

# The Politics of Interruptions: Gendered Disruptions of Legislative Speeches

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**Floor time in legislatures is a valuable commodity that legislators use to gain political capital and electoral benefits. There are well-known political and institutional barriers to participation, but these do not explain gender differences in access to floor time. In this paper, we look at the role interruptions play as potential barriers to floor time. We explore how women strategically react to these barriers, and consider how these reactions ultimately lead to gendered differences in legislative participation. Our findings show that differences in participation across genders are a consequence of rational strategies followed by women who sacrifice floor time in the short term to avoid the long-term cost of challenging gendered barriers, such as interruptions. We test our argument using original data on legislative speech in the Ecuadorian Congress between 1988 and 2018.**

Gender | Legislative Speeches | Interruptions

## Introduction

Floor time is a valuable commodity for legislators and crucial form of legislative participation (Mansbridge 1983). It provides legislators with an opportunity to publicize positions, attract media attention (Maltzman and Sigelman 1996, Martin and Vanberg 2008, Quinn et al. 2010), and gain political capital, all of which have important electoral consequences (Proksch and Slapin 2012). Legislators face several barriers to floor time: plenary ‘bottlenecks’ (Cox 2006; Cox and McCubbins 2010), party strategy (Alemán et al. 2017), and procedural rules (Proksch and Slapin 2012). But none of these can systematically explain gender differences in the patterns of participation.

Legislatures are gendered institutions with rules and practices rooted in ‘masculine’ traits (Rosenthal 2002; Duerst-Lahti 2002; Schwindt-Bayer 2010; Heath et al. 2005), leading to unequal representation and participation across sexes within the legislature. There are measurable consequences: congresswomen wait longer to speak and deliver fewer speeches (Kathlene 1994; Osborn and Mendez 2010), particularly when debates deal with can be characterized as ‘masculine’ topics (Bäck et al. 2014; Bäck and Debus 2019).<sup>1</sup> Legislators interact in a gendered environment that rewards different strategies to achieve the same goals. While it is widely accepted that women in politics face different barriers than men, we have not yet identified the impact of these barriers in a legislative setting, nor have we explored how congresswomen strategically overcome barriers to participate.

We look at interruptions as potential barriers to floor time, and what the patterns of participation of female legislators following an interruption tell us about their strategic behavior. Interruptions are communication signals that can silence low-

status groups and reduce the decision-making influence of the person being interrupted (Mendelberg et al. 2014; Karpowitz and Mendelger 2014). In the legislature, interruptions are costly signals that limit the floor time of the speaker, and affect their relative power within the party and chamber. These implications can have negative electoral effects for the speaker. We argue that in the legislature, interruptions will disproportionately penalize women. We assume women are strategic actors who adapt to overcome this institutional imbalance. We propose that congresswomen will change their behavior (e.g. constrain the length of their speech) to avoid the cost of interruptions.

We describe an environment where female and male legislators encounter barriers to their participation. Both need to grapple with the complexities of political barriers (e.g. party strategy, electoral cycles), but congresswomen encounter structural conditions that deem their gender as a marker for low authority (Mendelberg et al. 2014). Interruptions are a power device because they involve violations of a speaker’s turns to talk (West and Zimmerman 1983). Literature has shown that, because men occupy more positions of authority than women do, interruptions conform to a pattern of gender hierarchy (Anderson and Leaper 1998). Interruptions to low-status legislators reaffirm their low status, hurting their position within the party and the legislature, and limiting their participation in a context where reputation is paramount (Cox and McCubbins 2010; Proksch and Slapin 2012). We find that some gender differences in participation result from rational strategies followed by women who sacrifice floor time in the short term to avoid the cost of challenging gendered barriers,

## Significance Statement

Legislatures are gendered institutions with rules and practices rooted in ‘masculine’ traits (Rosenthal 2002; Duerst-Lahti 2002; Schwindt-Bayer 2010; Heath et al. 2005), leading to unequal representation and participation across sexes within the legislature. While it is widely accepted that women in politics face different barriers than men, we have not yet identified the impact of these barriers in a legislative setting, nor have we explored how congresswomen strategically overcome barriers to participate. In this article, we use interruptions as forms of gender barriers to the participation of women, and analyze the strategic behavior of women as they react to these barriers. We present results using data from the Ecuadorian Congress between 1988 and 2018.

<sup>1</sup> Pearson and Dancey (2011) find that, for the U.S. House of Representatives, women give on average more one-minute speeches than men, and that congresswomen are more likely than men to discuss women issues.

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such as interruptions, in the long term.<sup>2</sup> We show that women are interrupted less than men because women, as strategic actors, avoid the greater penalties from interruptions. In such a hostile environment where a legislator foresees being interrupted more often, proactively silencing themselves becomes an optimal strategy in the long run.

Using original data on legislative debates in Ecuador between 1988 and 2018, we examine patterns of speech for all lawmakers, and consider how interruptions affect them. Our results show that women have less access to the floor than men and, once they gain access, they hold the floor for a shorter period of time. Women are less likely to be interrupted than men but interruptions silence women at a higher rate. Further analysis finds that women who are more assertive and challenge socially prescribed gender roles through language are interrupted more often than men. To avoid the consequence of interruptions in the long term, women strategically limit their floor time. In contrast, men speak for longer after being interrupted, suggesting they care less about interruptions either because the signal sent by the moderator is more subdued, or because their higher status allows them to dismiss these signals.

High status appears to be the great equalizer. Chairwomen and senior female members of Congress display, across the board, similar behavior to that of their male counterparts, revealing either how political status changes the signal from the mediator, or the cost of interruption has a proportionally smaller effect on the reputation of a high-reputation politician. In some cases, senior congresswomen showcase longer speeches than their male colleagues.

Our work speaks to the descriptive and substantive representation of women, in Ecuador and across the world. We shed light on the mechanisms that affect female representation in the legislature and political institutions more generally. We also demonstrate empirically the strategic (re)action of female legislators to these barriers. We show the importance of women accessing positions of authority within the legislature for equitable participation in the political process and, potentially, equitable representation.

## 1. Legislative Speeches and Strategic Behavior

Floor time in legislatures is a scarce commodity (Cox 2006). Members of Congress (MCs) use it to take positions on issues (Mayhew 1974, Proksch and Slapin 2012) and to gain electoral support (Quinn et al. 2010). On busy legislature floors there is restricted access to plenary time, forcing actors (both from majority and minority parties) to use time strategically if they are to advance either party (Cox and McCubbins 2010), personal (Alemán et al. 2017), or constituent goals (Osborn and Mendez 2010; Shogan 2002; Walsh 2002; Swers 2016).

Parties and politicians cultivate reputations to increase their chances of electoral success. The allocation of time is a collective exercise that coordinates the interests of the party and the legislators within an institutional context. Party leaders want speakers to maintain the party line and avoid clashes that can harm the reputation of the party. Legislators want to build a reputation and have electoral incentives to speak even when their position conflicts with that of the

party (Proksch and Slapin 2012; Aleman et al. 2017). Thus, legislators face three different audiences: their party leaders, their opposition, and their voters. Floor time becomes a key resource to communicate to all of them.

The differences in participation are often explained by the institutional context and the conflicting nature of party and personal goals. Within this environment, the patterns of participation are a function of the control the party has over access to the floor and the incentives MCs have to deviate from the party line.

## 2. Gendered Barriers to Participation

However, legislatures are also shaped by the social context. All legislators face barriers to accessing floor time to a certain extent. Congresswomen encounter particular structural barriers, due to their genders' perceived low status (Mendelberg et al. 2014). Scholars have argued that legislatures are gendered institutions (Rosenthal 2002; Duerst-Lahti 2002; Schwindt-Bayer 2010) where norms of masculinity prevail. Institutional constraints in legislatures often reward "masculine" behavior and marginalize "feminine" behavior (Schwindt-Bayer 2010; Pearson and Dancey 2011; Hawkesworth 2003; Htun and Power 2006). The oftentimes male-dominated legislatures, with rules created by and privileging men (Hawkesworth 2003), affect the participation of women in the legislature (Bäck et al. 2014; Bäck and Debus 2019) and, we argue, the strategies women use to navigate the barriers that limit their political power.

The barriers female MCs encounter are often unobserved. Social norms and gender stereotypes that shape participation in the legislature (Bäck and Debus 2016) are structural and only manifested in biased outcomes. Thus, the pattern of participation of women politicians is viewed mostly as a consequence of gendered institutions. For example, we know that congresswomen wait longer to speak and deliver fewer speeches (Kathlene 1994; Osborn and Mendez 2010; Bäck and Debus 2016), particularly when debates deal with topics that are deemed 'masculine' (Bäck et al. 2014; Bäck and Debus 2019). Research also shows that some of these barriers are overcome through increasing representation (for the case of France, see Murray 2010). Yet, work exploring the details of women's participation indicates strategic reactions to gendered barriers in political settings (Barnes 2016; Mendelberg et al. 2014; Karpowitz and Mendelger 2014). Women anticipate the unequal consequence of certain types of behavior –e.g. linguistic styles (Jones 2016)– and adapt to minimize the cost of steering away from social expectations.

We look at interruptions as an observable barrier to access to the floor to understand this strategic behavior. Individuals in positions of authority within a group (dominant or more confident members) use multiple verbal forms (e.g. volubility, interruptions) that signal their higher status (Kollock et al. 1985; Johnson 1994; Ng et al. 1993, 1995). Interruptions are a power device because they involve violations of a speaker's turn to talk (West and Zimmerman 1983). Research has associated interruptions with manifestation of dominance (see Anderson and Leaper 1998). The literature has shown that because men have more authority than women do, interruptions conform to a pattern of gender hierarchy (Anderson and Leaper 1998). In studying deliberative bodies, Mendelberg et al. (2014) found that interruptions have a silencing effect on lower-status groups, and a negative effect on the decision-

<sup>2</sup>We argue that gender differences in behavior derive from lawmakers being adaptive and strategic over time, not from intrinsic characteristics like risk-aversion, often coded as gendered (Barnes 2016).

making influence of the interrupted person (see also Karpowitz and Mendelger 2014). Interruptions to low-status legislators speaking reaffirm their lower status, hurting their position within the party and the legislature and limiting their participation in a context where reputation is paramount (Cox and McCubbins 2010; Proksch and Slapin 2012). In the repeated game of legislating, more interruptions hurt the reputation of politicians in the short term, which then become obstacles for gaining reputation in the long term. Avoiding interruptions help low-status legislators raise their reputation within the party and the legislature, both of which have important electoral implications.

We argue that interruptions can have a gendered effect, negatively affecting women more than men and prompting them to adopt strategies that ultimately limit their floor time. Women, as marginalized actors within a gendered institution, are likely to have a lower baseline status due to gender bias. Interruptions should have a silencing effect on women, either by limiting their floor time or by limiting their access to the floor more generally. Over time, women face limited opportunities to build their reputation with the electorate and within the party. In such environment where a legislator foresees being interrupted more often, partially silencing themselves becomes an optimal strategy on the long run.

### 3. Interruptions and the Strategic Behavior of Women

The legislative process is as a repeated game where legislators seek to maximize their floor time as a strategy to gain status over time. Floor time matters to each legislator in the short term, but it also allows them to build their political capital as their seniority in the legislature increases. In this context, interruptions represent an obstacle that limits their floor time in the immediate term, and it hurts their political reputation as a lawmaker in the long run.

Procedural interruptions in legislatures are analogous to the interruptions by a moderator in panel discussions at a conference: every speaker receives a one-minute warning, but not all speakers have the same reaction to the warning. To use a familiar example, unlike high-ranking professors, low-ranking speakers will rush through their presentation, avoiding a second interruption. There is a power difference between the moderator and the low-ranking speaker, and the interruption can be perceived as a signal of this power difference. But there is also the damage to the reputation of the low-ranking speaker that comes from a second interruption, that, while still procedural, signals to the rest of the audience that the moderator is ready to exert her authority to silence the speaker. For a low-status legislator, a damage to her reputation can affect how she is perceived by party leaders, other members, and voters. And because participating in the legislature is a repeated game, it damages the reputation of the legislator vis-à-vis the gatekeeper to the plenary floor.<sup>3</sup>

Interruptions can also take the form of admonishments (signals) towards legislators who transgress the expected conduct. The expected conduct can be procedural rules (i.e. floor time) or socially prescribed gender roles (i.e. women should not use language deemed “masculine”). The nature of the signal will be conditional on the characteristics of the interrupted individual.

<sup>3</sup>The gatekeeper to participation will across from legislatures but this prerogative is usually granted to the speaker or president of Congress, or to the party leader.

ual. Low-status legislators (e.g. younger, more inexperienced, or minority and female politicians) might be expected to follow procedural rules more closely than high-status legislators (e.g. committee chairs, senior members or party leaders). While both might be interrupted when their floor time is about to end, the signal sent to the low-status legislator will be harsher. Or the relative cost from the interruption to the reputation of the low-status legislator will be higher.<sup>4</sup> High-status legislators will dismiss the signal from the interruption, or the element of the signal that damages their reputation. Once the reputation of a legislator has been damaged, she might have trouble gaining access to the floor.<sup>5</sup> This suggests our first hypothesis (H1): *on average, the cost of interruptions is higher for female legislator than for the male counterparts.* Evidence from work on gender and politics also suggests that women are penalized for their behavior when it is perceived as assertive or masculine, often leading to discrimination and violence (Rudman and Glick 2001; Funk 2019; Krook and Restrepo 2019; Alcañiz et al. 2019). As a corollary (H1b): *women who use language deemed “masculine” are interrupted at a higher rate than men using similar language.*

If the consequences of interruptions to the reputation of low-status individuals are known by the participants, and we assume they are in a repeated game, there is an incentive for marginalized groups to adapt their behavior to avoid being interrupted. Low-status individuals will cut their floor time to avoid being interrupted regarding the length of their speech. They might also limit confrontational language (Smith et al. 2019), or any type of behavior associated with high-reputation legislators. If the costs from interruptions on access to the floor and floor time are greater than those from self-limiting floor time (or avoiding confrontational language), then changing patterns of participation is the optimal strategy for congresswomen. Our second hypothesis follows (H2): *women will strategically modify their behavior (i.e. speak less) to avoid being interrupted.*

Once legislators achieve higher status and gain political capital, incentives change. We expect for high-status individuals from marginalized groups to behave similarly to the average member of a high-status group. While it is less likely for an individual from a marginalized group to gain high status, once gained, the effect of interruptions should be the same as any other high-reputation member of the legislature. The literature has produced conflicting results regarding the effect of status on gender in deliberative bodies. Some research has shown how status, under certain conditions, can eliminate gender bias in interactions (Karpowitz and Mendelger 2014). Others have found that, even after obtaining positions of power, women will still speak less (Ridgeway 1982) and will be negatively interrupted more often than men (Mattei 1998). Given the barriers women have to overcome to reach positions of power, (H3) *We would expect that high-status congresswomen are able to eliminate the bias that limits their participation.*

<sup>4</sup>The high-status legislator might not care about the effect of interruptions on their reputation. High-status legislators are already well-positioned within the party and the institution so their political leverage might outweigh any consequence from interruptions. In a legislative setting, Mattei (1998) showed that men and women are equally exposed to the same type of negative interruptions (signal), yet women are more likely to stop speaking than men.

<sup>5</sup>This is particularly relevant in legislatures where there are no “open skies” (Cox and McCubbins 2010) and access to the floor depends on the strategic considerations of party leaders.

**A. Interruptions in Context.** Interruptions are not a rare occurrence in the Ecuadorian Congress.<sup>6</sup> Legislatures are highly-structured institutions in which debates are mediated by the Speaker or, as in Ecuador, by the President of Congress. Legislators do not address each other directly, so most interruptions are procedural—e.g. the moderator reminds the legislator how much time they have left. Since floor time is scarce in legislatures with no “open sky”, the moderator will primarily control the length of the speech of legislators, while legislators will try to extend for as long as possible their speech once they gain access to the floor. The moderator will also limit the use of overtly aggressive and confrontational language (especially when directed toward other legislators).

Despite this formal setting, legislators delivering speeches can also be (aggressively) interrupted by other legislators or by people present in the debate forum. Other legislators can shout over a speech being delivered or, in the case of Ecuador, “*barras*” attending a session can interrupt legislators by chanting, screaming, or making noise.<sup>7</sup> The nature of the interruption might be different from procedural ones, but the effect is likely to be the same. What we call “aggressive interruptions” come from the interrupter’s belief that they can challenge another legislator outside the parliamentary procedure. Figure 2 shows the distribution of interruptions by type in the Ecuadorian Congress.

The Ecuadorian Congress is by no means an outlier in its rules, organization, and procedures. Interruptions from the mediator are usually procedural (e.g. to ask a member to yield their time), or to regain order. More importantly, Ecuador ranks high<sup>8</sup> in the number of seats occupied by women. The findings of Ecuador are a conservative reflection of the reaction of female legislators to gendered barriers, which can be generalized to other legislatures.

This is the core of our argument: women face an environment that is inherently biased. The silencing effect of interruptions should be more pronounced for female legislators. Any transgressive behavior from women is more likely to invoke an interruption than similar behavior from men. But the effect of these interruptions will differ across gender as a result of women’s strategic behavior. Our theory leads to the expectation that (H1) the cost of interruptions is higher for female legislator than for the male counterparts. We should expect that (H1b) women who use language deemed “masculine” are interrupted at a higher rate than men using similar language. In this context, (H2) women will strategically modify their behavior (i.e. speak less) to avoid being interrupted, and (H3) the effect of interruptions on women in position of power will be similar to the effect of interruption on men in similar positions.

#### 4. Data and Methods

Testing our hypotheses requires data on legislative speeches and the interruptions that take place during these speeches. We examine 3,526 session from the Ecuadorian Congress between 1988 and 2018, representing the totality of debates in

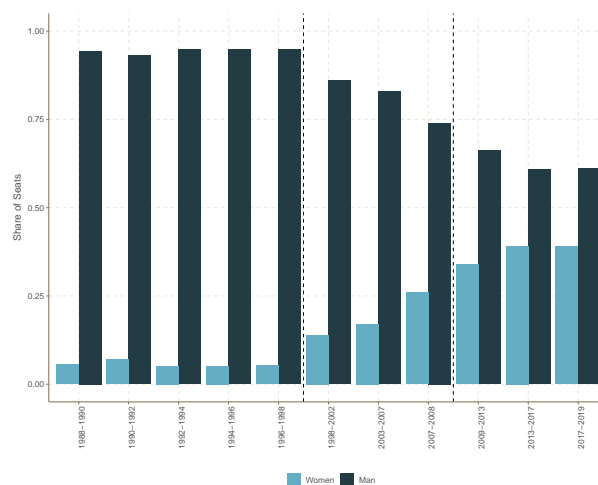
<sup>6</sup>To our knowledge, there is no other research studying interruptions to plenary speeches.

<sup>7</sup>“*Barras*” also attend session in the Congress of Costa Rica, Colombia, Spain, among others.

<sup>8</sup>According to the Inter-Parliamentary Union, Ecuador ranked 27th in the World (among 190 countries) in the number of seats occupied by women in the lower house (40%).

that 30-year period. During that time, Ecuador implemented two types of gender quotas: “soft” quotas in 1997, and “zipper placement” quotas in 2008. Ecuador has an open-list PR electoral system that in part explains how, despite various reforms, women are still underrepresented in the legislature (Gorencki and Kukolowicz 2014). Figure 1 shows the share of seats occupied by women across legislative terms.

Before our analysis, we removed contributions from the individual officially presiding each session—usually the President of Congress.<sup>9</sup> We removed any speech shorter than 20 words long, unless the speech was shorter than 20 words because of an interruption. Before 2009, roll-call voting was vocally rather than electronically registered. These speeches were usually shorter than 20 words long (e.g. “mi voto a favor del honorable Acosta”).<sup>10</sup>



**Fig. 1.** Share of Seats by Gender and Cohort; Ecuadorian Congress, 1988-2019. Dashed lines representing “soft” gender quotas (1998) and “zipper” gender quotas (2008).

Despite various reforms in the last 30 years,<sup>11</sup> procedural rules in the Ecuadorian Congress have remained fairly consistent. The President of Congress is the mediator of all debates. The President<sup>12</sup> is elected at the beginning of each legislative term from the majority party or the party with the greatest share of seats. There are no restrictions to participating on a debate, other than time constrains.<sup>13</sup> The President has the authority to extend a debate into a second (or third) session if the number of participants is high. However, the President can also decide to cut a session short if speeches become repetitive. As a general norm, the President will try to allow members from all parties to participate in debates but the amount of members that a speaker allows to participate from each party can be impacted by party identification or personal preferences.

<sup>9</sup>We also remove speeches by alternate MCs and non-MCs (e.g. Secretaries of State). Details can be found in Appendix A (p.S4-S5).

<sup>10</sup>See Appendix B (p.S6-S8) for a thorough description of speech length, the possible issues of our arbitrary threshold, and robustness checks.

<sup>11</sup>The reforms have changed the composition and structure (and name) of the Ecuadorian Congress. For a recount of the changes, refer to Appendix C (p.S9-S12).

<sup>12</sup>We use President of Congress and President interchangeably.

<sup>13</sup>Time constrains became more of an issue as the Congress grew from 75 members in 1988 to 135 in 2018.



All MCs can request floor time to deliver a 10-minutes speech. Committee chairs have an additional five minutes per speech, as they are often required to describe the changes and agreements reached. During debates, if an MC is mentioned by name by another member, the MC can ask the President for a five-minute reply. Many 10-minute speeches include procedural questions. When a question is asked (and answered by the President), we concatenate a speech that would otherwise be counted as two. Table 1 provides an overview of the speeches and debates in our analysis.

**Table 1. Summary Statistics for Speeches and Debates**

Number of Observations by Legislature			
Legislative Cohort	No. of Speakers	No. of Speeches	No. of Debates
1988-1990	67	13,882	291
1990-1992	66	13,288	263
1992-1994	73	13,636	263
1994-1996	73	13,530	288
1996-1998	86	11,935	288
1998-2002	119	27,728	574
2003-2007	102	24,680	724
2007-2008*	80	2714	95
2009-2013	123	11,226	343
2013-2017	132	7,532	316
2017-2019**	134	1,903	87

Number of Speakers and Length of Speeches by Debate**						
Legislative Cohort	Number of Speakers			Length of Speeches		
	Mean	Min.	Max.	Mean	Min.	Max.
1988-1990	14.14	1	60	325.42	20	11,589
1990-1992	14.46	1	44	332.061	7	10,593
1992-1994	14.70	1	58	331.50	20	13,599
1994-1996	16.25	1	67	332.09	20	16,162
1996-1998	13.97	1	54	290.24	20	17,139
1998-2002	19.37	1	77	363.44	15	13,142
2003-2007	15.28	1	61	364.47	17	7,754
2007-2008*	19.85	3	62	361.49	18	8,193
2009-2013	17.28	1	46	781.57	19	4,217
2013-2017	13.96	1	50	829.43	20	10508
2017-2019**	12.84	1	28	730.12	20	8,684

\* The 2007-2008 cohort was dissolved in November 30, 2007.

\*\* Data includes all speeches and debates until March 13, 2018.

**A. Measuring Interruptions.** We operationalize interruptions as any instance when the President of Congress stops a legislator before she has the opportunity to end her speech. Given the format of sessions in the Ecuadorian Congress, regardless of the source of the interruption (e.g. a legislator speaking out of turn, the legislator's time is close to be over), the President will stop the legislator speaking to restore order or to warn the speaker about some procedural fault. Yet, only the interruptions by the President are recorded. Thus, a speech is coded as being interrupted when it has been stopped momentarily by the President and then resumed.<sup>14</sup> For example, the following speech would be coded as being interrupted:

1. THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS. *Take note of these facts, especially since I believe that a provision, a regulation of this nature*

<sup>14</sup> For a detailed recount of the rules used, see Appendix D (p.S13-S15).

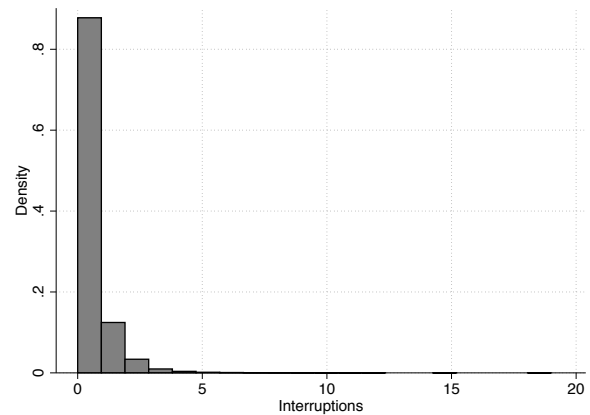
*can lead us to a muddy terrain, it can lead us to a really dangerous terrain because if no...*

2. MADAM PRESIDENT. *One minute [left].*

3. THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS. *... clear distinction is established to determine who are workers based on the activity they perform [...].*

The procedure we used to measure interruptions departs from similar work on interruptions. Mendelberg et al. (2014) and Kathlene (1994) measure interruptions by looking at the overlap of utterances between two speakers. We are unable to do this, since our data is based on transcripts. Thus, we trust on the scripting scheme from the official typist of the Ecuadorian Congress. The typists will type up the debates in real time and will later review their output with audio recordings. Unlike other legislatures (see Dietrich et al. 2019), legislators in Ecuador are not allowed to solicit changes to the transcripts.

Once interruptions have been identified, we categorize interruptions as either procedural interruptions or aggressive interruptions. The President of Congress will interrupt legislators when they have few minutes left of their allotted time.<sup>15</sup> We code these instances as procedural interruptions. Alternatively, legislators can also be interrupted by other legislators or by the crowd.<sup>16</sup> We code these instances as aggressive interruptions. The rest of the interruptions that are not categorized are usually situations in which the President interrupts a legislator to admonish other legislators that are talking. We use all categories, including a pooled interruption variable that takes into account these uncategorized interruptions. Legislators can be interrupted more than once during a speech. In our data, 14.4% of speeches are interrupted, most of them being interrupted only once (see Figure 2). Given the skewness of the measure, we code interruptions as a binary indicator but perform robustness checks using it as a count (see Appendix E, p.S16).



**Fig. 2.** Distribution of interruptions by speech; Ecuadorian Congress, 1988-2019.

<sup>15</sup> Presidents will often remind legislators when they have one, two, or three minutes left, effectively interrupting the speech.

<sup>16</sup> Interruptions from the crowd, or *barras*, are uncommon but not isolated events.

There are some limitations to our measure of interruptions. First, it only considers interruptions that follow the pattern speaker-President-speaker. Therefore, interruptions by the President that were followed by someone other than the original speaker are not registered as such. Second, it does not count instances where the President of Congress interrupted a legislator to stop a speech.<sup>17</sup> A manual examination of a representative and random sample of documents suggests that both of these instances are rare ( $\leq 0.8\%$  of all interruptions).

**B. Modeling Strategy.** Our key predictor is the gender of the speaker. Each speech has the potential to be interrupted. We thus use each legislative speech as our unit of analysis. This way, we can account for within-individual variation that is likely to occur from session to session. For example, when talking about more contentious topics, legislators might be more likely to use more aggressive language or might be more likely to extend beyond their assigned time. We add legislator level variables and speech-level variables to control for possible confounders.

At the speech level, we include the length of the speech, operationalized as the number of words uttered. We also include dummy variables for whether the speech was delivered 180 days before an election, which has been shown to influence speaking behavior (Maltzman and Sigelman 1996; Bäck et al. 2019). To analyze the masculine linguistic markers within our corpus, we follow Yu (2014) and Jones' (2016) indices of "feminine linguistic style" and "masculine linguistic style". Based on research on linguistics and gender,<sup>18</sup> Yu (2014) and Jones (2016) suggests that women tend to use pronouns (especially first-person singular pronouns), verbs and auxiliary verb, social, emotional, cognitive, and, in formal contexts, big words (words greater than six letters), more frequently than men; on average, men tend to use nouns, articles, prepositions, anger, and swear words more frequently than women. We construct similar indices for Spanish. Overall in our corpus, on average, women are more likely to use a feminine linguistic style than a masculine linguistic style.<sup>19</sup> The opposite is also true.

At the legislator level, we include a measurement for ideological extremism,<sup>20</sup> which affects floor speeches (Maltzman and Sigelman 1996, Dietrich et al. 2019). We also control for the legislator's verbosity, measured as their average speech length across speeches. Finally, to address a MC's reputation, we use an indicator variable for whether the legislator chairs a committee, as well as the seniority of the legislator, measured in the number of years as a MC.

There are a number of other variables that we introduce to account for confounding factors. At the legislative-term level, independent variables that can affect access to the floor and interruptions include the share of seats occupied by women, and the share of seats won by the plurality/majority party (Mendelberg et al. 2014). At the session level, we control for the number of speeches delivered and the average length of the speeches delivered. More and longer speeches delivered

can be a sign of the relevance and contention of the topics debated in a session, which in turn are more likely to generate interruptions. Notice that by introducing speech-specific, legislator-specific, session-specific, and term-specific control, our model is partially controlling for the specific effects of all those levels.

## 5. Results

### A. Determinants of floor access, floor time, and interruptions.

Our argument argues that women have less access to the floor and less floor time than male legislators. We first establish that congresswomen deliver fewer speeches and for a shorter time than congressmen. On average, female legislators deliver 55.3 speeches per legislative term. Male legislators, in contrast, deliver 119.37 speeches. We further verify this expectation in Model 2.1 in Table 2. Here, the dependent variable is the number of speeches given by a legislator in a legislative term. The predictor of interest is "woman", which equals 1 if the MC is a woman and 0 otherwise. Similar to previous research (Bäck et al. 2014; Bäck and Debus 2019), our findings show that women in the Ecuadorian Congress legislators deliver 18.8% less speeches per legislative term than men (see Model 2.1). This holds even after accounting for ideology, institutional position, seniority, a new Constitution, and upcoming elections (see Model 2.2). Once women get access to the floor they also talk for a shorter time. In Model 2.3 and Model 2.4, the dependent variable is the number of words uttered by a legislator in a given session.<sup>21</sup> Model 2.3 suggests that women say 18.67% fewer words than men (predicted count of 797 words for women and 980 words for men).

Table 2. Congresswomen Have Less Access to the Floor and Less Floor Time

	Number of Speeches		Length of Speech	
	Model 2.1	Model 2.2	Model 2.3	Model 2.4
Woman	-0.221** (0.099)	-0.162** (0.078)	-0.208*** (0.013)	-0.152*** (0.011)
Ideological Extremism		0.424*** (0.048)		0.118*** (0.005)
Committee Chair		0.422*** (0.097)		0.079*** (0.011)
Seniority		0.152*** (0.035)		0.062*** (0.003)
Same Party as Leg. Pres.		0.010 (0.074)		0.051*** (0.009)
New Constitution		-0.420 (0.452)		-0.076 (0.102)
Mean Masculine Traits (Speech)		2.201*** (0.242)		
Election Year				0.013 (0.008)
Masculine Traits (Speech)				0.065*** (0.0004)
Constant	5.174*** (0.142)	4.446*** (0.122)	6.888*** (0.016)	4.245*** (0.020)
N	1022	937	54131	53910
$\theta$	0.712*** (0.029)	1.293*** (0.056)	1.004*** (0.005)	1.330*** (0.007)

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. Cohort fixed-effects included but not reported.

The determinants of access and speech length produce additional insight into the politics of participation. As expected, high-reputation lawmakers (i.e. chairpersons and more senior members) deliver more speeches and for a longer time than their low-reputation counterparts. Models 2.3 and 2.4 suggest there is a party strategy behind the allocation of floor time. Legislators from the same party as the President of Congress also speak for a longer time than those who do not share the

<sup>17</sup>These types of interruptions will likely have similar effect on the behavior of legislators than other types of interruptions, but we are not able to systematically code them, so we decided to take the risk Type-II error from underreporting rather than Type-I error from over-reporting.

<sup>18</sup>See Pennebaker et al. (2007), Slatcher et al. (2007), and Yu (2014).

<sup>19</sup>For a complete description of the measure, see Appendix F (p.S17-S18).

<sup>20</sup>We estimate ideal points from the corpus using *wordshoal* as described by Lauderdale and Herzog (2016).

<sup>21</sup>We only include the length of the speeches of legislators that participating in a session. A legislator not participating is not counted at all.

party with the President. Presidents selectively exercise their gatekeeping power, prioritizing the participation of members of her party.<sup>22</sup>

Before testing the strategic behavior of women vis-à-vis interruptions, in Models 3.1 through 3.3 in Table 3 we estimate the determinants for interruptions. The dependent variables are all interruptions pooled, procedural interruptions only, and aggressive interruptions only. These are all dichotomous variables coded 1 if a speech was interrupted and 0 otherwise. Not surprisingly, the longer a legislator speaks the more like they will be interrupted. Women are less likely to be interrupted than men, but this is expected from our theory: women speak less than men, precisely to avoid being interrupted.<sup>23</sup>

Similar to access and floor time, the privileges of committee chairs extend to interruptions, as they are less likely to be interrupted than non-committed chairs, but, somewhat puzzling, more senior members are more likely to be interrupted than younger ones (although this might be due to senior members speaking for longer periods or caring less about being interrupted). The same party coordination we observe in length of speech are mirrored in interruptions: the President is less likely to interrupt a legislator from their party.

Table 3. Determinants of Interruptions

	Interruptions (All)	Procedural Interruptions	Aggressive Interruptions
	Model 3.1	Model 3.2	Model 3.3
Woman	-0.216*** (0.029)	-0.293*** (0.047)	-0.064 (0.078)
Ideological Extremism	0.052*** (0.012)	0.055** (0.025)	-0.052* (0.030)
Committee Chair	-0.125*** (0.026)	-0.382*** (0.052)	-0.164*** (0.068)
Seniority	0.087*** (0.007)	0.043** (0.017)	0.090*** (0.017)
Same Party as Leg. Pres.	-0.219*** (0.023)	-0.334*** (0.041)	-0.379*** (0.063)
Election Year	-0.085*** (0.019)	0.063 (0.039)	-0.184*** (0.047)
Length of Speech	0.046*** (0.002)	0.140*** (0.003)	-0.001 (0.005)
Speeches during Session	-0.006*** (0.002)	0.035*** (0.006)	-0.029*** (0.006)
Mean Length of MC Speech	0.132*** (0.004)	0.142*** (0.007)	0.084*** (0.008)
Constant	-2.997*** (0.045)	-5.658*** (0.105)	-4.602*** (0.115)
N	115147	115147	115147

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Cohort fixed-effects included but not reported.

a The length of speech is the number of words uttered (in hundreds) before the first interruption.

b The mean length of the speeches delivered by a legislator in a legislative term.

There are some important differences across interruption types. Procedural interruptions are predictable: legislators know how much time they have to speak, they know (or should know) the parliamentary rules when holding the floor, etc. Following our main argument, this predictability allows low-status legislators to adjust their behavior to avoid procedural interruptions. In contrast, aggressive interruptions are not predictable. Aggressive interruptions disrupt parliamentary procedure and can even come from external actors.

<sup>22</sup>For Models 2.1 and 2.2, the indicator for whether a legislator is from the same party as the President is not statistically significant. This is probably due to Presidents having to allow members from all parties to speak. Yet, Presidents have more control over the time each member can hold the floor, which is reflected by the results from Models 2.3 and 2.4.

<sup>23</sup>In the next section we test the strategic adaptation of women to interruptions. It is possible, however, that this is actually the result of women being more efficient in their speech than men. While a possible alternative, the literature has also shown that there is a political and electoral incentive for any politician to hold the floor for as long as possible. Even if women were more efficient speakers than men, there is no motivation for them to speak less.

Legislators are less likely to know (though not completely unable to know) when an aggressive interruption will occur. They are also less able to adapt their behavior in response to them. The results from Models 3.2 and 3.3 speak to these differences. Holding all else constant, women are 25.4% less likely to be interrupted because of procedural reasons than men, a statistically significant difference. However, there is no statistically significant relation between aggressive interruptions and gender (see Models 3.3).<sup>24</sup> Also noteworthy is how procedural interruptions increase during election time, while aggressive interruptions decrease. The former might be in response to incentives legislators have during campaign periods: to gain as much notoriety (floor time) as possible and push the boundaries of the allotted times.

Table 4. Length of Speech Before an Interruption

	Length of Speech Before Interruptions (All)	Length of Speech Before Procedural Interruptions	Length of Speech Before Aggressive Interruptions
	Model 4.1	Model 4.2	Model 4.3
Woman	-0.093*** (0.027)	-0.046** (0.023)	-0.213** (0.090)
Ideological Extremism	0.056*** (0.012)	-0.018 (0.013)	0.156*** (0.036)
Committee Chair	-0.005 (0.025)	0.101*** (0.027)	0.063 (0.080)
Seniority	0.022*** (0.007)	0.021** (0.010)	0.020 (0.020)
Same Party as Leg. Pres.	0.056*** (0.021)	0.123*** (0.021)	-0.073 (0.073)
Election Year	0.046** (0.019)	-0.017 (0.020)	0.022 (0.055)
Speeches during Session	0.016*** (0.002)	0.008* (0.004)	0.031*** (0.007)
Mean Length of MC Speech	0.187*** (0.003)	0.060*** (0.004)	0.169*** (0.009)
Constant	4.966*** (0.045)	6.744*** (0.064)	4.692*** (0.139)
N	16147	4217	2262
$\theta$	0.859*** (0.008)	2.075*** (0.040)	0.690*** (0.018)

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. Cohort fixed-effects included but not reported.

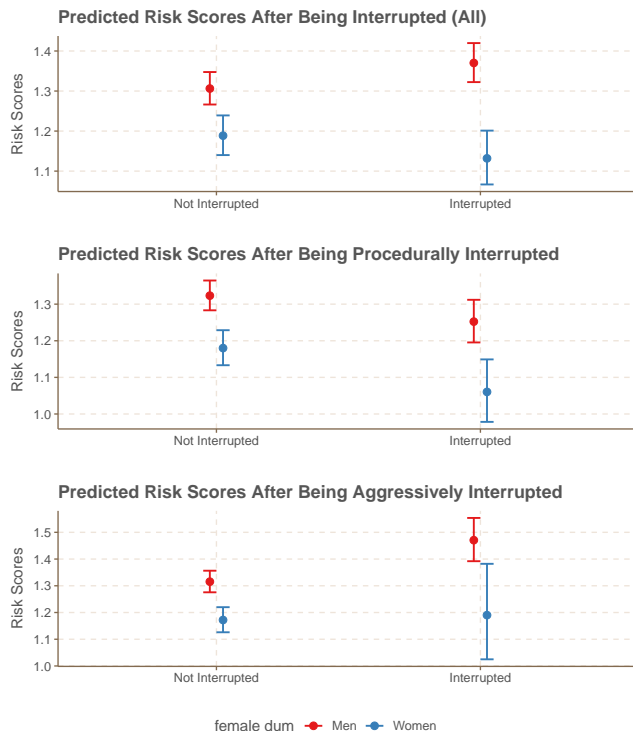
**B. The cost of interruptions.** For women to have an incentive to behave strategically around interruption, we must first determine whether there is unequal punishment to women when they are interrupted (H1). We estimate the cost of interruptions for women in terms of access and floor time. First, we model the “silencing” effect to floor time by estimating how much legislators can speak before being interrupted. The dependent variable for Models 4.1, 4.2, and 4.3 in Table 4 is the length of a speech before the legislator is interrupted.<sup>25</sup> We control for legislator-level differences by adding the mean length of the speeches delivered by a legislator in a legislative term. On average, women get to speak 8.8% fewer words than men before being interrupted. This relation holds for all types of interruptions, but the silencing effect is more marked for aggressive interruptions. Women speak, on average, 65 (19.1%) fewer words than men before being aggressively interrupted. Note that for aggressive interruptions one of the strongest predictors is gender. For procedural interruptions, the negative effect on women’s speech is diminished but still statistically significant ( $p \leq 0.05$ ). Unlike aggressive interruptions, pro-

<sup>24</sup>The null results can be interpreted as no statistically significant gender differences on the likelihood of aggressive interruptions. It can also be the consequence of women strategically avoiding situations that would get them interrupted. Given the less predictable nature of aggressive interruptions, women might not be able to avoid these as much as they avoid procedural interruptions, and we obtain similar rates on interruption. We explore this possibility in more detail farther ahead.

<sup>25</sup>For Models 4.1 and 4.2 we only use speeches that were interrupted.

cedural interruptions are not intrinsically a manifestation of power or domination, and are expected by the speaker. Since procedural interruptions consist of time warnings, we expect time-keeping to be less gendered.

Second, we model the “silencing” effect of interruptions on access to the floor by estimating the additional time it takes for a legislator to speak again after being interrupted during a speech. It is important to notice that the probability of speaking in a session increases as more time has passed from the last time a legislator spoke. To account for the time dependence of the observations, we estimate the hazard rate of silence –i.e. how long before silences “dies”. To do this, we use a Cox-Hazard model, where the survival time is expressed in terms of the number of sessions between two speeches (dependent variable) from the same legislator. We are primarily interested in the interaction between our “woman” variable and interruptions. A negative and statistically significant interaction term in our Cox-Hazard model would be consistent with female MCs having to wait a longer period of time after being interrupted.<sup>26</sup> Ultimately, our model captures how much longer a legislator needs to wait before speaking again after the interruption. We present the results in Table 5.

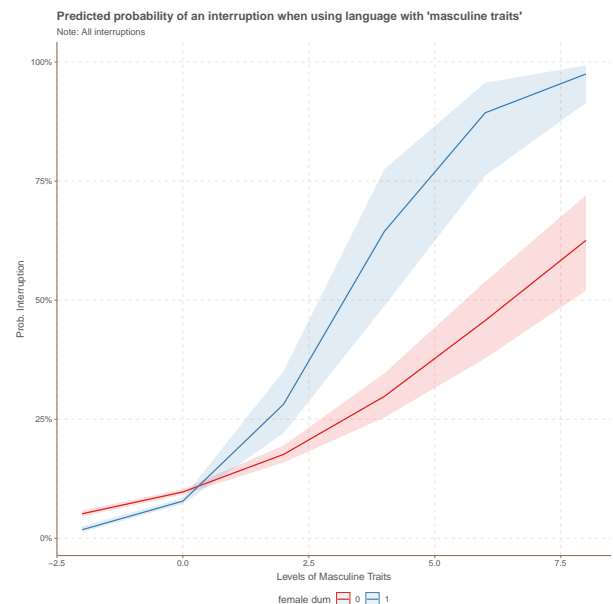


**Fig. 3.** Predicted risks scores from Model 2, Model 4, and Model 6 in Table 5 holding all other variables constant. Risk scores, also known as the hazard ratio, measures the likelihood the “silence” of a legislator dies. Thus, for the case of legislators, higher values mean they are participating more often.

We first look at the results from the Cox-Hazard model. In Model 5.2, the interaction term is negative and statistically significant at the 0.05-level. The statistical significant results do not hold when we break down interactions into procedural and aggressive ones, but the direction of the effect

<sup>26</sup> A negative term in a Cox-Hazard model suggests a longer survival rate. In the case of our model, the “survival” of silence, something that legislators try to avoid.

is consistent with our theoretical expectation (see Models 5.4 and 5.6). To help interpret these results, we present predicted risk scores, also known as hazard ratios, in Figure 3. The risk scores measure the likelihood the “silence” of a legislator dies. Thus, for the case of legislators, higher values mean they are participating more often. From the top panel in Figure 3, male MCs participate again at an earlier time than female MCs. This is not surprising, since we also know from Model 2.2 that women take the floor less often than men do. For congresswomen, interruptions *reduce* the risk score by 5.1% (i.e. increase the time of participation between sessions). For congressmen, interruptions actually *increase* the risk score by 4.4% (i.e. reduce the time of participation between sessions). This suggests that there is a double penalty for women. Men who are interrupted also participate more often. This might be a partial effect reflecting more of the characteristics of legislators being interrupted more often,<sup>27</sup> than of the interruption itself. After all, legislators that are more aggressive or assertive are interrupted more often (see Model 3.2) but also take the floor more often (see Model 2.1). Yet, not only are women unable to take advantage of that assertiveness, but they are also punished in terms of access to the floor when interrupted. These results point out to the fact that, even when men and women have to wait longer after procedural interruptions, women find themselves waiting even longer than their male peers.



**Fig. 4.** Predicted probabilities of interruption from Model 1 in Table G.1 (see Appendix G, p.S19) holding all other variables constant.

Legislators are political maximizers (Kam 2009, p.27) using language that reflects traits that will improve their standing within the party and with voters (Eagly and Carli 2007). Because of this, it is not surprising that speeches in legislatures are characterized by a formal masculine linguistic style (Yu 2014). Since gendered institutions punish women who “behave like men” (Jamieson 1995; Jones 2016), we model the likelihood of an interruption when legislators speak using “masculine”

<sup>27</sup> This would explain the similar effect found from aggressive interruption.



Table 5. The “Silencing” Effect of Interruptions on Access to the Floor

	Time Lapsed				
	Model 5.1	Model 5.2	Model 5.3	Model 5.4	Model 5.5
Woman	−0.117*** (0.013)	−0.094*** (0.015)	−0.120*** (0.013)	−0.115*** (0.014)	−0.118*** (0.013)
Ideological Extremism	0.097*** (0.006)	0.097*** (0.006)	0.097*** (0.006)	0.097*** (0.006)	0.097*** (0.006)
Committee Chair	0.112*** (0.013)	0.112*** (0.013)	0.110*** (0.013)	0.110*** (0.013)	0.112*** (0.013)
Seniority	0.067*** (0.004)	0.067*** (0.004)	0.067*** (0.004)	0.067*** (0.004)	0.067*** (0.004)
Same Party as Leg. Pres.	−0.007 (0.011)	−0.008 (0.011)	−0.011 (0.011)	−0.010 (0.011)	−0.008 (0.011)
Election Year	−0.022*** (0.010)	−0.022*** (0.010)	−0.023*** (0.010)	−0.023*** (0.010)	−0.023*** (0.010)
Length of Speech	0.008*** (0.001)	0.008*** (0.001)	0.009*** (0.005)	0.009*** (0.005)	0.008*** (0.005)
Speeches during Session	−0.003*** (0.001)	−0.003*** (0.001)	−0.003*** (0.001)	−0.003*** (0.001)	−0.003*** (0.001)
Mean Length of MC Speech	−0.005*** (0.001)	−0.005*** (0.001)	−0.005*** (0.001)	−0.005*** (0.001)	−0.005*** (0.001)
Interruptions (All)	0.035*** (0.011)	0.048*** (0.012)			
Procedural Interruptions			−0.064*** (0.017)	−0.055*** (0.019)	
Aggressive Interruptions					0.103*** (0.023)
Woman x Interruptions (All)		−0.097*** (0.030)			
Woman x Procedural Interruptions				−0.052 (0.042)	
Woman x Aggressive Interruptions					−0.096 (0.079)
N	51944	51944	51944	51944	51944

*Note:* Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. For Models 5.1 to 5.6, we use a Cox-Hazard model to account for the time dependence of the observations. The dependent variable is the number of sessions between two speeches by the same legislator. Cohort fixed-effects included but not reported.

language (H1b). We are primarily interested in the interaction between our variable “masculine trait” and “woman”. If women are punished for speaking using “masculine” language, then we would expect this interaction term to be positive and statistically significant (H1b).

In Model G.1.1 in Table G.1 (see Appendix G, p.S19), the interaction term is positive and statistically significant at the 0.05 level. To help interpret the results, we present the predicted probability of an interruption in Figure 4. In general, the more language with “masculine” traits that is present in a speech, the more likely it will be interrupted. This, in part, by the overtly aggressive language that is usually curbed in formal settings such as the Ecuadorian Congress. Yet, women who use more language with “masculine” traits are interrupted at a higher rate than men using similar language. For example, going from the mean level of language with “masculine” traits in a speech (where men and women are just as likely to be interrupted) to one standard deviation above raises the probability of men being interrupted by 10 percentage points, while the same change raises the probability of a woman being interrupted by 15 percentage points. This suggests that while women, on average, are less interrupted than men, when using language with “masculine” traits, they are punished at a higher degree.<sup>28</sup>

Table 6. Strategic Behavior of Women

	Length After One-Minute Warning		Length After Aggressive Inter.	
	Model 6.1	Model 6.2 <sup>a</sup>	Model 6.3	Model 6.4 <sup>b</sup>
Woman	-0.068** (0.028)	-0.071** (0.032)	-0.244*** (0.084)	-0.150 (0.114)
Ideological Extremism	-0.014 (0.017)	-0.043** (0.021)	0.034 (0.033)	0.037 (0.046)
Committee Chair	0.102*** (0.034)	0.121*** (0.039)	0.113 (0.075)	0.189* (0.101)
Seniority	0.021 (0.013)	0.028* (0.015)	0.014 (0.018)	0.008 (0.026)
Same Party as Leg. Pres.	0.095*** (0.025)	0.103*** (0.029)	-0.025 (0.068)	0.088 (0.096)
Election Year	-0.027 (0.027)	-0.007 (0.031)	-0.013 (0.051)	-0.074 (0.074)
Length of Speech	0.023*** (0.002)	0.015** (0.003)	0.064*** (0.003)	0.033*** (0.011)
Speeches during Session	-0.003 (0.007)	0.008 (0.009)	0.002 (0.007)	0.009 (0.009)
Mean Length of MC Speech	0.023*** (0.006)	0.028*** (0.007)	0.074*** (0.009)	0.105*** (0.016)
Constant	4.534*** (0.370)	4.470*** (0.372)	4.969*** (0.129)	4.600*** (0.181)
N	3110	2233	2262	1252
$\theta$	2.668*** (0.066)	2.752*** (0.080)	0.856*** (0.022)	0.761*** (0.027)

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. Cohort fixed-effects included but not reported.

<sup>a</sup> The sample is limited to instances where there is only one interruption (i.e. only the one-minute warning).

<sup>b</sup> The sample is limited to instances where there is only one interruption (i.e. only the aggressive interruption).

**C. The strategic reaction to interruptions.** Thus far we have estimated the cost of interruption in female legislator’s floor time and access to the floor, and how other types of disruptive behavior (such as using language with “masculine” traits) impose uneven punishments on women. More generally, interruptions negatively affect women’s overall floor time. We extend the analysis from Model 2.3 and Model 2.4 by interacting our “woman” variable with interruptions to estimate their conditional effect on the length of speeches. On average and consistent with the evidence, legislators speak for a longer period of time when interrupted than when they are not interrupted. However, women who are interrupted speak relative

<sup>28</sup> We find no conditional effect on the number of interruptions when we interact our woman variable with “feminine” language (see Model G.1.2 in Table G.1 from Appendix G (p.S19)).

less than men, a relationship that holds for all types of interruptions (see Figure 5). What is not clear from the regression is whether this results is a product of women strategically limiting their floor time to avoid the costs of interruptions, or rather a reflection of gender differences in loquaciousness.

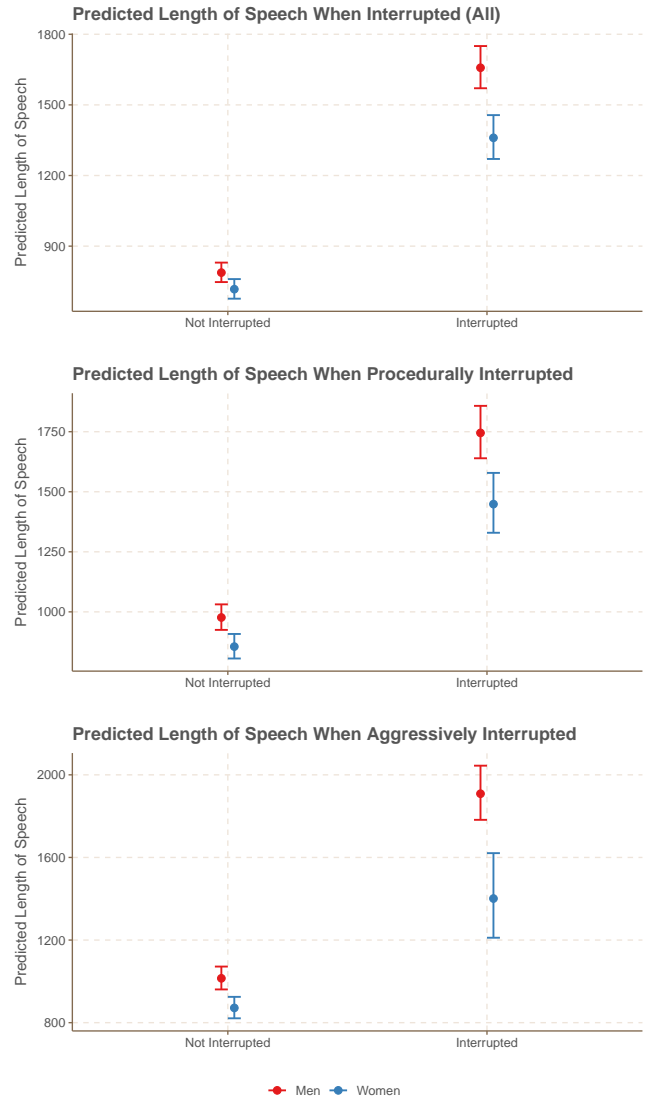


Fig. 5. Predicted length of speech by gender conditional on interruptions from Model 1 to Model 3 in Table H.1. (see Appendix H, p.S20) holding all other variables constant.

To get a glimpse at how legislators strategically react to interruptions, we look at the length of speeches after an interruption (H2). Since interruptions might come at different times during the speech of a legislator, we first limit our analysis to the instances when the President reminds legislators that they have one minute left of their allotted time. The assumption is that after a one-minute warning, all legislators, on average, should speak for the same amount of time. Any differences in length are a result of legislators strategically avoiding being interrupted a second time. Thus, the dependent variable is the length of a speech after a one-minute warning. As a robustness check, we also look at those instances where the speaker was interrupted only once, the only interruption being the one-minute warning. Additionally, we

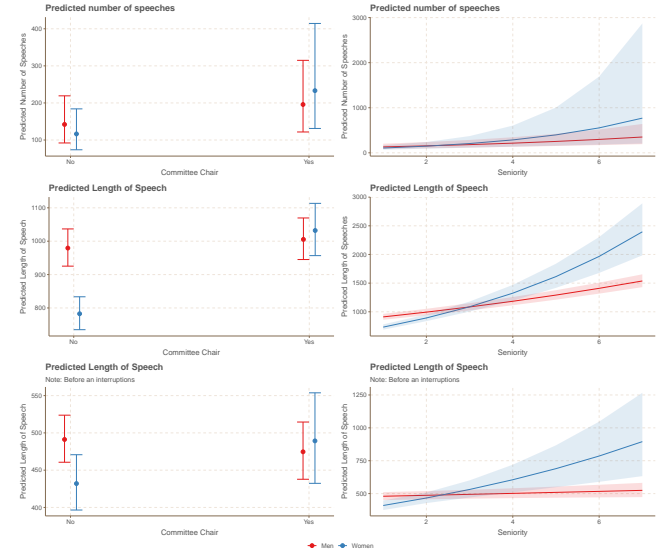
estimate the same effect for aggressive interruptions. We argue that, while aggressive interruptions can happen at any point during the speech, women will avoid being interrupted again by strategically reducing the length of their speech.

Most interruptions are unpredictable, since the speaker cannot know with certainty when they will happen. The one-minute warning gives legislators a clear signal of when the second interruption will arrive. Model 6.1 (see Table 6) shows that women will speak 6.9% fewer words ( $p \leq 0.05$ ) than men after a one-minute warning. Unless women are worse than men at estimating short periods of time, we find this as partial evidence of women strategically speaking less to avoid the cost of a second interruption. The results are similar for aggressive interruptions, as women utter, on average holding all else constant, 221 words after an aggressive interruption while men utter 282 words. We also find that once women have been interrupted once, they are interrupted a second time, on average, 22.3% of the time while, under the same circumstance, men get interrupted 26.6% of the time. After a one-minute warning, women are interrupted for a second time 25.4% of the time, while men get interrupted 32.0% of the time.

These results speak to the effects of interruptions on floor time, conditional on gender from Figure 5. When men are interrupted due to procedure and aggression, the predicted length of a speech is 1,533 and 1,855 words, respectively, a 322-word difference. For women, the predicted length for a speech during a procedural interruption is 1,449 words, and for aggressive interruptions 1,401 words, a 47-word difference. Since it is less costly for men to be interrupted, their behavior is also less stable (i.e. their strategy is not affected by the type of interruption). To the contrary, the change in behavior for women is more drastic from one type of interruption to the other (when compared to that of men). Procedural interruptions, often warnings regarding time that have no implicit cost, allow women to estimate when the next, this time costly, interruption might happen, prompting them strategically limit their speech. With aggressive interruptions, which already carry a costly signal, there is less certitude as to when the next interruption might occur, and while the strategy to limit their speech remains, they have to do so more drastically. At least for the sample of times women are interrupted, we can argue that the pattern of floor time is a strategic choice—a reaction to gendered barriers, rather than intrinsic characteristics or risk aversion.

**D. High status and interruptions.** Our results thus far are consistent with our expectation about the cost of interruptions for women, and their subsequent strategic reaction to the possible damages to their reputation. Yet, our argument also contends that bias to women’s participation should be curtailed by a high status (H3). High-status legislators will receive different signals from the moderator or should be able to dismiss the negative effect of an interruption to their status. The outcome should provide women with more access and longer floor time. From previous models, we know that on average, high-status legislators (e.g. committee chairs, senior members) can speak more often and for a longer time, as well as being less likely to be interrupted. In Models 7.1 to 7.6 in Table 7 we extend those analyses by interacting the “woman” variable with 1) the “committee chair” variable and 2) the “seniority” variable. The dependent variable for Models 7.1 and 7.2 is the number

of speeches delivered by a legislator in a legislative term. For Models 7.3 and 7.4 the dependent variable is the number of words uttered by a legislators in a session. Finally, for Models 7.5 and 7.6, the dependent variable is the length of a speech before a legislator is interrupted.



**Fig. 6.** Predicted probabilities from Models 7.1 to 7.6 in Table 7 holding all other variables constant.

In Models 7.3 to 7.6, the interaction terms are positive and statistically significant at the 0.05 level. For Models 7.1 and 7.2, the interaction term is positive but does not reach the conventional levels of statistical significance. To help interpret the results, we plot the predicted probabilities for the six models in Figure 6. All the panels in the left describe the interaction between our “woman” and “committee chair” variables. They show that, for all non-chairs, women deliver fewer speeches than men. Yet, while all chairs deliver, on average, more speeches than non-chairs, the gains for female chairs are greater than the gains for male chairs, to the point that both participate at a similar rate. Results from the length of speeches before an interruption follow a similar pattern (see middle-left panel in Figure 6). While the average speech length for male non-chairs and male chair is similar, the average speech length of female chairs before being interrupted is 24.1% longer than the speech length of female non-chairs. Seniority produces a similar result across all models. It is worth noting that the most senior female members speak, on average and holding all else constant, longer than men with similar seniority (see middle-right panel in Figure 6), even before being interrupted (see bottom-right panel in Figure 6). As a final note, we also estimated the effect of high-status on the strategic behavior of women (see Appendix H, p.S20). While the direction of the interaction term between our “woman” variable and the length of a speech after a one-minute warning was as expected (positive), we found no statistically significant results.

## 6. Discussion and Conclusion

We argue that interruptions are a barrier for the participation of women in the legislature. Interruptions serve as communicational signals that, in gendered institutions, have an unequal

Table 7. High Reputation and Access to the Floor and Floor Time

	Number of Speeches		Length of Speech		Length of Speech (Before Interruption)	
	Model 7.1	Model 7.2	Model 7.3	Model 7.4	Model 7.5	Model 7.6
Woman	-0.199** (0.084)	-0.376** (0.175)	-0.224*** (0.014)	-0.328*** (0.027)	-0.128*** (0.030)	-0.274*** (0.056)
Ideological Extremism	0.461*** (0.049)	0.465*** (0.049)	0.167*** (0.006)	0.172*** (0.006)	0.055*** (0.012)	0.063*** (0.012)
Committee Chair	0.321*** (0.113)	0.417*** (0.099)	0.026* (0.014)	0.080*** (0.012)	-0.034 (0.028)	-0.005 (0.025)
Seniority	0.183*** (0.035)	0.164*** (0.037)	0.096*** (0.004)	0.087*** (0.004)	0.022*** (0.007)	0.015** (0.007)
Same Party as Leg. Pres.	-0.062 (0.075)	-0.070 (0.075)	0.016 (0.011)	0.008 (0.011)	0.060*** (0.021)	0.057*** (0.021)
New Constitution	-0.443 (0.462)	-0.408 (0.463)	-0.093 (0.116)	-0.086 (0.116)		
Election Year			-0.037*** (0.009)	-0.038*** (0.009)	0.047** (0.019)	0.047** (0.019)
Speeches during Session					0.016*** (0.002)	0.016*** (0.002)
Mean Length of MC Speech					0.187*** (0.003)	0.188*** (0.003)
Woman x Committee Chair	0.374 (0.235)		0.250*** (0.031)		0.159** (0.066)	
Woman x Seniority		0.166 (0.115)		0.110*** (0.017)		0.115*** (0.032)
Constant	4.510*** (0.125)	4.521*** (0.125)	6.575*** (0.018)	6.574*** (0.018)	4.971*** (0.045)	4.963*** (0.045)
N	937	937	53910	53910	16147	16147
$\theta$	1.236*** (0.053)	1.235*** (0.053)	1.036*** (0.006)	1.036*** (0.006)	0.898*** (0.009)	0.899*** (0.009)

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. Cohort fixed-effects included but not reported.



cost over the reputation of (female) legislators. Congresswomen are strategic actors that will modify their behavior to avoid the cost of interruptions by limiting their floor time. Our empirical results confirm our theoretical expectations. First, women are disproportionately punished after an interruption: they have to wait for a longer period of time before accessing the floor and are able to speak less before being interrupted. Second, after a one-minute warning, women will speak less than men in an effort to avoid a second interruption. Indeed, women are interrupted a second time at a much lower rate than men. High status, however, appears to be the great equalizer. Chairwomen and senior female MCs have, across the board, similar behavior to that of their male counterparts. This result reveals how political status either changes the signal from the mediator, or negates the cost of an interruption on the legislator's reputation.

To our knowledge, this is the first study that systematically explores interruptions in a legislative body.<sup>29</sup> We propose a theory where women are strategic maximizers to explain gender differences in legislative participation, rather than assume an often misconstrued, gendered approach to risk-aversion. Our empirical analysis confirms the double-bind women are confronted with in other aspects of politics (Jamieson 1993; Jones 2016; Brooks 2013). Women in politics are faced with the dilemma to use traits that are rewarded (e.g. using language deemed “masculine”), yet at the same time being punished for doing so. For example, women are interrupted less often than men, yet women who use language deemed “masculine” are more likely to be interrupted than men who use similar language.

The Ecuadorian Congress is by no means an outlier in its rules, organization, and procedures. Interruptions from the mediator are usually procedural (e.g. to ask a member to yield their time), or to regain order. More importantly, Ecuador ranks high<sup>30</sup> in the number of seats occupied by women. The findings of Ecuador are a conservative reflection of the reaction of female legislators to gendered barriers, which can be generalized to other legislatures.

Even though the Ecuadorian Congress ranks high in the number of legislative seats occupied by women, the access women have to political spaces is similar to other Latin American countries. However, gender stereotypes are arguably more pronounced in Ecuador than in more advanced western democracies. Och (2019), for example, shows that “maninterrupting” is not widespread in the German Bundestag, contrary to what is expected. We believe, however, that our argument about women's strategic behavior is applicable to western democracies, and other parts, inasmuch interruptions are not the only gendered barriers women face in legislatures. Future research should explore to what extent this is in fact the case, and the different strategies women employ to overcome other gendered barriers.

While the primary focus of this paper is on the effect of interruption on the strategic behavior of female legislators, the theoretical expectations of our theory should hold for all marginalized groups (e.g. indigenous people). Extensions to our analysis suggest that indigenous women in the Ecuadorian Congress have to overcome additional barriers to access the

floor and floor time. They are interrupted at a higher rate than mestizo women but have not yet gained enough positions of high reputation in order to test the possible equalizing effect. Future work should focus on participation in the legislature in what Hawkesworth calls race-gendered institutions.

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<sup>29</sup>For an important exception, see Laura Mattei (1998)

<sup>30</sup>According to the Inter-Parliamentary Union, Ecuador ranked 27th in the World (among 190 countries) in the number of seats occupied by women in the lower house ( 40%).

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## Appendix A: Data Description

The corpus used in this paper consists of 3,526 documents from the Ecuadorian Congress between 1988 and 2018, representing the totality of debates occurring there in that 30-year period. The documents were kindly provided by the generous staff at the *Archivo-Biblioteca de la Asamblea Nacional del Ecuador*. All documents are in Spanish and each document contains the transcription of a legislative session. All the documents follow a similar format: title page, summary of the session, table of contents, and the transcript itself. In every session there can be debates on multiple bills, but these are usually limited to three or four since sessions last no more than three hours.<sup>1</sup> The transcript is *verbatim* and has the following pattern:

THE HONORABLE [NAME OF LEGISLATOR]. [Text of speech].———

Alternatively, when the President of Congress or the Secretary of Congress speak the transcripts follow this pattern:

MISTER/MADAM SECRETARY. [Text of speech].———

MISTER/MADAM PRESIDENT. [Text of speech].———

The pattern allows us to automate the process in which we divide each transcript into speeches. We can also identify the name and gender<sup>2</sup> of the legislator speaking. We combine these data with legislator-level variables, including party affiliation, committee assignment, and chairmanship. There is an official typist who is in charge of transcribing each session. Since sessions are also recorded, the typist will then check her transcription with the recording to make any required corrections. Unlike other legislatures (see Dietrich et al. 2019), legislators in the Ecuadorian Congress are not allowed to solicit changes to the transcripts.

All the documents were obtained in PDF format. However, the text of the PDFs for sessions before 2008 are not machine readable – transcripts were captured as an image of a printed transcript. We process these documents through an optical character recognition (OCR) program called ABBYY. While highly accurate, OCR is not perfect, and it inserted noisy elements (e.g. sequence of periods, exclamation marks, tildes, etc.), especially when the document contained images. Since these are official documents they are printed in letterhead paper and carry the official seal of the Ecuadorian Congress, we often found noise at the beginning of a document and towards the end. This is not problematic since the transcript starts a couple of pages into

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<sup>1</sup>In rare occasions the President of Congress will extend a session.

<sup>2</sup>In Spanish, articles differentiate across gender.

the document. However, we eliminate all symbols that are not used in Spanish.

The quality of the texts is pretty good, and a random check to the output confirms that the output from the OCR process is accurate. We eliminate all the numbers and concatenate those words that are separated by colons. We assume that all possible mistakes remaining in the text are randomly generated and, thus, should not affect our estimation.

The complete speech dataset has 760,573 observations. We eliminate all speeches from the President and the Secretary of Congress, as well as any speech that is shorter than 20 words.<sup>3</sup> The final dataset has 117,912 observations. When we concatenate all the speeches delivered by a legislator in the same session, we are left with 55,378 observations. The summary statistics for length of speech and the rest of variables are shown in Table A.1. We collected Congress data from official parliamentary records and complemented any missing data using additional sources.<sup>4</sup>

**Table A.1:** Summary Statistics

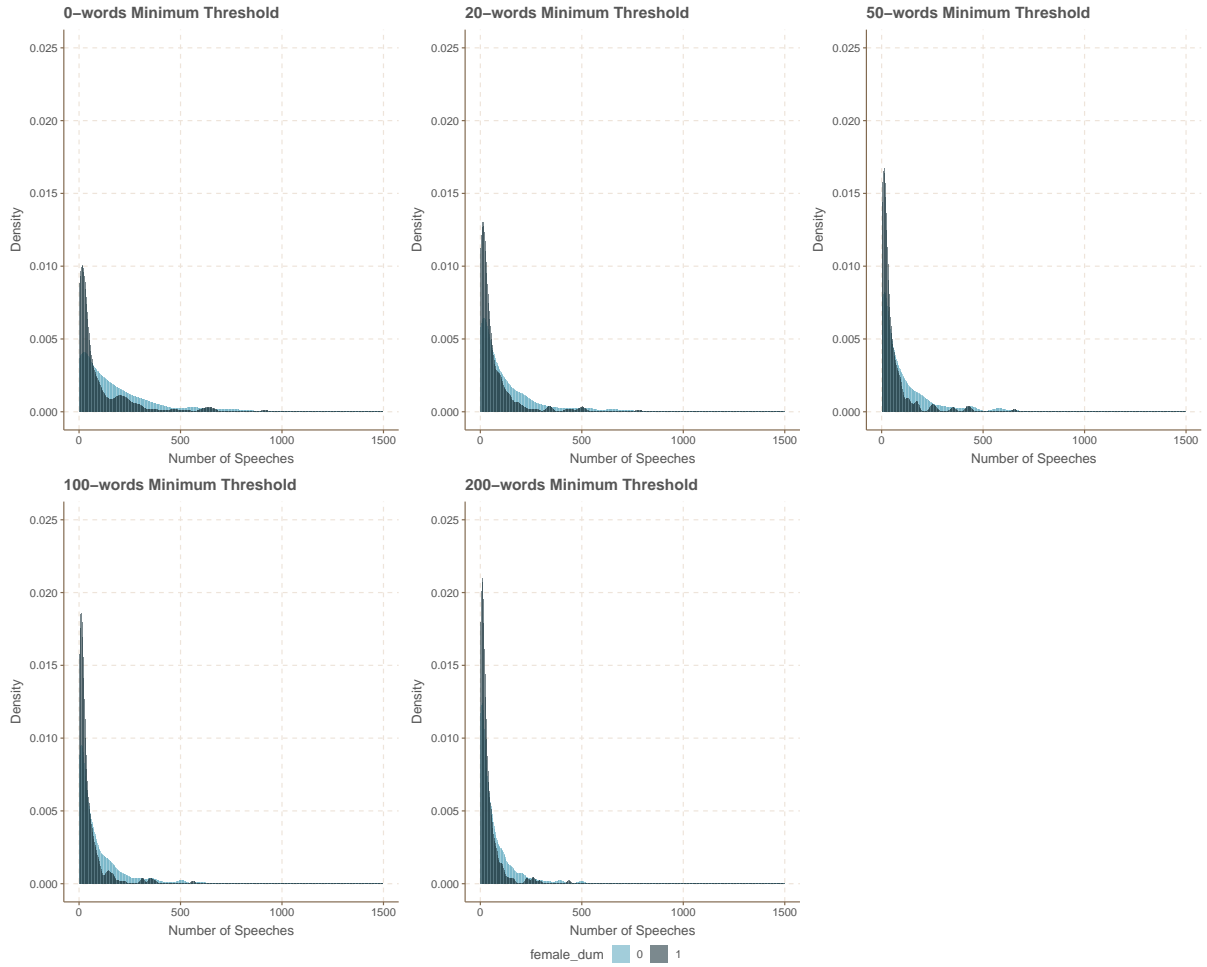
Statistic	N	Mean	St. Dev.	Min	Max
Woman	117,912	0.117	0.322	0	1
Ideological Extremism	117,533	1.125	0.752	0.001	3.024
Committee Chair	117,912	0.145	0.352	0	1
Seniority	117,912	1.740	1.170	1	7
Same Party as Leg. Pres.	117,912	0.218	0.413	0	1
Election Year	117,912	0.349	0.477	0	1
Length of Speech	117,912	365.150	468.583	7	16,650
Mean Length of MC Speech	117,912	400.711	270.585	20.000	4,723.714
Masculine Traits (Speech)	117,912	-0.009	0.382	-0.949	7.881
Interruptions (pooled)	117,912	0.140	0.347	0	1
Procedural Interruptions	117,912	0.040	0.197	0	1
Aggressive Interruptions	117,912	0.020	0.140	0	1

<sup>3</sup>See Appendix B for a thorough description of speech length, the possible issues of our arbitrary threshold, and robustness checks

<sup>4</sup>Since before 2009 there are no official lists of members' party, we collect the data from various sources. For the period between 1988 and 1998: Marchán (1996), Salgado (1984), Diario Hoy (1990, 1992, 1994, 1996). For the period between 1998 and 2006: TSE (1998), Hoy (2002), El Diario (2006).



## Appendix B: Speech Length



**Figure B.1:** Density plots of the distribution of speeches across gender. Each graph shows the distribution of sample with different thresholds.

We further remove any speech shorter than 20 words long, unless the speech was shorter than 20 words because of an interruption. Before 2009, roll-call voting was voiced rather than electronically registered. This meant that legislators would speak out their vote to be registered in the official records. These speeches were usually shorter than 20 words long (e.g. “mi voto a favor del honorable Acosta”). Most of the speeches removed are either roll-call votes or attendance checks. Some are procedural questions or calls to clarify a passage of the law. The 20-word threshold is arbitrary. However, we find little to no changes in our main conclusions from varying the threshold up or down. Figure B.1 shows the difference in the distribution of speeches by gender across different threshold.

Note that most of these short speeches are delivered by male legislators (see Table B.1). We do not believe we are biasing our results by removing these speeches, since they are mostly

**Table B.1:** Differences in linguistic style between men and women

Threshold (Min. Words)	Male Legislator	Female Legislator
No Threshold	788	207
20 Words	769	206
50 Words	757	204
100 Words	753	201
200 Words	742	199

*Note:* Number of legislators with at least on speech per legislative session.

procedural. We also leave short speeches that were cut because of an interruption. Despite the drop in observations and the possible bias this might introduce to our sample, the latter is not picked up in our estimations. For a comparison, see Table B.2 where we replicate Table 3 from the main text. The dependent variables are all the interruptions pooled, procedural interruptions only, and aggressive interruptions only. These are all dichotomous variables coded 1 if a speech was interrupted and 0 otherwise. No significant changes are observed across all model specification. The results are robust to changes in the threshold.

Table B.2: Determinants of Interruptions: Comparison at different threshold

	Original Threshold (20 Words)			No Threshold			50-Word Threshold			100-Word Threshold			200-Word Threshold		
	All	Procedural	Aggressive	All	Procedural	Aggressive	All	Procedural	Aggressive	All	Procedural	Aggressive	All	Procedural	Aggressive
Woman	-0.216*** (0.029)	-0.293*** (0.047)	-0.064 (0.078)	-0.239*** (0.029)	-0.289*** (0.047)	-0.118 (0.077)	-0.178*** (0.029)	-0.280*** (0.047)	-0.032 (0.078)	-0.192*** (0.030)	-0.284*** (0.046)	-0.031 (0.079)	-0.212*** (0.031)	-0.291*** (0.047)	-0.020 (0.079)
Ideological Extremism	0.052*** (0.012)	0.055** (0.025)	-0.052* (0.030)	0.073*** (0.012)	0.064** (0.025)	-0.024 (0.030)	0.029** (0.012)	0.048* (0.025)	-0.071** (0.031)	0.019 (0.013)	0.046* (0.025)	-0.079* (0.031)	0.006 (0.013)	0.042* (0.025)	-0.087*** (0.031)
Committee Chair	-0.125*** (0.026)	-0.382*** (0.052)	-0.164** (0.068)	-0.141*** (0.026)	-0.415*** (0.052)	-0.161** (0.068)	-0.097*** (0.026)	-0.347*** (0.051)	-0.145** (0.069)	-0.075*** (0.027)	-0.325*** (0.051)	-0.130* (0.069)	-0.057 (0.028)	-0.297*** (0.051)	-0.095 (0.070)
Seniority	0.087*** (0.007)	0.043** (0.017)	0.090*** (0.017)	0.108*** (0.007)	0.050*** (0.018)	0.116*** (0.016)	0.076*** (0.007)	0.042** (0.017)	0.080*** (0.017)	0.077*** (0.008)	0.044** (0.017)	0.077*** (0.017)	0.084*** (0.008)	0.048*** (0.017)	0.073*** (0.017)
Same Party as Leg. Pres.	-0.219*** (0.023)	-0.334*** (0.041)	-0.379*** (0.063)	-0.236*** (0.023)	-0.356*** (0.041)	-0.391*** (0.063)	-0.198*** (0.023)	-0.308*** (0.041)	-0.360*** (0.063)	-0.190*** (0.023)	-0.297*** (0.041)	-0.344*** (0.063)	-0.186*** (0.024)	-0.280*** (0.041)	-0.340*** (0.064)
Election Year	-0.085*** (0.019)	0.063 (0.039)	-0.184*** (0.047)	-0.082*** (0.019)	0.043 (0.039)	-0.171*** (0.047)	-0.018 (0.020)	0.078** (0.040)	-0.146*** (0.048)	-0.031 (0.020)	0.084** (0.040)	-0.151*** (0.048)	-0.049* (0.021)	0.101** (0.040)	-0.154*** (0.049)
Length of Speech	0.046*** (0.002)	0.140*** (0.003)	-0.001 (0.005)	0.071*** (0.002)	0.153*** (0.003)	0.023*** (0.004)	0.017*** (0.002)	0.125*** (0.003)	-0.032*** (0.005)	-0.009*** (0.002)	0.115*** (0.003)	-0.064*** (0.006)	-0.057*** (0.002)	0.098*** (0.003)	-0.119*** (0.007)
Speeches during Session	-0.006*** (0.002)	0.035*** (0.006)	-0.029*** (0.006)	-0.018*** (0.001)	-0.002 (0.002)	-0.018*** (0.002)	0.035*** (0.004)	0.067*** (0.010)	-0.025*** (0.009)	0.054*** (0.005)	0.095*** (0.011)	-0.018 (0.012)	0.099*** (0.007)	0.160*** (0.014)	0.022 (0.016)
Mean Length of MC Speech	0.132*** (0.004)	0.142*** (0.007)	0.084*** (0.008)	0.134*** (0.004)	0.124*** (0.007)	0.086*** (0.008)	0.147*** (0.004)	0.150*** (0.007)	0.103*** (0.008)	0.149*** (0.004)	0.145*** (0.007)	0.110*** (0.007)	0.136*** (0.004)	0.127*** (0.006)	0.107*** (0.007)
Constant	-2.997*** (0.045)	-5.658*** (0.105)	-4.602*** (0.115)	-3.158*** (0.042)	-5.518*** (0.095)	-4.931*** (0.109)	-3.070*** (0.049)	-5.720*** (0.113)	-4.492*** (0.121)	-2.875*** (0.051)	-5.669*** (0.114)	-4.288*** (0.124)	-2.350*** (0.054)	-5.454*** (0.114)	-3.863*** (0.127)
N	115147	115147	115147	159482	159482	159482	94211	94211	94211	79575	79575	79575	60926	60926	60926

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. For all models, the dependent variable is whether the speech given by the legislator was interrupted or not. Different speeches delivered by a legislator in the same session are considered as independent observations. Cohort fixed-effects included but not reported.

## Appendix C: Reforms in the Ecuadorian Congress

The Ecuadorian Congress has gone through several institutional changes in the midst of economic and political crises. As Freidenberg (2006) describes it, “rather than the absence of rule of the game, Ecuador has gone through a constant change of the rule.” (p. 250) Since 1979, reforms have changed the electoral rules, party rules, legislative rules, and the Constitution (twice). A recount of the most relevant changes of the last 40 years can be found in Table C.1.

**Table C.1:** Important Institutional Reforms in Ecuador, 1979-2018

<i>Year</i>	<i>Reform</i>
1983	Legislative and executive periods reduced from five to four years. Midterm elections for provincial legislators (every two years).
1994/1995	Immediate reelection approved for all elected positions, except for the president. Movements allowed to participate in elections.
1998	New Constitution <sup>1</sup> Committees increased from 4 to 16. Committee assignments extended from one to two years. Seats in Congress increased from 82 to 121. <sup>2</sup> Legislative periods extended from 2 to 4 years.
2000	D'Hondt method for allocation of seats adopted.
2002	D'Hondt method ruled unconstitutional. Imperiali method (proportional representation) adopted.
2008	New Constitution <sup>1</sup> Committees decreased from 16 to 12. All the names and topics of committees revamped.
2012	D'Hondt method for allocation of seats adopted, again. Two-year term limit imposed to all elected positions.

<sup>1</sup> Even though some of the gatekeeping prerogatives of legislators were stripped from the 1998 and 2008 constitutions, and both supported extensive executive powers, the general sequential organization of the legislature was maintained.

<sup>2</sup> In 1979 the Ecuadorian Congress had 70 seats, but a provision in the electoral law required that the number of seats would increase with population. This provision has been maintained.

Despite the many institutional and constitutional changes in Ecuador and the Ecuadorian Congress, the general sequential organization of the legislature has been maintained, as well as the main pillar on which political power rests: legislative blocs (*bloques legislativos*), and committees. As described in Table C.1, the number of standing committees has varied across time, and so have the number of legislators assigned to each committee. With only four committees between 1979 and 1998 and limited seats in each committee, there were legislators that never served in one. This means that committee membership and key positions in these committees were valuable, often assigned to high ranking members within the party. For example, the average tenure of a committee member was longer than the tenure of a non-committee member

in 60% of the periods<sup>1</sup>; national legislators were almost twice as likely to be committee chairs than state legislators.<sup>2</sup> Once the number of standing committees was expanded, all members were able to participate in a committee, but the importance of the four original committees (i.e. Civil and Penal, Tributary, Economic, and Labor) and the CAL remained. Members of the plurality party were 2.5 times more likely to be assigned chairmanship of these committees than members of the rest of parties.

The procedural rules remained roughly the same across legislative periods, even after major legal overhauls. However, the increase in committee chairs (who speak more often as well as variation in the legislative activity will alter how much access non-committee members have and, in consequence, the value of floor time. Since none of these changes were made mid-cohort, we try to capture these changes with the cohort-level fixed-effect specification in all our models. However, we run robustness checks on our models by dividing the samples into legislative periods when there were no reforms. Our samples are divided into three: 1988 to 1998, 1998 to 2007, and 2009 to 2018. We replicate Table 3 from our main text (see Table C.2). Most of the results hold, however it is important to point out that between 1988 and 1998 women were actually interrupted more than men. During that period the percentage of women elected to the legislature was also particularly low, barely occupying 5% of the seats. For the whole period, there are only 18 women legislators, who in total delivered 3236 speeches, 5.71% of the total speeches delivered. Women were taking the floor in roughly the same ratio they held seats in Congress, something that did not happen in later years, when the proportion of women rose (see Figure C.1). The women elected to Congress were, what we would consider, high-status politicians. Cecilia Calderón, for example, was the leader of the FRA<sup>3</sup> party, as well as the first woman to become the head of a party in Ecuador. She was the first woman to be elected to the Council of Guayaquil, and in 1986 she was the only woman elected to Congress.<sup>4</sup> She was elected 4 times to the legislature, when the overall average was 1.5 times.

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<sup>1</sup>This is a particularly high number if we keep in mind that between 1979 and 1996 there was no immediate reelection for legislators. Note that the tenure is from non-consecutive terms.

<sup>2</sup>National candidates were often on top of the list and were chosen from the party leadership. National candidates were competing for a four-year term vis-à-vis a two-year term from state candidates, but only 15% of seats were assigned to national candidates. In a legislature with high turnover rates, like the Ecuadorian, a guaranteed longer tenure in Congress was desirable.

<sup>3</sup>Frente Radical Alfarista, a radical liberal party.

<sup>4</sup>Anecdotally, when Calderón was elected to Congress, there were no women restrooms. During her tenure, legislators would arrange meetings to coordinate votes between legislative blocs in the men's bathroom. (El Comercio, 2013. Access March 6, 2020: <https://web.archive.org/web/20161010095517/http://www.elcomercio.com/actualidad/politica/deficit-liderazgo-femenino-ecuador.html>).

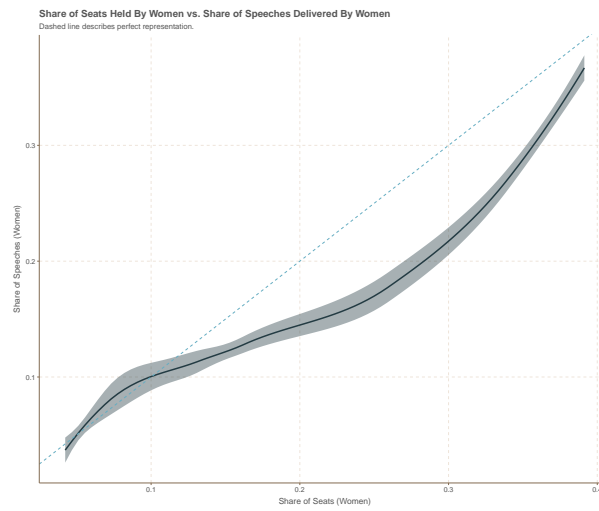
Table C.2: Determinants of Interruptions: Dividing Across Periods

	Full Sample			1988 to 1998			1998 - 2007			2009-2018		
	All	Procedural	Aggressive	All	Procedural	Aggressive	All	Procedural	Aggressive	All	Procedural	Aggressive
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Woman	-0.158*** (0.028)	-0.231*** (0.043)	-0.080 (0.081)	0.146** (0.062)	0.146 (0.165)	0.363*** (0.133)	-0.287*** (0.049)	-0.582*** (0.182)	-0.400*** (0.128)	-0.184*** (0.036)	-0.249*** (0.043)	-0.136 (0.186)
Ideological Extremism	0.034*** (0.012)	0.051** (0.023)	-0.053* (0.032)	0.047** (0.021)	-0.060 (0.054)	-0.059 (0.049)	0.003 (0.018)	-0.009 (0.053)	-0.089** (0.045)	0.130*** (0.025)	0.125*** (0.029)	0.183 (0.139)
Committee Chair	-0.131*** (0.025)	-0.348*** (0.046)	-0.202*** (0.072)	-0.205*** (0.050)	-0.400*** (0.141)	-0.288** (0.118)	-0.066* (0.038)	-0.285** (0.127)	-0.306*** (0.104)	-0.217*** (0.043)	-0.367*** (0.052)	0.285 (0.211)
Seniority	0.075*** (0.007)	0.042*** (0.016)	0.081*** (0.018)	0.102*** (0.014)	0.099*** (0.035)	0.065** (0.031)	0.062*** (0.009)	0.003 (0.030)	0.091*** (0.023)	0.034 (0.021)	0.035 (0.025)	0.119 (0.110)
Same Party as Leg. Pres.	-0.223*** (0.022)	-0.283*** (0.037)	-0.415*** (0.065)	-0.259*** (0.045)	-0.672*** (0.136)	-0.594*** (0.115)	-0.136*** (0.035)	-0.007 (0.111)	-0.343*** (0.093)	-0.274*** (0.034)	-0.229*** (0.040)	-0.312* (0.187)
Election Year	-0.086*** (0.018)	0.018 (0.035)	-0.187*** (0.049)	-0.004 (0.028)	-0.135* (0.073)	-0.102 (0.064)	-0.226*** (0.034)	0.193* (0.105)	-0.216** (0.085)	-0.012 (0.039)	0.089** (0.045)	-0.662*** (0.254)
Length of Speech	0.064*** (0.002)	0.121*** (0.002)	0.009* (0.005)	0.063*** (0.003)	0.155*** (0.004)	0.027*** (0.006)	0.054*** (0.003)	0.165*** (0.007)	-0.004 (0.009)	0.077*** (0.002)	0.104*** (0.002)	-0.083*** (0.018)
Speeches during Session	-0.006*** (0.002)	0.024*** (0.006)	-0.024*** (0.006)	0.003 (0.004)	0.039*** (0.009)	0.007 (0.008)	-0.016*** (0.003)	0.002 (0.011)	-0.053*** (0.009)	0.052*** (0.011)	0.078*** (0.013)	0.002 (0.055)
Mean Length of MC Speech	0.113*** (0.004)	0.120*** (0.005)	0.101*** (0.010)	0.154*** (0.006)	0.196*** (0.011)	0.164*** (0.013)	0.086*** (0.006)	0.097*** (0.015)	0.050*** (0.015)	0.100*** (0.007)	0.132*** (0.008)	-0.050 (0.042)
Constant	-2.787*** (0.042)	-5.193*** (0.090)	-4.648*** (0.121)	-3.089*** (0.062)	-5.818*** (0.152)	-5.147*** (0.148)	-1.802*** (0.051)	-5.625*** (0.166)	-3.113*** (0.127)	-2.546*** (0.090)	-3.610*** (0.107)	-3.476*** (0.435)
N	115147	115147	115147	56713	56713	56713	42984	42984	42984	15450	15450	15450
$\theta$	0.411*** (0.008)	1.090*** (0.052)	0.080*** (0.005)	0.263*** (0.008)	0.210*** (0.015)	0.088*** (0.007)	0.319*** (0.010)	0.136*** (0.014)	0.084*** (0.008)	2.358*** (0.190)	3.295*** (0.272)	0.064*** (0.015)

Note: Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. For all models, the dependent variable is whether the speech given by the legislator was interrupted or not. Different speeches delivered by a legislator in the same session are considered as independent observations. Cohort fixed-effects included but not reported.



Thus, the results are reflecting the relation of interruptions to *high-status* women legislators, in accordance to our theory.



**Figure C.1:** Ratio of seats occupied by women to speeches delivered by women in the Ecuadorian Congress, from 1988 to 2018. Darker shade represents 95% confidence interval.

## Appendix D: Rules for Coding Interruptions

We operationalize interruptions as any instance when the President of Congress stops a legislator before she has the opportunity to end her speech. Given the format of sessions in the Ecuadorian Congress, regardless of the source of the interruption (e.g. a legislator speaking out of turn, the legislator's time is close to be over), the President will stop the legislator speaking to restore order or to warn the speaker about some procedural fault. We identify interruptions by extracting all portions of the transcript that follow this pattern: speaker A - President - speaker A. The following speech would be coded as being interrupted:

1. EL ASAMBLEÍSTA PÁEZ BENALCÁZAR ANDRÉS. Les hago reparar sobre estos hechos, sobre todo porque estimo que una disposición, una normativa de esta naturaleza puede llevarnos a un terreno fangoso, puede conducimos a un terreno realmente peligroso porque si es que no...<sup>1</sup>
2. LA SEÑORA PRESIDENTA. Un minuto.<sup>2</sup>
3. EL ASAMBLEÍSTA PÁEZ BENALCÁZAR ANDRÉS. ...se establece una clara distinción de quiénes son trabajadores en función de la actividad que realizan [...].<sup>3</sup>

From a manual inspection of a random sample of speeches interrupted, we find no other instance when this pattern is repeated. When the speaker asks a question directed at the President, these are usually clarifications about an article in a bill or a procedure. When this happens, the President will turn to the Secretary, who will then read the required text. The pattern becomes *speaker A - President - Secretary - speaker A* or *speaker A - President - Secretary - President - speaker A*, and it is not detected by our code. Note that, despite some anecdotic events, legislative sessions in the Ecuador Congress are highly structured and orderly events.

Once interruptions have been identified, we categorize interruptions as procedural interruptions or aggressive interruptions. The President of Congress will interrupt legislators when they

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<sup>1</sup>THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS. *Take note of these facts, especially since I believe that a provision, a regulation of this nature can lead us to a muddy terrain, it can lead us to a really dangerous terrain because if no...*

<sup>2</sup>MADAM PRESIDENT: *One minute [left].*

<sup>3</sup>THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS. *... clear distinction is established to determine who are workers based on the activity they perform [...].*

have few minutes left of their allotted time. Therefore, we search all the interruptions previously identified and look for the following key words in the President’s speech: “one minute”, “two minutes”, “three minutes”, “your time ended”, “your time has concluded”, “ten seconds”, “twenty seconds”, “thirty seconds”, “proceed”, “continue”. We code all of these instances as procedural interruptions. An example of this type of interruption was described above.

Legislators can also be interrupted by other legislators, reprimanded by the President, or heckled by the crowd.<sup>4</sup> We search all the interruptions previously identified and look for the following key words in the President’s speech: “noise”, “barra”, “silence”, “respect”, “security”, “order”, “offensive”, “affect your honor”, “watch your words”, “do not be disrespectful”, “you are being disrespectful”. We code these instances as aggressive interruptions. The rest of interruptions that are not categorized are usually situations in which the President interrupts a legislator to admonish other legislators that are talking. An example of this type of interruption is transcribed below:

1. EL H. BUCARAM ORTIZ. [...] Yo me acuerdo [de] ese Ministro de Bienestar Social, era chico, no tenía ni dónde caerse muerto, por Dios santo, vivía en los bloques del Seguro, no tenía ni zapatos, tenía huecos en los zapatos y no cargaba medias, muy pocas veces cargaba medias, era un ratero de primera...<sup>5</sup>
2. EL SEÑOR PRESIDENTE. Diputado Bucaram, Diputado Bucaram, mida sus palabras Diputado Bucaram, no afecte el honor de ningún legislador diputado...<sup>6</sup>
3. EL H. BUCARAM ORTIZ. Señor Presidente, estoy hablando y estoy denunciándole al país, estoy denunciando, perdone yo no estoy hablando de ninguno de los presentes aquí, no estoy hablando del Honorable Raúl Baca Carbo, no, de él no estoy hablando, estoy hablando, estoy hablando antes de Raúl Baca que hasta ya me olvidé el nombre, era un morenito, te acuerdas este [...].<sup>7</sup>

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<sup>4</sup>Legislative debates in the Ecuadorian Congress are public. Above the main auditorium of the *Asamblea Nacional* there is a gallery where people can observe debates. In the most contentious debates, the gallery will be filled by *barras*, a crowd of supporters or opponents of a bill. Interruptions from the crowd are uncommon but by any means isolated events. As previously noted, we are not arguing here that the institutional channels of dissent are fair or non-discriminatory by construction. In gendered and raced institutions, these channels are often a reflection of deeper more structural problems, from racism to sexism (Hawkesworth 2003).

<sup>5</sup>THE HONORABLE BUCARAM ORTIZ. *I remember [that] Minister of Social Welfare, he was a boy, he had nowhere to fall dead, for God’s sake, he lived in the [Seguro], he had no shoes, he had holes in his shoes and he didn’t carry socks, very few times did he wore stockings, he was a first class thief...*

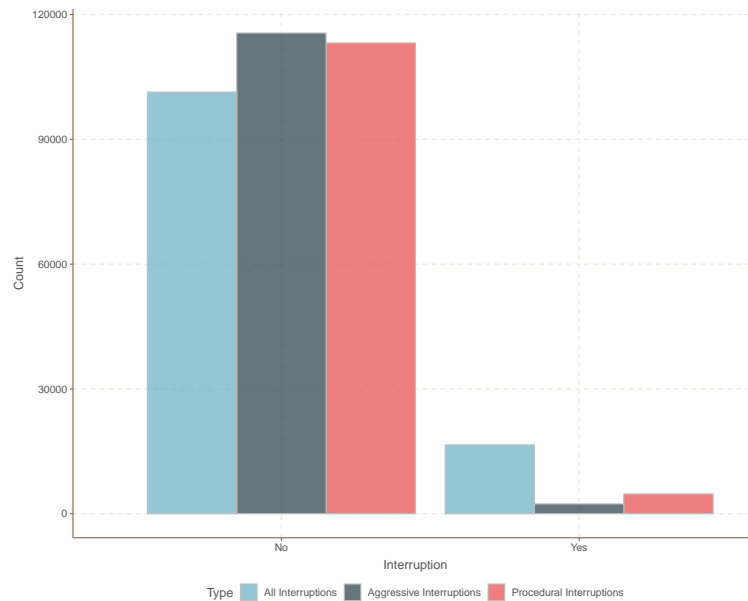
<sup>6</sup>MR. PRESIDENT: *Congressman Bucaram, Congressman Bucaram, watch your words Congressman Bucaram, do not affect the honor of any Congressman...*

<sup>7</sup>THE HONORABLE BUCARAM ORTIZ. *Mr. President, I am speaking and I am denouncing to the country, I am denouncing, sorry I am not talking about any of those present here, I am not talking about the Honorable*

The rest of interruptions that are not categorized are usually situations in which the President interrupts a legislator to admonish other legislators that are talking. We include these uncategorized interruptions in our pooled interruptions variable. An example of an uncategorized interruption is as follows:

1. EL H. LUCERO BOLAÑOS. [...] Nosotros hemos votado por un candidato, pero estamos conscientes de que esto es así, y de que sería...<sup>8</sup>
2. EL SEÑOR PRESIDENTE. Señores diputados del bloque del PRE, les ruego estar en la sesión, de lo contrario abandonarla, porque esta es la opción que tienen. Señor diputado.<sup>9</sup>
3. EL H. LUCERO BOLAÑOS. Sin embargo de esto, señor Presidente, no debemos descartar ningún esfuerzo que pueda hacer en este orden el Congreso Nacional [...].<sup>10</sup>

The distribution of interruptions by category is shown in Figure D.1.



**Figure D.1:** Number of interruptions by interruption category.

*Raúl Baca Carbo, no, I am not talking about him, I am talking, I am talking before Raúl Baca, I even forgot the name, he was a [morenito], you remember this [...].*

<sup>8</sup>THE HONORABLE LUCERO BOLAÑOS. *We have voted for a candidate, but we are aware that this is so, and that it would be...*

<sup>9</sup>MR. PRESIDENT: *Legislators of the PRE block, I beg you to be in the session, otherwise leave it, because this is the option you have. Mr. Legislator.*

<sup>10</sup>THE HONORABLE LUCERO BOLAÑOS. *However, Mr. President, we must not rule out any effort that the National Congress can make in this topic [...].*

## Appendix E: Robustness Check Using Interruptions as Counts

To check the robustness of our interruption variable, we extend the analysis from Table 3 in the main text. The original interruption variable is a count of the number of times the speech of a legislator was interrupted. In the main text, we code interruptions as a binary indicator. In Table E.1 we estimate a negative binomial model using the interruption variables as a count. All the results from the main text are maintained.

**Table E.1:** Determinants of Interruptions: Negative Binomial Models

	Interruptions (pooled)	Procedural Interruptions	Aggressive Interruptions
	Model 1	Model 2	Model 3
Woman	-0.158*** (0.028)	-0.231*** (0.043)	-0.080 (0.081)
Ideological Extremism	0.034*** (0.012)	0.051** (0.023)	-0.053* (0.032)
Committee Chair	-0.131*** (0.025)	-0.348*** (0.046)	-0.202*** (0.072)
Seniority	0.075*** (0.007)	0.042*** (0.016)	0.081*** (0.018)
Same Party as Leg. Pres.	-0.223*** (0.022)	-0.283*** (0.037)	-0.415*** (0.065)
Election Year	-0.086*** (0.018)	0.018 (0.035)	-0.187*** (0.049)
Length of Speech	0.064*** (0.002)	0.121*** (0.002)	0.009* (0.005)
Speeches during Session	-0.006*** (0.002)	0.024*** (0.006)	-0.024*** (0.006)
Mean Length of MC Speech	0.113*** (0.004)	0.120*** (0.005)	0.101*** (0.010)
Constant	-2.787*** (0.042)	-5.193*** (0.090)	-4.649*** (0.121)
N	115147	115147	115147
$\theta$	0.411*** (0.008)	1.090*** (0.052)	0.080*** (0.005)

*Note:* Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. For all models, the dependent variable is a count of the number of times the speech given by the legislator was interrupted. Different speeches delivered by a legislator in the same session are considered as independent observations. Cohort fixed-effects included but not reported.

## Appendix F: “Masculine Traits” Measure

Work by Pennebaker et al. (2003) shows that language encodes gender in subtle ways. To operationalize “masculine linguistic style” and “feminine linguistic style” we follow Jones (2016) and Yu (2014). Research in linguistics shows that, in general and on average, women tend to use pronouns (especially first-person singular pronouns), verbs and auxiliary verbs, social, emotional, cognitive, and tentative words more frequently than men. On the contrary, men tend to use nouns, big words, articles, prepositions, anger, and swear words more frequently than women (Jones 2016, p.630). In the (formal) context of the U.S. Congress, Yu (2014) finds that women tend to use more long words and nouns and fewer pronouns than men.<sup>1</sup> Yu (2014) also finds that female legislators used more possessive first-person pronouns (our and my), while male legislators used more subjective ones (we and I). She argues that these differences are in part explained by the formal context of the setting –i.e. Congress–, and the fact that the language style of legislators will resemble both spoken and written language forms as speeches are often well-prepared and formalized in advance.

To construct our measure, we combine both insights and create two indices and refer to them as “feminine linguistic style” and “masculine linguistic style.” Table F.1 describes the linguistic markers that comprise these contrasting styles.

**Table F.1:** Differences in linguistic style between men and women

<i>Feminine</i>		<i>Masculine</i>	
Linguistic Marker	Examples	Linguistic Marker	Examples
Long words (> 6 letters)	Constitution, citizens	Pronouns	anyone, she, this
Possessive first-person pronoun	our, my	Subjective first-person pronouns	we, I
Third-person pronouns	he, she	Second-person pronouns	you
Social references	children, talking, who	Articles	a, an, the
Emotion words	brave, cried, relief	Anger words	annoyed, disgust
Tentative words	chance, guess, maybe	Swear words	bastard, shit
Cognitive mechanisms	because, believe, know	Adverbs	gently, quite

*Note:* We used the Spanish dictionary from the Linguistic Inquiry and Word Count (LIWC) program (Pennebaker et al. 2001) to obtain the words for each category.

We used the Spanish dictionary from the Linguistic Inquiry and Word Count (LIWC) program (Pennebaker et al. 2001) to obtain the words for each category. LIWC counts the words that fall within each category and reports the percentage of a text that employs each specific category. To estimate our masculine and feminine linguistic indices, we standardize all the

<sup>1</sup>Yu (2014) also found that, consistent with stereotypical feminine language characteristics, female legislators use fewer articles and more emotion words.



measures,<sup>2</sup> add them, and compute the mean (see Table A.1).

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<sup>2</sup>We do this to account for the likelihood of using some words more than others. For example, prepositions are used more often than social references. By standardizing every category we assume that all measures equally contribute to describe “masculine” or “feminine” linguistic traits.

## Appendix G: Estimation for “Masculine” Linguistic Traits Interaction

We estimate the conditional effect of “masculine” linguistics traits and gender on interruptions. The dependent variable is coded 1 if a speech was interrupted and 0 otherwise. The results are presented in Table G.1. As predicted, the interaction term is positive and statistically significant at the 0.05 level. We use the results from Table G.1 to estimate the predicted probabilities from Figure 4 in the main text.

**Table G.1:** Women and Masculine Linguistic Traits

	Interruptions (All)	
	Model G.1.1	Model G.1.2
Woman	−0.240*** (0.030)	−0.222*** (0.030)
Ideological Extremism	0.047*** (0.012)	0.049*** (0.012)
Committee Chair	−0.123*** (0.026)	−0.123*** (0.026)
Seniority	0.083*** (0.007)	0.087*** (0.007)
Same Party as Leg. Pres.	−0.207*** (0.023)	−0.218*** (0.023)
Election Year	−0.067*** (0.019)	−0.077*** (0.019)
Length of Speech	0.043*** (0.002)	0.045*** (0.002)
Speeches during Session	0.001 (0.002)	−0.002 (0.002)
Mean Length of MC Speech	0.132*** (0.004)	0.132*** (0.004)
Masculine Traits (Speech)	0.343*** (0.027)	
Feminine Traits (Speech)		0.126*** (0.024)
Woman x Masculine Traits (Speech)	0.423*** (0.087)	
Woman x Feminine Traits (Speech)		0.066 (0.063)
Constant	−3.029*** (0.046)	−3.006*** (0.045)
N	115147	115147

*Note:* Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. For all models, the dependent variable is whether the speech given by the legislator was interrupted or not. Different speeches delivered by a legislator in the same session are considered as independent observations. Cohort fixed-effects included but not reported.

## Appendix H: Strategic Behavior of High-Status Legislators

We extend the analysis of the strategic behavior of women from Table 6 in the main text by interacting our “woman” variable with our variables operationalizing high-status legislators. The dependent variable is the length of a speech after a one-minute warning. As a robustness check, we also look at those instances where the speaker was interrupted only once, the only interruption being the one-minute warning. Additionally, we estimate the same effect for aggressive interruptions. We are interested in the interaction term. A positive and significant coefficient would suggest that women in positions of authority speak for a longer period of time after being interrupted than women who are not in the same position. The results are presented in Table H.1. While the direction of the interaction term between our “woman” variable and the length of a speech / committee chair after a one-minute warning was as expected (positive), we found no statistically significant results.

**Table H.1:** Strategic Behavior of Women

	Length After One-Minute Warning		Length After Aggressive Inter.	
	Model H.1.1	Model H.1.2 <sup>a</sup>	Model H.1.3	Model H.1.4 <sup>b</sup>
Woman	-0.076** (0.031)	-0.098 (0.068)	-0.279*** (0.095)	-0.275 (0.169)
Ideological Extremism	-0.014 (0.017)	-0.014 (0.017)	0.035 (0.033)	0.036 (0.034)
Committee Chair	0.090** (0.039)	0.102*** (0.034)	0.087 (0.082)	0.113 (0.075)
Seniority	0.021 (0.013)	0.019 (0.014)	0.015 (0.018)	0.013 (0.019)
Same Party as Leg. Pres.	0.097*** (0.025)	0.094*** (0.025)	-0.027 (0.068)	-0.025 (0.068)
Election Year	-0.027 (0.027)	-0.026 (0.027)	-0.013 (0.051)	-0.013 (0.051)
Length of Speech	0.023*** (0.002)	0.023*** (0.002)	0.064*** (0.003)	0.064*** (0.003)
Speeches during Session	-0.003 (0.007)	-0.003 (0.007)	0.002 (0.007)	0.002 (0.007)
Mean Length of MC Speech	0.023*** (0.006)	0.023*** (0.006)	0.074*** (0.009)	0.074*** (0.009)
Woman x Committee Chair	0.045 (0.073)		0.143 (0.196)	
Woman x Seniority		0.020 (0.041)		0.019 (0.087)
Constant	4.539*** (0.370)	4.530*** (0.370)	4.973*** (0.130)	4.969*** (0.129)
N	3110	3110	2262	2262
$\theta$	2.668*** (0.066)	2.668*** (0.066)	0.856*** (0.022)	0.856*** (0.022)

*Note:* Standard errors are reported in parentheses, with confidence levels reported as follows: \*\*\*p < .01; \*\*p < .05; \*p < .1. Negative binomial model that accounts and corrects for over-dispersion. For Models ??1 and ??2, the dependent variable is the length of a speech after a one-minute warning. For Models ??3 and ??4, the dependent variable is the length of a speech after an aggressive interruption. Cohort fixed-effects included but not reported.

<sup>a</sup> The sample is limited to instances where there is only one interruption (i.e. only the one-minute warning).

<sup>b</sup> The sample is limited to instances where there is only one interruption (i.e. only the aggressive interruption).