

**Gender and Power:**

*The Effects of Ideology and Electoral Competition on the Election of Women in Latin  
America*

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International Relations Honors Thesis  
New York University  
April 5, 2019

## **Acknowledgements**

I would like to thank my advisor, Professor Amy Catalinac, as well as teaching assistant Lucía Motolinia Carballo for their continued guidance throughout this process. I would also like to thank my fellow classmates for their suggestions, support, and encouragement, without which this thesis would not have been possible.

## **Abstract**

Women's political representation in Latin America has increased dramatically in recent decades; however, a wide disparity still persists not only across countries but subnational as well, from electoral districts to political parties. Such discrepancies between theoretical and actual gains imply that national-level initiatives such as gender quotas do not solely determine women's political representation, pointing to sub-national trends at work. This paper examines district-level factors of ideology and electoral competition in Argentina, Brazil, Chile, Peru, and Uruguay, and their effects on the decisions of political parties to nominate, and thus elect, women. Using a dataset spanning three decades, this paper finds evidence that the ideology of a district, more so than other elements of electoral competition, is a significant determinant of the election of women to the legislature. This conclusion provides evidence that factors at the district level determine both national and party-level decisions in choosing to nominate and elect women to political office.

## **Introduction**

The question of women's political representation has been a prominent, and often controversial, subject in Latin America since the re-democratization of the region in the final decades of the twentieth century. The re-mobilization of women's movements, historically well-organized and vocal, following the transition to democracy pressured lawmakers throughout the region to shift their focus to women's rights and representation (Macaulay 2006; Weeks 2018; Vargas 2002). This shift coincided with a global realization that women are underrepresented at all levels of government, regardless of level of development, type of government, or purported commitment to women's rights. Global conferences and symbolic declarations, from The International Women's Year in 1975 to the Beijing Platform for Action in 1995 (Htun and Jones 2002), painted women's rights, particularly the lack of women's political participation, as an international issue, prompting many countries to adopt measures to encourage women's political representation.

In Latin America, as in other parts of the world, the nomination and election of women to political office is determined by a number of institutional factors, including type of electoral system, district magnitude (number of seats in a district), type of party list or ballot, number of competitive parties, ideology, and perceptions of women as viable candidates, among others. National measures aimed at increasing women's political representation, such as gender quotas, seek to mitigate the historically exclusionary effects of these factors by increasing women's probabilities of nomination, and therefore election, to legislatures. Despite these national-level policies, political parties ultimately control the candidate selection process, and represent the primary avenue by which women achieve

political power. These institutional factors greatly influence parties' decisions to promote women's candidacies and create a more equitable and representative legislature.

This thesis will examine select factors of electoral competition – district ideology and party fragmentation – and their effects on the proportion of women elected to national legislatures. This analysis spans more than 3 decades and examines five cases from the Latin American region: Argentina, Brazil, Chile, Peru, and Uruguay. As of 2015, each country had implemented a gender quota for at least the lower chamber of its Congress (Argentina, Chile, and Uruguay adopted quotas for upper chambers as well), with Uruguay adopting its 2014 quota on a trial basis (International IDEA). Despite similarities in electoral and institutional design among these five countries, there exists a wide disparity in the proportion of women elected to each nation's legislatures. For example, 39% of Argentina's Chamber of Deputies is composed of women, whereas only 11% of its Brazilian counterpart is composed of women (Thames 2017). Such differences in the proportion of women elected can be observed not only between countries, but within countries as well, with both electoral districts and political parties reporting wide variations in women elected (Htun and Jones 2002). Given the cultural, historical, and geographical proximity of these cases, this paper seeks to identify and analyze those underlying factors that account for these variations.

### *Elections in Latin America*

All 18 countries in Latin America utilize a proportional representation (PR) electoral system, in which seats are distributed according to rank-ordered party lists (Gray 2003; see Appendix A). Of these countries, 10 have a closed-list PR system, while 8 utilize an open-list PR system (Roza 2010). In closed-list PR, voters cast their vote for a rank-ordered party list, and do not cast a preference vote for individual candidates. Open-list PR systems allow voters to cast a preference vote to select specific candidates within a party list, thus choosing the rank order of candidates themselves. (Jones 2009).

Among the case studies being examined for this thesis, 3 countries – Brazil, Chile, and Peru – utilize an open-list PR system, while Argentina and Uruguay utilize closed-lists. The effects of each of these institutional factors on the election of women will be examined further in the following section.

Table I. **Electoral System and Institutional Design of 5 Latin American Countries**

<i>Country</i>	<i>Chamber(s)</i>	<i>Electoral System</i>	<i>Type of Ballot</i>	<i>Quota</i>	<i>Quota Rule</i>	<i>Women in Congress</i>
Argentina	Senate (Upper) Chamber of Deputies (Lower)	PR	Closed	Y, 1991	30% (both chambers)	39% (lower) 42% (upper)
Brazil	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 1997	30% (lower)	11% (lower)
Chile	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 2015	40% (both chambers)	23% (both chambers)
Peru	Unicameral	PR	Open	Y, 1997	30%	28%
Uruguay	Senate (Upper) Chamber of Deputies (Lower)	PR	Closed	Y, 2014*	30% (both chambers)	20% (lower) 29% (upper)

*Note:* Electoral system data for each country from International IDEA’s Gender Quotas Database. Data for “Women in Congress” from 2018 edition.

\*Uruguay adopted a quota in 2009 on a trial basis for its 2014 congressional elections.

It is important to note that while significant rhetorical gains have been made in the name of gender parity in politics, actual gains have varied greatly among Latin American countries: as seen in Table I, the Argentine National Congress boasts nearly quadruple the proportion of female legislators

as Brazil, and nearly doubles that of Uruguay and Chile. Of all 18 countries in the region, only Bolivia has achieved – and exceeded – gender parity, with a parliament composed of 53% women (International IDEA; see Appendix A). While parties and national governments alike have committed to achieving gender parity, these initiatives lack the substantial organizational and cultural changes necessary to effectively close the gender gap, and have become mere political talking points used to gain votes (Morgan and Hinojosa 2018). Such dissonance between national rhetoric and electoral outcomes points to sub-national factors and their effect on promoting or undermining such broad initiatives to increase women’s political representation.

### **Factors Affecting the Election of Women**

As Latin American nations began transitioning from military dictatorship to democracy in the final decades of the 20<sup>th</sup> century, governments embraced women’s political equality as a means to confer legitimacy upon their newly-(re-)formed democratic rule (Matland 2006; Dahlerup 2003). Such rhetoric was intended to convey to the international community that these nations were stable, progressive and democratic regimes that promoted egalitarianism, especially given the correlation between democracy and gender values (Rosen 2017). Rosen, in a study of 167 countries across 2 decades, finds that increases in women’s political representation are correlated with higher levels of development and democratic governments (2017).

Each case being studied in this thesis was at one time under a military dictatorship, with the transition to democracy occurring between 1980 (Peru) and 1990 (Chile): Argentina transitioned to democracy in 1983, and Brazil and Uruguay followed suit in 1985 (Alles 2014). This period of transition also coincided with the international awareness that women were vastly underrepresented in politics. This presented an opportunity for semi-democratic actors, such as post-transition Latin American governments, to posit themselves as more democratic and progressive, thereby further

cementing the legitimacy of their rule (Matland 2006). However, such national commitments to women's political inclusion tend to ignore subnational and district-level factors that affect the election of candidates, chief among them the structure of political parties, ideology, and party competition.

Most studies of women's nomination and election focus on national-level trends and initiatives; still other studies examine the behavior of individual political parties and their decisions to put forth specific candidates (Hinojosa and Francheset 2012). However, such concentration on national and party-level influences fails to account for effects at the district level, often ignoring the internal institutional norms that dictate candidate selection (Bjarnegård and Zetterberg 2016). This has translated to a dearth of studies examining the electoral district and its effects on party competition and candidate selection. While it is essential to understand the national- and party-level contexts governing the nomination and election of female candidates, it is district-level considerations such as ideology, party fragmentation and district magnitude that determine how a party responds to competition and decides whether or not to nominate women. This project intends to contribute new insights as to how district-level considerations influence women's political representation.

The following sections will first examine those national and party-level factors that are thought to influence the election of women. These sections will also examine the gaps and deficits of these factors within the literature, and how they fail to fully explain the continuing disparity in women's political representation. Subsequent sections will then examine various district-level factors, including an original measure of district ideology, and posit explanations for how these might explain persistent variations in the proportion of women elected across election years.

### *Institutional Factors*

There is a direct correlation between the underrepresentation of women as candidates on party lists and the underrepresentation of women in elected office; conversely, more female candidacies



yield a higher proportion of women elected to office (Roza 2010). There is also consensus that proportional representation (PR) systems overwhelmingly benefit women's election over majoritarian systems (Norris 2003; Roza 2010; Alles 2014; Gray 2003; Matland 2006). Since majoritarian systems are winner-take-all, only the party or candidate who receives the majority (or even a simple plurality) of votes in a district is elected. However, in a PR system, parties win seats based on the proportion of votes received, opening space for more candidates (including women) from a broad variety of parties to have viable candidacies (Thames 2017). Within PR systems, closed-list ballots, in which voters cast a vote for a party's entire ballot and every candidate on that list, yield a higher percentage of women elected than open lists, where voters cast a preference vote for particular candidates (Jones 2009; Schwindt-Bayer 2009; Matland 2006). Each of the five cases studied in this thesis uses a PR system, with Argentina and Uruguay utilizing closed-lists and Brazil, Chile, and Peru utilizing open lists.

In cases where open list ballots are used, voters tend to prefer incumbents, who are overwhelmingly male given their historical dominance of the political ruling class (Weeks 2018). This incumbency effect has proven particularly difficult for female candidates to overcome, and is only one of the many institutional barriers that prevent women from holding elected office (Macaulay 2006). Although the nature of the PR system allows parties to replace candidates without risking significant electoral consequences (particularly with closed lists) (Thames 2017), once women are nominated to party ballots, low list rankings still favor male candidates and incumbents (Norris 2003). The presence of mitigating factors such as term limits for incumbents and placement mandates have served to substantially increased the chances of a woman being elected (Schwindt-Bayer 2005).

Placement mandates, a factor exclusively compatible with gender quotas, serves to increase the visibility of female candidates on party lists, and thus increase their chances of election. Placement mandates require that women be ranked on party lists, the most common being that a woman must be placed on every second or third position on a ballot (Hinojosa and Piscopo 2013). This effect is

especially strong in conjunction with a closed-list PR system. There is some debate as to whether placement mandates are compatible with open-list PR systems, given that the preference vote benefits incumbents over other candidates (Schwindt-Bayer 2005). Something of a compromise can be seen in Peru, which utilizes a double optional preference vote, where voters first cast a vote for a party list as a whole, with the option to then cast a preference vote for their desired candidate (Piatti-Crocker, Schmidt, Araújo 2017). While Peru technically uses open list ballots, the optional preference vote combines aspects of both closed and open list PR systems, thus allowing for more women to be elected than in traditional open-list PR districts.

### *Gender Electoral Quotas*

The transition to democracy at the end of the twentieth century represented a perceived support of women's political representation by Latin American governments, which sought to establish legitimacy through such initiatives (Dahlerup 2003). This support for gender parity was enacted in the form of gender quotas, with Argentina being the first country in the world to adopt a national gender quota with the 1991 *Ley de Cupo* (Gray 2003). As other nations in the region began adopting gender quotas through the end of the century, Latin America came to be regarded as the vanguard of the quota movement (Jones 2009).

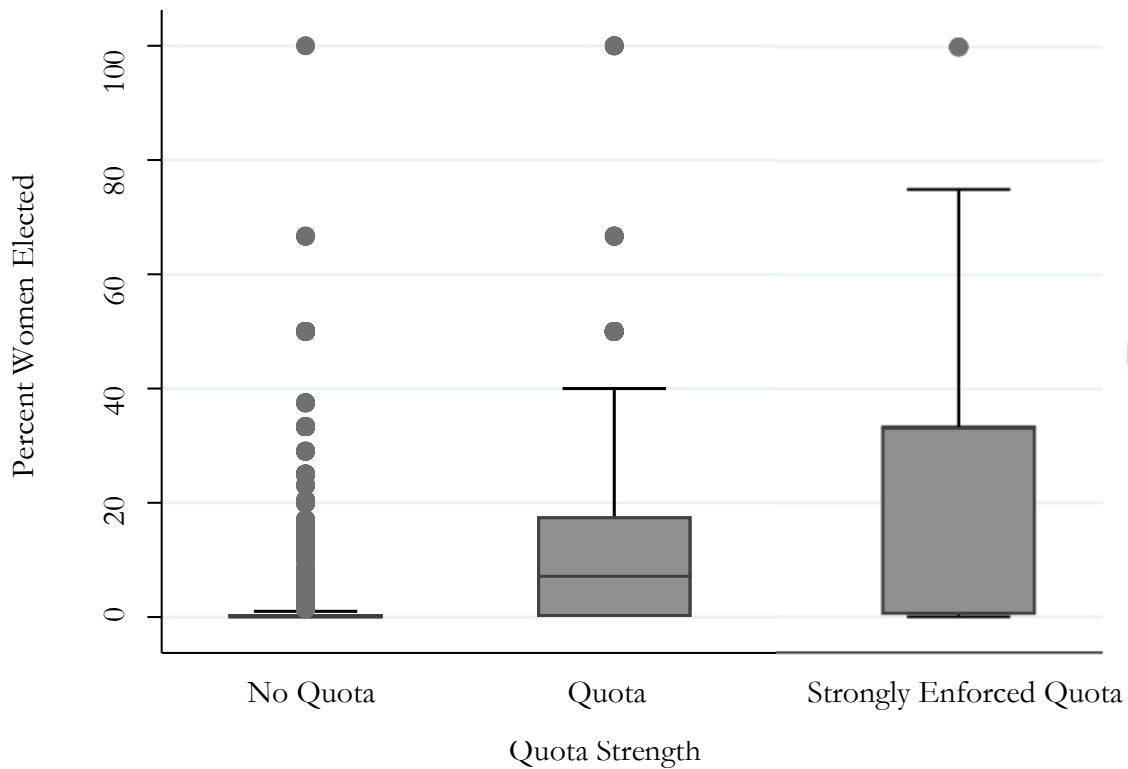
Gender quotas mandate that women must comprise a certain percentage of political party aspirants, electoral party lists, or seats in a parliament or congress (Dahlerup 2003). These three types of quotas intervene in a different stage of the electoral process (Matland 2006), from the candidate recruitment stage to the nomination of candidates in national elections to the reservation of legislative seats. Latin America is unique in two respects: not only have 17 of 18 countries in the region adopted quotas (see Appendix A), but these nations have all adopted electoral quotas. Electoral quotas, also known as gender electoral quotas, are coded in electoral law and mandate that women must compose

a certain percentage of party lists, the baseline threshold being 30% (Schwindt-Bayer 2009). Gender quotas are largely considered a “fast track” to increasing women’s representation (Dahlerup and Friedenvall 2005; Barnes and Córdova 2016), despite critics’ concerns that their implementation undermines the principles of a democratic meritocracy (Piatti-Crocker, Schmidt, and Araújo 2017).

Gender quotas in Latin America are typically nationally-mandated electoral quotas, meaning the quota is enforced for elections to national political positions, such as congress or parliament. However, many political parties have also adopted voluntary internal quotas with the intention of recruiting more women as potential candidates and nominees (Hinojosa and Piscopo 2013). The adoption of quotas has primarily been implemented in the lower houses of national legislatures, although countries began adopting quotas for the upper houses at the onset of the twenty-first century (Htun, Lacalle, and Micozzi 2013). Despite the fact that quotas ultimately aim to encourage 50-50 parity, critics claim that the 30% quota threshold serves as a ceiling rather than a floor, setting a cap on women elected rather than serving as a foundation for balanced representation (Gray 2003).

While implementing a quota has a significant positive effect on women elected overall, there still exists a wide variation in women elected, particularly within countries. Figure I below examines the relative quota strength of Argentina, Brazil, Chile, Peru, and Uruguay over time, comparing the proportion of women elected in a district relative to quota strength (from none to strongly enforced). This demonstrates that while simply enacting quota legislation nearly quadruples the mean of women elected (from 3.3 to 12.2), and strong enforcement of existing quotas more than doubles that mean (12.2 to 25.3), a broad range in the proportion of women elected persists at all levels of quota strength. Even with a strongly enforced quota, many districts fall well under the mean, with some failing to elect women at all. Thus, the presence of quota legislation, regardless of strength or degree of enforcement, does not guarantee the election of women in a district during a given election year.

Figure I. The Effects of Quota Strength on the Proportion of Women Elected



*Note:* Table elaborated by the author. Data for “Percent Women Elected” comes from Alles (2014), while “Quota Strength” is based on a measure developed by Piscopo (2016) and data from International IDEA Gender Quotas Database.

Despite quotas having substantially increased the proportion of women elected, there still exists a possibility that women will not be elected in a given district, even when quotas are highly enforced. Although certain institutional factors may also be causing a lower proportion of women elected, such as a smaller district magnitude or open-list voting (both of which disadvantage women’s election even when the quota has been met), strongly enforced quota legislation greatly minimizes the effects of these factors. Notably, this suggests that despite progress made towards increasing women’s political representation on a national level, quotas in and of themselves cannot explain trends in women’s political representation. This would also suggest that institutional subnational factors at the district- and party-level might be undermining the effects of gender quotas.

## *Resisting the Quota*

On the party-level, quotas threaten the traditional male-centric balance of power by mandating that women be granted access to the political realm. Given that male party elites are typically unwilling to sacrifice their political power to further women's political participation, parties resort to exploiting loopholes to effectively skirt the quota, a resistance that can only be mitigated by closing such loopholes in electoral law (Morgan and Hinojosa 2018). In Brazil, where parties are allowed to run 50% more candidates than seats, a loophole exists in which parties are sanctioned for not complying with the 30% quota *only* if they run the maximum number of candidates. Therefore, parties can run male candidates for every available seat without reaching the 150% limit and still be in compliance with the quota. In countries like Bolivia, parties have brazenly changed candidates' names to sound like female names, while in Mexico women are nominated as mere alternates to male frontrunners, complying with the letter of the law but not the spirit. In some instances, women are nominated as frontrunners, but once elected, step down in favor of male alternates; still in other countries, female relatives of male politicians are nominated to comply with the quota. Furthermore, other parties will run primaries, which are generally not subject to quotas, in order to nominate preferred candidates and avoid quotas altogether (Hinojosa and Piscopo 2013).

This subversion of quota laws persists across multiple districts and election cycles, and only dissipates once the quota law is amended. The Argentine legislature and judiciary were effective in closing quota loopholes and sanctioning noncompliant parties, respectively, and its relatively strong quota legislation has contributed to a 39% share of women in congress today (Hinojosa and Piscopo 2013). With the exception of these few successes, such avoidance tactics reveal an unwillingness for political parties to nominate and elect women, and that while quotas function on a broad, national level to increase the proportion of female legislators, these laws often fail to account for party motivations and district-level trends.

## *Political Parties*

The institution of political parties presents significant barriers to women's election, in part because parties are the principal means by which candidates are selected (Macaulay 2006), but also due to the inherently gendered nature of the political system. As parties dominated by male elites seek to maintain their own political power, they prove unwilling to promote women's candidacies, which would shift this established balance of power. In this respect, political parties serve as gatekeepers controlling the selection, nomination, and success of candidates. Decisions to nominate female candidates must balance external pressures to increase women's representation with internal party desires to maintain the status quo. In other words, political parties must weigh the external pressures from other countries or international organizations, rival political parties, and voters and women's groups, when choosing to nominate female candidates. While weighing such considerations, parties also exercise varying degrees of control on the candidate selection process, in which the broader electoral fate of the party is evaluated against local concentrations of elite power.

While the candidate selection process is directly controlled by political parties, on either the national or electoral district-level, the degree of party decentralization plays a significant role in the control parties have in selecting candidates (Wylie and dos Santos 2016). In highly decentralized electorates, where parties at regional or even district levels control the power of candidate selection (a more centralized party would select candidates through party primaries, for example), male-dominated local power monopolies greatly undermine women's prospects for inclusion, as they seek to maintain their own localized power. Conversely, centralized electorates are more concerned with the fate of the party as a whole, and are more likely to nominate women if it would benefit the party on a national level or would find more appeal with voters (Weeks 2018; Wylie and dos Santos 2016).

As previously discussed, national-level pressures from similar regimes, allies, and international organizations induce countries to adopt measures guaranteeing women's political equality. Parties, in

turn, face competing pressures to comply with electoral law or maintain the existing status quo (Htun and Jones 2002). Additionally, political parties may feel pressure to nominate women to compete with rival parties already doing so, or they might proactively nominate women to distinguish themselves from rivals and obtain a competitive edge (Weeks 2018). Political parties also face pressures from women's groups, who are particularly organized in Latin America (Vargas 2002); in fact, lobbying by women's groups in the early 1990s prompted the adoption of gender quotas. On the other hand, adoption of a national measure to ensure women's political equality may not have voter support (Barnes and Córdova 2016), and parties may feel pressure to evade these measures to maintain vote share. These competing priorities produce vastly different candidate compositions not only among different parties, but among the same party in different electoral districts.

### *Party Composition*

Parties are predominantly composed of men, and the overwhelmingly male and white composition of political elites has skewed perceptions of other groups of candidates as less competitive and politically competent outsiders. This bias has raised high barriers of entry for female and minority candidates across the region. However, studies have shown that when given access to party lists, women are equally as electorally viable and competitive as men, and gender voting bias is generally limited (Roza 2010; Morgan and Hinojosa 2018). High entrance costs for women who self-nominate independent of parties or within their own political parties forces them to weigh their ambitions with those of the larger party, as well as their own responsibilities in the family sphere (Hinojosa and Francheset 2012), ultimately reducing the number of women who go on to become party candidates.

In general, such considerations cause parties to be less receptive to nominating women, and even with initiatives such as gender quotas in place, parties are generally unwilling to comply in order

to maintain the status quo. In addition, the enactment and enforcement of national-level initiatives such as quotas, as well as the sanctioning of non-compliers, lies solely with these majority-male legislatures (Morgan and Hinojosa 2018). This allows for men to rhetorically commit to women's equality and gain political points for their 'progressive' actions, while still permitting elites to protect their political power instead of substantively enforcing these rights (Weeks 2018). Unless there is extreme and influential outside pressure prompting parties to change their policies, such as the contagion effect, in which one party adopts a quota and rival parties follow suit to remain competitive, or a cultural shift in which voters demand more female candidates, parties are inclined to only marginally promote women's political representation (Hinojosa and Francheset 2012).

In the case of Argentina, effective sanctioning by the judicial branch and pressure from women's groups slowly shifted public perceptions of quotas and women legislators, pressuring male party elites to strengthen and comply with the mandates of electoral gender quotas (Htun, Lacalle and Micozzi 2013). In contrast, the decentralization of the Brazilian party system grants local elites a great deal of power over the candidate selection process within a district, decreasing the electoral incentive to promote women's representation. In Brazil, the quota law, presented in Congress due to pressure from internal women's groups, was only passed because of a loophole allowing parties to run more candidates than seats available, since this did not reduce the number of vacancies available to men (Wylie and dos Santos 2016).

Despite their resistance to the inclusion of women, political parties are still the primary avenues by which women can obtain political voice and influence policy, and thus represent the largest barrier to women's political power (Del Campo 2005; Macaulay 2006; Weeks 2018). This unwillingness to nominate and elect women is demonstrated in the gendered prioritization of candidate training and funding initiatives, in which men receive not only the majority of campaign funding, but also increased party guidance to prepare for candidacies; women, comparatively, are given few, if any, resources



(Morgan and Buice 2013; Morgan and Hinojosa 2018). Therefore, once women have passed the candidate selection hurdle, they still find themselves at a disadvantage within their own party, one which leaves them unprepared to undertake a successful campaign, specifically in open-list elections.

### *Candidate Selection*

It is worthwhile to note the distinction between the nomination of women as candidates and the election of women to legislatures. Candidate selection and nomination, the first step in the process of being elected, proves to be a significant hurdle for women, especially during the preliminary candidate selection phase, where candidate recruitment skews overwhelmingly towards men. Party elites, also men, are less likely to perceive women as ambitious, capable, or viable candidates, as they are informed by gender stereotypes that portray women as less qualified and less competitive than men (Funk, Hinojosa, and Piscopo 2017). This is commonly known as the supply-side issue, in which women are recruited at a lesser rate than men for political candidacies due to a perceived dearth of qualified female candidates. However, it is difficult to collect data on this ‘supply-side’ aspect, as there is no standard measure to gauge the supply of skilled women in a district nor the level of electoral viability in a candidate or candidate aspirants.

In addition, parties do not believe that voters will want to elect women — this being the demand-side argument. However, not only are women just as competitive as men in winning legislative seats and gaining voters, but women candidates have been found to outperform or equal men at all levels (Roza 2010). These effects are particularly strong in Latin America, where the pool of educated and working women has increased substantially, and women have consistently outperformed men in municipal elections in countries like Brazil and Chile (Roza 2010).

It is these cultural gender biases that prevent women from standing for election, since they are not only overlooked by political parties, but also do not judge themselves to be worthy candidates.

Thus, the recruiting process becomes a bottleneck for women, and is only one of many critical points at which institutional design and party composition disadvantage women. Thus, the path from selection to nomination to election is by no means direct, leaving many competent women out of the political realm altogether. However, once women are nominated as candidates, there is a significant correlation between candidacies and rates of election (Schwindt-Bayer 2012), despite the significant hurdles that remain.

### *Party Ideology*

An additional consideration is the ideology of a political party. It is assumed that since leftist parties are more progressive given their tendency to promote women's rights and stronger relationships with women's groups, those parties are more likely to forward women's candidacies and encourage their election. Right parties, on the other hand, are associated with conservative ideals that value traditional roles for women; thus, right parties are more likely to exclude women from the political realm and show less support of women's rights and political advancement (Thames 2017). However, there is a decisive split in the literature over the actual effects of ideology on the election of women. Studies have found that there is a correlation between left parties and a higher proportion of women elected (Alles 2014; Jones, Alles, and Tchintian 2012; Jones 2009), which supports the general claim that leftist parties are more encouraging of balanced political representation.

Other studies, however, claim that there is no statistically significant correlation between a party's ideology and the election of women, especially once quotas have been enacted (Roza 2010; Funk, Hinojosa and Piscopo 2017; Hinojosa and Francheset 2012; Morgan and Hinojosa 2018). A possible explanation for this phenomenon is the male-centric and self-interested nature of political parties, interests which supersede any ideological support for women's representation, as an increase in female legislators would come at the expense of existing male representatives (Hinojosa and

Francheset 2012; Roza 2010). Another study asserts that while left parties are more vocal about supporting women's rights and are more likely to call for measures like quotas to be enacted, once such measures are in place both left and right-wing parties will nominate women at equal rates (Thames 2017).

However, party ideology in and of itself does not suffice to explain disparities in women elected. Party ideology is constant across districts in a given country during a given election year, wherein a far-right party, for example, will hold the same ideology regardless of the district in which it presents candidates. Yet the proportion of women elected by party varies significantly across districts, a disparity which party ideology fails to account for.

### *District-Level Factors*

The failures of national- and party-level factors to describe discrepancies in the election of women strongly implies that facets of district-level competition may explain this variation. National considerations such as quotas and electoral system design are not sufficient in explaining the broad range of women elected, while party-level considerations fail to account for the influence of party competition, instead treating political parties as actors making decisions independent of their competitors. The following sections will examine district-level determinants of electoral competition as a means to bridge the gap between the national and party-level and their impact on the election of women.

Since parties strive to maximize legislative seats and vote share in relation to competing and rival parties, and since maintaining political power ultimately determines the nomination and subsequent election (or lack thereof) of women, it is reasonable to expect that competition between parties has a significant effect on women's election. Competition between parties is almost exclusively relegated to the district level, and assuming that parties are rational, strategic actors (Roberts, Seawright,

Cyr 2012), the candidate selection process is primarily driven by whether certain candidates will prove more competitive than others and thus net a party a greater vote and seat share. Given that each district varies in terms of its relative ideological positioning, district magnitude, and number of competitive parties, parties must implement distinct strategies in each district in order to maximize their electoral success. In this way, competition is not accounted for in broad national initiatives promoting women's election, while party considerations focus on parties as individual entities rather than their electoral possibilities relative to parties in the same district.

### *District Ideology*

Whereas parties strive to nominate those candidates that best embody and promote their ideology, political parties do not exist in a vacuum. While a PR system allows for a range of ideologies to be represented by competing parties, those parties that are more aligned with the majority voter ideology in the district will be more electorally successful (Thames 2017). Thus, the ideology of a district in a given election year in part determines the degree of competitiveness of parties. As parties are vote- and seat-maximizing entities, perceived ideology of a district would influence the strategies by which parties campaigned and put forth candidates. However, parties of an ideology different than that of the majority of the electoral district might also nominate more women as a means of standing out among their competitors and attracting new voters (although this is more likely to be parties of the left, which are more supportive in general of women's political representation).

In cases where the majority of voters in an electoral district hold a distinct ideological position, parties will have more or less incentives to nominate women as a means to maintain a competitive edge, especially in a district ideologically distinct from that party. For example, a far-right party in a centrist district, since they obtain a small vote share relative to more ideologically aligned parties, would seek to gain as large a vote share as possible, and to that end might present candidates, such as

women, that would appeal more to centrist voters. In this way, parties must consider not only their own ideologies when choosing to nominate women, but also the ideology of the district in which they are presenting candidates. Notably, parties must weight their own ideological considerations against voter ideological preferences in determining which candidates would be most viable for election.

Therefore, as a district leans more towards the right, parties will be less likely to nominate and elect female candidates given their conservative views towards women's rights and political freedoms, irrespective of the party's own ideology (Roza 2010). Likewise, as a district leans more towards the left, parties are expected to put forth and elect more female candidates given the left's historical alignment with women's movements and support for women's rights in general. This argument assumes that parties seek to vote- and seat-maximizers, and that they are more interested in the electoral success of the party than in strictly upholding their purported values. This also assumes that party ideology is superseded by district ideology, and that political parties adjust election and candidate selection strategies in accordance with the general ideology of each electoral district. From this theory the following hypothesis is predicted:

**H<sub>1</sub>:** *As the ideology of a district skews towards the right, the proportion of women elected will decrease as parties and their voters instead favor more electorally viable male candidates.*

This proposed rationale seeks not only to explain the ways in which district ideology affects the election of women, but also how electoral competition in the form of party fragmentation influences this same factor. This analysis will provide a more in-depth and nuanced view on institutional factors at the district level and their relationship to women's political participation.

### *Party Fragmentation*

An additional consideration when examining the effects of electoral competition at the district level is party fragmentation. Party fragmentation is the effective number of parties competing in a

district, measured by the distribution of votes or seats that a party wins in a given election (Laakso and Taagepera 1979). In other words, increased fragmentation indicates that there are more competitive parties running in an election, with the possibility that a party will win more seats or votes relative to another. Such increases in party fragmentation lead to decreases in the total number of seats a party can win, thus decreasing the total number of candidates a party can present and reasonably expect to win (Funk, Hinojosa, and Piscopo 2017).

The following analysis will expand upon a theory developed by Funk, Hinojosa, and Piscopo (2017), which attempts to posit party fragmentation as part of a party's larger "decision environment." In this study, party fragmentation was found to be statistically significant on the election of women, more so than factors such as party ideology (Funk, Hinojosa, and Piscopo 2017). Similarly, another study found evidence that when fragmentation increases and competition is high, less women are elected (Wylie and dos Santos 2016), particularly in districts with higher levels of decentralization.

In these cases, political parties prefer to preserve their own power and uphold traditional male-dominated party structures, preferring to will run incumbents and male candidates, who present a more secure prospect of winning. With higher party fragmentation, parties seek to more aggressively promote their most viable (read: male/incumbent) candidates. This can be explained not only by the exclusionary nature of parties towards women, but also by the incumbent effect: incumbents have the structural knowledge, support, and voter recognition that makes them more electorally viable and thus more likely to be re-elected in highly competitive districts.

Other studies find that heightened competition and higher fragmentation actually increases the election of women (Alles 2014) as parties seek to distinguish themselves from competitors, giving them incentive to adopt risky policies and nominate underrepresented groups (Weeks 2018). Such tactics distinguish parties from established groups associated with certain values and institutions; this posits the party as more progressive and less beholden to the traditional party system, appealing to a

broader and more diverse voter base. Parties at risk of losing seats due to voter consequences might be more likely to nominate women in instances of higher fragmentation, as this signifies a shift towards inclusivity and renewal (Funk, Hinojosa, and Piscopo 2017). Since these parties are already in danger of losing seats due to poor policies, there is less risk (and even the potential for electoral gains) in putting forth female candidates.

From this theory the following hypothesis is predicted:

**H<sub>2</sub>:** *As political party fragmentation increases in a given district, the proportion of women elected in that district will decrease.*

Given that women are less likely to be among party leadership or elites, and that the incumbent effect disadvantages women's candidacies (Norris 2003), in instances of increased party fragmentation, women are less likely to be elected. This finding is in keeping with the current literature, which suggests that political parties are generally unwilling to nominate women, as they are more interested in preserving their own political powers than the marginal electoral rewards to be gained from running female candidates.

### *District Magnitude*

District magnitude, or number of seats in a district, is also correlated with higher proportions of women elected, as higher district magnitude allows parties to capture more seats, thereby increasing women's chances of election (Thames 2017; Norris 2003). Furthermore, district magnitude can also offer a competing explanation for the election of women: as the number of seats in a district increases, the probability of a woman being elected increases, since women would not have to compete with a male incumbent for a single seat (Htun and Jones 2002). This would only have an effect, however, if women were already included in candidate lists and nominated by political parties, or if electorally secure parties anticipated that the addition of female candidates might net them additional seats. The

effect of district magnitude is dependent upon women already being nominated, or upon initiatives such as quotas designed to increase women's representation.

In this vein, recent findings have shown that the effect of district magnitude is not as strong as once predicted (Roza 2010), and that district magnitude is only significant when presented in conjunction with other factors. Given the disputed importance of district magnitude in determining the proportion of women elected, this variable will be included as a control when analyzing the effects of district ideology and party fragmentation on the election of women.

## **Data and Empirical Design**

This thesis will utilize data from Alles (2014) to test the effects of district ideology and party fragmentation on the election of women. This dataset includes data at the district level for elections to the national legislature in both the lower and upper chambers (with the exception of Peru, a unicameral government) beginning in 1980. This year marked the transition to democracy in Peru, with the military dictatorships in Argentina, Brazil, Uruguay, and Chile ending in 1983, 1985, 1985, and 1990, respectively (Alles 2014). The timespan of this dataset covers national congressional and parliamentary elections from 1980 through 2013, spanning sixteen elections in Argentina (half of all legislative seats are renewed every two years) (Roza 2010); seven elections in Brazil and Chile; six elections in Uruguay, and eight elections in Peru. The dataset codes for the type of legislative seat at stake, type of ballot, district magnitude, total votes received by each political party, proportion of legislators by gender elected both by district and by the individual party, party ideology, and the effective number of both legislative and electoral parties (see Appendix B). Controls for illiteracy rates are also included. The dataset also includes national-level variables such as presence of quotas and quota threshold over time.



The period of time represented in this dataset greatly expands on previous studies analyzing the election of women, as such data is generally restricted to only a few election cycles (Alles 2014). In addition, the Alles dataset is one of only a few that includes district-level data on the election of women (Jones 2009; Roberts, Seawright, and Cyr 2013) across multiple countries, whereas most studies theorize at the electoral district level while using data aggregated at the national level (Alles 2014). The scope of this dataset allows for the project to expand upon previous studies analyzing the impact of institutional and electoral factors on the election of women (e.g., Funk, Hinojosa, and Piscopo 2017; Alles, Jones, and Tchintian 2012; Thames 2017), as well as contribute to a growing body of literature suggesting that district-level factors influencing their party decisions are key determinants of women's access to political power (Roza 2010; Norris 2006; Morgan and Hinojosa 2018; Macaulay 2006; Matland 2006; Del Campo 2005).

### *Variables*

The dependent variable in this study is proportion of women elected in each district in a given election year, calculated as the total number of women elected over the total number of legislators elected in a given electoral district. The primary independent variable being examined is district ideology. This variable is an original measure constructed by the author utilizing existing variables from the Alles (2014) dataset. A secondary independent variable, party fragmentation, will also be examined. Party fragmentation is expressed as effective number of legislative parties (ENLP), or the number of competitive political parties in a district.

District ideology is coded as the sum of each party's ideological positioning as weighted by the proportion of seats won. In other words, district ideology is the proportion of seats won by a party multiplied by the ideological score of that party, with each party's subsequent ideological weight summed to obtain the overall ideology of the district. Party ideology relative to vote share

was not utilized to calculate district ideology as there were missing values for total votes, such that out of the 4,191 observations in the dataset, only 1,500 observations contained data on total votes (this represented all elections in Chile and Peru, and the 2013 election in Argentina). Thus, share of seats won serves as a proxy for vote share, assuming that proportion of seats won roughly correlates to how voters in a district cast their ballot.

An additional issue with the calculation of the district ideology variable was found in the party ideology variable: ideology scores for parties are based on voter perceptions of a party's ideological positioning from 0-10, where 10 is extreme right. Values were also missing for smaller regional parties, coalitions, and dissolved parties. These missing values were researched and replaced by the author by comparing the reported ideological position of each party in relation to parties of a similar ideology. Thus, the district ideology variable is not truly representative of the actual ideology of electoral districts, but rather roughly approximates this value.

The ENLP variable representing party fragmentation is calculated using the Laakso–Taagepera index, a tool in political science used to count the number of competitive political parties in a district by weighing their size relative to their electoral strength, which serves to discount small parties (Laakso and Taagepera 1979). With the ENLP variable, electoral strength is measured in terms of a party's seat share, thus providing consistency in how both independent variables are weighted. The change in ENLP over time thus measures the level of party fragmentation within an electoral system at the district level.

### *Controls and Additional Variables*

Controls for this thesis include district magnitude and illiteracy rate. District magnitude may represent an alternative explanation for the election of women irrespective of ideology or degree of party fragmentation. Thus, controlling for district magnitude serves to isolate the actual effects of both

independent variables. District magnitude is calculated as the number of seats at stake in a district during a given election year. Illiteracy rate, on the other hand, serves as a proxy for levels of education over time, and controls for how shifts in voter educational attainment might influence parties' decisions to put forth more or less female candidates. Illiteracy rate uses census data to calculate the percentage of people older than 10 in each district without the ability to read. This paper predicts that as illiteracy rates decrease there will be a positive effect on the dependent variable, but that this result will not be statistically significant. Similarly, this paper predicts that as district magnitude increases there will be a positive effect on the dependent variable, but that the extent of this effect will decrease as party fragmentation increases, lessening the statistical significance of the variable.

An additional variable was also added to the dataset by the author to measure the strength of quota legislation in each legislative chamber, as devised by Piscopo (2016). This method scores quotas on a scale from 0–4, with one point being awarded if a country's quota law includes the following: the presence of a nationally-mandated quota law (+1), the presence of an enforcement mechanism or sanction for non-compliance (+1), a placement mandate for placing women on electoral lists (+1), and the quota threshold being 40% or higher (+1) (Piscopo 2016). For a country like Brazil, which has both a quota law and an enforcement mechanism to sanction non-compliance, the total quota score is 1 instead of 2, given the loophole in national electoral law allowing parties to run more candidates than seats available (Wylie and dos Santos 2016). Information for quota strength over time was collected from the Gender Quotas Database (International IDEA 2018). While this measure is not necessary to analyze the effects of ideology or party fragmentation, it serves to underscore the fact that despite quotas having increased the proportion of women elected overall, quotas alone cannot explain disparities in the proportion of women elected, even when strongly enforced (see Figure I). This variable emphasizes the importance of examining district-level explanations and their impact on party nomination decisions.

## *Research Design*

This thesis will analyze the impact of ideology and party fragmentation on the election of women at the level of the electoral district, this being defined as the individual states, provinces, or departments which elect representatives to the national legislatures of each country (see Appendix B for a complete list). Thus, the unit of analysis is the district-year of a given election in a given country. The independent variables, as explained above, are district ideology and party fragmentation, measured in terms of ENLP (Alles 2014).

The dependent variable is the proportion of women elected in a given district in a given election. The first hypothesis of this paper predicts that party fragmentation will have a strong negative correlation with the election of women: as party fragmentation increases, the proportion of women elected will decrease. This thesis will also examine the effect of district ideology on the election of women and how this variable might influence party-level decisions to nominate and elect more women. This will lend a more nuanced interpretation to the results, which will examine how different facets of electoral competition, both ideological positioning and party fragmentation of a district, affect women's political representation. Per the second hypothesis, as an electoral district's ideological positioning moves towards the right, parties, irrespective of their own ideology, will nominate less women in favor of incumbent male candidates, since they are more electorally viable in conservative districts.

A standard OLS regression will be used to test the effects of these independent variables on the election of women. This type of regression will minimize the sum of the squared residuals, and given that this thesis analyzes proportion of women elected as a function of ideology and party fragmentation, all continuous variables, a standard regression is sufficient to capture this effect. Separate regressions will be run to test the effects of district ideology and effective number of legislative parties on the election of women. The first regression examining the significance of

district ideology will be analyzed independently of ENLP, while the second regression will examine the effects of ENLP and include district ideology as a control. These regressions will consist of three distinct models: the first will include controls such as district magnitude and illiteracy rate; the second model includes controls for district magnitude, illiteracy rate, and county and year fixed effects; the third model includes controls for illiteracy rate and district and year fixed effects. All regressions include robust standard errors.

County fixed effects will hold constant country-level factors that change between election cycles, such as changes in institutional design or regime type, and allow for observation of district-level effects taking national-level influences into account. District fixed effects will control for the wide diversity of districts among countries in this study across years, such as changes in district magnitude, and allow for observation of district-level effects without the possible confounding effects of such changes. Year fixed effects will hold constant those anomalous occurrences in a given year that might influence electoral outcomes. Given that district magnitude is constant in each district across elections, district and year fixed effects will mask the variable's effect, thus rendering this control ineffective. Due to this, district magnitude will only be significant when utilizing country and year fixed effects, thus will only be included as a control in the first and second models.

## **Results**

The results find evidence that district ideology is a significant determinant of the proportion of women elected. Table II demonstrates the effect of district ideology on the proportion of women elected, independent of the effects of party fragmentation. Model 1 demonstrates that district ideology is significant with controls and fixed effects omitted, but shows a positive direction, implying that for every 1-point shift to the right, the election of women increases 2.3%, significant at  $p < 0.01$ . While district ideology remains significant in both Models 2 and 3 at  $p < 0.01$  and  $p < 0.05$ , the direction of

the effect changes. In these models, district ideology has a negative effect on the proportion of women elected, with between a 1.3 % and 1.6 % decrease in women elected for every 1-point shift to the right. These models provide support for the first hypothesis for this paper.

Table II. **The Effects of District Ideology on the Election of Women**

Variables	Model 1	Model 2	Model 3
District Ideology	2.306*** (0.400)	-1.262*** (0.464)	-1.560** (0.606)
Illiteracy Rate	-0.414*** (0.0422)	-0.286*** (0.0434)	-5.744*** (0.656)
District Magnitude	-0.0264*** (0.00837)	-0.0981*** (0.0125)	
Constant	-2.282 (2.256)	24.01*** (3.046)	33.22*** (4.128)
Observations	4,174	4,174	4,174
R-squared	0.028	0.395	0.473
Country Fixed Effects		Yes	
Year Fixed Effects		Yes	Yes
District Fixed Effects			Yes

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Note:* Model 2 utilizes District and Year Fixed Effects, while Model 3 utilized Country and Year Fixed Effects.

Illiteracy rate and district magnitude are shown to be significant at  $p < 0.01$  for all models. Illiteracy rate carries a negative coefficient, which implies that as illiteracy rate increases, the proportion of women elected will decrease as much as 5.7% when district and year fixed effects are included. District magnitude also displays a negative coefficient: as district magnitude increases by one seat, the proportion of women elected will decrease up to 0.1%. These findings run contrary to the expected effects predicted in this paper.

Party fragmentation, expressed as ENLP, does not demonstrate a statistically significant effect on the dependent variable when fixed effects are included. Table III presents results of the proportion

of women elected as a function of ENLP. Model 1 again includes controls for district ideology, district magnitude, and illiteracy rate, but not fixed effects. This model demonstrates a positive significant effect at  $p < 0.01$ , suggesting that as ENLP increases, there is an associated 0.8% increase in women elected. However, in Models 2 and 3, which include controls and country and year fixed effects and district and year fixed effects, respectively, this significance disappears. These findings thus reject the second hypothesis of this thesis when fixed effects are included.

This finding implies that party fragmentation does not influence the proportion of women elected in a district. This would indicate that the increased presence of parties during an election does not substantially impact party decisions on candidate selection, nomination, or election. Although parties are rational actors that seek to maximize vote share and seat share relative to rivals, competition in and of itself does not sufficiently account for such strategies. Given that district magnitude is constant in each district across elections, parties continually compete for the same proportion of seats through successive election cycles, thus this factor of competition might be more indicative of party nominating strategies than fragmentation.

Parties are aware that there are only a certain number of seats up for election in a district in any given election year, and shifts in the types of candidates parties put forth might change in accordance with the proportion of seats won during the previous election cycle, rather than in accordance with the number of parties competing in an election. In other words, a party that lost seat share in the previous election cycle will shift its nomination strategy in order to recuperate seats in an upcoming election. As winning a seat is a zero-sum game, a seat won by one party is a seat lost by another, regardless of how many parties are competing in an election. Consequently, parties may nominate certain candidates as a means to gain more seats rather than as a mean to gain more seats relative to other parties.

Table III. The Effects of Effective Number of Legislative Parties on the Election of Women

Variables	Model 1	Model 2	Model 3
Effective Number of Legislative Parties	0.800*** (0.125)	-0.360 (0.223)	-0.417 (0.282)
District Ideology	2.719*** (0.415)	-1.060** (0.465)	-1.158* (0.613)
Illiteracy Rate	-0.489*** (0.0470)	-0.279*** (0.0429)	-5.898*** (0.667)
District Magnitude	-0.0836*** (0.0106)	-0.0884*** (0.0125)	
Constant	-6.179*** (2.309)	23.33*** (3.043)	32.00*** (4.285)
Observations	4,059	4,059	4,059
R-squared	0.038	0.412	0.498
Country Fixed Effects		Yes	
Year Fixed Effects		Yes	Yes
District Fixed Effects			Yes

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Note:* Model 2 utilizes Country and Year Fixed Effects, while Model 3 utilizes District and Year Fixed Effects

District ideology, however, remains significant when included with party fragmentation. In Models 2 and 3 the variable is significant at the  $p<0.05$  and  $p<0.1$  levels, respectively, and demonstrates a negative coefficient. This implies that for every 1 point rightward a district skews ideologically, there is between a 1% and 1.2% decrease in the proportion of women elected, depending on the type of fixed effect used. This provides further support for the first hypothesis of this paper. Illiteracy rate and district magnitude again prove significant with a negative coefficient at  $p<0.01$  across all models: for every 1% increase in illiteracy, there is a between a 0.28% and 6% decrease in women elected utilizing various fixed effects, while there is between a 0.84% and 0.88% decrease in women elected for every 1 additional seat of district magnitude.

These results suggest that both level of education in a district and number of available seats in a district are significant factors in determining the proportion of women elected. The findings



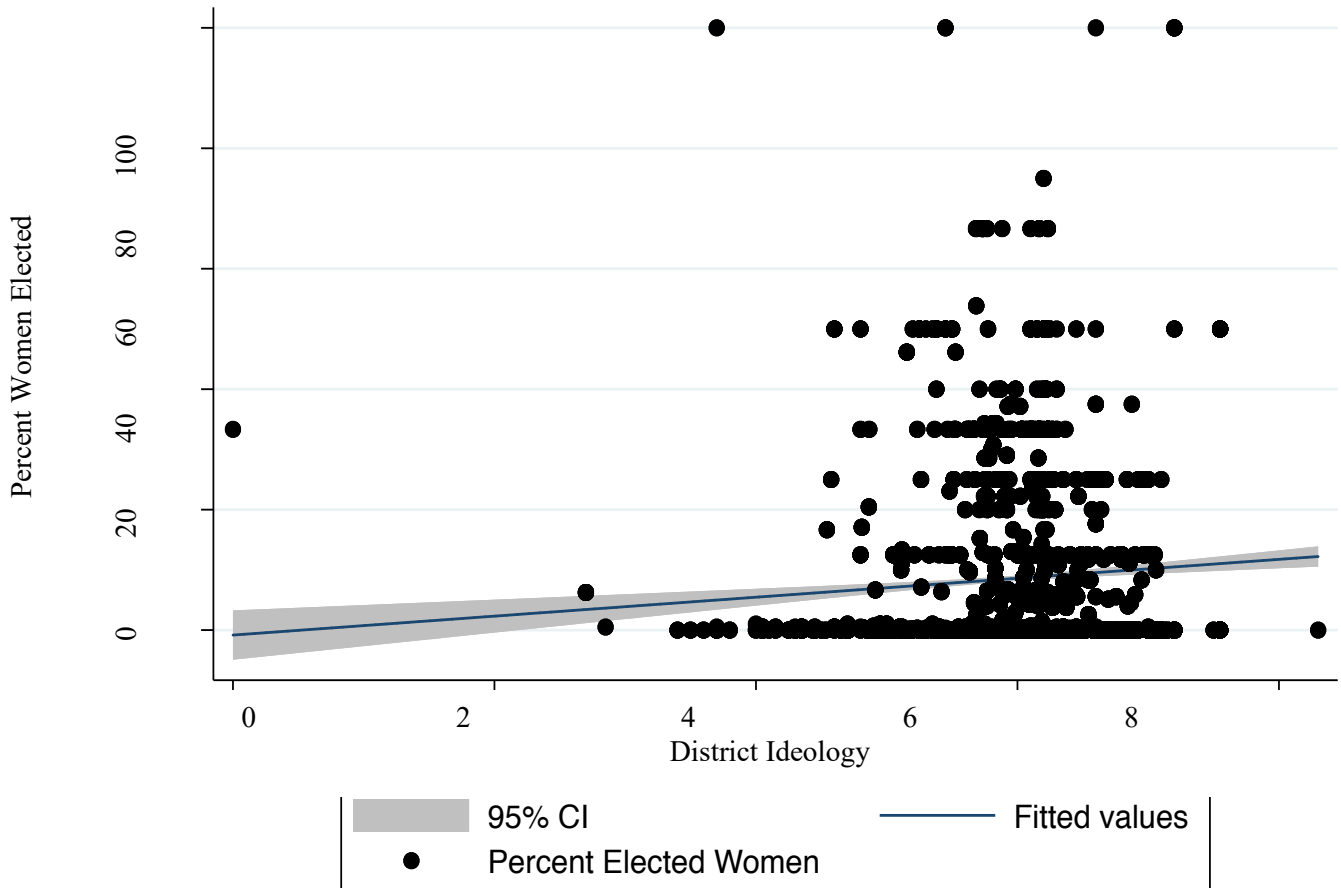
described above signify that illiteracy rate, a proxy for level of education, has a substantial negative effect on women's representation, irrespective of fixed effects and controls. Thus an increase in the illiteracy of voters leads to an decrease in women elected, while an decrease in illiteracy (conversely, an increase in literacy) leads to an increase in women elected. In this case, as voters become more literate they also become more favorable towards women's political inclusion, as positive trends in education and development are correlated with more inclusive gender values (Rosen 2017).

Similarly, district magnitude demonstrates significance across all models; however, the results find that district magnitude has a negative effect on women elected, a finding which runs contrary to the literature. This indicates that as more seats are open for election in a district, parties will nominate and elect less women to the legislature. A possible explanation for this phenomenon is the desire of parties to put forth their most viable candidates to capture as many seats as possible; thus when district magnitude increases, parties will choose to nominate more men, even though women might serve to distinguish parties from their rivals. Conversely, in cases where district magnitude decreases, parties might nominate more women precisely because of this distinguishing factor, particularly when low district magnitude creates more intense competition over a limited number of seats.

The effect of district ideology, which was shown to be a significant determinant of the proportion of women elected to national legislatures in Latin America, is demonstrated in Figure II below. It is important to note that while there is a range of ideologies represented in each electoral district, Latin American parties tend to be concentrated around the center, and are often distinguished from one another by mere decimal places of ideological difference. Nevertheless, as party ideology shifts rightward (10 being the most extreme right value), the proportion of women decreases. According to Figure II, women are more likely to win an election when districts are centrist or center-right, indicating that these ideological positionings serve to benefit women's election, most likely due to parties needing to distinguish themselves from competitors in districts

where voters are more centrist, and thus may be swayed either slightly leftward or slightly rightward depending upon how successfully a party puts forth viable and competitive candidates.

Figure II. **Proportion of Women Elected as an Effect of District Ideology**



## Conclusion

These results suggest that district ideology is a significant determinant of the election of women to national legislature across these case studies. District ideology displayed significant results in all models using both district and country fixed effects, suggesting a stronger relationship between the ideological positioning of a district and the proportion of women elected than previously predicted. Party fragmentation, conversely, does not demonstrate a statistically significant effect on the election of women in electoral districts. In addition, factors such as illiteracy rate and district magnitude also

prove significant factors in determining the election of women. Future studies might seek to explore the relationship between political parties and voters in the election of women, and specifically how political parties choose to put forth candidates based on the demographics and relative education levels of their voter base.

This project has demonstrated that ideology of a district has a substantive effect on the election of women, while party fragmentation has a less significant effect than previously observed. This thesis represents one of only a few studies that examines district-level influences on the election of women, and as such, further elaborations should expand on this vastly understudied area. Future studies should include a more accurate measure of district ideology, which would ideally be based on relative vote share rather than the proportion of seats won by parties and include more complete data on the ideology of individual parties. Future works might also seek to further explore the relationship between political parties and electoral districts, as well as the relationship between political parties and their voter bases, and how these elements of competition, candidate selection, and election serve to further or hinder women's political representation.

Ultimately, it is district-level factors of competition that influence the proportion of women elected, regardless of national and party-level interventions. Specifically, ideological considerations within a district supersede other factors of party competition, introducing an original and previously unstudied variable into the question of party competition. This trend also signifies that voter ideology and party responses to those preferences in part determine the election of women. This study thus underscores the importance of ideology of a district and makes the case that individualistic studies of party behavior and broad national policies fail to account for such key determinants of competition, decision-making, and interactions between parties and voters relative to one another.

While the path to gender political parity still presents many hurdles, an increasing number of women are nominated and elected to legislatures around the world each year. Studies such as this seek

to further this goal of parity and provide a roadmap for future generations of female leaders to take control of their political futures. It is the author's sincere hope that political representation will someday move beyond gender, but until that time, she will continue to tirelessly study and promote women's access to political power.

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## Appendices

### *Appendix A*

#### Electoral System and Institutional Design of Latin American Countries

<i>Country</i>	<i>Chamber(s)</i>	<i>Electoral System</i>	<i>Type of Ballot</i>	<i>Quota</i>	<i>Quota Rule</i>	<i>Women in Congress</i>
Argentina	Senate (Upper) Chamber of Deputies (Lower)	PR	Closed	Y, 1991	30% (both chambers)	39% (lower) 42% (upper)
Bolivia	Senate (Upper) Chamber of Deputies (Lower)	PR SMPD*	Closed	Y, 1997	33% (lower) 25% (upper)	53% (lower) 47% (upper)
Brazil	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 1997	30% (lower)	11% (lower)
Chile	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 2015	40% (both chambers)	23% (both chambers)
Colombia	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 1999** Y, 2011	30% (both chambers)	18% (lower) 20% (upper)
Costa Rica	Unicameral	PR	Closed	Y, 1996	50%	46%
Dominican Republic	Senate (Upper) Chamber of Deputies (Lower)	PR	Open	Y, 1997	33% (lower)	27% (lower)
Ecuador	Unicameral	PR	Open	Y, 1997	35%	38%
El Salvador	Unicameral	PR	Closed	Y, 2013	30%	31%
Guatemala***	Unicameral	PR	Closed	N	-	19%
Honduras	Unicameral	PR	Open	Y, 2000	30%	21%
Mexico	Senate (Upper) Chamber of Deputies (Lower)	PR SMPD	Closed	Y, 2002	30% (both chambers)	48% (lower) 49% (upper)



Nicaragua	Unicameral	PR	Closed	Y, 2000	50%	46%
Panama	Unicameral	PR	Open	Y, 1997	30%	18%
Paraguay	Senate (Upper) Chamber of Deputies (Lower)	PR	Closed	Y, 1996	20%	15%
Peru	Unicameral	PR	Open	Y, 1997	30%	28%
Uruguay	Senate (Upper) Chamber of Deputies (Lower)	PR	Closed	Y, 2014*	30% (both chambers)	20% (lower)  29% (upper)
Venezuela	Unicameral	PR SMPD	Closed	Y, 1997	30%	22%

*Note:* Electoral system data for each country from International IDEA's Gender Quotas Database. Data for "Women in Congress" from 2018 edition.

\* SMDP stands for single-member plurality district

\*\*Colombia adopted its first national quota law in 1999, but it was later struck down. The law was re-adopted in 2011

\*\*\*Guatemala does not have nationally mandated gender quotas, only voluntary political party quotas.

Appendix B

Summary Statistics for Gender and Power Dataset

Variable	Label	Description	Mean	Std. Dev.	Max.	Min.	Obs.	Source
election_id	Election Identifier	String variable. Race code labeling cases: Acronym of observations' country, year, type of election, and district <i>ex.</i> bra2010d216 = Brazil 2010 Chamber of Deputies Election in District 216 (Paraná)					4,191	Alles Dataset
year	Year of Legislative Election	The specific year in which legislative elections took place in a certain country	1999.38	8.69	1980	2013	4,191	Alles Dataset
period_dummies		Dummy variables for time periods					4,191	Alles Dataset
t1	Time Period 1	Dummy variable for legislative elections between 1980 - 1989 (1); all else (0)	0.18	0.38	0	1	735	Alles Dataset
t2	Time Period 2	Dummy variable for legislative elections between 1990 - 1999 (1); all else (0)	0.31	0.46	0	1	1,311	Alles Dataset
t3	Time Period 3	Dummy variable for legislative elections between 2000 - 2013 (1); all else (0)	0.51	0.5	0	1	2,145	Alles Dataset
country	Country of Legislative Election	Country of the legislative election, coded in the following way:  1 = Argentina 2 = Brazil 3 = Chile 4 = Uruguay 6 = Peru	2.54	1.48	1	6	4,191	Alles Dataset
country.dummies		Dummy variables for each country					4,191	Alles Dataset
arg_d	Argentina Dummy	Dummy variable for each country Argentina (1); all else (0)	0.25	0.43	0	1	1,052	Alles Dataset
bra_d	Brazil Dummy	Dummy variable for each country Brazil (1); all else (0)	0.35	0.48	0	1	1,460	Alles Dataset
chi_d	Chile Dummy	Dummy variable for each country Chile (1); all else (0)	0.22	0.42	0	1	927	Alles Dataset
uru_d	Uruguay Dummy	Dummy variable for each country Uruguay (1); all else (0)	0.07	0.26	0	1	304	Alles Dataset
per_d	Peru Dummy	Dummy variable for each country Peru (1); all else (0)	0.11	0.31	0	1	448	Alles Dataset
district_name	Name of Electoral District	String variable for name of electoral district					4,191	Alles Dataset
district_acronym	Electoral District Acronym	String variable for electoral district acronym					4,191	Alles Dataset
district_code	Electoral District Code	Division of country territory into electoral districts					4,191	Alles Dataset
	Argentina	101 Capital Federal 106 Chaco 111 La Pampa 116 Río Negro 121 Santa Fe 102 Buenos Aires 107 Chubut 112 La Rioja 117 Salta 122 Santiago del Estero 103 Catamarca 108 Entre Ríos 113 Mendoza 118 San Juan 123 Tucuman 104 Córdoba 109 Formosa 114 Misiones 119 San Luis 124 Tierra del Fuego 105 Corrientes 110 Jujuy 115 Neuquén 120 Santa Cruz						
	Brazil	201 Acre 206 Ceará 211 Mato Grosso 216 Paraná 221 Rio Grande do Sul 226 Sergipe 202 Alagoas 207 Distrito Fed 212 MatoGrosso do Sul 217 Pernambuco 222 Rondônia 227 Tocantins 203 Amapá 208 Espírito Santo 213 Minas Gerais 218 Piauí 223 Roraima 204 Amazonas 209 Goiás 214 Para 219 Rio de Janeiro 224 Santa Catarina 205 Bahia 210 Maranhão 215 Paraíba 220 Rio Grande do N. 225 São Paulo						
	Chile	Deputies Chamber 301 Distrito no. 1 [Electoral district #1] 302 Distrito no. 2 [Electoral district #2] 303 and so on...						
	Uruguay	400 Nation-wide district 405 Treinta y Tres 410 Paysandu 415 Flores 401 Montevideo 406 Cerro Largo 411 Río Negro 416 Florida 402 Canelones 407 Rivera 412 Soriano 417 Durazno 403 Maldonado 408 Artigas 413 Colonia 418 Lavalleja 404 Rocha 409 Salto 414 San José 419 Tacuarembó						
	Peru	600 Nation-wide district 605 Ayacucho 610 Huanuco 615 Lima 620 Moquegua 625 Tacna 601 Amazonas 606 Cajamarca 611 Ica 616 Lima Met. 621 Pasco 626 Tumbes						

		602 Ancash 603 Apurimac 604 Arequipa	607 Callao 608 Cusco 609 Huancavelica	612 Junin 613 La Libertad 614 Lambayeque	617 Lima Prov. 618 Loreto 619 Madre de Dios	622 Piura 623 Puno 624 San Martin	627 Ucayali		
chamber	Type of Legislative Seat at Stake	Dummy variable for type of legislative seat at stake in the election, coded as: Senate (1) Chamber of Deputies or Unicameral Legislature (0)		0.14	0.35	0	1	598 (Senate) 3,593 (CoD/UL)	Alles Dataset
district_magnitude	District Magnitude	District Magnitude: Number of seats at stake in a given election		11.61	17.21	1	120	4,191	Alles Dataset
coalition_label	Name of Political Party Electoral Coalition	String variable. Name or acronym of the political party or electoral coalition running in a district election						4,191	Alles Dataset
gender	Share of Female Elected Legislators	Share of female elected legislators, over the total number of seats obtained by the party/coalition list.		0.13	0.28	0	1	4,191	Alles Dataset
female	Number of Female Elected Legislators	Number of female elected legislators, under a given party/coalition list		0.28	0.67	0	14	4,191	Alles Dataset
male	Number of Male Elected Legislators	Number of male elected legislators, under a given party/coalition list		1.95	2.85	0	60	4,191	Alles Dataset
wom_elected	Number of Elected Women	Number of elected women in a certain district during a given legislative election in the same legislative category (i.e., the number of female deputies in a deputies race)		1.24	2.39	0	24	4,191	Alles Dataset
wom_share	Percent Elected Women	Percentage of elected women in the district at that election, in the same legislative category, over the total seats at stake		8.5	14.71	0	100	4,191	Alles Dataset
coalition_seats	Number of Elected Legislators	Number of elected legislators by political party or electoral coalition		2.23	3.15	1	67	4,191	Alles Dataset
coal-seat_share	Percent coalition seats	Percentage of coalition seats over the number of seats at stake in the district, estimated as:  $coal.seat.share = coalition.seats / district.magnitude$		0.38	0.24	0.01	1	1,514	Alles Dataset
coalition_votes	Votes for Political Party or Electoral Coalition	Votes for individual political parties or electoral coalitions. When voting for either individual candidates or party factions is allowed, it is the sum of all party/coalition possible alternative.  It indicates zero votes in cases in which the party list did not run in the election, which may be due to reasons such as party decision, withdrawing from the election once registered, a judicial ruling, etcetera.		116,235.50	296,305.90	1,908	4,506,45	1,514	Alles Dataset
total_votes	Total Votes	Total number of all valid votes in the electoral district.		514,204.80	1,347,669	5,659	9,935,125	1,514	Alles Dataset
coalition_share	Coalition Vote Share	Percentage of party/coalition votes over the total number of valid votes in the district, estimated as:  $coalition.share = coalition.votes / total.votes$		0.38	0.16	0.01	0.79	1,514	Alles Dataset
party_ideology	Party Ideology	Parties' ideological position on the left-right spectrum, according to voters' self-positions. The variable scale 0-10, where 10 is the rightist position; and data comes from Latinobarómetro2002 survey.		5.97	1.32	2.2	7.7	2,979	Alles Dataset
enp_seats	Effective Number of Legislative Parties	Estimated using Laakso and Taagepera Index (1979)  $enp.seats = 1 / (\sum_{i=1}^n s_i^2)$  where n is the number of parties with at least one seat in the electoral district and $s_i^2$ is the square of each party's share of all district seats.		3.22	2.01	1	10.27	4,076	Alles Dataset

enp_votes	Effective Number of Electoral Parties	Estimated using Laakso and Taagepera Index (1979) $enp.votes = 1 / (\sum_{i=1}^n v_i^2)$ where $n$ is the number of parties with at least one vote in the electoral district and $v_i^2$ is the square of each party's share of all district votes	4.32	2.36	1.25	12.63	4,076	Alles Dataset
ballot_type	Type of Ballot	Type of ballot used in a given election, coded in the following way: 1. Closed list: a candidate list that (a) is allowed to fill all the legislative seats at stake, while (b1) voters are allowed to cast a vote only for one fixed list of party candidates, (b2) without the chance to express a preference within this list 2. Open list: a candidate list that (a) is allowed to fill all the legislative seats at stake, while (b) voters can express a preference between candidates. 3. Incomplete list: a candidate list that (a) can fill only a portion of the legislative seats at stake, while (b) voters are restricted to cast a vote only for one fixed list of party candidates, as in a closed list system. 4. Double simultaneous vote (DSV): a candidate list that (a) is allowed to fill all the legislative seats at stake, while (b) voters are restricted to cast a vote for only for one fixed list of party candidates, as in a closed list system, but (c) multiple factions may run under the same party label.	1.93	0.76	1	4	4,191	Alles Dataset
							1,059	
							2,684	
							144	
							304	
ballot_open	Open Ballot	Dummy variable for type of ballot used in a given election, coded as: Open list (1) Otherwise (0)	0.64	0.48	0	1	4,191 Open list (1) 2,684 Otherwise (0) 1,507	Alles Dataset
ballot_DSV	DSV Ballot	Dummy variable for type of ballot used in a given election, coded as: DSV (1) Otherwise (0)	0.07	0.26	0	1	4,191 DSV (1) 304 Otherwise (0) 3,887	Alles Dataset
gender_quota	Gender Quotas Enacted	Dummy variable for gender quotas enacted in a given election, coded as Quotas enacted (1) No quotas (0)	0.47	0.5	0	1	4,191 Quotas enacted (1) 1,952 No quotas (0) 2,239	Alles Dataset
quotas_share	Percent Quota Required	Percentage of female candidates required by gender quota laws in a given election. The variable goes from 0 to 100 and it is coded zero when no gender quota is enacted.	13.72	14.73	0	30	4,191	Alles Dataset
quota_strength_chamber	Strength of Quota Legislation, by Chamber	Strength of quota legislation, scored from 0-4, in which a country receives one point for each of the following: 1. presence of a quota law 2. a placement mandate for women on electoral lists 3. enforcement mechanisms 4. quota threshold of 40%			0	4	4,191	Piscopo, (2016)  Additional data from: International IDEA. 2018. Global Database of Gender Quotas.
quota_strength_d	Quota	Strength of quota legislation in the Chamber of Deputies / Lower Chamber, scored from 0-4, in which a country receives one point for	0.77	1.02	0	4	4,191	Piscopo, (2016)

	Strength Diputados	each of the following:  0. no quota enacted 1. presence of a quota law 2. a placement mandate for women on electoral lists 3. enforcement mechanisms 4. quota threshold of 40%							Additional data from: International IDEA. 2018. Global Database of Gender Quotas.
quota_strength_s	Quota Strength Senado	Strength of quota legislation in the Senate / Upper Chamber, scored from 0-4, in which a country receives one point for each of the following:  0. no quota enacted 1. presence of a quota law 2. a placement mandate for women on electoral lists 3. enforcement mechanisms 4. quota threshold of 40%  Note:Peru is a unicameral government, and therefore does not have an upper or lower chamber. Scores for Peru's quota laws are coded under quota.strength.d, and values for the upper chamber are missing values.	0.42	1.04	0	4	3,743		Piscopo, (2016)  Add'l data from: International IDEA. 2018.
illiteracy_rate	Illiteracy Rate	Percentage of people (10 years and older) without the ability to read and write, according to the most recent census data (2011 for Uruguay; 2010 for Argentina and Brazil; 2007 for Peru; 2002 for Chile).  Note:the illiteracy rates for Lima, Peru were imputed to two electoral districts: Lima Provincias and Lima Metropolitana, both portions of Lima Department	6.29	5.38	0.48	22.52	4,191		Alles Dataset
illiteracy_male	Male Illiteracy Rate	Percentage of male population (10 years and older) without the ability to read and write, according to the most recent census data.	2.68	1.6	0.46	8.78	4,191		Alles Dataset
illiteracy_female	Female Illiteracy Rate	Percentage of female population (10 years and older) without the ability to read and write, according to the most recent census data.	4.23	5.06	0.5	26.71	4,191		Alles Dataset
party_weight	Party Weight	The relative ideological weight of a political party in a given district during a given election, calculated as the share of seats won by each party multiplied by the ideology of the party	2.25	1.51	0	8.3	4,191		Seat share and ideology from Alles Dataset, additional calculation and missing values performed by me.
district_ideology	District Ideology	The approximate ideology of a given district in a given election year, calculated as the sum of the relative ideological weight of each party in a given district in a given election.	5.93	0.66	0	8.3	4,191		Alles Dataset