_{ab} + \delta_2 voter_prop_GANAR_{ab} + \delta_3 voter_prop_Other_{ab} + \theta_a + \varepsilon_{ab}.
\end{aligned}
\tag{3}$$

Table E4 shows the effect of partisan poll workers on the presidential election by running equation (3). In Column (1) we can observe that the Colorado party vote share increases significantly by around 0.45 percentage points (pp) whenever it has two Colorado poll workers counting votes. This result is robust to controlling for the proportion of Colorado, GANAR, and other party voters

⁶As mentioned previously, the full list of parties that were part of GANAR are: Liberal party, PRF, PDP, PEN, AP, PMAS, and the FG member parties. Virtually all GANAR poll workers support the Liberal party and FG (28,978 of the 29,294 GANAR poll workers). Only 316 poll workers support one of the other small left-wing parties that were part of GANAR.

at each voting booth. Similarly, in Column (2) we can notice that the GANAR vote share increases significantly at the 10 percent level by approximately 0.47 pp when there are two GANAR poll workers and a poll worker not registered to the Colorado party or the GANAR parties. We can also notice how the GANAR vote share decreases by around 0.49 pp whenever the Colorado party has two poll workers counting votes. This result is robust to controlling for the proportion of partisan voters at each voting booth and it is interesting how this result varies symmetrically depending on which party/alliance has a poll worker majority at the electoral table. We do not observe any significant effects of these partisan poll worker allocations on the vote share of other parties. This might reflect the fact that in SMDP races (such as the presidential race) one objective of biased poll workers might be to take away votes from their main competition, while potentially ignoring the other smaller parties. Next, in Column (4) the blank vote share decreases significantly at the 10 percent level when the allocation is that of two GANAR poll workers and a poll worker not registered to the Colorado party or the GANAR parties. Finally, we do not observe any significant effects on the null vote share or turnout. We also do not find any significant coefficients for the “trifecta” dummies, which may be expected as we do not have many trifecta poll worker allocations for either party (just over 260 booths), leading to low statistical power.

Table E5 examines the effect of partisan poll workers on the senatorial election by running equation (1) (except we use polling station fixed effects instead of polling station-electoral race fixed effects), because for this electoral race the GANAR parties run under separate party lists. We observe a similar pattern for the Colorado and Liberal party vote shares as in Table E4. Whenever the Colorado party has two poll workers counting votes, its vote shares increases significantly by around 0.52/0.53 pp. On the other hand, the Liberal party vote share increases significantly at the 10 percent level by around 0.21 pp when there are two Liberal poll workers and one Colorado poll worker counting votes. In addition, when the Colorado party has two poll workers and there is one Liberal poll worker or one poll worker not registered to the Colorado or Liberal party, the Liberal party vote share decreases significantly by 0.25 pp and 0.34 pp respectively. Next, we observe that

Table E4: Effect of partisan poll worker composition on presidential election results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	0.6563 (0.4599)	-0.7630 (0.4658)	0.1068 (0.2545)	-0.0080 (0.1301)	0.0560 (0.1519)	-0.8245 (0.7845)
Colorado advantage + Other	0.4175 (0.2689)	-0.4820* (0.2609)	0.0644 (0.1373)	-0.0679 (0.0708)	-0.0228 (0.0877)	0.1396 (0.4190)
Colorado advantage + GANAR	0.4488*** (0.1236)	-0.4946*** (0.1224)	0.0458 (0.0607)	0.0260 (0.0389)	-0.0571 (0.0408)	0.0933 (0.2020)
GANAR advantage + Colorado	-0.0829 (0.1055)	0.1409 (0.1052)	-0.0580 (0.0512)	0.0204 (0.0317)	0.0319 (0.0333)	0.0115 (0.1694)
GANAR advantage + Other	-0.3968 (0.2909)	0.4742* (0.2771)	-0.0774 (0.1438)	-0.1392* (0.0827)	-0.0379 (0.0932)	0.0740 (0.4439)
GANAR trifecta	0.3197 (0.5953)	-0.6510 (0.5773)	0.3312 (0.3167)	-0.2267 (0.1756)	0.0274 (0.2457)	0.4049 (0.8039)
Other poll worker allocation	0.3176 (0.2255)	-0.1554 (0.2264)	-0.1622 (0.1098)	-0.0507 (0.0619)	-0.0286 (0.0703)	0.2621 (0.3503)
Mean of Dependent Variable	48.6944	45.3871	5.9185	2.3829	2.7564	122.8357
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
GANAR voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,287	20,287	20,287	20,287	20,287	19,281
R^2	0.8116	0.8205	0.7958	0.4630	0.2462	0.7312

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party or alliance (in the case of GANAR) work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one GANAR (alliance between the Liberal and FG parties, as well as other smaller left-wing parties) poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

if the other parties have no poll worker present (particularly when a voting booth has 2 Colorado and 1 Liberal poll worker) the vote share for other parties goes down significantly by 0.27 pp. A Colorado party trifecta reduces the null vote share significantly (at the 10 percent level) by 0.31 pp. If the Liberal party has two poll workers and there is one Colorado poll worker or one poll worker not registered to the Colorado or Liberal party, the null vote share decreases by 0.10 pp and 0.42 pp respectively. Finally, we do not observe any significant effects on the blank vote share or turnout.

Table E6 explores the effect of partisan poll workers on the MERCOSUR parliament election by running equation (1), because for this electoral race the GANAR parties also run under separate party lists. We observe a very similar pattern for the Colorado and Liberal party vote shares as in Table E5. If the Colorado party has two poll workers and the Liberal party has one counting votes, the Colorado party's vote share increases significantly by 0.59 pp. If instead the Liberal party has two poll workers and the Colorado party has one counting votes, the Liberal party's vote share rises significantly at the 10 percent level by 0.21 pp. Once again, when the Colorado party has two poll workers and there is one Liberal poll worker or one poll worker not registered to the Colorado or Liberal party, the Liberal party vote share decreases significantly by 0.3 pp and 0.52 pp respectively. Next, we continue finding that if the other parties have no poll worker representation (particularly when a voting booth has 2 Colorado and 1 Liberal poll worker) the vote share for other parties go down significantly by 0.29 pp. If there is a Liberal trifecta the blank vote share increases significantly by 1.23 pp. On the other hand, if there is Colorado trifecta the null vote share declines significantly by 0.4 pp. When the Liberal party has two poll workers and there is one Colorado poll worker, the null vote share decreases significantly by 0.15 pp. In contrast, with other poll worker allocations the null vote share rises significantly by 0.15 pp. Finally, we do not observe any significant effects on turnout.

With Table E7 we analyze the effect of partisan poll workers on the deputies election by running equation (1). For this electoral race, there are some departments where the GANAR alliance

Table E5: Effect of partisan poll worker composition on senatorial election results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	-0.4535 (0.5754)	-0.2174 (0.4556)	0.6709 (0.5015)	-0.1953 (0.2276)	-0.3109* (0.1818)	-0.6024 (0.7970)
Colorado advantage + Other	0.5302** (0.2357)	-0.3406** (0.1720)	-0.1896 (0.2543)	0.1645 (0.1079)	-0.0565 (0.0891)	-0.0077 (0.3507)
Colorado advantage + Liberal	0.5185*** (0.1194)	-0.2472** (0.1018)	-0.2713** (0.1326)	0.0099 (0.0545)	-0.0469 (0.0536)	-0.0449 (0.1940)
Liberal advantage + Colorado	-0.0618 (0.1272)	0.2154* (0.1167)	-0.1535 (0.1469)	0.0372 (0.0613)	-0.1044* (0.0564)	0.0854 (0.2146)
Liberal advantage + Other	-0.2183 (0.3735)	0.0088 (0.3259)	0.2095 (0.4385)	-0.0248 (0.1605)	-0.4170*** (0.1552)	0.6086 (0.6438)
Liberal trifecta	-1.7440 (1.2990)	0.4261 (1.5652)	1.3179 (1.3759)	0.0910 (0.6409)	-0.6166 (0.5995)	-0.2237 (1.8600)
Other poll worker allocation	0.1012 (0.1507)	-0.1956 (0.1312)	0.0944 (0.1714)	0.0196 (0.0743)	0.0563 (0.0665)	-0.0627 (0.2653)
Mean of Dependent Variable	32.6369	24.4988	42.8642	5.2841	3.6022	122.5547
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,257	20,257	20,257	20,257	20,257	19,249
R^2	0.8030	0.8597	0.8476	0.5612	0.1456	0.7075

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E6: Effect of partisan poll worker composition on MERCOSUR parliament election results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	0.1034 (0.4875)	-0.7374* (0.4354)	0.6340 (0.4475)	-0.1638 (0.2928)	-0.3999** (0.1950)	-0.8075 (0.7886)
Colorado advantage + Other	0.3285 (0.2348)	-0.5169*** (0.1849)	0.1885 (0.2172)	0.0882 (0.1306)	-0.0844 (0.0910)	-0.2450 (0.3533)
Colorado advantage + Liberal	0.5868*** (0.1231)	-0.3011*** (0.1078)	-0.2857** (0.1144)	0.0808 (0.0731)	-0.0700 (0.0517)	0.0551 (0.1898)
Liberal advantage + Colorado	-0.0009 (0.1334)	0.2127* (0.1222)	-0.2118 (0.1306)	0.0244 (0.0825)	-0.1448*** (0.0561)	0.1304 (0.2181)
Liberal advantage + Other	-0.1213 (0.4570)	-0.0727 (0.3195)	0.1940 (0.4245)	0.0041 (0.2102)	0.0548 (0.1903)	0.4678 (0.7618)
Liberal trifecta	-2.4478 (1.7716)	0.6209 (1.5544)	1.8269 (1.3718)	1.2319** (0.6263)	-0.0940 (0.5312)	0.0525 (1.9021)
Other poll worker allocation	0.0748 (0.1665)	-0.1439 (0.1430)	0.0691 (0.1583)	0.0478 (0.0927)	0.1466** (0.0707)	0.0812 (0.2511)
Mean of Dependent Variable	42.1341	30.5360	27.3299	8.4776	3.9100	122.5657
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,273	20,273	20,273	20,273	20,273	19,265
R^2	0.8022	0.8617	0.8485	0.5476	0.1869	0.7168

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

runs together and some where it does not. Also, the parties belonging to GANAR vary across departments for this race, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposes its own candidates if it runs under GANAR), so we generate an outcome variable for Liberal/GANAR vote shares. We once again observe a similar pattern for the Colorado and Liberal/GANAR vote shares as in Tables E5 and E6. Whenever the Colorado party has two poll workers counting votes, its vote share grows significantly by 0.46 pp and 0.49 pp. If instead the Liberal party has two poll workers and the Colorado party has one counting votes, the Liberal/GANAR vote share increases significantly by 0.4 pp. Also, when the Colorado party has two poll workers and there is one Liberal poll worker or one poll worker not registered to the Colorado or Liberal party, the Liberal/GANAR vote share decreases significantly by 0.25 pp and 0.5 pp respectively. We again find that if the other parties have no poll workers counting votes the vote share for other parties decreases by 0.28 pp and 0.2 pp. If the Liberal party has two poll workers and there is one Colorado poll worker or one poll worker not registered to the Colorado or Liberal party, the null vote share decreases significantly by 0.10 pp (significant at the 10 percent level) and 0.42 pp respectively. If the Colorado party has two poll workers and there is one Liberal poll worker, the null vote share declines significantly (at the 10 percent level) by 0.08 pp. Finally, we do not observe any significant effects on the blank vote share or turnout.

In Table E8 we analyze the effect of partisan poll workers on the departmental governor election by running equation (1). Similarly to Table E7, we use an outcome variable for Liberal/GANAR vote shares because the Liberal party either runs separately or through the GANAR alliance throughout the whole country for this electoral race. The results from this table are more similar to those of Table E4, as both explore the effects of partisan poll workers on elections defined by SMD plurality voting. We find that whenever the Colorado party has two poll workers counting votes, its vote share grows by 0.39 pp and 0.42 pp. In addition, whenever the Colorado party has two poll workers the Liberal/GANAR vote share decreases significantly by 0.47 pp and

Table E7: Effect of partisan poll worker composition on deputies' election results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	0.2758 (0.4673)	0.0640 (0.3994)	-0.3398 (0.4646)	-0.1023 (0.1999)	-0.1779 (0.1607)	-0.4763 (0.7914)
Colorado advantage + Other	0.4876** (0.2322)	-0.4951*** (0.1825)	0.0076 (0.2134)	-0.0292 (0.0972)	0.0553 (0.0870)	-0.0316 (0.3490)
Colorado advantage + Liberal	0.4551*** (0.1159)	-0.2518** (0.1068)	-0.2033* (0.1126)	-0.0402 (0.0513)	-0.0782* (0.0436)	0.0085 (0.1860)
Liberal advantage + Colorado	-0.1125 (0.1274)	0.3970*** (0.1266)	-0.2845** (0.1340)	-0.0377 (0.0562)	-0.0503 (0.0492)	0.0872 (0.2090)
Liberal advantage + Other	-0.3307 (0.3760)	0.0677 (0.3130)	0.2630 (0.3507)	-0.1604 (0.1585)	-0.1033 (0.1374)	0.6627 (0.5761)
Liberal trifecta	-2.2114 (1.5302)	0.7208 (1.3127)	1.4906 (1.0552)	-0.4972 (0.4973)	0.2142 (0.4985)	-0.1145 (2.0371)
Other poll worker allocation	0.0239 (0.1527)	-0.2210 (0.1398)	0.1970 (0.1478)	-0.0455 (0.0698)	-0.0351 (0.0565)	0.0058 (0.2508)
Mean of Dependent Variable	39.1551	30.2855	30.5593	5.1788	3.0362	123.1645
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,138	20,138	20,138	20,138	20,138	19,134
R^2	0.8486	0.8812	0.9232	0.5051	0.1523	0.6657

Note: A unit of observation is a voting booth. The parties belonging to GANAR vary across Paraguayan departments for the deputies elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The number of observations is lower for this electoral race as there is no deputies' election for Paraguayan voters abroad. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

0.48 pp respectively. We also find that “other” poll worker allocations are associated with a significant increase in the vote share for other parties by 0.23 pp. This is plausible because these “other” poll worker allocations consist of any poll worker allocation excluding those that are denoted with the other independent variables and the “fair” allocations having one Colorado and one Liberal poll worker. Hence, these allocations include, for example, those electoral tables with 2 FG poll workers and those that have multiple unaffiliated poll workers who might be independent and more likely to support the non-traditional parties. If the Liberal party has two poll workers and there is one Colorado poll worker, the null vote share declines significantly by 0.10 pp. Finally, we do not observe any significant effects on the blank vote share or turnout.

Finally, Table E9 shows the effect of partisan poll workers on the departmental council election by running equation (1). Similarly to Tables E7 and E8, we use an outcome variable for Liberal/GANAR vote shares because the Liberal party either runs separately or through the GANAR alliance throughout the whole country for this electoral race. We continue finding a similar pattern for the Colorado and Liberal/GANAR vote shares as in Tables E5 to E7. Whenever the Colorado party has two poll workers counting votes, its vote share grows by 0.66 pp and 0.43 pp. In addition, whenever the Colorado party has two poll workers, the Liberal/GANAR vote share drops significantly by 0.51 pp and 0.62 pp respectively. We also find that if only the Colorado party is counting votes at an electoral table through a trifecta then the Liberal/GANAR vote share declines significantly by approximately 1.1 pp. In addition, other poll worker allocations lead to a decline of 0.31 pp in the Liberal/GANAR vote share.

Next, we again see that if the other parties have no poll worker present (particularly when a voting booth has 2 Liberal and 1 Colorado poll worker) the vote share for other parties declines by 0.22 pp. We also notice again that “other” poll worker allocations are associated with a increase in the vote share for other parties by 0.28 pp. Finally, we can observe that if only the Liberal party is counting votes at an electoral table through a trifecta the vote share of other parties rises by 2.5 pp. This coefficient estimate is in comparison to “fair” poll worker allocations having one Colorado

Table E8: Effect of partisan poll worker composition on governor election results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	0.7428 (0.4735)	-0.4342 (0.4601)	-0.3086 (0.3025)	-0.1021 (0.1847)	-0.1286 (0.1459)	-0.9737 (0.8679)
Colorado advantage + Other	0.4158* (0.2281)	-0.4816** (0.2109)	0.0658 (0.1391)	-0.1097 (0.0815)	0.0792 (0.0704)	-0.0927 (0.3539)
Colorado advantage + Liberal	0.3881*** (0.1220)	-0.4713*** (0.1178)	0.0832 (0.0726)	-0.0041 (0.0444)	-0.0634 (0.0389)	0.0560 (0.1992)
Liberal advantage + Colorado	-0.0897 (0.1258)	0.1880 (0.1222)	-0.0983 (0.0803)	-0.0070 (0.0456)	-0.0969** (0.0395)	0.1161 (0.2070)
Liberal advantage + Other	-0.3790 (0.3616)	0.0420 (0.3956)	0.3369 (0.2692)	-0.1129 (0.1252)	0.0011 (0.1123)	0.5823 (0.5663)
Liberal trifecta	-1.6390 (1.0998)	0.6323 (1.1115)	1.0068 (0.6762)	0.2508 (0.6359)	-0.6177 (0.4783)	1.3708 (1.7457)
Other poll worker allocation	-0.1357 (0.1580)	-0.0948 (0.1532)	0.2305** (0.1053)	-0.0656 (0.0552)	0.0155 (0.0482)	-0.0833 (0.2598)
Mean of Dependent Variable	46.9013	42.3609	10.7379	3.6921	2.5681	122.1091
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	18,144	18,144	18,144	18,144	18,144	17,289
R^2	0.8142	0.8563	0.9083	0.4340	0.2076	0.6474

Note: A unit of observation is a voting booth. The parties belonging to the GANAR alliance vary across Paraguayan departments for the governor elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out of three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The number of observations is lower for this electoral race as there is no governor election for Paraguayan voters abroad and those in the capital district. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

and one Liberal poll worker. This coefficient suggests that Liberal poll workers may guard or favor other parties for these particular elections, which is plausible because the Liberal party tends to be in the opposition with the other parties against the Colorado party. At the same time, it is important to note that the Liberal party has trifectas for only 17 tables (compared to the Colorado party which has 158), so this result could be idiosyncratic and is driven by few observations. If the Colorado party has two poll workers and there is one Liberal poll worker, the null vote share declines significantly (at the 10 percent level) by 0.08 pp. Finally, we do not observe any significant effects on the blank vote share or turnout.

Table E9: Effect of partisan poll worker composition on departmental council election results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Colorado trifecta	0.5310 (0.4845)	-1.0895** (0.4901)	0.5585 (0.5097)	0.1194 (0.2401)	-0.1082 (0.1936)	-0.4681 (0.8651)
Colorado advantage + Other	0.4279* (0.2517)	-0.6167*** (0.2004)	0.1889 (0.2249)	0.1299 (0.1260)	-0.0690 (0.0885)	-0.1489 (0.3679)
Colorado advantage + Liberal	0.6596*** (0.1319)	-0.5145*** (0.1215)	-0.1451 (0.1227)	0.0279 (0.0659)	-0.0872* (0.0503)	0.0176 (0.2008)
Liberal advantage + Colorado	0.0842 (0.1322)	0.1363 (0.1286)	-0.2204* (0.1285)	-0.0368 (0.0655)	-0.0487 (0.0537)	0.2002 (0.2101)
Liberal advantage + Other	-0.1209 (0.4059)	-0.2000 (0.3502)	0.3209 (0.3600)	-0.1678 (0.2431)	0.1194 (0.2214)	0.7217 (0.5918)
Liberal trifecta	-1.3125 (1.4742)	-1.2272 (1.5510)	2.5397* (1.3661)	-0.4390 (0.5731)	-0.3529 (0.5563)	1.2137 (1.6937)
Other poll worker allocation	0.0305 (0.1679)	-0.3077* (0.1588)	0.2772* (0.1629)	0.0005 (0.1020)	-0.0168 (0.0701)	-0.1811 (0.2689)
Mean of Dependent Variable	40.3654	34.3802	25.2544	6.7051	3.4382	121.8964
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	18,130	18,130	18,130	18,130	18,130	17,275
R ²	0.8084	0.8354	0.8333	0.3534	0.1755	0.6485

Note: A unit of observation is a voting booth. The parties belonging to the GANAR alliance vary across Paraguayan departments for the departmental council elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares on Columns (1) to (3) are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares on Columns (4) to (5) are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out of three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The number of observations is lower for this electoral race as there is no departmental council election for Paraguayan voters abroad and those in the capital district. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E10: Effect of partisan poll worker composition on election results by electoral system - interacting with voter proportions

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta × PR race	-0.5713 (0.4162)	0.1235 (0.3951)	0.4479 (0.3098)
Colorado advantage + Other × PR race	0.0364 (0.1974)	0.0282 (0.1750)	-0.0646 (0.1435)
Colorado advantage + Liberal × PR race	0.1185 (0.1031)	0.1791* (0.0979)	-0.2976*** (0.0751)
Liberal advantage + Colorado × PR race	0.0257 (0.1096)	0.1118 (0.1068)	-0.1376 (0.0844)
Liberal advantage + Other × PR race	0.0425 (0.3319)	-0.1326 (0.3120)	0.0902 (0.2600)
Liberal trifecta × PR race	0.0040 (1.1902)	-0.9092 (1.2144)	0.9052 (0.8044)
Other poll worker allocation × PR race	0.1033 (0.1355)	-0.1673 (0.1293)	0.0639 (0.1021)
Colorado trifecta	0.6675** (0.3290)	-0.5969* (0.3260)	-0.0706 (0.1949)
Colorado advantage + Other	0.4073*** (0.1573)	-0.5163*** (0.1486)	0.1090 (0.0867)
Colorado advantage + Liberal	0.4328*** (0.0830)	-0.5012*** (0.0813)	0.0685 (0.0446)
Liberal advantage + Colorado	-0.0501 (0.0882)	0.1312 (0.0871)	-0.0812 (0.0506)
Liberal advantage + Other	-0.2412 (0.2629)	0.0856 (0.2655)	0.1556 (0.1674)
Liberal trifecta	-1.9498** (0.9102)	1.0803 (0.9514)	0.8694* (0.4692)
Other poll worker allocation	-0.0447 (0.1096)	-0.0469 (0.1077)	0.0915 (0.0632)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
PR race × voter prop. controls	X	X	X
Observations	117,229	117,229	117,229
R ²	0.8427	0.8873	0.9310

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “PR race” is an indicator variable for electoral races with a proportional representation (PR) system. The coefficient for PR race is omitted because it is collinear after controlling for polling station-electoral race fixed effects. 48

Next, we examine whether the presence of any partisan poll workers (regardless of the number) can explain the electoral results. To do so, we generate indicator variables for whether there is at least one of the following types of poll workers in an electoral table: Colorado supporter, Liberal supporter, GANAR supporter (for presidential races), other party supporter, multi-party supporter, and unaffiliated. Hence, we end up with the following regression specification format for all races except the presidential one:

$$\begin{aligned}
Y_{ab} = & \beta_0 + \beta_1 \text{Any_Colorado}_{ab} + \beta_2 \text{Any_Liberal}_{ab} + \beta_3 \text{Any_Othpart}_{ab} + \beta_4 \text{Any_Multipart}_{ab} \\
& + \beta_5 \text{Any_Unaffiliated}_{ab} + \delta_1 \text{voter_prop_Colorado}_{ab} + \delta_2 \text{voter_prop_Liberal}_{ab} \\
& + \delta_3 \text{voter_prop_Other}_{ab} + \theta_a + \varepsilon_{ab}.
\end{aligned}
\tag{4}$$

For the presidential race we have this analogous specification:

$$\begin{aligned}
Y_{ab} = & \beta_0 + \beta_1 \text{Any_Colorado}_{ab} + \beta_2 \text{Any_GANAR}_{ab} + \beta_3 \text{Any_Othpart}_{ab} + \beta_4 \text{Any_Multipart}_{ab} \\
& + \beta_5 \text{Any_Unaffiliated}_{ab} + \delta_1 \text{voter_prop_Colorado}_{ab} + \delta_2 \text{voter_prop_GANAR}_{ab} \\
& + \delta_3 \text{voter_prop_Other}_{ab} + \theta_a + \varepsilon_{ab}.
\end{aligned}
\tag{5}$$

We analyze whether the presence (regardless of the number) of partisan poll workers can explain the electoral results by running equations (4) and (5). Although our previous regression specifications are more informative because the official results for each voting booth are decided by what the majority of poll workers at an electoral table decide, we include these for completeness. Overall, the most consistent patterns within these tables are as follows. Having a Liberal poll worker (or GANAR poll worker for the presidential race) counting votes tends to decrease the Colorado party's vote share and increase the Liberal/GANAR vote share. In addition, having a poll worker from the other parties count votes tends to significantly increase the vote share of these

other parties, but only on PR races.

Table E11: Effect of partisan poll worker composition on presidential election results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	0.0825 (0.2171)	-0.0740 (0.2117)	-0.0085 (0.1086)	0.1221* (0.0626)	0.0550 (0.0734)	-0.2232 (0.3268)
Any GANAR poll worker	-0.5063*** (0.1952)	0.4793** (0.1935)	0.0270 (0.0970)	0.0597 (0.0523)	-0.0107 (0.0613)	-0.1596 (0.3073)
Any other party poll worker	0.1526 (0.1438)	-0.2116 (0.1417)	0.0590 (0.0732)	-0.0424 (0.0444)	0.0188 (0.0473)	0.2039 (0.2384)
Any multi-party poll worker	-0.2396* (0.1350)	0.2815** (0.1348)	-0.0418 (0.0682)	-0.0078 (0.0396)	0.0373 (0.0453)	-0.3034 (0.2155)
Any unaffiliated poll worker	-0.1877 (0.1329)	0.1883 (0.1321)	-0.0006 (0.0630)	-0.0025 (0.0363)	-0.0603 (0.0406)	0.0400 (0.2038)
Mean of Dependent Variable	48.6944	45.3871	5.9185	2.3829	2.7564	122.8357
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
GANAR voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,287	20,287	20,287	20,287	20,287	19,281
R ²	0.8114	0.8202	0.7957	0.4631	0.2462	0.7312

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Any Colorado poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. “Any GANAR poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the political parties that are part of the GANAR alliance (the Liberal party, FG, among other smaller left-wing parties). “Any other party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support an individual political party that is not the Colorado party or a party from the GANAR alliance. “Any multi-party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. “Any unaffiliated poll worker” is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority’s data. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E12: Effect of partisan poll worker composition on senatorial election process results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	-0.0971 (0.2176)	0.0304 (0.1980)	0.0667 (0.2528)	0.0949 (0.1086)	0.1730* (0.0962)	-0.2752 (0.3679)
Any Liberal poll worker	-0.2293 (0.1571)	0.4160*** (0.1253)	-0.1866 (0.1691)	-0.0937 (0.0732)	0.0329 (0.0624)	-0.0218 (0.2500)
Any other party poll worker	-0.1603 (0.0981)	-0.0954 (0.0856)	0.2557** (0.1094)	-0.0731 (0.0469)	0.0938** (0.0426)	0.0208 (0.1633)
Any multi-party poll worker	-0.3398** (0.1440)	0.2473** (0.1256)	0.0925 (0.1650)	0.0653 (0.0701)	0.1035 (0.0638)	-0.4149* (0.2411)
Any unaffiliated poll worker	-0.1207 (0.1414)	0.3198*** (0.1206)	-0.1991 (0.1567)	-0.0216 (0.0655)	0.1149* (0.0610)	0.0827 (0.2312)
Mean of Dependent Variable	32.6369	24.4988	42.8642	5.2841	3.6022	122.5547
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,257	20,257	20,257	20,257	20,257	19,249
R^2	0.8027	0.8597	0.8476	0.5613	0.1454	0.7076

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Any Colorado poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. “Any Liberal poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Liberal party. “Any other party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support some party other than the Colorado or Liberal party. “Any multi-party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. “Any unaffiliated poll worker” is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority’s data. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E13: Effect of partisan poll worker composition on MERCOSUR parliament election process results

	Colorado vote share (1)	Liberal vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	-0.0596 (0.2459)	0.0856 (0.2043)	-0.0261 (0.2293)	0.0135 (0.1328)	-0.1159 (0.1082)	-0.4668 (0.3873)
Any Liberal poll worker	-0.2722* (0.1616)	0.4712*** (0.1359)	-0.1990 (0.1530)	-0.1350 (0.0922)	0.0349 (0.0663)	0.0774 (0.2461)
Any other party poll worker	-0.2528** (0.1017)	0.0262 (0.0906)	0.2267** (0.0969)	-0.0427 (0.0602)	0.1349*** (0.0433)	-0.0457 (0.1612)
Any multi-party poll worker	-0.3861** (0.1526)	0.2697** (0.1364)	0.1164 (0.1512)	-0.0338 (0.0894)	0.1035 (0.0668)	-0.3551 (0.2389)
Any unaffiliated poll worker	-0.2775* (0.1481)	0.2400* (0.1289)	0.0375 (0.1386)	-0.1672* (0.0866)	0.1655*** (0.0632)	0.0534 (0.2323)
Mean of Dependent Variable	42.1341	30.5360	27.3299	8.4776	3.9100	122.5657
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,273	20,273	20,273	20,273	20,273	19,265
R^2	0.8021	0.8617	0.8485	0.5476	0.1869	0.7169

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Any Colorado poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. “Any Liberal poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Liberal party. “Any other party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support some party other than the Colorado or Liberal party. “Any multi-party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. “Any unaffiliated poll worker” is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority’s data. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E14: Effect of partisan poll worker composition on deputies' election process results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	-0.0197 (0.2241)	0.2296 (0.1992)	-0.2099 (0.2125)	0.2235** (0.0963)	0.0168 (0.0839)	-0.3832 (0.3522)
Any Liberal poll worker	-0.2440 (0.1539)	0.2385* (0.1330)	0.0055 (0.1465)	0.0183 (0.0669)	0.0503 (0.0558)	-0.0048 (0.2442)
Any other party poll worker	-0.1106 (0.0975)	-0.0869 (0.0919)	0.1975** (0.0968)	0.0666 (0.0428)	0.0585 (0.0373)	-0.0463 (0.1566)
Any multi-party poll worker	-0.2949** (0.1431)	0.0061 (0.1333)	0.2889** (0.1433)	0.0790 (0.0648)	0.0400 (0.0542)	-0.3397 (0.2342)
Any unaffiliated poll worker	-0.1864 (0.1400)	0.1189 (0.1285)	0.0675 (0.1392)	-0.0077 (0.0621)	0.1151** (0.0507)	0.0642 (0.2241)
Mean of Dependent Variable	39.1551	30.2855	30.5593	5.1788	3.0362	123.1645
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	20,138	20,138	20,138	20,138	20,138	19,134
R^2	0.8485	0.8810	0.9232	0.5053	0.1523	0.6657

Note: A unit of observation is a voting booth. The parties belonging to GANAR vary across Paraguayan departments for the deputies' elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. "Any Colorado poll worker" is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. "Any Liberal poll worker" is an indicator variable for whether any of the three poll workers at the voting booth support the Liberal party. "Any other party poll worker" is an indicator variable for whether any of the three poll workers at the voting booth support some party other than the Colorado or Liberal party. "Any multi-party poll worker" is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. "Any unaffiliated poll worker" is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority's data. The number of observations is lower for this electoral race as there is no deputies' election for Paraguayan voters abroad. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E15: Effect of partisan poll worker composition on governor election process results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	0.1762 (0.2245)	0.2022 (0.2257)	-0.3784** (0.1475)	0.1219 (0.0786)	-0.0175 (0.0700)	-0.2750 (0.3582)
Any Liberal poll worker	-0.2485 (0.1543)	0.3342** (0.1488)	-0.0857 (0.0996)	0.0538 (0.0554)	0.0247 (0.0473)	0.0109 (0.2495)
Any other party poll worker	-0.1025 (0.1004)	0.0370 (0.0978)	0.0655 (0.0623)	0.0171 (0.0368)	0.0577* (0.0318)	-0.0118 (0.1641)
Any multi-party poll worker	-0.3299** (0.1493)	0.3469** (0.1474)	-0.0170 (0.0997)	0.0350 (0.0538)	0.1039** (0.0467)	-0.4842** (0.2447)
Any unaffiliated poll worker	-0.2156 (0.1412)	0.1759 (0.1380)	0.0397 (0.0913)	-0.0539 (0.0509)	0.1118** (0.0443)	-0.0291 (0.2276)
Mean of Dependent Variable	46.9013	44.8315	10.7379	3.6921	2.5681	122.1091
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	18,144	18,144	18,144	18,144	18,144	17,289
R ²	0.8141	0.8562	0.9083	0.4341	0.2076	0.6474

Note: A unit of observation is a voting booth. The parties belonging to GANAR vary across Paraguayan departments for the governor elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Any Colorado poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. “Any Liberal poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Liberal party. “Any other party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support some party other than the Colorado or Liberal party. “Any multi-party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. “Any unaffiliated poll worker” is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority’s data. The number of observations is lower for this electoral race as there is no governor election for Paraguayan voters abroad and those in the capital district. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E16: Effect of partisan poll worker composition on departmental council election process results

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other vote share (3)	Blank vote share (4)	Null vote share (5)	Turnout (6)
Any Colorado poll worker	0.0016 (0.2377)	0.3187 (0.2172)	-0.3203 (0.2196)	0.2684** (0.1348)	-0.0894 (0.1099)	-0.5116 (0.3655)
Any Liberal poll worker	-0.3905** (0.1672)	0.6400*** (0.1501)	-0.2495 (0.1566)	-0.1041 (0.0865)	0.0685 (0.0651)	0.1697 (0.2606)
Any other party poll worker	-0.3702*** (0.1066)	0.0915 (0.1014)	0.2787*** (0.1026)	0.0121 (0.0540)	0.0891** (0.0425)	-0.0860 (0.1655)
Any multi-party poll worker	-0.5191*** (0.1526)	0.4955*** (0.1430)	0.0236 (0.1509)	0.1301 (0.0925)	0.0345 (0.0635)	-0.3711 (0.2474)
Any unaffiliated poll worker	-0.3012** (0.1505)	0.3181** (0.1373)	-0.0170 (0.1412)	-0.0711 (0.0817)	0.0650 (0.0592)	-0.1341 (0.2308)
Mean of Dependent Variable	40.3654	36.1578	25.2544	6.7051	3.4382	121.8964
Polling station FE	X	X	X	X	X	X
Colorado voter prop. control	X	X	X	X	X	X
Liberal voter prop. control	X	X	X	X	X	X
Other party voter prop. control	X	X	X	X	X	X
Observations	18,130	18,130	18,130	18,130	18,130	17,275
R^2	0.8083	0.8353	0.8333	0.3537	0.1756	0.6485

Note: A unit of observation is a voting booth. The parties belonging to GANAR vary across Paraguayan departments for the departmental council elections, with FG running independently in some departments. However, the Liberal party always runs separately or through GANAR (and mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Standard errors are robust. Vote shares for the first three columns are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. Vote shares for columns (4) and (5) are calculated by dividing by turnout (total votes including null and blank votes) and multiplying by 100. The number of observations on Column (6) is smaller because we restrict our sample to booths with exactly 200 registered voters. “Any Colorado poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Colorado party. “Any Liberal poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support the Liberal party. “Any other party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support some party other than the Colorado or Liberal party. “Any multi-party poll worker” is an indicator variable for whether any of the three poll workers at the voting booth support multiple political parties. “Any unaffiliated poll worker” is an indicator variable for whether any of the three poll workers at the voting booth is not registered to any party and does not support any political party as an electoral agent according to the election authority’s data. The number of observations is lower for this electoral race as there is no departmental council election for Paraguayan voters abroad and those in the capital district. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

Table E17 examines the effect of poll workers on voting process outcomes (blank votes, null votes, and turnout) by pooling together observations from all elections and running equation (1) on its even columns. The dependent variables are blank vote shares, null (invalid) vote shares, and turnout recorded at each voting booth. Some of the results from Table E17 also show up on the results for the individual races, though because the number of observations is more limited, we might not have enough statistical power to observe as many statistically significant results. In Column (1) we can observe that poll workers do not have a significant effect on blank votes. In contrast, in Column (2) we find that electoral tables with just Colorado and Liberal poll workers significantly decrease the null vote share by around 0.08 pp. We can also notice that Colorado trifectas decrease the null vote share by approximately 0.19 pp. This result suggests that perhaps established party poll workers engage in electoral irregularities partly by awarding themselves null votes instead of discarding these. Still, the magnitude of these coefficients is an order of magnitude lower than the effects we observe on party vote shares, hence some of the results we observe on vote shares should be due to poll workers awarding some votes for other parties to their own party as well. Finally, on Column (3) we notice two opposing effects of partisan poll worker allocations. Electoral tables with two Liberal poll workers and one poll worker from neither the Colorado nor Liberal party lead to a significant increase of around 0.62 votes, compared to a mean of around 122.5 turnout per booth. On the other hand, Colorado trifectas lead to a significant decrease of around 0.69 votes, compared to the same average of about 122.5 turnout per booth. This result is more ambiguous because an increase or decrease in turnout could potentially indicate real differences in votes being counted, or results being manipulated by either stuffing ballot boxes or discarding opposition votes.

Table E17: Effect of partisan poll worker composition on election process results

	Blank vote share (1)	Null vote share (2)	Turnout (3)
Colorado trifecta	-0.0823 (0.0897)	-0.1886*** (0.0708)	-0.6909** (0.3317)
Colorado advantage + Other	0.0231 (0.0423)	-0.0205 (0.0344)	-0.0543 (0.1436)
Colorado advantage + Liberal	0.0167 (0.0228)	-0.0753*** (0.0190)	0.0263 (0.0786)
Liberal advantage + Colorado	-0.0051 (0.0244)	-0.0820*** (0.0203)	0.1087 (0.0860)
Liberal advantage + Other	-0.1006 (0.0703)	-0.1013 (0.0662)	0.6179** (0.2535)
Liberal trifecta	0.0794 (0.2359)	-0.2517 (0.2199)	0.2832 (0.7629)
Other poll worker allocation	-0.0181 (0.0307)	0.0138 (0.0248)	-0.0452 (0.1046)
Mean of Dependent Variable	5.2896	3.2264	122.5388
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	111,493
R^2	0.6147	0.2120	0.6917

Note: A unit of observation is a voting booth. Standard errors are robust. Vote shares are calculated by dividing by turnout (i.e., all votes including null and blank votes) and multiplying by 100. The number of observations on Column (3) is smaller because we restrict our sample to booths with exactly 200 registered voters. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The sample is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

On Tables E18 and E19 we tested whether the effect of the partisan poll worker allocations varied depending on whether the Colorado or Liberal party was the incumbent party. The incumbent party was defined as the party of the municipal mayor as these usually have a local organizational advantage, particularly the traditional parties. We find that the Colorado vote share further increases when there are two Colorado and one Liberal poll worker at a voting booth and the Colorado party is the incumbent party. On the other hand, the Colorado vote share particularly decreases when there are two Liberal and one other party poll worker at a voting booth and the Colorado party is the municipal incumbent. We also find that the Liberal vote share rises significantly when there are two Liberal and one Colorado party poll worker at a voting booth and the Liberal party is the municipal incumbent. Finally, we also find that the Liberal vote share decreases most when there are two Colorado and one other party poll worker at a voting booth and the Liberal party is the incumbent party.

Table E18: Effect of partisan poll worker composition on election results interacted with Colorado incumbency

	Colorado vote share (1)
Colorado trifecta $\times$ Colorado incumb.	-0.5013 (0.4131)
Colorado advantage + Other $\times$ Colorado incumb.	-0.1530 (0.1914)
Colorado advantage + Liberal $\times$ Colorado incumb.	0.3985*** (0.0987)
Liberal advantage + Colorado $\times$ Colorado incumb.	0.4711*** (0.1048)
Liberal advantage + Other $\times$ Colorado incumb.	-0.7617** (0.3212)
Liberal trifecta $\times$ Colorado incumb.	-0.8703 (1.1460)
Other poll worker allocation $\times$ Colorado incumb.	0.0640 (0.1294)
Colorado trifecta	0.5778* (0.3213)
Colorado advantage + Other	0.5251*** (0.1409)
Colorado advantage + Liberal	0.3146*** (0.0678)
Liberal advantage + Colorado	-0.2696*** (0.0731)
Liberal advantage + Other	0.1439 (0.2258)
Liberal trifecta	-1.4519** (0.7033)
Other poll worker allocation	-0.0020 (0.0943)
Mean of Dependent Variable	41.5808
Polling station-elect. race FE	X
Colorado voter prop. control	X
Liberal voter prop. control	X
Other party voter prop. control	X
Observations	117,229
R^2	0.8425

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The vote share is calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “Colorado incumb.” is an indicator variable for voting booths located in municipalities where the incumbent mayor is from the Colorado party. The coefficient for Colorado incumbent is omitted because it is collinear after controlling for polling station-electoral race fixed effects.

Table E19: Effect of partisan poll worker composition on election results interacted with Liberal incumbency

	Liberal/GANAR vote share (1)
Colorado trifecta $\times$ Liberal incumb.	0.0217 (0.4630)
Colorado advantage + Other $\times$ Liberal incumb.	-0.5086*** (0.1863)
Colorado advantage + Liberal $\times$ Liberal incumb.	-0.0705 (0.0961)
Liberal advantage + Colorado $\times$ Liberal incumb.	0.3853*** (0.1032)
Liberal advantage + Other $\times$ Liberal incumb.	-0.3824 (0.2838)
Liberal trifecta $\times$ Liberal incumb.	-0.7136 (0.9455)
Other poll worker allocation $\times$ Liberal incumb.	0.0422 (0.1317)
Colorado trifecta	-0.5148** (0.2054)
Colorado advantage + Other	-0.3660*** (0.0901)
Colorado advantage + Liberal	-0.3536*** (0.0558)
Liberal advantage + Colorado	0.0347 (0.0649)
Liberal advantage + Other	0.1398 (0.1829)
Liberal trifecta	0.6129 (0.7191)
Other poll worker allocation	-0.1723** (0.0709)
Mean of Dependent Variable	34.4443
Polling station-elect. race FE	X
Colorado voter prop. control	X
Liberal voter prop. control	X
Other party voter prop. control	X
Observations	117,230
R^2	0.8869

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. The vote share is calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “Liberal incumb.” is an indicator variable for voting booths located in municipalities where the incumbent mayor is from the Liberal party. The coefficient for Liberal incumbent is omitted because it is collinear after controlling for polling station-electoral race fixed effects.

Table E20 examines whether the effect of partisan poll worker allocations varies depending on the competitiveness of the municipality of the polling station. To do so, we interact our partisan poll worker allocation indicator variables with an indicator variable for competitive municipalities. We define competitive municipalities as those where the victory margin for the most recent municipal mayor race (held 3 years before the general elections we study) was smaller than 5%. 47 out of the 254 municipalities in the country are considered competitive under this definition. We can observe that Colorados tend to fare better in competitive municipalities, while Liberal poll workers tend to have lower vote shares. In addition, other party votes tend to do better in competitive municipalities if voting booths have two Liberal poll workers.

Table E20: Effect of partisan poll worker composition on election results by district competitiveness

	Colorado vote share (1)	Liberal/GANAR vote share (2)	Other party vote share (3)
Colorado trifecta × Competitive mun.	2.3898*** (0.5219)	-1.9644*** (0.4541)	-0.4254 (0.4046)
Colorado advantage + Other × Competitive mun.	1.0265*** (0.2373)	-0.9942*** (0.2035)	-0.0323 (0.1964)
Colorado advantage + Liberal × Competitive mun.	0.2992** (0.1244)	-0.3927*** (0.1174)	0.0935 (0.1085)
Liberal advantage + Colorado × Competitive mun.	-0.0859 (0.1337)	-0.4007*** (0.1311)	0.4867*** (0.1157)
Liberal advantage + Other × Competitive mun.	0.2247 (0.3537)	-0.8133** (0.3253)	0.5886* (0.3197)
Liberal trifecta × Competitive mun.	-2.7614** (1.2767)	5.5378*** (1.2685)	-2.7764*** (0.8057)
Other poll worker allocation × Competitive mun.	1.4212*** (0.1661)	-0.9618*** (0.1626)	-0.4594*** (0.1490)
Colorado trifecta	-0.2732 (0.2161)	-0.0595 (0.2040)	0.3327* (0.2021)
Colorado advantage + Other	0.2488** (0.1067)	-0.3149*** (0.0875)	0.0661 (0.0927)
Colorado advantage + Liberal	0.4595*** (0.0550)	-0.3076*** (0.0503)	-0.1518*** (0.0484)
Liberal advantage + Colorado	-0.0188 (0.0583)	0.2807*** (0.0559)	-0.2619*** (0.0544)
Liberal advantage + Other	-0.2599 (0.1860)	0.1559 (0.1603)	0.1040 (0.1661)
Liberal trifecta	-1.0405 (0.6857)	-1.2869** (0.5813)	2.3274*** (0.5961)
Other poll worker allocation	-0.2225*** (0.0713)	0.0092 (0.0650)	0.2133*** (0.0640)
Mean of Dependent Variable	41.5808	34.4445	23.9746
Polling station-elect. race FE	X	X	X
Colorado voter prop. control	X	X	X
Liberal voter prop. control	X	X	X
Other party voter prop. control	X	X	X
Observations	117,229	117,229	117,229
R ²	0.8426	0.8870	0.9308

Note: A unit of observation is a voting booth-electoral race combination. Standard errors are robust. The Liberal party always ran separately or through the GANAR alliance (while mainly proposing its own candidates), hence we have an outcome variable for Liberal/GANAR vote shares. Vote shares are calculated by dividing by the number of valid votes (i.e., all votes excluding null and blank votes) and multiplying by 100. A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado party poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. “Competitive mun.” is an indicator variable for municipalities where the victory margin for the most recent municipal mayor race (held 3 years before the general elections we study) was smaller than 5%. The coefficient for competitive municipality is omitted because it is collinear after controlling for polling station-electoral race fixed effects.

Table E21 explores whether certain allocations of partisan poll workers on voting booths lead to more electoral contestations where results are challenged. Overall, there are not many contestations in our sample: 3,116 out of 117,742 (2.65%) possible voting booth-electoral race combinations.⁷ This is not fully surprising because most often parties need to have either poll workers, poll watchers, or empowered party officers present to observe irregularities and file a contestation. Only the Colorado party and Liberal party (to a somewhat lesser degree) are well-resourced enough to cover most of the country. In addition, the way that contestations are adjudicated is by showing the tallies filled out individually by the three poll workers and confirming that at least two of the three poll workers have tallies that coincide. If at least two tallies coincide, then the results from those tallies are confirmed as the official results. This is a conspicuous weakness of the electoral contestation process given our evidence that individual political parties tend to have a majority in more than a third of all voting booths, and that some parties may collude at the tally-writing process. If all three tallies differ, then the tally for the relevant electoral race in that voting booth is annulled, meaning that zero votes are counted for that race in that voting booth.

Table E21 shows that contestations are much less common when a single party controls a voting booth through a trifecta of poll workers. This is unsurprising because if no poll worker from another party is around, it is less likely any irregularity will be called out. Due to the low number of contestations, even fewer voting booths get their counts amended due to contestations being accepted or that the tally for a particular race at a particular voting booth is annulled. Hence, although contestations are a recourse that political parties use in other contexts to demand greater electoral integrity, this recourse appears to be quite ineffective in the Paraguayan context. Electoral

⁷The sample of 117,742 comes from the voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths). If we consider all voting booths in the elections, we have contestations in 3,213 out of 122,595 (2.62%) possible voting booth-electoral race combinations, as shown on OA Table C4.

courts are meant to resolve electoral disputes and address allegations of electoral irregularities by either recognizing their legitimacy or discarding them if they do not prove legitimate. Given our findings that partisan poll workers tend to favor their own parties, particularly when they have a majority at a voting booth, the fact that we observe less contestations when only one party controls a voting booth is likely problematic.

Table E21: Effect of partisan poll worker composition on electoral contestations

	Contested (1)	Contested by non-Colorado (2)	Contested by non-Liberal (3)	Contestation accepted (4)	Tally annulled (5)
Colorado trifecta	-0.0218*** (0.0035)	-0.0167*** (0.0035)	-0.0115*** (0.0029)	-0.0074*** (0.0008)	-0.0051*** (0.0007)
Colorado advantage + Other	0.0005 (0.0026)	-0.0003 (0.0024)	-0.0011 (0.0021)	-0.0009 (0.0012)	-0.0008 (0.0009)
Colorado advantage + Liberal	0.0002 (0.0013)	0.0007 (0.0012)	0.0006 (0.0011)	0.0004 (0.0007)	0.0007 (0.0005)
Liberal advantage + Colorado	0.0003 (0.0014)	0.0005 (0.0013)	0.0002 (0.0012)	-0.0010 (0.0007)	-0.0011** (0.0005)
Liberal advantage + Other	-0.0038 (0.0036)	-0.0034 (0.0034)	-0.0014 (0.0032)	-0.0017 (0.0018)	-0.0000 (0.0016)
Liberal trifecta	-0.0152*** (0.0036)	-0.0144*** (0.0034)	-0.0118*** (0.0034)	-0.0048*** (0.0015)	-0.0037*** (0.0012)
Other poll worker allocation	-0.0001 (0.0018)	-0.0003 (0.0017)	0.0002 (0.0016)	0.0005 (0.0010)	0.0006 (0.0008)
Mean of Dependent Variable	0.0265	0.0230	0.0189	0.0059	0.0036
Polling station FE	X	X	X	X	X
Observations	117,742	117,742	117,742	117,742	117,742
R ²	0.1714	0.1854	0.1255	0.0434	0.0547

Note: A unit of observation is a voting booth. Standard errors are robust. “Contested” is an indicator variable for whether the electoral results for this electoral race and voting booth were contested. “Contested by non-Colorado (Liberal)” is an indicator variable for the voting booth having its results contested by a political party that is not the Colorado party (Liberal party). “Contestation accepted” is an indicator variable for whether the contestation towards the electoral results in this voting booth were accepted by the election authority, thus amending the count. “Tally annulled” is an indicator variable for whether the electoral results from this voting booth were annulled (i.e., 0 votes are counted). A trifecta indicates all three poll workers from the same party work at the voting booth. Advantage indicates that two out three poll workers from the same party work at the voting booth. Other refers to a poll worker that is not registered as supporting the Colorado or Liberal party. The excluded category corresponds to voting booths with “fair allocations” having one Colorado poll worker and one Liberal poll worker. The “other poll worker allocation” refers to any remaining poll worker allocation after accounting for “fair allocations” and the other allocations referenced with the independent variables. The sample includes all electoral races and is restricted to voting booths for which we have the ID numbers of all three poll workers (which is around 96% of all voting booths).

F Simulation Exercise

To estimate the substantive effects of poll workers' partisanship on electoral outcomes, we carried out simulations that sought to answer the following question:

If all electoral tables had a “fair” allocation of partisan poll workers in the 2018 Paraguayan general elections, how much would have electoral results changed?

To answer this question we compared two different data sets. First, we have the actual electoral outcomes recorded in the 2018 General Elections. Second, using our regression models for separate elections from OA Section E we generated a data set of predicted *turnout* for each electoral table assuming a “fair” allocation. Hence, for example, if a given table had a Colorado party trifecta, we would replace that table's turnout with what our models predict would have been the turnout for that table if it had a “fair” allocation instead, and we do this replacement for all tables that had any poll worker allocation other than the “fair” allocation. Third, we repeated this exercise with vote outcomes. Using our regression models for separate elections from OA Section E we predicted what the electoral outcomes would have been for each voting booth assuming a “fair” allocation. Fourth, we take these vote share predictions and we multiply them by the turnout predictions to arrive at our predicted number of votes that each party should have received if there was a “fair” allocation in that table.⁸ Specifically, we took *all tables with non-fair allocations* recorded in our data, and we replaced these cases with *predicted outcomes of our models had a given table instead had a “fair” allocation*. Then, with our true vote outcomes and our predicted vote outcomes, we simply take a difference between (1) true and predicted vote shares, and (2) true and predicted seat distributions for different parties. These exercises give us an idea of, substantively, how important the role of partisan poll workers is for electoral outcomes in Paraguay.

⁸However, rather than joining smaller parties into a single “other” category, for the exercises shown in this section our models treated each party separately.

Table F1 shows the results of this exercise for the presidential results. As can be seen, all else equal, if all tables had a fair allocation of partisan poll workers the ANR (Colorados) would have had 2,944 fewer votes and the Liberal/GANAR alliance would have received 1,001 more votes. This is not enough to change the presidential result, but it is still a sizeable amount of vote changes.

Table F1: Comparison between true and predicted presidential race results

Party	Pred. Vote	True Vote	Vote Diff.
ANR	1,159,013	1,162,065	-3,052
GANAR	1,068,792	1,067,861	931
PVP	80,365	80,554	-189
MNAP	15,064	15,064	-0
PMPP	9,464	9,478	-14
MRP	9,017	9,097	-80
PFA	8,408	8,293	115
SN	6,972	7,018	-46

Table F2 shows the results of this exercise for senatorial results. As can be seen, although some differences in votes are considerable in size—the ANR for example would have received 2,590 fewer votes if all tables had fair allocations of poll workers—this effect is not large enough to change any seat allocations in favor of one party or another.

Given that the MERCOSUR parliament, like the senate, is elected using a national district, we may expect simulations to behave in a similar manner. Table F3 confirms that this is the case.

Table F2: Comparison between true and predicted senate race results

Party	Pred. Vote	True Vote	Vote Diff.	Pred. Seats	True Seats	Seat Diff.
ANR	733,089	735,664	-2,575	17	17	0
PLRA	549,968	549,032	936	13	13	0
FG	265,723	265,392	331	6	6	0
PPQ	155,693	155,671	22	3	3	0
PPH	103,475	103,526	-51	2	2	0
PDP	84,216	84,192	24	2	2	0
UNACE	48,438	48,131	307	1	1	0
CN	57,302	56,927	375	1	1	0

Table F3: Comparison between true and predicted MERCOSUR parliament race results

Party	Pred. Vote	True Vote	Vote Diff.	Pred. Seats	True Seats	Seat Diff.
ANR	914,662	917,471	-2,809	23	23	0
PLRA	661,207	660,090	1,117	16	16	0
PPQ	84,366	84,478	-112	2	2	0
FG	100,764	100,051	713	2	2	0
UNACE	45,873	45,577	296	1	1	0
PPH	39,324	39,584	-260	1	1	0
PFA	4,512	4,413	99	0	0	0
MNAP	10,874	10,943	-69	0	0	0

Table F4: Comparison between true and predicted deputy race results

Party	Pred. Vote	True Vote	Vote Diff.	Pred. Seats	True Seats	Seat Diff.
ANR	887,847	890,412	-2,565	42	42	0
PLRA	410,254	409,632	622	17	17	0
GANAR	274,395	273,892	503	13	13	0
PPQ	103,588	103,676	-88	3	3	0
PEN	74,335	74,118	217	2	2	0
PPH	74,403	74,415	-12	2	2	0
CN	32,968	32,675	293	1	1	0
PFA	20,350	20,213	137	0	0	0

Although predicted differences seem to be *slightly* larger in the MERCOSUR races than in the Senate races in absolute terms, these differences are still not large enough to change any outcomes at the seat-distribution level.

Table F4 contains the results of the simulation exercise for the Chamber of Deputies in Paraguay. Again, we can see that there are comparable vote changes to what we have seen previously, but these predicted changes in votes are not sufficient to change the electoral results. Similarly in gubernatorial elections the true results showed 13 Colorado winners 1 GANAR winner and 3 Liberal winners, and predicted results show no differences in allocations. Therefore, no governor races were impacted by the effects of poll worker allocations either.

Finally, as Table F5 shows, we were able to find one seat change among Colorado (ANR) and Liberal (PLRA) outcomes in these elections. Again, the change in votes received by each party seems comparable to what we have seen in other models, but in this case, because of the lower-

level of Departmental Council elections, these vote differences were sufficient to change one seat allocation.

Table F5: Comparison between true and predicted departmental council race results

Party	Pred. Vote	True Vote	Vote Diff.	Pred. Seats	True Seats	Seat Diff
ANR	802,041	804,736	-2,695	130	131	-1
PLRA	444,336	442,825	1,511	56	55	1
GANAR	241,506	241,173	333	48	48	0
PVP	41,614	42,000	-386	3	3	0
PPQ	46,879	46,950	-71	2	2	0
UNACE	51,243	50,837	406	1	1	0
PEN	27,541	27,407	134	1	1	0
AP	15,374	15,514	-140	1	1	0

G Establishment party support and partisan poll workers

Perhaps it is not a coincidence that most of the countries where explicitly partisan representatives can be poll workers or polling station administrators correspond to flawed democracies and hybrid regimes (Economist Intelligence Unit 2022), which are: Honduras, Armenia, Paraguay, Ukraine, Kosovo, El Salvador, and Colombia. All these countries have a history of established parties and their elites could have strategically set up these adversarial electoral institutions to help keep themselves in power. Albertus and Menaldo (2018) study how outgoing authoritarian elites constitutionalize protections for their interests and vote-counting institutions play a fundamental role in this aspect. Consistent with this, if we follow the definition of established parties from Lupu (2016) and use data on 111 Latin American presidential elections going from 1990 to 2018, we find a positive relationship between partisan poll workers and established party support. That is, established parties in Latin America receive higher vote shares in countries with partisan poll workers.

We examined the relationship between establishment party support and partisan poll workers. Established parties according to Lupu (2016) are those “parties that in two consecutive elections either receive a plurality of the vote, winning the first round, or attract no less than one-third of the winning vote share.” To make this claim we updated data on 111 Latin American presidential elections going from 1990 to 2018, we can also examine the relationship between partisan poll workers and establishment party support.⁹ Hence, using the same definition of established parties for the 18 Latin American countries considered by Lupu (2016) for the time period of the Latin American elections dataset we end up with the following established parties:

⁹The Latin American elections data compiled by Baker and Greene (2011) can be found here: <https://web.archive.org/web/20230330055805/https://www.colorado.edu/faculty/baker/latin-american-elections-and-ideology>

- **Argentina:** Partido Justicialista (PJ), Unión Cívica Radical (UCR)
- **Bolivia:** Acción Democrática y Nacionalista (ADN), Conciencia de Patria (CONDEPA), Movimiento al Socialismo (MAS), Movimiento de Izquierda Revolucionario (MIR), Movimiento Nacionalista Revolucionario (MNR)
- **Brazil:** Partido da Social Democracia Brasileira (PSDB), Partido dos Trabalhadores (PT)
- **Chile:**¹⁰ Alianza por Chile, Concertación
- **Colombia:** Centro Democrático (CD), Partido Conservador Colombiano (PCC), Partido Liberal Colombiano (PLC), Partido de la U
- **Costa Rica:** Partido Liberación Nacional (PLN), Partido Unidad Social Cristiana (PUSC)
- **Dominican Republic:** Partido de la Liberación Dominicana (PLD), Partido Reformista Social Cristiano (PRSC), Partido Revolucionario Dominicano (PRD)
- **Ecuador:** Alianza Patria Altiva i Soberana (Alianza PAIS), Izquierda Democrática (ID), Partido Roldosista Ecuatoriano (PRE), Partido Social Cristiano (PSC)
- **El Salvador:** Alianza Republicana Nacional (ARENA), Frente Farabundo Martí para la Liberación Nacional (FMLN)
- **Guatemala:** Frente Republicano Guatemalteco (FRG), Partido de Avanzada Nacional (PAN)
- **Honduras:** Partido Liberal de Honduras (PLH), Partido Nacional de Honduras (PNH)
- **Mexico:** Partido Acción Nacional (PAN), Partido de la Revolución Democrática (PRD), Partido Revolucionario Institucional (PRI)
- **Nicaragua:** Frente Sandinista de Liberación Nacional (FSLN), Partido Liberal Constitucionalista (PLC)
- **Panama:** Partido Arnulfista (renamed Partido Panameñista), Partido Revolucionario Democrático (PRD)
- **Paraguay:** Asociación Nacional Republicana—Partido Colorado (ANR-PC), Partido Liberal Radical Auténtico (PLRA)
- **Peru:** Alianza Popular Revolucionaria Americana (APRA), Cambio 90, Partido Nacionalista Peruano, Perú Posible
- **Uruguay:** Frente Amplio, Partido Colorado, Partido Nacional
- **Venezuela:** Acción Democrática (AD), Movimiento V República (MVR) [which later became the Partido Socialista Unido de Venezuela (PSUV)], Partido Social Cristiano (COPEI)

¹⁰Following Lupu (2016), for Chile we code coalitions instead of individual parties given the “uniquely institutionalized and stable nature of electoral coalitions.”

OA Table G1 shows that established parties receive higher vote shares in Latin American countries with partisan poll workers. The average (76.8% vs. 66.5%), minimum (34.6% vs. 2.8%), median (83.7% vs. 67.2%), and maximum (100% vs. 99.9%) vote share of established parties in these countries is higher. These results are thus consistent with the importance of partisan poll workers for established parties' electoral success.

Table G1: Established party vote share summary statistics

	Observations	Mean	Standard Deviation	Minimum	Median	Maximum
Without partisan poll workers:						
Established party vote share	73	66.47	26.16	2.76	67.23	99.87
With partisan poll workers:						
Established party vote share	38	76.79	20.00	34.63	83.69	100.00

Note: Each observation corresponds to the vote share for established parties in a Latin American presidential election from 1990-2018. All statistics are rounded up to the second digit after the decimal.