

The Glass Ceiling in Brazilian Political Parties: Gender Inequality in Party Leadership Positions

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Abstract: Although women constitute the majority of the Brazilian electorate, they remain underrepresented in party leadership positions, a pattern that the literature attributes in large part to the role of political parties in reproducing these inequalities. This article examines whether a glass ceiling exists in state-level party leadership in Brazil by testing three hypotheses: H1. in parties with stronger electoral performance, the likelihood that women hold leadership positions is lower; H2. more powerful positions have lower female representation; and H3. the effect of electoral strength is stronger in decision-making positions. We compiled an original database of 53,311 observations of state-level party leaders from 33 parties between 2018 and 2022, based on SGIP/TSE data. We classified positions by level of power and estimated linear probability models to assess the effects of party electoral strength and position type, controlling for ideology, internal democracy, type of party body, and state-level GDP per capita. Women hold under 30% of party leadership positions and about 15% of decision-making positions. The results support all three hypotheses: in parties with greater electoral strength, women are less likely to hold leadership positions; more powerful positions are held significantly less often by women; and this pattern is even more pronounced in decision-making roles. Greater internal democracy increases women's access, while more right-leaning parties and wealthier states reduce it. The findings indicate the presence of a glass ceiling in Brazilian party organizations, with cumulative mechanisms of exclusion at the highest levels of power. The study contributes by applying the concept of the glass ceiling to parties' internal dynamics and by highlighting the role of organizational structures in sustaining gender inequalities.

Keywords: Glass ceiling; party organization; female party leaders; linear probability models; women in politics.

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Introduction

Women currently make up the majority of both the population and the electorate in Brazil. However, despite this demographic majority, women remain underrepresented in elected office. In the Chamber of Deputies, women hold only 18% of the seats (TSE, 2022). This places the country 132nd in the global ranking of women's political representation and last in Latin America (IPU PARLINE, 2025). At the state and municipal legislative levels, women hold a similar share – 18% on average (TSE, 2024, 2022) – and they account for 13.25% of mayors (TSE, 2024). According to the World Economic Forum's Global Gender Gap Report (WEF, 2025), global gender parity in political empowerment is projected to be reached only in 162 years. This projection is based on the current pace of progress across 100 economies. In 2025, Brazil ranked 72nd in this global ranking.

Women's underrepresentation in politics in Brazil and globally has multiple explanations. These explanations point to factors such as voter bias (KAO et al., 2024; PREECE and STODDARD, 2015), gender differences in political ambition (LAWLESS, 2015), the rules of the electoral system (JOHN et al., 2018), and political violence (PINHO, 2020), among others. From an institutional perspective, however, the literature identifies political parties as key drivers of women's underrepresentation in politics (LOWNDES, 2020; SACCHET, 2020; WYLIE, 2018).

Parties control strategic resources and often undermine affirmative measures designed to increase women's presence in elected office (ARAÚJO, 2005; GATTO, 2025; GATTO and WYLIE, 2022). Within these organizations, women's low presence in leadership positions limits their influence over key decisions, such as candidate selection, the party's programmatic direction, and the allocation of campaign resources. Women's presence in party positions is even more important than their presence in parliament (WAUTERS and PILET, 2015). Women in party leadership positions can increase the selection of women for other political offices (PRUYERS et al., 2017), encourage the adoption of affirmative measures and policies for female candidates (CAUL, 2001; KITTILSON, 2006), and promote greater funding for women (EDUARDO and HOROCHOVSKI, 2025). Inequality in access to these positions is not only numerical but also symbolic and structural, reflecting historical barriers that limit women's advancement in politics (GATTO and THOMÉ, 2024). The main obstacles to women's authority in leadership positions are rooted in party structures (THOMÉ and IZUMI, 2025), where women are underrepresented at the highest levels (ALCÂNTARA et al., 2024; LEVEGUEN et al., 2017).

This phenomenon is known as the 'glass ceiling', a term that captures the often invisible barriers that hinder women's advancement to positions of power within organizations. Such obstacles may be institutional, social, economic, or cultural in nature, including sexism, gender stereotypes, the sexual division of labor, exclusion

from informal power networks, and the absence of institutional support mechanisms, among other factors. In Brazilian political parties, which operate under a strong influence of informal norms and exhibit lower levels of institutionalization than those in first-wave democracies, these barriers tend to be more pronounced (WYLIE, 2018). In such contexts, political exchanges tend to rely on informal networks in which homosocial capital is valued while women are excluded (BJARNEGÅRD, 2013; GATTO and WYLIE, 2022).

In this article, we analyze women's access to party leadership positions in Brazil, starting from the assumption that men's and women's trajectories within parties follow different dynamics (O'BRIEN, 2015). We also consider the 'sacrificial lamb' hypothesis, which is rooted in a dominant cultural logic that treats positions of power as naturally masculine, while relegating women to subordinate roles (ASTUDILLO and PANEQUE, 2022). In this context, women's advancement to prominent positions within parties tends to occur more often in electorally smaller, lower-prestige parties that are less attractive to men, given their limited prospects of winning seats in subsequent elections.

In other words, women are more likely to be appointed to leadership and decision-making positions when male interest or competition is lower, reflecting both resistance to women's presence in positions of power and the symbolic instrumentalization of their participation. To examine this dynamic, we use party electoral strength as a proxy for the desirability of leadership positions, measured by electoral performance in the previous election. In this sense, party electoral strength in previous elections is associated with its probability and expectation of winning the next election. Moreover, larger parties tend to attract more members, bringing together a broader range of interests and ideological orientations, which in turn intensifies internal competition for leadership positions (ASTUDILLO and PANEQUE, 2022; WAUTERS and PILET, 2015).

To analyze women's access to party leadership positions in Brazil, we constructed an original database using information from the Party Information Management System (SGIP) of the Superior Electoral Court (TSE). The database includes state-level party leaders from the 33 parties registered through January 2022. After consolidation, the database comprised 53,311 observations of party leaders, with information on gender, party, federation unit, year, and type of position held, covering the period from 2018 to 2022. To classify positions, we follow the typology proposed by Katz and Mair (1993), as adapted by Fagundes (2023), distinguishing decision-making roles, resource-related functions, public representation, general membership positions, and thematic roles linked to women.

Feminist institutionalism (MACKAY et al., 2009) incorporates power and conflict as central dimensions of gender analysis, examining how gender is embedded in institutional rules, practices, and cultures, and how these arrangements can be

reinterpreted or reshaped to reduce inequalities in gender relations. The literature shows that men's and women's experiences in leadership positions differ, particularly due to structural and symbolic barriers that limit women's advancement, even when they break through the glass ceiling (O'BRIEN, 2015). Politically and electorally weaker parties tend to be more open to women in leadership positions, which leads to our first hypothesis: H1. the greater the party's electoral strength, the lower the likelihood that women hold party leadership positions. Moreover, we assume that not all positions are equal in terms of power and resources (RIBEIRO, 2013). Accordingly, our second hypothesis H2. is that the higher the position within party leadership, the lower the likelihood that it is held by a woman. Finally, we formulate a conditional hypothesis H3. the negative effect of electoral strength on women's access is even more pronounced in positions with greater decision-making power. To test these propositions, we combined electoral, ideological, organizational, and socioeconomic data in the party leaders database and estimated linear probability models with control variables for party ideology, level of internal democracy, type of party body, and state-level GDP per capita.

The descriptive analysis reveals a high degree of gender inequality in access to power within Brazilian parties: although women account for nearly half of party members, their presence in leadership remains below 30% (29.74% in 2022). They are concentrated in lower-level positions (members of party deliberative bodies known as 'diretórios': 30.68%) and are rare in decision-making roles, accounting for only an average of 14.75% of the total, declining from 17.04% in 2018 to 14.52% in 2022. The linear probability models confirm all three hypotheses: there is a glass ceiling (the higher the position, the fewer women); larger parties offer fewer opportunities for female leadership; and in electorally stronger parties, these opportunities decline even further in decision-making roles.

The article seeks to contribute to feminist institutionalism and the literature on gender inequality in political representation in at least three ways. From a theoretical perspective, the study tests hypotheses related to the concept of the glass ceiling within party organizations. The concept is usually measured, and tested in elections rather than within parties (O'BRIEN, 2015). Substantively, the study examines the case of Brazil, which remains understudied in terms of parties' internal organization, despite parties' growing role in distributing electoral resources and their increasing centralization in recent years (ROEDER, 2022; SCHAEFER, 2019; SILVA, 2023). Methodologically, the study contributes by creating an original database on party leadership that can support further research on the topic.

This article is organized in four sections, in addition to this introduction and the conclusion. In the next section, we review the literature on the glass ceiling and its application to political parties, focusing on factors both exogenous and endogenous to these organizations. The third section outlines the research design, data sources, and methodological strategy. The fourth section presents the results and discussion.

Finally, we summarize the main conclusions and suggest directions for future research.

The glass ceiling in politics

Marilyn Loden coined the term ‘glass ceiling’ during a 1978 conference in New York on women’s aspirations. The expression refers to an invisible yet resistant barrier that prevents women from reaching higher positions within the organizations in which they operate. According to the Merriam-Webster dictionary: it is “an intangible barrier within a hierarchy that prevents women or minorities from obtaining upper-level positions” (MERRIAM-WEBSTER, 2025). At the time, while other panelists emphasized women’s lack of attributes and gender stereotypes – such as socialization that limits their aspirations or low self-esteem – Loden (2017) drew attention to cultural factors within organizations that produce this stagnation and prevent women from reaching the highest levels, including managers’ prejudiced attitudes, wage inequality, and the lack of support for women.

To analyze the factors that hinder women’s access to the highest positions within political parties, we group the explanatory variables identified in the literature into two categories: internal (endogenous) and external (exogenous) to political parties. Endogenous factors include internal democracy, ideology, rules such as quotas for ‘diretórios’ and for candidate lists, primaries, recruitment, candidate selection, and organizational features such as institutionalization. Exogenous factors, in turn, include both institutional aspects external to parties, such as electoral system rules, and social factors, such as gender stereotypes that affect women’s political ambition, gender norms, etc.

Both sets of factors interact when we consider types of positions and informal practices. Culture, homosociality, and traditional gender norms also manifest within parties through leaders’ biases and their interactions (REHMERT, 2022). Endogenous and exogenous variables are therefore not mutually exclusive and may, at times, be interconnected, as noted above. Most of the literature examines the glass ceiling’ phenomenon in the context of elected office rather than within parties’ internal dynamics. This distinction will be indicated where relevant in the literature discussion.

Addressing the glass ceiling in elected office through endogenous and exogenous factors, Palmer and Simon (2010) analyze more than 10,000 legislative elections and 30,000 candidates in the United States between 1916 and 2006, using variables such as gender, party, incumbency, vote share, district, primaries, and candidate profiles. Although the number of women elected has increased significantly since 1970, the growth has been slow and uneven. From 1990 onward, the authors identify a gap between the parties, with the Democratic Party significantly outpacing the Republican Party in terms of gender representation.

Among the main factors identified, incumbency advantages stand out, as they shape the opportunities available to female candidates. According to the authors, male incumbents are the main barrier to the entry of new women into Congress. In contrast, the presence of a female incumbent tends to encourage more women to run in subsequent elections. The authors also identify 'women-friendly districts', where women have higher chances of success. They follow a pattern: they are more liberal, lean left, are smaller and more urban, more racially diverse, wealthier, have higher levels of education, and are predominantly represented by Democrats (PALMER and SIMON, 2010).

Also focusing on elected positions and both types of factors, Folke and Rickne (2012) compare the probability of reelection among Swedish municipal politicians from 1991 to 2010, across 290 municipal assemblies, drawing on the supply-and-demand model of political recruitment (NORRIS and LOVENDUSKI, 1995). The authors examine how party selectors' bias affects women's political careers – an aspect we treat as endogenous, as is recruitment. The exogenous variables analyzed include inter-party competition; family responsibilities (having children aged 0-18 and having a new child between elections); moving to another municipality; changes in the labor market; and individual attributes such as age, formal education, income, being an immigrant, prior experience, and previous electoral performance.

Folke and Rickne (2012) show that women have a lower probability of reelection and, consequently, fewer opportunities to accumulate the political experience needed to attain higher office. Among the explanatory factors examined, family responsibilities, particularly being a parent, account for roughly half of women's reelection disadvantage, making it the most relevant supply-side factor identified by the authors. According to them, overcoming gender norms tied to family responsibilities is essential to expanding the democratic representation of women with children. Women's greater burden of family responsibilities is also identified as a relevant factor by other authors, such as Fulton et al. (2006) and Wylie (2020; 2018), as is the socialization of gender roles (CLARK et al., 1989). By contrast, factors such as age, education, and income do not explain, and in fact obscure, women's reelection disadvantage, since women tend to be better qualified than their male counterparts on these dimensions. These authors also show that in contexts of high inter-party competition, party selectors' negative bias against women decreases, favoring more meritocratic criteria. Women's disadvantage in reelection is halved in competitive contexts (FOLKE and RICKNE, 2012).

In another study focusing on internal party dynamics and promotion processes, Folke and Rickne (2016) adapt the glass ceiling concept to the Swedish political context, based on the criteria proposed by Cotter et al. (2001) to identify barriers to women's advancement to higher positions in local politics. The first criterion is conditional vertical inequality, which indicates a residual gap in women's representation in higher political offices even after controlling for external qualifications relevant to the

promotion process. The second criterion concerns the increase in inequality from lower to higher levels, whereby gender inequality intensifies at upper tiers of the political structure, revealing a cumulative pattern of disadvantage for women. The third concerns inequality in career advancement, arguing that women are less likely to be promoted to senior positions, regardless of their representation across hierarchical levels. The final criterion – divergent career trajectories – suggests that, over time, men and women with similar backgrounds experience increasingly unequal chances of attaining more influential positions, pointing to a progressively tightening ‘glass ceiling’.

The glass ceiling is defined as a “specific pattern of career disadvantages that can explain the lack of women in top positions” (FOLKE and RICKNE 2016, p. 02). This pattern has two key features. The first concerns the presence of discriminatory barriers that undermine women’s career advancement – that is, their slower progression reflects gender discrimination rather than differences in experience, qualifications, or individual choices. The second is that these barriers tend to become stronger at higher levels of the organizational hierarchy. The concept rests on the idea that individuals with equivalent qualifications face discrimination in promotion decisions, and that this discrimination tends to widen as one moves up the organizational hierarchy. Discrimination underpins the ‘glass ceiling’ phenomenon insofar as gender reduces an individual’s likelihood of being appointed to influential positions within the organizational hierarchy.

The authors draw on panel data on Swedish municipal politicians from 1988 to 2010, focusing on the local political hierarchy. At the lowest level are individuals elected to the municipal assembly who do not hold positions at other levels. The second level consists of intermediate roles held by those appointed as chairs of local subcommittees but not as chairs of the main municipal council. The third level is the top of local politics, comprising the chairs of the municipal council – the municipality’s main executive position, responsible for local government. Political parties appoint both of these positions,

The authors confirm the first three criteria and find suggestive evidence for the fourth in relation to the ‘glass ceiling’. Analyses by party show that the ‘glass ceiling’ is present in both left- and right-leaning parties; the Center Party is the only exception, though the authors caution that this may reflect the smaller sample size rather than the genuine absence of the phenomenon. They show that even in a country with high levels of descriptive representation and a strong institutional commitment to gender equality, women face structural, cumulative obstacles. These barriers persist even among women with the same experience, education, and career tenure as men. The findings indicate that increasing women’s presence at the lower levels of the political system is not sufficient to ensure advancement up the hierarchy, as is already the case in Sweden, where women hold more than 30% of seats in local assemblies. This underscores the need to revisit internal party rules and practices, particularly

promotion mechanisms, that sustain subtle and persistent forms of discrimination (FOLKE and RICKNE, 2016).

The article further shows that women's underrepresentation in higher political positions does not result from factors such as formal qualifications, ambition, or family responsibilities. In the sample analyzed, women are, on average, more qualified and equally ambitious as men, and the results hold even among those with young children. According to the authors, the glass ceiling is explained by discrimination in intra-party promotion processes, marked by homosocial practices, differential recruitment, unequal resource allocation, biased party support, and perceptions of external bias. These mechanisms reproduce gender inequalities even among equally qualified candidates (FOLKE and RICKNE, 2016).

Cultural and attitudinal factors also play an important role in shaping women's political opportunities and reinforcing gender inequalities in electoral competition. Zamfirache (2010) highlights the media's role in reproducing gender stereotypes, often privileging a gendered narrative over candidates' qualifications and thereby undermining their public image. Moreover, analyzing men's and women's electoral preferences, with the candidate's gender as a central attribute, helps illuminate factors that precede the decision to run for office. If the electorate shows resistance to female candidates, this perception can become a structural disincentive for parties and leaders to select them, reinforcing existing inequalities (DOLAN, 1997). Dolan (1997) analyzes gender differences in support for female candidates in the United States, suggesting the presence of a glass ceiling that hinders women's full integration into politics. The author surveyed students at 36 colleges in 23 states across the United States in 1989. Support for female candidates was measured through questions asking respondents about their willingness to vote for a qualified woman nominated by one of the parties at different levels (local, state, national, and presidential). Control variables included respondents' gender, race, income, parents' educational attainment, the mother's employment status, and political knowledge. Dolan's findings (1997) indicate that support for female candidates declines as the importance of the office increases, especially among male voters.

In this context, the idea of a 'critical mass' suggests that only when a substantial number of women hold positions of power can their interests be effectively represented. However, the author argues that such representation depends on institutional support, highlighting persistent inequalities, also within parties: unlike men, women rely more on incentive policies and support. According to Wylie and Santos (2016) and Wylie (2020), the presence of a critical mass of women in party leadership positions (at least 25%) increases the likelihood that parties will comply with quotas and elect more women. In the case of Brazil, Araújo (2003) shows that the persuasive efforts of female deputies – especially in securing the support of male party leaders – were crucial to advancing gender quota proposals in the National Congress.

Other studies show that the presence of women within party structures is associated with a greater likelihood that parties will adopt affirmative action measures, such as gender and funding quotas. Caul (2001), for instance, identifies a positive correlation between the proportion of female activists within parties and institutional support for quotas. Female legislators play a central role in the legislative processes that lead to the adoption of these measures. They are typically the ones who introduce and advance bills proposing quotas for women (KROOK, 2010; PISCOPO, 2006; SACCHET, 2005), and who actively engage in political negotiations to secure their approval (PISCOPO, 2015).

However, despite the global spread of electoral gender quotas and their long-standing adoption in Brazil, male legislators – motivated by concerns about their own careers – strategically resist their effective implementation (GATTO, 2025). These actors concede when opposition becomes explicit and the costs of resisting it rise, particularly in reputational terms. Gatto (2025) finds that gender quotas advance despite resistance from male legislators. Opposition is driven by political ambition and self-protection, but reputational pressure, legislative strategies, and institutional mobilization – by the judiciary, for example – have enabled advances in women’s political representation.

Regarding party recruitment, Norris and Lovenduski (1995) argue that notions of merit and qualification are not neutral but are shaped by social perceptions of men’s and women’s competencies, which vary depending on the profile of those making the evaluation. From a gender affinity perspective, research shows that women in recruitment roles tend to value female candidates more (NIVEN, 1998) and to maintain networks with a higher share of women (SANBONMATSU, 2006). However, women’s often underestimated perceptions of their own qualifications can limit their political ambition (FOX and LAWLESS, 2004; GATTO and THOMÉ, 2024; PREECE, 2016). With regard to parties, the literature points to differences in both the level of party support and women’s perceptions of that support (FOX and LAWLESS, 2004; FULTON et al., 2006; PREECE and STODDARD, 2015; SANBONMATSU, 2006; WYLIE, 2020, 2018).

According to Gatto and Thomé (2024), women adopt three most common strategies when deciding which party to join or run with. These strategies include 01. choosing a party before developing an interest in running for office; 02. ad hoc choice of party after deciding to run; and 03. joining a party following an invitation from a party leader. With the expansion of cross-party civil society organizations focused on training and preparing women for politics, such as RenovaBR and Instituto Update, the second pathway has gained strength (GATTO and THOMÉ, 2024), which may also have changed intra-party career trajectories.

Reynolds (1999) argues that the expansion of competitive multiparty politics has increased opportunities for women’s participation, but democracy alone does not guarantee substantial gains in the electoral arena. Exogenous factors – such as

closed-list proportional representation systems, women's level of socioeconomic development, ideology (with higher rates of women's election on the left), sociocultural acceptance of female leadership, and support from inclusive political institutions – are key determinants of women's presence in politics. Wylie (2018) notes that Brazilian parties, most of which are weakly institutionalized, lack stable organizational structures, predictable resources, and clear rules. This results in lower levels of psychological, organizational, and material support for women. Those without prior political capital or personal ties to party elites tend to be marginalized. According to the author, male-dominated party leadership makes it harder for women to enter and advance within the party. By contrast, more institutionalized parties with a critical mass of women in leadership allocate more resources to women.

Contrary to the findings of Palmer and Simon (2010) and Folke and Rickne (2012), Jalalzai (2008) shows that women are more likely to rise to executive leadership in contexts of limited or shared power, or in institutionally fragile settings with fragmented authority, based on an analysis of women executive leaders in 132 countries between 1960 and 2007. Access often depends on family ties to male leaders, especially in Latin America and Asia. In Europe, parties are the main route to access, while in Africa, male dominance persists. In more institutionalized systems, however, women are more likely to reach the executive, highlighting the complexity of the institutional factors involved.

Delgado (2021) shows that, in Latin American parties, increased female participation and the adoption of gender quotas have not displaced male dominance, and few women hold leadership positions. Informal rules and the persistence of the glass ceiling limit women's advancement to the highest positions within party organizations. Trimble and Arscott (2007) suggest that, paradoxically, women may find it easier to rise to party leadership in electorally weaker or less competitive parties. Lower competitiveness and popularity in electorally fragile parties may make it easier for women to rise.

Along similar lines, O'Brien (2015) examines how party strength shapes women's access to and tenure in party leadership, using data from 11 advanced parliamentary democracies over nearly 50 years. The findings show that women are more likely to attain party leadership for the first time in smaller opposition parties or in parties that are performing poorly and losing seats. The interaction between the party being in government and its electoral strength reinforces this pattern: smaller parties out of power are the most likely to elect women to leadership positions. Control variables – both endogenous, such as ideology and party age, and exogenous, such as the size of their legislative party group and the share of women in parliament – also matter. Still, the overall pattern suggests that women are more often chosen for leadership in times of crisis or when the position becomes less attractive to men.

Once in power, they tend to stay in office if they can reverse poor electoral results, but they face harsher evaluations when they fail. The author shows that parties still operate under unequal rules and gender expectations. The path to the top of party politics differs for men and women. For men, the path is more stable and predictable, especially when the party is growing. For women, advancement tends to occur when the party is in electoral decline, and their rise more often depends on exceptional performance; otherwise, they face a higher risk of losing their position than their male counterparts.

O'Neill and Stewart (2009) also examine the trajectories of male and female party leaders to identify structural barriers in Canada between 1980 and 2005. The variables analyzed include gender, age, occupation, marital status, children, prior electoral experience, number of elections they ran, and length of tenure. Party strength was measured as the percentage of votes obtained in the previous election. The authors confirm that more competitive parties are less likely to elect women as leaders. Overall, women tend to lead weaker parties, which obtained a lower share of votes and seats in the previous election. Moreover, left-wing parties are more likely than right-wing parties to choose women as leaders. Women leaders tend to be slightly older, have fewer children, and are less likely to be married than their male counterparts. The authors reiterate that party organizations are gendered spaces in which women who reach top leadership positions face specific obstacles, higher expectations, and greater scrutiny, leading to shorter careers and greater challenges for electoral success than men.

Alcântara et al. (2024) examine structural barriers to women's political participation in Brazil, focusing on the internal organization of political parties. Using 2022 TSE data, the authors show that women's underrepresentation is more pronounced at higher levels of party structures, revealing a growing imbalance: although women make up the majority of the electorate, they hold only 16% of top positions in national executive committees. The study shows that party bodies formed through democratic processes, such as elections for 'diretórios', have higher levels of female participation than those formed by appointment, such as provisional committees. The study concludes that barriers to women's participation are rooted in parties' internal dynamics, and require deeper institutional change, along with stronger mechanisms to ensure equal access to power (ALCÂNTARA et al., 2024).

Araújo and Ramos Jr. (2024) examine the strategic role of party leadership positions in promoting women's participation in legislative elections. Using TSE data from the 2018 and 2022 elections, the study examines how women's presence in leadership positions – such as the presidency, general secretariat, the party's finance office, and women's secretariats – affects variables such as the share of female candidates, the public funding received, individual vote totals, and women's electoral success. The authors show that, despite a slight increase, women's presence in national party executive committees remains low (from 20% in 2018 to 22% in 2022) and is slightly

higher at the state level. Left-wing parties stand out for their greater female representation and higher level of institutionalization, reflected in a larger number of permanent bodies and secretariats dedicated to women's issues. However, the results also suggest that simply having women in party leadership does not necessarily lead to greater support for female candidacies: in 2022, for example, having a woman as party president was associated with fewer female candidacies. A woman serving as secretary-general, by contrast, had a positive effect. The study also shows that female candidates are more competitive when more women run, when they have greater access to funding, and when the party has prior experience electing women. The authors conclude that parties are ambivalent organizations, since women's presence in top leadership does not always translate into effective inclusion strategies, while institutionalization and organizational commitment to gender equality remain crucial for breaking the glass ceilings that persist within party structures.

Hypotheses

Adopting the concept of the glass ceiling implies that gender inequality in party leadership is more pronounced in electorally stronger parties (O'BRIEN, 2015; O'NEILL and STEWART, 2009; TRIMBLE and ARSCOTT, 2007) and in positions with greater decision-making power (O'BRIEN, 2015; O'NEILL and STEWART, 2009). In other words, women face multiple barriers to party leadership, and these barriers intensify higher up the party hierarchy and in more powerful positions. In this sense, the glass ceiling refers to a barrier that, beyond a certain point in their careers, prevents women from advancing further within the organizational hierarchy.

From this, we derive the following hypotheses:

H1. The greater a party's electoral strength, the lower the likelihood of finding women in party leadership positions.

H2. The higher the party leadership position, the lower the likelihood of finding women.

Moreover, the two hypotheses may be related; therefore:

H3. The negative effect of a party's electoral strength on women's access to leadership positions is stronger in decision-making positions than in other types of positions.

Our hypotheses do not fully explain the phenomenon, as other interpretations are possible. However, we analyze the phenomenon by isolating the effects of the type of position and party electoral strength ('effects-of-causes'), while controlling for other factors discussed in the literature, such as ideology, internal democracy, and economic development (WAUTERS and PILET, 2015). We also include these variables in our models. In the next section, we outline the research design.

Research design

Party bodies

Brazilian political parties are guaranteed internal organizational autonomy under the Political Parties Law (Law N° 9.096/1995). Despite this autonomy, the law imposes various rules on party bodies, so these structures tend to follow fairly similar formats. For example, parties may set the terms of office for members of party bodies (Law N° 13.831/2019), with each party's statute specifying the duration (in most cases, two to four years).

Party bodies consist of a range of entities, groups, and organizational units within the party. In most parties, these include:

- deliberative bodies (party conventions and 'diretórios');
- executive bodies (executive committees and provisional committees); parliamentary bodies (legislative party groups at the three levels of the federation); political action and coordination bodies (such as sectoral groups and research foundations);
- bodies responsible for party discipline and loyalty (ethics and discipline committees; and, finally,
- financial oversight bodies (such as fiscal councils).

These bodies are organized at the municipal, state, and national levels. Thus, municipal party conventions select delegates to state conventions, which in turn select delegates to national conventions. Party conventions meet to select the party's candidates for elective office and to elect members of the 'diretórios'. Once the members of the 'diretórios' have been selected, the executive committees are then chosen at the municipal, state, and national levels (GUARNIERI, 2011).

The 'diretórios' are responsible for routine party activities, including maintaining membership records, enforcing discipline, organizing conventions, distributing party funds, and reporting accounts to the electoral courts, among others. Executive committees, in turn, are composed of vice presidents, treasurers, and secretaries, and are responsible for implementing the decisions of the 'diretórios', convening meetings of the national 'diretório', and overseeing party activities, including monitoring compliance with the party's code of ethics and discipline (MDB, 2022). We emphasize, once again, that the composition of each body is defined by each party's statute, in terms of both the number of members and the criteria for selection, which may

include minimum membership requirements, gender parity provisions, or determinations related to the race or age of those holding these positions¹. Another point is that, in states where no 'diretório' has been established, the national executive committee may appoint a provisional committee to operate in that locality, with the same powers as the state 'diretório' and executive committee. These bodies may serve for up to four years². Parties widely use this strategy to control the decisions of state 'diretórios' and, in turn, their electoral decisions (GUARNIERI, 2011). For example, between 2022 and 2023, the Liberal Party (PL) maintained only provisional party bodies in all states except São Paulo (FAGUNDES, 2023). This evidence shows that access to these positions is crucial, as those who hold them control the parties' decision-making and financial resources.

Data collection

This article examines access to party leadership positions by the gender of those who hold them. To this end, we empirically examine the gender distribution in leadership positions within state-level party bodies. The first step in building the database was to collect primary data from the Party Information Management System (SGIP) on the Superior Electoral Court (TSE) website, which provides information on party bodies in place at the time of data collection (2021–2022). In the data provided by the TSE, there is no distinction or further specification between the different types of party bodies. That is, it is not possible to determine whether the listed names refer to conventions, 'diretórios', executive committees, or other types of party bodies. We therefore considered all available information. We note that, at the time of data collection, we considered the thirty-three parties registered with the TSE by January 2022, since the merger between Democratas and PSL, formalized in February 2022, had not yet been registered.

Initially, the database included the following information: federation unit, party, member name, position, level of the party body (state or national), start and end dates in the position, start and end of the body's term, member status (active or inactive), and whether the party body was provisional or permanent. In total, we identified 20,640 names in party bodies at the national and state levels. These names were distributed across 33 national and 726 state party bodies, as some parties do not have established organizations in every state.

¹The Workers' Party (PT) stipulates in its statute that: "IV – party leadership bodies, delegations, and positions with specific secretarial functions must observe gender parity (50% women and 50% men)". "V – in the final composition of leadership bodies, 20% (twenty percent) of their members must be under 30 (thirty) years of age, and an ethno-racial criterion, to be defined by the Diretório Nacional, must also be observed, taking into account the demographic composition of the party's membership and establishing a minimum participation of 20% (twenty percent) in party leadership bodies" (Art. 22).

²Available at <<https://noticias.stf.jus.br/postsnoticias/stf-limita-a-quatro-anos-o-funcionamento-dos-diretorios-provisorios-de-partidos/>>.

The final step was to identify which party leaders held active positions in which years, thereby expanding the database. We compiled data on party leaders who held office between 2018 and 2022, with the units of analysis defined as the leader's name, party, state, and year, totaling 53,311 observations.

We include electoral data from the TSE, obtained via the *basedosdados* package (DAHIS et al., 2022); economic data from the IBGE, via the *ipeadatar* package (GOMES and GOLTARA, 2022); information on party ideology from Zucco and Power (2024); and information on internal democracy from Salgado (2020). This information was merged into the party leaders database at three levels: the party level (ideology and internal democracy), the state level (GDP per capita), and the party-state level (electoral performance in the previous election).

Measurement of variables

The dependent variable is binary, taking the value 01 when the party leader is a woman and '0' when the party leader is a man. We used the *genderBR* package in R to identify the sex of party leaders. The package predicts an individual's sex based on their name, using data from the 2010 IBGE Census (MEIRELES, 2022). Across all cases, the package did not return a gender classification for 1,158 names, which were coded manually. Of these, in 56 cases it was not possible to identify the individual or assign a gender, so these observations were excluded from the sample. After these steps, we identified women's presence within parties and the positions they hold.

We consider as independent variables the party's electoral strength in the state in the election preceding the leader's term — measured as the proportion of state deputies elected relative to the total number of seats — and the type of leadership position. For electoral strength, we always use the election preceding the leader's entry into office: for positions assumed in 2018, we use 2014; for 2019, 2018; and so on. We use data from elections to the state legislative assemblies (LA), since they are held under a proportional representation system and therefore allow for a more precise measure of parties' electoral strength than majoritarian systems (COX, 1999; GUARNIERI, 2015). Drawing on the glass ceiling literature, our hypothesis is that the greater a party's electoral strength, the lower the likelihood that women will gain access to party leadership positions (H1). Electoral strength is measured on a continuous scale (0–100), following Astudillo and Paneque (2022), O'Brien (2015), and O'Neill and Stewart (2009).

The type of position is coded based on Fagundes (2023), who groups more than 1,200 leadership position titles into five categories, drawing on the framework of Katz and Mair (1993): Decision-Making, Resources, Public Office, Members, and Women. Katz and Mair (1993) originally conceptualize parties as having three faces: the party in public office, the party on the ground, and the party in central office. The central office corresponds to the party's central leadership, that is, its top-tier leadership. The party

on the ground refers to the party base, specifically its members and activists. Finally, its members in government and in the legislature (KATZ and MAIR, 1993) represent the party in public office, the party's public face³.

The 'Decision-Making' group comprises positions with the greatest decision-making power within the party, such as the presidency, vice presidencies, and sectorial presidencies. 'Resources' refers to positions such as treasurers, general secretaries and other secretaries, as well as committee members. 'Public office' refers to legislators and party leaders at all levels of government who are listed as members of party bodies. 'Members' refers to those designated as delegates, members, or alternates. Finally, the 'Women' category comprises party sectorial bodies that explicitly denote positions held by women, such as 'women's coordination' and 'women's secretariat'. Here, we use a dichotomous variable that distinguishes decision-making positions (01) from all others (0). The rationale is that, following H2, women will less access positions with greater power – that is, those involving decision-making and control over resources (RIBEIRO, 2013).

We also include a conditional hypothesis (BRAMBOR et al., 2006), based on the interaction between electoral strength and decision-making positions. In this case, we expect electoral strength to have a stronger negative effect on the probability of women's access to party leadership positions when these involve greater decision-making power within the party (H3).

Our hypotheses do not fully explain gender inequality within parties. To address this, we include a set of control variables: the level of internal (intra-party) democracy (CHILDS, 2013; SALGADO, 2020), ideology (ARAÚJO and RAMOS JR., 2024; O'NEILL and STEWART, 2009; REYNOLDS, 1999; WYLIE, 2018), type of party organization (GATTO and WYLIE, 2022), and state GDP per capita (WAUTERS and PILET, 2015).

The index of internal democracy is drawn from Salgado (2020). The author considers a set of indicators, such as leader selection, the resolution of internal conflicts, and relations between party levels (ranging from 0 to 01). The information is drawn from party statutes. We use only party leadership composition, which includes: form of election, requirements to run, minority rights, term length, the possibility of reelection, the possibility of early termination of term, and accountability to party members.

The literature offers divergent interpretations of the relationship between internal democracy and women's access to party leadership. While some studies indicate that the rules for selecting party leaders do not affect women's selection (WAUTERS and PILET, 2015), others argue that more inclusive selection mechanisms, such as internal elections with member participation, may have negative effects (ASTUDILLO and PANEQUE, 2022). Direct elections for internal positions may reinforce gender

³Examples of the coding process are presented in the Appendix.

stereotypes and make it harder for women to reach these positions (SILVA and GATTO, 2021).

Ideology is measured on a continuous scale from –01 (extreme left) to 01 (extreme right), based on the perceptions of Brazilian legislators (ZUCCO and POWER, 2024). The expectation is that left-wing parties are more open to women's presence because they adopt more programmatic positions on inequality, feminist policies, and social justice (ARAÚJO and RAMOS JR., 2024; O'NEILL and STEWART, 2009; REYNOLDS, 1999; WYLIE, 2018). The type of party organization indicates the presence of either a 'diretório' or a provisional committee. More institutionalized parties – with more complex structures and organized primarily through 'diretórios' – provide greater support for women within the organization (WYLIE, 2018). Finally, GDP per capita measures wealth. In wealthier societies, women are more likely to attain leadership positions (PALMER and SIMON, 2010; WAUTERS and PILET, 2015)⁴.

Estimation strategy

To model the relationships between the variables, we use linear probability models (LPM), estimated by ordinary least squares (OLS). Although the dependent variable is binary (0 = man, 01 = woman), which could suggest using nonlinear estimators such as logit⁵, recent work in economics and political science favors the LPM for its interpretive simplicity and robustness (ANGRIST and PISCHKE, 2009). In the LPM, the estimated coefficients correspond directly to differences in probabilities – the marginal effect of each independent variable on the probability that the leader is a woman –, making the results easier to interpret and communicate without additional transformations.

Results

Before presenting the model results, we describe gender inequality in access to party leadership positions. In 2010, the first year with systematized electoral justice data on party affiliations, women accounted for 43.5% of the more than 13 million Brazilians formally affiliated with political parties. By 2020, this figure had increased slightly: 45.3%. Although this does not match women's share of the electorate (around 52%), it is substantially higher than the share of women elected to the Chamber of Deputies – 18% in 2022 – and also higher than their representation in party leadership. Over the

⁴Although GDP per capita has been little explored in the Brazilian context – limiting direct extrapolation of evidence from other studies – we include it as a control variable to assess whether the distribution of resources and power across states affects the gender composition of party elites.

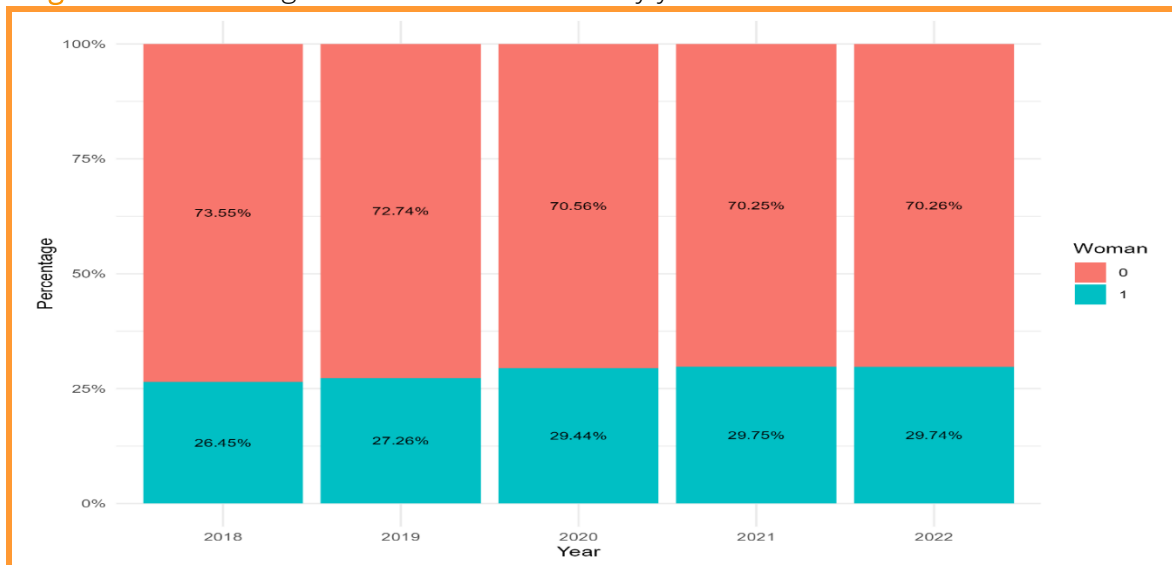
⁵We thank the BPSR data editorial team for this suggestion. In the appendix, we also report tests using logistic regressions.

period analyzed, we found that women accounted for 29.17% of all state-level party leaders in Brazil (15,552 out of 53,311).

Figure 01 shows how the percentage of women varies over time. The proportion of women in party leadership positions increases slightly between 2018 and 2021 (by about three percentage points), then levels off in 2022. In other words, even within party leadership, the 30% threshold has yet to be reached.

Figure 02 shows how the percentage of women varies across types of positions. In descending order, thematic positions (women's secretariats) are held exclusively by women among the parties analyzed (at the state level); these are followed by member positions (32.67%), resource positions – which includes treasuries and finance secretariats (27.23%) – public office positions (party leaders in legislative bodies, 16.82%), and, finally, decision-making positions (presidents, 15.02%). In other words, there are significant differences (chi-square = 751.57) between the expected and observed frequencies of women across party leadership positions.

Figure 01. Percentage distribution of women by year



Source: Elaborated by the authors.

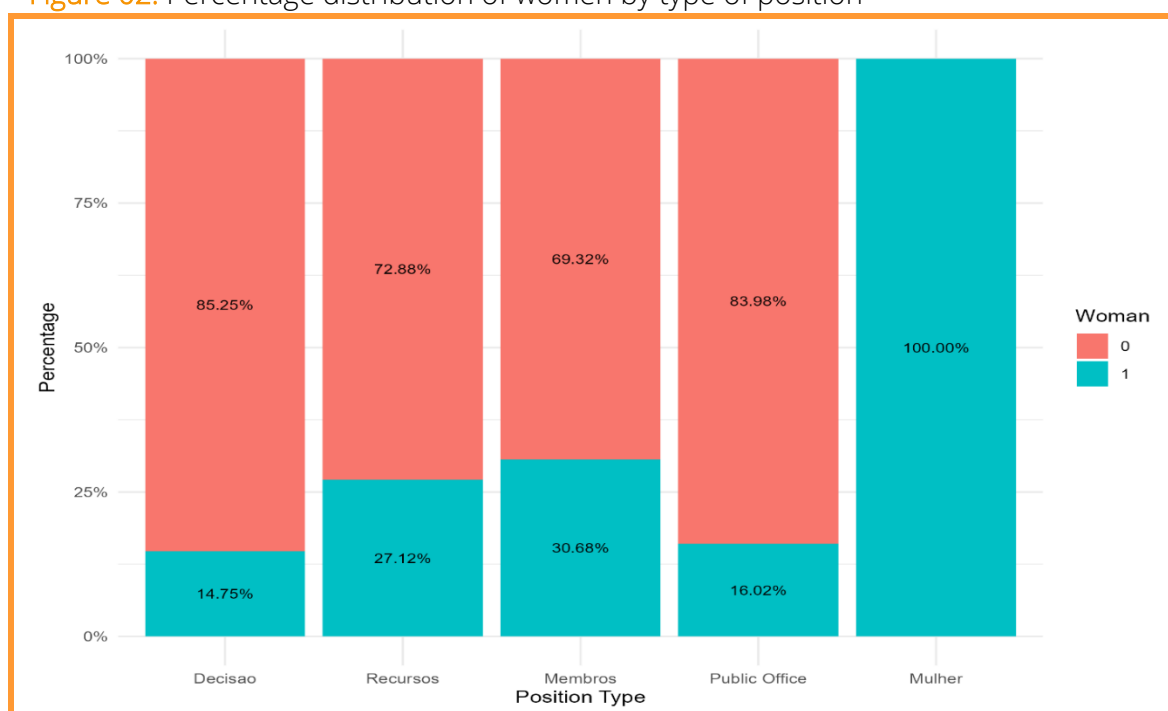
Notes: X-squared = 27.979, df = 4, p-value = 1.259e-05.

When we cross-tabulate the percentage of women by decision-making positions and year, we see an even more unequal pattern. In decision-making positions, the percentage of women declined over the period analyzed (Figure 03). In 2018, women held 17% of these positions within parties at the state level. By 2022, this figure had declined to 14%.

For the following analyses, we excluded thematic leadership positions from the database, since exclusively women occupy them. Table 01 presents the results of linear probability models (LPM), estimated by ordinary least squares (OLS). These

models estimate the probability that a woman among all individuals occupying leadership offices holds a party leadership position. The coefficients of the LPM are interpreted directly as differences in probability – that is, the average marginal effect of each independent variable on the probability that a woman, expressed in percentage points, occupies a position. As a robustness check, logit models were also estimated for all specifications; the results are substantively equivalent to those of the LPM and are reported in the appendix.

Figure 02. Percentage distribution of women by type of position



Source: Elaborated by the authors.

Notes: X-squared = 2001.7, df = 4, p-value < 2.2e-16.

Model 01 includes only the independent variable electoral strength (H1). Model 02 includes only the type of position (H2). Model 03 includes the interaction (H3) and the two variables. Model 04 estimates the probability that a woman based on the independent variables and controls, without including the interaction term, occupies a leadership position. Model 05 includes the interaction (H3) and all control variables. Model 06 includes all variables, fixed effects by year and state (federation unit - FU), and standard errors clustered at the state level. Finally, Model 07 adds party fixed effects to the specification in Model 06, with standard errors clustered at the party level, allowing us to assess what remains of the within-party variation over time.

In the case of electoral strength, a 01 percentage point increase in the proportion of the party's women representatives elected to the state legislative assembly is associated with a reduction of approximately 0.3 pp in the probability that a party leadership position will be held by a woman (Model 01). In Model 03, this value remains at -0.3 pp and, in Model 05, even with the inclusion of all control variables,

the coefficient remains negative and statistically significant. In the fixed-effects models (Models 06 and 07), the coefficient is no longer statistically significant⁶. Overall, we confirm H1: the greater the party's electoral strength, the lower the likelihood that women hold party leadership positions.

Figure 03. Percentage distribution of women by year in decision-making positions



Source: Elaborated by the authors.

Notes: X-squared = 1.1247, df = 4, p-value = 0.8903.

The coefficients for decision-making positions also point in the expected direction. When we consider only this variable (Model 02), holding a decision-making position is associated with a 15 percentage point reduction in the probability that the position is held by a woman. In Model 03, this value is -14 pp, and in Model 05, with all control

⁶The loss of statistical significance in Models 06 and 07 is expected and does not contradict H1. The variance decomposition of `percentage_elected_state_party` shows that 98.8% of the total variation is between parties and states (FUs), leaving only 1.2% of within variation – insufficient for the precise estimation of a coefficient under fixed effects, which rely exclusively on intragroup variation (PLÜMPER and TROEGER, 2007). We conducted additional robustness tests to assess whether the lack of significance reflects the absence of an effect or simply limited statistical power: 01. we replicated Model 05 with standard errors clustered separately by FU and by party, and the coefficient remains significant in both cases; 02. we replicated Model 05 separately for each year in the sample, and the coefficient remains negative and significant in all years; and 03. the correlation in electoral performance for each party-FU between 2018 and 2022 is $r = 0.76$, confirming high intra-party stability and limited within variation available for the fixed-effects (FE) models. Taken together, these results indicate that the lack of significance in Models 06 and 07 is due to the absence of identifying variation under fixed effects, rather than to the absence of the substantive effect estimated in Models 01 to 05.

variables included, –10 pp. Notably, the coefficient remains negative, significant, and stable across all specifications, including Models 06 (–10 pp) and 07 (–11 pp), both with fixed effects. Indicating that the barrier to women's access to decision-making positions operates independently of unobserved characteristics of states and parties. Overall, when we consider decision-making positions, the probability that women occupy these positions is even lower, confirming H2.

Table 01. Linear probability models

	LPM 1	LPM 2	LPM 3	LPM 4	LPM 5 (complete)	LPM 6 (FE Year+FU)	LPM 7 (FE Year+FU+P arty)
(Intercept)	0.300*** (0.003)	0.297*** (0.002)	0.317*** (0.003)	0.236*** (0.016)	0.232*** (0.016)		
Elected LA (%)	-0.003*** (0.000)		-0.003*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)	-0.001 (0.002)	-0.001 (0.002)
Decision- making position		-0.150*** (0.006)	-0.144*** (0.008)	-0.117*** (0.006)	-0.096*** (0.008)	-0.097*** (0.018)	-0.106*** (0.018)
Elected LA (%) * Decision- making position			-0.003** (0.001)		-0.005*** (0.001)	-0.005* (0.002)	-0.004 (0.003)
Internal democracy				0.207*** (0.014)	0.210*** (0.014)	0.206*** (0.029)	
Ideology (Brazilian Legislative Survey)				-0.156*** (0.004)	-0.156*** (0.004)	-0.158*** (0.011)	
Provisional committee				0.013* (0.006)	0.012* (0.006)	0.008 (0.013)	-0.002 (0.014)
GDP per capita (log)				-0.038*** (0.010)	-0.038*** (0.010)	-0.192 (0.392)	0.281 (0.342)
No. Obs.	52719	52719	52719	52719	52719	52719	52719
R2	0.001	0.009	0.011	0.044	0.044	0.052	0.062
Adj. R2	0.001	0.009	0.011	0.044	0.044	0.051	0.061

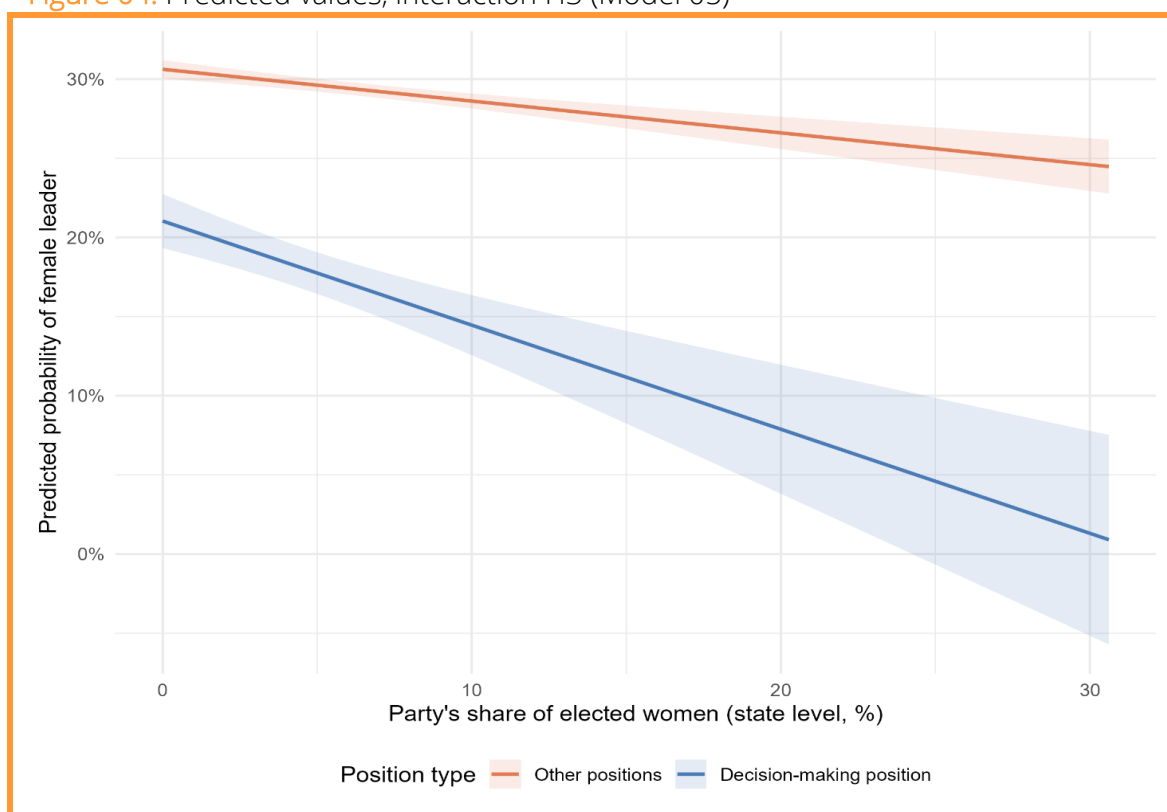
Source: Elaborated by the authors.

Notes: p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

Our conditional hypothesis is also confirmed (H3). The impact of the party's electoral strength on the probability of women attaining party leadership positions is stronger for decision-making positions than for other types of positions. For other types of positions, a one percentage point increase in electoral strength is associated with a 0.20 pp reduction in the probability that the position is held by a woman. For decision-

making positions, this effect is -0.66 pp for each additional percentage point of electoral strength – more than three times larger in magnitude. Figure 04 illustrates this relationship more clearly. Based on the predicted values from Model 05 (AREL-BUNDOCK et al., 2024), the probability that a party leadership position is occupied by a woman decreases as the party's electoral strength increases and when the position involves greater decision-making power. The interaction between the two variables shows that when a party holds 0% of the elected seats in the state, the probability that a woman occupies a decision-making position is 21.0% (compared to 30.6% for other positions). This figure declines to 17.1% when the party holds 6% of the elected seats (other positions: 29.4%) and falls to just 1.3% for parties holding 30% of the seats in the state legislative assembly (other positions: 24.6%). These results indicate that gender inequality in access to party leadership becomes disproportionately greater in decision-making positions as the party's electoral strength increases.

Figure 04. Predicted values, interaction H3 (Model 05)



Source: Elaborated by the authors.

Model 07, which adds party fixed effects to the specification in Model 06, allows us to qualify the scope of this result. In this more restrictive specification, the interaction

coefficient is no longer statistically significant⁷, whereas the main effect of decision-making positions (-0.11 pp) remains negative and significant. This pattern suggests that the two mechanisms underlying H3 are distinct in nature. The additional barrier to women's access to decision-making positions in electorally larger parties is a between-party phenomenon – it operates through comparisons across organizations with different levels of electoral strength, emerging from differences in electoral strength across organizations, whereas the barrier associated with decision-making positions themselves (H2) persists within parties, regardless of their unobserved characteristics. Taken together, the results are consistent with the existence of a glass ceiling that becomes stronger as parties grow and become more electorally competitive, although the stability of electoral strength across the two periods analyzed limits our ability to identify this pattern within parties over time.

The control variables follow the expected direction and display conventionally accepted levels of statistical significance, with two exceptions: GDP per capita (log) and provisional committee. According to the literature, wealthier locations tend to be more open to women's political leadership (ARAÚJO and ALVES, 2007; PALMER and SIMON, 2010). In our models, wealth has the opposite effect from that predicted: each additional point in the logarithm of state GDP per capita is associated with a 04 pp reduction in the probability that the position is held by a woman (Models 04 and 05). In the fixed-effects models (Models 06 and 07), the coefficient loses statistical significance and becomes unstable in sign, indicating that the variable does not exhibit sufficient within-state variation to be identified under multiple simultaneous sets of fixed effects. Its interpretation should therefore be restricted to the pooled models. The wealthier the state, therefore, the lower the likelihood that women gain access to party leadership positions, a result consistent with Jalalzai's (2008) findings on the greater presence of women in less economically developed contexts. In some states, such as Amazonas, Amapá, Roraima, and Espírito Santo, parties exhibit higher proportions of women in leadership positions (see the appendix). Future research should examine who these women are, and what is mechanisms that facilitate their greater access. The type of party body (Provisional Committee = 01; Diretório = 0) is not statistically significant in any specification.

⁷The loss of significance of the interaction term in Model 07 is not necessarily a substantive result – it may simply reflect insufficient within-party variation to identify the interaction under three simultaneous sets of fixed effects (FU, year, and party). The coefficient remains negative (-0.00) and in the same direction as in the previous models; only the standard error increases enough to cross the conventional significance threshold. Figure A6 (in the Appendix) presents the predicted probabilities from Model 7b (equivalent to Model 07, re-estimated via feols) for compatibility with the marginal effects package): the difference in slope between the two curves – steeper for decision-making positions – remains visible, although confidence intervals cannot be estimated for models with absorbed fixed effects.

Ideology and internal democracy, in turn, follow the expected direction. The probability that women occupy leadership positions increases with the level of internal democracy: each additional point in the selection index is associated with a 21 pp increase in the probability that the position is held by a woman (Models 04 and 05), an effect that remains stable and significant in Model 06 (21 pp). The further to the right the party, the lower the probability that women will occupy leadership positions, with a reduction of 16 pp for each additional unit on the ideological scale – an effect that is equally robust in the pooled models and in Model 06. These two variables do not appear in Model 07 because their effects are fully absorbed by the party fixed effects.

Overall, our results corroborate the existence of the barrier mechanisms identified in the glass ceiling literature. Increases in the party's electoral strength reduces the probability that women occupy party leadership positions. Each additional percentage point of seats in the state legislative assembly is associated with a reduction of 0.20 pp in the probability that other positions are occupied by women and 0.66 pp in decision-making positions (Model 05) (O'BRIEN, 2015; O'NEILL and STEWART, 2009; TRIMBLE and ARSCOTT, 2007). Decision-making positions reduce the probability that a position is occupied by a woman by 10 pp relative to other positions in the full specification (Model 05). This value remains at –11 pp even in Model 07, with party fixed effects, suggesting that this barrier is structural and does not result from unobserved characteristics of party organizations (ALCÂNTARA et al., 2024; WYLIE, 2018).

The interaction between electoral strength and type of position (H3) shows that these barriers intensify cumulatively. When a party does not elect representatives to the state legislative assembly, the probability that a decision-making position is occupied by a woman is 21.0%. This percentage declines to 17.1% when the party holds 6% of the seats and falls to just 1.3% among parties holding 30% of the seats in the state legislative assembly – a reduction of nearly 20 pp across the observed range. For other positions, the decline over the same interval is only 6 pp (from 30.6% to 24.6%), showing that the effect of electoral strength is more than three times greater in decision-making positions. As discussed, Model 07 indicates that this differential effect is predominantly a between-party phenomenon: it stems from comparisons across organizations with different levels of electoral strength, rather than from a dynamic that intensifies within the same party over time. This pattern is similar to the accumulation of disadvantages described by Folke and Rickne (2016) and reflects the second aspect of the glass ceiling: increased discrimination at higher levels of the hierarchy. Taken together, internal democracy and ideology indicate that barriers to women's access are not the same across parties: more democratic and left-wing parties show less resistance to women's presence, suggesting that institutional and cultural choices within party organizations can mitigate – though not eliminate – the glass ceiling. These results highlight the importance of further research on the institutional and cultural factors that shape women's access to leadership positions within Brazilian parties.

Conclusion

In this article, we examine the glass ceiling within political parties, whose internal dynamics remain understudied from a gender perspective (O'BRIEN, 2015; O'NEILL and STEWART, 2009; WYLIE, 2018). We analyze an original database of party leaders from 33 political parties between 2018 and 2022. We test three hypotheses while controlling for factors such as ideology, type of organization, internal democracy, and state GDP per capita.

In the descriptive analysis, the data show that although women accounted for 45% of party members in 2020, their representation in party leadership bodies did not exceed 30% during the period analyzed. There was a slight increase, from 26.45% in 2018 to 29.74% in 2022. We also found gender differences in the types of positions held. The position of member of a 'diretório' – the lowest level in the hierarchy – shows the highest level of women's participation, at 30.68%. In contrast, decision-making positions – namely the presidency and vice-presidency, which are considered the most important offices and sit above the party glass ceiling – show the lowest level of female participation, with women accounting for only 14.75% of party leaders in these roles. Comparing the distribution of women in decision-making positions over time, there was a decline from 17.04% in 2018 to 14.52% in 2022.

Based on the linear probability models developed to estimate the likelihood that a party leader is a woman among all leadership officeholders, we confirm all three proposed hypotheses. First, there is clear evidence of a glass ceiling within political parties. The higher the position of power within these organizations, the lower the number of women in these positions, corroborating the findings of Alcântara et al. (2024), Araújo and Ramos Jr. (2024), and Leveguen et al. (2017).

The main novel finding of this article – consistent with the literature on other countries (JALALZAI, 2008; O'BRIEN, 2015; O'NEILL and STEWART, 2009; TRIMBLE and ARSCOTT, 2007) – is that the stronger a party's electoral performance, the lower the probability of women holding leadership positions. Each additional percentage point of seats in the state legislative assembly is associated with a 0.20 pp decrease in the probability of women occupying other leadership positions and a 0.66 pp decrease in the probability of their occupying decision-making positions. The interaction hypothesis is also confirmed in the pooled models: the stronger the party, the lower the probability of women occupying decision-making positions, disproportionately so compared to other positions. When a party fails to elect any state representatives, the probability of a woman occupying a decision-making position is 21.0%. This percentage drops to just 1.3% in parties holding 30% of the seats in the state legislative assembly. In other leadership positions, by contrast, the decline over the same range is only 06 pp. Thus, the probability of women holding party leadership positions is higher in parties with weaker electoral performance – and therefore less attractive to male leaders – while also varying according to the type of position.

The control variables followed the expected direction and were statistically significant, except for GDP per capita and provisional committees. Our findings indicate that the wealthier the state, the lower the probability of women gaining access to leadership positions, with a 04 pp decrease for each additional unit in the logarithm of GDP per capita (Models 04 and 05). There may be less intra-party competition in poorer states or fewer ties to local party leaderships, as suggested by Jalalzai (2008). As Rosen (2013) also notes, there is no single pathway linking higher levels of wealth to the inclusion of women in politics. Future research should build on the analyses initiated here by exploring regional variations and women's access to party organizations and their resources.

Ideology and intra-party democracy followed the expected direction. The probability that women occupy leadership positions increases with the level of internal party democracy: each additional point in the selection index is associated with a 21 pp increase in the probability that the position is held by a woman, an effect that remains robust in models with and without state and year fixed effects. The further to the right the party, the lower the probability that women will occupy leadership positions, with a reduction of 16 pp for each additional unit on the ideological scale. The findings converge with those observed in mayoral elections in Brazil (FUNK, 2017) and in studies on political parties in Brazil and other countries (ARAÚJO and RAMOS JR., 2024; O'NEILL and STEWART, 2009; REYNOLDS, 1999; WYLIE, 2018). When women are able to attain positions of power, they do so under conditions different from those faced by men: during electorally weaker periods and within electorally weaker organizations, where competition for these positions is less prestigious. Future research should investigate the causal mechanisms linking these variables, how party leaders perceive these processes, how these dynamics operate at the municipal level, and the effects of this more fragile position of power on women's political careers.

This study has some limitations that should be considered when interpreting the results. First, this is an observational study: although the linear probability models control for a relevant set of factors and include state and year fixed effects, the possibility of bias from omitted variables cannot be ruled out. The association between electoral strength and women's presence in leadership positions is consistent and robust, but it may partly reflect unobserved party characteristics, such as organizational culture, recruitment history, or the influence of national leaders over state branches. Model 07, which adds party fixed effects to the main specification, illustrates this limitation directly: the coefficient for the interaction between electoral strength and type of position loses statistical significance, suggesting that the differential effect estimated in the pooled models operates mainly between parties. This does not invalidate the hypotheses tested, but it does limit their scope: the barriers identified emerge when comparing parties with different levels of electoral strength and do not necessarily reflect a dynamic that becomes more pronounced within the same party over time. Second, race was not included in the analysis because this information is unavailable in the TSE databases and thus cannot be

classified. Including this information could broaden our understanding of intersectional inequalities in access to leadership positions. Future research that incorporates this variable may deepen our understanding of how different social markers shape women's presence and participation within Brazilian political parties.

Translated by Karin Blikstad

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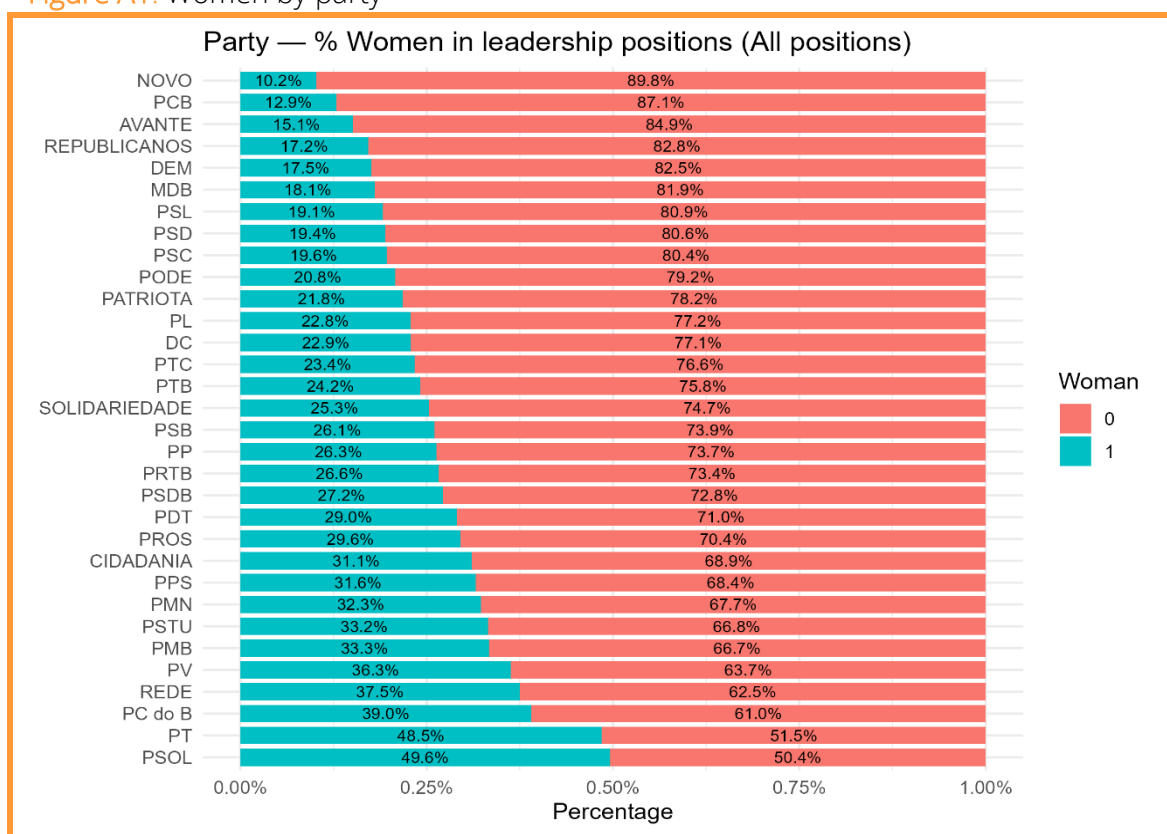
Appendix

Table A1. Descriptive statistics

Variable	N	Mean	Standard Deviation	Min	Max
Female leader	53311	0.29	0.45	0	1
Party-elected candidates in the LA (%)	53311	6	5.9	0	31
Decision-making body	53311	0.088	0.28	0	1
Internal democracy	53311	0.59	0.15	0.14	0.86
Ideology (BLS - Brazilian Legislative Survey)	53311	0.031	0.49	-0.84	0.76
Provisional committee	53311	0.14	0.35	0	1
Log GDP per capita	53311	1.2	0.19	0.91	1.7

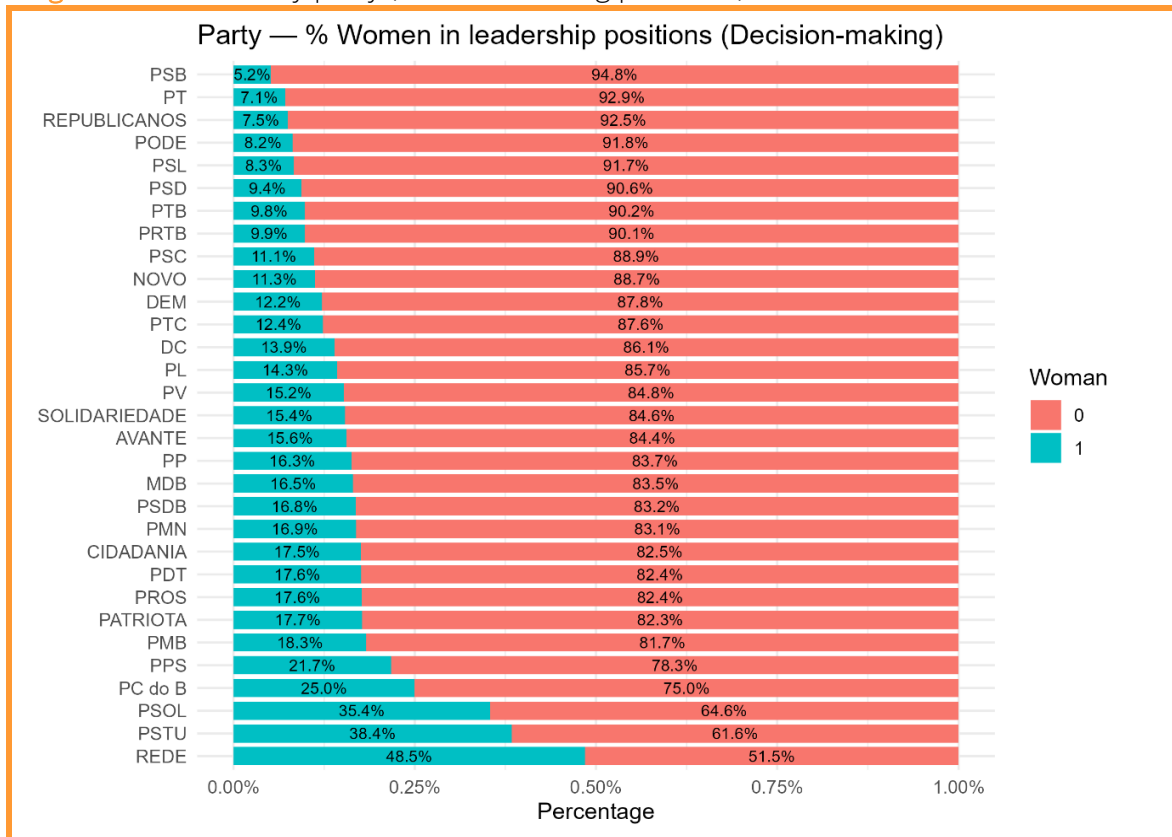
Source: Elaborated by the authors.

Figure A1. Women by party



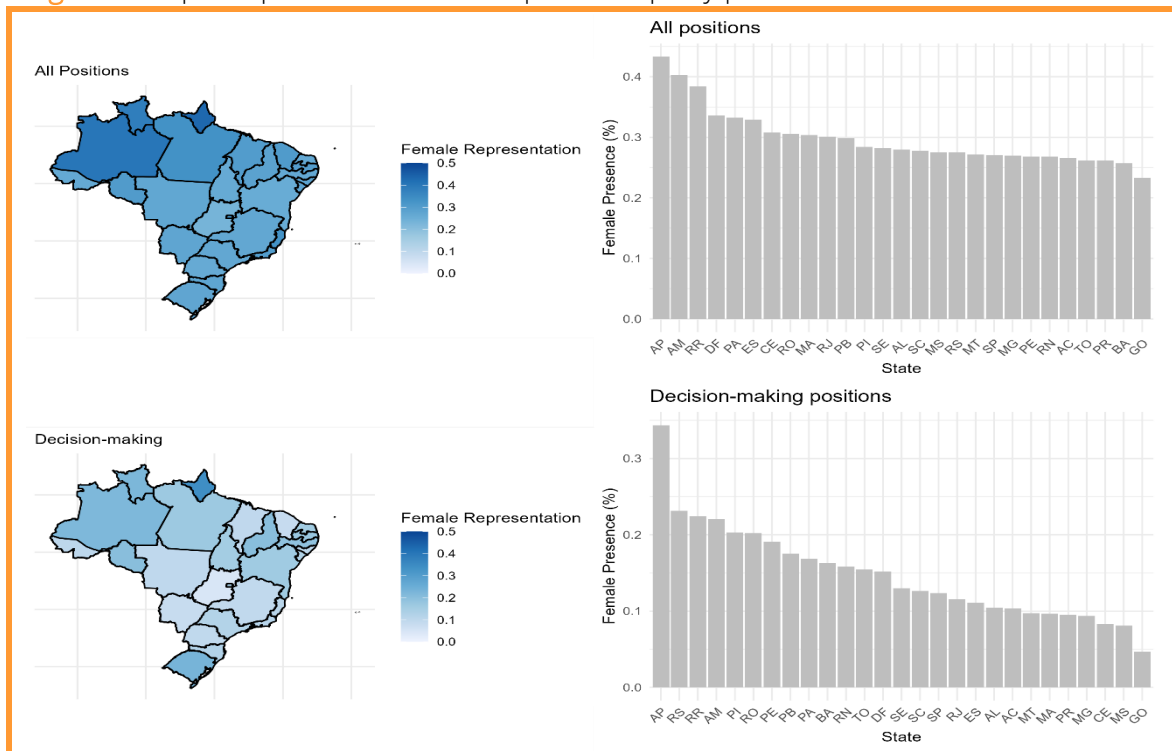
Source: Elaborated by the authors.

Figure A2. Women by party (decision-making positions)



Source: Elaborated by the authors.

Figure A3. Spatial patterns in the occupation of party positions



Source: Elaborated by the authors.

Table A2. Full models (Logit models)

	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
(Intercept)	-0.845*** (0.014)	-0.861*** (0.010)	-0.765*** (0.014)	-1.217*** (0.081)	-1.240*** (0.081)	-0.783 (1.981)	-2.828 (2.024)
Percentage elected – state party	-0.014*** (0.002)		-0.016*** (0.002)	-0.011*** (0.002)	0.009*** (0.002)	-0.004* (0.002)	-0.005* (0.002)
Decision- making		-0.893*** (0.042)	-0.773*** (0.055)	-0.745*** (0.044)	-0.547*** (0.056)	-0.556*** (0.057)	-0.599*** (0.058)
Percentage elected state party x decision- making			0.041*** (0.010)		0.051*** (0.010)	-0.055*** (0.010)	-0.051*** (0.010)
Selection statute				1.034*** (0.071)	1.050*** (0.071)	1.059*** (0.074)	1.263 (1.129)
Ideology BLS				-0.773*** (0.021)	-0.772*** (0.021)	-0.785*** (0.022)	-2.172+ (1.224)
provisional				0.060+ (0.034)	0.052 (0.034)	0.034 (0.035)	-0.009 (0.046)
Log gdp per capita				-0.181*** (0.052)	-0.178*** (0.052)	-0.911 (1.921)	1.499 (1.960)
Factor (fu abbr) AL						0.030 (0.134)	0.018 (0.135)
Factor (fu abbr) AM						0.706* (0.296)	0.309 (0.301)
Factor (fu abbr) AP						0.785*** (0.152)	0.594*** (0.155)
Factor (fu abbr) BA						0.022 (0.120)	-0.171 (0.122)
Factor (fu abbr) CE						0.040 (0.098)	-0.005 (0.099)
Factor (fu abbr) DF						0.945 (1.321)	-0.713 (1.348)
Factor (fu abbr) ES						0.481 (0.571)	-0.293 (0.582)
Factor (fu abbr) GO						0.044 (0.408)	-0.460 (0.416)
Factor (fu abbr) MA						-0.072 (0.223)	0.156 (0.226)

	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
Factor (fu abbr) MG						0.040	-0.470
						(0.431)	(0.440)
Factor (fu abbr) MS						0.389	-0.479
						(0.664)	(0.677)
Factor (fu abbr) MT						0.367	-0.573
						(0.685)	(0.698)
Factor (fu abbr) PA						0.276*	0.206+
						(0.114)	(0.115)
Factor (fu abbr) PB						0.173	0.131
						(0.126)	(0.127)
Factor (fu abbr) PE						0.081	0.020
						(0.131)	(0.133)
Factor (fu abbr) PI						0.065	0.198
						(0.157)	(0.160)
Factor (fu abbr) PR						0.392	-0.553
						(0.663)	(0.677)
Factor (fu abbr) RJ						0.411	-0.595
						(0.776)	(0.792)
Factor (fu abbr) RN						0.059	-0.072
						(0.130)	(0.132)
Factor (fu abbr) RO						0.254	-0.135
						(0.321)	(0.328)
Factor (fu abbr) RR						0.656**	0.322
						(0.251)	(0.255)
Factor (fu abbr) RS						0.279	-0.574
						(0.692)	(0.707)
Factor (fu abbr) SC						0.284	-0.602
						(0.733)	(0.747)
Factor (fu abbr) SE						-0.066	-0.104
						(0.114)	(0.115)
Factor (fu abbr) SP						0.348	-0.694
						(0.852)	(0.868)
Factor (fu abbr) TO						-0.027	-0.257
						(0.238)	(0.242)
Factor (YEAR) 2019						0.114+	0.093

	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
						(0.063)	(0.071)
Factor (YEAR) 2020						0.150*	0.117+
						(0.062)	(0.070)
Factor (YEAR) 2021						0.136*	0.104
						(0.061)	(0.069)
Factor (YEAR) 2022						0.168**	0.114+
						(0.061)	(0.069)
Factor (party abbr.) CIDADANIA							-0.855
							(0.973)
Factor (party abbr.) DC							0.120
							(0.125)
Factor (party abbr.) DEM							0.611
							(0.404)
Factor (party abbr.) MDB							-0.229
							(0.176)
Factor (party abbr.) NOVO							0.375
							(0.602)
Factor (party abbr.) PATRIOTA							0.436*
							(0.195)
Factor (party abbr.) PCdoB							-1.487
							(1.382)
Factor (party abbr.) PCB							-3.297*
							(1.457)
Factor (party abbr.) PDT							-0.991
							(0.843)
Factor (party abbr.) PL							0.736*
							(0.342)
Factor (party abbr.) PMB							0.964***

	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
							(0.231)
Factor (party abbr.) PMN							0.779***
							(0.159)
Factor (party abbr.) PODE							0.070
							(0.256)
Factor (party abbr.) PP							0.569***
							(0.180)
Factor (party abbr.) PPS							-0.797
							(0.978)
Factor (party abbr.) PROS							0.106
							(0.191)
Factor (party abbr.) PRTB							0.564**
							(0.188)
Factor (party abbr.) PSB							-0.804
							(0.702)
Factor (party abbr.) PSC							0.596*
							(0.304)
Factor (party abbr.) PSD							-0.078
							(0.125)
Factor (party abbr.) PSDB							0.454*
							(0.198)
Factor (party abbr.) PSL							0.816
							(0.546)
Factor (party abbr.) PSOL							-1.394
							(1.578)
Factor (party abbr.) PSTU							-1.840
							(1.434)

	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
Factor (party abbr.)							-1.116
PT							(1.457)
Factor (party abbr.)							-0.432
PTB							(0.298)
Factor (party abbr.)							0.474*
PTC							(0.211)
Factor (party abbr.)							-0.253
PV							(0.595)
Factor (party abbr.)							-1.320
REDE							(1.327)
No. Obs.	52719	52719	52719	52719	52719	52719	52719
AIC	62828.3	62365.6	62244.6	60521.5	60494.5	60143.6	59731.3
BIC	62846.1	62383.3	62280.1	60583.6	60565.5	60480.8	60325.7
Log. Lik.	31412.165	31180.800	31118.299	30253.749	30239.253	30033.797	29798.637

Source: Elaborated by the authors.

Note: ***p < 0.001; **p < 0.01; *p < 0.05.

Table A3. Logit Models (Odds Ratio)

	Statistical models						
	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
(Intercept)	-57.04*** (0.01)	-57.73*** (0.01)	-53.45*** (0.01)	-70.39*** (0.08)	-71.06*** (0.08)	-54.31 (1.98)	-2.83 (2.02)
percentage_elected_state_party	-1.35*** (0.00)		-1.57*** (0.00)	-1.07*** (0.00)	-0.90*** (0.00)	-0.37* (0.00)	-0.01* (0.00)
decision-making		-59.06*** (0.04)	-53.82*** (0.05)	-52.51*** (0.04)	-42.13*** (0.06)	-42.67*** (0.06)	-0.60*** (0.06)
percentage_elected_state_party: decision-making			-4.04*** (0.01)		-4.97*** (0.01)	-5.31*** (0.01)	-0.05*** (0.01)
selection_statute				181.10*** (0.07)	185.83*** (0.07)	188.21*** (0.07)	1.26 (1.13)
ideology_BLS				-53.83*** (0.02)	-53.79*** (0.02)	-54.37*** (0.02)	-2.17 (1.22)
Provisional				6.15 (0.03)	5.32 (0.03)	3.43 (0.04)	-0.01 (0.05)
log_gdp_per_capita				-16.58*** (0.05)	-16.35*** (0.05)	-59.80 (1.92)	1.50 (1.96)
factor(fu_abbr.)AL						3.07 (0.13)	0.02 (0.14)
factor(fu_abbr.)AM						102.60* (0.13)	0.31 (0.14)

Statistical models							
	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
						(0.30)	(0.30)
factor(fu_abbr.)AP						119.15***	0.59***
						(0.15)	(0.16)
factor(fu_abbr.)BA						2.20	-0.17
						(0.12)	(0.12)
factor(fu_abbr.)CE						4.03	-0.00
						(0.10)	(0.10)
factor(fu_abbr.)DF						157.39	-0.71
						(1.32)	(1.35)
factor(fu_abbr.)ES						61.74	-0.29
						(0.57)	(0.58)
factor(fu_abbr.)GO						4.45	-0.46
						(0.41)	(0.42)
factor(fu_abbr.)MA						-6.96	0.16
						(0.22)	(0.23)
factor(fu_abbr.)MG						4.05	-0.47
						(0.43)	(0.44)
factor(fu_abbr.)MS						47.54	-0.48
						(0.66)	(0.68)
factor(fu_abbr.)MT						44.35	-0.57
						(0.68)	(0.70)
factor(fu_abbr.)PA						31.83*	0.21
						(0.11)	(0.12)
factor(fu_abbr.)PB						18.88	0.13
						(0.13)	(0.13)
factor(fu_abbr.)PE						8.46	0.02
						(0.13)	(0.13)
factor(fu_abbr.)PI						6.67	0.20
						(0.16)	(0.16)
factor(fu_abbr.)PR						48.01	-0.55
						(0.66)	(0.68)
factor(fu_abbr.)RJ						50.90	-0.59
						(0.78)	(0.79)
factor(fu_abbr.)RN						6.05	-0.07
						(0.13)	(0.13)
factor(fu_abbr.)RO						28.90	-0.13
						(0.32)	(0.33)
factor(fu_abbr.)RR						92.62**	0.32
						(0.25)	(0.26)
factor(fu_abbr.)RS						32.20	-0.57
						(0.69)	(0.71)
factor(fu_abbr.)SC						32.84	-0.60
						(0.73)	(0.75)
factor(fu_abbr.)SE						-6.43	-0.10
						(0.11)	(0.12)
factor(fu_abbr.)SP						41.69	-0.69

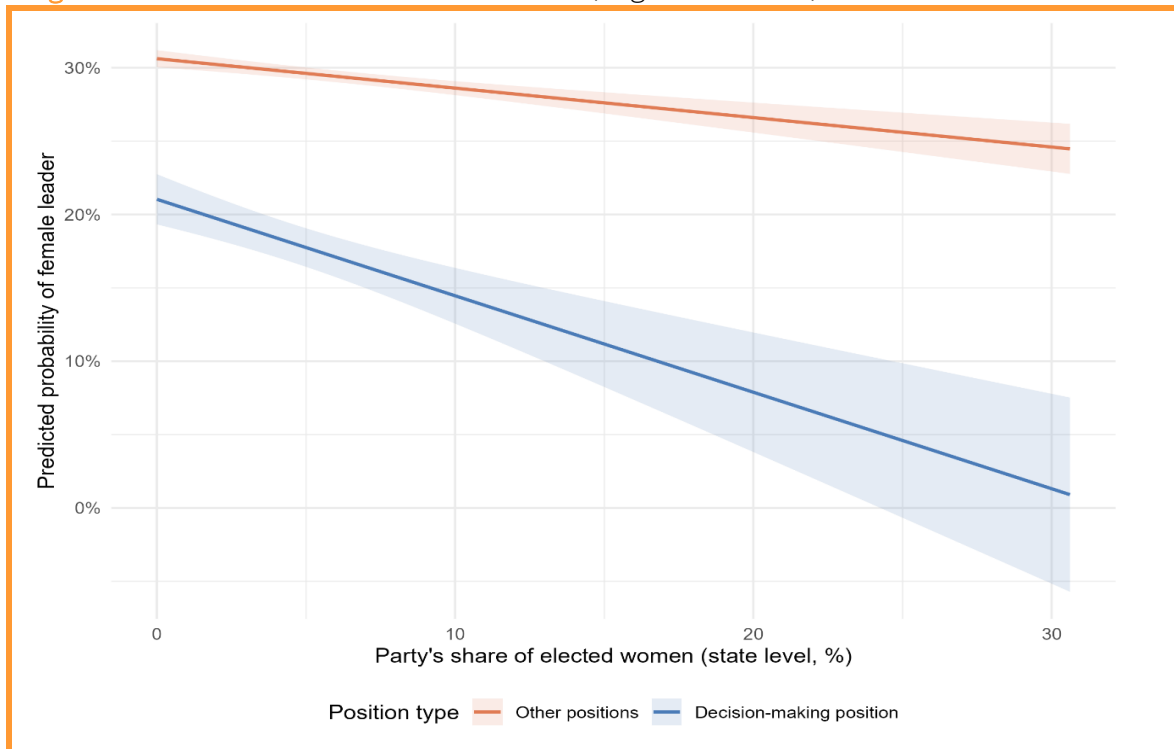
Statistical models							
	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
						(0.85)	(0.87)
factor(fu_abbr.)TO						-2.68	-0.26
						(0.24)	(0.24)
factor(YEAR)2019						12.02	0.09
						(0.06)	(0.07)
factor(YEAR)2020						16.21*	0.12
						(0.06)	(0.07)
factor(YEAR)2021						14.56*	0.10
						(0.06)	(0.07)
factor(YEAR)2022						18.31**	0.11
						(0.06)	(0.07)
factor(party_abbr.)CIDADANIA							-0.86
							(0.97)
factor(party_abbr.)DC							0.12
							(0.12)
factor(party_abbr.)DEM							0.61
							(0.40)
factor(party_abbr.)MDB							-0.23
							(0.18)
factor(party_abbr.)NOVO							0.38
							(0.60)
factor(party_abbr.)PATRIOTA							0.44*
							(0.19)
factor(party_abbr.)PCdoB							-1.49
							(1.38)
factor(party_abbr.)PCB							-3.30*
							(1.46)
factor(party_abbr.)PDT							-0.99
							(0.84)
factor(party_abbr.)PL							0.74*
							(0.34)
factor(party_abbr.)PMB							0.96***
							(0.23)
factor(party_abbr.)PMN							0.78***
							(0.16)
factor(party_abbr.)PODE							0.07
							(0.26)
factor(party_abbr.)PP							0.57**
							(0.18)
factor(party_abbr.)PPS							-0.80
							(0.98)

	Statistical models						
	Logit 01	Logit 02	Logit 03	Logit 04	Logit 05	Logit 06	Logit 07
factor(party_abbrev.)PROS							0.11 (0.19)
factor(party_abbrev.)PRTB							0.56** (0.19)
factor(party_abbrev.)PSB							-0.80 (0.70)
factor(party_abbrev.)PSC							0.60* (0.30)
factor(party_abbrev.)PSD							-0.08 (0.12)
factor(party_abbrev.)PSDB							0.45* (0.20)
factor(party_abbrev.)PSL							0.82 (0.55)
factor(party_abbrev.)PSOL							-1.39 (1.58)
factor(party_abbrev.)PSTU							-1.84 (1.43)
factor(party_abbrev.)PT							-1.12 (1.46)
factor(party_abbrev.)PTB							-0.43 (0.30)
factor(party_abbrev.)PTC							0.47* (0.21)
factor(party_abbrev.)PV							-0.25 (0.59)
factor(party_abbrev.)REDE							-1.32 (1.33)
AIC	62828.33	62365.60	62244.60	60521.50	60494.51	60143.59	59731.27
BIC	62846.07	62383.35	62280.09	60583.61	60565.49	60480.76	60325.75
Log Likelihood	-31412.16	-31180.80	-31118.30	-30253.75	-30239.25	-30033.80	-29798.64
Deviance	62824.33	62361.60	62236.60	60507.50	60478.51	60067.59	59597.27
No. obs.	52719	52719	52719	52719	52719	52719	52719

Source: Elaborated by the authors.

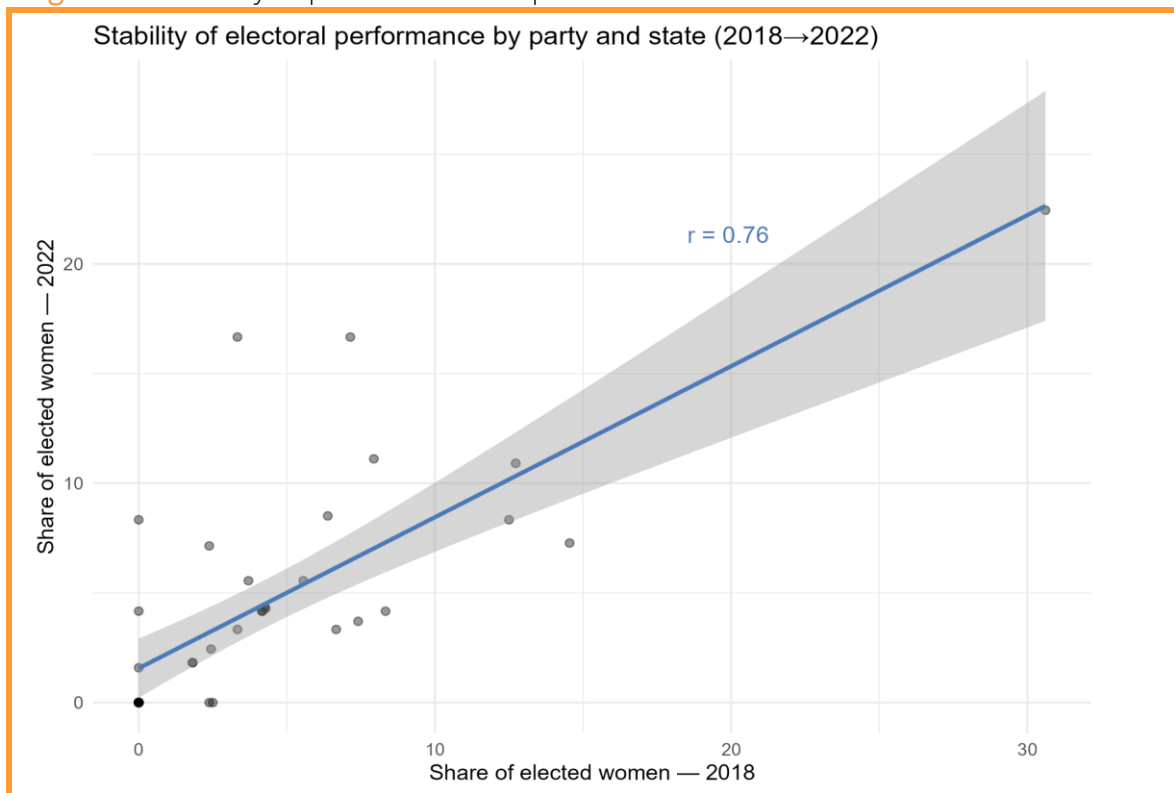
Notes: ***p < 0.001; **p < 0.01; *p < 0.05

Figure A4. Predicted values, interaction H3 (Logit Model - 05)



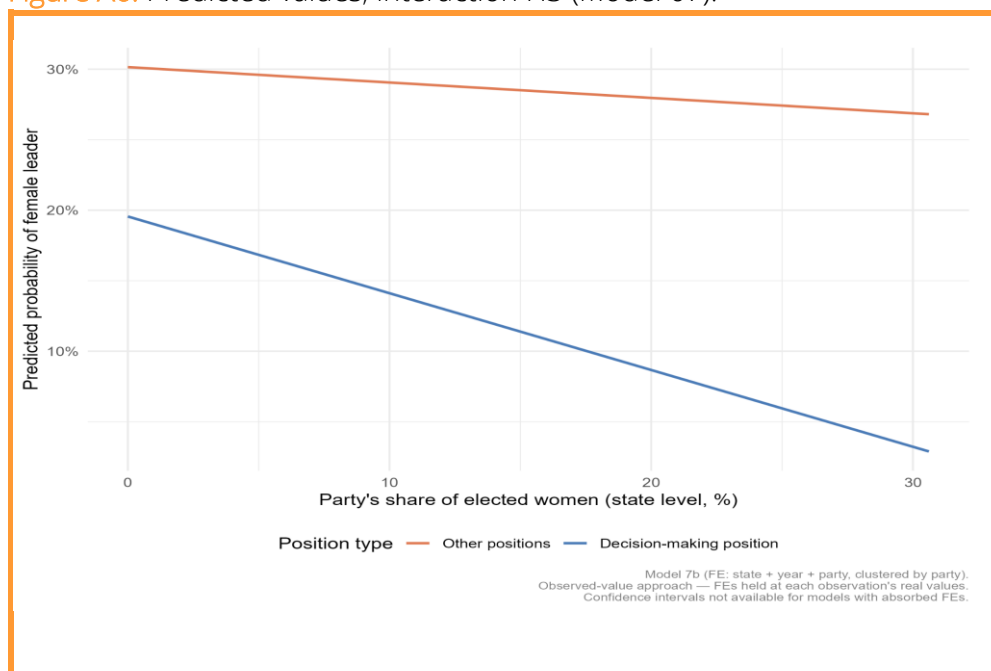
Source: Elaborated by the authors.

Figure A5. Stability of parties' electoral performance



Source: Elaborated by the authors.

Figure A6. Predicted values, interaction H3 (Model 07).



Source: Elaborated by the authors.

Table A4. Examples of position coding

Categories	Positions
1. Decision-making	President Vice-president State-level president President (afro, honor, licensed...) 2nd, 3rd, 4th Vice-presidents
2. Resources/secretaries	Treasurer Secretary-general Other secretariats 2nd, 3rd, 4th Treasurers Party coordination (and vice-[coordination]) Fiscal/political council Committee/ethics council Legal advisor
3. Category 'woman'	Female vice-president Female president Women's secretariat Women's coordination
4. Members	Alternates/substitutes Member Delegate Political committee
5. Public office	Party group leader in the municipal chamber Party leader in the senate Party leader in the 'Chamber of deputies' Leader in the state legislative assembly

Source: Extracted from Fagundes (2023, p. 37).

Table A5. Models by year

	LPM 5 - 2018	LPM 5 - 2019	LPM 5 - 2020	LPM 5 - 2021	LPM 5 - 2022
(Intercept)	0.152* (0.076)	0.203*** (0.041)	0.206*** (0.038)	0.239*** (0.029)	0.238*** (0.027)
percentage_elected_state_party	0.002 (0.001)	-0.002** (0.001)	-0.002* (0.001)	-0.002** (0.001)	-0.002*** (0.001)
decision-making	-0.037 (0.043)	-0.073** (0.025)	-0.076*** (0.022)	-0.104*** (0.014)	-0.107*** (0.013)
selection_[xxx]	0.220*** (0.057)	0.263*** (0.036)	0.260*** (0.033)	0.194*** (0.026)	0.179*** (0.026)
ideology_[BLS]	-0.081** (0.030)	-0.160*** (0.011)	-0.160*** (0.010)	-0.157*** (0.007)	-0.152*** (0.007)
provisional	-0.003 (0.046)	0.021 (0.022)	0.014 (0.018)	0.009 (0.010)	0.004 (0.009)
log_gdp_per_capita	-0.034 (0.051)	-0.045+ (0.026)	-0.041+ (0.024)	-0.036+ (0.019)	-0.020 (0.018)
percentage_elected_state_party x decision-making	-0.008+ (0.004)	-0.006* (0.003)	-0.007** (0.002)	-0.004* (0.002)	-0.004* (0.002)
No. Obs.	2267	7990	9611	16266	16585
R2	0.012	0.043	0.048	0.046	0.046
Adj. R2	0.009	0.043	0.047	0.046	0.046
AIC	2669.7	9294.4	11577.2	19668.6	20044.1
BIC	2721.3	9357.2	11641.8	19737.9	20113.5
Log.Lik.	-1325.875	-4638.186	-5779.617	-9825.297	-10013.047
RMSE	0.43	0.43	0.44	0.44	0.44
Std.Errors	LPM 5 - 2018	LPM 5 - 2019	LPM 5 - 2020	LPM 5 - 2021	LPM 5 - 2022

Source: Elaborated by the authors.

Notes: p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.