Electoral competition and gender differences in political careers [*]

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Abstract

This paper analyzes the role of competition between political parties for the promotion and turnover of social minorities in party organizations. We collect extensive and reliable panel data for the career trajectories of all Swedish politicians in 290 municipal councils over 20 years (N=35,000). We argue that political competition pushes local parties to promote the best individual, which in turn improves gender equality at the top. This finds strong support in the empirical analysis. Heightened competition is associated with smaller gender gaps in re-election, retention on the electoral ballot, and promotions to top positions. An extended analysis shows that variation in the qualifications and family structures of male and female politicians cannot account for these results. As a more plausible mechanism, the analysis suggests that parties have nomination processes that are less centralized and more focused on competence as a selection criteria when competition is fierce.

Keywords: Careers in politics, Vertical inequality, Political competition, Supply of politicians

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Although the proportion of female legislators worldwide has been steadily rising over the past decades, women are still largely absent from the apex of political power. In 2014, women held 22% of the seats in the world's parliaments, but only 18 of the world's 252 executives were women (UN Women, 2014). As top appointments offer more political power, the small proportion of women on higher positions means that women's gain in numerical representation has not been accompanied by an equivalent increase in actual political influence. Recognizing this fact, a growing body of scholarly work is focusing on the institutions that shape the proportion of women in countries' ministerial cabinets (Davis, 1997; Reynolds, 1999; Escobar-Lemmon and Taylor-Robinson, 2005; Krook and O'Brien, 2012, O'Brien; forthcoming).

Although the previous literature is highly interesting and informative in understanding the political environments that allow women to rise to the top, these studies also have important limitations. First, countries have vastly different political systems and cultures, and finding data and variable specifications that allow a comparison of all the relevant factors is a difficult task. Also, and more importantly, a chronic lack of data on the individual characteristics of politicians in the pool of candidates for top posts makes it hard, or outright possible, to disentangle supply-side factors from characteristics of the political system. Yet another level of complexity is added by the unobserved "black box" of complex candidate selection procedures that vary both across countries and parties (Gallagher and Marsh, 1987).

This paper takes an entirely novel approach to studying women's access to top positions. Instead of looking at the aggregate share of women in specific political positions we turn to the microdata level where we can examine the career patterns of individual politicians. Our longitudinal data contains 20 yearly observations (1991-2010) for the rank in the political hierarchy and the individual level socioeconomic characteristics of the full universe of Swedish local politicians, a total of over 35,000 persons.

The goal of the paper is to test if one particular contextual factor, political competition, has a positive impact on women's relative probability of reaching the top. The intuition for this comes directly from the field of economics, where external competition has been shown to boost the proportion of female company managers (Black and Strahan, 2001). Put shortly, an organization that faces more competition has stronger incentives to retain and promote the most productive individuals, a situation that removes gender as a selection criteria in promotions. This intuition is well-aligned with previous evidence for the political sector where competitive elections have been shown to correlate both with a higher share of elected women (Esteve-Volart and Bagues, 2012) and with improved politician quality (Galasso and Nannicini, 2011; Besley et al., 2013; De Paola and Scoppa, 2011).

We test our hypothesis on data from Swedish local governments, a dataset with unique qualities that allows us to pin down the relationship between political competition and gender parity at the top. First, the degree of political competition varies greatly both across municipalities and within municipalities over time, while other factors such as the electoral system, the party system, and key cultural features are automatically held constant when we use subnational data. The fact that the party system is highly stable across municipalities and that parties compete in two political blocks allows us to operationalize competition as the vote difference between these two blocks.

The Swedish case is also suitable to study the outcomes of parties' selection processes because local parties both rank political candidates on their electoral ballots and appoint executive positions after the election. By accessing data on all rankings over a 20 year period we can explore how nomination behaviors are related to the political context. In a country with more centralized selection procedure, local data on nominations would simply reflect the priorities of the central party organization, a problem that we circumvent in the Swedish case. In a country with direct elections for executive posts, such as mayor, it would not be possible

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to separate party and voter choices. Finally, the fact that our data on party choices covers a 20 year period of nominations for every local party gives us a uniquely large sample size.

For every local party and election we construct two main outcome variables that capture career advancements and promotions, both of which are measured at the level of the individual political candidate. The first is a binary indicator of whether a politician remains in his or her council seat for one more election period (i.e. becomes re-elected). The motivation for this measure is the simple fact that the process of accumulating seniority is a key determinant for becoming eligible for top appointments in the political hierarchy, something that is true both in Sweden and in most political systems around the world.[1] Our second measure is a binary indicator of whether the politician is moved up to, or remains in, the top position in his or her party, measured by holding the top rank on the party's ballot. Together, these two measures capture both the accumulation of the necessary experience for top appointments and the actual appointments to the top position within each local party and in each election period.

Our results show that when the difference in vote shares between the left and the right block is smaller, i.e. when political competition is fiercer, women have a substantially smaller disadvantage in the probability of re-election and in holding the top appointment. We ascertain that this result is robust to controlling for characteristics of the municipality and of the municipal council that reflect contextual differences argued to improve women's political representation in the cross-country research literature (e.g. Studlar and Welch, 1991, and Matland, 1993; Paxton, 1997; Matland, 1998; Reynolds, 1999; Norris and Inglehart, 2001; Tripp and Kang, 2008).

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[1] Norris (1997) provides an overview of the importance of seniority across political systems and Davis (1997) highlights this as a key factor behind women's underrepresentation in the top of political hierarchies.

In the second part of the paper we try to further understand the possible mechanisms for the strong positive role of political competition for vertical gender equality in the local parties. We first test a supply explanation. Perhaps more skilled, career-minded, or ambitious women come forth to aspire for political appointments when competition is fierce? Two sets of empirical analysis reveal that this is unlikely to be the mechanism at work. The first analysis exploits the unique quality and breadth of our microdata.[2] We introduce control variables for individual qualifications and life situations expected to impact on promotions and political exits. These include the most common measures of politician qualifications, namely education level, occupation sector and political experience, as well as controls for having small children or becoming the parent of a newborn child when occupying a political office. The results show that these controls do not account for our baseline results. This analysis represents an important contribution to the research literature, where access to data for the individual characteristics of male and female politicians has so far been minimal (e.g. Escobar-Lemon 2005; Davis 1997; Reynolds, 1999; Studlar and Moncrief, 1997).

In a second supply side analysis we use survey data that covers 80% of the elected politicians and measures their self-stated career ambitions. This analysis shows that gender differences in the level of ambition does not co-vary with competition in a way that would explain our baseline findings.

In the final section we turn our attention to the characteristics of the nomination process in the local parties. We explore if competition is linked to the politicians' views of 1) the selection criteria used in the nomination process, and 2) the importance of different party actors in that process. Interestingly, the results suggest that a competitive context is correlated

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[2] This dataset comes from the electoral authority. According to Swedish law, all parties must register their ballots with this agency and include the unique personal identification number of every individual. We let Statistics Sweden link every politician on every ballot to yearly panel data on background characteristics. These were compiled from administrative records collected by various authorities such as the tax authority, the school authority, and the population register, databases that cover the full population are highly accurate.

with a less centralized and a more institutionalized process. Competitive contexts are associated with more influence by party branches such as the youth league and the women's branch. Supporting our argument about an increased focus on competence, the results also show that female politicians (but not male) view competence as a substantially more important selection criteria under competition.

Our study holds relevance that reaches beyond the borders of Sweden. Our findings extend the literature that has emphasized the importance of political parties as the key gatekeepers for women's underrepresentation in politics (e.g. Hellevik and Skard, 1985; Niven, 1998; 2010; Hakesworth, 2003; Sanbonmatsu, 2006; Casas-Arce and Saiz, 2011). By showing that party behavior is strongly affected by the external electoral environment, we add the insight that party bias is not a constant state of affairs. Rather, the external political environment should be considered an important factor in shaping party behavior. Well-functioning democratic elections where there is meaningful competition between political parties aids political minorities in reaching parity not only in numbers, but also in power.

Related Literature and Conceptual Framework

Theoretical and empirical work in economics has shown that competition on the product market improves the efficiency of a company's promotion process (Becker, 1957; Black and Strahan, 2001; Burkart, Panunzi and Schleifer, 2003). While the management of a company with monopoly power can afford to promote whoever it wants, a firm on a competitive market is pressured to pick the most productive person for each position. The more competition, the less likelihood that a discriminating firm can survive when if sacrifices productivity to satisfy a preference for some un-productive worker characteristic like gender. In this paper we argue that competition in political elections has a similar impact on the internal labor markets of political parties that product market competition has on firms' employment practices. We

argue that when competition between parties is fiercer, parties cannot forego the skills held by female political candidates.

Let us explore the comparison between the private firm and the political party in some more detail. Private firms strive to maximize profits, while political parties maximize their likelihood of winning elections. Private firms that prioritize non-productive characteristics over productive characteristics are competed out of the market if either 1) new firms can enter and capture the surplus of hiring the more productive and discriminated workers, or 2) non-discriminating existing firms can expand to take advantage of the same underused resource. Arguably, the probability of a political party to win elections is also increasing in politician productivity, or valance, as it is usually termed in standard probabilistic voting models. By increasing its proportion of high valance politicians, parties can win over swing voters and capture the election. Even without the entry of new parties, environments of high political competition will raise existing parties' incentives to promote high-valance politicians to compete for the swing vote.

It is straightforward to assume that a stronger focus on valance in the political nomination process should raise the proportion of political minorities in office (c.f. Murray 2014; Anzia and Berry 2010). An additional, but perhaps less obvious, claim is that the promotion of minority candidates will also increase the party's attractiveness to swing voters by moving its policy platform closer to the swing voters' preference. Starting from the citizen candidate model it is natural to view the policy platform offered by a party as a product of the social attributes of the politicians on the list. A recent example of this type of theoretical modeling is Besley et al.'s (2013) proposed model of a PR election where women and men have different preferences. In this model, all swing voters prefer candidates of high valence, and they also prefer representatives of their own gender but at a decreasing marginal rate. Because the marginal utility of a same-sex candidate is decreasing in the proportion existing

same-sex candidates on the list, parties maximize their appeal to the (gender balanced) swing voters in the election by providing a 50-50 gender balanced list with the highest possible valence.

A growing empirical literature supports the relationship between competitive elections, on the one hand, and competence and gender balance on the other hand. In Italy, political parties have been found to field more competent candidates under more intense electoral competition (Galasso and Nannicini, 2011; De Paola and Scoppa, 2011). In Spain, there is a strong party bias against women in uncompetitive districts, while there is no bias in competitive districts, as illustrated by how parties across these district types either avoid or comply with a candidate gender quota (Esteve-Volart and Bagues, 2012). Although there is a lack of empirical research on the impact of competition on the composition of party elites, it follows from the reasoning above that we can expect more gender balance under competition (c.f. Chattopadyay and Duflo, 2004).[3]

A potential caveat with the model of Besley et al. (2013) is that women and men are assumed to have symmetric preferences for co-gendered representation, an assumption that is critical for the conclusion that swing voters as a group prefer gender parity. Another possibility is that men have a more intense preference for co-gendered representation than women, or that both men and women prefer to be represented by men. Under these circumstances, competition should still favor gender parity through parties' incentives to prioritize valance, but this effect would have a counterweight in the voter demand for male

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[3] There are three previous papers that share the empirical finding that political competition does not correlate with the proportion of women in ministerial cabinets. The empirical approaches in these papers are however problematic, especially with regard to the measurement of political competition. Studlar and Moncrief (1997) use data from Canadian provinces and approximate political competition with legislature size, a factor that commonly used to measure district magnitude, another variable known to predict female representation. Escobar-Lemon and Taylor-Robinson (2005) use cross country data and compare cases where the president's party has a "near legislative minority" to where it has a "clear minority". This dichotomous measure of competition could however capture many other factors, such as holding a legislative majority, which the authors themselves argue could have an independent and opposing effect. Krook and O'Brien (2012) also use cross country data and measure competition as the difference in seat share between the largest and second largest parties, a measure is likely to suffer from low comparability across electoral systems.

over-representation. If the voter bias against women would be severe enough, it could even overtake the preference for valance and give a situation where sex-based discrimination becomes a vote winning strategy. The empirical results on voter behavior is mixed. Most empirical studies have found that voters have a tendency toward same-sex voting (e.g. Smith and Fox, 2001, Plutzer and Zipp, 1996, for an opposite result, see Pino 2014), that the average voter weakly favors moves toward gender parity on PR lists (Casas-Arze and Saiz 2011), and that - in majoritarian systems - women win equally many votes once they appear as candidates (e.g. Fox and Oxley, 2003).

Next, we will return briefly to the Becker model to examine the intuition from work on the political sec to for the key behavior that drives gender differences in recruitment in the absence of competition, namely taste based discrimination. What could this form of discrimination look like in the setting of a political party? One important empirical implication is that social identities of political selectors matter for the selections that are made. Recent theoretical work has modeled this type of taste-based discrimination in proportional election systems. Casas-Arze and Saiz (2011) model a party preference parameter for the local party leadership's preference for having men on the electoral ballot. Besley et al. (2013) model a male party elite whose own survival probability in the leadership positions is bolstered by having more males on the list. On the empirical side, In an empirical study of political recruiters in local U.S. parties, David Niven's (2010) finds that male recruiters were considering fewer female candidates for future races, had more than twice as many male candidates in mind for political advancements, and were about three times more likely to list a man as their top candidate compared to female recruiters.

On a more general note, research from sociology and management studies is also relevant for political organization. This body of work has emphasized that social similarity with an organization's selectors improves a candidate's chances of positive treatment.

Similarities in socioeconomic characteristics with the in-group (perceiver) in attitudes, values and personality lead to an assumption of competence (Lipman-Blumen, 2000; Piliavin, 1987) and this process is clearly gendered (Klahr, 1969; Holgersson, 2003; Schlozman et al, 1995).

Previous research on selection procedures (nomination procedures) within political parties has underscored the power of party elites to act on their preferences across candidate types. Work on parties in the U.S. and Latin America has described the nomination procedures for top posts as non-transparent "smoke filled rooms" in which network resources take predominance over competence (see, for example, Kemahlioglu, et. al. 2009 and Hirano and Snyder, 2014). Precisely this focus on network ties and other connections between candidates and the party elite is also a common response by female politicians surveys that try to uncover reasons for women politicians' slower political careers (Maillé and Wängnerud, 1999; Niklasson 2005).

A closely related, and highly relevant, insight from the research on parties' nomination procedures is that certain characteristics of this procedure favors selection based more squarely on formal merits. Objective valuations of candidates becomes more common if the procedure is decentralized, meaning that the party elites' degree of control is reduced. A second trait that helps objective valuations is the *institutionalization* of the process, capturing the role of formal rules rather than informal norms and tacit procedures (Norris, 1997). Adopting nomination procedures that are more decentralized and/or more institutionalized is hence expected to reduce the importance of social similarity between recruiters and candidates in the nomination process. Parties that face competition could be more likely to adopt procedures of this kind, either if they are pushed to find high-valance candidates under fiercer competition (as discussed above), but also because more transparent nomination procedures can attract votes to the party (Carey and Polga-Hecimovich, 2006; Ware, 2002).

To summarize our main arguments in this section, we hypothesize that political competition raises political parties' incentives to retain and promote the most competent politicians. This focus on productivity, rather than sex, moves the party toward gender parity. In addition, gender parity may benefit the party electorally if women and men's policy preferences differ, and/or as long as voters' are not so biased against female candidates that their preference for men is greater than their preference for valance.

As a final word of caution, it is relevant to note that competition could be linked to gender differences in career performances via a supply mechanism. As one strand of economics literature suggests, a competitive environment should benefit men who - unlike women - do not shy away from competition with others (e.g. Gupta et al., 2005; Niederle and Vesterlund, 2007; Croson and Gneezy, 2009). There could also exist other reasons why different types of men and women seek out political careers when the political context differs. For example, a competitive context could imply more political uncertainty and less certainty of political appointments, factors that could appeal or repel particular types of men and women. If more skilled or ambitious women come forth in competitive contexts, this could give women an advantage independently of the party's selection process. Disentangling the supply channel from party behavior is a crucial step of the empirical strategy in this paper.

Swedish Municipalities and Party Nomination Procedures

Sweden has a proportional election system with semi-open lists at all three levels of government, the national parliament, 20 county assemblies, and 290 municipal assemblies. The lists have been semi-open since 1998, when each voter was given the opportunity to circle one politician on the electoral ballot to signal his or her preference for that person.

The municipalities' right of local self-government is legally guaranteed by the Swedish Instrument of Government which stipulates that local authorities themselves determine their own affairs under the 1991 Local Government Act 2.1. This includes the power to set local income taxes, which averaged 21.6% in 2010. It also includes the main executive responsibility for large areas of social spending, in particular education and elderly care (while health care is managed at the county level), sectors that employ about one fourth of Sweden's total labor force. As such, municipalities have political authorities similar to national parliaments and leading positions in large municipalities are generally considered more influential than the average seat in the national parliament.

Municipalities differ widely in both land area (from 9 to 19,447 square kilometers) and population (from 2,558 to 780,817 inhabitants). Elections are held jointly with the parliament and county levels every fourth year (every third year prior to 1994) and have a participation rate of above 80%. Seats are allocated across parties in proportion to their vote shares.

The municipal council has at least 31 and at most 101 seats, with an average of 40 seats. Political power is concentrated to the executive committee, also known as the council board. Its chairperson is selected by the largest party in the governing coalition, and the remaining board seats are distributed amongst all parties to reflect the seat allocation of the full assembly.[4] The Swedish party system is highly stable with the seven main political parties represented in nearly all municipal councils. Small local parties hold about 4-5% of the total number of council seats.

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[4] Specific policy areas are dealt with in subcommittees (the average council has seven of them), to which chairpersons are appointed by the governing majority. The board, assembly, and committee chairpersons are the most influential politicians, whereof the chairperson of the council board is usually the only person hired full time. Others receive piece rate compensation for meetings and offices, and less than 10% receive more than 40% of a standard full time salary. A survey carried out in 1991 showed that the average regular council member spent 8.3 hours per week on her duties, while chairpersons spent 17.8 hours.

Swedish political parties have nomination procedures that are highly decentralized at the local level. The standard procedure for composing electoral ballots can be summarized as follows. First, a group of potential candidates is selected either via internal nomination, which is more common in the left-wing parties (Social Democrats and Left Party), or internal primaries in the case of right-wing ones (the Conservative Party, Center Party and the Christian Democrats). Both procedures are organized by a committee of party selectors. This committee performs several tasks, the first of which is to collect information about aspiring candidates and to distribute it to the agents that vote in the internal primaries or make nominations via their clubs in the internal nomination procedure. In both these procedures, key party branches such as the women's federation and the youth league have substantial influence. These branches will co-ordinate votes and nominations to place their candidates high up on the party lists. The selection committee also has a strong implicit power by organizing and presenting the information about the available candidates. In the case of the internal primary, the committee often pre-ranks the list of nominees or sends the information together with party lists from the previous election as "guidance" for the members, practices that have been argued to introduce an anti-minority bias in the voting pattern (Soininen and Etzler, 2006).

Having collected information on the support of the difference candidates, the nomination committee ranks the candidates on a preliminary party list. In this stage the committee will also take into account the specific party's strategy of gender representation. All of Sweden's main parties has some strategy of this type, a summary of which are given in Table A1 of the appendix. Left-wing parties have favored strict quotas with placement mandates and right-wing parties have relied on non-mandatory recommendations for the share of women on the electoral ballots (the relevance of these quota policies for our study is further discussed in the sections on descriptive statistics and results below). After the committee has

molded a final suggestion for the party list, that list is put up for a vote a member meeting, but changes are rarely made at this stage.

Re-election in closed list PR systems occur when a person is placed high enough on the electoral ballot to gain a seat in the assembly for an additional period. Failing to get re-elected is either the consequence of a decision not to run – meaning that the politician is not placed on the ballot at all – or being placed too far down on the ballot to attain a seat. Over time, politicians gain seniority by being re-elected numerous times, climbing the electoral ballot toward the most powerful positions at the very top. The further up a politician is placed, the more powerful is his or her position within the party hierarchy (Folke et al. 2014).

As may be understood from the description of the selection procedure for the ballots, gaining a slot with a high probability of election is not possible without elite support. The elites dominate the nomination committees, both directly by being members and indirectly by exerting influence, and they also co-ordinate the votes of the internal primaries. Rather than being a "toss-up" in each election, the list nomination procedure is highly stable and incumbent representatives have large advantages in retaining their positions.[5] Perhaps most importantly, there is a strong convention that the nomination committee approaches candidates rather than the other way around. In a recent survey among candidates in the 2010 local election, 80% of the respondents said that they appeared on the ballot as a consequence of "being asked and saying yes", a proportion that was even larger among more politicians with longer experience (Järnbert 2013).[6]

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[5] Incumbent politicians gather experience at the job which should make them more desired for continued careers, somewhat similar to the incumbency advantage commonly found in majoritarian elections (Schwindt-Bayer, 2004; Palmer and Simon, 2001).

[6] The important role of party recruiters also exists in other contexts. For example, Fox and Lawless (2010) analyze panel data on political ambition and recruitment among US citizens in "pipeline professions" (the most common professions for political office holders). Following individuals over time, they find that the lower average level of ambition among women could be fully explained by differences in the recruitment pattern. Women were less likely to be recruited, recruited intensely, or recruited by multiple agents.

A Swedish local politician described the practice of the electoral committee in reaching out to incumbent politicians for re-election as follows: "You ask and perhaps also try to convince a specific person to be a candidate, but if there was someone that they did not see as [desirable]… then you did not ask that person of course. You only reached out to the persons that you desired" (Soininen and Etzler, 2006, p.128). Because re-election implies that a person gains seniority and thereby also greater claim for a more influential appointment, encouragement to run for re-election is closely linked with the perception that the politician is an appropriate candidate for promotion.

The preference voting system deserves special mention with regard to politician's election chances and parties' nomination procedures. About one third of the voters cast their optional preference vote, and those who do largely cast it for one of the top persons on the list. On average, more than one third of the votes go to the top ranked individual, a fact that likely reflects the order effect found across contexts with open list systems (for a review of this literature, see Blom-Hansen et al. 2015). Because of the low "turnout" in preference votes and the voting for top politicians, it is rare that politicians further down on the electoral ballot pass the vote threshold for a guaranteed seat which equals 5% of the party's total votes in preference votes. Nevertheless, research has shown that the distribution of preference votes among the top persons on the list is used to guide parties' future nominations for top positions (Folke et. al 2014).[7]

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[7] In each election, roughly 20% of the nominated politicians clear this threshold, but 95% of these persons already qualified for an assembly seat by their list rank. The result is that only 1% of the total elected politicians received their seat through preference votes rather than list rank.

Data and Descriptive Statistics

Our data originate from party ballots kept by the Swedish Election Authority and cover all political parties competing in six elections (1991 to 2010) and across 290 municipal councils. In each election, about 55,000 politicians appear on a ballot and roughly 13,000 are elected.

The party ballots include personal identification numbers, which can be linked to a host of background variables from the administrative registers of Statistics Sweden.[8] This gives us highly reliable information on income, education type and length, age, gender, occupation and the number of children of all politicians in our dataset. These and other register variables are available for the full sample period for each politician. This distinguishes our dataset from other large panels of politicians which usually contain self-reported data from candidates at the time point when they are running for office or are elected. Because we know what happens in the individual's life after he or she leaves elected office, we can account for events that can drive voluntary drop-outs, such as having children.

Table 1 shows key descriptive statistics for elected municipal politicians, both for the full sample and by gender. The sample excludes local parties and right-wing nationalist party (the Swedish Democrats), restrictions that together exclude about 5% of the observations. In our final sample, the average age is 50 years, one third holds a tertiary degree, and that one third has at least one child between the age of 0-18. Male politicians are on average about two years older on average, they have a higher average income, are less likely to have tertiary education, and less likely to be parents of children aged 0-18.

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[8] Linking data is subject to an application process for ethics in research as well as judicial clearance.

Table 1. Summary statistics for elected politicians by gender, pooled data for 1991-2010.

	Age	Wage	Higher education	Parent of child of age 0-18
All	*50*	*223.8*	*38*	*36*
Women	48	201.1	42	38
Men	51	239.4	35	35

Figure 1 shows the development over time in the average share of elected women across all 290 municipal councils. Using information about the list rank of every politician in every election period we also plot the development in the share of women among the top ranked individuals on all electoral ballots.
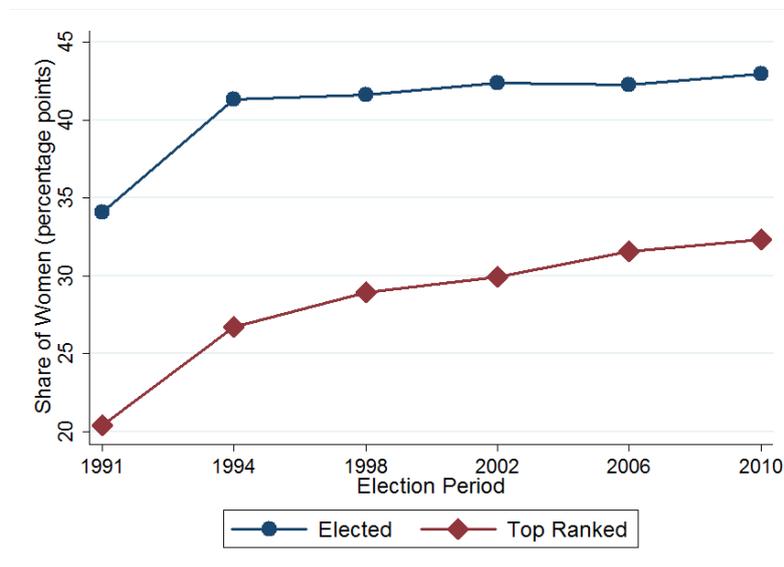
Figure 1. Share of elected women and share of women among top ranked candidates, 2006-2010.

Over our study period, the share of women in the municipal councils increased from 34% to 43%, an increase that was mainly driven by the introduction of a gender quota with a zipper placement mandate in the largest political party, the Social Democrats, in 1993. Women's share of the top ranked positions also shows a steady increase over the period, but the share has consistently been at least ten percentage points below the share of women in the council as a whole. Although women cleared the threshold of having more than four out of ten council seats in 1994, the share of first ranked women has still not surpassed one third in 2010.

We use two main measures of career advancement, the event of re-election and the event of being selected to the top position on the ballot. The use of re-election as a measure of career advancement is motivated by the fact that seniority is the key determinant for reaching the top appointments within a party group. The importance of re-election is closely linked to the role of the party organization in distributing seats and positions of influence in the list PR system. For individual politicians, there is essentially no other route to political influence than through the party elites since top appointments such as mayor are made by the political parties after the election. Over several re-elections, politicians climb the ladder that is the party list, and eventually reach the top positions on the list and the top appointments.

We illustrate this fact in Figure 2. It shows the share of politicians that either i) hold the top position on a ballot or ii) chair the council board, the municipal council, or a municipal committee, among politicians with different numbers of total periods in office. For the second outcome, we restrict the sample to eligible politicians, namely those belonging to a party in the municipality's governing coalition.

The figure shows that re-election is crucial for reaching positions of influence. Around 8% of the freshmen hold the top ranked position in their party group, and only 15% hold a chair position. For each additional election period of experience, the share that holds a top ranked position increases by on average 5 percentage points, while the share that holds a chair position increases by 10 percentage points on average. This implies that the average politician with four periods of seniority is more than three times as likely to hold both the top ranked position and a chair position within the council as compared to a freshman.
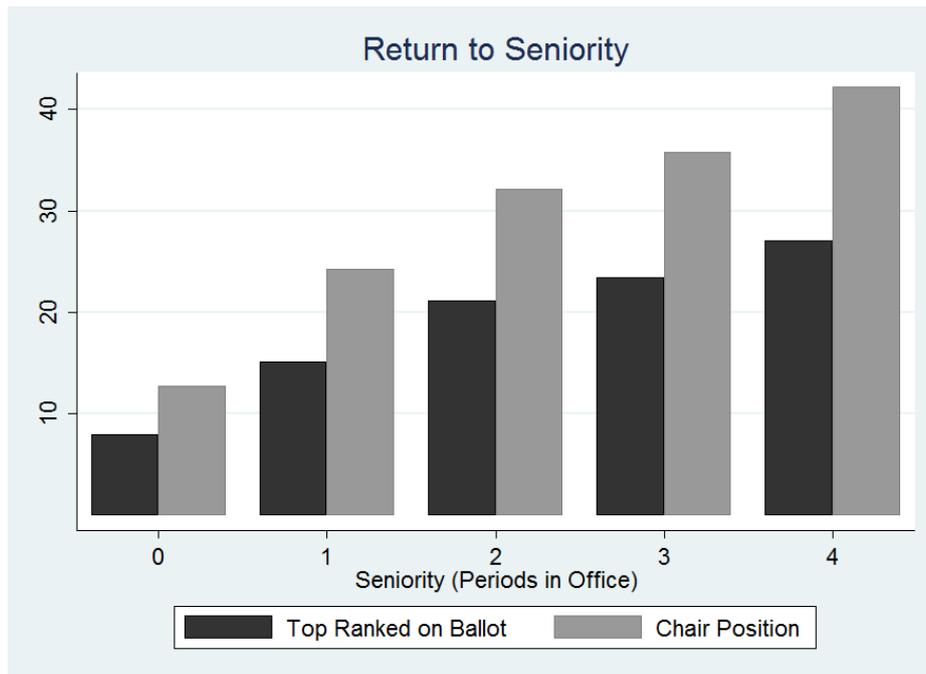
Figure 2. Share of politicians who is the top ranked person on their party's ballot and who holds a chair position in the municipal council board, municipal council or committee, as a function of the total number of periods in office.

In the empirical analysis we count being elected to the national parliament as the event of being re-elected. The average number of elected municipal politicians that gain a seat in the parliament is 60 persons per election period, which corresponds to 0.4% of those elected. This addition does not affect our conclusions, but it controls for a gender difference in the rate of promotions to the national parliament which could hypothetically have affected the analysis.

Our second main measure of career advancement is a binary indicator for holding the top position on the ballot. This measure is an important complement to our measure of re-election. While re-election is a factor that enables a politician to reach influential positions, promotion to the top ranked position captures the event of actually making it to the very top. We can use data on appointments for the 2006 and 2010 elections to verify this claim. In nine cases out of ten, the chairperson of the municipal council board is the top-ranked person in the largest political party of the governing majority. In eight cases out of ten, the vice chairperson is the top-ranked person from another party, usually the largest opposition party.

In addition to our two main measures, we also add two supplementary measures of career advancement which explicitly take the mechanics of re-election into account. For clarity, we distinguish between those i) who did not get re-elected because they did not re-appear on the list and those ii) who did not get re-elected but did re-appear (often with a lower rank order). It may be tempting to categorize the people who did not re-appear as having exited politics voluntary. The problem with this interpretation is that moving a person downward on a ballot is controversial and is usually not done without that person's permission and good relations with the party elite ("I drop out but continue to support the party by letting them use my name on the ballot"). If there is instead a conflict with the elite, or a person is not encouraged to run again, that politician is likely to leave the list altogether. With this caveat in mind we will show our analysis for the sub-divided re-election measure.

Table 2 shows descriptive statistics for each of our four outcome variables by gender and election period. The upper pane contains the statistics for re-election, followed by the two sub-measures of re-election. The lower pane contains the share of politicians that become top ranked in the next election.

Table 2. Descriptive statistics for four measures of political career advancement, by gender and election period, 1991-2006.

		Full	**1991**	**1994**	**1998**	**2002**	**2006**
Re-elected	*Women*	53.3	59.5	50.2	51.0	52.7	56.7
	Men	57.0	59.6	55.0	56.1	57.3	54.2
Retained	*Women*	69.8	74.7	65.4	65.6	70.5	73.7
	Men	74.1	76.4	71.8	71.8	75.3	75.7
Re-elected	*Women*	76.9	79.6	77.7	77.1	74.9	73.6
if retained	*Men*	76.4	77.9	76.7	78.1	76.1	74.9
Top Ranked	*Women*	9.0	9.6	7.8	9.0	9.0	9.6
Next Election	*Men*	14.4	14.1	14.0	14.6	14.5	14.1

Notes: To be retained is defined as remaining on the electoral ballot. To be elected is to get one of the party's seats in the municipal council.

Men are on average 3.7 percentage points, or 7 percent in relative terms, more likely to be re-elected than women are. Since this difference applies to each election period, the average gender difference in total accumulated seniority becomes substantial over time. The average man has a 14 percent greater probability of remaining an elected politician for two election periods, and a 40 percent greater probability to remain in office for five periods.[9] A seemingly small average gender difference in re-election rates thus translates into a dramatic difference in accumulated seniority among men and women in the political body over time.

There is a substantial variation of the gender differences in re-election rates across election periods. The year that stands out is 1991. Women who were elected in this year had a higher likelihood of being re-elected in the next election than their male colleagues, a situation that can be attributed to the fact that both the Social Democrats and the Left Party introduced centrally mandated gender quotas with placement mandates in the 1994 election.

For our second main outcome, becoming top ranked in the next election, the gender difference is even larger and quite constant over time. The average man has a 14.4 percent probability of becoming top ranked in the next election, while the average women only has a 9 percent probability. This implies that the average man is more than 50 percent more likely to become top ranked compared to the average woman.

To measure political competition we draw on the fact that Swedish politics is centered around two stable left- and right-wing blocks and has therefore been classified as a bipartisan political system (Alesina et al., 1997). This makes the absolute difference in vote shares between the two blocks an appropriate measure for the main dimension of political competition (for previous use of this measure, see Svaleryd and Vlachos, 2009). We use a

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[9] For five periods, compare the probability for women ($0.533^5 = 0.0043$) to the probability for men ($0.570^5 = 0.060$), which is $6.0/4.3 = 1.40$.

three-year moving average of the absolute difference in vote shares to capture persistent political climates rather than occasional competitive elections.

The suitability of our measure can be motivated as follows. First, governing coalitions across the traditional blocks are uncommon, existing in less than one fifth of the cases when one block holds a majority of the seats but no single party has more than 50 percent of the votes. Second, previous research on Swedish municipalities has found a causal effect of majority positions of political blocks on political outcomes (Pettersson-Lidbom, 2008).

To take into account the fact that, after all, coalition formation along the right-left divide is not always binding, we also construct an alternative competition measure based on the margin of electoral victory of the actual governing coalition in each municipality. We measure the margin of victory, 50 percent minus the total vote share of the coalition parties. These data are available from the 1994 election onward, so no moving average is used. In order to interpret higher values of both our two competition measures as *more* competition, all vote margins are expressed in negative values.

There is a large amount of variation in both of our competition measures, both across and within municipalities. The standard deviation of our first competition measure is 12.5 percentage point, and the standard deviation of the second measure is 7.5 percentage points. After subtracting the average level of competition within each municipality, we are still left with standard deviations of 7.5 and 5.5 percentage points, respectively. The reason for this is that the political climate in Sweden has shifted over the sample period to cause substantial shifts in the political environments within municipalities over time.[10]

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[10] Over the past decades the Swedish political climate has shifted away from Social Democratic dominance toward a more competitive environment. After having Social Democratic governments for most of the post WWII period, the center-right coalition came to power at the national level in 1991-1994, and again won power more recently in 2006-2014. A corresponding wave of center-right voting swept across the municipalities, pushing some Social Democratic strongholds in a more competitive direction and having the opposite effect on

Although we cannot directly measure voter demand for gender balance in the composition of the party leadership we can use the distribution of preference votes to approximate if the preference voters favor women or men on party ballots. However, this measure comes with the important caveat that preference votes obtained by a candidate is not only a function of voter demand but also a function of the party's support of a candidate. This support can amount in media appearances, better confidence, a higher list placements, or other factors that in themselves generate preference votes via name recognition or a ballot order effect.

With this caveat in mind we compare the average proportion of preference votes for a local party that was obtained by men and by women in our estimation sample and in the post 1998 period. The average male politician receives 9.5 percent of the preference votes and the average female politician receives 6.8 percent. When we instead compare only men and women who hold the same list rank, more than half of this difference disappears. Given these circumstances, the average man receives 1.2 percentage points more preference votes than the average women. The exact regression results are showed in the Appendix (Section A1). We cannot determine if the remaining difference in vote support can be attributed to internal party factors or to "exogenous" voter support, but we will come back to this the gender difference when we interpret our main results below.

Empirical Strategy and Main Results

The goal of our empirical analysis is to examine if political competition has a positive impact on women´s political careers relative to men's. We start by estimating the regression equation

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places with an initially strong center-right base. As an illustration of the substantial shifts in power that took place over our study period, the number of municipalities with left-wing rule went from 31% in 1991 to 73% in 1999, only to then drop back down to 59% in 2002 and 41 % in 2006.

$$Y_{it+1} = a_{it} + \beta_1 w_i * Comp_{mt} + \beta_2 w_i + \gamma_{mtp} + \varepsilon_{it}, \qquad\qquad (1)$$

where the outcome variable, Y_{it+1}, is each one of our four events of career advancement in the next election. Our main parameter of interest is β_1, the estimate for the interaction term between the dummy variable for being a woman, w_i, and political competition, $Comp_{mt}$. A positive estimate implies that women fare relatively better under political competition. The parameter β_2 captures women's relative career trajectories when political competition is at its fiercest, i.e. when the interpolated value for when our measure of competition is zero. Note that the un-interacted variable for political competition, $Comp_{mt}$, is redundant once we include the fixed effects that we describe in the next paragraph.

In our estimations we want to control for all variation in our outcome variables that stems from differences across party groups and municipalities. For example, we want to control for the size of the party group and the party's electoral performance, which could be correlated with both the share of women in a group and the probabilities of becoming re-elected and becoming the top ranked person. Also, the political environment is very different across municipalities, and these differences could be correlated with both women's and men' political career trajectories. For example, some municipalities have very low re-election rates and high persistency in political leadership, as well as lower levels of female representation. To control for these factors and for all other confounders that are related to being in a specific party group and municipality in a specific year, we include fixed effects γ_{mtp} for all possible interaction variables between dummy variables for each party p, each election period t, and each municipality m.

The regression specification leaves room for endogeneity problems stemming from unobserved variables. In particular, there could exist municipality characteristics that are

correlated both with the level of competition and with women's relative career prospects, a concern that is addressed further down in this section.

Our extensive fixed effects structure prohibits the use of a Probit model to estimate the specification in equation (1). Instead, we use a simple OLS model. If we use a specification without the fixed effects, the OLS and Probit specifications give essentially the same results[11].

In all specifications, we make an important sample restriction by excluding all observations from a specific party in the election when it introduces a gender quota with a placement mandate.[12] The reason for this is the immediate and "mechanical" advantage that the quota gives to women in that year. As a second sample restriction we drop party groups with less than three elected politicians to allow our career advancement variables to reflect at least a minimal status difference within the party group. Standard errors are clustered at the municipality level to reflect the unit of observation for our competition variable.

Our main results are presented in Table 3. For each outcome variable, we show the results for using each of the measures of political competition. In the odd numbered columns, we use the block difference in votes, and in the even numbered columns, we use the victory margin for the governing coalition. The upper pane contains the results for the main outcomes, re-election (columns 1 and 2) and being top-ranked (columns 3 and 4). The lower pane contains the results for the event of being retained on the ballot (columns 1 and 2) and the event of being re-elected conditional on retainment (columns 3 and 4).

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[11] These results can be provided by the authors upon request.
[12] The Social Democrats in 1991, the Left Party in 1991 and 1994, and the Green Party in 1994.

Table 3. OLS estimates for the relationship between electoral competition and gender differences in career advancements, 1991-2010.

Competition Measure:	Block Diff. in Votes (1)	Ruling Block Win Margin (2)	Block Diff. in Votes (3)	Ruling Block Win Margin (4)
	Re-Election		**Top Ranked Next Election**	
Woman	-2.57	-2.78	-4.37	-3.86
	(0.83)	(0.77)	(0.62)	(0.53)
Woman * Competition	10.84	25.69	2.92	9.78
	(4.21)	(7.08)	(2.74)	(4.36)
Observations	52,330	38,640	52,330	38,640
	Retention		**Conditional Re-Election**	
Woman	-3.20	-3.34	-0.01	0.09
	(0.78)	(0.78)	(0.78)	(0.74)
Woman * Competition	9.30	19.74	4.86	16.84
	(3.75)	(7.11)	(3.77)	(7.25)
Observations	52,330	38,640	37,670	27,680
Election Sample	91-2010	94-2010	91-2010	94-2010

Notes: Parentheses contain robust standard errors clustered at the municipality level. All coefficients are scaled up by 100 to let the point estimates be interpreted as 1.0 = 1 percentage point. All specifications include fixed effects for the interaction of year, municipality and party. All observations from a political party are dropped in the year that it introduced a gender quota, and the sample is restricted to party groups with at least two members.

The main take-away from Table 3 is that there is less gender inequality in career advancement under more fierce electoral competition. This is shown by the large, positive, and statistically significant estimates of the interaction term between political competition and the binary indicator for being a woman, which we find for both of our two main measures of career advancement. The results are somewhat stronger for re-election than for holding the top position, but overall they strongly suggest that women's career trajectories relative to their male colleagues' trajectories improve when the two political blocks are more equal in size (columns 1 and 3), and when the governing majority has a less dominating hold on power (columns 2 and 4).

The size of the point estimates for the main career measures can be interpreted as follows. First, consider that the average difference in vote shares between the right- and left-wing block has a standard deviation of 12.5 percentage points. The point estimate for the re-election outcome, 10.84 in column 1, hence means that increasing competition by one standard deviation raises the relative re-election probability of women by almost 1.5 percentage points. Thus a one standard deviation increase our first in political competition would decrease the average difference between men's and women's re-election rates with a third. For the top-ranked position, the same calculation shows that one standard deviation of increased competition reduces women's disadvantage by 0.5 percentage points, one eigth of the average gap. For our second measure of competition the point estimates in relationship to the standard deviation of 7.5 percentage points suggests an even larger role of political competition in reducing women's disadvantage.

Given that the average probability of reaching the top position is smaller than that of being re-elected, the size of the point estimates suggests that the relative impact of competition is even larger for this outcome.

The results in the lower pane clearly show that the positive relationship between women's relative re-election rate and political competition stems both from a smaller gender difference in leaving the list and a smaller difference in being given a low rank on the list, conditional on re-election. In particular, the relationship between competition and retention is significant for both measures of competition. For re-election conditional on retention, the statistical relationship is only significant for our second competition measure. Together, these results suggest that the gender difference in exits from the list is smaller under competition, and that women who remain on the list are less likely to be moved down to lower positions relative to their male colleagues when competition is fiercer.

To address the concern that our results above could be confounded by municipality characteristics that are correlated both with political competition and with women´s relative career opportunities, we use two additional specifications. The first relies on control variables and the second on relies on municipality fixed effects. To save space, these results are shown for our two main measures of career advancement.

We first add controls for municipal characteristics that may be correlated both with the level of political competition and with the gender difference in career advancements. Controls are selected based on previous work on women's numerical representation in elected assemblies and in the executive branch. Prominent variables in this literature are district magnitude (e.g. Studlar and Welch, 1991, and Matland, 1993), women's labor force participation (Matland, 1998), women's socioeconomic status (Reynolds, 1999; Kenworthy and Malami, 1999), cultural norms regarding gender equality (Inglehart and Norris, 2001; Tripp and Kang, 2008), and party ideology (Davis, 1997; Thiebault, 1991)

Several variables are chosen to reflect this body of work. Dummy variables for council sizes are used to control for district magnitude, and another dummy variable captures if the party is a left wing party. To control for other social factors we build on geographical research on Sweden which has argued that women's political representation is highly correlated with regional cultural differences in women's social and economic emancipation (Forsberg, 1997).[13] Based on this we include a set of dummy variables for municipality type according to the official classification provided by the Swedish Association of Local Authorities and Regions. The six types are the average (benchmark) type, large city, suburban city, mid-size city, sparsely populated area, rural area, or industrial or mining town. We also control for the

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[13] This research has concerned so-called local "gender contracts" with three levels of attitudes toward gender parity on the labor market and in the family. Places with progressive gender contracts are characterized by gender parity in education levels, labor market participation and family relations. The theory also expects women's participation in politics to correlate positively with these factors.

average income differential between men and men in the municipality, a variable that captures both labor force participation and the raw gender wage gap.

When we include our control variables we interact each one with the binary indicator for female sex. This allows us to effectively control for the relationship between the municipality characteristics, or party ideology, and women's *relative* career opportunities. Reporting the results, we omit the un-interacted female dummy since this estimate becomes difficult to interpret after adding the numerous interaction terms. As in the case with the competition variable, we cannot include the un-interacted variables for our municipality characteristics. These variables have no variation at the level of our fixed effects, i.e. within the party-municipality-election period cell.

A second approach to controlling for municipality characteristics relies on municipality fixed effects. In the baseline specification we already include fixed effects for the interaction of municipality, party and year. However, this does not capture that fact that there might be an unobserved municipality characteristic that is correlated with both competition and women´s career prospects. To account for the unobserved municipality characteristics that are constant over time but which might give women a differential promotion chance, we interact the municipality fixed effect with the binary indicator of for being a woman for all politicians in that municipality. This specification is highly demanding of the data because it relates differential career advancements between men and women within a municipality to changes in the level of competition *within* that same municipality only. Also, recall from the discussion of our competition measure that the within municipality variation in political competition is roughly 30 percent smaller than the overall variation in the variable.

Table 4. OLS estimates for the relationship between electoral competition and gender differences in career advancements, 1991-2010, including municipal level control variables.

Competition Measure:	Block Diff. in Votes (1)	Ruling Block Win Margin (2)	Block Diff. in Votes (3)	Ruling Block Win Margin (4)
	Re-Election		**Top Ranked Next Election**	
Woman*Competition	8.90	23.68	3.37	7.14
	(4.52)	(6.91)	(2.76)	(4.21)
Woman*Municipal Controls	yes	yes	yes	yes
Woman*Party Left Ideology	yes	yes	yes	yes
Observations	52,184	38,528	52,184	38,528
Woman * Competition	13.42	22.95	-3.15	4.98
	(7.00)	(8.98)	(5.40)	(5.22)
Woman*Municipality FE	yes	yes	yes	yes
Observations	52,330	38,640	52,330	38,640
Election Sample	91-2010	94-2010	91-2010	94-2010

Notes: Parentheses contain robust standard errors clustered at the municipality level. See Table 3 for additional details

The results are reported in Table 4. In the upper pane, the results for the control variable approach show that our baseline findings are barely affected by including relevant controls for municipal characteristics. This is true for both of our main outcome variables. Although the point estimates shrink slightly in size, the estimates that were statistically significant in the baseline specification remain so in this specification.

The bottom pane shows that the baseline findings for our first outcome also hold up for the demanding specification in which we include the interaction of the binary indicator for female gender with municipality fixed effects. Again, the estimates shrink in size, but the changes are larger than in the previous case. This is likely because we are using only a subset of the overall variation of competition. Given that this specification captures impacts on women's relative careers from changes in the political climate within the municipality, it is perhaps not surprising that we see a larger reduction of the estimate for making it to the top of the party group than for the estimate of re-election. Arguably, the re-election probability is

more sensitive to changes within the municipality compared to the probability of making it to the top of the party group, an outcome that requires career advancement over several election periods and make the latter more likely to be observed in a comparison of levels of competition across municipalities.

In sum, the observation that our baseline results hold up for these two ambitious approaches to controlling for municipality characteristics make us confident that our results are not driven by municipality characteristics other than political competition.

Competition and the Supply of Politicians

We continue our analysis by exploring the possible that the relationship between political competition and women's relative career advancements is driven by gender differences in the supply of politicians. If the women who come forth to seek higher political appointments in competitive contexts are more motivated, more qualified, or have life situations that are less constraining for their political careers *relative to their male colleagues*, this could explain the results in the previous section.

We test this supply mechanism in two ways. The first test draws on our extensive dataset for the social characteristics of our politicians. We introduce a vector of control variables for both individual qualifications and life situations that would make politicians more or less likely to be actively promoted by the party or to opt out of their political careers. If our main results are driven by different women and men coming forth as candidates under competition, the baseline results should disappear at the introduction of these controls. Further down in this section we perform a second test in which we use unique and comprehensive survey data to examine if there exists a gender difference in the stated career ambitions of elected men and women that can account for our findings.

We divide the individual level controls into two groups: observable qualifications (quality), and life situations that would lead the politician to leave his or her career for personal reasons. We provide a brief description of the variables here and refer the reader to the appendix, Table A2, for a full list.

There is a rapidly evolving empirical literature on the quality of politicians. With our rich data, we can include controls for the four most commonly used measures of quality in this literature. The most common measure is a politician's number of years of education, which is argued to capture enhanced practical skills, signaling ability, or civic engagement (see, for example, De Paola and Scoppa, 2011; Galasso and Nannicini, 2011; Schwindt-Bayer 2011; Franceschet and Piscopo, 2012). The second measure relies on occupational choices, departing from the view that individuals with certain occupation-related skills will perform better or worse as politicians (Messner and Polborn, 2004).[14] We measure this with dummy variables for the employment sector of the politician (at the 2-digit industry level). The third measure is political experience, a measure mainly used in the U.S. context (for example; Cox and Katz, 1996; and Hirano and Snyder, 2013). We measure experience with a dummy variable for incumbency and with fixed effects for the politician's current list rank. The fourth measure is the annual income of the politician, following previous studies that have approximated quality with private wealth and/or wages (e.g. Ferraz and Finan, 2011).

Finally, we use the competence measure developed by Besley et al. (2013), which exploits data on the local politicians' earnings on the labor market. It assumes that competence can be gauged from average income differences (over 20 years) between people with the same education, occupation, age, and gender. Besley et. al. (2013) show that this

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[14] Some jobs are viewed as more relevant for the political profession, such as the so-called "pipeline professions" from which U.S. politicians often come: lawyers, business executives, professors, and secondary school teachers (Lawless and Fox, 2010). Many studies have tended to add public employment to this list (see, for example, De Paola and Scoppa, 2011; Schwindt-Bayer, 2011). Others have classified some jobs as "brokerage jobs" or "politics-facilitating occupations" such as teacher, journalist, government official and political researcher and argued that people with these occupational backgrounds have a number of subjective personal characteristics which increase the odds of being selected by the party (Norris and Lovenduski, 1995).

measure of competence is strongly associated with individual political success, while Folke et al. (2014) show that is positively correlated to preference vote support.

Next, we define the control variables for life situations that may trigger a politician to opt out of politics. To provide guidance on the relevant factors, we rely on a survey from the early 2000s that targeted all Swedish municipal politicians who left their elected seats before completing their term in 28 randomly selected municipal assemblies. The three most common reasons for dropping out were moving away from the municipality (21% of the respondents), changes in the private labor market situation (16%), and family-related reasons (10%) (Nielsen, 2001). We control for these factors as well as for the potential heterogeneous impact of children on women's career choices (see Appendix Table A2 for further details).

In addition to the above control variables, we control for age, which could be seen both as a qualification (middle age) and a determinant of the willingness to stay in office (for senior citizens in particular).[15] Finally, we control for immigrant status since immigrants can face the same type of career obstacles as women. The results for adding the individual level controls are shown in Table 5, following exactly the same structure as the previous Tables 3 and 4.

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[15] As emphasized by Davis (1997), family responsibilities may delay women's entry into politics. This makes them more likely to be older than the "right" age bracket when they reach the necessary level of experience for a top position.

Table 5. OLS estimates for the relationship between electoral competition and gender differences in career advancements, 1991-2010 and including individual level control variables.

Competition Measure:	Block Diff. in Votes (1)	Ruling Block Win Margin (2)	Block Diff. in Votes (3)	Ruling Block Win Margin (4)
	Re-Election		**Top Ranked Next Election**	
Woman	-1.47	-2.18	-1.20	-1.46
	(0.99)	(0.95)	(0.46)	(0.48)
Woman* Competition	10.78	21.91	4.56	7.50*
	(4.16)	(7.51)	(2.05)	(4.16)
Children	2.96	2.85	1.34	1.45
	(0.75)	(0.84)	(0.47)	(0.53)
Woman*Children	-3.29	-3.24	-1.87	-1.54
	(1.09)	(1.19)	(0.63)	(0.72)
Years of Education	0.31	0.37	0.18	0.16
	(0.09)	(0.11)	(0.06)	(0.06)
Previously Elected	1.69	1.27	0.29	0.11
	(0.61)	(0.68)	(0.32)	(0.35)
Individual Level	yes	yes	yes	yes
Observations	46,873	34,568	46,873	34,568
	Retention		**Conditional Re-Election**	
Woman	-2.12	-2.16	0.57	-0.42
	(0.89)	(0.94)	(0.96)	(0.90)
Woman* Competition	8.24	15.28	6.82	14.47
	(3.57)	(7.07)	(3.92)	(7.55)
Children	1.53	1.46	2.03	2.11
	(0.68)	(0.79)	(0.75)	(0.88)
Woman*Children	-2.66	-3.07	-1.63	-1.33
	(0.96)	(1.03)	(1.11)	(1.25)
Years of Education	-0.08	0.03	0.52	0.53
	(0.08)	(0.10)	(0.11)	(0.13)
Previously Elected	-0.87	-0.76	2.84	2.10
	(0.49)	(0.58)	(0.70)	(0.79)
Individual Controls	yes	yes	yes	yes
Observations	46,873	34,568	33,618	24,650
Election Sample	91-2010	94-2010	91-2010	94-2010

Notes: Parentheses contain robust standard errors clustered at the municipality level. Definitions of the controls are listed in the Appendix. See Table 3 for additional details

Table 5 shows that our baseline estimates are not explained by differences in individual level characteristics between men and women. In fact, the results for the interaction term between women's career opportunities and political competition are strengthened as we

introduce the individual level controls. As we include the estimates are statistically significant for all four outcomes and both definitions of political completion.

Nevertheless, the fact that the introduction of these control variables only has a marginal effect on the size of the estimate on the interaction term between female sex and competition does not mean that they are unimportant for explaining women's relative career trajectories. This can be seen by examining the estimates for the independently included dummy variable for female sex, which is substantially reduced when we include the controls. Due to space constraints, we only show the estimates for four of the control variables here, namely having children, the interaction between having children and gender, years of education and being an incumbent and instead refer the reader to Table A4 in the online Appendix for the full set of control variables.[16]

For the role of differential family responsibilities between men and women, we can see that these play a key role in explaining women's career disadvantage relative to men. The point estimates between being a woman and having children for each of the outcomes suggests that the relative career disadvantage for women is twice as large for those that have children as for those without children. This can be attributed to a lower relative retention rate for women with children. The un-interacted point estimates for having children suggest that men with children do not seem to suffer any disadvantage in their careers.

The estimates for education both have the expected positive signs. The size of these point estimates helps us put the estimated disadvantage of women into context. The estimate of women's average career disadvantage is of about the same as that of having ten years less education. Finally, the estimate for incumbency status is very small. However, this does not

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[16] Out of all of our individual controls, it is the control for the differential childrearing responsibilities that by far matters the most in explaining the overall difference in re-election rates between women and men. This control variable alone can explain about a third of the overall difference. The key explanatory factors for the difference in the probability of reaching the top position on the ballot are current list rank and previous political experience.

say that incumbents do not hold a large career disadvantage. It is simply due to the fact that incumbency has already been factored into the current list rank, which we also control for.

Next, we examine survey data for self-reported ambitions among male and female politicians. The purpose is, once more, to check if a supply of more ambitious female politicians in high-competition municipalities can explain our results. The survey was sent to all 13,000 municipal politicians in year 2012 and reached a response rate of almost 80%. Amongst other things, it explicitly asked the following question: "For how long to you wish to remain an elected representative?". The four response categories were: (1) "Shorter than the current election period", (2) "Only until the end of the current election period", (3) "The current and the next election periods", and (4) "Many more periods". In Figure 3, we show the share of men and women that selected each option.
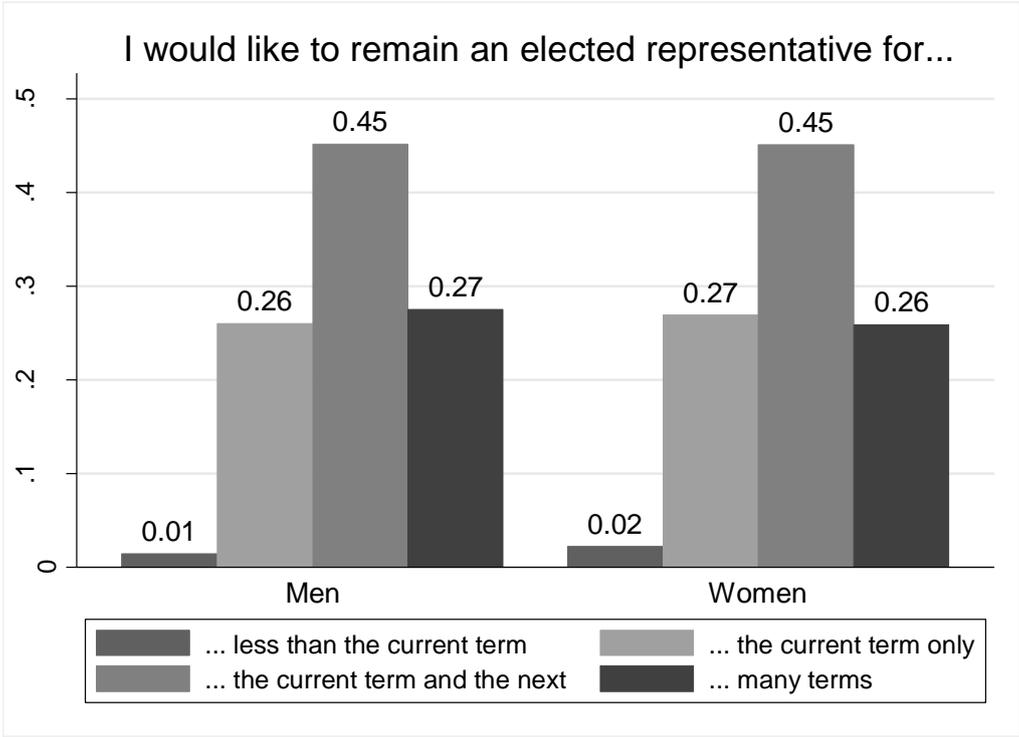

Figure 3. Ambition to remain in office by gender. The number states the share of respondents the have chosen each category by gender.

Figure 3 does not reveal any pronounced differences between the distributions of men's and women's career ambitions, a result that corresponds to previous findings both in other Swedish surveys (Öhberg, 2010, Järnbert 2013) and in surveys conducted in other countries (Center for American Women and Politics, 2001; Giessel and Hust, 2005; Schwindt-Bayer 2011; Davidson-Schmich, 2015).[17] Still, it could be the case that relatively ambitious women enter politics in municipalities with high competition. To examine this we estimate our baseline regression specification with the self-reported level of ambition as the outcome variable. As a robustness check, we measure the outcome in three ways, by i) an ordinal variable for each of the four ambition levels, ii) a binary indicator for selecting one of the two lowest categories, or iii) a binary indicator for selecting the highest category. The results are presented in Table 6, both with and without individual level controls for education level and for having children. In the interest of space, we only show the results for our competition measure that relies on the difference in votes between the two blocks. All regressions include fixed effects for the interaction between political party and municipality, and standard errors are clustered at the level of the municipality.

Table 6 shows that there is no clear relationship between political competition and the gender difference in career ambitions. If anything, the negative sign on the point estimates for the interaction term suggests that women have *lower* ambitions relative to men in municipalities with high political competition. Thus, the survey evidence does not give any reason to think that the positive relationship between political competition and women's relative career advancements is driven by more ambitious women entering politics in high-competition municipalities.

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[17] This gender divide in ambition among *elected* men and women is not the same as the gender divide in the willingness to run among the yet *unelected* general population. The latter gap has been the main focus of research on the US context (c.f. Lawless and Fox 2005, 2010) and also exists in the case of Sweden (Nielsen 2001:32).

Table 6. OLS estimates of the relationship between competition and the gender difference in self-reported career ambitions.

	(1)	(2)	(3)	(4)	(5)	(6)
	Ordinal		**Low Ambitions**		**High Ambitions**	
Woman	-0.060	-0.058	0.020	0.022	-0.031	-0.026
	(0.033)	(0.033)	(0.018)	(0.019)	(0.020)	(0.020)
Woman * Competition	-0.419	-0.332	0.051	0.059	-0.347	-0.244
	(0.451)	(0.444)	(0.264)	(0.278)	(0.272)	(0.265)
Constant	2.985	2.834	0.274	0.287	0.273	0.123
	(0.009)	(0.040)	(0.005)	(0.024)	(0.005)	(0.022)
Individual Level Controls		yes		yes		Yes
Observations	9,244	8,244	9,244	8,244	9,244	8,244

Notes: Parentheses contain robust standard errors clustered at the municipality level. All regressions include fixed effects for municipalities interacted with fixed effects for political parties. The sample is restricted to party groups with at least three elected politicians, and local parties and the Sweden Democrats are excluded.

Competition and the Candidate Selection Process

Based on our conceptual framework we argue that the positive relationship between political competition and women's probability of political career advancement can be attributed to characteristics of the party's candidate selection process. In this section we provide two tests to test this mechanism.

We target two specific characteristics of the local parties' nomination procedures and rely on the same survey data as in the previous section. The first characteristic captures the importance of two specific selection criteria. On a scale between 1 (very unimportant) to 5 (very important), respondents were asked to rank the importance of "competence" and "connections" for securing a safe seat on their party's ballot. Table 7 presents the results for testing if the rankings of these two criteria co-vary with the level of competition (columns 1 and 3) and by gender and competition (columns 2 and 4).

Table 7. OLS estimates of the relationship between competition and politicians' perceptions of the importance of "competence" and "connections" in the local party's candidate selection process.

	(1)	(2)	(3)	(4)
	Competence		**Connections**	
Competition	0.098	-0.077	-0.012	0.060
	(0.720)	(0.786)	(0.966)	(0.851)
Woman*Competition		0.403		-0.165
		(0.046)		(0.429)
Woman		-0.402		0.150
		(0.037)		(0.450)
Constant	3.834	4.009	3.439	3.373
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	8,405	8,405	8,403	8,403

Notes: Parentheses contain robust standard errors clustered at the level of the municipality. The sample is restricted to party groups with at least three elected politicians. Local parties and the Sweden Democrats are excluded.

The second characteristic of the nomination process is the identity of its main actors. To get a sense of this we use responses to a survey question that asked politicians to rate that level of influence of various actors using the same scale as above. Results for four groups: "party members", the "party leadership", the "selection committee", and "party branches such as the women's branch or the youth league" are shown in Table 8.

The results in columns 1 and 2 reveal no overall relationship between the level of political competition and the politicians' views on the importance of competence and connections in their parties' selection process. There is, however, a striking difference in how men and women view the importance of competence, as shown in column 2. Looking at the un-interacted estimate for the binary indicator for being a woman, the average women sees competence as being less important than the average man. This is consistent with men seeing the status quo of men's career advantage and women's career disadvantage as a function of competence, while women do not. The positive and significant interaction between gender and competition shows that this difference in perceptions is eroded by political completion.

Our interpretation of these results is that they support the idea that competition pushes parties to promote the most competent politicians irrespective of gender.

For the importance of connections (see columns 3 and 4) the point estimates show a pattern that corresponds to the interpretation above, although the estimates are all far from statistical significance. Women view connections as being a more important selection criterion, but this differences is eroded by political competition.

Table 8. OLS estimates of the relationship between competition and politicians' perceptions of the influence of actors in the local party's candidate selection process.

	(1)	(2)	(3)	(4)
	Party members		**Party Leadership**	
Competition	0.198	0.054	-0.374	-0.381
	(0.534)	(0.866)	(0.443)	(0.425)
Woman*Competition		0.329		0.015
		(0.182)		(0.957)
Woman		-0.303		0.000
		(0.197)		(1.000)
Constant	3.871	4.004	3.353	3.354
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	8,402	8,402	8.403	8.403
	Selection Committee		**Party Branches**	
Competition	0.199	0.189	0.879	0.856
	(0.566)	(0.616)	(0.024)	(0.026)
Woman*Competition		0.020		0.050
		(0.932)		(0.838)
Woman		0.026		-0.018
		(0.908)		(0.939)
Constant	3.770	3.760	1.786	1.795
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	8.403	8.403	8,402	8,402

Notes: Parentheses contain robust standard errors clustered at the level of the municipality.

The results from Table 8 are easily summarized when it comes to statistically significant relationships. The only group that is viewed as having more power in the candidate selection process under political competition is party branches, where the women's and youth sections are explicitly mentioned in the survey question. This is consistent with the idea that the parties strive to promote most competent candidates irrespective of socioeconomic characteristics. If parties want to promote the most competent candidates from political minorities it is of course natural to let the party branch representing those minorities to have a larger say in the nomination procedure.

8. Conclusions

This paper builds on the insight from previous research that the representation of different social groups is determined not by the voter casting her or his ballot, but by the political parties selecting their candidates to stand for election (see e.g. Darcy et al. 1994; Htun 2005; Soininen and Etzler 2006, Bjarnegaard 2012). We have shown that party behavior in choosing women for top appointments is strongly affected by the level of political competition. Using survey data, the improvement in gender equality under competition was linked to two factors in the nomination process: a stronger focus on competence as a selection criterion and a stronger role of party fractions such as the women's branch in the selection process. We could also reject the explanation that more ambitious women, or more high-quality female politicians, emerge as political candidates in competitive contexts.

Overall, our results support the economic intuition that parties, like private firms, are pushed to improve the efficiency of their "human resource management" under fiercer competition. For nominations, this means to retain and promote the most productive individuals. When competition is low, parties can disregard efficiency and allow a top-down selection procedure with a weaker competence focus. The consequence of these behaviors is

vertical inequality, a situation where the combined power and influence of the elected women falls short of their numerical presence in the party group.

Can voter demand explain out results? We would argue that this could indeed be the case, both in a direct and in an indirect sense. Our descriptive statistics showed that Swedish preference votes are distributed in a way that is slightly biased against female representatives. This is consistent with a smaller career disadvantage of women under competition than in places where parties are less constrained by voter preferences. We also argue that voters push parties to favor women in a more indirect sense by demanding more competent politicians.

Our paper adds to the growing literature that has tied political competition to better economic outcomes of the political process and higher quality of the elected politicians. We show that more competition is also related to improved career prospects for political minorities. This is an important result in itself as equal participation in politics is commonly viewed as a fundamental human right, an idea formally recognized by the UN resolution 66/130 on "Women and Political Participation". Our results show that there is no trade-off between competitive elections and women's access to top positions, something that could arguably have been expected if women "shy away from competition".

Our results highlight the possibility that the link between competition and minorities' access to political power could be an explanation for the finding that competition improves policy outcomes. Previous work has documented that women and men make different policy priorities (see, for example, Chattopadhyay and Duflo, 2004; Swers 2002; Vega and Firestone, 1995; Svaleryd, 2009), but also that women leaders spend public resources more efficiently (Beaman et al. 2010). In addition, the social composition of the political elite that forms the decision making body could have its own independent effect on policy (Alesina and Ferrara, 2005). An interesting avenue for future work is to further study the link between competition, minority representation, and various types of policy outcomes and priorities,

responding also to the call for an increased focus on both "critical actors" and "critical acts" in studies of minorities' impacts on political processes (i.e. Childs and Krook, 2009).

Finally, it is worthwhile to consider the Swedish evidence from an international comparative perspective. One striking fact is that the proportion of female parliamentarians reached 32% already in 1985, and both the parliament and the average female representation in the 290 municipal councils pushed above the 40% mark in 1994. Our study thus concerns a twenty-year period when women's numerical representation had already reached a level where gender is largely expected to have lost its importance as a salient divisor of the internal work environment of the organization (Kanter, 1977). Given this fact, our results show that even in contexts that should be the most conducive to equality in the political organization, the nomination behavior of political parties can continue to be an important obstacle to gender equality at the top.

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Appendix

Gender Quotas in Swedish Parties

Table A1. Gender quota characteristics and implementation years in Swedish political parties.

Party	Year	Mandatory quotas and placement mandates (hard quotas)	Targets and recommendations (soft quotas)
Left party	1987	Share of women at least equal to the female share of the constituency	
	1993	Minimum 40% of either sex	
	1997	Minimum 50% female	
Social democrats	1987		Minimum representation of 40% women at all party levels
	1990		Equal representation of the sexes
	1993	50%, plus mandatory alternation of male and female names	
Green party	1987	40%	
	1997	50%, plus minus one person	
Liberal party	1974		40%
	1984		50%, plus mandatory alternation of male and female names
Christian democrats	1987		Minimum 40% of either sex
Center party	1996		Equal representation of the sexes
Conservative party	1993		Equal representation of the sexes

Source: Authors' own classification based on Krook et al. (2009) and Freidenvall et al. (2006).

Estimate of voter support

To test if there is a gender difference in preference vote support we estimate the regression equation

$$P_{it} = a_{it} + \beta_1 w_i + L_{it} + Q_{it} + \gamma_{mtp} + \varepsilon_{it}, \tag{1}$$

where the outcome variable, P_{it+1}, is individual i's share of the total preference votes of the party in election t. Our main parameter of interest is β_1, the dummy variable for being a woman. It captures the difference in the proportion of preference votes received by women and men. L_{it} is vector of dummy variables for each list rank between 1 and 19 and one dummy for having a list rank of 20 or higher. To account for the fact that the effect of ranking on the proportion of preference votes could be dependent on the size of the party group, we interact these fixed effects with four categorical dummy variables for the size of the party group. Next, Q_{it} is the vector of individual control variables that we include as controls in section 6 (see also the detailed list Table A2 below).[18] Finally we include fixed effects for the interaction between election period, party and municipality to compare the preference vote difference between women and men who are on the same list in the same election.

We present the results in Table A2. Column 1 shows the results without controlling for list rank and individual level controls. In column 2 we add the controls for list rank interacted with group size, and in column 3 we add individual level controls.

Table A2. OLS estimates of the gender difference in the proportion of preference votes, 1998-2006.

	(1)	(2)	(3)
Woman	-2.34	-1.22	-1.20
	(0.18)	(0.13)	(0.14)
List rank F.E		x	x
Individual level controls			x
Observations	34,935	34,935	31,098

Notes: Parentheses contain robust standard errors. All coefficients are scaled up by 100 to let the point estimates be interpreted as 1.0 = 1 percentage point. All specifications include fixed effects for the interaction of year, municipality and party.

The results show that women receive fewer preference votes than men. Conditional on only the fixed effects for the interaction of year, municipality and party, women receive 2.3 percentage points fewer preference votes than men. However, about half of this difference can

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[18] As we are interested in the average difference between all women and men we omit the interaction term between being a woman and having children.

be attributed to men holding a higher list rank than women. The inclusion of the large set of individual controls cannot explain any of the difference between women and men.

Individual Control Variables

Table A3. Description of Control Variables

Family responsibilities	Dummy variable for having at least one child aged between 0 and 18
	Dummy variable for getting at least one more child between t and $t+1$
Competence	Income residual from "mincer style regression" regression that flexible controls for gender, age, occupation, education and municipality. Transformed to Z-Score. See Besley et. al. (2013) for complete description of competence measure.
Labor market changes	Dummy variable for increasing one's real income by more than 25 percentage points between t and $t+1$
	Dummy variable for changing one's sector of employment between t and $t+1$
Moving	Dummy variable for changing residence to another municipality between t and $t+1$
Age	Categorical dummy variables for the age groups of 18-29, 30-49, 50-60, 61-64, and 65 or above.
Education	Years of education
Income	Log of real income
Immigrant	Dummy variable for being foreign-born
Occupation	Categorical dummy variables for ten employment sectors
Incumbent	Dummy variable for being elected in the previous election period
Current position/ranking within the party group	Fixed effects for each rank order on the ballot. To account for the fact that the effect of ranking on the probability of re-election could be dependent on the size of the party group, we interact these fixed effects with four categorical dummy variables for the size of the party group.

In Table A3, we provide the estimates from the first alternative hypothesis test together with the estimates for all individual level controls. Due to space constraint, we do exclude the 10

controls for employment sectors and the 50 dummies for list rank fixed effects interacted with

party group size. Moreover, we only show the estimate for when we use the block difference

in votes to measure competition. Below, we will briefly discuss these results for each group of

control variables.

Table A4. OLS estimates of competition and probability of re-election, 1991-2010.

	Re-Election	Top Ranked Next Election	Retention	Conditional Re-Election
Woman	-1.47	-1.20	-2.12	0.57
	(0.99)	(0.46)	(0.89)	(0.96)
Woman * Competition	10.78	4.56	8.24	6.82*
	(4.16)	(2.05)	(3.57)	(3.92)
Competence	2.89	1.08	1.00	2.94
	(0.40)	(0.22)	(0.32)	(0.45)
Women*Children	-3.29	-1.87	-2.66	-1.63
	(1.09)	(0.63)	(0.96)	(1.11)
More Children	-2.08	-0.50	-0.44	-1.50
	(1.15)	(0.68)	(1.04)	(1.38)
Children	2.96	1.34	1.53	2.03
	(0.75)	(0.47)	(0.68)	(0.75)
Moved	-55.00	-10.11	-69.80	-26.30
	(0.72)	(0.46)	(0.68)	(4.45)
Occupation Change	-0.88	1.68	-2.04	0.99
	(0.53)	(0.29)	(0.47)	(0.55)
Wage Change	10.32	4.15	7.52	8.25
	(0.87)	(0.58)	(0.81)	(1.14)
Age 18-29	22.42	7.64	9.08	23.16
	(1.72)	(0.73)	(1.67)	(1.98)
Age 30-49	24.99	9.07	14.03	21.31
	(1.39)	(0.58)	(1.26)	(1.57)
Age 50-64	23.75	6.29	14.85	19.24
	(1.21)	(0.53)	(1.13)	(1.44)
Retirement age next period	-12.14	-5.71	-6.78	-8.87
	(0.93)	(0.48)	(0.87)	(1.00)
Ln (Real income)	2.63	0.83	1.90	2.47
	(0.31)	(0.14)	(0.28)	(0.39)
Years of Education	0.31	0.18	-0.08	0.52
	(0.09)	(0.06)	(0.08)	(0.11)
Immigrant	-0.55	-0.19	-1.23	0.26
	(1.05)	(0.60)	(0.86)	(1.27)
Incumbent	1.69	0.29	-0.87	2.84
	(0.61)	(0.32)	(0.49)	(0.70)
Observations	46,873	46,873	46,873	33,618

Notes: Parentheses contain robust standard errors. All coefficients are scaled up by 100 to let the point estimates be interpreted as 1.0 = 1 percentage point. All specifications include fixed effects for the interaction of year, municipality and party.

Starting with the competence measure from Besley et. al. (2013) we can see that is strongly and positively related to career promotions, corroborating that this actually captures something that is valued in politics.

For the role of differential family responsibilities between men and women, we can see that these play a key role in explaining women's career disadvantage relative to men. The point estimates between being a woman and having children suggests that the relative career disadvantage for women with respect to being re-elected is twice as large as for those without children. This can be attributed to a lower relative retention rate for women with children. Differential family responsibilities also play a key role in women's lower probability of reaching the top ranked position. The un-interacted point estimates for having children suggest that men with children do not seem to suffer any disadvantage in their careers.

We now turn to the other factors that could lead to politicians opting out of politics. These are also important explanatory factors, especially for candidates who are retained. That both occupational change and wage change have a strong association with becoming top ranked could be explained by the fact that becoming top ranked sometimes implies that the candidates get a full time appointment as politicians.

What stands out for the age categories is that politicians that are going to retire, or have retired, are much more likely to take a step back in their political careers. For full time politicians, this might be obvious, but the relationships are too large to be explained by this small subset of politicians, which indicates that retirement is a central factor for part-time politicians taking a step back in their political careers.

Wage and education both have the expected signs. Politicians that do well in the private labor market also do well in politics. Those with higher education also seem to do much better. The size of these point estimates helps us put the estimated disadvantage of women into context. The estimate of women's average career disadvantage is of about the same as that of having ten years less education, or having half as high a wage. The estimate for being an immigrant has a weak association with all our measures.

Finally, the estimate for incumbency is very small. However, this does not say that incumbents do not hold a large career disadvantage. It is simply due to the fact that incumbency has already been factored into the current list rank. Although we cannot show these, it is worth noting that those at the top of the list do hold a very large advantage as compared to those further down the list.