Gender quotas and strategic voters: Experimental evidence from Chile's constitutional convention*

Antonia Paredes-Haz

February 14, 2024

Abstract

Citizens' perceptions of certain groups influence voting behavior and policy choices worldwide, frequently reducing the representation of historically disadvantaged people. Can laws limiting the group identity of elected officials undo these effects? And if so, how does this impact legislator competence and how legislatures represent policy preferences of different groups? I examine these issues in the context of Chile's constitutional conventional election, which was the first election to mandate gender parity in both candidate lists and elected officials without limiting voter choice. I induce experimental variation in voter awareness of these mandates by randomizing an electoral booth-level voter information campaign. In treated booths, voters were informed that gender parity for elected officials would be enforced. I have three experimental results. First, treatment increased women's average vote share by 1%. Second, voters in treated booths voted for the gender they believed would be electorally favored by the mandate. This effect varied by electoral coalitions and was concentrated among front-runners. Third, treatment reduced votes for less competent men as measured by test scores. Finally, data on individual bills indicate that elected female legislators voted more liberally on social issues such as abortion and domestic violence. In contrast, there are no gender-based voting differences for economic and administrative bills. Overall, these findings support the use of electoral mandates as a coordinating device that, when well-designed, can increase the average legislator's competence and the extent to which policy-making processes reflect voter preferences.

*Email: antonia.paredeshaz@berkeley.edu. I am extremely grateful to my advisors Rohini Pande, Gerard Padró i Miquel, and Ebonya Washington for their guidance and encouragement. Christopher Neilson and Nicholas Ryan provided valuable feedback that improved many parts of the paper. I also thank Josefa Aguirre, Felipe Ajenjo, Ceren Baysan, Lauren Falcao Bergquist, Lucas Finamor, Alvaro García, Winston Hovekamp, Dominic Leggett, Kaivan Munshi, Yusuf Neggers, Ricardo Paredes, Natalia Rigol, Cony Stipicic, as well as many seminar participants at Pontificia Universidad Católica de Chile and Yale. Finally, I acknowledge generous financial support from the Yale Economic Growth Center and the Cowles Foundation for Research in Economics that made this project possible. This project is registered in AEA RCT Registry at AEARCTR-0007657 and was approved by IRBs at Yale University and Pontificia Universidad Católica de Chile.

1 Introduction

In representative democracies, citizens seek lawmakers who represent their ideas and policy concerns. However, voters' and party leaders' perceptions of historically disadvantaged groups might reduce their representation, even when they have a substantial population share and distinct preferences. The underrepresentation of women in politics is a prominent example[1]. According to a large literature, women politicians better represent the policy interests of female voters and are frequently preferred by them (Dolan, 1998; Chattopadhyay and Duflo, 2004; Schwindt-Bayer, 2006; Clots-Figueras, 2012; Hessami and Lopes da Fonseca, 2020; Bruce et al., 2022; Schwarz and Coppock, 2022). Thus, the policies put in place by democratic nations may not adequately reflect women's views. Gender quotas have been included in legislation in over 100 nations to promote female representation (Norris, 2004). The most common type of gender quota places requirements on parties' candidate gender mix, setting a minimum percentage of female candidates by party without restricting how voters may cast their ballots (Krook, 2016). Forty-four democracies enforced this kind of quota in 2022. Figure 1 shows that in 36 of the 44 countries, the percentage of women elected is less than the percentage set by the candidate quota.

One way to ensure a minimum representation of women that does not require restricting the gender of the candidates voters vote for is to establish a rule that lets voters choose candidates irrespective of gender but then modifies the elected candidates to attain a minimum representation of women after the election. However, by keeping the ballots unrestricted, the representatives of the group the quota targets may be elected with a small number of votes. Thus, the elected members of the disadvantaged group could represent the preferences of a small group of people and potentially elect candidates who are significantly less qualified on other fronts. These issues motivate the question studied in this paper: Do citizens change their voting behavior in the face of a mandate altering elected representatives' identity, and if so, how does this affect the competence of politicians?

[1] As of January 2022, only 26 percent of all national parliamentarians are women (Inter-Parliamentary Union).

To answer this question, I study the election of members of Chile's constitutional convention in May 2021, the first election to mandate gender parity for candidates and elected representatives without limiting voters' gender choice. Election results were adjusted in each district to ensure gender equality. Multiple surveys with national and regional representation conducted prior to the election revealed a high level of interest in the election but a lack of information on the electoral rules, as the new gender parity rule was approved only a year before the election (Data Influye, 2020; Espacio Público, 2021; Urrejola, 2021). Through a voter information campaign, I induce experimental variation in voter knowledge of the election rules. By using administrative data on voting outcomes, I provide causal evidence of voters' behavior in the presence of a gender quota.

The information campaign consisted of a letter sent to voters in two treatment arms a week before the election. The randomization was done at the voting booth level, taking advantage of the fact that voting booths are small electoral units, with each voter assigned to one in advance and the results published at the voting booth level. As a result of the treatment design, I was able to compare the election results of voters in treated versus control voting booths without relying on voter self-reported data. The two treatment arms were small variations on the same letter. The candidate treatment arm was one of the two variations of the letter. This treatment provided general information about the election and the candidate's gender quota. The letter stated that gender parity in candidate selection would be ensured as each electoral list must include an equal number of male and female candidates. The second variation, the elected treatment arm, contained the same information as the candidate treatment arm, in addition to information on gender parity in elected officials, as well as an example of how equal gender representation will be achieved. Given the significance of providing a reliable source of information (Dynarski et al., 2021), I partnered with the United Nations Development Programme (PNUD) to increase voter trust in the information provided.

First, I analyze whether the intervention resulted in a change in the overall vote share of women across all coalitions participating in the election. The effect of the treatment is

an approximately 0.7 percentage point increase on average in the vote share of women in treated voting booths.

Second, I hypothesize that when voters are informed about the gender quota, their perceptions of each candidate's eligibility change, as candidates who would not have won without the gender quota could replace candidates from the overrepresented gender. As a result of the gender quota, coalitions that previously had a higher likelihood of electing men now face the possibility that female candidates would replace their male candidates. Therefore, the gender quota in these coalitions increased the likelihood of women being elected. The opposite is true in coalitions where women were more likely to be elected than men.

To test this, I define two distinct types of electoral lists for separating coalitions based on gender preference: the traditional parties[2] and the independent groups. In addition to the gender quota, independent candidates were allowed to run together on a single electoral list of multiple candidates for the first time, exclusively for this election. This reform permitted independent candidates (mostly first-time nominees) to compete equally with political party candidates, who have always been allowed to compete in electoral lists. The inclusion of independent coalitions broadened the ideological and gender distribution of candidates – I show that while traditional political parties were pro-male as measured by the gender gap in candidate campaign contributions and vote share for members of the constitutional convention, the reverse was true for the independent lists. Traditional parties and independent candidates had substantial ideological differences, given the political context. I contend that votes are partisan, with individuals only voting for candidates in their preferred type of coalition.

Using experimental data, I test my pre-specified hypothesis that when informed about the gender quota, citizens make strategic gender selections based on the political coalition they mostly prefer. On the one hand, the fact that the intervention had no effect on party vote shares suggests that voters are partisan. Voters were expected to act partisanally, given

[2]Traditional parties are defined as those with representation in congress before the election. A complete definition is available in Section 2

the polarization of the election. On the other hand, when informed about the gender quota, voters of independent coalitions (i.e., pro-female voters) decreased their votes for women by almost two percentage points. In comparison, traditional party voters (i.e., pro-male voters) increased their support for women by approximately three percentage points. These results suggest that voters shift their votes to support the gender that gains the most from the gender quota in their party, which is consistent with the theory of strategic voting. In addition, the effects are concentrated among the frontrunners of each coalition, which is also suggestive of strategic voting, as voters switch their votes among candidates with a high likelihood of being elected. Overall, the information campaign had the potential to change the elected candidates in close elections.

Thirdly, I explore whether strategic voter decisions emphasize ability more when coordinating away from their party's preferred gender. I focus on candidate competence, as proxied by test scores for college admissions. This proxy has been utilized in the past because it correlates positively with other political efficiency outcomes, including citizen satisfaction and local public-finance outcomes (Besley et al., 2017). In Chile, I show that test scores correlate positively with vote share, the probability of being elected president or vice president of the constitutional convention, and the probability of being invited to public debates. Informed voters from traditional parties vote less for men with low test scores, while the vote share for women conditional on competence remains stable. For independent groups, the intervention did not affect the vote share by competence of men or women. These findings suggest that voters do not compromise the competence of elected officials when confronted with limitations on gender composition.

Fourthly, I investigate if the shift in voters' preferences has an impact on the elected candidates' ideologies. I used the *Votamos Todos*[3] survey, which had 70 questions and responses from over 70% of the candidates, to gauge the candidates' ideological positions. There is a substantial correlation between the ideological positions produced by this survey

[3]A not-for-profit media organization which provided information for the elections of the Constitutional Convention.

and those produced by other survey produced by a major newspaper. According to the estimation, the effect of information is that more liberal men lose votes in the traditional coalition in comparison to more liberal women who receive more votes. Overall, it appears that the information about the gender quota reduced the vote share of more liberal male candidates, with suggestive evidence of an increase in the vote share of more liberal women. For the independent coalition, the results are not robust to different specifications.

Lastly, I examine the voting behavior in the constitutional convention of elected officials. This analysis, while non-experimental, speaks to the policy influence of women in legislatures. Bill-level data of elected members on constitutional articles indicates that female legislators voted more liberally on social issues such as abortion and domestic violence. In contrast, there are no gender-based voting differences for economic and administrative bills.

This paper contributes to several strands of the literature. Small experiments conducted in a laboratory setting offer experimental variation for the study of strategic voting (Forsythe et al., 1996; Blais et al., 2010). However, the external validity of laboratory experiments relies on the assumption that participants have the same incentives in the laboratory as they do when voting in elections. On the other hand, empirical evidence of strategic behavior has also been found in studies utilizing administrative data (Fujiwara, 2011; Kawai and Watanabe, 2013). In this paper, I provide experimental evidence of the strategic behavior of voters by using administrative data.

Existing literature on gender quotas has investigated how the behavior of parties changes when gender quotas are implemented. Prior research has focused on how the composition of candidates shifts, where they are positioned, and how voters vote after the candidates have changed due to the quota (Esteve-Volart and Bagues, 2012; Besley et al., 2017; Fréchette et al., 2008; Baltrunaite et al., 2019). As the candidate pool is selected prior to my information campaign, the candidates in this experimental design are held fixed between the control and the treatment arms. My paper contributes to the literature by demonstrating how information influences voter behavior while party behavior remains constant. Consequently, I examine how voters respond to the quota and how the characteristics of the elected changed

in response to voter behavior.

As a result of data limitations, the majority of previous studies on political selection used years of education and pre-office income as a measure of ability (Besley et al., 2005; Ferraz and Finan, 2009; Galasso and Nannicini, 2011; Besley and Reynal-Querol, 2011). More recently, a very detailed characterization of politicians in Sweden was made by Dal Bó et al. (2017) and (Dal Bo et al., 2021). In this paper, I characterize candidates in different political coalitions, and in particular, I investigate how independent candidates differ from candidates of traditional parties.

Multiple studies have determined that gender quotas impact the competence of elected candidates. The evidence suggests that gender quotas either improve or maintain the quality of politicians (Murray, 2010; O'Brien and Rickne, 2012; Baltrunaite et al., 2014; Weeks and Baldez, 2015; Bagues and Campa, 2021). Besley et al. (2017) is one of the first studies to collect data on candidates as opposed to elected politicians, by using novel measures of competence, such as test scores, which correlate strongly with multiple dimensions of competence but are only available for men. This paper investigates the relationship between strategic voter behavior and the quality of politicians in Chile, using college admissions test scores as a proxy for competence. In the same line as previous literature, my findings indicate that the quota increases the competence of male candidates for office. I contend that when voters shift away from their party's preferred gender, they place greater emphasis on the candidate's qualifications. The idea that voters, when faced with a gender quota, vote less for less competent men is a mechanism that is undocumented in the literature

The rest of the paper is organized as follows. Section 2 provides details about the rules of the election, including the gender quota and the inclusion of independent candidates. Section 3 describes the sample and design of the information campaign, Section 4 shows the results of the experiment on voter behavior, and Section 5 concludes.

2 Background

Below, I provide a brief overview of the new constitution referendum and the election rules for selecting the constitutional committee, focusing on two types of electoral engineering innovations: gender quotas for elected members and electoral lists for independent candidates. I conclude with an overview of how these factors influenced election outcomes in aggregate.

2.1 The referendum on Chile's constitution

In October 2019, an increase in public transportation fares in Santiago triggered a country-wide social movement expressing dissatisfaction with the quality of life, pensions, and inequality, emphasizing the slow progress since the dictatorship. The anti-establishment movement expressed dissatisfaction with politicians and government policies. Following a month of widespread protests and significant economic damage to public and private property, the government and opposition agreed to hold a referendum to determine whether the dictatorship's constitution would be rewritten.

For the referendum, each voter was given two ballots. The first ballot was used to decide whether or not to rewrite the constitution. The second ballot's purpose was to define the rules for selecting people to write the new constitution (relevant if the vote on the first ballot was to rewrite). Voters chose between a constitutional convention in which all members were elected in the next election, and a mixed convention in which elected members and people are chosen by Congress were both present.

The turnout for the referendum was 50.95 percent, which was one of the highest turnouts since voting became voluntary in 2012. Approximately 80 percent of people voted in favor of a new constitution and the election of all members (constitutional convention).

Congress and the Senate set the rules for the election of members of the constitutional convention, a new temporary institution independent from both chambers. The electoral rules approved were the same as for Congress, a multi-seat election with proportional representation, with the addition of two new features. First, all candidates and elected members

would be chosen in gender parity. Second, independent candidates can form multi-candidate lists.

2.2 Electoral Engineering in elections for constitutional convention members

The electoral rules for the election of members of the constitutional convention were the same as for Congress, with two exceptions: gender parity among candidates in elected members was enforced, and independent candidates could form multi-member electoral lists.

Candidates for Congress ran on open electoral party lists, with each voter selecting a single candidate from any party list. The D'Hondt method, a proportional representation system that assigns seats to party lists in roughly the proportion of votes received, is used to allocate seats to parties. The ranking provided by the votes is used to assign candidates to seats within parties. So, for example, if a party list receives enough votes to elect two candidates, the two most popular candidates on that list are elected. Seats are assigned to electoral lists, but for Congress elections, only parties can form multi-candidate lists, so independent candidates face a significant disadvantage because they run on single-person lists.

A. Gender quotas

In 2015, the Chilean Congress implemented a candidate gender quota for elections for Congress and the Senate. The quota required that each party list include at least 40% female candidates, with no restrictions on elected candidates. The quota increased women's representation in Congress from 15% to 23%, nearly half of the target. The limited success of candidate gender quotas, combined with the anti-establishment stance of the social movement, put pressure on Congress to approve election rules that ensured women's representation in the creation of the new constitution.

In March 2020, Congress passed a gender quota for the election of constitution committee

members. By imposing a quota, the districts were guaranteed equal representation of women among candidates and elected officials. For candidates, each electoral list had to be led by a woman and alternate between genders. For elected members, results were adjusted to achieve gender parity. If, in a given district, the difference between male and female elected candidates using the D'Hondt method was more than one the most-voted candidate from the under-represented gender (who has not been elected) replaces the least-voted candidate from the over-represented gender on the same electoral list. The aim of this rule is to achieve gender parity while keeping the proportional representation of parties, as replacements are made within the electoral list. This process is repeated until gender parity is reached. The goal of the rule was to maintain proportional representation of electoral lists while achieving gender parity.

B. Independent party list

Over the last 20 years, Chile has had only elected candidates from three coalitions in Congress: one right-wing, one left-wing, and one center-left, with almost no representation from independents. Responding to popular demand to include people previously not engaged in politics in the writing of the new constitution, Congress passed a law in March 2020 that allowed independent candidates to form electoral lists of multiple candidates that mimic party coalitions, as their votes counted as electoral lists for allocating seats. The only requirement independent candidates had to form lists was to get sponsorships from at least 0.5 percent of voters in their congressional district in the previous election[4].

2.3 Electoral list formation

Over 2,000 citizens sought sponsorships as independent candidates between December 2020 and January 2021. Approximately 63% of them were men, while 37% were women. 435,803 voters supported independent candidates, accounting for 7.6 percent of all voters. Surpris-

[4]Each voter that does not belong to a political party can sponsor one independent candidate through the website of the electoral service.

ingly, despite the majority of candidates being men, women received 56.4 percent of total sponsorships. The median for men was 432 sponsorships, and the median for women was 563.

More than 500 independent candidates received enough sponsorship to run in the elections[5]. These candidates were roughly divided into two distinct groups. The first was a left-wing coalition comprised primarily of social movement icons. Among them was a female school bus driver who became famous for wearing a costume during the protest, a breast cancer survivor, and several climate activists with no prior political experience. The second group was a center-left coalition comprised primarily of professionals working in public policy. Despite their ideological differences, both represented anti-establishment views and supported the inclusion of newcomers in the constitution-writing process.

I divide the coalitions into two groups for my analysis[6]. The first group consists of the three-party coalitions with congressional representation, which I will refer to as traditional coalitions. This group includes the right-wing coalition *Chile Vamos*, the center-left wing coalition *La lista del Apruebo*, and the left-wing coalition *Apruebo Dignidad*. The second group comprises the two major independent coalitions described earlier: *La Lista del Pueblo*, a left-wing coalition, and *Independientes No Neutrales*, a center-left wing coalition. I limit my analysis to these coalitions as most other coalitions did not receive enough votes to elect representatives.

Table 1 reports the gender difference in these two groups of candidates, which is also summarized in figure 3 (appendix table C1 shows the statistics for the remaining candidates). Three descriptive statistics are worth highlighting: First, candidates from traditional parties get about four times the funding of independent candidates. Second, the gender gap in contributions varies depending on the type of coalition. Men received significantly more money in traditional parties, while women received significantly more in independent coalitions. Third, men in traditional parties are more likely than women to have political experience,

[5] 266 men and 258 women

[6] These five coalitions were specified in the pre-analysis plan.

with approximately 15% of men and 8% of women in traditional parties having political experience. In contrast, there is no gender difference in the experience of independent coalitions since neither gender has any prior political experience.

2.4 Electoral outcomes

Traditional parties and the two major independent coalitions won the vast majority of the seats. Members of the traditional parties got 90 seats, while 37 went to the independent groups, with both groups getting 92 percent of the seats. Table 1 displays elected candidates in Panel B. There were 15 men and 22 women chosen in the independent group, compared to 51 men and 39 women in the traditional group. Consequently, there is also a gender disparity in the quantity of elected officials between these two groups.

In addition, the electoral lists also differed in terms of gender substitutions. Twelve seats were subject to gender parity replacement, with seven women and five males being replaced. All seven of the men who were replaced did so from traditional parties. Five of the seven women who were replaced as a result of the gender adjustment came from independent groups. This aligns with the idea that women are more likely to be elected to independent coalitions and that men are more likely to be elected to traditional parties.

This gender preference is also observed in non-quota elections. The city council election took place the same day as the election for members of the constitutional convention, which was also a multi-seat proportional representation election. In contrast to the election of members of the constitutional convention, there were no gender quotas for the city council. Figure 4 depicts the relationship within voting booths between the vote share for women in the city council election and the vote share for traditional and independent coalitions in the constitutional convention election. The graph shows that in voting booths where most people voted for women in municipal elections, fewer people voted for traditional parties. For independent coalitions, a higher vote share of women in the city council election is correlated with higher support for independent coalitions in the election of the members of the constitutional convention.

In conclusion, the election results show that voters from traditional parties favored male candidates. The opposite was true for independent coalitions, with women receiving more support than men.

3 Experimental design and data

This section describes the voter information experiment as well as the data used in the analysis. The hypotheses that will be tested are then discussed through an example.

3.1 Sampling and Treatment design

I implemented the voter information campaign in the urban area of Región Metropolitana, Chile's most populated and urbanized region. With six of the country's 28 districts, the total electorate is approximately five million people, representing thirty percent of the voters registered to vote in the country.

For the randomization, I take advantage of the fact that each voter is assigned to a voting booth with an average of 330 registered voters. The voting booths are available in the electoral register, which is released by the electoral register, and contains every voter's name, address, and voting booth, one month prior to the election. The votes cast at the voting booth level for each candidate are released and broken down by the electoral service. Thus, by combining administrative data and randomizing the information campaign at the voting booth level, I estimate the causal effect of the information campaign on electoral outcomes without relying on self-reported data.

There are 13,825 voting booths in total in my sample. I randomly treated 336 voting booths, which meant that about 110,000 voters received treatment. The treatment was divided into two treatment arms and one control group, with stratification based on district and women's vote share in the preceding election.

The timing of the election and intervention was as follows: in mid-January 2021, parties and independent organizations registered their candidates with the electoral service. By

the end of January, the electoral services released a list of the authorized candidates. The period of the campaign started in March 2021. Due to a COVID-19 outbreak, Congress decided to postpone the election one week before it was originally scheduled for April 11, 2021. The election was rescheduled for May 15 and 16, 2021. A week prior to the election, voters in treated booths received a letter describing how the gender quota for the election of constitutional convention members operates. Voters cast their ballots in person on May 15 and 16, 2021.

There are two treatment arms and one control group in this study. The two treatment arms are slightly different letters. The candidate treatment included general election information (such as the number of people elected and a website where people could find a list of candidates) as well as information about the candidate's gender quota. The letter specifically states that gender parity in candidates will be ensured because each list must include an equal number of male and female candidates. The letter of the elected treatment arm was the same as in the candidate treatment arm, plus information about gender parity in elected candidates. This treatment arm described how gender parity in elected officials was going to be achieved by providing an example of how candidates from both genders could be replaced. Figures B1 and B2 in the appendix contain examples of each letter translated into English. All voting booths in the region that did not receive a letter comprise the control group. The voting booths are randomly selected, and sample sizes are shown in figure 2.

The letter was delivered inside an envelope addressed to the voter's name to the voter's address. These characteristics distinguish the information campaign from political propaganda, which is typically delivered to people's homes without an envelope and without being personalized. Given the importance of providing a trusted source for the information (Dynarski et al., 2021), I partnered with the United Nations Development Programme (PNUD), which was expected to increase voters' trust in the information provided. The treatment contained no specific information about political parties or candidates. As parties had already chosen their candidates by the time the letter was sent, the candidate pool among treatment and control voters was fixed.

3.2 How could information change beliefs?

The analysis is based on the assumption that the letter informing voters of the quota (candidate or elected) caused uninformed voters to update their beliefs about the number of candidates by gender and the relative likelihood of candidates being elected. While I do not have direct evidence of the number of uniformed voters, several surveys conducted prior to the election (online, in person, and in focus groups) with national and regional representation revealed a high level of interest in the election but a lack of information on how candidates were chosen, given the variety of options and the complex formulas for determining who won[7].

The candidate treatment arm explains only the gender quota that affects candidates. This rule alters the candidate supply because parties are required to place the same number of men and women in all districts. This electoral rule does not necessarily affect women's electability, as voters may choose not to vote for them in the end.

The elected treatment arm explains changes in the supply of candidates and election results. I expected this information would change the votes of strategic voters based on which gender they believe would benefit from the quota in their party, given the gender preferences of voters who share their party affiliation. Section 3.3 discusses a detailed example and testable predictions.

The key assumption about the difference between the two treatment arms is that voters in the candidate treatment arm are, on average, less informed about the gender quota than voters in the elected treatment arm, as the elected treatment arm letter explained both gender quotas. This assumption should be approached with caution, as the letter from the candidate treatment arm included a link to the electoral service's website, where voters could learn more about the candidates and the election in general. As a result, voters in

[7]Data Influye (2020) is an online survey with a sample size of about 1,500 people that aims to represent the entire country. When voters were asked if they felt informed or uninformed about the election, 51 percent said they felt uninformed about it. Espacio Público (2021) conducted 18 focus groups with 120 people in *Región Metropolitana*. Most people said they were very interested in the process, but 45 percent said they knew nothing about the candidates running for office. The director of the Latinobarometer stated in an interview with Urrejola (2021) that based on their interviews; their estimates suggested that most people in the country did not know how to vote in the election.

the candidate treatment might have been incentivized to look for more information, making both treatment arms indistinguishable. Therefore, all analyses will be conducted using two regressions: one with both treatment arms separately and one with the pooled treatment.

As described in the pre-analysis plan, my experimental focus is examining how the information campaign affected booth-level electoral outcomes, specifically total female vote share and vote share by party. Below, I provide a simple example in which partisan voter ideologies are specified to reflect Chilean voter preferences at the time of the referendum. Given these assumptions, I identify how the impacts of an information campaign on vote shares should vary by gender and party of each candidate.

3.3 Example

Setup: For simplicity, I consider a single district with four seats and N voters. Two parties, party A and party B, provide candidate lists in gender parity made up of two candidates of each gender. Candidates from each party are randomly selected from a pool of citizens based on gender.

The electoral rules consist of a proportional representation system and open electoral lists. Seats are assigned to parties based on the percentage of votes the sum of their candidates receive. Voters vote for one candidate, and the most voted candidates among the parties that get seats are elected. I assume citizens have fixed partisan preferences, so party A has N_A voters, and party B has N_B.

The utility that each party's voter receives from a candidate depends on the candidate's party, gender, and a random preference shock. Voters have perfect information about the parameters of the utility function (common to all voters of that party) and the distribution of the random preference shock. Voters have lexicographic party preferences, representing their partisan preferences. The gain from voting for each candidate for strategic voters is the probability of being a pivotal voter while voting for candidate j times the utility derived from candidate j. When deciding for whom to vote, voters maximize the expected gain.

This gain function reflects the following: (i) voters are partisan and only consider can-

didates within their preferred party, (ii) voters value gender, (iii) elections have a random component (probabilistic results), and (iv) voters consider the candidate's probability of getting elected. This last consideration aligns with models in political science literature where voters are strategic, so they vote only for candidates for which their vote could change the outcome of the election (Myerson and Weber, 1993; Cox, 1997; Myerson, 2002). However, this framework is easily extendable to voters valuing voting for the winning candidate due to voters' desire to belong to the majority (Callander, 2007) or due to a psychological effect of supporting the winner (Morton and Ou, 2015).

Let me consider the behavior of party A voters. For simplicity, I assume party A voters make up 25 percent of the electorate and hence receive one seat out of four. As a result, only party A's most popular candidate is elected. In addition, I assume that most voters vote for their preferred candidate (sincerely), as supported by earlier research on strategic voters (Kawai and Watanabe, 2013). This is equivalent to assuming that the majority of people are sincere voters.

Assume that the voter base of party A prefers men and that the preference parameter is large enough for voters to choose a male candidate over a female one in most cases. This presumption serves as an example of how gender quotas impact party voter behavior when gender bias is present. Table 2 summarizes the characteristics discussed in the setup.

Let me examine the actions of a party A voter. Given that the gender bias is assumed to be big enough to outweigh the differences in the random shock in most cases, most voters of party A prefer the two male candidates over the two female candidates. As almost all sincere voters of party A are voting for male candidates, the probability of being pivotal while voting for a female candidate is almost zero. Therefore, given that the probability of female candidates winning in Party A is almost zero, strategic voters in Party A also vote for male candidates.

Gender quota: Consider the gender quota described in section 2.2, where candidates and elected members must be in gender parity. If gender parity is not achieved given the vote

shares, for example, three men and one woman get the most votes, then the least voted of those three men would be replaced by the most-voted woman in the same party. Thus, given the restrictions of the quota, the elected candidates in a district of four seats will always be two men and two women.

Prediction 1: If all voters are voting for their preferred candidate, then the information about the electoral rules should not impact candidates' vote share.

Electoral rules do not impact voters' decisions if they only consider the candidates' characteristics to cast their votes.

Let me continue with the example where the party base of Party A is enough to elect one candidate out of four, and they strongly prefer male candidates. Given the assumptions of gender bias and sincere voting for the majority of the voters, most voters of party A are voting for male candidates irrespective of the quota, so the most voted candidate of party A will always be a male candidate.

Now, let me consider the different scenarios a strategic voter from Party A faces when deciding whom to vote for. Table 3 summarizes the different scenarios and how these affect the likelihood of being pivotal for Party A voters.

Let me start with the cases where voters from Party A are certain of which candidates in Party B will get elected:

First, consider the case where two women and one male won the most votes among the candidates for party B. As most Party A voters vote for male candidates, gender parity is achieved, and Party A's most-voted male candidate gets elected. As a result, the likelihood of a voter casting a decisive vote for each candidate is unchanged from the situation of no gender quota.

Second, consider that two men and one woman received the most votes among the candidates for party B. If one of those two male candidates from party B receives fewer votes than any male candidate from party A, the situation is the same as the previous one since the

male candidate from party A with the highest vote total will win, and the male candidate from party B with the lowest vote total will be replaced by the other female candidate in their party. If Party B's two male candidates receive more votes than Party A's most popular male candidate, then Party A's male candidate will be replaced by the most popular female candidate in Party A. Given that only a female candidate from party A could be selected due to the gender quota, there is zero chance that voting for a male candidate in this instance will be pivotal. However, a voter could be pivotal while voting for a female candidate. As a result, Party A strategic voters will support their preferred female candidate.

Let me consider probabilistic cases for the most-voted candidates in party B:

First, let me start by considering the scenario with two possible outcomes. In one scenario, the most popular candidates for party B are two men and one woman (this case occurs with probability α). On the other, the most popular candidates for party B are one man and two women (this scenario occurs with probability $1 - \alpha$). If the second man in Party B gets fewer votes than Party A's male candidate, no change in voter behavior should be expected, as already discussed in the previous example. If, in the second scenario, Party B's top-ranked male candidates get more votes than any of the men from Party A, Party A will have a female representative, as previously discussed. As a result, in this probabilistic scenario, there is a greater chance of being pivotal when voting for a woman from Party A relative to the case without gender quotas.

Second, I consider the scenario where the most popular candidates for Party B are two men and one woman, but it's unclear how many votes Party B's second male will obtain. There is a probability γ that the second man of Party B receives more votes than the most-voted man in Party A, which means that Party A will elect a female candidate. This situation increases the likelihood of casting a pivotal vote for a female candidate. The likelihood that both men will receive the same number of votes is β. This implies that a voter may significantly influence which candidate is replaced by a woman, which raises the likelihood that a voter will be pivotal while voting for a male candidate. Finally, there is a probability $1-\gamma-\beta$ that the male candidate from Party B receives fewer votes, which implies

that Party A will elect a male candidate without changing the probability of being pivotal for any gender. In this probabilistic scenario, the probability of being pivotal for women increases, while the probability of being pivotal for men could change in either direction.

Even though these examples do not cover the universe of alternatives, these cases can be applied to most potential options. This example illustrates how when there is significant gender bias against female candidates, the quota weakly raises the likelihood of female candidates being elected, which increases the likelihood that voters will be pivotal while voting for female candidates.

Information treatment: Assume that not all voters are fully informed about the quota.

Prediction 2: The update of beliefs provided by the information campaign weakly increases the vote share of women (men) for parties with a gender male (female) bias.

3.4 Data

I collect information from five different sources. First, I use electoral services administrative data, such as the electoral register and the election results. The electoral register contains each voter's name, address, and the voting booth where they are registered to vote, while the election results contain the number of votes cast for each candidate at the voting booth level.

Second, I have candidate data from a variety of sources. Contributions to campaigns is a data set that contains every individual monetary contribution received by each candidate during the campaign. This information is publicly available on the electoral service's website and is updated weekly so voters can access it before the election. The candidate's previous experience in politics is also gathered from the electoral service's historical data. Newspapers are used to gather information such as age and professional experience.

Third, I use data from test scores as a proxy for ability. The dataset is unique because

it is a high-stakes test with publicly available results. The scores have been normalized by cohort, so that each has the same median (500 points) and standard deviation (100 points). The test score results since 1967 have been digitized by Nielson (2021). For my analysis, I take the mean of the two mandatory tests, math and verbal.

Fourth, I use survey data from *Votemos Todos*. More than seventy percent of the candidates responded to the survey, which was designed to inform the public about the candidates' ideological stances. I separated the responses into three categories—social, administrative, and economic—for my study, and I reported the average of the candidate's responses that I determined to be liberal.

Finally, I gathered information on how elected candidates voted on the articles for the new constitution. This information is publicly available on the constitutional convention's website, and it includes how each member voted on each article.

3.5 Balance

The electoral register and administrative data from previous elections are used in the balance table 4. Column 1 reports the control group's average for voting booths, and columns 2-4 report the difference between the control and treatment groups controlling by strata. I categorize the results into four groups. First, the voting booth characteristics describe the composition of the voting booth for the election of constitutional convention members. Second, the results of the most recent congressional election (2017), including turnout, the percentage of votes cast for women, and the left-wing party. Similarly, the third group describes the referendum results by voting booth for the constitution (2020). Finally, I describe the demographics of those registered to vote by the characteristics of their census block.

In the control group, the average voting booth has 325 registered voters, 48 percent of whom are men. With a 45 percent turnout, female candidates received 41 percent of the votes cast in the most recent congressional election. The referendum had a 57.6 percent turnout, with 79.3 percent of those voting in favor.

Column 2 shows the difference between the control group and the combined treatments. Most variables in the pooled sample are balanced, with the exception of a small but significant difference in the vote share for the left (one percent) and the percentage approving the constitutional referendum (less than one percent). The difference between the candidate treatment and the control group is reported in Column 3. The turnout in the previous congress election and the referendum is significantly different. When we examine the difference between the candidate treatment and the control group (reported in column 4), we find that most variables are balanced, and the difference in turnout has the opposite sign, resulting in a balanced pooled sample.

4 Results

4.1 Take-up

To assess the effectiveness of the information campaign, I would ideally measure the number of voters who opened and read the letter in order to calculate the local average treatment effect (LATE). Due to the lack of individual voter data, the best approximation for take-up is the information provided by the mail company on the number of letters delivered to the voter's address. This result allowed me to determine whether the quality of the data from the electoral register is sufficient to ensure that the majority of letters were delivered. The results for the pooled sample of treatments and each treatment arm are reported separately in the appendix in Table C2. The results show that approximately 95% of the letters were delivered, with no statistically significant difference between treatment arms. Because my findings indicate that almost everyone received the letter and I have no data measuring how many voters read the letter, my analysis for the rest of the paper are an intention to treat (ITT), as determined by the treatment group assignment.

4.2 Votes

I run two separate regressions for each outcome for the remainder of the RCT analysis: one with the pooled treated sample (any treatment) and one with each treatment arm separately (candidate and elected treatment arm). This is due to the fact that the first regression allows me to test the overall effect of both treatment arms, while the second regression allows me to test whether the treatment arms have different effects on voter behavior. As mentioned in the section 3.1, the candidate treatment arm attempts to capture the effect of increased awareness of the restriction among candidates, whereas the elected treatment arm attempts to capture the effect of increased awareness of gender parity among candidates and elected officials.

The following is the estimation for the pooled treatment:

$$\mathrm{y}_j = \beta_0 + \beta_1 \text{Any Treatment}_j + \gamma_j + \epsilon_{jp} \tag{1}$$

Where y_j represents the outcome in voting booth j. Any Treatment$_j$ is a dummy variable that takes the value of one if the voting booth was treated (candidate or elected treatment arm). γ_i is a vector of controls at the voting booth level and ϵ_{jp} is the error term.

The following is the estimation for each treatment arm:

$$\mathrm{y}_j = \beta_0 + \beta_1 \text{Candidate Treatment}_j + \beta_2 \text{Elected Treatment}_j + \gamma_j + \epsilon_{jp} \tag{2}$$

Where Candidate Treatment$_j$ is a dummy variable that takes the value of one if the voting booth was treated with the Candidate Treatment Arm, and Elected Treatment$_j$ is a dummy variable that takes the value of one if the voting booth was treated with the Elected Treatment Arm.

4.2.1 Turnout and Vote shares

First, I measure if the intervention resulted in an overall change in voter turnout. In this election, registration was automatic, but voting was voluntary. The average turnout by

voting booth for the election was 45 percent, comparable to the turnout in the previous Congress election as shown in table 4.

Table 5 shows how the intervention affected participation in columns 1 and 2. Voter turnout increased in treated voting booths by 0.12 percentage points. The estimate is noisy and small for both regressions (pooled sample and treatment arms) which suggests the rate of voter participation was unaffected by the information campaign.

Second, I examined whether the information campaign affected the vote share by party. I did not anticipate any changes in this outcome because (1) the intervention did not target a specific coalition, (2) all electoral lists included fifty percent female and fifty percent male candidates, and (3) political groups were unable to respond strategically to the information campaign because candidates had already been announced by the time the letter was sent.

For testing the impact on the coalition vote share, I estimate the following equation for the pooled treatment:

$$\begin{aligned} \mathrm{y}_{jp} = \quad & \beta_0 + \beta_1 \text{Any Treatment}_j * \text{Traditional}_p + \\ & \beta_2 \text{Any Treatment}_j * \text{Independent}_p + \gamma_j + \epsilon_{jp} \end{aligned} \tag{3}$$

Where y_{jp} represents the vote share of the electoral coalition p in voting booth j. Traditional_p is a dummy variable that takes the value of one if the electoral coalition p is the traditional parties coalition and Independent_p is a dummy variable that takes the value of one if the electoral list p is the independent coalition.

The results are shown in columns 3 and 4 of Table 5, with the vote share defined as the total number of votes the coalition had on a given voting booth divided by the total number of votes the booth has. The point estimates for the interaction between each dummy (Traditional and Independent) and treatment are small and noisy. Overall, the results are as predicted as they suggest that the information had no effect on the proportion of votes cast for these two groups.

These two findings collectively suggest that neither the coalition choices nor the motivations for voting were altered by the information campaign. Therefore, the underlying

presumptions for the remainder of this section are that voters are partisan and that the choice to vote or not is the same for both treatment and control.

4.2.2 Vote share for women

Next, I examined if the intervention affected the overall vote share of women in all electoral coalitions, which is calculated by dividing the total number of votes cast for female candidates by the total number of votes in the voting booth. An average of 51.94% of the votes cast in the control group's voting booths went to female candidates. The total effect of the pooled treatment is an increase in the vote share of women of about 0.66 percentage points, as seen in column 1 of Table 6. Therefore, the information raised the proportion of female votes by approximately 1%.

Column 2 of Table 6 examines each treatment arm separately to determine if voters respond differently to information focusing solely on candidates (candidate treatment) versus information focusing on candidates and elected members (elected treatment). On the one hand, women's vote share rose by 0.47 percentage points as a result of the candidate information treatment. On the other hand, the female vote share increased by 0.76 percentage points upon full disclosure of the gender quota (the treatment of choice). Given that the elected treatment arm contained more information about gender quotas than the candidate treatment arm, the difference in magnitude of the results is expected. However, it is not possible to reject the null hypothesis that both coefficients are identical, as indicated by the p-value of 0.64 at the bottom of the table.

The information boosts the percentage of female votes, as indicated by the earlier results; nevertheless, this result may be masking significant variation among different candidates. The gender quota directly affects candidates' election chances, influencing voters' decisions. Voters must take into account the likelihood that a candidate of the opposing gender could replace a candidate who would have won the election in the absence of the gender quota.

One of the propositions in section 3.2 suggests heterogeneity by electoral coalition. The proposition claimed that the voter's party, and more especially, the party's gender bias,

determines the impact of information on voting behavior. To test the second proposition, I split the electoral coalitions into two groups as mentioned in the section 2.3. Traditional parties and independent coalitions make up the two groups. Given that men have higher support in traditional parties, my hypothesis is that gender parity will negatively impact male candidates in these groups. In the independent coalition, where female candidates performed better, I predict that the information will lower the percentage of votes cast for women.

Table 6 shows the intervention results for each group in columns 3 and 4, which follow the structure of equation 3. The coefficient *Any Treatment*Traditional* in Column 3 indicates that women's vote shares for traditional coalitions rose by about three percentage points when the voting booth was treated. On the other hand, the coefficient *Any Treatment* Independent* suggests that the vote share of female candidates in independent coalitions decreased by 2.26 percentage points when the voting booth was treated. The results for each treatment arm are shown in column 4. With independent coalitions having a negative impact on women's vote share and traditional parties having a favorable impact, the results for each treatment arm are almost identical among treatment arms, as shown by the p-values at the bottom of the table.

The hypothesis covered in section 3.2 is supported by Table 6's results, which shows that the information campaign's impact varies based on party affiliation. Voters from traditional coalitions, where male candidates are the favorites, are more likely to support a female candidate as a result of the information. While in independent coalitions, where female candidates are leading, the information makes it more likely that a voter from that coalition will support a male candidate.

I examine the extent to which the intervention might have altered the gender replacements that took place over the country throughout the election if the information was sent to every voter. In order to achieve gender parity in the election, twelve candidates were replaced by candidates of the opposite gender. 2.12% of the votes cast in these districts separate the candidates who were elected utilizing gender replacements from those who were not

elected due to the quota. Given the magnitude of the effects and the election outcomes, assuming the campaign had the same effect nationwide as it did in the sample districts, the information campaign could have reduced the vote gap previously described in ten cases, with the potential to change who was elected in five of those districts.

4.3 Robustness checks: Gender salience

In the previous section, I argued that the change in the vote share of women by each electoral list aligns with the theory that voters consider the candidates' electoral probability of getting elected (strategic voter). Other theories, though, could also account for the earlier findings. Voters may now find candidates' genders more salient because of the letter's increased prominence of gender. This effect can be explained by the fact that the material directly addressed a gender-related quota for the candidates, leading voters to prioritize gender more significantly when choosing a candidate.

If the intervention increased the salience of gender, I anticipate an increase in women's vote share in all elections, whether or not they had a gender quota. This is due to the fact that if voters were more aware of the gender of the candidates, it would impact all concurrent elections.

On the same day as the constitutional convention election, people also cast ballots for governor, mayor, and city council representatives. Only elections for constitutional convention members had a gender quota. The other three had no restrictions on candidates or elected members based on their gender.

Similar to the election of members of the constitutional convention, the election of the city council is a multi-seat election using a proportional system. Consequently, I ran the same regressions for the city council election to determine whether the intervention affected the salience of gender for elections without gender quotas. In columns 5 and 6 of Table 5, the women's vote share results in the city council elections are displayed. From a base of 47%, column 5 indicates that the information increased women's vote share by 0.08 percentage points. This effect is insignificant and an order of magnitude smaller than the results of

the constitutional convention. Similar, small, noisy results are observed when the treatment arms are separated (column 6).

Overall, while I cannot directly test whether the intervention did not affect the salience of gender, these results suggest that women's vote share in other elections was unaffected.

4.4 Effects by electability

This section investigates whether the intervention had a different impact on candidates who were the frontrunners of their coalition relative to those who were not. As illustrated by the example in section 3.3, information about the gender quota updates voters' beliefs about the probability of getting elected as candidates from the under-represented gender can replace candidates from the over-represented gender in order to achieve gender parity. I hypothesize that if voters consider electoral probabilities and the likelihood of being pivotal when casting a ballot, the effect of the information should be concentrated among the leading candidates for each gender and coalition, as those are the candidates most impacted by the quota.

For the analysis, I split the control group into two equal-sized groups at random. With one-half of the control, I predict the front-runners in each electoral group (traditional and independent), which are defined as the top candidates that are electable, given the number of seats and the restrictions of the gender quota. Then, with the second half of the control group and the treated voting booths, I ran a regression for each of the following groups: front-runner women, front-runner men, women who were not front-runners, and men who were not front-runners. The regression is the same as specified in equation 3.

The results are displayed in Table 7. Columns 1 and 2 show the results for female and male front-runners, while the results for the non-front-runners are shown in columns 3 and 4. For the independent group, only front-runner candidates were affected by the intervention. The information decreased the percentage of votes cast for women front-runner candidates by 2.6 percentage points while increasing the percentage of votes cast for male front-runner candidates by 2.9 percentage points. The effect of the group of not front-runners was insignificant. The results of the traditional group are comparable. The intervention only

affected male front-runners, decreasing their vote share by 2.11 percentage points. For women in the traditional group, the intervention increased the vote share for front-runners and not front-runners.

In summary, the regression coefficients indicate that the intervention's effect is concentrated among the candidates who were leaders in their coalition. These results support the hypothesis that voters affected by the treatment consider voting probabilities as they choose their preferred candidate among those with the highest probability of getting elected (front-runners).

4.5 Effects on quality

Considering that the results show that voters take into account the likelihood of a candidate winning, a natural follow-up is investigating whether there are particular characteristics of a candidate that voters shift toward or away from when gender quotas are implemented. Using the experimental data, I can test whether the information causes voters to place more emphasis on competence when coordinating away from their party's preferred gender. I proxy candidates' competence with test scores for college admissions in Chile, a high-stakes exam with publicly available results. The data has been digitized since 1967 by Nielson (2021). There are two mandatory tests: math and verbal, and I use the average of both tests as a proxy for ability. Test scores are normalized by cohort without regard for gender.

To validate test scores as a proxy for competence, I show that test scores correlate with multiple political success indicators. First, I test whether the vote share correlates positively with candidates' test scores. Second, I created an index comprised of the mean of two dummies for the elected officials. The first component is a dummy variable whose value is one if the member was elected president or vice president of the constitutional convention. The second component is a dummy whose value is one if the elected candidate was invited to a public television debate. Table 8 shows the results. I show the effects for all candidates and separate them by electoral list. The relation between the percentage of votes cast for each candidate and their test scores is displayed in the first four columns. According to the

findings in all four columns, candidates with higher test scores received more votes. Columns 5-8 only include members of the constitutional convention, with the outcome variable being the political success index. The appendix table C3 contains regressions for each variable from the index. The findings from the index also suggest that the average test score correlates positively with political success. Table C4 in the appendix shows that test scores are also positively related to getting a higher number of sponsorships for independent candidates.

To disentangle the effect of the intervention on the quality of the candidates chosen, I ran a separate regression by coalition. The regression includes a triple interaction of treatment, candidate gender, and test score, with the vote share of each candidate as an outcome. The pooled treatment's regression is as follows:

$$\begin{aligned} \%\ \text{votes}_{ji} = \beta_0 + \beta_1 \text{Any Treatment}_j + \beta_2 \text{Any Treatment}_j * \text{High}_i \\ + \beta_3 \text{Any Treatment}_j * \text{Woman}_i + \beta_4 \text{Any Treatment}_j * \text{High}_i * \text{Woman}_i + \gamma_i + \epsilon_{ji} \end{aligned} \tag{4}$$

Where $\%$ votes$_{ji}$ is the vote share of candidate i in voting booth j. Woman$_i$ is a dummy variable that takes the value of one if the candidate is a woman, Any Treatment$_j$ is a dummy variable that takes the value of one for treated voting booths, and High$_i$ is a dummy variable that takes the value of one if the candidate's test score is over a threshold. I use three alternatives: if the score is over 500 points (median), if it is over 600 points (one standard deviation), and if it is over 700 points (two standard deviations). γ_i is a vector of candidate fixed effects, and ϵ_{ji} is the error term.

To present the findings, I divide the candidates of each electoral group (traditional and independent) into four types and estimate the average effect for each: low-score men, high-score men, low-score women, and high-score women. The regressions of the traditional parties are shown in table C5 in the appendix, and the regressions of the independent group are shown in table C6. Column 1 defines high-score as a test score greater than the median, column 2 as one standard deviation greater than the median, and column 3 as two standard deviations greater than the median. Figure 5 depicts the results. The colors represent various

definitions of a high score: above the median, one standard deviation above the median, and two standard deviations above the median.

For the traditional parties, the treatment reduces the vote share of male candidates with low test scores and has a zero effect on men with high test scores. For female candidates in the traditional groups, the intervention has no differential effect by quality. The findings are consistent with the findings in Besley et al. (2017), as the information campaign maintains women's competence while increasing men's competence. According to their paper, the selection of less low-competence males by party leaders was a key driver of the effect. The mechanism I discovered is distinct. My results indicate that voters select male candidates of better quality for the traditional coalitions in the presence of a gender quota.

For the independent group, as shown in figure 5, the results indicate no differential effect by quality for any gender as the results are noisy and not robust to different specifications. These findings imply that quality, measured by test scores, is not a factor voters from the independent groups consider when exposed to the treatment. This could be due to various factors, such as independent voters valuing different characteristics (for example, participation in a social movement) or voters not having enough quality information due to independent candidates having significantly less money for campaigning.

The same regression is shown in Figure B3 in the appendix, but instead of dividing the candidates by test score, I divide them by previous experience. I only run this regression for traditional parties because independent candidates have very few candidates with prior experience. The results are similar, but the magnitude is smaller. Male candidates without prior political experience are losing votes due to the treatment.

4.6 Effects on ideology

Evaluating how the policies implemented change is another factor to take into account when assessing the effects of improving the electoral representation of women. By using experimental data, I can investigate whether the information leads voters to change their choice of candidate based on their ideological beliefs. I use the candidates' responses to a survey

conducted by the media website *Votamos Todos* during the campaign to proxy candidates' ideological positions. The survey comprised seventy questions covering subjects including abortion, water rights, and indigenous rights that were anticipated to be pertinent for conversation during the constitutional conference. More than 900 candidates completed the survey, and over 70 percent of those in the experimental sample responded.

To aggregate the answers from the survey, I first define the term *ideologically liberal answer* in order to compile the survey responses. Secondly, I divided the questions into three categories: administrative, social, and economic. The appendix A.1 has the definitions for these categories. I then calculate the average of each category's response. Lastly, I construct a dummy variable that takes the value of 1 if the candidate's response exceeds the sample's median.

In order to validate if the survey captures an accurate measure of the candidate's liberal approach, I compare the responses of each candidate with those of a separate survey conducted by a prominent newspaper (*La Tercera*), which encompasses an equivalent proportion of candidates albeit for a considerably smaller number of questions. Figure B4 in the appendix shows how there is a strong correlation between the answers of both surveys. Additionally, I utilize the responses to the La Tercera survey in order to predict the responses of candidates who did not complete the Votamos Todos survey.

To disentangle the effect of the intervention based on ideology, I ran a regression with a triple interaction of treatment, candidate gender, and ideology position by coalition group, with each candidate's vote share as an outcome. The pooled treatment's regression is as follows:

$$\begin{aligned} \%\ \text{votes}_{ji} = \beta_0 + \beta_1 \text{Any Treatment}_j + \beta_2 \text{Any Treatment}_j * \text{Liberal}_i \\ + \beta_3 \text{Any Treatment}_j * \text{Woman}_i + \beta_4 \text{Any Treatment}_j * \text{Liberal}_i * \text{Woman}_i + \gamma_i + \epsilon_{ji} \end{aligned} \tag{5}$$

Where Liberal_i is a dummy variable that takes the value of one if the candidate's responses are over the median, and the rest of the variables are the same as in the quality estimation.

To present the findings, I do the same division as in the previous section, dividing the candidates by coalition (traditional and independent) and into four types: men below the median, men above the median, women below the median, and women above the median.

Figure 6, Table C7, and C8 in the appendix show the results of the estimation for each coalition. In the case of traditional political parties, men whose views lean more liberally than the median lost a larger portion of the vote share in treated voting booths. At the 10 percent significance level, this effect is significant for economic issues; however, the coefficients for social and administrative issues are not statistically distinct from the economic coefficient. No statistically significant change is observed in the remaining candidate types, however, the coefficients suggest that the female candidates that are more liberal than the median are the ones increasing their vote share. In contrast, the candidates from the independent coalitions whose social and economic views are under the median are the ones significantly losing votes. The evidence also suggests that for the independent coalition, the men who have social and economic views above the median are increasing their vote share (however, these coefficients are not significant).

Figure B5 in the appendix is derived from the same regression analysis; however, the explanatory variable is the mean, as opposed to the median of the sample. The results for the traditional coalition remain consistent across specifications, indicating that male candidates who align with a more liberal ideology are the ones losing ballots in the traditional group, while more liberal women are gaining votes. The results obtained by the independent coalitions do not remain consistent, showing that the results are not robust to different specifications.

Overall, my findings suggest that the gender quotas for the traditional coalitions had an impact on the gender-based ideological perspectives of the most-voted candidates, with more liberal men losing votes. But this suggests that there is no overall shift in the traditional party's ideological stance when taking into account both genders. For the independent group, there results are not robust to different specifications, suggesting that there is no ideological change by gender.

4.7 Committee members: Constitutional article votes

According to my analysis, when voters learned about gender quotas, they shifted their vote to favor the gender they believe will be electorally favored by the quota in their party, and in the case of traditional parties, they voted for candidates of higher quality and less for liberal men. A follow-up question is whether women behave differently than men when elected and whether their policies differ. I examine elected candidates' behavior and compare the differences between men and women. Despite the fact that the sample is highly selected, the analysis is suggestive of general differences in behavior between men and women officials.

To distinguish differences in voting behavior between male and female members of the constitutional convention, I gathered data from votes of elected candidates on all articles of the constitution. The articles were divided into three categories: administrative, social, and economic. The definitions for each category can be found in the appendix, section A.1. I then ran a regression with a dummy variable for each category, with administrative votes as the base category. The most basic regression is as follows:

$$\begin{aligned} vote_{ji} = \quad & \beta_0 + \beta_1 Social_i + \beta_2 Woman_j * Social_i + \beta_3 Economic_i + \\ & \beta_4 Woman_j * Economic_i + \epsilon_{ji} \end{aligned} \tag{6}$$

Where $vote_{ji}$ takes the value of 1 if official j voted liberal for article i. *Social* is a dummy variable that takes the value of 1 if article i is from the social category. *Economic* is a dummy variable that takes the value of 1 if article i is from the economic category. $Woman$ is a dummy variable that takes the value of 1 for female officials. ϵ_{ji} is the error, which are clustered at the person level.

The results are shown in the table 9. The first column shows that female members of the constitutional convention vote more liberal on social and economic issues on average. The incremental effect for social issues is three percentage points, which is a 7% increase over the mean of men from traditional parties. The incremental effect on economic issues is not significant. Column 2 contains an interaction of each category (social and economic) with a dummy *Independent*, which takes the value 1 for independent coalition members. According

to the coefficients, independent candidates vote more liberal on social and economic issues. Column 3 contains the three-way interaction of women, independent, and each article's category. The findings support the results from the previous columns, indicating that women in both sectors (independent and traditional) vote more liberal than men on social issues.

5 Conclusion

How party leaders and voter behavior explain marginalized groups' representation in politics has been an important part of the academic debate (Besley et al., 2017; Fréchette et al., 2008; Esteve-Volart and Bagues, 2012; Baltrunaite et al., 2014; Fujiwara et al., 2021). Trying to distinguish how voters react independently of parties is difficult because parties may strategically respond to electoral rules. My paper adds to our understanding of voter behavior by investigating a gender quota, which limits parties' and voters' ability to manipulate the fraction of people elected of each gender while allowing voters to choose any candidate.

My findings indicate that voters are partisan and change their behavior in response to the information, voting for the gender expected to benefit the most from the quota. Furthermore, I find that the treatment causes voters to switch their votes considering the candidate's competence, which increases the competence of elected male politicians from traditional parties, which is consistent with previous research. Thus, allowing voters to choose any candidate while maintaining a gender parity restriction on the results does not jeopardize desirable characteristics such as competence.

According to the descriptive evidence on electoral coalitions, traditional parties play a role in coordinating voters to vote for male candidates. Introducing rules that allow independent groups to compete on electoral lists can be critical to women's political inclusion as women obtain more support relative to men when competing as independent.

Overall, these findings support the use of electoral mandates as a coordinating device that, when well-designed, can increase the average legislator's competence and the extent to which policy-making processes reflect voter preferences.

References

Bagues, M. and Campa, P. (2021). Can gender quotas in candidate lists empower women? evidence from a regression discontinuity design. *Journal of Public Economics*, 194:104315.

Baltrunaite, A., Bello, P., Casarico, A., and Profeta, P. (2014). Gender quotas and the quality of politicians. *Journal of Public Economics*, 118:62–74.

Baltrunaite, A., Casarico, A., Profeta, P., and Savio, G. (2019). Let the voters choose women. *Journal of Public Economics*, 180(C).

Besley, T., Folke, O., Persson, T., and Rickne, J. (2017). Gender quotas and the crisis of the mediocre man: Theory and evidence from sweden. *American Economic Review*, 107(8):2204–42.

Besley, T., Pande, R., and Rao, V. (2005). Political Selection and the Quality of Government: Evidence from South India. Center Discussion Papers 28426, Yale University, Economic Growth Center.

Besley, T. and Reynal-Querol, M. (2011). Do Democracies Select More Educated Leaders? *American Political Science Review*, 105(3):552–566.

Blais, A., Laslier, J.-F., Sauger, N., and Van Der Straeten, K. (2010). Strategic, sincere and heuristic voting under four election rules: An experimental study. *Social Choice and Welfare*.

Bruce, R., Cavgias, A., Meloni, L., and Remígio, M. (2022). Under pressure: Women's leadership during the covid-19 crisis. *Journal of development economics*.

Callander, S. (2007). Bandwagons and momentum in sequential voting. *The Review of Economic Studies*, 74(3):653–684.

Chattopadhyay, R. and Duflo, E. (2004). Women as policy makers: Evidence from a randomized policy experiment in india. *Econometrica*, 72(5):1409–1443.

Clots-Figueras, I. (2012). Are female leaders good for education? evidence from india. *American Economic Journal: Applied Economics*, 4(1):212–44.

Cox, G. W. (1997). *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. Political Economy of Institutions and Decisions. Cambridge University Press.

Dal Bo, E., Folke, O., Persson, T., and Rickne, J. (2021). Economic and social outsiders but political insiders: Sweden's populist radical right. *Review of Economic Stuides, Forthcoming*.

Dal Bó, E., Finan, F., Folke, O., Persson, T., and Rickne, J. (2017). Who Becomes A Politician?*. *The Quarterly Journal of Economics*, 132(4):1877–1914.

Data Influye (2020). Enero. https://www.tuinfluyes.com/data-influye.

Dolan, K. (1998). Voting for women in the "year of the woman". *American Journal of Political Science*, 42(1):272–293.

Dynarski, S., Libassi, C., Michelmore, K., and Owen, S. (2021). Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students. *American Economic Review*, 111(6):1721–56.

Espacio Público (2021). Cómo vemos el proceso constituyente. https://bit.ly/3U3wYQp.

Esteve-Volart, B. and Bagues, M. (2012). Are women pawns in the political game? evidence from elections to the spanish senate. *Journal of Public Economics*, 96(3):387–399.

Ferraz, C. and Finan, F. (2009). Motivating politicians: The impacts of monetary incentives on quality and performance. *NBER Working Paper*.

Forsythe, R., Rietz, T., Myerson, R., and Weber, R. (1996). An experimental study of voting rules and polls in three-candidate elections. *International Journal of Game Theory*.

Fréchette, G., Maniquet, F., and Morelli, M. (2008). Incumbents' interests and gender quotas. *American Journal of Political Science*, 52:891 – 909.

Fujiwara, T. (2011). A regression discontinuity test of strategic voting and duverger's law. *Quarterly Journal of Political Science*, 6(3–4):197–233.

Fujiwara, T., Hilbig, H., and Raffler, P. (2021). Party nominations and female electoral performance: Evidence from germany.

Galasso, V. and Nannicini, T. (2011). Competing on good politicians. *American Political Science Review*, 105(1):79–99.

Hessami, Z. and Lopes da Fonseca, M. (2020). Female political representation and substantive effects on policies: A literature review. *European Journal of Political Economy*, 63(C):S0176268020300446.

Kawai, K. and Watanabe, Y. (2013). Inferring strategic voting. *American Economic Review*, 103(2):624–62.

Krook, M. L. (2016). Contesting gender quotas: dynamics of resistance. *Politics, Groups, and Identities*, 4(2):268–283.

Morton, R. B. and Ou, K. (2015). What motivates bandwagon voting behavior: Altruism or a desire to win? *European Journal of Political Economy*, 40:224–241. Behavioral Political Economy.

Murray, R. (2010). Second among unequals? a study of whether france's "quota women" are up to the job. *Politics amp; Gender*, 6(1):93–118.

Myerson, R. B. (2002). Comparison of scoring rules in poisson voting games. *Journal of Economic Theory*, 103(1):219–251.

Myerson, R. B. and Weber, R. J. (1993). A theory of voting equilibria. *The American Political Science Review*, 87(1):102–114.

Nielson, C. (2021). Targeted vouchers, competition among schools and the academic achievement of poor students.

Norris, P. (2004). *Electoral Engineering: Voting Rules and Political Behavior*. Cambridge University Press.

O'Brien, D. Z. and Rickne, J. (2012). Quotas and qualifications in uganda. *The Impact of Gender Quotas*.

Schwarz, S. and Coppock, A. (2022). What have we learned about gender from candidate choice experiments? a meta-analysis of sixty-seven factorial survey experiments. *The Journal of Politics*, 84(2):655–668.

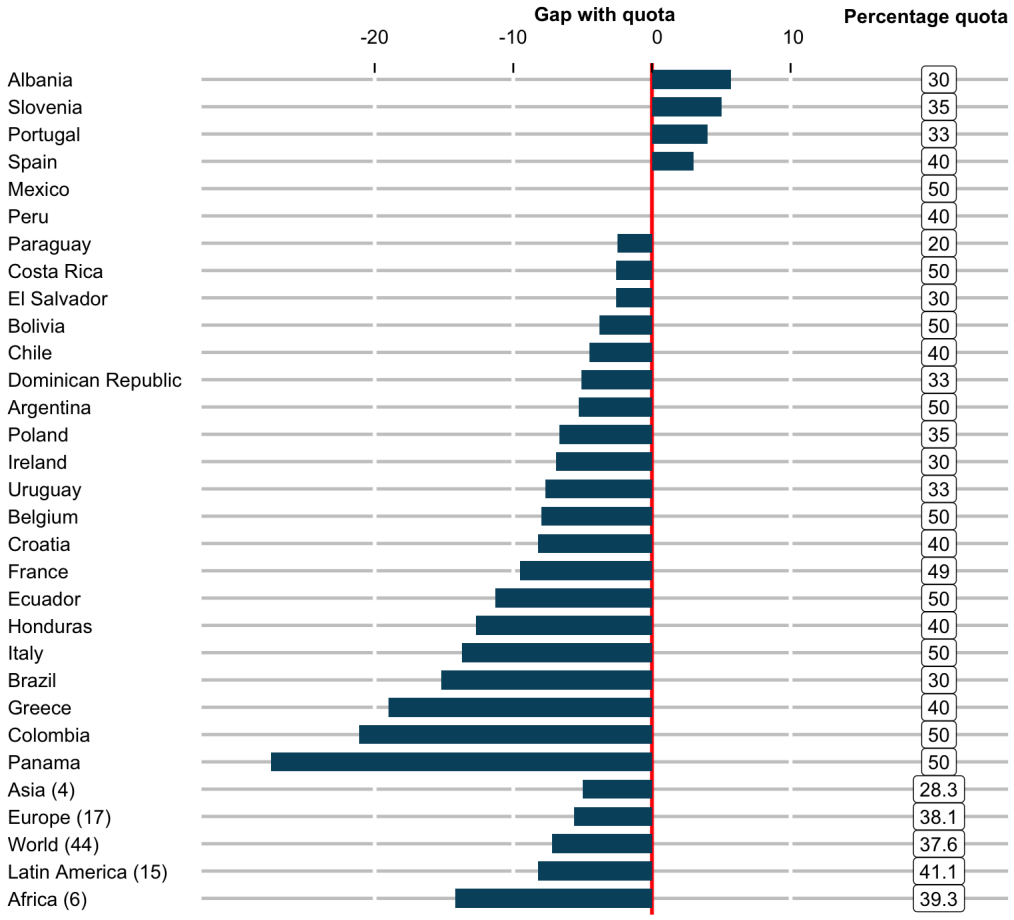
Schwindt-Bayer, L. A. (2006). Still supermadres? gender and the policy priorities of latin american legislators. *American Journal of Political Science*, 50(3):570–585.

Urrejola, J. (2021). ¿Qué tan preparados están los chilenos para la elección de los constituyentes? https://p.dw.com/p/3tI9H.

Weeks, A. C. and Baldez, L. (2015). Quotas and qualifications: the impact of gender quota laws on the qualifications of legislators in the italian parliament. *European Political Science Review*, 7(1):119–144.

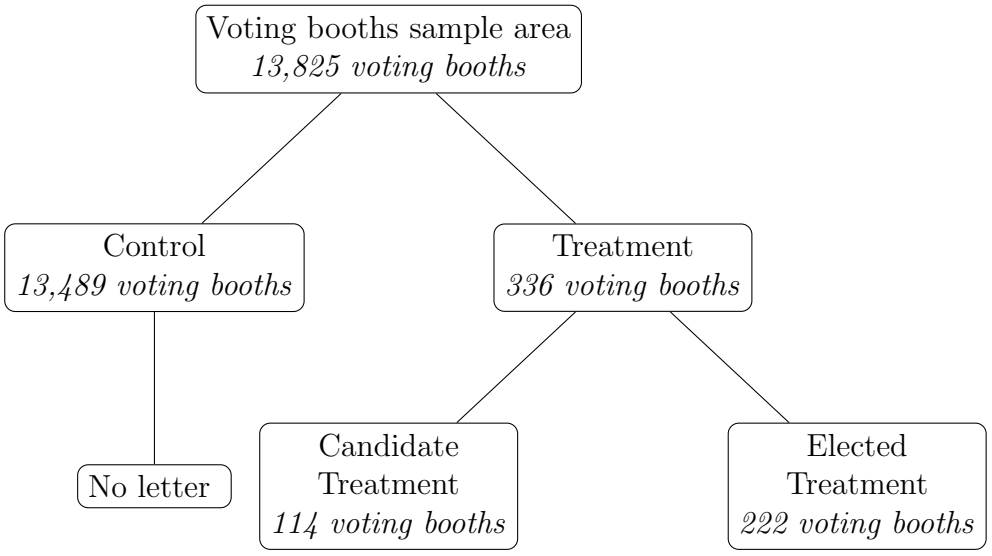
6 Figures

Figure 1: Do candidate gender quotas match women in congress? Cross country evidence



Notes: The figure shows a subset of countries that have implemented party candidate gender quotas in their legislation. The left column shows the name of the country and the right column shows the percentage mandated by the quota. The bars show the gap between the percentage mandated by the quota and female representation in the country. The last 5 rows are a summary of different regions in the world with the number of countries on parenthesis. Source: Gender Quotas Database. International IDEA.

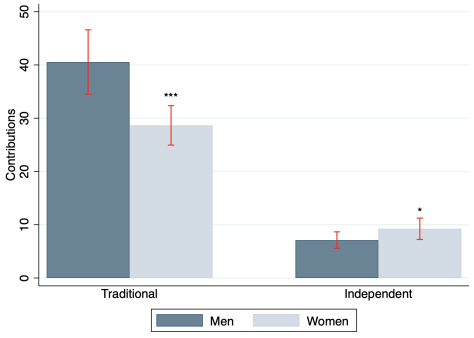
Figure 2: Treatment assignment



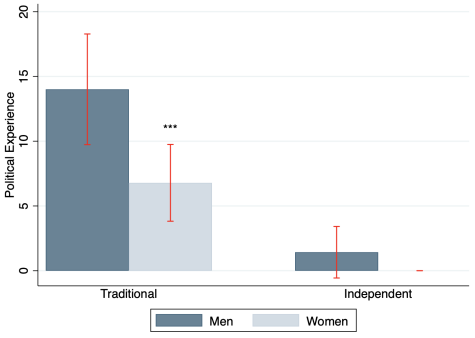
Notes: The treatment consisted on a letter sent a week before the election of members of the constitutional convention. Voters in treated booths received a letter explaining in detail how the gender quota for the election of constitutional convention members works. There are two treatment arms and one control group in this study. The two treatment arms are slightly different letters. The candidate treatment included general election information as well as information about the candidate's gender quota. The letter of the elected treatment arm was the same as in the candidate treatment arm, plus information about gender parity in elected candidates.

Figure 3: Gender gap in attributes: Partisan differences

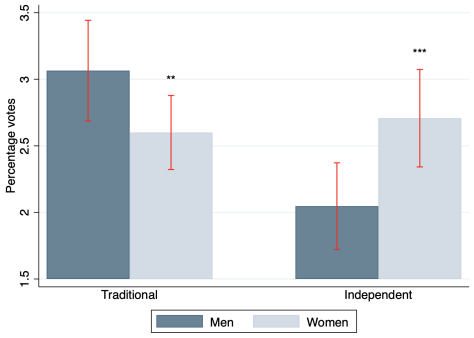
(a) Money Contributions



(b) Political Experience



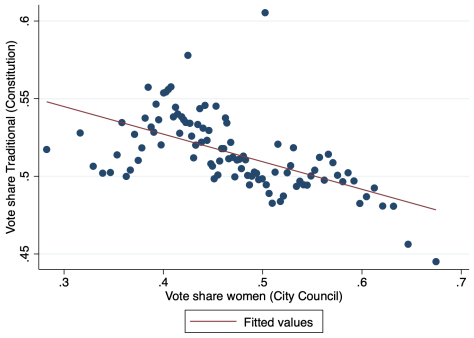
(c) Percentage of votes



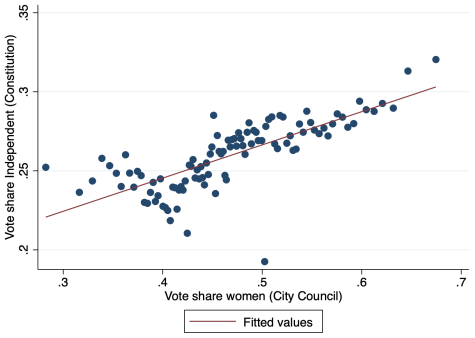
*Notes: The figure shows comparisons of candidates by gender and electoral lists (traditional and independent) over the average of three characteristics: money contributions, political experience, and percentage of votes. Contributions are defined as the amount of money, in thousands of dollars, that a candidate received for their campaign including own contributions. Political experience is a dummy that takes the value of 1 for candidates that were elected in previous elections. Percentage of votes is defined as the vote share each candidate got at the district level. The red lines represent the confidence interval at the 95 percent level. The * represent the statistical significance of the difference between male and female candidates within each electoral group. *** Significant at the 1 percent level, ** Significant at the 5 percent level, * Significant at the 10 percent level.*

Figure 4: Do votes for electoral lists correlate with the vote share of women in the municipal election?

(a) Traditional Parties

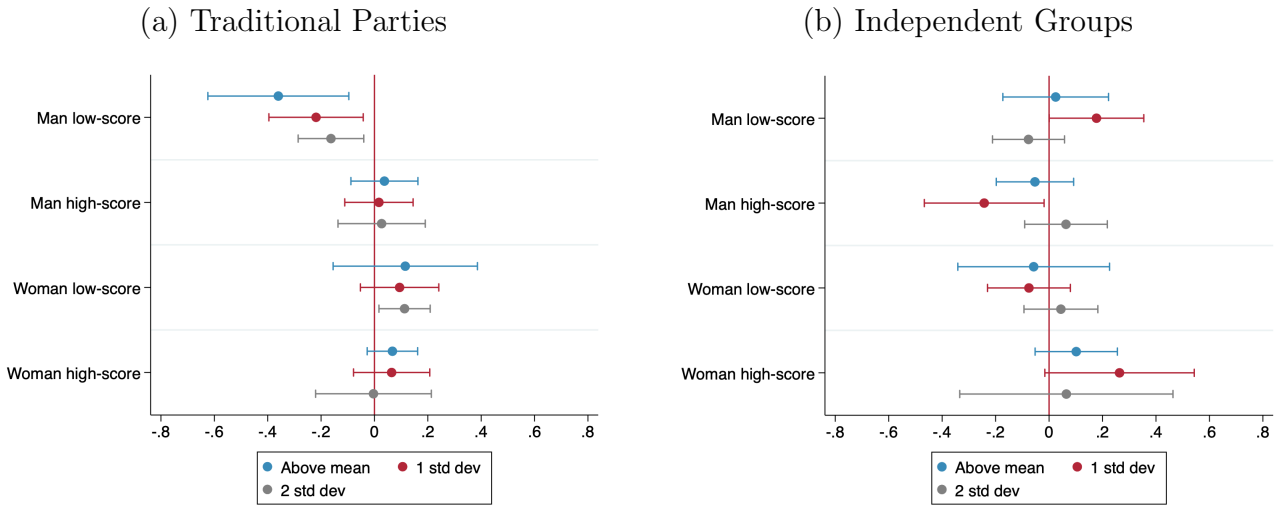


(b) Independent Groups



Notes: The figure shows the correlation at the voting booth level between the vote share of women for the city council election and the vote share for the two electoral coalitions, traditional and independent, for the constitutional convention election. The data is divided in 100 bins by the percentiles of the vote share for women in the city council election, with each bean representing the average of the group.

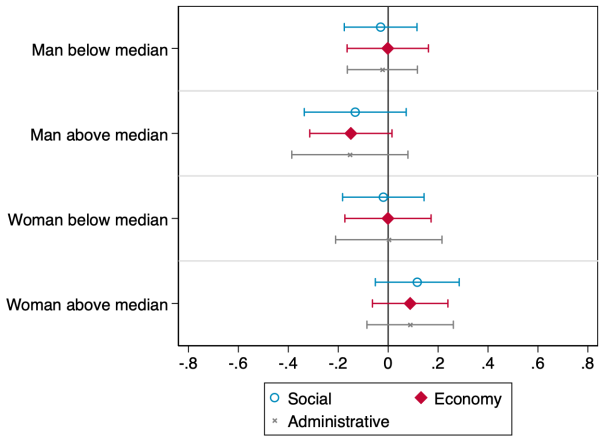
Figure 5: Do treatment impacts on candidate vote share vary with candidate ability?



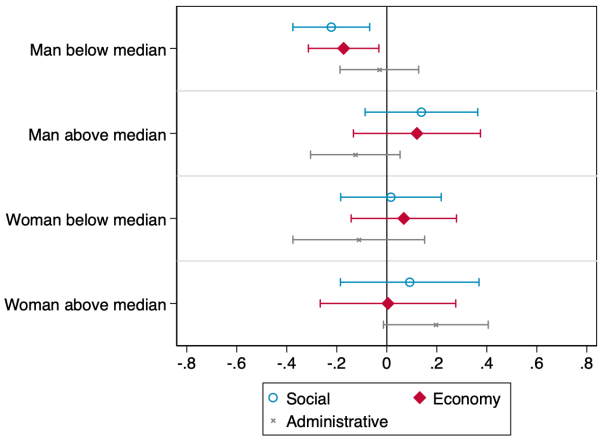
Notes: The figure represents the treatment effect on the vote share of each four types of candidates: low-score women, high-score women, low-score men, and high-score men. Each color represents a different definition for high score. The blue color represents the coefficients of the regression that uses as a definition of high score having a test score above the median population; the red color defines high score as having a test score one standard deviation above the median, and the gray color defines high score as having two standard deviations above the median. In this analysis: (i) each dot represents the estimated coefficient on the effect of the treatment on the vote share of each type of candidate, (ii) the average vote share for traditional party candidates is 4.63 and for independent candidates is 4.01, (iii) the underlying unit of observation is the candidate-voting booth pair, N traditional=266,440 and N independent=174,041.

Figure 6: Do treatment impacts on candidate vote share vary with candidate ideology?

(a) Traditional Parties



(b) Independent Groups



Notes: The figure represents the treatment effect on the vote share of each of four types of candidates: below median women, above median women, below median men, and above median men. Each color represents a different ideological issue. The blue color represents the coefficients of the regression that uses all the questions on social issues; the red color is for economic issues, and the gray is for administrative issues. In this analysis: (i) each dot represents the estimated coefficient on the effect of the treatment on the vote share of each type of candidate, (ii) the average vote share for traditional party candidates is 4.63 and for independent candidates is 4.01, (iii) the underlying unit of observation is the candidate-voting booth pair, N traditional=266,440 and N independent=174,041.

7 Tables

Table 1: Gender gap in candidate and representative attributes: Partisan differences

	Candidates		By gender			
	Traditional	Independent	Traditional		Independent	
	All	All	Men	Women	Men	Women
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Candidates						
Age	46.42	43.57***	48.50	44.51***	43.6	43.53
	[13.12]	[12.37]	[13.69]	[12.29]	[13.15]	[11.59]
Test score	597.24	568.23***	612.29	583.77***	585.72	550.26***
	[103.84]	[92.39]	[107.46]	[98.79]	[83.13]	[98.17]
Experience (percentage)	10.24	0.71***	14.01	6.79***	1.43	0
	[30.34]	[8.43]	[34.77]	[25.20]	[11.91]	[0]
Contributions ($1,000)	34.37	8.19***	40.55	28.65***	7.12	9.24*
	[40.31]	[10.13]	[48.01]	[30.57]	[8.66]	[11.33]
Votes (percentage)	2.82	2.37**	3.06	2.60**	2.04	2.70***
	[2.73]	[2.09]	[3.08]	[2.36]	[1.95]	[2.18]
Candidates	537	282	257	280	141	141
Panel B: Elected						
Age	46.93	39.27***	49.45	43.64**	37.93	40.18
	[13.25]	[11.39]	[14.27]	[11.13]	[12.23]	[10.82]
Test score	615.90	603.32	627.99	601.06	582.27	618.53
	[113.12]	[85.68]	[114.95]	[110.65]	[73.68]	[92.41]
Experience (percentage)	18.89	0***	27.45	7.69**	0	0
	[39.36]	[0]	[45.07]	[27]	[0]	[0]
Contributions ($1,000)	62.81	18.75***	74.01	49.3**	17.7	19.43
	[53.98]	[18.67]	[55.6]	[33.44]	[15.82]	[20.69]
Votes (percentage)	6.54	5.86	7.11	5.79	5.37	6.20
	[4.34]	[2.84]	[4.45]	[4.12]	[3.43]	[2.38]
Elected	90	37	51	39	15	22

[a] Panel A contains a summary of all candidates from traditional parties and independent groups and panel B contains a summary of elected candidates of those same groups. A definition of these groups is made in section 2. Column 1 has the outcome for the traditional parties and column 2 for the independent groups. Column 3 has the outcome for men of the traditional parties and column 4 for women of the traditional parties. Column 5 has the outcome for men of the independent groups and column 6 for women of the independent groups. * report the difference between columns 1 and 2, 3 and 4, and 5 and 6. Standard deviations are in square brackets. *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 2: Summary Example

Variables	Party A
Candidates	2 women and 2 men
Seats	One (25%)
Preferences	Lexicographic party, gender, and random preference shock
Voters	Most vote sincerely (Prefered candidate) Strategic voters: Probability pivotal * Preferences
Gender bias	High preference for men

[a] The table reports a summary of the characteristics of Party A and their voters for the setup for the example

Table 3: Change in the probability of being pivotal for voters of Party A

Party B most voted candidates	Change in Pr(pivotal) Party A
2 women and 1 man	No change
1 woman and 2 men (both many votes)	Increases for women Decreases for men
1 woman and 2 men (at least one few votes)	No change
2 women and 1 man or 1 woman and 2 men (at least one few votes)	No change
2 women and 1 man or 1 woman and 2 men (both many votes)	Increases for women Decreases for men
1 women and 2 men (many or same or less votes)	Increases for women ? for men

[a] The first column shows the most voted candidates for Party B. The first three rows are deterministic alternatives where the most voted candidates are known to the voters of party A, while the last three consider two or more options for the most voted candidates that have some probability of happening, which are known to voters of party A.

[b] The second column shows the relative change in probability of being pivotal for female and male candidates of party A for each alternative of the most voted candidates for party B.

Table 4: Baseline differences across voting booths

	(1) Control mean	(2) Control-Any Treat	(3) Control-Candidate	(4) Control-Elected	(5) Observations
Voting Booth Characteristics					
Registered voters	325.650	-0.102	-0.646	0.177	13,479
	[29.412]	(1.384)	(2.35)	(1.695)	
% men	0.481	-0.012	-0.006	0.08	13,479
	[0.158]	(0.009)	(0.016)	(0.012)	
% new voting booths	0.048	0.003	-0.000	0.000	13,479
	[0.213]	(0.009)	(0.003)	(0.002)	
Previous Elections					
Congress (2017)					
Turnout	0.450	0.008	0.025**	-0.001	12,593
	[0.120]	(0.05)	(0.01)	(0.007)	
% of votes for women	0.410	0.000	-0.000	0.000	12,593
	[0.151]	(0.002)	(0.003)	(0.002)	
% votes left	0.543	-0.010**	-0.010	-0.009*	12,593
	[0.127]	(0.004)	(0.007)	(0.005)	
Previous Elections					
Referendum (2020)					
Turnout	0.576	0.002	0.018*	-0.007	12,830
	[0.103]	(0.001)	(0.009)	(0.007)	
% votes in favor	0.793	-0.007*	-0.017**	-0.002	12,830
	[0.148]	(0.004)	(0.007)	(0.005)	
Demographics (Census Zones)					
Number of zones	41.108	0.760	-0.26	1.284	13,479
	[17.687]	(0.831)	(1.413)	(1.017)	
Years of education	11.843	0.028	0.004	0.04	13,479
	[1.888]	(0.067)	(0.115)	(0.082)	
% Indigenous Population	0.102	-0.001	-0.001	-0.000	13,479
	[0.033]	(0.001)	(0.002)	(0.001)	
% of Women Working	0.547	-0.001	-0.002	-0.001	13,479
	[0.061]	(0.002)	(0.004)	(0.003)	
Joint test- Prob $> X^2$		0.76	0.33	0.78	

[a] Column (1) reports variable means for the control group with standard deviations in square brackets
[b] Column (2) reports the coefficient from an OLS regression where the outcome is regressed on a dummy that takes the value of 1 if the voting booth was assigned to any treatment. Columns 3 reports the coefficients from an OLS regression where the outcome is regressed on a dummy that takes the value of 1 if the voting booth was assigned to the candidate treatment. Columns 4 reports the coefficients from an OLS regression where the outcome is regressed on a dummy that takes the value of 1 if the voting booth was assigned to the elected treatment.
[c] Columns (2)-(4) include dummies for the strata variables.
*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 5: Testing for Turnout and Spillover effects

	All		Constitutional Convention		City Council	
	(1) Turnout	(2) Turnout	(3) % Party	(4) % Party	(5) % women	(6) % women
Any Treatment	0.119				-0.081	
	(0.16)				(0.29)	
Candidate Treatment		0.176				-0.115
		(0.28)				(0.45)
Elected Treatment		0.09				-0.063
		(0.20)				(0.37)
(Any Treatment)*Traditional			-0.148			
			(0.66)			
(Any Treatment)*Independent			0.264			
			(0.67)			
Candidate Treatment*Traditional				0.089		
				(1.16)		
Elected Treatment*Traditional				-0.273		
				(0.79)		
Candidate Treatment*Independent				-0.04		
				(1.13)		
Elected Treatment*Independent				0.422		
				(0.83)		
Observations	12339	12339	24678	24678	12044	12044
Mean outcome	44.97	44.97	38.73	38.73	46.59	46.59

[a] The outcomes of this table are: turnout, which is number of votes, divided by people registered in the voting booth; % party, which is the percentage of votes that each coalition (traditional and independent) got in the voting booth; % women, which is the number of votes for women, divided by the total number of votes in the voting booth.

[b] Columns 1, 3 and 5 contain a double lasso regression that regresses the outcome by voting booth against a dummy that takes the value of 1 if the voting booth was treated. Columns 2, 4, and 6 contain a double lasso regression that regresses the outcome by voting booth against a dummy that takes the value of 1 if the voting booth was treated with the candidate treatment arm and a second dummy that takes the value of 1 if the voting booth was treated with the elected treatment arm 2.

[c] Columns 3 and 4 have the treatment dummies interacted with a dummy for each coalition group, traditional and independent. These groups are defined in section 2

[d] Columns (1)-(6) include dummies for the strata variables and baseline controls. Columns 5 and 6 include municipality fixed effects.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 6: Treatment impacts on votes for women

	(1)	(2)	(3)	(4)
Any Treatment	0.661**			
	(0.29)			
Candidate Treatment		0.471		
		(0.51)		
Elected Treatment		0.760**		
		(0.36)		
Any Treatment*Traditional			2.961***	
			(0.67)	
Any Treatment*Independent			-2.267***	
			(0.82)	
Candidate Treatment*Traditional				3.030***
				(1.14)
Elected Treatment*Traditional				2.925***
				(0.82)
Candidate Treatment*Independent				-1.743
				(1.32)
Elected Treatment*Independent				-2.542**
				(1.03)
Observations	12339	12339	24672	24672
Mean outcome	51.94	51.94	56.37	56.37
P-value Elected=Candidate		0.64		
P-value Elected=Candidate (Trad)				0.94
P-value Elected=Candidate (Indep)				0.63

[a] In columns 1 and 2 the outcome is the percentage of the votes for women in the voting booth. In columns 3 and 4 the outcome is the percentage of votes for women in the voting booth by coalition group, this means that each voting booth has two observations: the vote share for women of traditional parties and the vote share of women of independent groups.

[b] Columns 1 and 3 contain a double lasso regression that regresses the outcome by voting booth against a dummy that takes the value of 1 if the voting booth was treated. Column 2 and 4 contain a double lasso regression that regresses the outcome by voting booth against a dummy that takes the value of 1 if the voting booth was treated with the candidate treatment arm and a second dummy that takes the value of 1 if the voting booth was treated with the elected treatment arm. Columns 3 and 4 have the treatment dummies interacted with a dummy for each coalition group, traditional and independent. These groups are defined in section 2.

[d] Columns (1)-(4) include dummies for the strata variables and baseline controls.
*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 7: Treatment impacts by candidates electability

	Front-runners		Not front-runners	
	(1) Women	(2) Men	(3) Women	(4) Men
Any Treatment*Traditional	1.506*	-2.108**	1.047*	-0.430
	(0.87)	(1.01)	(0.62)	(0.51)
Any Treatment*Independent	-2.569**	2.852**	-0.695	0.426
	(1.13)	(1.11)	(0.70)	(0.60)
Observations	12498	12498	12498	12498
Mean outcome Traditional	31.59	33.00	19.31	16.12
Mean outcome Independent	45.09	30.43	16.23	8.25

[a] The outcome is % votes, which is the percentage of votes the group (front-runners and not front-runners) from each electoral coalition obtained at the voting booth. In column 1 the outcome is the percentage of the votes for women who were front-runners and in column 2 for men front-runners. In column 3 the outcome is the percentage of the votes for women who were not front-runners and in column 4 for men who were not front-runners.

[b] Columns (1)-(4) contain a double lasso regression that regresses the outcome by voting booth against a dummy that takes the value of 1 if the voting booth was treated. Columns (1)-(4) include dummies for the strata variables and baseline controls.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 8: How does test score and previous experience correlate with political outcomes?

	% votes				Political success index			
	All	All	Trad	Indep	All	All	Trad	Indep
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Av Score	0.471***	0.428**	0.489***	0.386***	0.057**	0.034	0.047	0.114*
	(0.11)	(0.18)	(0.15)	(0.14)	(0.03)	(0.04)	(0.03)	(0.06)
Woman	0.222	0.222	-0.073	0.74	-0.015	-0.015	0.005	-0.082
	(0.20)	(0.20)	(0.27)	(0.29)	(0.05)	(0.05)	(0.06)	(0.10)
Av Score*Woman		0.083				0.050		
		(0.23)				(0.05)		
Experience	0.019***	0.019***	0.019***	0.001	-0.055	-0.054	-0.057	0
	(0.01)	(0.01)	(0.01)	(0.00)	(0.07)	(0.08)	(0.08)	(.)
Observations	676	676	449	227	107	107	76	31
Mean outcome	2.713	2.713	2.861	2.419	0.145	0.145	0.151	0.129

[a] The outcomes of this table are: % of votes, which represents the number of votes a candidate got, divided by the total number of votes in their district, and Political success, which is an index for political success given by the average of the dummies Directive (which is a dummy that takes the value of 1 for the president and vice-presidents of the constitutional convention) and Debate TV (which is a dummy that takes the value of 1 for people that participated in debates in public TV).

[b] Columns 1-8 contain an OLS regression that regresses the outcome by candidate against their normalized average test score (Av score), a dummy Woman that takes the value of 1 for woman, and Experience dummy that takes the value of 1 for people that has been elected in previous elections. Columns 2 and 6 also include the interaction between normalized average test score and the dummy Woman.

[c] Columns 1-8 have candidate fixed effects.

[d] Columns 1 and 2 contain all the candidates, column 3 includes only candidates from the traditional party, and column 4 includes only candidates from independent coalition. Column 5-6 contain all members of the constitutional convention, column 7 includes only members of the traditional party, and column 8 includes only members of the independent coalition.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table 9: Did male and female committee members vote differently on constitutional articles?

	(1)	(2)	(3)
Woman*Social	0.033***	0.029***	0.031***
	(0.01)	(0.01)	(0.01)
Independent*Social		0.032**	0.036**
		(0.01)	(0.02)
Woman*Independent*Social			-0.008
			(0.03)
Woman*Economic	0.010	0.007	0.012
	(0.01)	(0.01)	(0.01)
Independent*Economic		0.015	0.023**
		(0.01)	(0.01)
Woman*Independent*Economic			-0.014
			(0.02)
Woman	0.068	0.031	0.036
	(0.05)	(0.05)	(0.06)
Independent		0.252***	0.264***
		(0.04)	(0.05)
Woman*Independent			-0.020
			(0.07)
Observations	257544	257544	257544
Mean men traditional social	0.452	0.452	0.452
Mean men traditional economic	0.472	0.472	0.472
Mean men traditional administrative	0.517	0.517	0.517

[a] The outcome of this table is a dummy variable that takes the value of 1 for a liberal vote and 0 for a non liberal.

[b] Woman is a dummy variable that takes the value of 1 for female members, and Independent is a dummy that takes the value of 1 for independently elected members. Social is a dummy variable that takes the value of 1 for votes related to social rights. Economic is a dummy variable that takes the value of 1 for votes related to economics, and the omitted variable is for Administrative votes. The definition of each category can be found in the appendix A.1. High-score is defined as having an average test score one standard deviation above the population mean, and low-score is all the rest.

[d] Columns 1-3 include dummies for Social and Economic. Standard errors are clustered at the representative level.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

A Additional material

A.1 Definition of categories of articles for the constitution

1. Economically liberal: Regulations to workers (unions, social security, hours of work, strike, others), regulations to public and private firms, regulations to the usage of water and energy, transfers to regions, public funding of rights in the constitution, regulation of science, prices of services, regulation of expropriation, regulation on taxes, consumers' rights

2. Economically conservative: Independence of central bank, private property, private providers in health and education

3. Socially liberal:

    - Gender: Gender parity, sexual rights, domestic violence, domestic work, care, and women's rights
    - Other: Indigenous rights, nature's rights, climate change, identity, termination of life and discrimination, human rights, culture, memory, and education.

4. Socially conservative: Nationalism, traditional family, privacy homes, and liberty of education

5. Administrative: Regulations on elections, regulations on representatives and government, corruption, decentralization, judges and courts, changes in the constitution, territory, and nationality[8].

[8]Voting liberal on administrative issues is defined as voting yes for the article, as the left-wing candidates proposed most of the articles that got voted on this topic.

B Additional material: Figures

Figure B1: Candidate treatment (translated letter)

By this letter, we are writing to you to share information regarding the upcoming elections to elect the ***Constituent Convention.***

In these elections the 155 members of the Constituent Convention will be elected.

To ensure gender parity in candidates, each list must have an equal number of male and female candidates. This ***will allow each person to choose who to vote for from an equal number of male and female candidates.***

We invite you to take advantage of this unique opportunity in our history to be able to ***choose who will be you representative to write a new Constitution for Chile.*** You can find the list of all the candidates in you district by entering your ID number in https://consulta-candidato.servel.cl

This letter is part of a study on elections supported by the United Nations Development Program. For questions or additional information, we appreciate writing to:
antonia.paredeshaz@yale.edu

PNUD

Figure B2: Elected treatment (translated letter)

By this letter, we are writing to you to share information regarding the upcoming elections to elect the ***Constituent Convention.*** In these elections the 155 members of the Constituent Convention will be elected.

To ensure gender parity in candidates, each list must have an equal number of male and female candidates. This ***will allow each person to choose who to vote for from an equal number of male and female candidates.***

In addition, gender parity in the Constituent Convention will be ensured.

How will this be accomplished?

- The elected candidates in each district will be half women and half men*.
- That means that if the vote in a district where 4 constituents are elected results in the election of 3 candidates of the same gender, for example 3 men and 1 woman, the least voted man of those 3 will be replaced by the most voted woman within his same party.
- Thus, in a district with 4 constituents, 2 men and 2 women will always be elected.

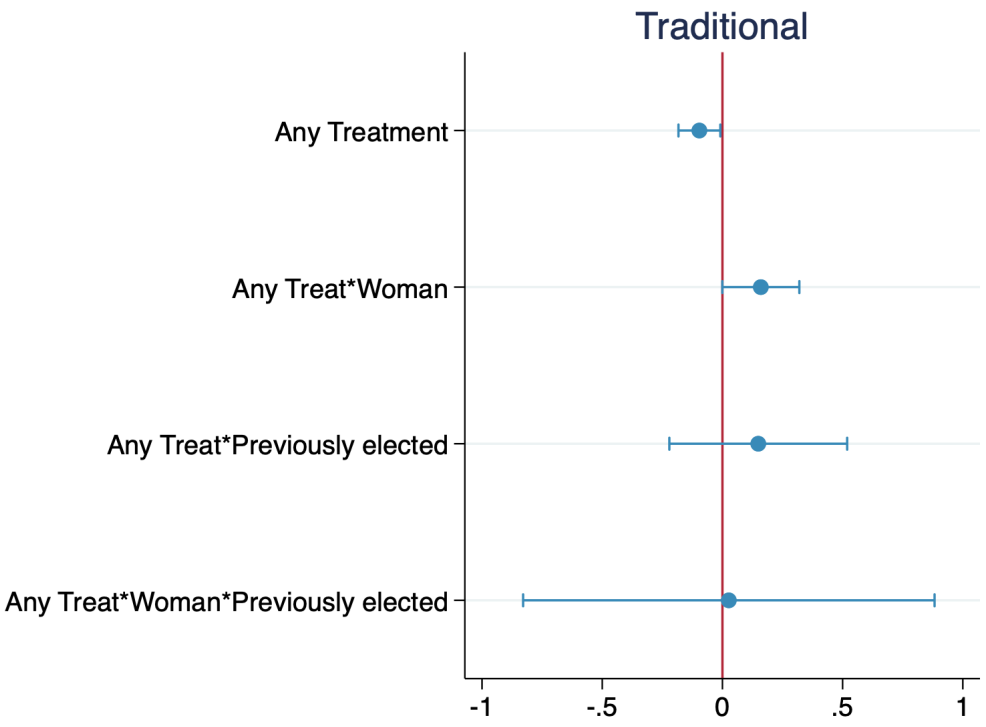
* For districts with an odd number of constituents, the difference between men and women may not be greater than one. For example, in a district of 3 constituents there will be 1 man and 2 women, or 2 men and 1 woman.

We invite you to take advantage of this unique opportunity in our history to be able to ***choose who will be you representative to write a new Constitution for Chile.*** You can find the list of all the candidates in you district by entering your ID number in https://consulta-candidato.servel.cl

This letter is part of a study on elections supported by the United Nations Development Program. For questions or additional information, we appreciate writing to: antonia.paredeshaz@yale.edu

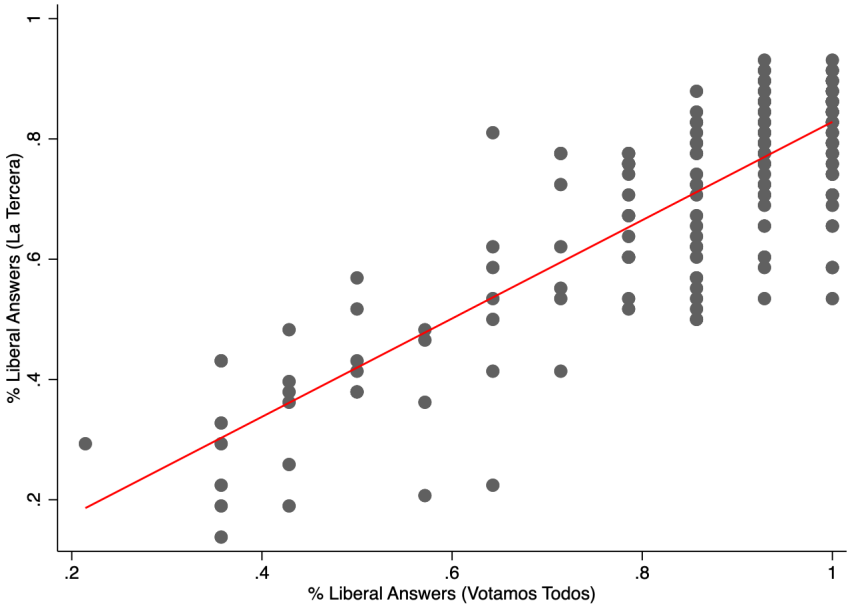
PNUD

Figure B3: Do treatment impacts on candidate vote share vary with candidate experience?



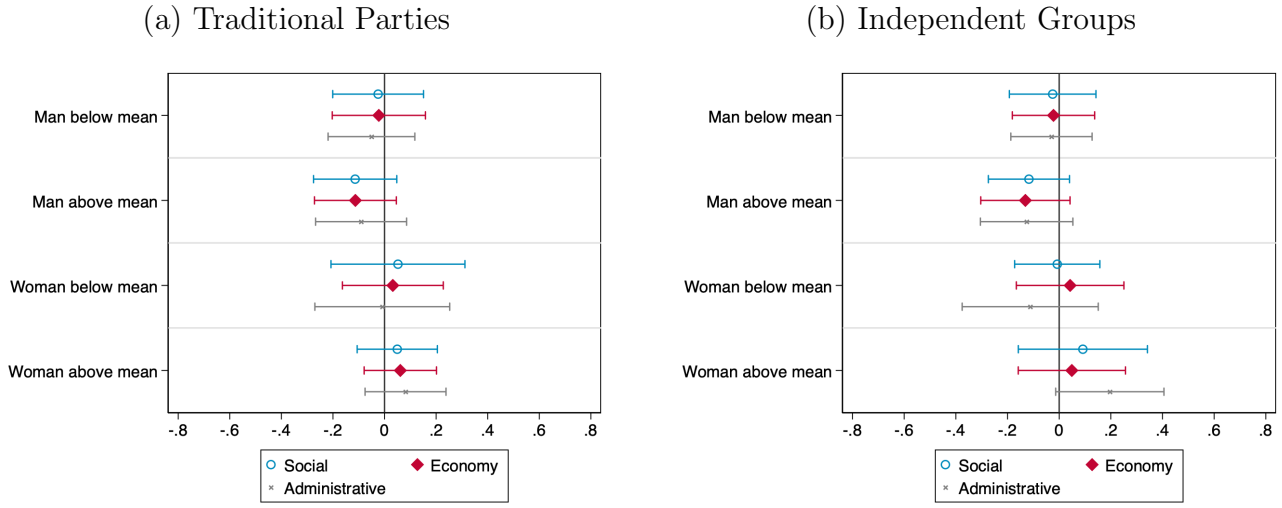
Notes: The figure represents the treatment effect on the vote share by electoral coalition (traditional and independent) of each four types of candidates: previously elected women, not previously elected women, previously elected men, and not previously elected men. In this analysis: (i) each dot represents the estimated coefficient on the effect of the treatment on the vote share of each type of candidate, (ii) the average vote share for traditional party candidates is 2.39 and for independent candidates is 1.83, (iii) the underlying unit of observation is the candidate-voting booth pair, N traditional=266,482 and N independent=174,052.

Figure B4: Survey Validations



Notes: The dots represent the percentage of answers that are liberal on the survey of Votamos Todos (horizontal axis), to the percentage of answers that are liberal on the survey of La Tercera (vertical axis). The red line represents the fitted values.

Figure B5: Do treatment impacts on candidate vote share vary with candidate ideology?



Notes: The figure represents the treatment effect on the vote share of each of four types of candidates: below mean women, above mean women, below mean men, and above mean men. Each color represents a different ideological issue. The blue color represents the coefficients of the regression that uses all the questions on social issues; the red color is for economic issues, and the gray is for administrative issues. In this analysis: (i) each dot represents the estimated coefficient on the effect of the treatment on the vote share of each type of candidate, (ii) the average vote share for traditional party candidates is 4.63 and for independent candidates is 4.01, (iii) the underlying unit of observation is the candidate-voting booth pair, N traditional=266,440 and N independent=174,041.

C Additional material: Tables

Table C1: Differences between coalitions: Other independent

	(1) All	(2) Men	(3) Women	(4) Difference
Panel A:Candidates				
Candidates	459	231	228	3
Age	40.70	42.25	39.13	3.12***
	[12.42]	[13.14]	[11.46]	(1.15)
Test score	556.52	569.21	544.12	25.09
	[99.50]	[105.26]	[92.15]	(10.57)
Political Experience (percentage)	0.87	1.30	0.44	0.86
	[9.30]	[11.35]	[6.62]	(0.87)
Contributions (thousands $)	6.43	7.08	5.78	1.30
	[12.66]	[14.17]	[10.91]	(1.26)
Votes (percentage)	1.34	1.21	1.48	-0.27*
	[1.65]	[1.55]	[1.73]	(0.15)
Panel B:Elected				
Elected	11	4	7	-3
Age	44.27	41.25	46	-4.75
	[12.17]	[7.59]	[14.45]	(7.88)
Test score	620.45	634.88	610.83	24.04
	[72.13]	[58.75]	[83.77]	(48.65)
Experience (percentage)	0	0	0	0
	[0]	[0]	[0]	(0)
Contributions ($1,000)	20.02	24.18	17.24	6.94
	[11.24]	[15.28]	[8.03]	(7.30)
Votes (percentage)	6.32	7.61	5.58	2.03
	[3.65]	[4.20]	[3.41]	(2.31)

[a] Panel A contains a summary of all candidates from the other groups and panel B contains a summary of elected candidates of the same group. A definition of these groups is made in section 2. Column 1 has the outcome for all candidates, column 2 has the outcome for men, column 3 for women, and column 4 for the difference. Standard deviations are in square brackets, and standard errors in parenthesis.
*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C2: Letters Received

	(1) Letters Received	(2) Letters Received	(3) Letters Received
Candidate treatment	0.948***		
	(0.01)		
Elected treatment		0.951***	
		(0.00)	
Any treatment			0.950***
			(0.00)
Strata Dummy	Yes	Yes	Yes
Observations	13264	13372	13486

[a] Column (1)-(3) contain an OLS regression that regresses the percentage of letters received by the voting booth against a dummy that takes the value of 1 if the voting booth was treated.

[c] Columns (1)-(3) include dummies for the strata variables.
*** Significant at the 1 percent level, ** Significant at the 5 percent level, * Significant at the 10 percent level

Table C3: How does test score and previous experience correlate with political outcomes?

	Gender replacement		Directive		Debate TV	
	(1)	(2)	(3)	(4)	(5)	(6)
Av score	0.107***	0.095**	0.061*	0.005	0.054	0.064
	(0.04)	(0.05)	(0.03)	(0.05)	(0.04)	(0.07)
Woman	0.045	0.046	0.010	0.011	-0.040	-0.040
	(0.05)	(0.05)	(0.07)	(0.07)	(0.07)	(0.07)
Av score*Woman		0.027		0.121*		-0.021
		(0.07)		(0.07)		(0.08)
Experience	0.026	0.026	-0.073	-0.071	-0.037	-0.037
	(0.08)	(0.08)	(0.08)	(0.08)	(0.10)	(0.10)
Observations	107	107	107	107	107	107
Mean outcome	0.907	0.907	0.131	0.131	0.159	0.159

[a] The outcomes of this table are: Gender replacement, which is a dummy that takes the value of 1 for candidates that were not replaced by other due to gender parity; Directive, which is a dummy that takes the value of 1 for the president and vice-presidents of the constitutional convention; Debate TV, which is a dummy that takes the value of 1 for people that participated in debates in public TV

[b] Columns 1-6 contain an OLS regression that regresses the outcome by a person against their normalized average test score (Av score), a dummy Woman that takes the value of 1 for woman, the interaction between normalized average test score and the dummy Woman, and Experience dummy that takes the value of 1 for people that has been elected in previous elections.

[c] Columns 1-6 have person-fixed effects.
*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C4: Sponsorships

	All (1)	Women (2)	Men (3)
Average test score	110.2**	137.9	90.46*
	(55.15)	(98.23)	(54.22)
Women	203.8*		
	(106.30)		
Observations	416	208	208
Mean outcome	768.1	880.2	655.9

[a] The outcomes of this table are the total number of sponsorships by candidate.

[b] The variable Average test score is the normalized average test score by the candidate. The variable Women is a dummy variable that takes the value of 1 for candidates that are women.

[c] Column (1) uses the whole sample, column (2) only the female candidates, and column (3) only the male candidates

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C5: Do treatment impacts on candidate vote share vary with candidate ability?: Traditional parties

	(1)	(2)	(3)
Woman low-score	0.0370	0.0673	0.0929**
	(0.16)	(0.08)	(0.05)
Woman high-score	0.0581	0.0466	-0.0734
	(0.05)	(0.07)	(0.13)
Man low-score	-0.477**	-0.198*	-0.131**
	(0.21)	(0.11)	(0.07)
Man high-score	0.0188	0.0286	0.0844
	(0.06)	(0.07)	(0.10)
Strata Dummy	Yes	Yes	Yes
Candidate Dummy	Yes	Yes	Yes
Observations	234531	234531	234531
Mean outcome woman low-score	2.78	2.98	3.94
Mean outcome woman high-score	4.79	5.78	6.87
Mean outcome man low-score	6.36	4.72	4.16
Mean outcome man high-score	4.78	5.18	6.47

[a] The outcome of this table is % votes, which is the vote share for each candidate in the voting booth.

[b] High-score in column 1 is defined as having a test score over the average. Column 2 is defined as having a test score of one standard deviation over the average, and column 3 has two standard deviations over the average.

[c] Columns (1)-(3) contain a double lasso regression that regresses the outcome by the voting booth. Standard errors are clustered at the table level.

[d] Columns (1)-(3) include dummies for the strata variables, baseline controls, and candidate fixed effects.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C6: Do treatment impacts on candidate vote share vary with candidate ability?: Independent groups

	(1)	(2)	(3)
Woman low-score	-0.0851	-0.0623	0.0414
	(0.17)	(0.08)	(0.07)
Woman high-score	0.0891	0.308*	0.132
	(0.08)	(0.17)	(0.34)
Man low-score	-0.124	0.114	-0.0955
	(0.15)	(0.09)	(0.08)
Man high-score	-0.0766	-0.315**	0.00402
	(0.08)	(0.15)	(0.12)
Strata Dummy	Yes	Yes	Yes
Candidate Dummy	Yes	Yes	Yes
Observations	139528	139528	139528
Mean outcome woman low-score	4.43	4.07	4.45
Mean outcome woman high-score	4.53	5.52	5.30
Mean outcome man low-score	1.55	2.70	4.19
Mean outcome man high-score	4.03	5.03	1.33

[a] The outcome of this table is % votes, which is the vote share for each candidate in the voting booth.

[b] High-score in column 1 is defined as having a test score over the average. Column 2 is defined as having a test score of one standard deviation over the average, and column 3 has two standard deviations over the average.

[c] Columns (1)-(3) contain a double lasso regression that regresses the outcome by the voting booth. Standard errors are clustered at the table level.

[d] Columns (1)-(3) include dummies for the strata variables, baseline controls, and candidate fixed effects.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C7: Do treatment impacts on candidate vote share vary with candidate ideology?: Traditional parties

	(1) Social	(2) Economy	(3) Administrative
Woman below median	-0.0194	-0.000734	0.00253
	(0.08)	(0.09)	(0.11)
Woman above median	0.117	0.0882	0.0880
	(0.09)	(0.08)	(0.09)
Man below median	-0.0301	-0.00159	-0.0232
	(0.07)	(0.08)	(0.07)
Man above median	-0.132	-0.149*	-0.153
	(0.10)	(0.08)	(0.12)
Strata Dummy	Yes	Yes	Yes
Candidate Dummy	Yes	Yes	Yes
Observations	256842	256842	256842
Mean outcome	4.581	4.581	4.581

[a] The outcome of this table is % votes, which is the vote share for each candidate in the voting booth.

[b] In column 1, the median is defined with respect to the percentage of liberal answers to social issues. Column 2, the median is defined with respect to the percentage of liberal answers to economic issues. Column 3, the median is defined with respect to the percentage of liberal answers to administrative issues.

[c] Columns (1)-(3) contain a double lasso regression that regresses the outcome by the voting booth. Standard errors are clustered at the table level.

[d] Columns (1)-(3) include dummies for the strata variables, baseline controls, and candidate fixed effects.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C8: Do treatment impacts on candidate vote share vary with candidate ideology?: Independent groups

	(1) Social	(2) Economy	(3) Administrative
Woman below median	0.0165	0.0681	-0.112
	(0.10)	(0.11)	(0.13)
Woman above median	0.0917	0.00476	0.196*
	(0.14)	(0.14)	(0.11)
Man below median	-0.222***	-0.173**	-0.0299
	(0.08)	(0.07)	(0.08)
Man above median	0.138	0.120	-0.126
	(0.11)	(0.13)	(0.09)
Strata Dummy	Yes	Yes	Yes
Candidate Dummy	Yes	Yes	Yes
Observations	151074	151074	151074
Mean outcome	4.082	4.082	4.082

[a] The outcome of this table is % votes, which is the vote share for each candidate in the voting booth.

[b] In column 1, the median is defined with respect to the percentage of liberal answers to social issues. Column 2, the median is defined with respect to the percentage of liberal answers to economic issues. Column 3, the median is defined with respect to the percentage of liberal answers to administrative issues.

[c] Columns (1)-(3) contain a double lasso regression that regresses the outcome by the voting booth. Standard errors are clustered at the table level.

[d] Columns (1)-(3) include dummies for the strata variables, baseline controls, and candidate fixed effects.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C9: Treatment effect by candidate: Previously Elected

	(1)
Any Treatment	-0.0568**
	(0.03)
Any Treat*Previously elected	0.0988
	(0.10)
Any Treat*Woman	0.0762*
	(0.04)
Any Treat*Woman*Previously elected	0.0784
	(0.35)
Observations	266482
Mean outcome	2.394

[a] The outcome of this table is % votes, which is the vote share for each candidate in the voting booth. Column (1) has the results for traditional parties and column 2 for independent groups.

[b] Previously elected is a dummy variable that takes the value of one for candidates that were elected in previous elections.

[c] Columns 1 and 2 contain a double lasso regression that regresses the outcome by the voting booth. Standard errors are clustered at the table level.

[d] Columns 1 and 2 include dummies for the strata variables, baseline controls, and candidate fixed effects.
*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level

Table C10: Did male and female committee members vote differently on constitutional articles?: Gender

	All			Low-score	High-score
	(1)	(2)	(3)	(4)	(5)
Woman*Gender	0.029***	0.026***	0.019**	0.005	0.010
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Independent*Gender		0.016**	0.001	-0.007	-0.004
		(0.01)	(0.01)	(0.02)	(0.02)
Woman*Independent*Gender			0.026	0.029	0.042*
			(0.02)	(0.03)	(0.02)
Woman*Social	0.030***	0.026***	0.029***	0.016**	0.033***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Independent*Social		0.030***	0.036***	0.023**	0.075***
		(0.00)	(0.01)	(0.01)	(0.01)
Woman*Independent*Social			-0.011	0.061***	-0.088***
			(0.01)	(0.01)	(0.01)
Woman*Economic	0.010*	0.007	0.012*	-0.004	0.021**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Independent*Economic		0.015***	0.023***	0.015	0.043***
		(0.01)	(0.01)	(0.01)	(0.01)
Woman*Independent*Economic			-0.014	0.022	-0.051***
			(0.01)	(0.02)	(0.02)
Observations	257544	257544	257544	89936	126728
Mean men traditional gender	0.448	0.448	0.448	0.486	0.461
Mean men traditional social	0.452	0.452	0.452	0.493	0.450
Mean men traditional economic	0.472	0.472	0.472	0.526	0.463
Mean men traditional administrative	0.517	0.517	0.517	0.557	0.522

[a] The outcome of this table is a dummy variable that takes the value of 1 for a liberal vote and 0 for a non liberal.

[b] Woman is a dummy variable that takes the value of 1 for female members, Independent is a dummy that takes the value of 1 for independent elected members, High score is a dummy that takes the value of 1 for representatives with test scores above the mean of the population. Social is a dummy variable that takes the value of 1 for votes related to social rights. Economic is a dummy variable that takes the value of 1 for votes related to economics, and the omitted variable is for votes related to administrative things. Gender is a variable that takes the value of 1 for social votes related to quotas, domestic violence, care, and sexual rights.

[c] Columns 1-4 include dummies for Women, Social, Economic, and candidate fixed effects. Columns 2-4 include an Independent dummy, columns 3 and 4 include a High score dummy, and column 4 includes a Woman*Independent dummy.

*** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level