Are Women Pawns in the Political Game? Evidence from Elections to the Spanish Senate*

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November 2009

Abstract

This paper investigates the potential existence of a gender bias in political parties' nomination strategies using data from elections to the Spanish Senate. The evidence in this paper suggests that political competition enhances the quantity and quality of female legislators. We find that, when the political arena is not competitive, parties use female candidates as pawns, in that they are chosen according to how their presence in the list would affect gender statistics and male candidates' possibilities of success. To avoid political parties exploiting order in the ballot to favor particular candidates we propose to adopt ballot ordering rotation.

Keywords: strategic nomination, gender, votes
JEL Classification: J16, J71.

*We are grateful for the useful comments and suggestions provided by Manuel Arellano, Benito Arruñada, Sam Bucovetsky, Lola Collado, Lena Edlund, Nely Fernández, Stefano Gagliarducci, Maia Güell, Laura Hospido, Ignacio Ortuño-Ortin, Sara de la Rica, Torsten Persson, Matthew Turner, Celia Valiente, Ernesto Villanueva, Tània Verge, Natalia Zinovyeva and participants in presentations at FEDEA, York University, the workshop on 'Mothers, Workers, and Retirees: The evolution of women's roles in the economy over the past 50 years' at Wilfrid Laurier University, the First COSME Workshop at the Bank of Spain, ESPE Sevilla, the Second Workshop in Gender Economics held in Granada, EEA Barcelona, EALE Tallinn and the University of British Columbia. Álvaro Claudio Osuna provided excellent research assistance. Any remaining errors are our own.

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1 Introduction

There exists widespread concern for the low participation of women in politics worldwide. In 2007, a woman headed the government in only seven countries.[1] Similarly, in 2008 there were only four countries with at least 40% of female parliamentarians.[2] Given the low number of female legislators worldwide, it is not surprising that governments in many countries are passing legislation mandating quotas in candidate lists (European Commission 2009).

It has been argued that the lack of female legislators may reflect voters' preferences for male politicians (Frechette et al 2008). Other authors point out that the low number of women legislators may not necessarily be due to lower popularity among voters but rather to a political failure (Persico 2009). According to this view, political parties' constitute filters between voters' preferences and the politicians who get finally elected.[3] To the extent that in many countries candidates are not selected through an open process, but are rather chosen by political party leaders, such filters may favor incumbents. Given that party leaders are generally male, this might be particularly important for female candidates. On the one hand, parties may be nominating few female candidates relative to voters' preferences, or they may be nominating female candidates to either constituencies or ballot positions with no chances of getting elected. This would lead to a low number of female legislators. On the other hand, party leaders might prefer weak (female) colleagues in order to avoid potential internal competition, or they may be nominating female candidates regardless of their quality, just to highlight their 'good' gender statistics.[4] This would lead to the selection of lower quality female candidates.

Not selecting the best candidates might be more costly in races that are expected to be close, in which case the quality of candidates may be more salient. In contrast, not choosing the best candidate may be less costly in races where the difference in votes expected by parties is such that there is little uncertainty about the electoral outcome. That is, in the absence of a competitive political arena, it is possible that such discriminatory behavior persists over time.[5]

Spain is nowadays one of the most advanced countries in terms of gender equality policy. The Spanish Equality Law, which was passed in 2007, requires political parties to choose roughly equal numbers of men and women in candidate lists. However, it has not lead to significant changes in the number of women elected: the percentage of women in the House of Representatives has increased from 36% in

[1] UNICEF (2007).

[2] These countries were Rwanda, Sweden, Cuba, and Finland. Source: "Women in Parliaments: World Classification", Inter-Parliamentary Union (http://www.ipu.org/wmn-e/classif.htm, retrieved January 26, 2009), compiling information provided by National Parliaments by November 30, 2008.

[3] In Spain, a recent poll by the *Centro de Investigaciones Sociológicas* finds that 87% of citizens either agree or strongly agree with the statement that the participation of women in institutions should be encouraged. Encuesta 2588, "Representación y Participación Política en España", 2005, *Centro de Investigaciones Sociológicas*.

[4] Likewise, if parties do not nominate female candidates to relevant tasks, the female candidates who may be willing to run for election may not be the best.

Additionally, female candidates might not be chosen based on their quality as politicians, but rather based on some other dimension. According to some media, Italy's current prime minister Silvio Berlusconi tends to nominate beautiful female candidates to top legislative positions ('Diverging paths on gender equality', BBC News, May 12, 2008).

[5] It is usually difficult to measure candidate quality. Recent studies analyzing the selection of candidates are Ferraz and Finan (2009), Gagliarducci and Nannicini (2009) and Galasso and Nannicini (2009). A measure of politician quality common to these papers is education.

the 2004 election to 36.3% in the 2008 election; figures are 25.1% and 28.2% for the Senate respectively (Figure 1).

The existence of individual voting in Senate elections allows us to analyze the sources of the low female representation.[6] We study voting behavior and parties' nomination strategies using data on Senate elections held in Spain in 1996, 2000, 2004 and 2008. In Senate elections, each party presents three candidates per province, who are listed in the ballot by alphabetical order. Each voter can vote for up to three candidates, and the four most voted candidates in each province become senators. Generally one of the two main parties gets all three candidates in the list elected, while the other party only gets one candidate elected.

Political parties can affect the number of female candidates who get elected in two ways. First, in the absence of gender quotas, parties decide how many women they nominate in each province. We find that parties nominate relatively fewer female candidates in constituencies where, based on previous electoral results, the likelihood of being elected is relatively higher. In provinces where all three party candidates are expected to get elected, we find that an average 26% of candidates are female. In provinces where only one out of the three party candidates is expected to get elected, this figure is 38%. That is, female candidates are especially underrepresented in winning constituencies.

Second, parties can also affect candidates' chances of being elected through their order in the ballot. Given that voters tend to have a preference for candidates placed at the top of the list, parties can affect the distribution of votes among candidates in the same party list by selecting them based on last name. In that sense, if male and female candidates were not selected based on their last name, we would expect to find approximately a third of them in each position in the ballot. In contrast, we find that male and female candidates are allocated to different places in the ballot depending on parties' electoral expectations. We define as settled races those in which there is no uncertainty whatsoever regarding the number of seats that each party will get. In contrast, we call a race unsettled whenever there is uncertainty about how many seats each party will obtain.

In setlled races in which the party expects to obtain one seat only, we find that a meager 6% of female candidates are placed at the top of the ballot (and so 94% are in either the second or third position, where they will have almost no chances of getting elected). In settled races in which the party expects to get all three seats instead, the pattern reverses: even though order in the ballot does not matter there, 59% of female candidates in these lists are placed at the top. Unsettled races are somewhat in between: women tend to be more towards the bottom of the ballot, but much less so than in expected losing lists (about 19% of women are at the top of the list). Symmetrically, male candidates exhibit the opposite pattern.

Comparing candidates' last name order with last name order in the overall Spanish population, it is possible to directly test whether certain candidates are chosen on the basis of last name. We find that in settled races parties strategically nominate female candidates (but not male candidates) according

[6] In contrast, the electoral system for the Spanish House of Representatives (*Congreso*) is based on closed party lists, that is, voters can effectively only vote for political parties as a whole and thus have no influence on the party-supplied order in which party candidates are elected. While the outcome in House elections also displays interesting gender patters, it is not possible to investigate voter preference in House elections because party lists are closed.

to their last name. The strategic nomination of female candidates is done in two different ways. In the case of races where it is known that not all of the party candidates will get elected, we find that women tend to be drawn from the end of the alphabet; thus female candidates are less likely to get elected. In the case of races where all party candidates are expected to get elected and therefore ballot order is irrelevant, women tend to be drawn from the beginning of the alphabet—perhaps for positive media treatment. In unsettled races however, where there exists some degree of uncertainty about the number of seats that each party will obtain, we find the strategic nomination of female candidates to be much weaker.

Finally, we find that a number of female party members whose last names make them "inappropriate" for Senate lists are being nominated to losing positions in House lists. Indeed, even if last name order does not play any role for House candidates lists, we find that female candidacies to the House also follow an alphabetical pattern that is connected to parties' expectations in Senate elections.

In order to better understand the nomination strategies of political parties we have also examined the potential existence of gender differences in voting behavior. The gender bias in nominations that we observe cannot be justified in a potentially lower ability of female candidates to attract votes: we find that, as opposed to conventional wisdom (and recent work for other countries, such as Frechette et al 2008), female candidates actually get more votes than male candidates.

In sum, parties use female as pawns—in that they are nominated to either Senate or House lists, or not nominated at all, according to how their presence in the list affects male candidates and gender statistics. The evidence suggests that political parties do value achieving good gender statistics but that, in an example of 'old boys' networks', they do so only inasmuch as that does not cost a male candidate his seat. Moreover, the strategic nomination of female candidates in terms of last name has negative effects in terms of quality, as the pool of female party members from which parties choose candidates is constrained. Paradoxically, our evidence thus suggests that parties are willing to sacrifice the quality of female candidates and female senators for the sake of improving gender statistics. Not only does the absence of political competition hinder the quality of female legislators, further it reduces the number of female candidates who become senators. We find that in settled races the number of women elected is 20% lower than in unsettled races. All in all, we find that in constituencies where the political arena is not competitive, the quality and the quantity of female politicians are relatively lower.

The results in this paper reveal that, as long as parties do not have adequate incentives, gender quotas may not necessarily lead to an increase in the number of female legislators. As this paper shows, quotas do not erode the strategic nomination of female candidates. The existence of an order effect in Senate elections currently allows parties to favor certain candidates. In the absence of a competitive political scenario, the design of the ballot should be such that parties cannot use the order effect to favor particular candidates. In order to enhance political competition within parties, we propose to replace alphabetical ballot order by ballot order rotation: a system whereby multiple copies (here, three) of the ballot are printed, so that every candidate tops the ballot as often as every other candidate, and thus any potential positional misvoting is neutralized.[7] Given the results in this paper, and because

[7] In that sense, State Supreme Courts in the US have ruled alphabetically listing candidates in a ballot unconstitu-

parties' possibilities for strategic nomination would be eroded in such framework, rotating the order of candidates in the party list would deliver more and better female legislators.

The paper is organized as follows. Section 2 describes the related literature. Section 3 offers background information on Senate and House elections in Spain, and Section 4 describes the data. Section 5 turns to the empirical analysis, and Section 6 discusses the results and policy implications. Finally, Section 7 concludes.

2 Related literature

Our study can be connected to several strands of papers. On the one hand, our paper is connected to a large literature analyzing the low incidence of women among legislators. Among this literature, there is a wide array of papers investigating whether female legislators attract fewer votes. Frechette et al (2008) find evidence that, controlling on observable characteristics, female candidates get fewer votes than male candidates. Beaman et al (2009) evaluate the impact of India's mandated political representation of women in village councils on citizens' attitude towards women leaders and find that voters are biased against female candidates, but that the bias diminishes once voters get to know them. Darcy and Schramm (1977) look at a number of United States House of Representatives elections from the 1970s and find that gender has little or no effect on election outcomes. Kelley and McAllister (1984) find that voters in Australia and Britain are less likely to vote for female candidates.

There also exists a related literature in political science on the low representation of women in Parliaments that highlights the responsibilities of parties, and in particular of their organizational and ideological barriers. For instance, Caul (1999) examines data from 68 parties in twelve developed countries between 1975 and 1989 and finds that parties that are more institutionalized and have a more localized level of nomination are more likely to nominate women candidates.

Some studies have also examined how political parties try and influence the outcome of elections by using strategic nomination. Among these, there are a number of papers that investigate strategic nomination by constituency. Frechette et al (2008) find that in the 2002 French National Assembly elections, female candidates were slightly more likely (albeit not statistically significantly so) to be sent to 'worse' districts. In Frechette et al (2006) they also consider other potential strategic behavior by political parties, according to which parties would take into account a male bias in the population of voters. Such strategic behavior would imply that women would be nominated for sure losers and sure winners, while men would be reserved for the tight races. Their results go in that direction, but they are not statistically significant at standard levels. In contrast, Murray (2004) qualitatively analyzes the 1997 and 2002 French National Assembly elections and argues that in the 2002 election, whereas women were a minority in safe and swing seats, they were better represented in unwinnable

tional on the grounds that candidates higher on the ballot are known to enjoy a vote advantage. For that reason, most American states nowadays use either only randomization or randomization and rotation of candidates' names in ballots (Alvarez et 2006). This was the case in New Hampshire in 2006, where the system was deemed to contradict Part I, Article 11 of the New Hampshire Constitution (Ralph L. Akins & a. v. Secretary of State, *New Hampshire Supreme Court Opinion*, August 17, 2006), and in California in 1975 (Alvarez et 2006).

seats.[8] Parties can also easily influence the outcome of the election in those electoral systems where parties decide the ordering of candidates within the ballot and voters can only choose to which party they give their vote. As it has been highlighted by a recent report of the European Commission (2009) in this case female candidates are usually positioned in worse places on lists than male candidates.

There is also a wide literature that studies how different ballot designs led to systematic deviations in the vote shares of candidates. A source of bias is position misvoting—the case where candidates receive more votes because they are listed first on the ballot page or column.[9] Positional voting may be particularly relevant in a framework of personal voting where candidates are listed on the ballot alphabetically. Such an electoral system has been used in many countries, such as Australia, Britain, Ireland, Spain, and the United States. Kelley and McAllister (1984) find evidence of alphabetical voting in Australian elections, while similar results are found for the Irish lower chamber (Robson and Walsh 1974, Marsh 1981, Trench 1987), as well as for the Spanish Senate (Lijphart and Lopez 1988, Montabes and Ortega 2002).

A number of political scientists have analyzed strategic nomination for Senate elections in Spain. Montabes and Ortega (2002) argue that political parties in Spain select candidates whose last name will place them in the list after the incumbent senator. Moreover, Ortega and Morata (2004) show that in the 2000 general election female candidates were placed towards the end of the ballot, which made it more difficult for them to get elected. In contrast to these papers, we consider how strategic nomination differs according to candidates' chances in a given constituency—an issue that the previous literature has neglected. Furthermore, we analyze voting patterns taking into account the endogeneity of order in the ballot using an instrumental variables strategy.

3 Background

Spain is a parliamentary representative democratic constitutional monarchy as established by the Constitution, which was passed in 1978. The Monarch is the Head of State and the President of the Government is the head of government in a multi-party system. Central legislative power is vested in the Congress (*Cortes Generales*), which consist of two chambers, the House of Representatives (*Congreso de los Diputados*) and the Senate (*Senado*). The House and Senate serve concurrent terms that run for a maximum of four years. House and Senate elections are held simultaneously.

3.1 Senate

Currently there are 264 senators. Most of them, 208, are directly elected by voters in general elections, while 56 of them have been appointed by the 17 Spanish regions. In this paper we focus on elected senators.

[8] She defines a 'safe' seat as a seat won in both 1997 and 2002, and a 'swing' seat as a seat that changed hands between elections. Unwinnable seats are defined as seats that are neither safe nor swing (Murray 2004).

[9] Shue and Luttmer (2009) additionally consider another type of misvoting—adjacency misvoting—which occurs whenever candidates receive more votes due to being adjacent to a popular candidate.

In general, provinces elect four senators each. Each voter has three votes and votes for candidates by name (the only instance of personal voting in Spanish national elections).[10] While political parties can nominate as many candidates as positions are available, in practice this has meant that, with a few exceptions,[11] parties nominate three candidates. In practice, the usual outcome is that the three candidates who are most voted come from the same party, and that the fourth senator is the most-voted candidate in the runner-up.[12]

The ballot for Senate elections shows the list of candidates running for seats, listed by political party, where the order of political parties in the ballot is randomized. Within each party list, in turn, candidates are listed in alphabetical order. In Figure 2 we display a photography of a ballot used during the 2008 Senate election.

For the sake of illustration, Figure 3 provides an example of lists and votes from the 2008 Senate election in Ávila. The three candidates in the *Partido Popular* (the main right-wing party, henceforth People's Party) list were the three most voted, therefore they all got a seat. The fourth most voted candidate was the candidate placed at the top of the *Partido Socialista Obrero Español* (the main left-wing party, henceforth Socialist Party) list.

3.2 House of Representatives

The House is formed by 350 members, elected from each province for a maximum four-year term following proportional representation. Seats are allocated as follows: the provinces of Ceuta and Melilla are given one seat each, and two seats are given to each of the other 50 provinces; the remaining 248 seats are then allocated proportionally according to population.

As opposed to the Senate, where voters can vote directly for the candidates of their choice, in House elections voters can only choose which party to vote for (Figure 4). At each constituency each party proposes a list with as many candidates as seats are available. The party decides the order of their candidates in the ballot. Then the number of votes received by every party decides how many seats the party gets; seats are allocated to candidates by order in the ballot.

4 Data

In this paper we use data from elections to the Spanish Senate held during the years 1996, 2000, 2004 and 2008. We restrict our sample in several ways. First, for simplicity we exclude constituencies where fewer than four senators are elected. That is, we restrict our analysis to peninsular provinces (47 as

[10] The insular provinces (Balearic and Canary Islands) elect one, two or three senators per island, and Ceuta and Melilla elect two senators each. In constituencies electing fewer than four senators, voters correspondingly have fewer than three votes.

[11] In the 1977 election, *Unión de Centro Democrático* nominated more than three candidates in the provinces of Castellón, Granada and Salamanca. In the 2000 election, in 24 out of 47 provinces the Socialist Party and United Left agreed that the former would nominate two candidates and the latter would nominate one candidate.

[12] It is very unusual that two parties get two candidates elected each. During the last four elections, this has only happened in three cases.

opposed to 50). Second, we exclude from our analysis two provinces (Guipúzcoa and Vizcaya) where, historically, the political competition in Senate elections has involved more than two political parties. The reason for doing so is that the nomination incentives of parties may vary greatly depending on the number of potential competing parties they are facing.[13] Third, we consider only the two main parties in each province, in practice the only two parties that can expect to get seats. The two main parties are the Socialist Party in all provinces, as well as the People's Party for all of the other provinces except for the Catalan ones, where it is CiU (*Convergència i Unió*), the Catalan nationalists, who are competing against the Socialist Party.[14] Fourth, in order to restrict our analysis to lists composed by three candidates we exclude 24 provinces where in 2000 the Socialist Party only nominated two candidates as the result of an agreement with the left-wing coalition United Left (*Izquierda Unida*), which in turn nominated only one candidate. Therefore our database includes a total of 312 party lists. Since each political party nominates three candidates per list, this makes a total of 936 candidacies.

For Senate candidates, the following information on personal characteristics is available. First, their first name. In Spain, it is practically always possible to tell a person's gender by their first name, so we have information on the gender of candidates. In the few cases in which gender was not clear, we verified this information by checking pictures of the candidates. Second, their last name.[15] We use the distribution of last names in the Spanish population to create a measure that orders last names alphabetically, and we call it *last name order*.[16] We have normalized this variable to take values between zero and one. For instance, an individual living in Madrid whose last name is Ruiz-Gallardón receives a value of 0.8486.[17] In other words, 84.86% of the population in Madrid has a last name alphabetically before the last name Ruiz-Gallardón, and 15.24% of the Spanish population has a last name alphabetically after Ruiz-Gallardón. Third, we have gathered information about candidates' political experience previous to election. In particular we have considered whether candidates had previously held a seat in the Senate or in the House. Fourth, we have gathered data about candidates' order in the ballot. Finally, we have also collected data about the number of votes obtained by each candidate.[18]

In Table 1 we display information on candidates' personal characteristics and their electoral performance by gender. Male candidates tend to have relatively more relevant political experience: they are more likely to be former senators or former House representatives. In terms of their last name order, female candidates' last names tend to be closer to the end of the alphabet than male candidates' last names. Male candidates are more likely to be placed on the top of the ballot and tend to obtain a slightly larger number of votes.

[13] Three parties have obtained representation in the Senate in one of the last four elections in Vizcaya and Guipúzcoa: the Socialist Party, the People's Party, and the Basque Nationalist Party.

[14] For Senate elections, in Navarra the People's Party ran in a coalition with *Unión del Pueblo Navarro* during the period considered, while in Catalonia since 2000 the Socialist Party runs in a coalition with *Iniciativa per Catalunya* and *Esquerra Republicana de Catalunya*.

[15] The Spanish use two surnames: the first is inherited from the father's paternal lineage, and the second from the mother's paternal lineage.

[16] We have obtained information about the distribution of last names in the Spanish population from the Census 2007. The information was compiled by the Spanish Bureau of Statistics (*Instituto Nacional de Estadística*, INE).

We also use the distribution of last names in Spain by province for robustness checks.

[17] When many people share the same last name, we calculate the last name order assuming that the individual is placed at the middle of all individuals bearing that last name.

[18] Information on candidates' names and the number of votes obtained was available at the website of the Ministerio del Interior, http://www.elecciones.mir.es, retrieved April 1, 2009.

We have also gathered information on the gender and last name order of appointed senators.[19] In the period we consider, 1996 through 2008, there were a total of 142 appointed senators, out of which 27 (that is, about 19%) were women. We do not observe any significant difference between the last name order of female and male appointed senators.

Finally, we have collected information on the last name order of candidates to the House of Representatives and on their positioning in the ballot, by gender.[20] We split positions in the House ballot in two subsamples according to electoral results in the previous election. First, we consider positions in the ballot where the party obtained a seat in the previous election. In 93% of cases, candidates running in such positions got a seat in the election that followed; we call such positions expected winners. Second, we consider positions in the ballot where the party did not get a seat in the previous election. In only 6% of cases candidates who ran in those positions got a seat in the election that followed; we call those positions expected losers.

In the period we consider there are a total of 2,180 House candidates, out of which 868 (about 40%) were women.[21] We do not observe any significant difference in last name order by gender. In terms of their position in the ballot, male candidates tend to be better placed. While more than 51% of male candidates were placed in the ballot in a expected winning position, this is only the case for 37% of female candidates .

5 Empirical Analysis

Political candidates in Spain are usually selected by party leaders. Formally, the provincial party committee proposes a set of candidates; the set has then to be approved by the regional and the national central committees.[22] In order to understand how parties nominate their candidates, our empirical strategy is as follows: we proceed by backwards induction and analyze, first, the voting stage, and then, parties' nomination decisions.[23]

5.1 Voting

In this section we examine how predictable the outcome of the election is ex-ante at two levels: first, we study whether it is possible to predict how many seats will be obtained by each party based on previous electoral results; second, within each list, we examine whether it is possible to forecast which candidate obtains more votes.

[19] The information on appointed senators is available from the Senate website (http://www.senado.es), retrieved April 1, 2009.

[20] Information on candidates to the House of Representatives is available from the State Gazette website (*Boletín Oficial del Estado*, http://www.boe.es).

[21] For consistency we have only considered candidates to the House of Representatives from the parties and provinces included in the sample described above.

[22] For instance, in the case of the Socialist Party, the Federal Committee (based in Madrid) considers every list before final nomination ("El Comité Federal ratifica las listas al Congreso y Senado", PSOE website, https://www.psoe.es/ambito/provinciadehuesca/news/index.do?action=View&id=171118, retrieved February 1, 2009).

[23] In what follows we only report results from aggregating all parties. Performing the analysis by party yields very similar results.

5.1.1 How many seats does each party obtain?

As explained above, each political party nominates three candidates in each province; four senators are elected in total per province. Typically three of the elected senators are in the same party; the other senator comes from the other party.[24]

In some cases it is possible to forecast, based on previous elections results, which party will get all three candidates elected, and which party will get only one candidate elected. Figure 6 shows the relationship between (a) the vote advantage obtained by the leading party in the previous election, and (b) the share of cases where the leading party in the previous election wins three seats in the current election. As expected, the frequency with which parties obtain three seats is greater the higher their vote advantage in the previous election. Whenever the difference in votes between the two parties was lower than 15% in the previous election, the same party obtained three senators in the following election in about 50% of cases. This figure rises up to 76% in the case that the difference in votes was between 15% and 30%, and up to 86% if we consider races where the vote difference was between 30 and 45%. Finally, in the period we consider, in all the occasions in which a party had received 45% more votes than its competitor in the previous election, the party obtained three seats in the election that followed.

Given this information we distinguish between two sorts of races. On the one hand, we define as "settled" races those where one party had obtained 45% more votes than the other party in the previous election. On the other hand, we classify as "unsettled" any race where the vote difference in the previous election was lower than 45%. Based on this classification we can distinguish three types of lists. Within settled races we have lists where all three candidates are expected to be elected (*expected winning lists*), and lists where only one candidate is expected to be elected (*expected losing lists*). Within unsettled races we call all lists *unsettled lists*.

In Figure 7 we show maps with party lists classified according to this taxonomy. Each map represents one of the last four elections. The figures show how in different provinces, and based on previous electoral results, either the election can be considered as already settled in favor of one party, or there exists uncertainty about the electoral outcome. The lighter color represents provinces where the left-wing was expected to win (or, equivalently, the right-wing was expected to get only one seat). This was the case, for instance, of Girona in the 2008 election. The left wing had obtained a margin larger than 45% in the previous election and, therefore, was expected to obtain three senators in the following election. The medium color represents unsettled races; here, an example would be either the Socialist Party or the People's Party in Asturias in any of the elections. The darker color represents right-wing expected winning lists (or, equivalently, left-wing expected losing lists). An example is the province of Zaragoza in the 2000 election, as the list put forward by the People's Party in the 1996 election had obtained 45% more votes than the Socialist Party.

Next we would like to see whether it is possible to predict which candidate in a given party list obtains more votes. This is particularly important in expected losing lists, where only one candidate gets elected.

[24] In the period we consider only in three occasions did both parties obtain two seats each.

5.1.2 Which candidate in the list obtains more votes?

It is well-known in political circles that the first candidate in the ballot tends to turn out being the most voted.[25] This fact has also been widely documented by political scientists.[26] In Table 2 we examine this issue by comparing the vote ranking of candidates according to their order in the ballot. We have information on 312 lists (hence 936 candidacies).[27] In a staggering 97% of cases, being at the top translated into being the most voted candidate. In sum, the information in Table 2 conveys the idea that in Senate elections, being listed at the top is strongly associated with being the most voted candidate.

Next we examine the difference in votes that is associated with being at the top of the ballot. For this we run the following regression:

$$Votes_{il} = \alpha_l + \beta First_{il} + \gamma x_{il} + \upsilon_{il} \quad (1)$$

where $First_{il}$ is a dummy variable equal to one if candidate i running for list l is first in the ballot, $Votes_{il}$ denotes the percentage of votes that the candidate received, x_{il} denotes previous political experience (a dummy variable equal to one if the candidate has been a senator in the past, and a dummy variable equal to one if the candidate is a former House member), and α_l is a list fixed-effect. A list is defined over a given year, for a given province, and for a given political party (e.g., Madrid Socialist Party 1996). List fixed-effects capture any omitted variables that might be affecting the votes received by all individuals running in a given list. In these regressions we cluster standard errors by list to take into account the fact that (the votes received by) candidates within the same list may not be independent observations.

In Table 4 we present results from running regression (1). As shown in column (1), the OLS estimate indicates that being on the top of the list is associated with an increase of 1.40 percentage points in votes (for reference, the average percentage received by candidates in the sample is 41%). This is in line with previous literature (Montabes and Ortega 2002). Having experience as House Representative increases the number of votes in 0.2 percentage points, but Senate experience has no significant effect.

However, the above estimate does not take into account that perhaps 'better' candidates are placed first. Indeed, even if order in the ballot is alphabetical, parties could potentially place their more popular candidates at the top of the ballot by selecting the other two candidates based on last name order.[28] If this is the case, in order to estimate the causal effect of order on votes it would be necessary

[25] Personal conversation with former senator Nely Fernández.

[26] See Lijphart and Lopez (1988), Montabes and Ortega (2002).

[27] In this paper, by party list we refer to the list of candidates that is put forward by one party.

[28] For instance, consider the case of the Socialist Party's historic president, Ramón Rubial, running for the province of Vizcaya. Ramón Rubial was already a senator in 1982, but in 1984 the voting system was modified in such a way that the order of party lists in the ballot was randomized, yet the order of candidates within the same list was alphabetic. In the first election with the new system, in 1986, parties do not seem to have paid attention to strategic nomination based on last name, and Rubial, who was ranked second in the list of the Socialist Party for Vizcaya, did not get a seat. Instead, Manuel Fernandez, a newcomer to the political arena, who had been placed at the top of the ballot for alphabetic reasons, became senator. Since then, it became clear that, given that the party expected to get only one seat, if the party wanted to maximize Rubial's chances of becoming senator, the party should choose the other two candidates to be such that their surname order comes after Rubial's. This is in fact consistent with the evidence. In subsequent elections, it became a regularity that any candidate in the Socialist list running with Rubial had an initial

to account for the fact that order is endogenous. The previous literature fails to disentangle between these two factors. Here we propose an identification strategy that deals with this issue: we use the last name order of candidates as an instrument for their order in the ballot. Given alphabetical listing in the ballot, a candidate's last name order determines her order in the ballot: a candidate whose last name is Aguirre will have higher chances of being placed on the top; a candidate whose last name is Vindel might find it difficult to land the first spot on the Senate list.

For last name order (call it z) to be a valid instrument, it should be the case that, conditional on the controls, it only affects voting through its effect on list order. In other words, it must be the case that, conditional on the fact that a candidate is selected to run in a particular list and in a particular position in the list, her last name order is unrelated to any unobserved characteristic that might affect voting. Note that, while $E(Last\ name\ order \cdot v) \neq 0$, that is, while candidates' last name order and quality may not be orthogonal—in that candidates with a particular last name order may be placed at particular positions in the ballot—, there is no reason to believe that candidates' last name order, conditional on the particular list they are running for and on the order in the ballot, is related to their quality, that is $E(Last\ name\ order \cdot v|\alpha, First) = 0$.

Our identification strategy would be flawed if, for instance, in the Spanish population last name order was associated with income or education. However, Census information suggests that there does not exist any clear relationship between last name order and educational attainment across individuals.[29] Figure 5 shows the relationship between last name order (as summarized by decile, where the first decile denotes individuals whose last name are in the first decile according to alphabetical order) and educational level, measured as the share of individuals with at least an undergraduate university degree. On average, approximately 14% of the individuals have an undergraduate degree. While there exist some slight differences in the share of graduates across deciles, there is no correlation between last name order and the share of graduates.

Additionally, the above orthogonality condition would not hold if individuals with a given last name order invest more in a political career. In that case, last name order would not be unrelated to quality. Nevertheless, alphabetical voting is only in place in Spain for Senate elections. In all other sorts of elections (local, regional, House of Representatives) last name order does not play a role.

Furthermore, another potential threat to the validity of this identification would exist if individuals could change their last name and, thus, affect order in the ballot. This is not the case. In Spain last name changes are extremely restricted and are very rare (*Ley de Registro Civil*, Article 57). For instance, in the year 2001 only 1426 surname changes were granted (*Anuario de la Dirección General de los Registros y del Notariado, Ministerio de Justicia*, 2002). Most of these changes involved hyphenating the paternal and the maternal surname to create a new surname—e.g., Esteve-Volart—

no earlier in the alphabet than S. The list for the 1989 election reads: 1) Ramón Rubial, 2) Dimas Sañudo, 3) Ángel Templano; the list for the 1993 election is: 1) Ramón Rubial, 2) Tomás Tueros, 3) Víctor Manuel Urrutia; for 1996: 1) Ramón Rubial, 2) Edurne Uriarte, 3) Ricardo Villanueva.

Even though Ramón Rubial passed away in 1999, the regularity persists due to the fact that his daughter, Lentxu Rubial, is now a regular candidate for the Socialist list to the Senate: in 2000, the list was: 1) Lentxu Rubial, 2) Saray Sanz, 3) Víctor Urrutia; in 2004: 1) Lentxu Rubial, 2) Mikel Torres, 3) Ricardo Villanueva; in 2008: 1) Lentxu Rubial, 2) Dimas Sañudo; 3) Imanol Zubero.

[29] The data come from the Census of Santander 2001 and involves individuals between 30 and 70 years of age. We thank Lola Collado and Ignacio Ortuño-Ortin for providing us with the data.

and did not affect last name order. Moreover, in Spain women cannot adopt their husband's last name.

Last, in order to further investigate whether last name order might be a valid instrument we also test whether, conditional on order in the list and on list fixed-effects, there exists any relationship between a candidate's last name order and a number of observable predetermined characteristics that could affect voting. As shown in Table 3, there is no significant relationship between the last name order of candidates and their gender or political experience, as measured by whether the candidate was previously a House representative or a senator.[30] Therefore, given that last name order seems to affect voting only through its effect on list order, it constitutes an appropriate instrument for exploring the impact of being first in the ballot on votes.

In column (2) we show results from estimating equation (1) using candidates' last name order as an instrument for being placed first on the ballot. On the one hand, and as expected, results from the first stage (in the bottom panel of Table 4) show that last name order is a powerful instrument for position in the ballot. In particular, moving from the 0.25 percentile to the 0.75 percentile in the distribution of last names decreases the probability of being first in the list in about 70 percentage points. On the other hand, the IV coefficient for first-in-the-ballot is estimated to be higher than the OLS coefficient, 1.59 vs 1.40, suggesting that, if anything, it is 'worse' candidates (in terms of their ability to attract votes) that are actually listed at the top of the ballot.

5.2 Nomination

In this section we study how parties' nominations are affected by their expectations about the electoral outcome. Political parties may face different incentives in selecting candidates depending on how many seats they expect to obtain. We can think of three different scenarios.

First, in expected winning lists the party expects all three candidates to be elected, independently of their position in the ballot. Second, in expected losing lists the party expects to obtain only one seat. The empirical evidence suggests that the elected candidate will be the one at the top of the ballot, whereas the candidates in second and third places will not get elected. Third, there are lists where the outcome of the election is uncertain. In that case, both parties know that the first candidate in each of the two lists will be elected, but they are uncertain about whether their respective second and third candidates will.

Now we examine, for each of the three types of lists, whether there exists any difference in terms of (a) how many male and female candidates are nominated, and (b) the order in the list in which male and female candidates are placed.

Figure 8 shows how the number of female candidates in a list varies according to how many candidates are expected to be elected. Parties nominate relatively more female candidates in constituencies where

[30] At the same time, and given that we do not find any relationship between last name order and observable quality, it seems plausible to expect that last name order is also unrelated to other (unobservable) quality characteristics that might affect the number of votes received by candidates.

the likelihood of being elected is relatively lower. In expected winning lists, where all candidates are expected to be elected, we find that an average 26% of candidates are female. For expected losing lists instead, where two out of three candidates will not get elected, this figure is 38%. For unsettled races the figure is somewhere in between: 33%.[31]

In column (1) in Table 5 we regress the share of females in lists on the type of list and find that, as suggested by Figure 8, women are significantly less likely to be on expected winning lists than on expected losing lists. It could be argued that women are disproportionately present in expected losing lists because there were more female candidates already in the list in the previous election, in which they lost. In column (2) we control for the share of women in lists in the previous election and for which party had won. Women are still less likely to be on expected winning lists than on expected losing lists. Therefore, it is not that lists in which there are more women tend to lose, but rather that parties nominate relatively fewer (more) women in lists where they expect to obtain relatively better (worse) results.

Now we turn to order in the ballot. In Figure 9 we present descriptive information on the order in the ballot by gender according to type of list. If male and female candidates are selected merely based on their quality, and therefore last name does not play any role, we would expect to find about a third of them in each slot. However, that is not the case. There is a striking contrast in terms of the positions in which male and female candidates are placed across different types of lists. In expected losing lists, parties tend to place female candidates in either the second or third place, that is, those places where they will not get elected. In fact, only a meager 6% of female candidates in these lists are at the top of the ballot. In expected winning lists, that is, in cases where all candidates listed are getting elected, the pattern reverses: women are disproportionately more likely to be placed in the first position (59% of them were listed at the top). Finally, unsettled races are somewhat in between: women tend to be more towards the bottom of the ballot, but much less so than in expected losing lists (about 19% of women are at the top of the list). Symmetrically, male candidates exhibit the opposite pattern.

The gender patterns we observe in parties' nomination strategies could be due to the fact that male candidates tend to be more experienced (indeed, we have seen in Table 1 that men and women differ in their political experience). In Table 6 we study the determinants of candidates placing in the ballot controlling for whether the candidate is an incumbent senator or whether he is a former member of the House. While candidates with greater political experience tend to be placed relatively better in the ballot, the pattern in Figure 8 still holds true: female candidates are more likely to be at the top of the list in expected winning lists, and less likely to be at the top of the list in expected losing lists and unsettled races, but especially so in expected losing lists.

Taken together, these results suggest that political parties strategically nominate candidates by gender depending on the type of list.

[31] The number of female candidates is relatively low in all three cases. This might partially reflect the low numbers of women in political parties. In 2004 the percentage of female affiliates was 30.9% in the Socialist Party, and 33.6% in the People's Party (Verge 2006).

5.2.1 Which candidates are chosen on the basis of their last name?

We have seen that there are gender patterns in the way that candidates are placed in the ballot, and that these depend on the party's chance to win the election. Given that order in the ballot is alphabetical, this suggests that parties might be selecting certain candidates strategically according to their last name. This could be affecting only male candidates, only female candidates, or both male and female candidates.

If political parties are nominating a certain group of candidates strategically based on their last name order, the distribution of these candidates' last name order will not be a random sample of the distribution of last name order in the population at large. Therefore, and given that surname order is not correlated with true quality (Figure 5), by comparing the distribution of last names of male and female candidates with the distribution of last names in the overall population we can obtain information about whether these candidates were nominated based on their last name (as opposed to quality).

Figure 10 shows the average last name order of candidates by gender and type of list. Since, by construction, our measure of last name order in the population has mean equal to 0.5, any systematic deviation from 0.5 in the distribution of male and female candidates' last names is consistent with last name based nomination. The evidence rejects the hypothesis that the distribution of female candidates' last names is the same as that of the Spanish population, particularly in settled races. In fact, their last names differ according to constituency: in expected winning lists, women tend to be drawn from the beginning of the alphabet (0.29 on average). In expected losing lists, women's last names tend to be drawn from the end of the alphabet (0.70 on average). In unsettled races, the distribution of women's last names is closer to the population distribution, but the average last name order is still statistically higher than 0.50 (0.55 on average). In other words, while in expected winning lists on average the last name of female candidates is something like "Fernández", in expected losing lists the average last name is "Pardo".[32] In contrast, in all three cases the distribution of male candidates' last names does not differ significantly from the distribution of last names in the Spanish population.

The bottom line from Figure 10 is that female candidates are selected on grounds of last name, but male candidates are not. Furthermore, parties are selecting female candidates strategically in different ways. In expected winning lists, women with initials at the beginning of the alphabet are more likely to be nominated. In expected losing lists, and to a certain extent, in unsettled races, women whose last names are towards the end of the alphabet are more likely to be selected.

In Table 7 we investigate whether the observed pattern reflects gender-based selection or it is due to female candidates being different in some respect—for instance, female candidates might be less experienced. In columns (1), (3) and (5) we regress last name order on gender by type of list including party and year dummies. In expected winning lists, female candidates are significantly more likely to have a last name that is closer to A. In expected losing lists female candidates are significantly

[32] We have also performed the calculations using the distribution of last names per province instead of the overall distribution of last names in Spain. The correlation between both measures is above 99.9% and all results are identical.

more likely to have a last name that is closer to Z; in unsettled races this is also the case, but the association is weaker. In columns (2), (4) and (6) we also control for candidates' political experience. Junior candidates tend to have last names closer to Z. While the statistical significance of the gender estimates is lower, we still find that last name order is associated with gender, depending on the type of list.

It might be argued that the threshold used to classify races as settled or unsettled is somewhat arbitrary. In order to test the robustness of our results, we have also performed our analysis using a difference of 30%, 40% and 50% as the threshold. Results are qualitatively similar. In columns (1) and (2) of Table 8 we now analyze whether there exists any linear relationship between parties' nominations strategies in terms of last name order and the expected advantage in votes. Results are consistent with the above evidence. In constituencies where no party has a clear vote advantage, neither female candidates' nor male candidates' last name order is significantly different from 0.50. However, in constituencies where parties had a large vote advantage (disadvantage) in the previous election, parties tend to nominate to Senate female candidates whose last name is more towards the beginning (end) of the alphabet (column (1)). In quantitative terms, a variation of one standard deviation in the vote advantage obtained by a party is associated with the party nominating female candidates whose last name is 13 percentiles relatively more towards the end of the alphabet. There is no relationship whatsoever between the last name of male candidates and previous electoral results (column (2)).

In order to illustrate the magnitude of the association between candidates' gender and last name, note that in expected winning lists, a candidate whose last name is in the first quartile is three times more likely to be female than a candidate whose last name is in the fourth quartile. The opposite is true for expected losing lists: in this case a candidate whose last name is in the fourth quartile is about twice as likely to be female than a candidate whose last name is in the first quartile.[33]

5.3 Where are the missing female candidates?

We have found that political parties select female candidates to the Senate on the basis of last name. It seems plausible to expect that female party members have last names that are distributed as in the overall population in terms of their alphabetical order. This begs the question: where are the female party members whose last name did not fit in the parties' nominating strategies for the Senate?

Whatever happened to potential female candidates residing in constituencies where the party is expected to win, but whose last name is "too far" in the alphabet? Similarly, in constituencies where parties expect to obtain only one seat, whatever happened to potential female candidates with last names towards the beginning of the alphabet? Here we examine where these other women could be. We consider two possibilities: it is possible that these women are being directly appointed to the Senate, or that they are being nominated to the House of Representatives.[34]

[33] In expected winning lists, 42% of candidates with last name in the first quartile are women, in the last quartile only 13%. The numbers are 28% and 56% respectively for expected losing lists.

[34] Another possibility is that there is a relatively small pool of potential female candidates, and political parties are

We consider three possibilities: it is possible that these women are being directly appointed to the Senate, that they are being nominated to the House of Representatives, or that they are not nominated at all.

5.3.1 Appointed senators

As explained in the background section, senators are either elected by voters or directly appointed by one of the 17 regional Parliaments. In 2008, out of 264 senators, 208 were elected and 56 were appointed. It is theoretically possible that female party members whose last name makes them "inappropriate" for inclusion in their party's Senate list end up directly appointed as senators. Here we test this hypothesis.

The number of female appointed senators is very low. In the period we consider, only 27 appointed senators are female (19% in a total of 142 appointed senators). This figure is relatively small compared to the 206 female elected senators (25% in a total of 832 senators), suggesting that political parties have in general not accommodated in appointed seats the female party members excluded from Senate lists. If anything, the opposite might be true: political parties might have used the fact that appointed seats are not subject to party and legislative quotas in order to appoint male party members. In columns (3) and (4) in Table 8 we analyze whether there exists any relationship between parties' results in Senate elections and parties' direct appointments to the Senate, and find no significant relationship.

5.3.2 Candidates to the House

Elections to the House and to the Senate are held simultaneously. It is possible that the female party members whose last name is not appropriate for the Senate list are, instead, allocated to House lists. For instance, consider a female party leader located in a constituency where her party is expected to obtain only one Senate seat. If her last name is at the beginning of the alphabet, including her in the Senate list might imply that she will be at the top of the ballot; therefore she would get elected but the other two party candidates would not. However, if the party wishes to nominate her to lists, yet at the same time the party prefers some other candidate to obtain the Senate seat, that might be achieved by including her in the House list—where order in the ballot is determined by the party and lists are closed. In other words, the female candidates who are missing from Senate lists might actually be running for House seats.

In columns (5)-(8) in Table 8 we regress the last name order of House candidates, by gender and by type of position, on the vote advantage in the previous election. In the case of expected winner positions we do not observe any significant pattern in last names associated with the expected Senate outcome, neither for female candidates (column (5)) nor for male candidates (column (6)). In expected loser positions instead, whenever the vote disadvantage is relatively higher the party tends to nominate

nominating female candidates to run for provinces from which they are not originally from.

We have checked the lists of candidates and have verified that every female candidate running in expected winning lists was either born in the province, or a province resident. Therefore, the evidence is that parties are not moving female candidates across provinces.

to the House list women whose last name is relatively more towards the beginning of the alphabet (column (7)), although this effect is statistically significant only at the 10% level. As shown in column (8), no such effect exists for male candidates. Given that last name order plays no role in House lists, this finding suggests that parties' nomination strategies in the Senate may be also influencing nominations to the House.

5.3.3 All candidates

The strategic selection of female candidates in the House and in the Senate goes in opposite directions. To study the net effect, in columns (9) and (10) of Table 8 we examine the nomination of all candidates altogether: candidates to the House, candidates to the Senate and appointed senators. As shown in column (9), we find that in constituencies where parties had a positive (negative) vote advantage female party candidates tend to have last names that are more towards the beginning (end) of the alphabet. That is, overall the strategic selection of female candidates for Senate elections based on last name dominates and is not fully compensated by the strategic selection of female candidates running for the House. With respect to male candidates, again we find no evidence of strategic selection (column (10)).

5.4 Why do parties select female candidates based on their last name?

Our empirical analysis reveals that when the outcome of the Senate election is known beforehand, parties strategically nominate female candidates (but not male candidates) according to their last name.

The strategic nomination of female candidates is done in two different ways. In the case of party lists where it is known that only one candidate will get elected, we find that parties nominate women whose last name is relatively more towards the end of the alphabet; thus female candidates are less likely to get elected. In the case of party lists where all candidates are expected to get elected and therefore ballot order is irrelevant, parties nominate women whose last name is more towards the beginning of the alphabet. Here we examine each of the two cases separately.

5.4.1 Expected losing lists

We have found that when a party expects to get few votes, and hence only one seat at the Senate, the party nominates a female party member with a last name that will place her at the bottom of the ballot. As a result, the female candidate will not get elected. Why are political parties nominating female candidates in this fashion?[35]

[35] An alternative supply side explanation is also feasible but does not seem plausible. Our results could potentially arise due to candidates' self-selection: it is theoretically possible that it is female candidates whose last name is towards Z (A) who are offering/accepting to run for expected losing (winning) lists. However, there is no reason to think that, in losing lists, only women whose last name would place them at the bottom of the ballot (where they will not get elected) would want to become candidates. It would be even more difficult to understand why the opposite might happen in winning lists (where all party candidates will get elected).

One potential reason would be the existence of gender differences in candidates' popularity. If male candidates are more popular amongst party supporters than female candidates, that could explain parties' behavior. Now we test whether female candidates in the list are attracting fewer votes than male candidates.

We look into this issue by running regression (1), now including a female dummy:

$$Votes_{il} = \alpha_l + \rho Female_{il} + \beta First_{il} + \gamma x_{il} + \upsilon_{il} \tag{2}$$

where dummy α_l controls for any factor that could potentially affect all candidates in list l simultaneously and x_{il} includes candidates' political experience. In the top panel in Table 9 we show the results from running regression (2), where order in the ballot has been instrumented using with last name order. As before, taking into account the endogeneity problem is important. While, as reported in Table 1, the number of votes obtained by female candidates is slightly lower (male candidates obtain on average 41% of votes, and the corresponding figure for female candidates is 40%), once we consider that women tend to be placed in relatively worse positions in the list, we find that they are actually more successful candidates than men. In particular, on average women attract 0.16 percentage points more votes than men, a result that is significant at the 5% level (first panel, Table 9, column (1)). The female premium is bigger in expected losing lists: female candidates obtain 0.25 percentage points more votes than male candidates (first panel, column (4)). Although the vote premium associated with female candidates is significant in statistical terms, its magnitude is relatively small compared to the effect of the order advantage, and it rarely manages to overcome it.[36] Also note that our analysis is not accounting for the potential negative selection that arises due to parties' strategic selection of female candidates based on their last names. Nonetheless, even if female candidates in settled races are not the best available female party members, we still find that they get more votes than male candidates. Interestingly, this gender effect exhibits a clear time pattern. While in 1996 there was a small, insignificant male premium (second panel, column (1)), since 2000 we observe an increasing female premium that by the year 2008 has become significantly positive at the 5% level (second panel, columns (2) to (4)).

Therefore, the fact that female candidates in losing lists are placed towards the end of the ballot cannot be explained by male candidates' greater popularity among voters. Alternatively, this evidence could be explained by political parties trying to secure the seat of a male candidate while, at the same time, having a number of women among candidates.

5.4.2 Expected winning lists

We have also found that when a party expects all candidates in the party list to get elected (and therefore order in the ballot does not matter), the party tends to nominate a female party member

[36] In the 2008 elections, only in one case did the candidate at the top of the ballot receive fewer votes than the second candidate in the ballot. This was the case in Salamanca, where the second listed candidate, Josefa Mena, a female candidate, obtained more votes than Emilio Melero, the (male) local party leader for the Socialist party, who was at the top of the ballot. Melero resigned after the election.

with a last name that will place her at the top of the list.

The strategic selection of female candidates in expected winning lists might seem puzzling at first. On the one hand, restricting their choice to female candidates with a last name from the beginning of the alphabet is costly for parties, as it implies that they are not selecting the best possible female candidates. On the other hand, given that in these constituencies all party candidates are getting elected, why would parties want to have the female candidate at the top of the list? Here we propose two potential explanations. First, it might be the result of a decision made at the national level. In particular, parties might want to have at least a few Senate lists headed by women. This could be for either of two reasons: to attract better media treatment, or because of pressure from female affiliates.[37] Indeed, in some cases local politicians have reported having received such guidelines from the party's national committee.[38]

Second, a complementary explanation could be that parties have a preference for having gender parity at the top of the lists, that is, for having, out of the two heads of lists (Senate and House), one woman and one man. If this hypothesis is correct, we should find a woman at the top of the Senate ballot more often when the House list is headed by a male candidate than when it is headed by a female candidate. The descriptive evidence in Table 10 is consistent with this idea: while in expected winning constituencies it is more likely to find a female candidate at the top of the Senate list than at the top of the House list (47% vs. 23% of the cases, respectively), the opposite is true in expected losing constituencies (7% vs 30%). In Table 11 we formally test the hypothesis. We regress the probability that a female heads the House list on whether a female heads the Senate ballot and some controls. In column (1) we present cross-sectional evidence consistent with a negative correlation; in column (2) we present fixed-effects evidence. Results suggest that placing a female at the top of the Senate (House) list is positively associated with having a male leading the House (Senate) list. In sum, there seems to exist some substitution between women at the top in Senate lists and House lists in settled constituencies.

5.5 Is political competition good for female representation?

We have found that when parties expect to obtain all three seats, parties nominate relatively few women, and that when parties expect to obtain one seat only, they nominate women in positions where it is unlikely that they will get elected. A natural implication of these results is that the number of female senators should be larger in provinces where the political arena is competitive. This is because In Table 12 we test whether this hypothesis is true. As shown in column (1), the share of female elected senators is 6 percentage points (around 20%) significantly higher when there was uncertainty about the outcome of the race. This result is robust to the inclusion of provincial

[37] Parties receive positive or negative media treatment according to how many women are placed at the top of the list. See for instance http://www.eldia.es/2008-02-21/ACTUALIDAD/18-paradojas-paridad-electoral-Canarias.htm, retrieved September 22, 2009.

[38] For instance, in the 2004 election "the secretary of the Socialist Party in Castilla y León admitted that the majority of the lists for the House and the Senate prepared by local party committees did not satisfy the recommendation of the party's central committee according to which they should place female candidates at the top of the ballot", quoted at http://www.diariodeleon.es/noticias/noticia.asp?pkid=116604, retrieved September 22, 2009.

fixed-effects (column (2)), suggesting that the observed correlation is not driven by some underlying unobserved factor that makes certain provinces more prone to political competition and more female friendly at the same time.

5.6 Gender quotas

The current gender policy in Spain involves gender quotas, both voluntary (set by parties),[39] and legislative (set by law). Regarding the latter, the Equality Law was passed in Spain in 2007 mandating at least a third of each gender in every Senate list, as well as at least 40% of women in every House list. On aggregate the Equality Law has lead to an increase in the share of female Senate candidates from 30% in 2004 up to 38% in 2008. As shown in Figure 11, this increase has been driven by expected winning lists, where the share of female candidates was lower than the one-third threshold imposed by the law. Nevertheless, and as shown in Figure 12, we observe that in unsettled races political parties still select female candidates based on their last name order.

Likewise, in the case of the House, while the share of female candidates has increased since the Equality Law was passed (from 41%in 2004 to 46% in 2008), the share of female candidates who are well placed in the ballot has remained low (Figure 13). In sum, while quotas have a direct impact on the number of female candidates, they do not affect parties' nomination strategies, and thus have a limited effect on the number of women elected.

6 Conclusions

This paper examines political parties' nomination strategies in order to shed light on the low representation of women in the political arena. We use data on Senate elections held in Spain since 1996. In these elections, voters choose among candidates ordered alphabetically in the party list. As shown in the paper, voters are more likely to vote for the candidate at the top of the list. The evidence in this paper shows that, especially in constituencies where political competition is absent, political parties strategically select female candidates on grounds of last name taking into account how their presence in the list affects male candidates and gender statistics.

The strategic selection of female candidates is done in two different ways. In expected winning lists, where all candidates will become senators and thus the order in the ballot is not relevant for election, political parties are nominating women whose last name positions them at the top of the ballot, possibly to embellish their gender statistics. In expected losing lists instead, where typically only

[39] In 1988 the Spanish Socialist Party introduced internal gender quotas at 25% of nomination. The quota was increased to 40% in 1997. Other parties may have more vague objectives—for instance, in 2004 the People's Party established the goal of progressing towards full equality between men and women both in party positions and in institutional representation (Verge 2009).

Norway led the way to voluntary party quotas: in 1975, both the Socialist Left and the Liberal Party adopted gender quotas; in 1983 the Labor Party, Norway's biggest party, adopted quotas for half of their candidates to be women. This was seen as a legitimate way to ensure that women would receive adequate representation (Matland 2005). Swedish political parties ensued.

the candidate at the top of the ballot gets elected, parties select female candidates whose last name positions them towards the bottom of the ballot. Additionally, we find that parties nominate fewer female party members in constituencies where they expect to obtain relatively more seats. Despite the fact that last name order does not play any role in House elections, we also observe that a number of female House candidates are also selected based on their last name. Our data suggests that such gender bias in nominations cannot be justified in a potentially lower ability of female candidates to attract votes: we find that, as opposed to conventional wisdom and recent work for other countries, in Spanish elections female candidates get more votes than male candidates. The evidence in this paper is consistent with the view that political parties use female candidates as pawns, in that they are nominated to either Senate, or House lists, or not nominated at all, according to how their presence in the list affects male candidates and gender statistics.

The degree of political competition plays an important role in the selection of female candidates. In unsettled races, where there exists some uncertainty about the number of seats that each party will obtain, we find the strategic nomination of female candidates to be much weaker. We also find that the number of female candidates that are elected senators is higher in these races. The fact that the strategic nomination is stronger in the absence of political competition is consistent with Becker (1957), in that political parties base relatively more their nomination decisions on quality when it is more costly not to do so.

The strategic nomination of female candidates by parties has negative effects both in terms of gender parity (fewer women are elected) and in terms of efficiency (the pool of female party members from which parties choose candidates is constrained by their last name order). The results in this paper suggest that political parties do value the presence of women in lists, and that they value placing female candidates at the top of the ballot but, in an example of 'old boys' networks', they do so as long as that does not cost a male candidate his seat. In fact, if we consider positions where candidates do not have a chance of being elected, we observe that 53% of these candidates are female; in contrast, this figure is only 20% in positions where candidates are expected to get elected for sure.[40] Moreover, while in expected winning lists (where order is irrelevant) a female tops the list in 47% of cases, this only happens in 7% of the cases in expected losing lists (where only the candidate at the top gets elected). In sum, parties adopt gender parity whenever that is not costly for male candidates—indeed, parties are willing to sacrifice the quality of their female candidates (and senators) in order to improve their gender statistics.

All in all, our results suggest that an increase in the degree of contestability of electoral races would enhance the quality and the quantity of female senators. Unfortunately, the degree of political competition is seldom a policy option. Gender quotas in candidate lists are increasingly used in order to increase female representation. However, and as we show in this paper, quotas only have a limited effect on the number of female candidates elected. The way the ballot is structured in Senate elections (where candidates are listed in alphabetical order) or in House elections (where parties are able to decide the order of candidates) allows parties to place female candidates on the ballot strategically.

[40] The first figure represents the percentage of women in either the middle or the bottom of the ballot in expected losing lists. The second figure represents the percentage of women among candidates either in expected winning lists or at the top of the ballot in unsettled and expected losing lists.

Therefore, in order to be effective, the implementation of quotas requires a ballot design that does not allow parties to exploit the order effect to favor certain candidates.[41]

In order to eliminate the existing order effect, we propose ballot order rotation: ballot positions are rotated across candidates, and multiple copies are printed, so that every candidate tops the ballot as often as every other candidate. A rotating ballot is presently used in some elections in Australia, as well as in the United States (King and Leigh 2009, Alvarez et al 2006).[42] It is sometimes argued that, in cases where the order effect is not clear, the additional cost of printing multiple copies might not justify using rotation (Alvarez et al 2006). However, implementing rotation in the Spanish case might be particularly worthwhile. In terms of costs, since in Senate elections parties only nominate three candidates per list, rotation ordering would in practice imply printing only three different ballots (Figure 14). Rotation would neutralize the existing order effect and erode last name based nomination. Given the results in this paper, rotation would increase both the number and the quality of female candidates.

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[41] Senate ballot reform is currently being discussed and a Senate committee has been formed to deliver recommendations. Among other changes, the committee argues for allowing parties to decide the order of candidates in the list. The advantage of this reform is that it would erode the incentives for last name selection of female candidates that parties currently face. However, this system does not eliminate the order effect, it just makes it less costly for parties to exploit the existence of an order effect in order to favor their prefered candidates. "La papeleta para elegir el Senado será más pequeña, sencilla y ordenada", *El Mundo*, June 16, 2009. http://www.elmundo.es/elmundo/2009/06/15/espana/1245091776.html, retrieved June 16, 2009.

[42] The system is called Robson rotation, after Neil Robson, the Liberal member of the House of Assembly who introduced it in Tasmanian elections in 1979 (Tasmanian Parliamentary Library, http://www.parliament.tas.gov.au/tpl/Backg/HAElections.htm, retrieved June 9, 2009).

In many California elections, a number of systems use randomization and rotation of candidate names together. The following information is taken from Alvarez et al (2006), pp. 9-10: In California, state courts had held in 1975 that a system based on alphabetical order or listing incumbents first was unconstitutional due to a supposed 5% ballot order effect among undecided voters. Legislation passed in 1975 (codified in California's Election Code Sections 13111 through 13114) details procedures for choosing the order of candidate names.

The general principles are randomization and rotation. The Secretary of State, before an election, conducts a random drawing of letters of the alphabet. This randomized list is used for all candidate races in the upcoming election. In statewide races, the randomized alphabet list drawn by the Secretary of State determines the order of candidate names on all ballots in Assembly District 1. The order is then rotated, so that in Assembly District 2 the candidate who appeared first in Assembly District 1 is moved to the bottom of the ballot list and the second candidate is moved up to be the first candidate on the ballot in Assembly District 2. This rotation process continues throughout all of the 80 Assembly Districts in California.

All other types of elections in California begin with the same randomized alphabet list. However, the process for rotation differs. Congressional candidates' names rotate by Assembly Districts, but State Senate and Assembly candidate names do not rotate unless the legislative district crosses county lines, in which case county election officials conduct random drawings to determine the order in their own counties. Elections that occur throughout a single county begin with the random alphabet list and are rotated based on the county supervisorial districts (for smaller counties) or the Assembly Districts (for larger counties). All other local elections, occurring within but not throughout a county, are randomized but not rotated.

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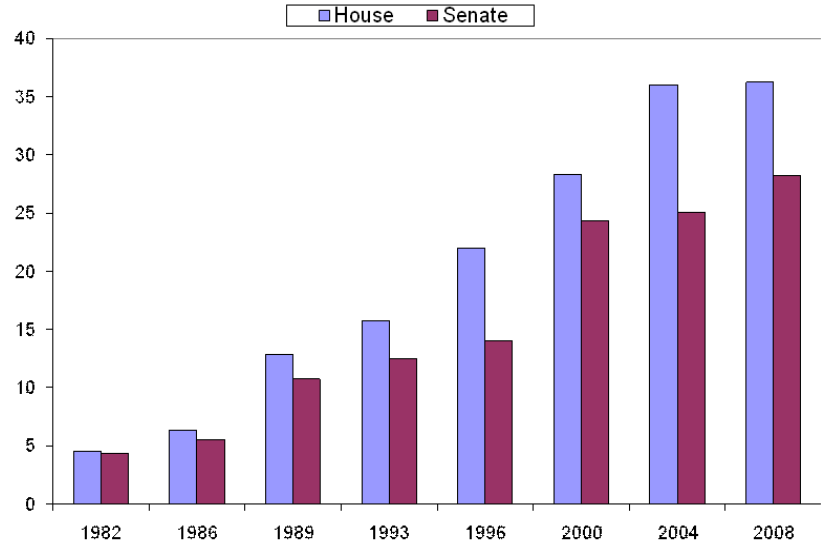
Figure 1. Female legislators (%), Spain



Source - Instituto de la Mujer

Figure 2. Senate election ballot

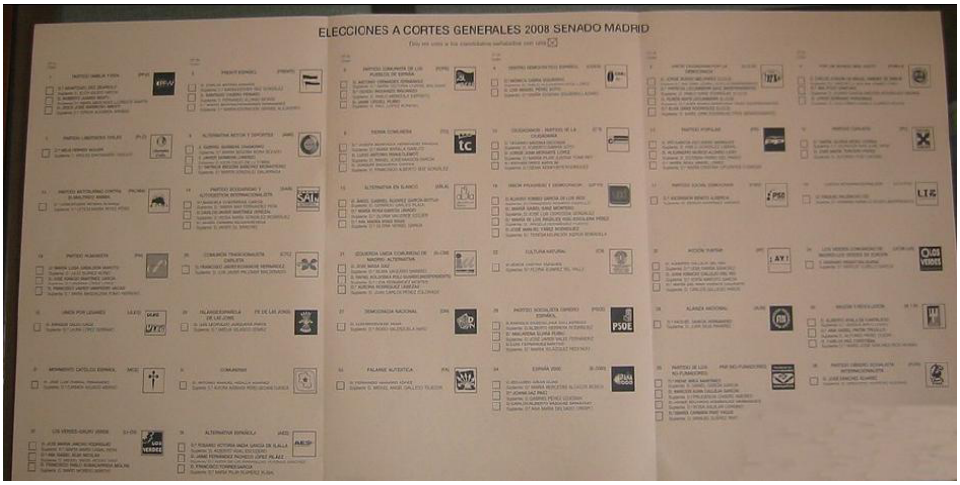


Figure 3. Example of allocation of Senate seats per province - Ávila, 2008 election

Candidates and order in the ballot

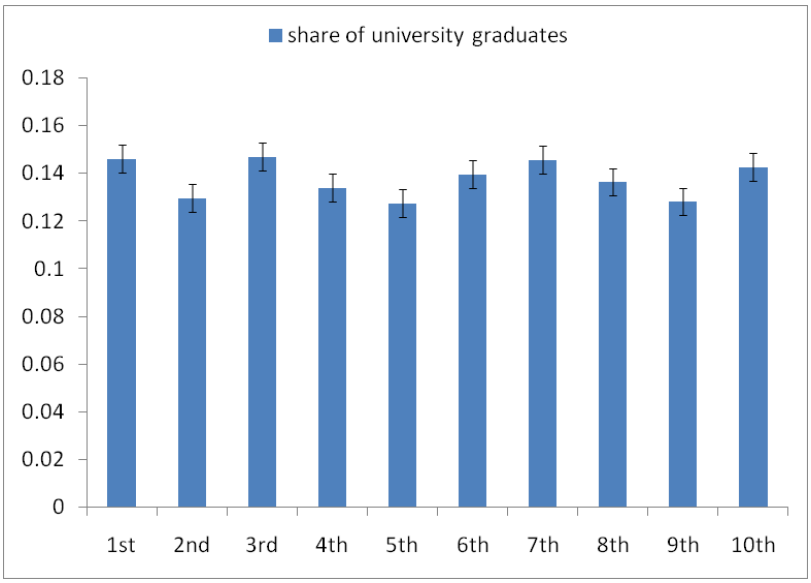
Socialist Party (PSOE)	People's Party (PP)
1. Burgos García, José María	1. Aragón Amunarriz, María del Carmen
2. Herrera Martín, María Isabel	2. Burgos Pérez, Ignacio
3. Sanchindrián González, Ana Isabel	3. Sanz Pérez, Antolín

Results

	Candidate Name	Party	Votes	Elected
1.	Aragón Amunarriz, María del Carmen	PP	64,052	Yes
2.	Burgos Pérez, Ignacio	PP	63,288	Yes
3.	Sanz Pérez, Antolín	PP	62,743	Yes
4.	Burgos García, José María	PSOE	39,208	Yes
5.	Herrera Martín, María Isabel	PSOE	36,975	No
6.	Sanchindrián González, Ana Isabel	PSOE	36,523	No

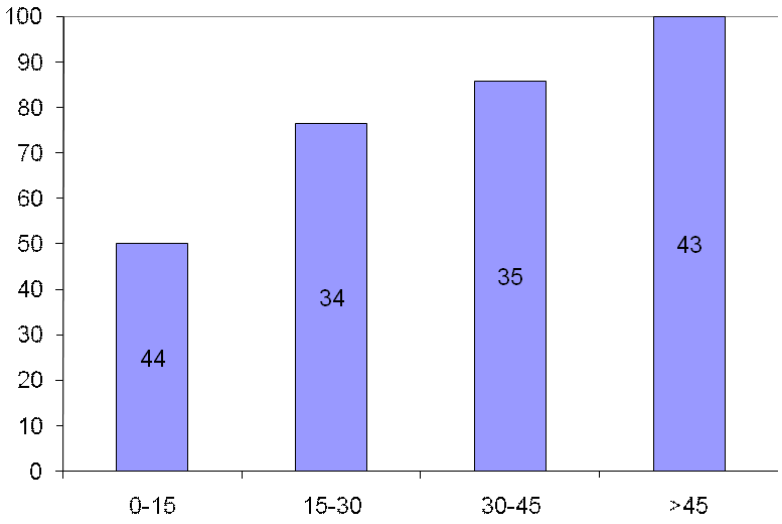
Figure 4. House election ballots

Figure 5. Share of university graduates by last name order decile



Source - Santander Census 2001 – individuals between 30 and 70 years of age with a university degree (diplomado or licenciado), by decile of last name order. N=279,813

Figure 6. Lists obtaining three seats (%) according to their vote advantage in the previous election (%), Spanish Senate



Source - Authors' calculations using data from the 1996, 2000, 2004 and 2008 elections. Vote advantage has been calculated as the difference in votes between the two parties in the previous election divided by the number of votes obtained by the second party. Size of the sample inside the bar

Figure 7. Maps of political party lists in Spain, 1996, 2000, 2004 and 2008 Senate elections

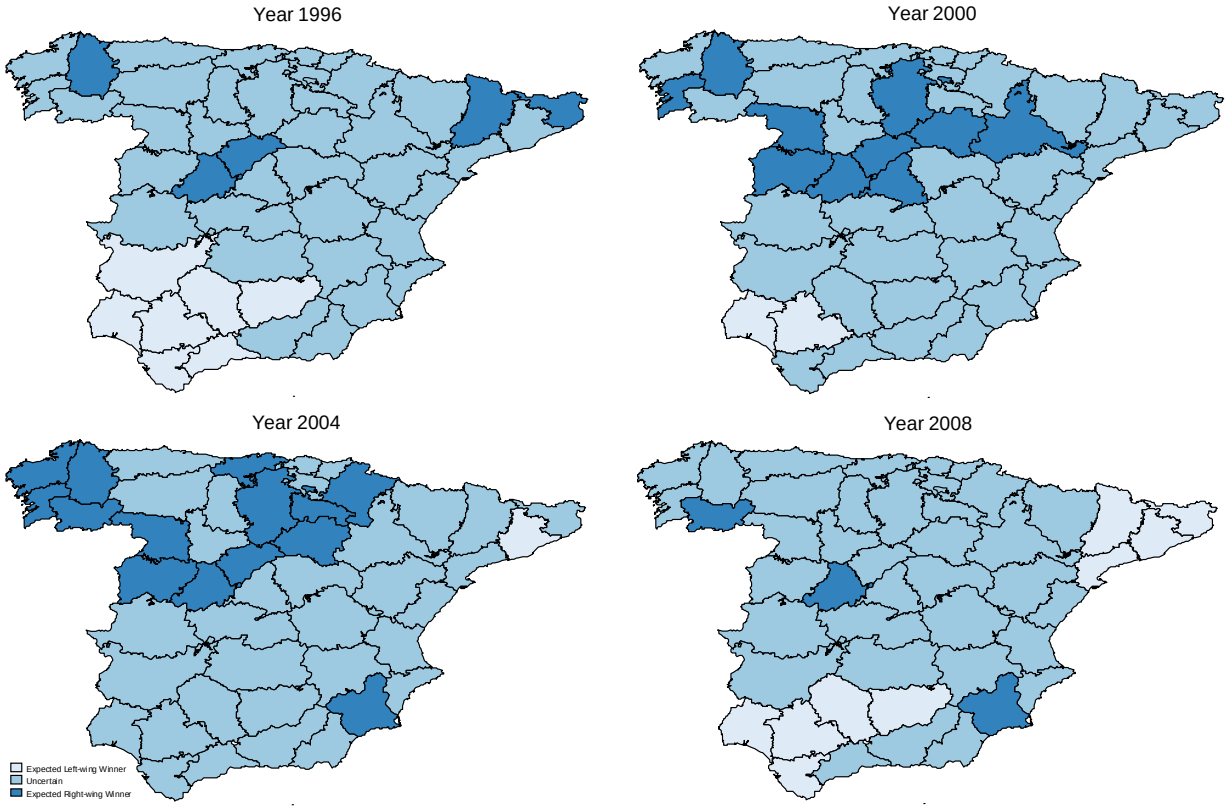
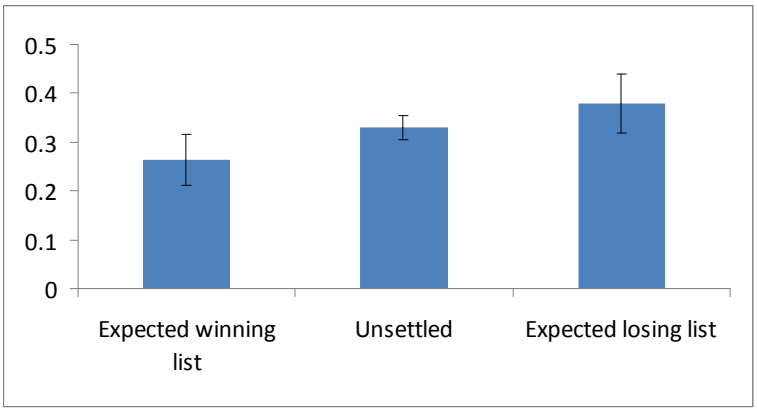
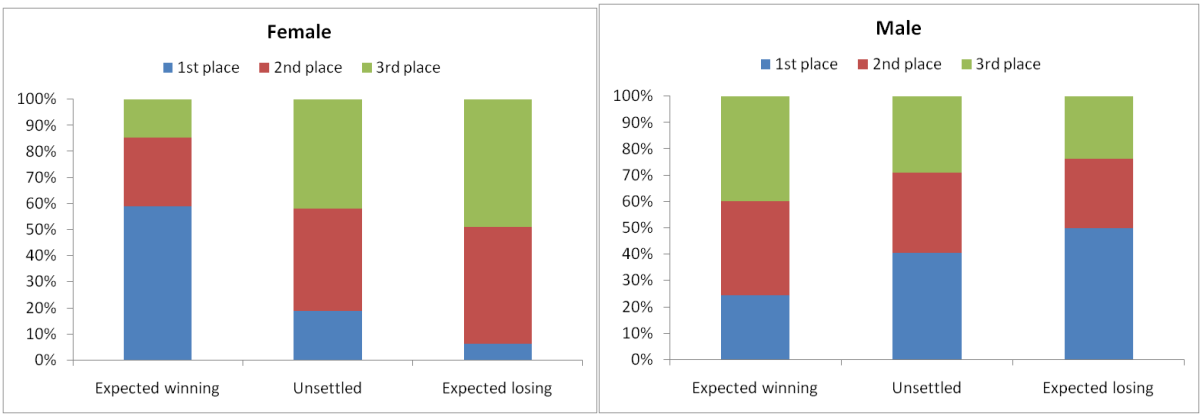


Figure 8. Share of women in Senate lists by type of list



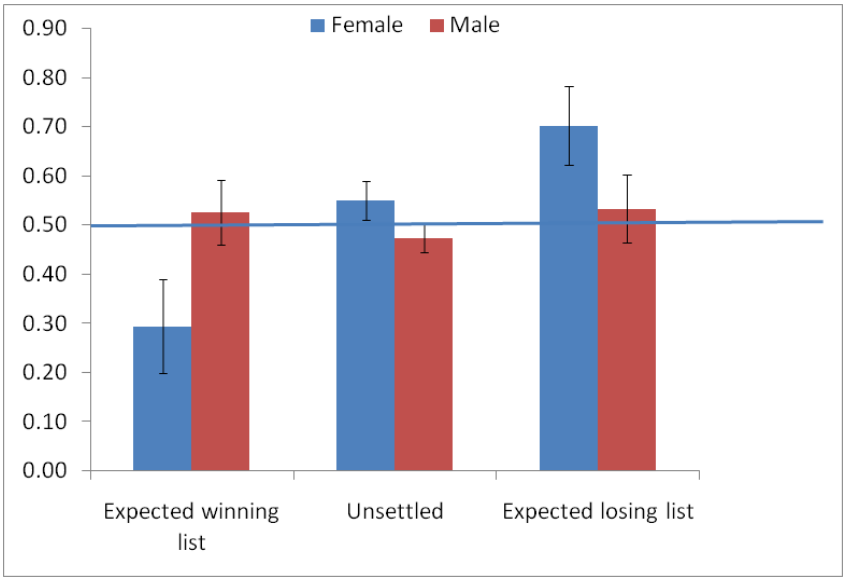
Source - Authors' calculations using data corresponding to the 1996, 2000, 2004 and 2008 Senate elections. Expected winning (losing) lists are lists that obtained 45% more (less) votes than their rival in the previous election. We call all other cases unsettled. Black vertical lines denote 95% confidence intervals

Figure 9. Order in the Senate ballot by type of list and gender



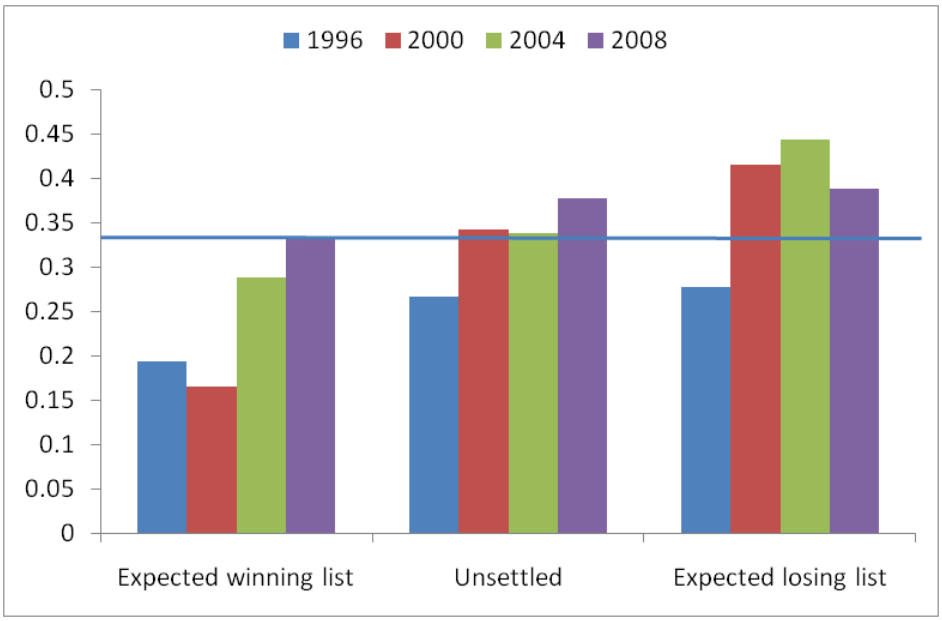
Source - Authors' calculations using data corresponding to the 1996, 2000, 2004 and 2008 elections. Bars show the distribution of male and female candidates across the ballot depending on the list's previous electoral performance. Expected winning (losing) lists are lists that obtained 45% more (less) votes than their rivals in the previous.election. We call all other cases unsettled

Figure 10. Last name order of Senate candidates by type of list and gender



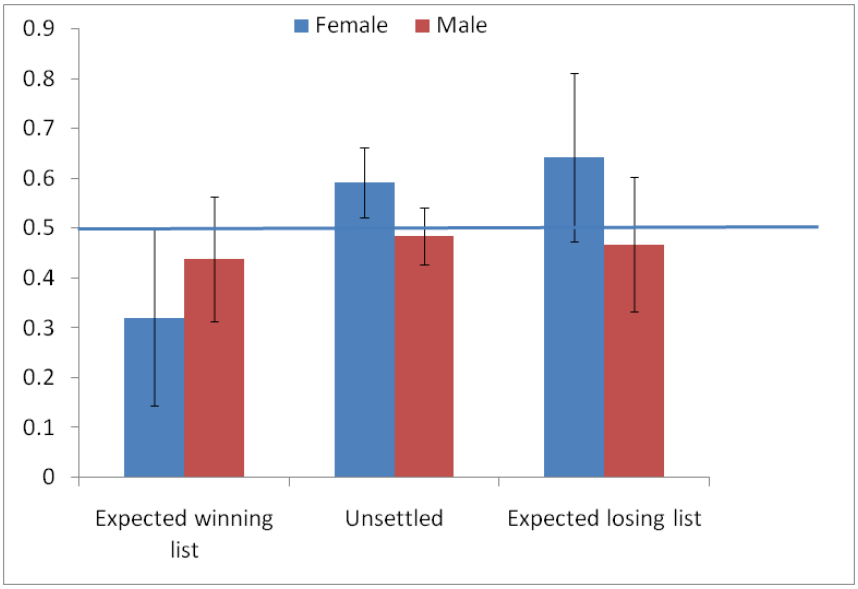
Source - Authors' calculations using data corresponding to the 1996, 2000, 2004 and 2008 elections. Last name order indicates the percentile where the candidate's last name is alphabetically located within the Spanish population. Black vertical lines denote 95% confidence intervals

Figure 11. Share of female candidates by type of list and election



Source - Authors' calculations. The horizontal line indicates the gender quota

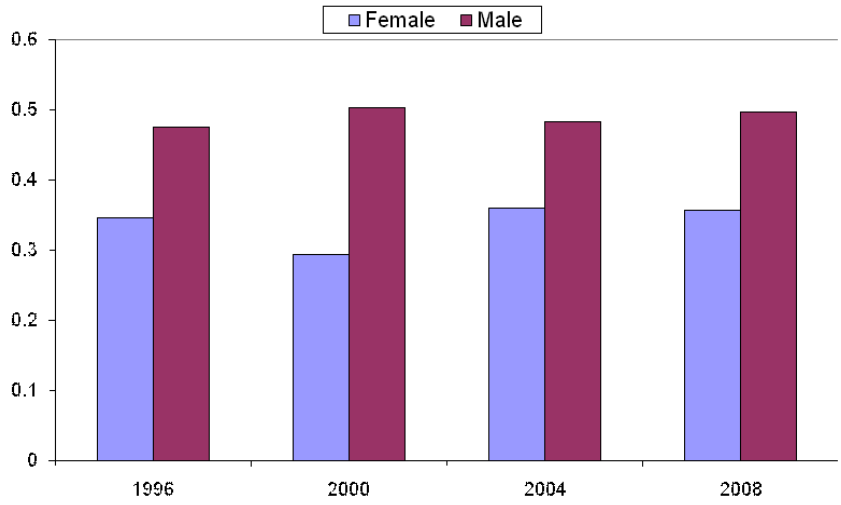
Figure 12. Last name order of Senate candidates by type of list and gender, 2008 election



Source - Authors' calculations. Black vertical lines denote 95% confidence intervals

Figure 13. Position in the House ballot by gender

1996, 2000, 2004 and 2008 elections



Source - Authors' calculations

Figure 14. Implementing ordering rotation – suggestion for Spanish Senate ballot

Order in the ballot	1st rotation	2nd rotation	3rd rotation
First	Candidate A	Candidate B	Candidate C
Second	Candidate B	Candidate C	Candidate A
Third	Candidate C	Candidate A	Candidate B

Table 1: Descriptive statistics, by gender

	Male (1)	Female (2)	p-value (3)
Candidates to the Senate			
Former House Representative	0.18	0.09	0.02
Former Senator	0.42	0.20	0.00
Last name order	0.49	0.55	0.01
First in the ballot	0.39	0.21	0.00
Votes obtained	0.41	0.40	0.02
Number of observations	629	307	
Appointed Senators			
Last name order	0.48	0.42	0.34
Number of observations	115	27	
Candidates to the House			
Last name order	0.48	0.50	0.28
Winning position in the ballot	0.51	0.37	0.00
Number of observations	1,312	868	

Notes: Columns (1) and (2) provide means, column (3) provides the p-value for the test of the null hypothesis that the difference between columns (1) and (2) is zero.

Table 2: Vote ranking according to order in the ballot

Ranking in Votes	First (%)	Second (%)	Third (%)	Total
Position in the Ballot	(1)	(2)	(3)	(4)
First in the ballot	303	7	2	312
(%)	(97.1)	(2.24)	(0.64)	(100)
Second in the ballot	8	285	19	312
(%)	(2.56)	(91.35)	(6.09)	(100)
Third in the ballot	1	20	291	312
(%)	(0.32)	(6.41)	(93.27)	(100)

Notes: The table indicates the ranking in votes obtained by candidates within a certain party list according to their position in the ballot. For instance, of all candidates who were placed first in the ballot, 97.1% ranked first in votes, 2.24% of candidates ranked second in votes, and 0.64% ranked third (that is, last) in votes. The number of observations is 936 candidacies.

Table 3: Candidate characteristics and last name order

Dependent variable:	Female	House Representative	Incumbent
	(1)	(2)	(3)
Last name order	-0.09	0.16	-0.04
	(0.16)	(0.11)	(0.12)
First in the ballot	-0.21***	0.22***	0.23***
	(0.08)	(0.07)	(0.07)
List fixed-effects	yes	yes	yes

Notes: The sample includes the 739 distinct candidates that participated in the 936 candidacies in the analysis. Standard errors clustered at the Year*Province level in parentheses. The dependent variables are dummy variables. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 4: Votes by order in the ballot

Dependent variable:	Votes (%)	
Estimation method:	OLS	IV
	(1)	(2)
First in the ballot	1.40***	1.59***
	(0.09)	(0.10)
Incumbent	0.00	-0.06
	(0.11)	(0.11)
Former House member	0.22**	0.19*
	(0.10)	(0.10)
Last name order [first stage]		-1.32***
		(0.06)
List fixed-effects	yes	yes
Number of observations	936	936

Notes: The sample includes 936 candidacies. Standard errors are clustered at the Year*Province level. The list is represented by Year*Province*Party. Last name order is the instrumental variable used for the first stage in the IV estimation. A constant term (not reported) is included in the OLS regression. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 5: Share of female candidates

Dependent variable:	Share of females	
	(1)	(2)
Vote advantage in the previous election	-0.09***	-0.07**
	(0.02)	(0.03)
Party won the previous election		0.01
		(0.03)
Share of females in previous election		0.23***
		(0.05)
People's Party		-0.08***
		(0.02)
Convergència i Unió		-0.15***
		(0.04)
Year fixed-effects		yes
Number of observations	312	312

Notes: Standard errors in parentheses. The omitted group is the Socialist Party. *significant at 10%;
**significant at 5%; ***significant at 1%.

Table 6: Candidates' place on the ballot by type of list

Dependent variable:	Placed on top of the ballot [Probit]		
List type:	Expected winner	Unsettled	Expected loser
	(1)	(2)	(3)
Female	0.39***	-0.17***	-0.36***
	(0.10)	(0.04)	(0.08)
Incumbent	0.10	0.28***	0.57***
	(0.09)	(0.04)	(0.13)
Former House member	0.18	0.22***	0.18
	(0.13)	(0.05)	(0.20)
Year and Party dummies	yes	yes	yes
Number of observations	129	678	129

Notes: Standard errors clustered at the Year*Province level in parentheses.
*significant at 10%; **significant at 5%; ***significant at 1%.

Table 7: Candidates' last name order by type of list

Dependent variable:	Last name order					
List type:	Expected winner		Unsettled		Expected loser	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.21***	-0.22***	0.07***	0.04*	0.18***	0.10**
	(0.05)	(0.05)	(0.02)	(0.02)	(0.05)	(0.05)
Incumbent		-0.05		-0.13***		-0.21***
		(0.06)		(0.03)		(0.06)
Former House member		-0.17**		-0.03		-0.08
		(0.07)		(0.03)		(0.08)
Year and Party dummies	yes	yes	yes	yes	yes	yes
Number of observations	129	129	678	678	129	129

Notes: Standard errors clustered at the Year*Province level in parentheses.
The sample*significant at 10%; **significant at 5%; ***significant at 1%.

Table 8: The missing female candidates

Dependent variable:	Last name order of									
	Senate				House				All	
	Candidates		Appointed senators		Candidates to positions					
					Expected winning		Expected losing			
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Vote advantage in	-0.27***	-0.03	-0.06	0.03	0.04	-0.01	0.06*	-0.01	-0.04**	-0.01
previous election	(0.04)	(0.03)	(0.16)	(0.07)	(0.04)	(0.03)	(0.04)	(0.02)	(0.02)	(0.01)
Constant	0.53***	0.49***	0.43***	0.48***	0.42***	0.48***	0.51***	0.53***	0.51***	0.49***
	(0.02)	(0.01)	(0.05)	(0.01)	(0.06)	(0.04)	(0.04)	(0.05)	(0.01)	(0.01)
Year*Party fixed-effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Number of observations	307	629	27	116	319	671	549	641	1202	2056

Notes: Standard errors clustered at the Year*Province level in parentheses. The sample includes elections between 1996 and 2008. For House elections (columns (5)-(8)) we include as control dummy variables for whether the party won, lost, or kept the same number of seats in the House. Significant at 10%; **significant at 5%; ***significant at 1%.

Table 9: Votes, by type of list and by election year

Dependent variable:	Votes (%)			
	All years and lists	Expected winning lists	Unsettled races	Expected losing lists
	(1)	(2)	(3)	(4)
Female	0.16**	0.15	0.11	0.25*
	(0.08)	(0.13)	(0.08)	(0.13)
First in the ballot	1.60***	1.92***	1.46***	1.81***
	(0.10)	(0.24)	(0.06)	(0.17)
Incumbent	-0.03	-0.31	0.08	-0.11
	(0.10)	(0.20)	(0.08)	(0.35)
Former House member	0.20**	0.24	0.14	0.46*
	(0.10)	(0.21)	(0.10)	(0.26)
Last name order [first stage]	-1.32***	-1.25***	-1.27***	-1.20***
	(0.06)	(0.13)	(0.06)	(0.20)
Number of observations	936	129	678	129
	1996	2000	2004	2008
Female	-0.14	0.18	0.17*	0.31**
	(0.14)	(0.12)	(0.10)	(0.12)
First in the ballot	1.42***	1.60***	1.63***	1.73***
	(0.09)	(0.13)	(0.15)	(0.18)
Incumbent	0.08	0.02	-0.03	-0.18
	(0.10)	(0.12)	(0.21)	(0.15)
Former House member	-0.01	-0.06	0.41***	0.26**
	(0.13)	(0.32)	(0.15)	(0.10)
Last name order [first stage]	-1.19***	-1.27***	-1.37***	-1.50***
	(0.08)	(0.13)	(0.13)	(0.10)
Number of observations	270	126	270	270

Notes: Standard errors clustered at the Year*Province level in parentheses. All regressions include list fixed-effects. In column (1), the list is represented by Year*Province*Party. Regressions are weighted by the number of votes received by the candidate. In columns (2)-(5), it is represented by Province*Party. Last name order is the instrumental variable used for the first stage in the IV estimation. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 10: Female at the top of the Senate and House ballots, by type of list

	Cases (%)		
List type:	Expected winner	Unsettled	Expected loser
	(1)	(2)	(3)
Top of the list in Senate is female	20	42	3
(%)	(46.51)	(18.58)	(6.98)
Top of the list in House is female	10	42	13
(%)	(23.26)	(18.58)	(30.23)
Number of observations	43	226	43

Table 11: Female at the top of the Senate and House ballots

Dependent variable:	Female at the top of House list [Probit]	
	(1)	(2)
Female at the top of Senate list	-0.10*	-0.32**
	(0.05)	(0.13)
Vote advantage in previous election	-0.04	0.14
	(0.07)	(0.22)
Incumbent	-0.07	-0.18
	(0.05)	(0.12)
Share of female in the House list	0.49**	1.04*
	(0.20)	(0.57)
Won last election	0.06	0.22
	(0.07)	(0.22)
Year fixed-effects	yes	yes
Party*Province fixed-effects	no	yes
Number of observations	312	119

Notes: Standard errors in parentheses. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 12: Number of female senators

Dependent variable:	Number of female senators	
	(1)	(2)
Unsettled race	0.06**	0.06*
	(0.03)	(0.03)
Election year 2000	0.10**	0.09**
	(0.04)	(0.04)
Election year 2004	0.12***	0.11***
	(0.03)	(0.03)
Election year 2008	0.17***	0.16***
	(0.03)	(0.03)
Left-wing victory	0.09***	0.13***
	(0.02)	(0.05)
Draw	-0.02	0.03
	(0.09)	(0.10)
Constant	0.08**	0.06*
	(0.03)	(0.04)
Province fixed-effects	no	yes
Number of observations	156	156

Notes: Standard errors in parentheses. The omitted groups are settled race, election year 1996 and right-wing victory. *significant at 10%; **significant at 5%; ***significant at 1%.