

Gender, Inc incumbency, and Party List Nominations

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Abstract

We study how political parties' candidate selection strategies influence women's descriptive parliamentary representation. Focusing on proportional elections, we ask what determines whether parties place women candidates in viable list positions. Evaluating party rankings at the individual level, we directly examine a mechanism—party nomination—central to prevailing explanations of empirical patterns in women's representation. Moreover, we jointly evaluate how incumbency and gender affect nomination. We use European Parliament elections to compare a plethora of parties, operating under numerous institutions, in the context of a single legislature. We find that gender differences in candidate selection are largely explained by incumbency bias, although party ideology and female labor force participation help to explain which parties prioritize the placement of novice women candidates.

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Women are descriptively underrepresented in legislatures worldwide, but female representation varies dramatically across parliaments (Interparliamentary Union 2012). A large literature identifies electoral institutions, political party characteristics, and socioeconomic factors that appear to explain this variation (for reviews, see e.g. Reynolds 1999, Norris 2004). This work usually relies on cross national—and cross-parliament—data, or over-time examinations of single countries, and evaluates arguments using aggregate measures of women’s electoral success. While this literature identifies empirical regularities in women’s representation, it has been less successful in establishing the underlying mechanisms. In particular, while many theories about women’s electoral success are grounded in the logic of parties’ candidate nomination strategies, those strategies have not, to our knowledge, been examined directly in a comparative context.

Nowhere have the limitations of analyzing aggregate patterns been more apparent than when attempting to disentangle the mechanisms underlying gender disparities in candidate nomination. Prevailing theory attributes variation in women’s descriptive legislative representation—in particular, the tendency for representation to vary systematically with electoral, party, and socioeconomic characteristics—to gendered candidate recruitment and selection strategies. But it has heretofore been difficult to determine if explicitly gender-driven selection strategies, or variation in favoritism toward seated incumbents, who are historically male, explains levels of female representation. Given the divergent normative implications and policy prescriptions suggested by these potential determinants of women’s (under)representation, distinguishing between these two potential mechanisms is important. Simple gender quotas, for example, may have little impact on women’s descriptive representation if incumbency is the primary obstacle, while term limits are a cure for incumbency advantage, but not explicit gender bias.

Theoretically, we argue that both mechanisms can explain the aggregate empirical record, and highlight the potential for these two mechanisms to operate both independently and in concert. Empirically, we use disaggregated candidate-level data to conduct a critical test of

competing explanations for established gender patterns in candidate selection. As such, our paper represents a significant contribution to the gender representation literature, cutting to the core of the questions of when, where, and why women are underrepresented in legislatures and the reason female representation levels tend to grow slowly over time. Our project represents the first study to comparatively and quantitatively assess the simultaneous—and potentially interactive—effects of incumbency and gender bias on parties’ candidate nomination decisions.

We use an extensive data set of biographies of candidates in the 2009 elections to the European Parliament (EP) and build explicit structural models of how party leaders construct lists. EP elections display a staggering variety of party organizations and domestic political contexts; therefore our analysis leverages a unique opportunity to examine parties’ candidate nomination strategies with respect to women and incumbents comparatively, while holding the target legislature constant. Despite substantial turnover in the EP, our results highlight the crucial role incumbency plays in parties’ candidate nomination strategies (Schwindt-Bayer 2005) and suggest that, given the historical over-representation of men amongst incumbents, a number of findings in the literature may be best explained by preference for incumbents, rather than explicit gender bias, by party leaderships.

Incumbency overwhelmingly explains list ranks in our data. Furthermore, party and country characteristics that are known to predict women’s representation modulate incumbency bias. To the extent that these factors drive descriptive representation, we find that they act primarily through the mechanism of incumbency advantage, even in party-centered elections. Yet, while strong incumbency bias may prevent rapid change in the gender makeup of parliaments, we also find suggestive evidence that left-leaning parties and parties in countries with high female labor force participation value female novices more than their male counterparts, implying differences across parties in the pipeline through which female candidates enter legislatures. Together, these finding suggest mechanisms that may explain cross-national, and cross-party, variation in women’s descriptive representation. Importantly, these

findings do not imply that women are equally represented in the EP. Inc incumbency advantage has discriminatory consequences, and understanding how women are obstructed from public office is crucial to improving balance in descriptive representation.

1 Competing Theories of Gender Disparities in Nominations

The purpose of our study is to pin down the mechanisms that determine women's representation in PR systems: gender-driven selection strategy, incumbency advantage, or a combination of the two. Theoretically, it is valuable to describe and trace the empirical implications of the potential mechanisms that link party and country characteristics to gender disparities in legislative representation. Many studies emphasize how (male) incumbency restricts women's opportunities to run for, and obtain, office (Studlar & McAllister 1991, Darcy, Welch & Clark 1994, Matland & Studlar 2004, Schwindt-Bayer 2005). Current male overrepresentation is potentially attributable to historical patterns because incumbents enjoy significant advantages in nomination and electoral contests. Since virtually all incumbents were male, women struggled to break into the electoral picture. Even today, gender imbalances in parliaments mean that women candidates are often challengers, rather than incumbents. But it is perhaps less well-recognized, or at least under-emphasized, that electoral features, party characteristics, and even socioeconomic factors may modulate gender representation specifically by altering how parties weigh incumbency when nominating candidates.

Empirically, we know that electoral institutions, party characteristics, and socioeconomic factors covary with women's descriptive representation, on aggregate (Reynolds 1999, Norris 2004). But do these variables directly interact with gender to change the calculus of party selectors', or do they change the relative value of incumbents, indirectly affecting women's representation? More broadly, are these aggregate correlations reflective of individual candidate selection decisions? The few studies that examine both incumbency and gender in

list systems use aggregate data on (re)nomination (e.g Schwindt-Bayer 2005), rather than candidate-level observations, potentially introducing problems of ecological inference, and providing no way to trace the mechanisms underlying variation in women's representation.

Fundamentally, one cannot measure gender biases in candidate selection without accounting for incumbency. Incumbents possess resources that make them strong campaigners and legislators, including increased name recognition, policy expertise, legislative leadership experience, and potent legislative networks. Naturally, we therefore expect incumbency to correlate with strong list placement for both men and women. While incumbency advantage is relatively under-emphasized in the study of PR elections, it makes sense that parties would, on average, prefer to return experienced legislators to parliament whenever possible. The empirical evidence bears this out: in the 2009 EP election, our list data indicates that 38% percent of viable candidates were incumbents compared to 2% of non-viable candidates.¹

Given the value that parties place on incumbents, the regularities identified in the literature on women's representation are plausibly explained by incumbency advantage alone. Party leaders may be engaging in gender-discriminatory candidate selection without explicitly taking gender into account. Instead, by favoring incumbents, they continue to propagate historical gender bias into the system over time. If incumbency, rather than gender bias, is generating continued inequalities, we expect to see female incumbents favored just as heavily as male incumbents by party leaders; yet there should be no pattern of preference for men or women among incumbents, or novices. Note, crucially, that many of the known predictors of women's representation are likely to modulate parties' incentives to prioritize incumbents. For example, party leaders are likely to prize incumbents more as the number of seats drops because legislators' name recognition decreases with district magnitude (Samuels 2001), and incumbents' should therefore enjoy greater marginal advantages over novices at both the nomination and election stages in lower-magnitude systems.² Women

¹The supplemental appendix explains how we define candidate viability.

²Similarly, Matland & Studlar (2004) find that countries that use PR exhibit substantially higher legislative turnover than states with majoritarian electoral systems.

may experience higher levels of representation in high district magnitude systems simply because incumbency advantage—which has traditionally favored men—is weaker under such circumstances.

On the other hand, party leaders may explicitly weigh both gender and incumbency when developing nomination strategies. This relationship could be complementary or interactive. Again, consider district magnitude. Theory maintains that parties prefer incumbents, and men, in low magnitude districts for roughly the same reason. Specifically, selecting well-known (incumbents) or conventional (male) candidates reduces electoral risk. If both mechanisms are operating in a complementary fashion, then parties will favor incumbents more than novices and will prefer male incumbents to female incumbents, and male novices to female novices, in a roughly proportional fashion. But an interactive story is also plausible. For example, given that women incumbents have already proven their electoral worth, leaders might restrict their gender-specific decisions to novice candidates. So, following the standard story, parties might be reluctant to field women novices in small magnitude districts because they perceive them to be risky. Less conventionally, parties that consider gender parity an important part of their electoral platforms might actually favor rookie women while simultaneously guarding the positions of incumbents, regardless of gender. Under such circumstances, one would find no gender disparity among incumbents but gender would predict rookie selection decisions.

Our disaggregated approach allows us to explore how district magnitude, party organization, and other identified determinants of gendered candidate selection affect party leaders' rankings of incumbents and novices. Therefore, we can explicitly examine incumbency's role in gender bias in candidate selection and disentangle those well-known aggregate patterns in women's representation that stem purely from incumbency effects from those that potentially have an independent influence on female candidate nomination.

2 Determinants of Gender Disparity in Legislatures

The literature on female representation highlights a robust set of predictors of aggregate gender disparity in legislatures, which we categorize into three broad areas: electoral institutions, party ideology and organization, and socioeconomic factors. Many of these predictors plausibly operate through selector bias, incumbency prioritization, or both mechanisms.

2.1 Electoral Institutions

Researchers have extensively investigated relationships between electoral institutions and women's representation (see e.g. Thames & Williams 2010). Perhaps most notably, proportional representation (PR) systems featuring high district magnitudes seem to support female representation more effectively than systems that use single, or low, district magnitudes (see e.g. Rule 1981, Norris 1985, Norris 1987, Rule 1987, Welch & Studlar 1990, Matland & Studlar 1996, Matland 1998, Rosenbluth, Salmond & Thies 2006, Salmond 2006). Even focusing solely on PR systems, a strong relationship between district magnitude and the nomination and election of women candidates exists (Rule 1987). While multiple mechanisms may underpin this relationship, an oft-cited logic posits that high district magnitudes reduce the risk that parties perceive to be inherent in nominating women candidates instead of men, because parties can better balance their candidate portfolios in high district magnitude systems. Thus, existing theory leads us to expect that party leaders crafting lists in large multi-member districts will strategically prioritize women on their lists more than parties in lower magnitude regions.

Another strand of the institutional literature explores the role that explicit country-level gender quotas play in representation. These quotas require parties to nominate a given percentage of women. Not surprisingly, researchers have found that quotas encourage parties to select women candidates, although this nomination increase does not always smoothly translate into increased representation in office (Caul 2001, Kittilson 2006, Krook 2009, Krook,

Lovenduski & Squires 2009, Schwindt-Bayer 2009). Country-level quotas may generate binding, exogenous, pressure on parties to improve female nomination rates. Yet quotas will only improve women's representation if parties add female candidates to viable positions on their lists, something that is rarely required by law.³ We thus include country-level quotas in our analysis in order to examine their effects on gender bias and incumbency.

2.2 Party Organization and Ideology

Other authors maintain that party organization and ideology affect candidate nomination patterns, and, by extension, women's representation in parliament. Norris (1993), Caul (2001), and Matland & Studlar (1996) argue that the degree of centralization of candidate nomination procedures affects parties' propensity to nominate women while Hinojosa (2012) finds that centralized nominators with more exclusive party institutions sidestep related problems of gendered levels of self-nomination. More centralized nomination procedures facilitate female nominations because party leadership can be held directly accountable for a disproportionately male list, and, furthermore, the center also wields the power to enforce balance. Meanwhile, the gender of party officials may also affect nomination decisions (Kunovich & Paxton 2012, Caul 2001); women leadership should encourage the recruitment and nomination of women candidates.

In addition, party ideology is often cited as another factor influencing candidate nominations. Broadly speaking, left parties favor the nomination and election of female candidates (Burrell 1992, Kittilson 2006). Left parties often represent women better (Griffin, Newman & Wolbrecht 2012), depend on female constituencies, and “make more strenuous efforts to overcome social barriers and to promote female candidates” (Studlar & McAllister 1991, 481). Thus, left parties are thought to be systematically more inclined to nominate women

³It is important to note that, while parties also implement internal gender quotas, it would be inappropriate to include them in a study of the factors that encourage parties to nominate women for office. Including party-level quotas as a determinant of gender-specific candidate selection would amount to placing the dependent variable on both sides of the equation; we would simply be explaining party strategy with party strategy; thus we restrict both our theoretical and empirical focus to nationally mandated quotas.

than are right parties. Finally, because we are studying EP elections, we examine the relationship between parties' attitudes towards Europe and their nomination behavior. Parties that support European institutions may value incumbents more than parties that do not. Thus, attitudes towards Europe are an important control variable in our analysis.

2.3 Socioeconomics

Country level socioeconomic conditions may affect the propensity of parties to nominate women. Many authors identify labor force participation as a key indicator of representation in politics (Norris & Lovenduski 1993, Matland 1998, Iversen & Rosenbluth 2008, Iversen & Rosenbluth 2010, Kunovich & Paxton 2012). As a result, we anticipate a positive relationship between female labor force participation and strong list placement for women candidates. Similarly, the extent to which women hold elite positions within government and industry may determine parties' preferences for female candidates. We hypothesize that voters in countries where women have proven records as top-level professionals—as managers in private firms and public bureaucracies, and nationally elected office-holders—are likely to exhibit limited bias against women candidates.

3 Data

To evaluate the role that candidate nomination plays in shaping women's representation, we focus on elections to the European Parliament (EP). Since 2002, all member states have elected candidates according to some form of proportional representation system. Thus, our examination focuses on how parties nominate women candidates to PR lists.⁴ While this approach limits the generality of our findings, it allows us to focus on situations in which parties have significant control over the allocation of viable electoral spots.

The sample includes 3085 candidates from 73 national parties in 12 countries: Bulgaria,

⁴We discuss specific coding decisions, perform a number of robustness checks, and provide additional details about sampling and our biographies data in the supplemental appendix, in section A.2.

Czech Republic, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Romania, Spain and the United Kingdom.⁵ Our dependent variable—candidate type, in terms of gender and incumbency—is drawn from an original dataset of EP candidate biographies for the 2009 election. Incumbents represent individuals seated in the European Parliament at the end of the previous EP term. While EP incumbents comprise 12% of candidates in our sample overall, when considering candidates in positions likely to win a seat this figure jumps to 38%.

Meanwhile, European candidates displayed an uneven split between males and females, favoring men. 41% of candidates were female and this imbalance was exacerbated among candidates likely to win EP seats, where only 36% of candidates were women. In the supporting material, table 1 displays gender tallies across the countries in the sample; women range from around 20 to nearly 50 per cent of candidates within each set of country lists.

We supplemented our biographical data with party and candidate level information from a variety of sources. We made extensive use of the PIREDEU group's 2009 European election study (EES 2010), drawing our measure of support for European institutions from PIREDEU's EP election manifesto study, operationalizing EU attitudes in terms of the proportion of sentence fragments in the party's manifesto that the PIREDEU coders classified as pro-integration minus the proportion of sentence fragments that they coded as integration-sceptic.⁶ We operationalize our right-left ideological position measure in an analogous way. We used a narrow operationalization of female leadership, coding whether or not each party head was a woman at the time of the 2009 election.⁷ We obtained country-level data on female party leader percentages from the European Commission' database on women and men

⁵We collected country level aggregate descriptive statistics for our independent variables for both in-sample EU and out-of-sample EU countries and present these statistics in tables 2 and 3, and further discussion of sampling, in the supplemental appendix. In short, our sample appears representative.

⁶This is the pro_anti_EU variable in the PIREDEU dataset.

⁷We gathered this information primarily from Roberto Ortiz de Zarate's online database of world political leaders (<http://zarate.eu/countries.htm>), supplementing with news sources where necessary. We coded leadership based on presidential gender for parties with both a president and chair and coded parties with multi-headed presidencies as female-led if any member of the presidency was a woman.

in decision-making.⁸ We used PIREDEU’s candidate survey to measure intraparty candidate selection mechanisms. Specifically, we coded parties in terms of the average response of their candidates—on a scale from one to five—to the question: “In your party, how important are [National party officials] in the selection of candidates for the European Parliament?” We coded district magnitude directly from the EP’s electoral returns and collected gender quota information from several sources.⁹ Finally, we obtained female labor force participation rates and elite gender proportions (legislators, senior officials, and managers) from the World Development Indicators.¹⁰

4 Modeling List Construction

We model the list construction process explicitly, using a statistical model introduced by (citation removed) to examine how parties with varying characteristics, and operating in different contexts, weigh gender and incumbency when building their electoral lists. This statistical ranking model, which we describe in detail in the supplemental appendix, produces coefficient estimates that one can interpret like those from multinomial logit. In particular, we use the model to ask who is near the top of the list, and why, given the menu of candidates on the entire list. Because it is essentially impossible to observe the universe of potential candidates that parties have available to them, we analyze how parties select and rank candidates who have a reasonable chance of election—those candidates we define as “viable” in section 3—treating all listed candidates as potentially selectable. Thus, we assume that the universe of possible nominees to high list positions is captured by each party’s full list. We assume that parties makes choices iteratively, and that they consider only the pool of available candidates—those not yet allocated to a list position—at each stage in the selection

⁸See http://ec.europa.eu/justice/gender-equality/gender-decision-making/database/index_en.htm.

⁹See Dahlerup & Freidenvall (2011, 20) and <http://www.quotaproject.org/>. They indicate that, in our sample, France, Italy, and Spain used countrywide quotas. Unfortunately our sample does not include any cases of strong quotas dictating balanced placement of candidates, an issue we return to in the results.

¹⁰See <http://data.worldbank.org/data-catalog/world-development-indicators>.

process. We assume choices are identically and independently distributed, in the sense that a set of non-varying parameters identically describes the choices at each step, conditional on the remaining list options. Finally, we treat list construction as a decision-theoretic problem, and leave game theoretic questions to future work.¹¹

This approach has limitations because the total pool of candidates is not measurable and could exhibit non-random selection, it does not explicitly model potential list-balancing strategies, and because it ignores inter-party contributions to selection strategies.¹² Nonetheless, while these are important issues requiring future research, we argue that this technique represents a substantial improvement over the standard approach of examining the aggregate characteristics of parties' elected representatives. In particular, by examining how parties rank candidates, given the choices available to them, we can directly examine their list construction priorities and incorporate the characteristics—gender *and* incumbency—of individual candidates into our analysis. Crucially, our model leverages individual-level data, side-stepping concerns about ecological validity, and focuses specifically on candidate ranking, a key mechanism that theoretically underpins gendered explanations of disparities in descriptive representation in list systems.

5 Results

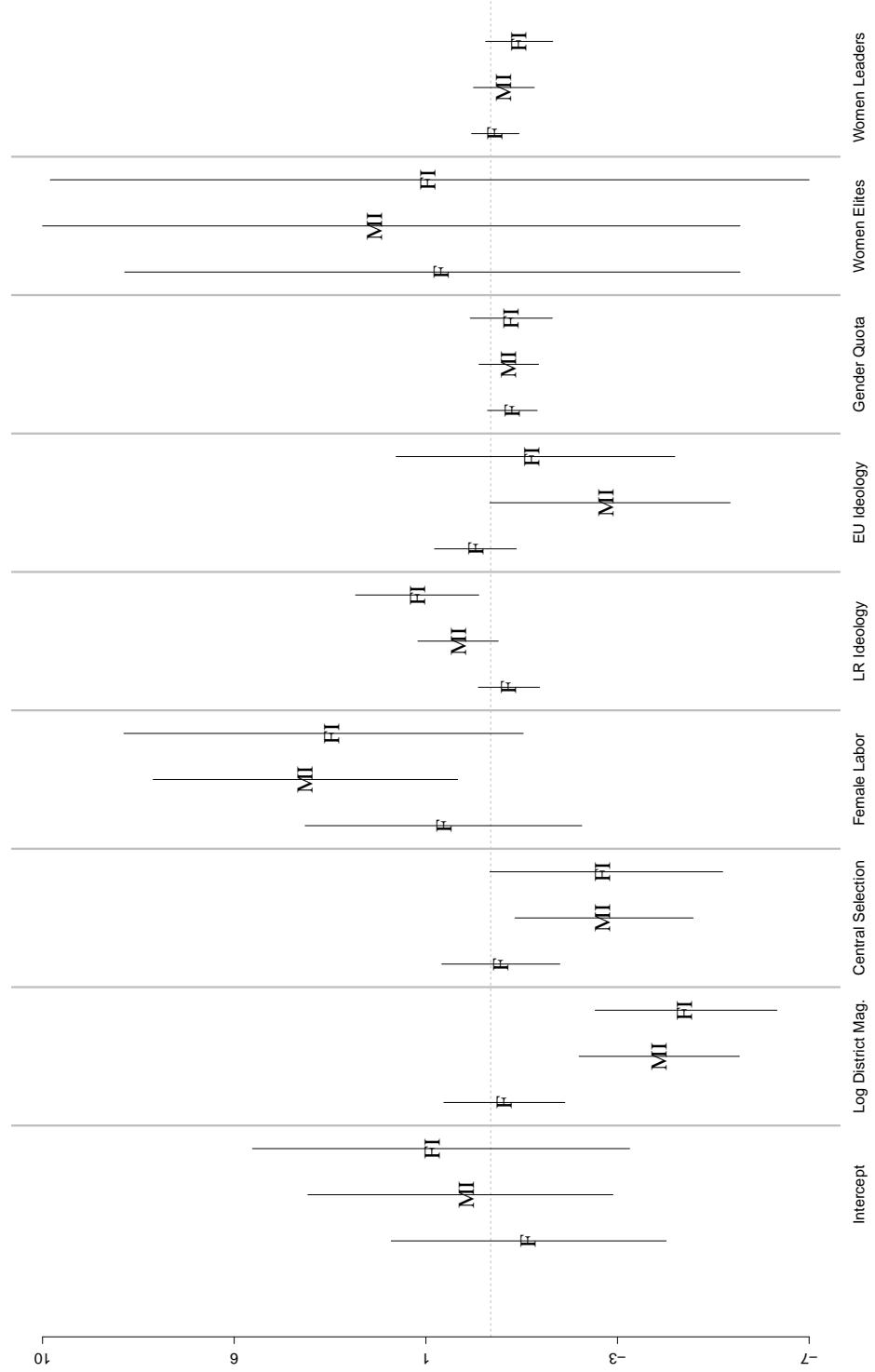
The model generates a set of coefficient estimates for each of the four groups of candidates. Figure 1, which is analogous to a multinomial logit regression plot, displays the model coefficient estimates graphically, treating male non-incumbents as the reference category.¹³

¹¹For example, are parties more likely to nominate women to viable positions if they believe their party rivals are doing so?

¹²We discuss these issues in more detail in the supplemental appendix.

¹³We standardized continuous independent variables to fall roughly between -1 and 1 before fitting the model. This adjustment helps ensure convergence, and we use predicted probability plots to facilitate substantive interpretation. We dropped a number of parties from our analysis because of missing independent variable data at the party level. The analysis dataset contains information on 55 parties and 2607 candidates. The model generates correct within-sample predictions of the gender and incumbency status of 63 per cent of the viable candidates in the dataset. This compares to a random-guessing model accuracy of 41 per cent. Note that the random guessing baseline is not 25 per cent because all four types are not available to every

Figure 1: Regression Coefficients



We mark coefficients corresponding to the effects for non-incumbent women, incumbent males, and incumbent females with **F**, **MI**, and **FI**, respectively, accompanied by 95 per cent credible intervals. These coefficients represent the marginal relative tendency for parties to choose members of one candidate group over another, given an idealized choice between representatives of each type. To help readers visualize all potential contrasts, figures 7, 8, and 9, in the supporting information, replicate figure 1 for each potential reference category.

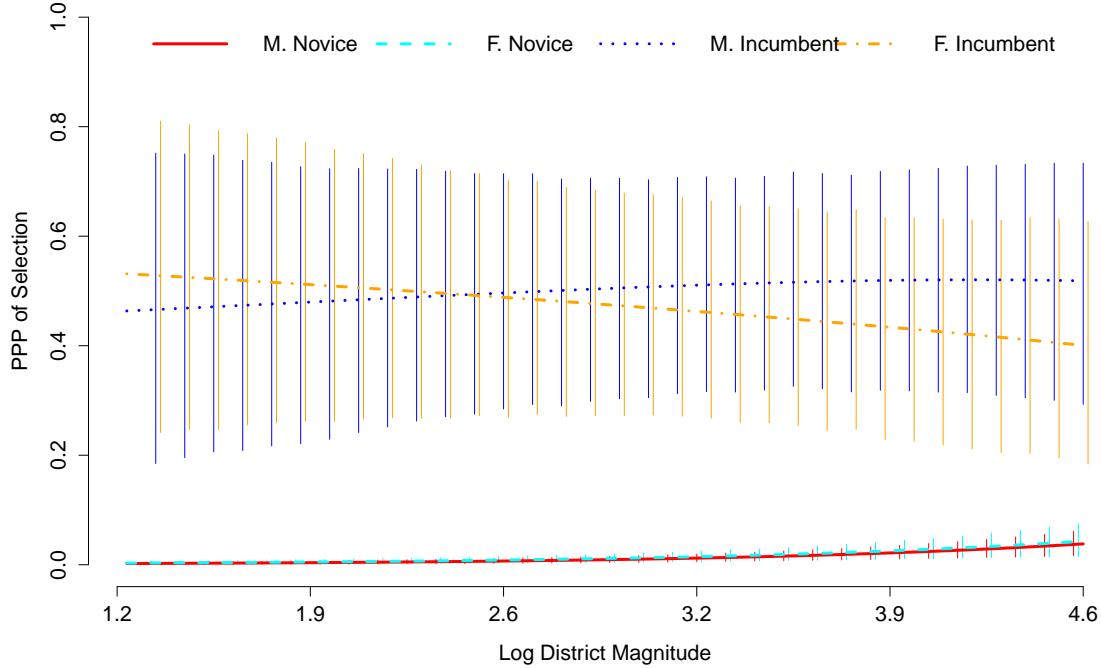
Figure 1 highlights the central role that incumbency plays in parties' nomination decisions and provides results consistent with the idea that variations in how parties value incumbents, rather than direct gender bias, may help to explain many of the established results in the literature on women's electoral representation. Consider, first, the well-known relationship between district magnitude and women's descriptive representation in parliaments. One can see that parties value incumbents less as district magnitude increases, but that, given incumbency status, there is little difference in how parties prioritize male and female candidates. Our results show that parties become less likely to nominate incumbents—both male and female—to top list positions as district magnitude grows. In the modern EP, at least, the aggregate relationship between district magnitude and legislator gender operates through incumbency bias.

As figure 2 makes plain, incumbency bias is also exceptionally strong. This result is striking because the EP has high turnover, and low saliency, compared to national elections. Figure 2 plots posterior predicted probabilities (PPPs) of selecting a particular type of candidate—surrounded by 95 per cent highest posterior density regions (HPDs)—from a typical party,¹⁴ that faces a choice between all four types of candidates. The predicted probabilities of selecting male and female (non)incumbents are statistically indistinguishable, regardless of district magnitude. But district magnitude does modulate incumbency bias. Parties operating in the highest magnitude districts in our sample have just over an 8.9 per

party at every ranking decision.

¹⁴We hold non-varying independent variables at their average—for binary variables, modal—values in all posterior predicted probability plots.

Figure 2: Four-Way Predicted Choice Probabilities: District Magnitude

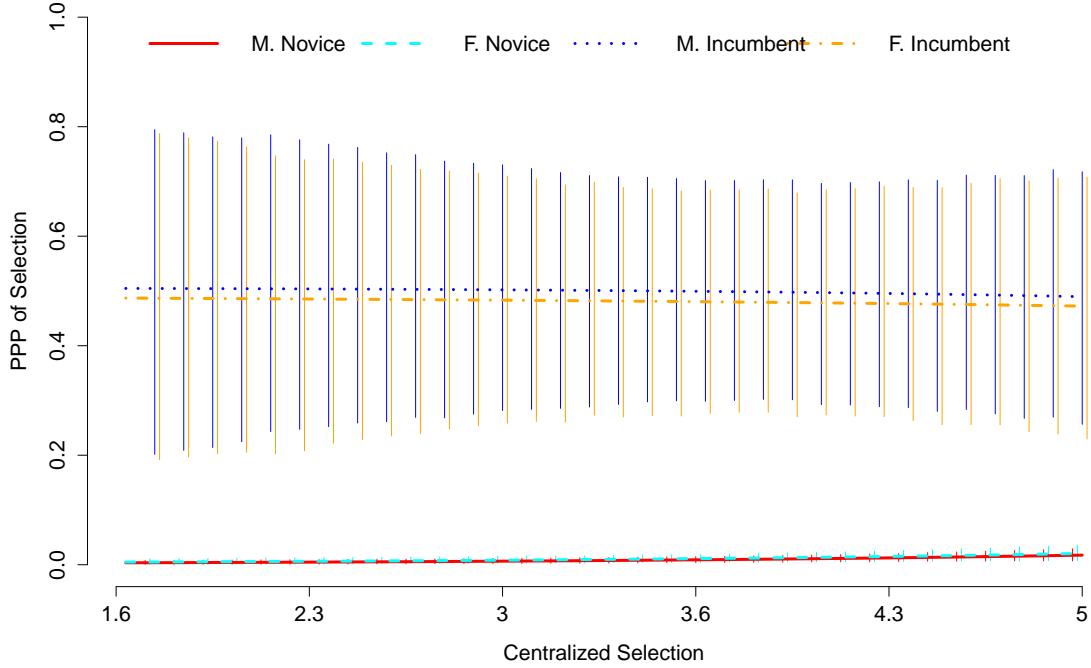


cent cumulative chance (95 per cent HPD interval = (4.3, 14.1)) of prioritizing a novice—male or female—over an incumbent. In the lowest district magnitude in our sample, the corresponding predicted cumulative probability is just 0.6 per cent (HPD = (0.1, 1.3)).

Next, while one might argue that centralized selection structures could help women candidates directly by allowing party leaderships to implement party-wide list-balancing policies, our model finds little support for such a relationship. Rather, as is the case for district magnitude, figure 1 shows that increased centralization of the nomination process is associated with a reduction in bias towards incumbents, although, as figure 3 illustrates, this statistically significant marginal effect is, again, substantively small. One possible explanation for this pattern is that incumbents may hold more sway over local selectorates, especially when nominators hail from the same regions as those incumbents.

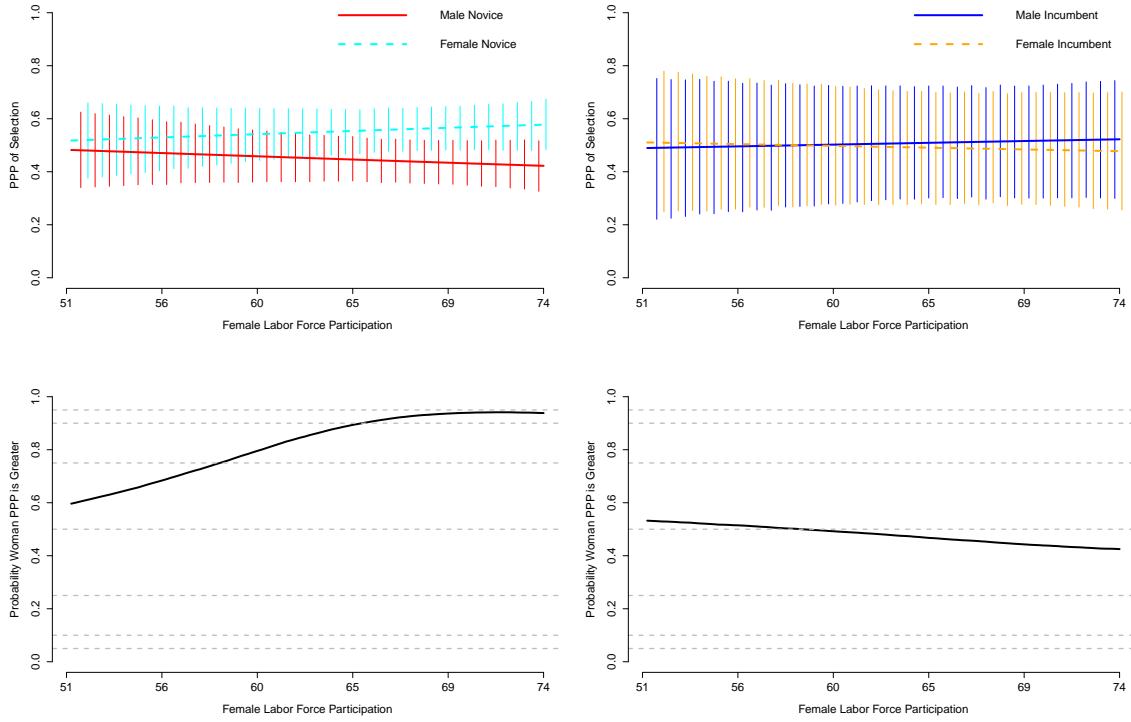
Next, figure 1 shows that parties prioritize male incumbents over male novices more in countries with high female labor force participation, but this distinction is less clear for

Figure 3: Four-Way Predicted Choice Probabilities: Selection Centralization



women. Figure 4 unpacks these relationships. The upper two panels of the figure plot the predicted posterior probabilities that an average party would choose a male over a female candidate, as a function women's labor force participation. The left-hand side considers a choice between two novice candidates while the right-hand panels depict a decision between two incumbents. The bottom two panels show the posterior probability that the predicted probability of choosing a woman is higher than choosing a man; they plot the probability that the dashed line is greater than the solid line—taking estimation uncertainty into account—in the panels that they sit below. The dashed grey lines in the bottom panels mark 0.05, 0.1, 0.25, 0.5, 0.75, 0.9, and 0.95 probability levels. Here we see some evidence that female labor force participation predicts how parties rank candidates, based on gender, but incumbency modulates this relationship. In particular, in countries where many women work, we can be quite confident that, among novices, average parties tend to pick women over men. The same

Figure 4: Two-Way Predicted Choice Probabilities: Female Labor Force Participation



cannot be said for average parties in countries where relatively fewer women work.¹⁵ Thus, on average, while incumbency bias is high everywhere, parties in countries where many women work excel at placing women novices in viable positions, which may reflect the influence of public attitudes on party leader calculations. Over time, this variance in appetite for women novices could help to explain long-term trends in descriptive representation. Figure 4 also shows quite clearly that, in our data, there is virtually no relationship between female labor force participation and parties' gender preferences among incumbents. These findings square nicely with standard arguments for why descriptive representation for women is higher in countries with high female labor force participation, while highlighting that incumbency status modulates parties' gender-based selection strategies.

¹⁵Figure 1 shows that the marginal effect of female labor force participation among novices is not statistically significant. And, while the model is non-linear, it approaches local linearity here; thus the there is only around a 0.75 probability that the slope of the dashed line is greater than the slope of the solid line in the upper left panel in figure 4.

Figure 5: Two-Way Predicted Choice Probabilities: Left-Right Ideology

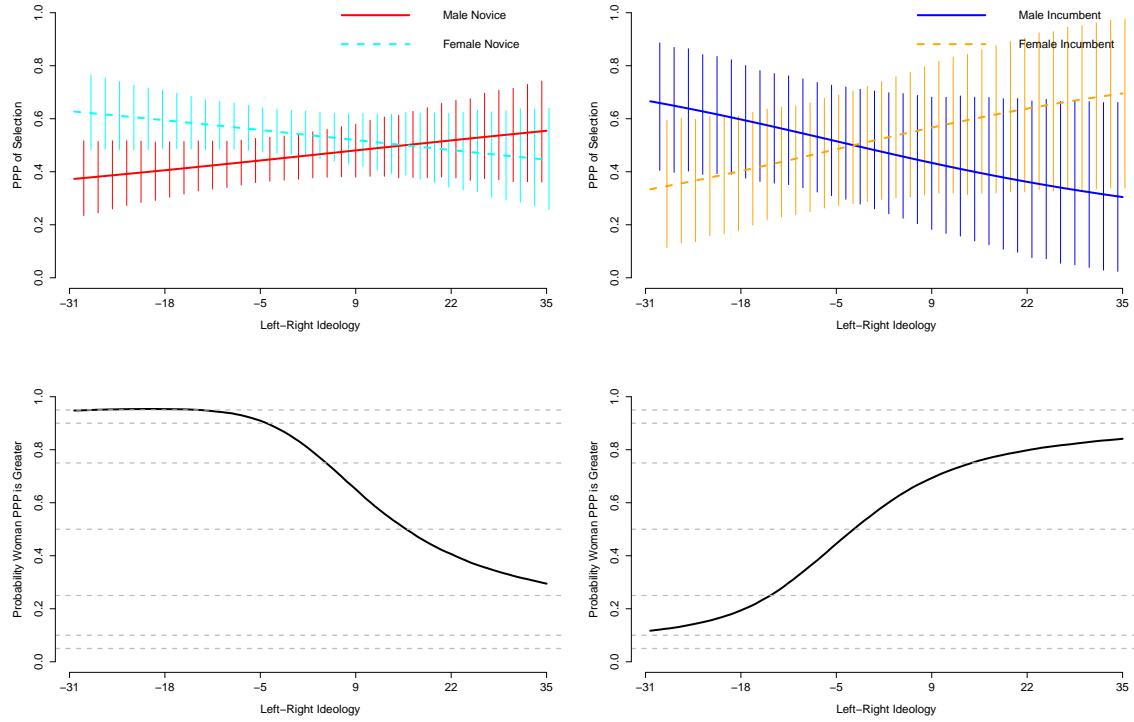
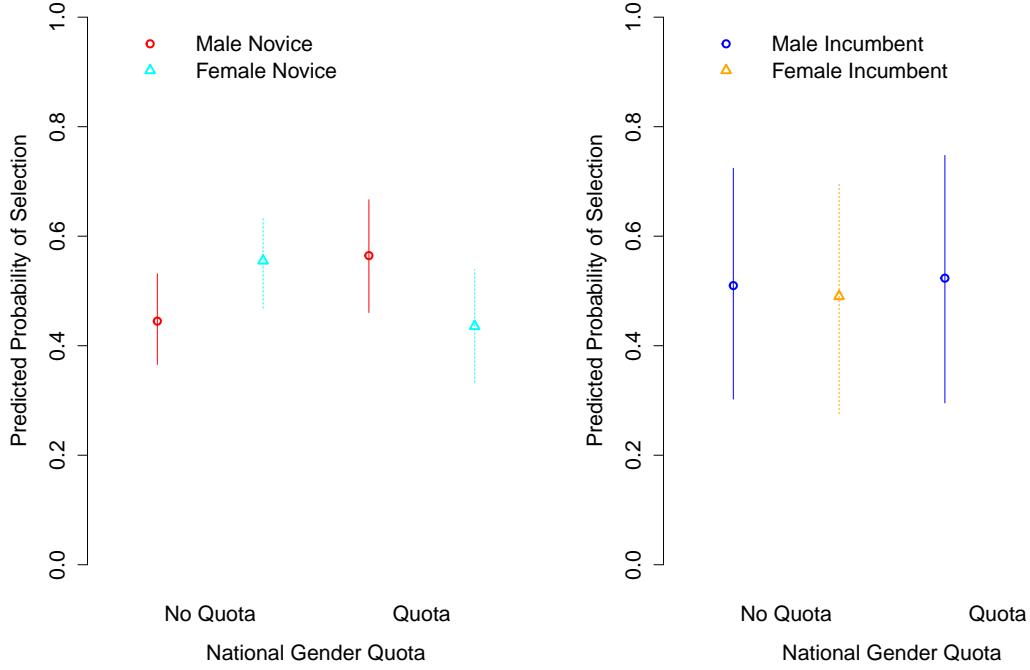


Figure 1 also provides evidence that right parties exhibit more incumbency bias than do parties on the left. But breaking these results down by incumbency status reveals some interesting patterns. First, the posterior probability that the \mathbf{F} coefficient for left-right ideology in figure 1 is less than zero is about 88 per cent, a finding that is nominally consistent with the argument that left-wing parties do a better job of recruiting novice women to viable list spots than do right-wing parties. The left panels in figure 5 depict this relationship graphically: for an average case, the probability that a party chooses a woman over a man ranges from just over 0.6 on the far left, to around 0.4 on the far right. Furthermore, on the left side of the scale, there is around a 95 per cent probability that the posterior probability of choosing a woman is actually higher than the probability of choosing a man, and this likelihood decreases substantially on the right side of the ideological scale. For incumbents, this relationship is reversed, although the model predictions reflect substantial estimation uncertainty. Nonetheless, the posterior predicted probability of choosing a female instead of

Figure 6: Two-Way Predicted Choice Probabilities: Gender Quotas



a male incumbent ranges from around 0.35 on the far left to 0.7 on the far right. Thus, we find suggestive evidence that right-wing parties value their incumbent women—relative to incumbent men—more than parties on the left.

The relationship between gender quotas and candidate choice is somewhat counter-intuitive. The posterior probability that the coefficient for female novices in figure 1 is less than zero is 0.96, indicating that, among novices, women receive relatively worse placements in countries with quotas. Figure 6 shows that parties in countries with quotas are about 11 per cent less likely to prioritize a woman over a man, in a choice between novices, than parties in countries with quotas. The quotas in our sample generally require parties to place a certain percentage of female candidates on their lists. Unfortunately, we have reasonably strong evidence that parties in these countries do not respond by placing additional women candidates in viable list positions—if they did, our models would find gendered differences in nominations between these quota/non-quota countries. Rather, they may be padding their

lists with women candidates who have little chance of election. Note, crucially, that we find evidence for such behavior even after controlling for other party and country characteristics that should help predict party leaderships' attitudes towards women candidates. We must temper this conclusion, however, by noting that our sample included no cases of strong quotas that dictate balanced list placement.

Finally, we find little evidence that female penetration of elite government or management positions or the proportion of women in party leadership positions affect gendered nomination strategies in the EP.¹⁶

6 Conclusion

While an extensive literature has examined how electoral, party-level, and socioeconomic factors help to determine women's descriptive representation in parliaments, the majority of the cross-national empirical work on this topic has examined the proportion of national legislators that are women, rather than the nomination strategies of individual parties. Yet the theories that we commonly rely on to explain well-known empirical patterns tend to be firmly grounded in how parties nominate candidates for office. In this work, we have re-examined a number of hypothesized determinants of women's representation that researchers believe operate through mechanisms based on party nomination strategy, directly modeling how parties rank candidates on lists for European Parliament elections. Just as others have shown that there is little evidence for electoral bias against women candidates after controlling for incumbency (Studlar & McAllister 1991, Darcy, Welch & Clark 1994, Black & Erickson 2003), we find that parties' nomination strategies appear to place substantially more emphasis on candidates' incumbency statuses than on their genders. Across genders, incumbents dominate in their ability to secure list positions, and gender imbalance may be maintained in the system through historical trends favoring male incumbency. Moreover,

¹⁶We describe the relationship between party positions on European integration and candidate selection in the supplemental appendix.

among incumbents, we find minimal evidence that parties treat women candidates differently from men.¹⁷ Therefore, how parties prioritize the nomination of incumbents in PR systems may go a long way towards explaining the relative lack of success of female candidates in varying electoral, party-level, and socioeconomic contexts.

The substantial incumbency advantage in PR systems means that a key factor in ensuring a long term expansion in women's representation is the relative rate at which parties nominate novices to viable list positions. We find that, while oft-cited determinants of women's descriptive representation in parliaments are largely unrelated to parties' gender biases in nomination, district magnitude and the centrality of candidate selection do predict relative bias for incumbents. Indeed, even party ideology appears to be systematically related to incumbency bias. These determinants of variation in preference for incumbents could explain much of the over-time variation in the growth of women's representation around the world. Some parties have strategic incentives that lead to higher candidate turnover than others; thus women have entered politics more quickly where parties have been willing to provide novices with viable candidacies. While our strongest results point towards incumbency bias as the main driver of variation in descriptive representation across genders, we do find some suggestive evidence that certain types of parties do play favorites between men and women when faced with a choice between novices.

Clearly, our study is cross-sectional and cannot speak directly to temporal trends. Moreover, European parties may have once sported gender biases when nominating candidates that have attenuated over time. But, by directly probing the mechanism underlying well-established explanations for empirical regularities in women's descriptive representation, our work provides a strong justification for developing a research agenda that teases out the distinctions between party leaderships' incumbency and gender biases over space and time. Current results, based on representation rather than nomination behavior, simply cannot differentiate between these two mechanisms. Nor can aggregate patterns cleanly speak to

¹⁷We do find suggestive evidence that party ideology affects preference for incumbents, but not in the way that one would expect. If anything, right wing parties value women incumbents more than left-wing parties.

individual nomination decisions. Furthermore, the policies that we should adopt to reduce disparities in descriptive representation depend on which mechanism best explains patterns in the data. In particular, strategies designed to reduce gender bias among party selectors are unlikely to bear fruit if differences in representation are driven largely by preference for incumbents. Similarly, percentage-based gender quotas are unlikely to put women in office, even in the absence of actual gender bias amongst selectors, in contexts where incumbents are particularly valuable. On the other hand, while term limits would go a long way towards altering gender disparities in legislatures if incumbency-bias is the primary culprit, the same would not be true if, contra our results, gender-specific considerations dominated parties' nomination procedures. And only certain policies, like mandated list zippering, would be effective regardless of mechanism.

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A Supporting Information

A.1 Full Model Description

There is a set $I = \{1, 2, \dots, n\}$ of potential nominees across all parties, with each potential nominee indexed by $i \in I$. For simplicity, we assume that parties make selections in list order—that they choose the candidate heading the party list first, and so on. Furthermore, we assume that a function, $f(\Theta_t^p, \Psi_t^p, \mathbf{x}_p, i) = \Pr(i_{pt} = i)$, probabilistically determines party p 's choice of the candidate at list position t , where $\Theta_t^p \subset I$ is the set of candidates on party list p after choice $t - 1$, $\Psi_t^p \subset I$ is the set of party p 's potential candidates at choice t , \mathbf{x}_p is a vector of covariates describing party p , and $i_{pt} \in I$ is the candidate that party p selects for list position t .¹⁸

Each element of Ψ_0^p , the party's pool of potential candidates, is associated with a K -vector, γ_i , representing candidate i 's membership in each of K ideal types, or groups. In this paper, we group potential candidates in terms of their gender and their incumbency status in the 2009 European election. We use an approach that assigns each candidate to one of the four following groups: male non-incumbent, female non-incumbent, male incumbent, or female incumbent. So, for example, we represent each male non-incumbent with the vector $\gamma_i = (1, 0, 0, 0)$.

In general, party p 's choice of nominee for list place t might depend both on the characteristics of the remaining available potential candidates, Ψ_t^p , and those of the members already on the list at point t , Θ_t^p . For example, parties might wish to balance the composition of their lists. Nonetheless, in this work, we make the simplifying assumption that parties consider only their remaining potential candidates when making list selections (i.e. $f(\Theta_t^p, \Psi_t^p, \mathbf{x}_p, i) = f(\Psi_t^p, \mathbf{x}_p, i)$). Building on standard statistical models of choice, we assume

¹⁸A number of technical assumptions complete the description of $f(\cdot)$: $\Theta_t^p \cap \Psi_t^p = \emptyset$, $\Theta_t^p \subset \Psi_0^p \forall t$, $\Psi_t^p \subset \Psi_0^p \forall t$, and $\Theta_0^p = \emptyset$.

that

$$f(\Psi_t^p, \mathbf{x}_p, i | \boldsymbol{\beta}) = \begin{cases} 0 & \text{if } i \notin \Psi_t^p \\ \frac{\sum_{k=1}^K (\gamma_{ik} \cdot e^{\mathbf{x}_p \boldsymbol{\beta}_k})}{\sum_{j \in \Psi_t^p} [\sum_{k=1}^K (\gamma_{jk} \cdot e^{\mathbf{x}_p \boldsymbol{\beta}_k})]} & \text{otherwise.} \end{cases} \quad (1)$$

Equation 1 implies that parties make nomination choices in terms of how much affinity they feel towards candidates of each type. Parties' characteristics determine their preferences, and, in particular, each $\boldsymbol{\beta}_k$ is a vector of coefficients that captures the extent to which parties value candidates representing group k , as a function of party characteristics \mathbf{x}_p . We represent a party's overall bias towards a potential nominee in terms of the sum of the party's affinity towards each of the K types, weighted by the potential candidates membership—described by $\boldsymbol{\gamma}_i$ —in each group.¹⁹ The probability that party p selects candidate i for list position p is simply this bias divided by the party's overall affinity towards the candidate pool that remains at choice t . Note that $\boldsymbol{\beta}_k$ does not vary across choices and equation 1 implies that parties make identical and independent choices at each stage, conditional on the remaining supply of available candidates.

Note that this model is a generalization of multinomial logit (see e.g. Long 1997). Indeed, if, at every time t , every Ψ_t^p contains K candidates, each of which is a full member of just one of the K candidate groups, and no two members of Ψ_t^p belong to the same group, equation 1 simplifies to the functional form assumed by multinomial logit. Therefore, one can interpret the coefficient matrix $\boldsymbol{\beta}$ in the model that we present here similarly to coefficients in a multinomial logit; specifically, they capture the relative affinity that parties sporting a particular set of characteristics have for full representatives of each of the K candidate groups, given the counterfactual situation in which party p has the opportunity to select a single candidate from a full set of ideal types.²⁰ This characteristic of the estimator is

¹⁹While the model is general enough to accommodate partial and multiple group membership, we do not take advantage of that feature here, except in the robustness check described by figure 13.

²⁰In reality, parties forming lists never face the choice structure implied by the multinomial logit at each—and sometimes even at any—list position. The model we describe here takes this complicated choice structure into account, adjusting coefficient and error estimates to reflect the empirical data structure. Nonetheless, it provides predictions of the choices that parties would be likely to make given an idealized choice structure.

crucial to understanding how we use the model to examine European nomination behavior. In particular, we do not directly address questions of candidate supply in this paper. Rather, we ask: who is at the top of the list, and why, given the menu of candidates available to the party?²¹ Put another way, the quantity of interest here is not who, on aggregate, different types of parties place into European office. Instead, we ask who they would prioritize were they given the chance to choose their ideal type. Of course, because we cannot explicitly model the construction of the set of candidates on the list—we cannot know, for example, if parties wished to include other candidates who made themselves unavailable—our analysis is potentially vulnerable to selection effects. Nonetheless, our results will be consistent so long as that selection process is explained by our measured covariates; indeed, sample selection biases coefficient estimates only when unobserved variables predict both selection into the sample and the outcome variable, and when selection into the sample is correlated with explanatory variables (Wooldridge 2013, 17.5). Thus, we face a standard omitted variable bias problem and have worked to include relevant predictors—both of party preference and selection—into the model.

We model the selection of n_p top list positions from N_p total list spots for each party, p .²² In so doing, we assume that the universe of potential nominees to top list positions, Ψ_0^p , is captured by each party's full list.²³ Combined with equation 1, this strategy leads to the

²¹See Lawless & Fox (2010) for a discussion of why women do not run for office in single member district systems. Note also, while we do not model the process that generates the pool of potential viable nominees, the model can capture the relationship between variables that affect the quality of supply and party ranking decisions. In particular, the background characteristics of potentially viable female candidates—that is, women on the list—may covary with factors such as female workforce participation and how common it is for women to hold high-level government and private sector positions within a given country. Thus, the model could potentially capture the tendency of parties to place women in viable spots more often when available women tend to be better qualified.

²²In general, parties in EP elections nominate substantially more candidates to their lists than can possibly expect to obtain seats in the Parliament, such that $N_p > n_p$ by some measure. In fact, many parties maintain lists that are longer than the total number of EP seats allocated to representatives of their countries.

²³It is certainly possible to conceive of situations when this assumption might break down. For instance, some potential nominees, failing to attain viable positions, might refuse any list spot, and thus escape our notice. Nonetheless, this approach represents perhaps the only practical way to approximate the full viable nominee pool.

observed data likelihood

$$\prod_{p \in P} \prod_{t=1}^{n_p} \frac{\sum_{k=1}^K (\gamma_{c(p,t)k} \cdot e^{\mathbf{x}_p \beta_k})}{\sum_{j \in \Psi_t^p} \left[\sum_{k=1}^K (\gamma_{jk} \cdot e^{\mathbf{x}_p \beta_k}) \right]}, \quad (2)$$

where $c(p, t)$ is a function mapping party p 's nominee at list position t into I .

We estimated the model using a Bayesian approach and adopted diffuse normal priors on the coefficients, β . Specifically, after making the identifying restriction that the first row of the parameter matrix $\beta_1 = 0$, we assumed that each $\beta_2, \beta_3, \dots, \beta_K \sim N_m(0, 25 \cdot \mathbf{I}_m)$, a priori. We fit the model using Markov chain Monte Carlo (MCMC) methods. We used a basic Metropolis-Hastings algorithm and implemented the sampler using the Scythe Statistical Library (Pemstein, Quinn & Martin 2011). The algorithm generates a chain of values for the $K \times m$ coefficient matrix β that, at convergence, represents a random walk over the posterior probability distribution of the coefficient matrix, based on the model in section 4. The algorithm begins with an arbitrary starting matrix β^0 , subject to the identifying constraint that the first row of the coefficient matrix $\beta_1 = 0$. Next, at each iteration s , the sampler generates a draw from the proposal distribution,

$$\beta_{-1}^p \sim \mathcal{N}_{m(K-1)}(\beta_{-1}^{s-1}, c^2 \mathbf{I}_{m(K-1)}), \quad (3)$$

where β_{-1} is the submatrix of β that excludes β 's first row, β_1 , and c is a tuning parameter that we set to 0.1 in practice. Next, using equation 2 and our assumed prior distribution for β , the sampler computes an acceptance probability,

$$r = \min \left(1, \frac{g(\beta^p | \Psi, \mathbf{X})}{g(\beta^{s-1} | \Psi, \mathbf{X})} \right), \quad (4)$$

where Ψ is the set of all party sublists Ψ_t^p , \mathbf{X} is the full matrix of party covariate vectors \mathbf{x}_p , and $g(\cdot)$ represents the posterior probability of the parameter matrix given the observed data. Finally, with probability r , the sampler sets $\beta^s = \beta^p$; otherwise, it sets $\beta^s = \beta^{s-1}$. We ran

eight chains for the sampler, for one million iterations each, and discarded the first half of the run to allow the sampler ample time to reach convergence. We saved every hundredth draw from the second half of each chain, recording 5000 draws per chain (40,000 total draws) to summarize the posterior distribution of β given our observed data. Standard MCMC diagnostics for the sample are consistent with Markov chain convergence. In particular, the Gelman & Rubin (1992) potential scale reduction factors (PSRF) for every model parameter, and the multivariate PSRF are all less than 1.1.

A.2 Additional Data Details and Discussion

Our candidate lists represent PR candidates from different types of electoral systems. For the purposes of the descriptive statistics and tests presented in the paper, we consider candidates lower than four positions below the lowest successfully elected candidate on national lists as unlikely to win seats and non-viable candidates. For regional PR lists with smaller district magnitude and much more predictable election outcomes and seat distributions, we label candidates lower than one position below the lowest successfully elected candidate non-viable.

Furthermore, there is variation in the list systems used to elect candidates to the EP—some countries use closed lists while others allow voters to perturb their lists with preference votes—the party list placements almost always determine electoral success in EP elections. In practice, party list orderings are a near-perfect predictor of final seat allocations in the open list systems in our sample, save for Italy, where voters routinely cast consequential preference votes. Figure 11, in this appendix, shows that our results are robust to including an indicator for list type in the analysis. A few countries, such as Ireland and Malta, use the single transferable vote, rather than a list-based system. We order Irish candidates, who are in our sample, by relative vote share. As a robustness check of this decision, we ran an alternate specification of the model without Ireland, presented in the supporting information in Figure 10.

In order to code the characteristics of candidates, we collected native language biographical information from party websites and other electronic sources in the months preceding EP elections for all national parties predicted by Hix, Marsh & Vivyan (2009) to receive a single seat in EP and hired fluent language speakers to code a variety of candidate characteristics including gender, political experience, educational background, and employment history. Limited resources, and practical constraints in recruiting translators from a university student population, restricted our ability to code every country that participated in the election. We sought a regionally representative sample, including countries from both eastern and western Europe, and both northern and southern countries from the West. The sample includes 3085 candidates from 73 national parties in 12 countries: Bulgaria, Czech Republic, France, Germany,²⁴ Greece, Hungary, Ireland, Italy, the Netherlands, Romania, Spain and the United Kingdom. Table 1 shows the number of candidates in the sample, broken down by country and gender. We were unable to find lists and/or biographies for a subset of parties. This was quite rare, only occurring for 4 parties in the sample.

A.3 Sample/Non-Sample Country Level Descriptive Statistics

To ensure that the EU countries in our sample were not significantly different than the EU countries outside our sample, we gathered descriptive statistics of our independent variables, aggregated to averages at the country level, shown in tables 2 and 3.²⁵ Based on these tables, it does not appear that the EU countries in our sample represent a truncated subset with respect to our independent variables. T-tests of difference in means yield only one statistically significant difference at the 0.05 level, log of district magnitude.²⁶ In-sample countries have larger average district magnitude than out-of-sample countries, a characteristic that is largely

²⁴We did not fully code German lists because of excessive lengths. Specifically, we coded either as many candidates as each party listed, or approximately twice as many candidates per party, in list order, than were actually elected to the EP, whichever was smaller. As a result, unlike other countries, the current German data excludes some minor candidates at the bottom of lists.

²⁵Woman Leaders, which is a dummy variable at the party level has a country maximum of 0.5 in both samples because no more than half the parties in any country had woman leaders.

²⁶Of course, we have almost a 34 per cent chance of erroneously rejecting the null at least once in the process of conducting these eight tests.

Table 1: Number and Gender of Candidates per Country

Country	Number of Men	Number of Women	Percent Women
Bulgaria	31	20	39%
Czech Republic	125	63	34%
France	502	489	49%
Germany	118	81	41%
Greece	81	50	38%
Hungary	59	19	24%
Ireland	20	10	33%
Italy	269	159	37%
Netherlands	115	69	38%
Romania	119	34	22%
Spain	152	148	49%
UK	231	121	34%
Total	1822	1263	41%

Table 2: Descriptive Statistics, In-Sample EU Countries

	Mean	Std. Deviation	Min	Max
Log District Mag	2.92	0.93	1.10	4.60
Central Selection	3.95	0.47	3.20	4.46
Female Labor	0.50	0.06	0.38	0.60
LR Ideology	-4.76	6.81	-19.08	6.11
EU Ideology	2.35	4.74	-8.45	9.67
Gender Quota	0.25	0.45	0	1
Women Leaders	0.18	0.15	0	0.5
Female Elites	0.33	0.04	0.28	0.40

driven by our decision to disproportionately sample the largest countries in the EU, who have many more seats to allocate than small countries.

A.4 Supplemental Results

A.5 Regression Plots and Robustness Checks

We first provide three alternative plots of the regression shown in figure 1, one for each possible baseline category. While these three plots and figure 1 all provide the same information,

Table 3: Descriptive Statistics, Out-of-Sample EU

	Mean	Std. Deviation	Min	Max
Log District Mag	2.22	0.52	1.35	3.09
Central Selection	4.11	0.41	2.96	4.65
Female Labor	0.54	0.08	0.33	0.68
LR Ideology	-4.36	8.84	-18.30	10.30
EU Ideology	6.40	7.84	-5.42	25.31
Gender Quota	0.20	0.41	0	1
Women Leaders	0.20	0.21	0	0.5
Female Elites	0.30	0.08	0.12	0.43

certain comparisons are easier to visualize depending on the baseline category.

Figures 10, 11, 12 describe three robustness checks. In the first, we dropped Ireland from the sample because it relies on STV, rather than electoral lists. Figure 10 shows that our results are robust to removing Ireland from the analysis. Figure 11 examines the role that list-type—open or closed—has on our findings, again excluding Ireland from the analysis. We find no statistically significant effect for open list, nor does including an open list dummy in the analysis substantively alter our findings. Figure 12 adds a further control, the percentage of seats held by women in national parliament.²⁷ Adding this control produces little change in our coefficient estimates and standard errors. Finally, figure 13 displays coefficient estimates for a model which includes information about candidates’ experience in national elected office, also drawn from candidate biographies, to control for candidate quality. Specifically, in addition to membership in the four mutually exclusive groups (male non-incumbent, female non-incumbent, male incumbent, female incumbent), we also code whether or not candidates belong to the group of nationally experienced candidates. Figure 13 shows that controlling for this form of experience does little to alter the substantive implications of the model; coefficient estimates for the four types are robust to the inclusion of this information.

²⁷We use PIREDEU’s contextual dataset variable 7.25.

Figure 7: Regression Coefficients: Female Novice Baseline

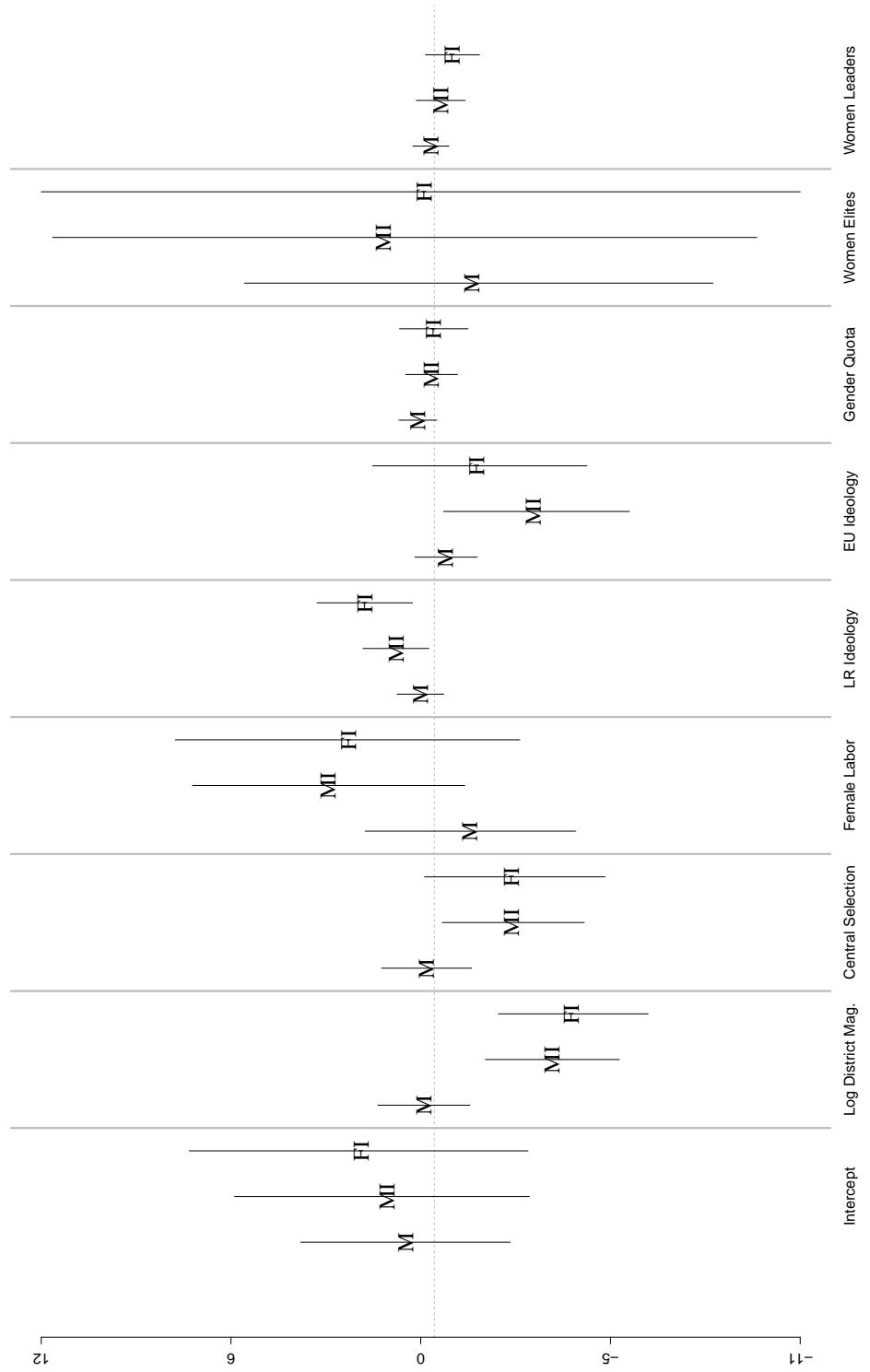


Figure 8: Regression Coefficients: Male Incumbent Baseline

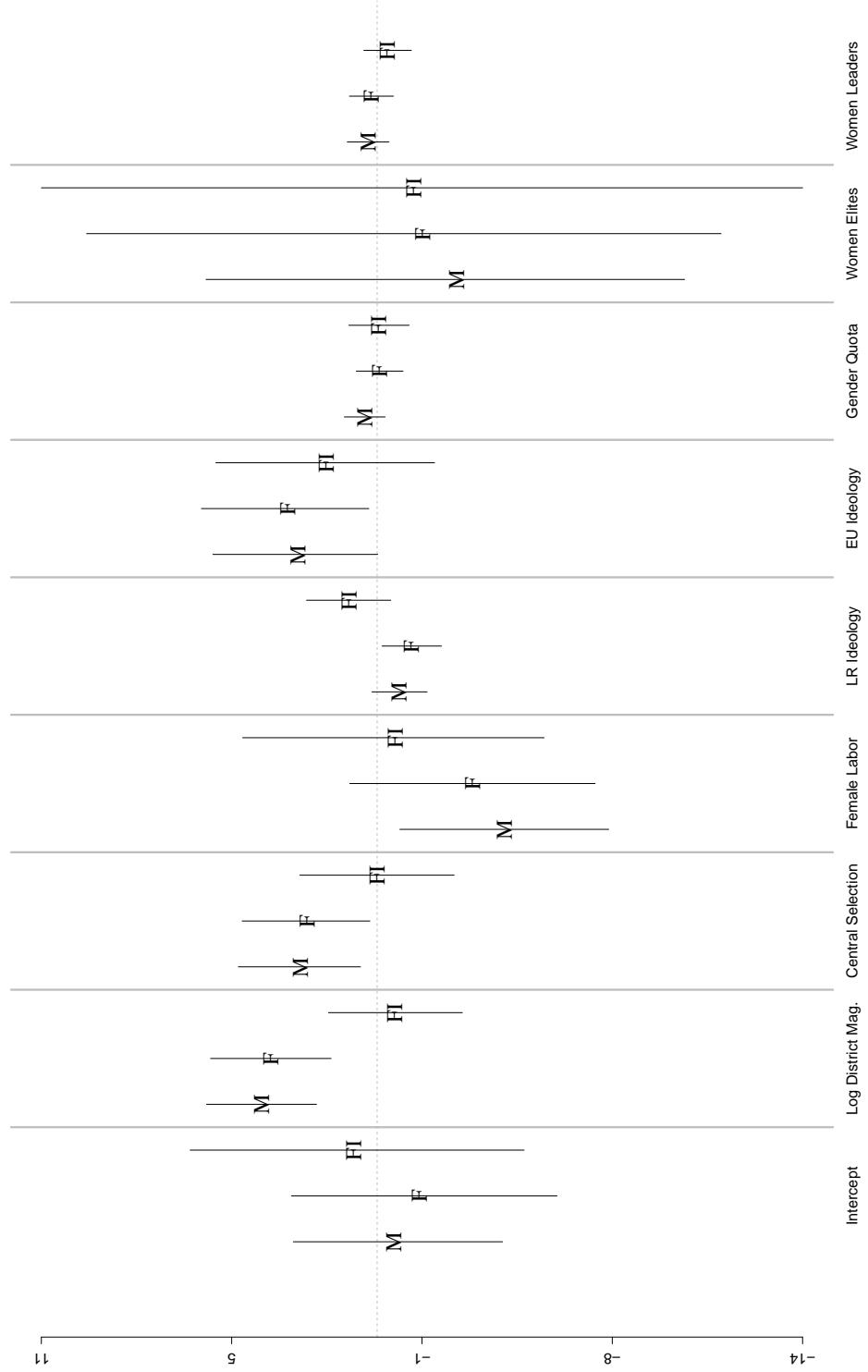


Figure 9: Regression Coefficients: Female Incumbent Baseline

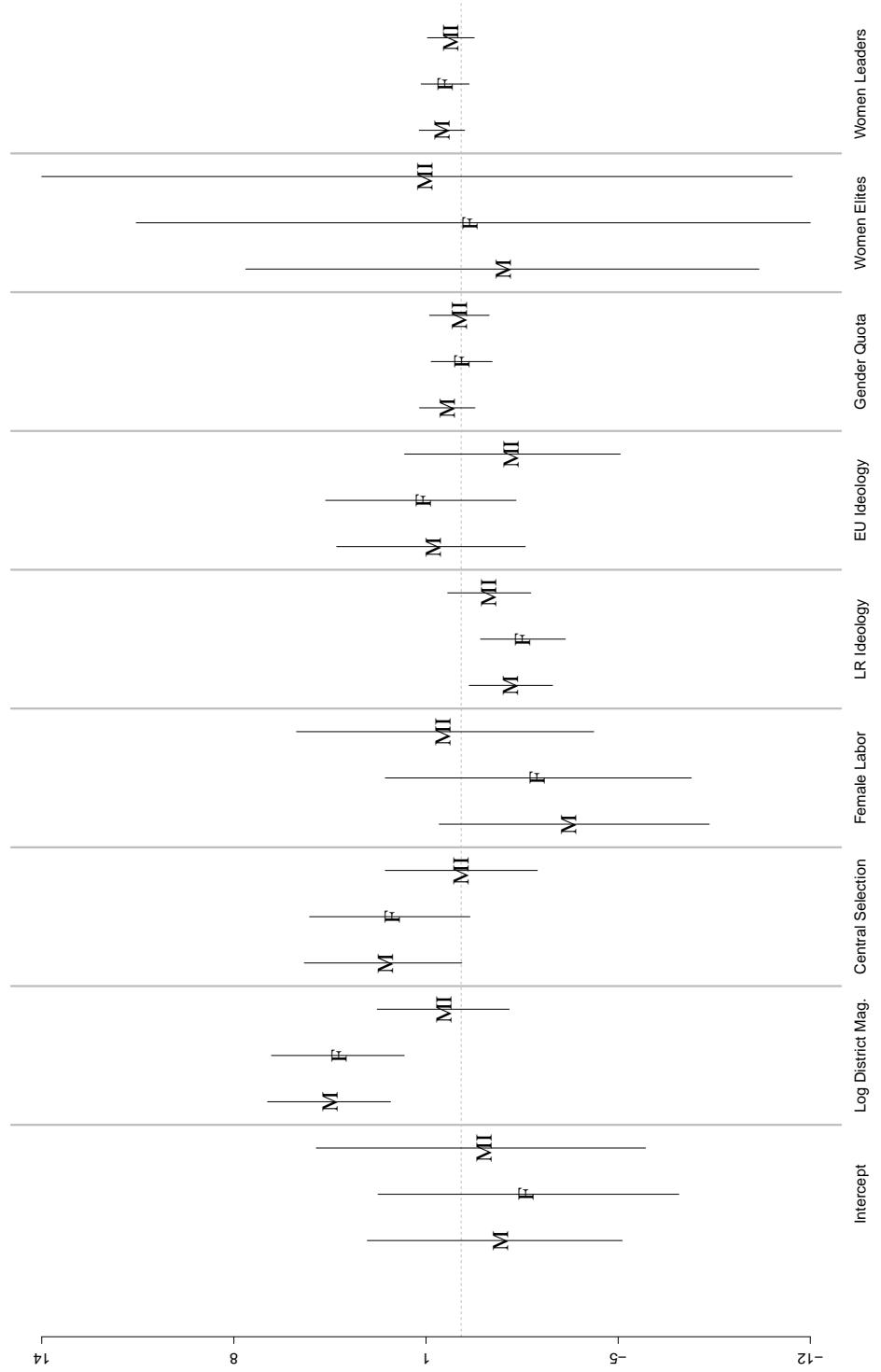


Figure 10: Regression Coefficients: Ireland Removed from Sample

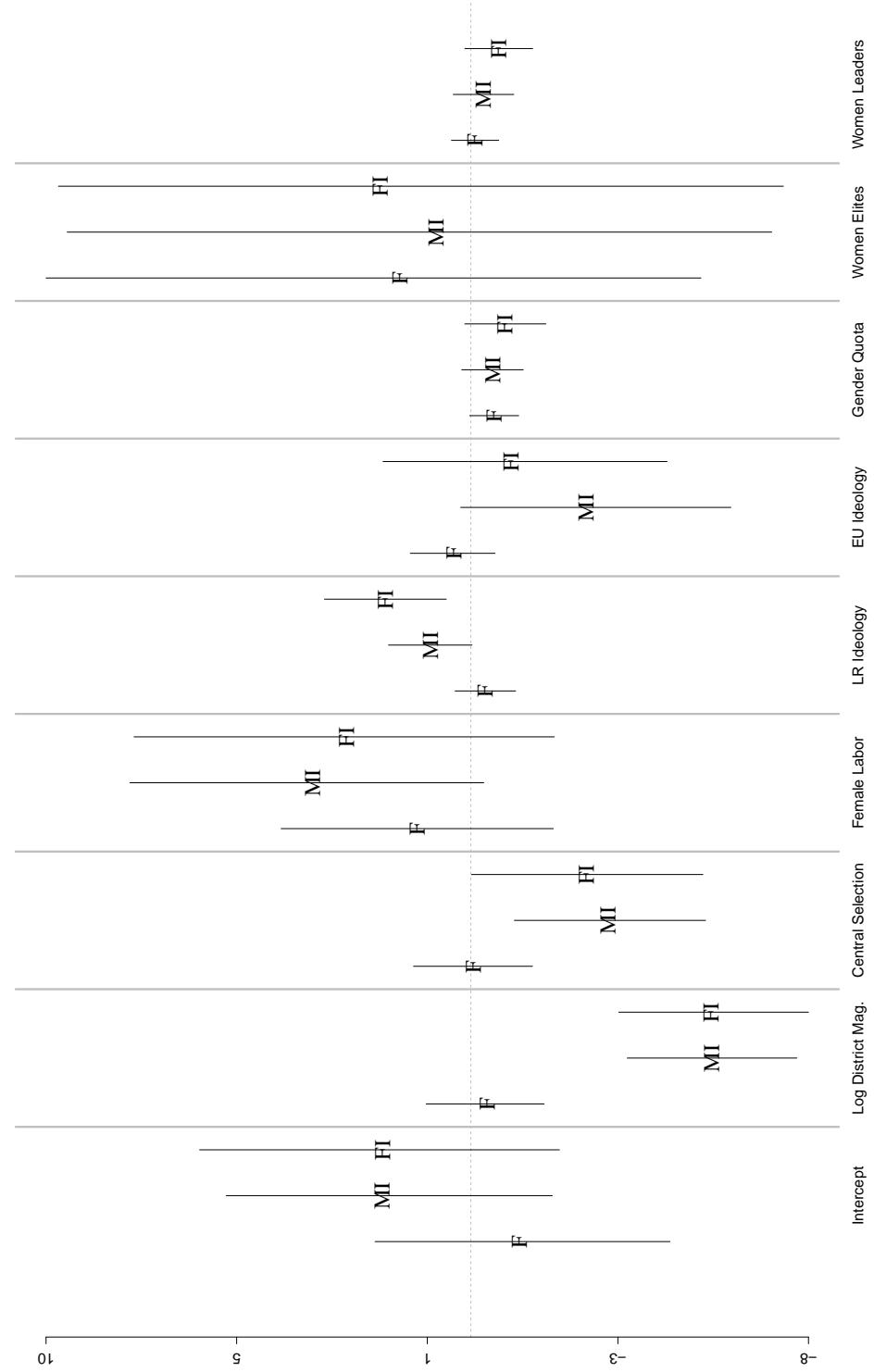


Figure 11: Regression Coefficients: Open List Dummy, Ireland Removed

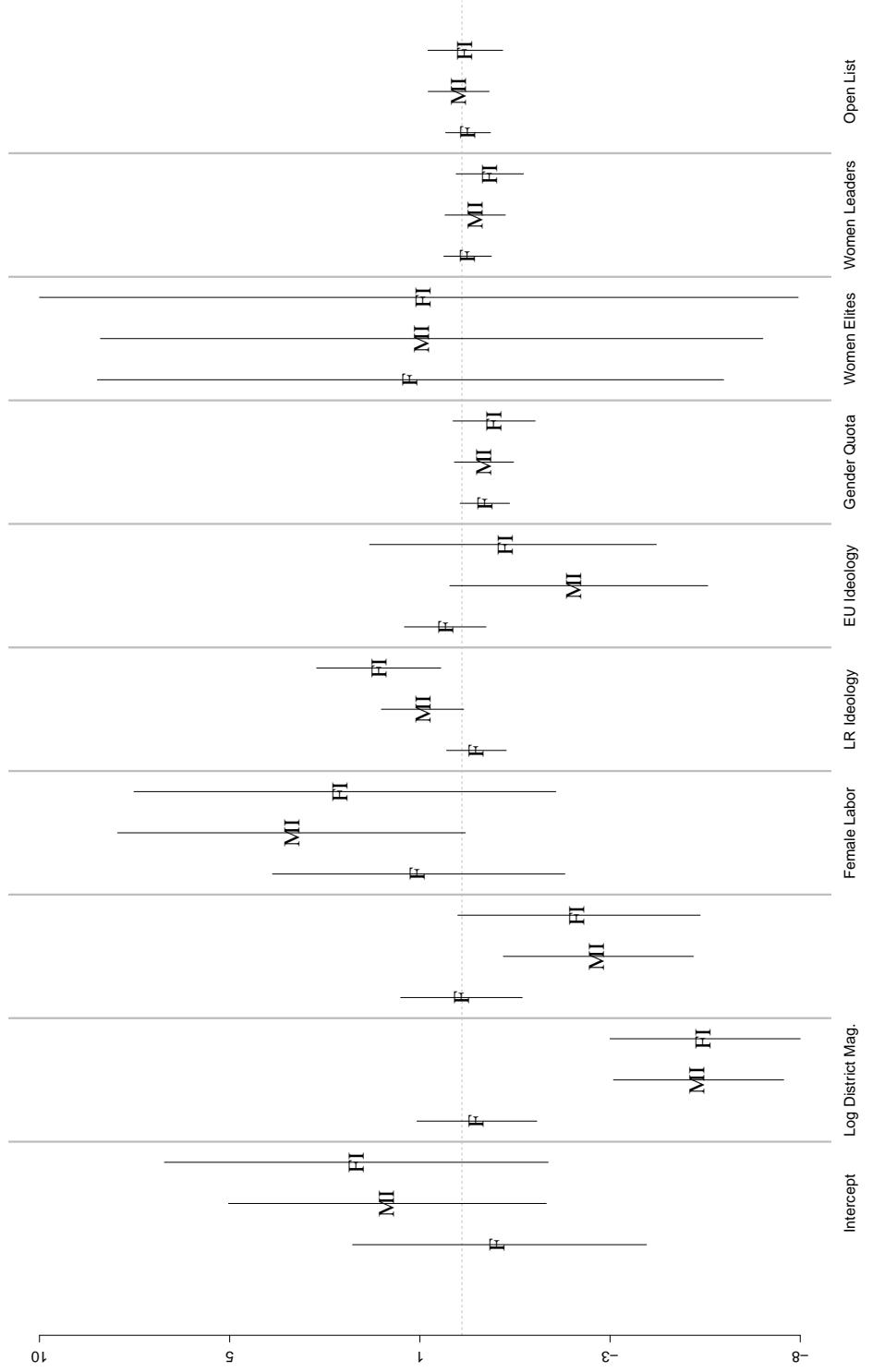


Figure 12: Regression Coefficients: Includes % Women in National Parliament

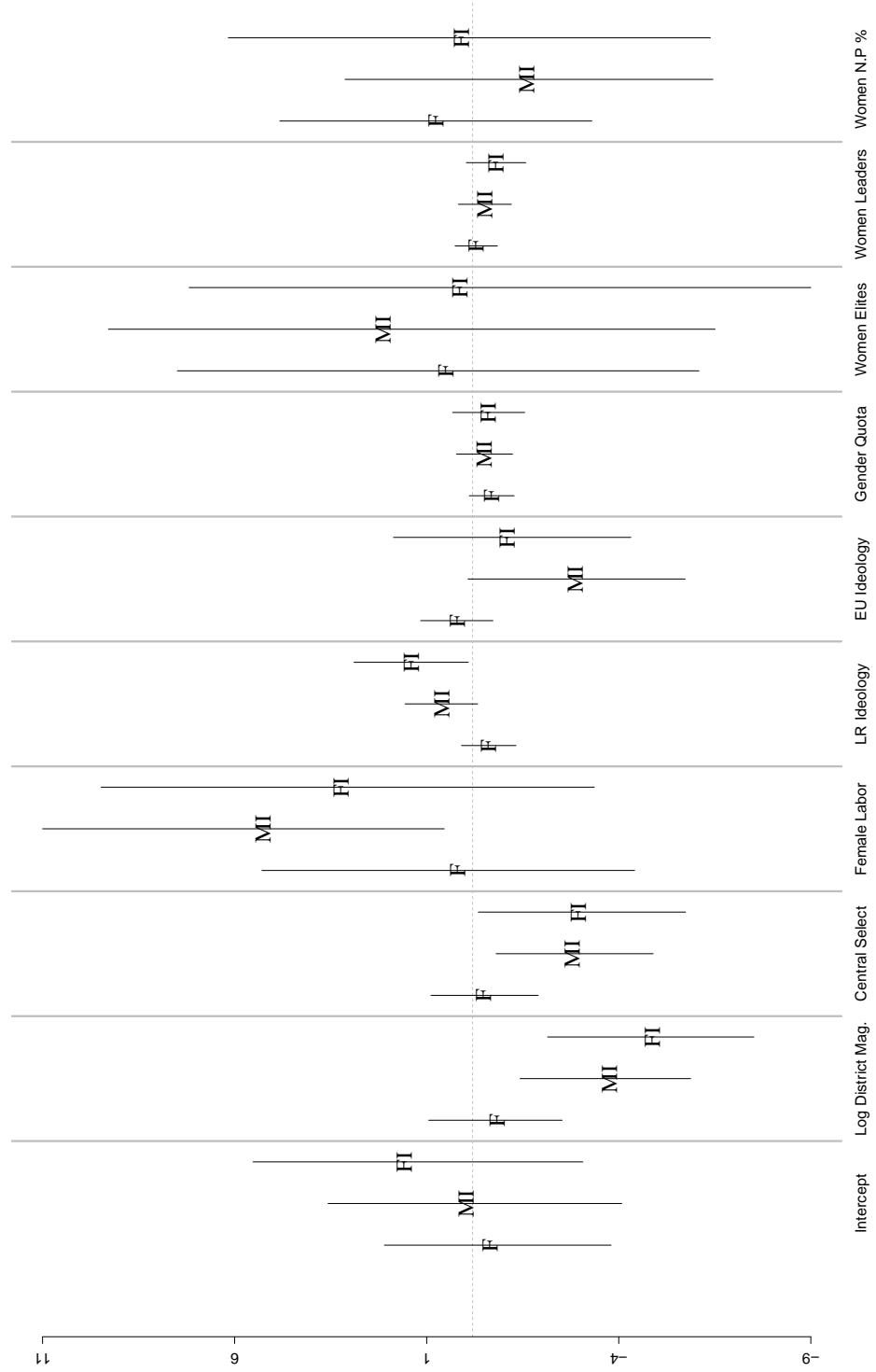
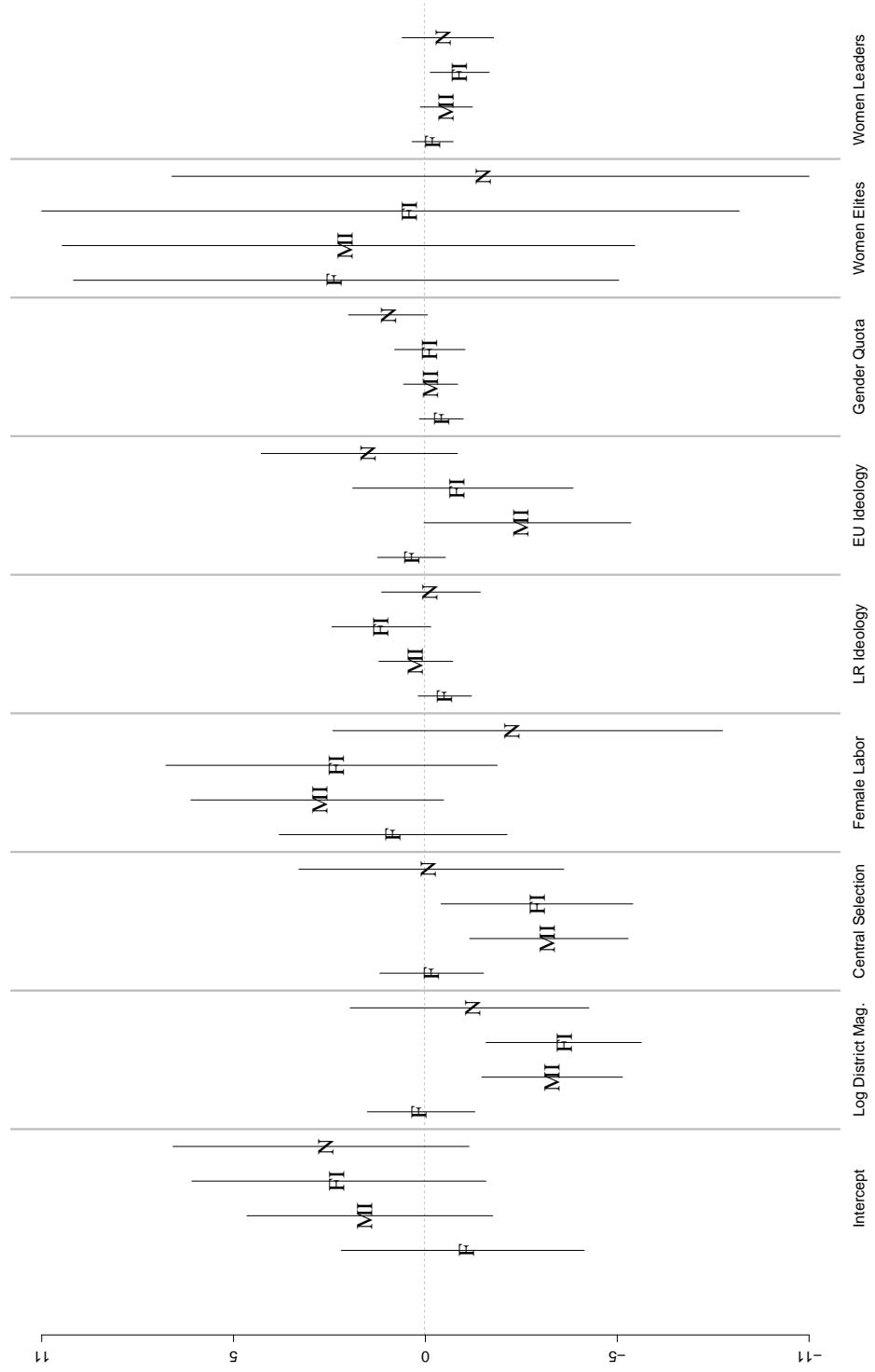


Figure 13: Regression Coefficients: DV Includes National Elected Office



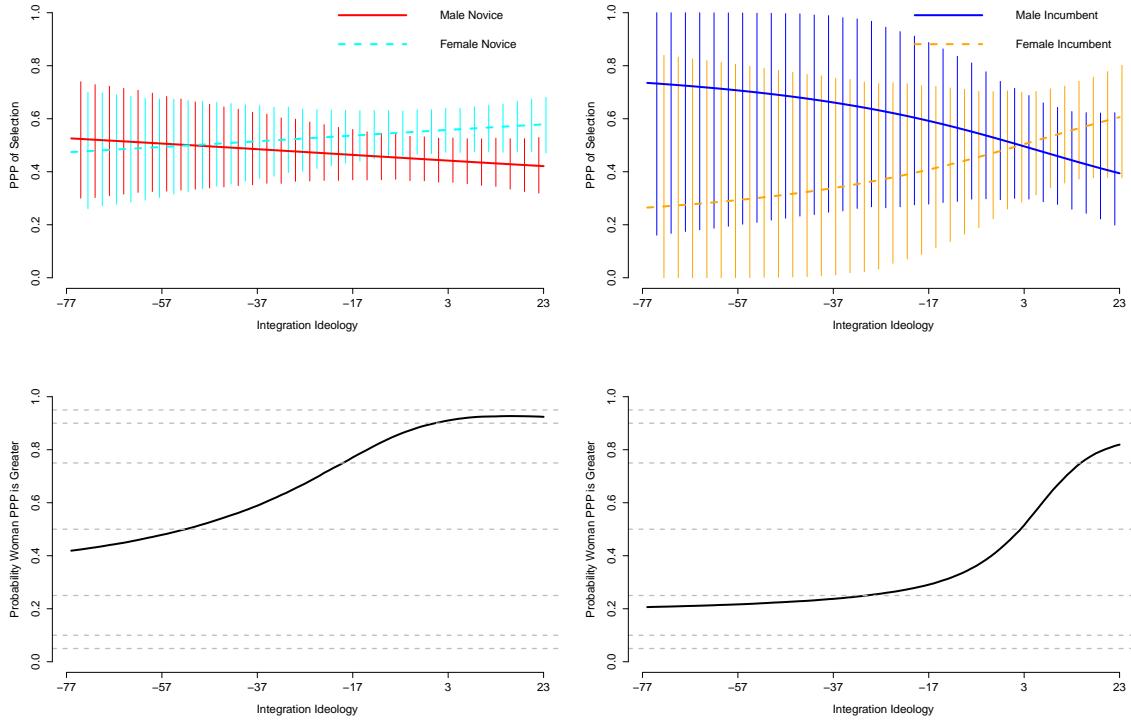
A.5.1 European Integration

Figure 1—figures 8 and 9 make the result more clear—shows that there is a statistically significant, and negative, relationship between support for European integration and parties’ tendency to rank male incumbents in viable list positions. Parties become more likely to prioritize the placement of novices over male incumbents as party support for integration grows. While in the same direction, the corresponding relationships between novices and female incumbents do not reach traditional statistical significance.²⁸ Yet, the posterior probability that the effect for women incumbents is less than the effect for male incumbents is only 0.83. Thus, we hesitate to argue that incumbency interacts with gender in this context. Rather, we have some evidence that parties that support European integration are less incumbent-oriented than eurosceptics, and that evidence is stronger for male incumbents than for female incumbents. At first glance it might seem surprising that pro-integration parties value incumbents less than eurosceptic parties, but it is important to point out that supporting Europe is not the same thing as prioritizing influence within European institutions. Eurosceptics may have an incentive to cultivate expertise in the EP specifically because they hope to effectively undermine the expansion of European influence. Similarly, because they often are competitive only on the European stage, such parties have little incentive to use the EP as a training ground for inexperienced candidates; thus they have less reason to drop an incumbent in favor of fresh blood than do nationally competitive parties. Focusing on gendered choices within novices and incumbents, we find limited evidence that pro-integration parties show a preference for women candidates, both among novices and incumbents. While such a result would not be terribly surprising—many euroskeptic parties also reject cosmopolitan values—we do not, as a whole, find strong statistical relationships between attitudes towards Europe and gender choices in candidate nominations.

Focusing on gendered choices within novices and incumbents, figure 14 shows limited evidence that pro-integration parties show a preference for women candidates, both among

²⁸For the clearest picture of this finding, see 9.

Figure 14: Two-Way Predicted Choice Probabilities: Integration Ideology



novices and incumbents. While such a result would not be terribly surprising—many euroskeptic parties also reject cosmopolitan values—we do not, as a whole, find strong statistical relationships between attitudes towards Europe and gender choices in candidate nominations.