

# Female representation but male rule?

## Elite entrenchment, gender quotas and the political glass ceiling\*

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### Abstract

Although the number of women in politics is growing; women are still systematically under-represented on the more influential positions in the political hierarchy. We investigate gender differences in political career length using combined ballot and register data for more than 30 000 Swedish municipal politicians over five election cycles. The average woman is 7 percent less likely to be re-elected compared to the average man, of which only a small part can be attributed to differential family responsibilities or voter preferences. We propose a novel explanation for women's disadvantage, namely that male entrenched elites have incentives to limit their career advancements, but that the opportunities to do so are limited by political competition. This hypothesis is supported by two sets of empirical results. First, there is essentially gender parity in re-election probabilities in municipalities with high political competition. Second, we use an exogenous enforcement of name alternation by gender on municipal party lists (zipper gender quota) to directly infer the presence and strength of male elites. The results show a much greater female career disadvantage in places where this quota had the largest numerical impact.

Keywords: Careers in politics, Quality of politicians, Gender quotas, Political competition

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# 1. Introduction

Female representation is an important democratic issue because gender is a divisor of both voter preferences and of the policy choices made by politicians.<sup>1</sup> Over the past fifteen years we have also seen political parties in more than one hundred countries have adopted gender quotas to increase female representation (Krook, 2009). In many places, the share of women in parliament has increased substantially, and in the Nordic countries, parity in the number of men and women in political office has almost been achieved. But despite women's advances, descriptive evidence abounds that female politicians are under-represented on positions of influence. Although it is a fact of political life that not all politicians can have the same degree of influence, a relative under-representation of certain socioeconomic characteristics at the more powerful positions indicates a democratic deficit. Election results are represented in numbers but not in substance.<sup>2</sup>

Seniority is a key determinant of political influence.<sup>3</sup> In this paper, we provide the first empirical investigation of women's relative political influence, using seniority as the main measure of career advancement. Our study is made possible by a unique dataset that combines ballot and register data for Swedish municipal politicians. Over five waves of elections in 290 municipalities, we have detailed background information on all politicians, regardless of whether or not they were elected.

We propose the novel argument that women's political career advancements are restricted by male entrenched elites. In this paper, we do not develop our argument mathematically, but instead base the discussion of the formalization provided in Besley, Folke, Persson and Rickne (2011). We argue that the incentives for the entrenched (male) elite to restrict women's numerical presence on party lists, as laid out in that model, is also applicable to the influence of elected female politicians. The basic idea is that the elite seek to protect its own leadership positions and policy rents by limiting the number of women. The model also shows that political competition comes in as a constraint on the elite's by forcing it to cater to swing voters who prefer gender parity.

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<sup>1</sup> Rehavi (2008) explores closely contested races in the US and finds modest effects of female legislators on spending priorities. Descriptive analysis of gender differences in legislative behavior in the U.S. Congress have shown that female representatives focus more on women's issues, and (Welch, 1985; Vega and Firestone, 1995). For Swedish municipalities, Svaleryd (2009) finds a positive association between increased female representation in Swedish municipal councils and spending on childcare and education relative to elderly care. A number of papers also examine the policy consequences of a random assignment of female village leaders in India. Although the village setting differs greatly from the elected assemblies of parliamentary democracies, the studies find that the composition of public goods provided by women leaders was in closer accordance with village women's preferences (Chattopadhyay and Duflo, 2004; Munshi and Rosenweig, 2008; Clots-Figueras, 2009).

<sup>2</sup> Moving from explaining the women's relative number (or mass) to explaining their relative influence is in line with the recent political science studies that focus on the presence of women as critical actors in the policy making process (Childs and Krook, 2009; Kittilson, 2010).

<sup>3</sup> Seniority is an important determinant of political appointments, such as committee positions, but also for achieving more substantial legislative accomplishments. This is shown for the U.S. Congress by Diermeier et al. (2005). Also see Nelson et al., (1969) for a historical background of the setup of the seniority system in that country. Brothén (2010) documents the high relevance of this principle of seniority in Swedish political parties.

It is straightforward to assume that swing voters prefer parity not only in numbers, but also in the political influence. It is also likely that the elite's maintained leadership is more threatened in the internal party election by the presence of more senior elements with differing policy preferences. As a consequence, we suggest that the male elite's incentives for limiting women's substantive representation are the same as for limiting their number, and that competition will work as a constraint on these incentives. It is important to stress that our hypothesis relates to party elites in general and not specifically to men. However, the gender divide is suitable for studying this issue in politics since men have historically held the vast majority of all political offices.

The analysis proceeds in two steps. First, we conduct benchmark estimations of women's relative re-election probability. We then test the hypothesis that women's relative disadvantage in political influence stems from the existence of male elites. This corresponds to testing the theoretical prediction that male elites are constrained from limiting female influence when there is more political competition. To substantiate the analysis, we then attempt to directly measure the existence and strength of these male elites. For this purpose we exploit the introduction of a gender quota with a zipper system placement mandate in Sweden's largest political party in the early 90s. By forcing the local party groups to alternate males and females on their ballots, we argue that this quota stripped the male elites' of their previous influence over the number of women on the party list. Based on this we argue that the municipalities where the adoption of the quota led to the largest increases in the share of women were the municipalities with the strongest elite presence.<sup>4</sup>

Our baseline estimates of women's relative likelihood of attaining political seniority show a sizeable female disadvantage. After including extensive controls for personal and political characteristics, as well as gender differential effects of family size and voter bias, women are found to be roughly four percentage points less likely to be re-elected than men. These results are fairly robust to excluding candidates that leave their office between elections, thus indicating that our results are not driven by voluntary quits. They are also robust to using alternative measures of seniority, namely upward movements on the party list, and whether the politician attains either the highest list rank or a specific high-ranked appointment.

Testing the main theoretical hypothesis, we find strong evidence that women's re-election disadvantage stems from municipalities with weak political competition. An increase of one standard deviation in our competition measure cuts the re-election disadvantage of women in half. This suggests that competition constrains male elites from limiting women's substantive representation. These results also speak to the important issue of whether women's shorter political careers can be

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<sup>4</sup> The validity of this approach is confirmed by the fact that the post-quota share of top-ranked female candidates is about 50% higher in municipalities that we have defined as having less entrenched male elites.

explained by gender differences in the preference for working in a politically risky environment.<sup>5</sup> Rather than shying away from the competitive and risky political environments by leaving politics at a relatively faster rate, our findings show that women are *more* likely to stay on their jobs in those locations.

Next, our results for directly measuring the strength of the male elites using the quota introduction in the Social Democratic party gives further support for our hypothesis regarding the role of these elites in women's disadvantage. The estimates show a strong and negative correlation between women's relative probabilities of re-election and "bite" of the placement mandate quota. This suggests that although the quota efficiently increased women's numerical representation, the presence of strong male elites in many municipal party groups had a continued and negative impact on women's relative re-election probabilities.

A common criticism against gender quotas is that they reduce the quality of the elected representatives. Indeed, if the women who entered politics following the placement mandate of the Social Democrats left politics at a relatively faster rate because of weaker merits, our interpretation of the results could be faulty. This is an issue we can address. Our descriptive statistics allows us to examine standard measures of candidate quality – education and market income – for male and female politicians. Assessing the development of these measures over time shows that the "quality" of female politicians did not change noticeably, even in places where the quota had the largest bite.

A general caveat with our data is that we lack direct measures of the politicians' career ambitions or their motivation for pursuing political office. If women are less interested in political careers, we could be wrongfully blaming male elites for women's relatively slow advancement. Although it is likely to exist gender-related differences in desired career length, many of the common explanations for those differences are captured by our control variables. We account for many facets of family responsibilities, both in terms of family size and the timing of pregnancy and parenthood before and after leaving politics. We also account for moving away from the municipality and for the politician's wage on his or her regular job. The latter controls for gender differences in career attainments on the non-political labor market and thereby, arguably, for gender-related differences in the willingness to actively pursue career advancement through bargaining.

Gender differences in the motivation for becoming politicians could explain our results if women with weaker career motivations enter into politics in less competitive and more male dominated contexts. If such a difference in motivations is driven by reluctance to join a work place dominated by a male elite, it is however not contradictory to our main result. Moreover, survey evidence from Swedish politicians has not given evidence of large gender differences in the motivations for entering political office. In particular, there was no systematic evidence that women

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<sup>5</sup> Laboratory experiments have shown that women are more reluctant to enter into risky and competitive tournaments (e.g. Niederle and Vesterlund, 2007; Croson and Gneezy, 2009).

are more likely to view politics as a temporary job as compared to a career (as dichotomized by Diermeier et al., 2005).

The paper is organized as follows. Section 2 provides a literature review; Section 3 develops a theoretical basis for our main hypothesis; Section 4 describes the key political institutions of the Swedish municipalities and the parties; Section 5 contains a description of the data and key descriptive statistics; Section 6 gives the baseline results; Section 7 tests the predictions that competition favors gender parity in substantive representation and also examines the correlation between elite strength and deviations from parity. Section 8 provides concluding remarks and an outline of future work.

## **2. Related literature**

In this section we cover the key strands of literature related to our study. First we review studies of candidate selection from a gender perspective. After this we turn to the quota specific literature, starting with the motivation for quota introduction, and then turning to party responses to quota introduction and the effects of quotas on candidate quality.

### **2.1 Candidate selection: supply and demand**

The selection of a candidate for the placement on the party ballot can be seen as the outcome of a supply and demand system. The candidate supply consists of persons who wish to pursue a political career, while the demand side consists of party selectors and voters.

Consider first the issue of gender differences in the supply of politicians. Such differences can stem from access to resources (for example time, money and experience) and motivational factors (drive, ambition and interest). One of the major factors may be family responsibilities, which can affect both the motivation and time available for men and women to seek and maintain political office. It is well known that women have a larger uptake of parental leave and assume a greater role in child rearing and other domestic activities.

A substantial body of research has dealt with the issue of gender differences in ambition. Recent laboratory experiments have shown that women are more reluctant than men to put themselves in positions where they have to compete against others (e.g. Gupta et al., 2005; Niederle and Vesterlund, 2007) and that they are more risk avert (see Croson and Gneezy, 2009 for a review). However, in a follow up study of women's competitiveness, Niederle and Yestrumskas (2008) showed that the gender difference in joining competitions was strongly affected by the rules of the game. When improving the amount of feedback on performance, or reducing the need to commit to the hard task, women were not more reluctant to enter the competitions.

In the political context, Fox and Lawless (2010) examine panel data on political ambition and recruitment among US citizens in “pipeline professions” (the most common professions for office holders). They show that women are less likely to be recruited, recruited intensely, and by multiple actors. Following individuals over time, they find that the gender difference in ambition can be fully explained by these differences in subjection to recruitment.

The demand side of women and men’s presence on party lists has also received attention. In a person’s political career, the first hurdle is to get a position on the ballot in the local election. The gatekeeper for these positions is the local party organization which recruits candidates and distributes the safe seats in the upcoming election. Within labor economics, a number of audit studies have documented a hiring bias against female applicants (e.g. Goldin and Rouse, 2001; Neumark, 1996), also when evaluated by other females (Bagues and Volart, 2010). In a survey of elite selectors of political candidates in the U.S., Niven (2010) shows that male selectors perceived male candidates to be more similar to themselves in attitudes, values and personality. They were also more likely to consider male candidates as “top candidates” when asked about their recruitment plans for future races.<sup>6</sup> In a similar study of recruiters in six U.S. states, Sanbonmatsu (2006) found that recruiting networks and the choices of targets for recruitment were both highly homosocial.

In a list PR system, open or semi-open lists allow voter preferences to determine the electoral fate of male and female candidates that have been placed on the lists. Previous studies have found considerable variation in voters’ gender preferences across countries. A bias for men has been found in the cases of France (Fréchette et al., 2008), Australia and in Britain (Kelley and McAlister, 1984), while a bias for women have been found among Spanish (Volart and Bagues, 2010) and Canadian voters (Hunter et al., 1984). Descriptive research on U.S. Congressional districts has outlined factors that can predict the district’s level of “woman friendliness”, i.e. female candidate’s chances to get the majority of the popular vote. Typically, these districts are more urban, more ethnically diverse, and have higher education and income levels (Palmer and Simon, 2006).

## **2.2 Quotas, strategic nomination, competition and quality**

Research on gender quotas have almost exclusively focused on the numerical effect of different quota types. Consensus in this literature is that a placement mandate is the most efficient type of quota in this regard (Norris, 2004; Dahlerup and Freidenvall, 2008). A large number of studies have shown that without such a mandate, political parties avoid increasing the share of elected women. Under softer types of quotas that impose only a restriction on the share of women, but no on their rank on the party

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<sup>6</sup> In an earlier study, Niven (1998) examined political recruitment in four U.S. states to find that the majority women officeholders felt that party leaders discouraged women from running for office, partly by channeling them into low-profile political roles.

list, parties have been found to use strategic nomination by gender to place women on unelectable list positions.<sup>7</sup> A recent report by the European Commission (2009) discusses the large discrepancy between the share of female politicians on party lists and the share of females getting elected for the lower parliamentary houses in the EU member states. It finds that because women were consistently placed on lower positions on the list, the chance of being elected for the average woman was only 72 percent of that of the average man's.<sup>8</sup>

Using Spanish ballot data, Volart and Bagues (2010) describe how parties' nomination strategies changed with the 2007 gender quota law that required parties have a roughly equal share of men and women on their lists. Parties exploited the procedure of ordering candidates by alphabetical order, as well as the tendency of voters to vote for the top ranked candidate. By comparing the distribution of the last names on lists in various districts to the distribution in the general population, the study shows that after the quota adoption, women were increasingly allocated to lists on which their last name were less likely to qualify them for a safe seat. For example, women made up only 6 percent of the top ranked candidates in district in which the party expected to obtain only one seat.

Some related papers suggest that entrenched elites use "defensive strategies" to avoid sharing political power with women once they are elected. Heath et al. (2005) find a negative correlation between the share of female representatives and women's presence on high status committees in Latin American countries.<sup>9</sup> Hakesworth (2003) interviews African American Congresswomen to unravel tactics of exclusion used by other members of Congress, including the exclusion and marginalization from relevant decision making groups such as committees and subcommittees.<sup>10</sup> Kathlene (1994) found that as the proportion of women participating in a legislative committee hearing increased, the men became more verbally aggressive and conversationally dominant. "Contrary to some scholarly expectations," she concludes, "the more women on a committee, the more silenced women became" (Kathlene, 1994, p.573).

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<sup>7</sup> In extreme cases, however, even a placement mandate can be avoided. In Bolivia, selectors went so far as to change male candidates' names to female names to circumvent the quota law.

<sup>8</sup> A similar experience is reported in the case of Argentina (Jones, 1998), where provincial quota laws were implemented in the early 90s, requiring the parties to place women on 30% of the electable positions on the closed party lists. Parties complied with the law to the minimal extent, namely by placing women on the lowest possible positions on the lists.

<sup>9</sup> The higher presence of female legislators on low-status committees dealing with social policies such as education, welfare, and health, and their smaller likelihood of serving on powerful or prestigious committees are stylized facts of men's and women's political appointments. It however remains an open question to which degree this distribution reflects women's preferences, and to which degree it reflects marginalization and removal from power.

<sup>10</sup> The question of defensive strategies among male elites is closely related to research dealing with how women's political behavior is affected by, for example, the share of women in the political assembly. The so-called critical mass theory, originally developed in the context of the firm (Kanter, 1977a, 1977b) and later modified to fit political assemblies (Thomas, 1991), states that small shares of women (around 15 percent or less) are likely to conform to the male norms. As the share of women grows, the pressure for conformity can be overcome, and women are more likely to formulate and co-operate on a distinct legislative agenda. Arguably, the idea of a critical mass, or a "tipping point" in the relationship between presence and influence, has found little support in empirical studies (Dahlerup, 2006).

Strategic nomination may not be an option under all circumstances. In particular, the degree of competition in local elections has been shown to affect the degree to which it is used. Estve-Volart and Bagues (2009) find that in Spanish senate races with more uncertain outcomes, parties did not select candidates based on last name in order to move women to lower positions on the alphabetically ordered party list. The authors interpret this as evidence that quality may have played a greater role in candidate selections for more contested races. Galasso and Nannicini (2011) compare candidate characteristics between closely contested and “safe” races in Italian parliamentary elections (single person majoritarian districts). Besides finding that contested races had a higher share of politicians with more years of schooling, higher market income and local government experience, the candidates were also more likely to be female. .

A common argument against quota policies is that they restrict the domain over which candidates are picked, resulting in a smaller candidate pool and lower candidate quality. Yet, few empirical studies have dealt with this issue.<sup>11</sup> One exception is Murray’s (2010) comparison of work effort exerted by male and female parliamentarians in France. She finds no evidence that France’s quota law had an effect on the volume of parliamentary activity (including numbers of bills, reports, and questions introduced). In a behavioral laboratory experiment, Niederle et al. (2008) examine the effect of affirmative action in competition outcomes (letting contestants know that every second winner must be a woman), on entry and competitor quality. They argue that the effect of the affirmative action on competition entrants among men and women must be seen from the viewpoint of an inefficient starting distribution among these entrants. Because women were heavily under-represented before the “quota”, the high-performing men who dropped out of the competition were compensated for by an increase in the number of high-performing female entrants. Thus, the total number of high-performing participants was unaffected.

### **3. Male entrenchment and female careers**

To explain the career disadvantage for women we propose a simple argument that rest on a formal theoretical model developed in Besley, Folke, Persson and Rickne (2011). The model provides a theoretical explanation for the incentives of male entrenched elites to limit female numerical representation. It also shows that political competition is a driver of gender parity. An important feature of the model is that it does not rely on the assumption of a taste for discrimination. Instead, it is based on the idea that entrenched (male) elites have incentives to limit the political representation of the (female) newcomers in order to preserve their own access to political offices and, in turn, their

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<sup>11</sup> For jobs in the private market, Holzer and Neumark (1999) found that women hired in U.S. firms with affirmative action programs did not show weaker performance or lower qualifications.

influence over policy. Even though the model relates to the numerical representation, its basic premises can also be applied to the question of substantive representation.

Besley, Folke, Persson and Rickne (2011) consider the decisions by two parties to design their party lists. The agent within the party that puts together the list is the party leader. Without loss of generality, this leader can also be viewed as a decision-making elite.<sup>12</sup> The elite is selected through an internal election among the party representatives. In order to maintain power, the elite therefore has an incentive to fill the party list with candidates that will support it in the internal party election. This follows from the assumption that a candidate is more likely to support a leadership of the same gender.<sup>13</sup>

Voter preferences enter the model as a constraint on the party elite. We assume that female and male swing voters have equivalent preferences: everything else equal, they prefer to be represented by politicians of their own gender. This preference structure makes it straightforward to use a standard probabilistic voting model to show that gender parity will be optimal in terms of winning elections. In the probabilistic model there is a group of swing voters without a clear party alignment that parties can target through specific policies or strategies. In this model, the parties can capture the swing vote by moving towards an even number of men and women on the party list. The larger the group of swing voters is relative to each party's group of core supporters, i.e. the greater the degree of political competition, the more important gender parity will be for winning the elections.

The party elite faces a trade-off. On the one hand, it wants to surround itself with men in order to remain in the leadership position. On the other hand, capturing the rents associated with winning the election is dependent on pleasing the swing vote by moving toward gender parity. Ultimately, the share of women will be determined by the degree of competition. When its electoral prospects look very good, the elite has little motivation for nominating representatives from the opposite gender. As electoral competition increases and the electoral prospect look less certain, deviations from gender parity will however become more costly.

Although the model applies to the numerical representation of women, the arguments can easily be extended to women's substantive representation. It is straightforward to assume that influence in internal party elections increases with political seniority. The male (female) party elite therefore have the same types of incentives for limiting women's (men's) tenure as they have for limiting their

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<sup>12</sup> In this paper we thus apply the incentive structure for the leader in the model to our concept of the party elite.

<sup>13</sup> The prediction that the party elite prefers to surround itself with same-sex politicians can also be derived from the basic assumptions of the citizen candidate model (Osborne and Slivinsky, 1996; Besley and Coate, 1997). In this model, the politician's utility depends on two factors, policy outcomes and holding political office. Under the condition that men have been over-represented in politics historically, the argument can depart from an uneven distribution of the sources of utility to their advantage. A second model assumption is that men and women differ in policy preferences (as shown by Edlund and Pande, 2002, and Miller, 2008, and as argued in the political science literature by Pitkin, 1967 and Phillips, 1995). This means that women entering politics threatens the preferential access to utility for the men, both in terms of seats and in terms of policy outcomes. The historical elites thus have the incentives to limit both the number and influence of the newcomers.

number. By having more senior politicians of their own gender in the party group, the chance of re-election for party leadership will increase. Arguably, this second strategy for maintaining power – limiting women’s tenure – should become more important when gender quotas with placement mandates strip the elite of its ability to strategically exclude women from elected seats.

There are two additional things to note about the model. First, it could be applied to cases where the entrenched elite is female rather than male. From an empirical standpoint, this is however not very relevant, which is why we in this paper equate the entrenched elite with a male entrenched elite. Second, the model is coherent with the empirical evidence on the different behaviors of party elites in limiting women’s part-taking in the political process. In the elite’s act of choosing the share of women for the party list, it may recruit women less intensively (Fox and Lawless, 2010; Niven, 1998; 2010) or simply discriminate against female candidates (Goldin and Rouse, 2001; Neumark, 1996). Another avenue could be to marginalize women from informal networks at the workplace which may induce them to quit (Kathlene, 1994; Hakesworth, 2003; Heath et al., 2005). We do not try to distinguish between these mechanisms in this paper.

## **4. Background**

In this section we provide background on the institutional features of Swedish municipalities as well as on the candidate nomination procedures and gender quotas of the political parties

### **4.1 Governance of Swedish municipalities**

Swedish politics take place at three geographical levels: the national, county (20), and the municipal (290). Municipalities differ widely in land area (from 9 to 19 447 square kilometers) and in population (from 2 558 to 780 817 inhabitants). The municipal level of politics is quite important in that municipal governments’ expenditures together account for about 20 percent of national GDP, whereof two thirds of the expenditures come from taxes levied directly at the municipal level. The political assemblies at this level also have large responsibilities in terms of policy, in particular in the areas of day care, education and care for the elderly.

Up until the election in 2010, seven parties dominated the Swedish political landscape, both at the national and municipal levels.<sup>14</sup> In most localities, all seven of these parties are represented in the municipal council, which is the legislative body. Unlike on the national level, there is no explicit electoral threshold in the vote share to be represented in the municipal council. Instead, the effective threshold is decided by district magnitude, and many municipalities have some representation of one or several small local parties.

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<sup>14</sup> In the 2010 elections, an anti-immigration party emerged as a medium size party in the parliament and in many municipal assemblies.

The political power is concentrated in the council board. Its chair person is elected by the largest party of the governing coalition, and the remaining seats are distributed amongst all the parties to reflect the seat allocation of the full council. Specific policy areas are dealt with in subcommittees, which chairpersons are appointed by the governing majority.

Elections to the municipal councils are held every fourth year (every third year prior to 1994). Representatives are elected from multimember districts and the seats are allocated to each party according to its share of the total vote. A major change to this procedure took place in 1998 when the previously closed party lists were opened up for personal votes (one per voter). Following this reform, the seat allocation became a two-step process, which proceeds as follows. In the first step, seats are rewarded in accordance with the personal vote and irrespective of the candidate's list placement. For a candidate to be elected in this way, it must receive i) more than 50 individually marked votes and ii) more than 5 percent of the party's total votes in the electoral district. In the second step, the remaining seats are allocated according to the rank order of candidates on the party list. In the cases when a party has several lists, the number of seats allocated to each list is determined by that list's share of the party vote. Having several lists per district is uncommon, but sometimes occurs in large parties. Concerning the number of districts, the election law dictates that they must be at least two if the municipality has more than 24 000 eligible voters, or a legislative council with more than 50 seats,<sup>15</sup> About one third of 290 assemblies has two or more districts.

Work as a municipal politician is almost always a side job. A survey carried out in 1991 showed that the average regular council member spent 8.3 hours per week on his or her political duties, while chairpersons spent 17.8 hours on the job. The payment is also modest. Typically, the only politician paid with a full time salary (about 450 000 SEK (~\$70 000) in 2007) is the chairperson of the municipal council board. Of the remaining representatives, less than ten percent receive compensation that amounts to more than 40% of a standard full time job, and the vast majority receive only small sums.

## **4.2 Nominating and electing politicians**

The formal process of becoming a municipal politician starts by winning a nomination to a party's electoral list. In Figure 1 below, we illustrate the general process of how the pool of potential candidates (party members) is narrowed down to actual candidates, and how these candidates are ranked on the list.

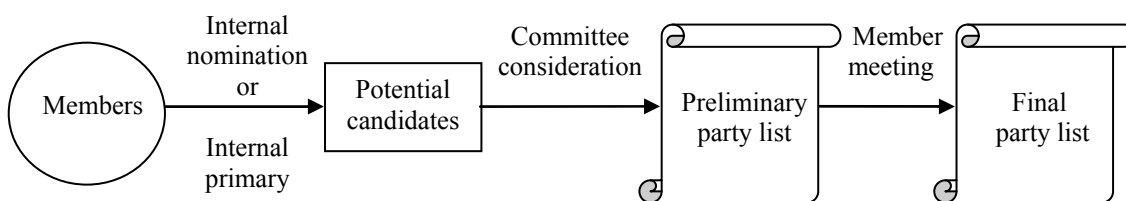
First, a group of potential candidates are selected via internal nomination (the Left Party and the Social Democrats) or internal primaries (remaining parties<sup>16</sup>). The preliminary candidate list is then

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<sup>15</sup> No less than 15 seats may be allocated via each district.

<sup>16</sup> In the case of the green party, internal primaries are only held in municipalities with a sufficiently large member base.

forwarded to a nomination committee for consideration. Common to all parties is that substantial power is invested in this committee, which molds the preliminary list into an almost finalized version, including the task of assuring compliance with party's internal policies for heterogeneity in representation such as gender quotas. In the parties that use an internal primary, it is hence important to note the results of that primary are not accepted *prima facie* but rather used to guide the committee's selection and ranking work. Committee members are usually senior party members of good standing. Because of the focus on seniority, men are often overrepresented. The final approval of the party list is carried out by a membership meeting. Each position on the list is normally open for challenges, but few changes are normally made.



**Figure 1.** The process of municipal party list determination in Swedish political parties.

### 4.3 Gender quotas in Swedish political parties

Sweden has no legal mandate for the share of female legislators, but all political parties have assumed some form voluntary commitment to equal gender representation. These measures range from goals and non-mandatory recommendations (also known as *soft quotas*)<sup>17</sup>, to mandatory rules for the share of women (*hard quotas*) and to requirements for alternating male and female names on the party list (zipper system). A summary of the introduction years and basic characteristics of the parties' quota policies is presented in Table 1.

The cross-party variation in quota types reflects the left-right divide commonly observed in other countries. Parties on the left have opted for hard quotas and zipper requirements. Parties with more libertarian ideological backgrounds have rhetorically emphasized the goal of equal opportunities and relied on soft quotas of targets supplementary party programs aimed at improving women's opportunities for candidacy.

The Green Party and the Left Party were the first to introduce hard quotas in 1987. The Greens then sharpened their requirement of 40 percent female candidates to a zipper system ("give or take one person") in 1997. In the Left Party, a mandate for 40% female candidates was replaced by a placement

<sup>17</sup> As first formulated by Krook et al. (2006).

mandate requiring a minimum of 50% women on the party's electoral lists. This was considered more progressive than a zipper system in that it would allow the share of women to exceed 50%.

Sweden's largest party, the Social Democrats, was comparatively late to introduce a hard quota. Only in 1993 did the party adopt mandatory alternation of male and female names on its electoral ballots (zipper system). This policy change was propelled by the perceived failure of the party's soft quota. Despite the commitment to "equal representation of the sexes", the share of female parliamentarians fell from 38 to 33 percent in the 1991 general election. A vivid debate followed and sparked the threat from a feminist group, the "Support Stockings", to start a pro-women's party. This offered an opportunity for the social democratic women's movement to push for a placement mandate (Freidenvall et al., 2006).

Parties on the right side of the ideological spectrum have used soft quotas. As early as 1974, the Liberal Party recommended all constituencies to place at least one woman on a safe seat. In the case of only one safe seat, it was recommended to place a woman either on first or the second position on the list. In 1988, the party went one step further by recommending a zipper system, but without mandatory compliance. The next right-block party to introduce a quota was the Christian Democratic Party, which in 1987 recommended party groups to place 40% women on their lists.

The last adopters of quotas, and also of the "softest" quota requirements, were the Conservative Party and the Center Party. In the Conservative Party, a big change occurred at the 1993 annual party congress where several motions addressed the issue of women's under-representation. Mainly, the sponsors brought up the concern attracting the votes of "modern" women and meeting the democratic ideal of representativeness of the electorate were difficult in the absence of a quota policy. The party consequently decided on a goal of equal representation between the sexes, but did not make recommendations concerning the share of women, or their placement, on party lists. A highly similar process, resulting in the same goal statement, occurred three years later at the annual congress of the Center Party.

**Table 1.** Hard and soft gender quotas in Swedish political parties.

Party	Year	Hard quotas	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% zipper system	
Green party	1987	40%	
	1997	50%, plus minus one person	
Liberal party	1974		40%
	1984		50%, zipper system
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. (2006) and Freidenvall et al. (2006).

## 5. Data and descriptive statistics

### 5.1 Swedish municipal politicians

We use data from five waves of municipal elections (1991 to 2006). For each political party, we have background information for all candidates on the party lists in each electoral district. From each list, we know which candidates were elected, their list rank, and whether they were elected by personal votes. Additional background variables include the candidate's income, education, marital status, number of children and place of residence. These data are available to us for the full 1991-2006 period, meaning that we can follow individual politicians before and after they leave office. All data come from Statistic Sweden's register.

Table 2 shows descriptive statistics for all elected politicians, of which there are about 13 000 in each election period. The share of women increased from 34.1 to 42.3 percent over the period, a change that was mainly driven by the introduction of zipper system quota in the Social Democratic party in 1993.<sup>18</sup> Female and male candidates differ in several aspects. Men are on average two years

<sup>18</sup> This reform catapulted the share of elected female social democrats from 36.9 percent in 1991 to 47.2 percent in 1994.

older and have higher incomes. They are also about 7 percentage points less likely to have attained a three year college degree or above, and less likely to be foreign-born.

**Table 2.** Characteristics of elected politicians, full sample and by gender, 1991-2006.

		All years	1991	1994	1998	2002	2006
Women (%)		40.3	34.1	41.3	41.5	42.4	42.3
Age	Total	49	48	48	49	50	51
	F	48	47	46	47	48	49
	M	50	49	49	50	51	52
Wage	Total	2,179	2,057	2,028	2,090	2,298	2,433
	F	1,935	1,739	1,721	1,842	2,081	2,258
	M	2,344	2,222	2,244	2,656	2,457	2,562
Higher education (%)	Total	37	34	34	36	39	40
	F	41	40	37	40	43	45
	M	34	32	32	34	35	37
Foreign born (%)	Total	7	5	5	7	8	9
	F	8	7	7	8	9	11
	M	6	5	5	6	7	8
Incumbent (%)	Total	55		58	53	53	55
	F	50		48	50	50	53
	M	58		64	55	56	57
Elected by personal vote (%)	Total	22			26	22	19
	F	19			22	19	16
	M	14			16	14	12
Observations		66,815	13,526	13,550	13,388	13,272	13,079

Notes: Wages are measures in constant year 2000 prices and reported in SEK 100s (7SEK = 1 US\$). Election by personal vote means that a candidate received i) >50 individually marked ballots, and ii) >5% of the party's total votes in the municipality.

Comparing women's and men's receipt of individual votes and their likelihood of being incumbents show two things. First, the average man is 16.4 percent more likely to be an incumbent than the average woman. Second, men are much more likely to have been elected by personal votes. But before interpreting this gender difference as a preference for male politicians among the electorate, it is relevant to observe that more than 70 percent of all lists have a man as the first name, and voters have a tendency to favour candidates at the top of the ballot (e.g. in the case of Australia, Kelley and McAlister, 1984; and for Spain, Montabes and Ortega, 2002). In our data, first-name candidates make up 56.9 percent of the persons elected by personal votes. A much smaller share, 10 percent (or 552 persons) of those "elected" by personal vote are candidates that would not have been elected

through their list rank. Nevertheless, two thirds these 522 candidates were male, which indicates a preference for male candidates among those who cast a personal vote.

## 5.2 Party characteristics and women's relative political influence

Sweden's seven main political parties together won more than 95 percent of the municipal council seats in each of the elections between 1991 and 2006. In Table 3 we give a general outline of the relative political power of these parties and compare some characteristics of their elected representatives. In accordance with their weaker commitment to female representation in terms of gender quota policies, right wing parties have substantially lower shares of female representatives. For example, the average share of women in Social Democratic party delegations is 45 percent, while the Conservative Party delegations have, on average, a third. The statistics for the share of zipped lists also show substantial quota compliance in the Social Democratic party where 72 percent of the lists perfectly alternate male and female names.

The individual characteristics of the politicians differ more starkly within the left and right wing blocks than between the two blocks. Among right wing parties, representatives for the Conservative and Liberal Parties have a higher average market wage than the representatives for the Center Party or the Christian Democrats. The share of representatives with a tertiary degree is also much lower in the Center Party. In the left wing block, Social Democrats have the highest average wage level, but the lowest share of representatives with a tertiary degree. The gender wage gap is quite similar in all parties, and female politicians are, on average, more likely to hold a tertiary degree in all municipal party delegations except in the Green Party.

**Table 3.** Characteristics of elected representatives and political representation, by party.

	Conservative party	Christian democrats	Liberal party	Center party	Green party	Social democrats	Left party
Seat share (%)	18	7	7	14	4	40	8
More than two seats (%)	95	54	61	86	25	100	61
Female share (%)	33	33	37	37	44	45	44
Zipped lists (%)	11	37	38	23	50	72	51
Woman tops the list (%)	25	24	29	24	42	29	39
Wage	2,310	2,136	2,404	1,880	1,712	2,365	1,929
Gender wage gap	0.83	0.75	0.83	0.84	0.81	0.80	0.87
Higher education (%)	49	49	54	31	59	25	46
Gender education diff.	4	15	7	6	-1	9	20

Notes: A list is defined as "zipped" if all the elected candidates from that list were alternated by gender, or, in the case of fewer than four elected candidates, that the first four names were alternated. Wages are measured in constant year 2000 prices and reported in SEK 100s (7SEK = 1 US\$).

In this paper, our empirical analysis relies on the assumption that career length (seniority) translates into a more influential political appointment. In the descriptive statistics above, we noted that women were less likely than men to be incumbents, but it is highly relevant to also examine the link between gender, seniority and career advancements. In Table 4 we use data for appointments held by each municipal politician in 2006 to tabulate women’s presence and seniority on influential political positions. We clearly see that women are under-represented as chairpersons (27%) and as vice chairpersons (32%) compared to their share of seats in the municipal assembly (42%). In the subsequent rows we compare the average number of periods served by the politicians on these appointments. Despite having to truncate our seniority measure at a maximum of four elected terms, thereby understating the experience of the most long-standing politicians, the statistics clearly illustrate that tenure forgoes power. The average chairperson and vice chair person has spent more than one election period more in office than the average member of the municipal council.

**Table 4.** Gender composition and political experience for chairs, vice chairs, and members of municipal councils following the 2006 election.

	Chairperson of municipal council	Vice chairperson of municipal council	Regular council member
Share of females (%)	27	32	43
Political experience, males	2.80	2.56	1.4
Political experience, females	2.54	2.40	1.20

Notes: Political experience is defined as the number of election period served between 1991 and 2006.

Another potential proxy for influence is the politician’s rank on the party list. Returning briefly to Table 4 we can examine the descriptive statistics for the share of women on the highest list rank, a position that almost invariably indicates more influence, in particular in large parties. The statistics show that for every party, the average share of females among the elected representatives by far surpasses the share of party lists with a first-ranked woman. In absolute numbers, the Left Party and the Green Party are the only parties where more than a third of the lists are topped by a woman.

## 6. Women’s relative probability of re-election

### 6.1 Baseline specification

We examine women’s relative likelihood of re-election in a baseline specification that includes extensive background characteristics of each politician, as well as controls for child-related responsibilities and voter bias. The test equation can be written as

$$r_{it+1} = a_{it} + \beta_1 w_i + \beta_2 I_{it} + \beta_3 P_{it} + \delta_p + \gamma_t + \delta_p \gamma_t + \tau_m + \varepsilon_{it} \quad (1)$$

where the dependent variable  $r_{it+1}$  is a dummy for the re-election of individual  $i$  in the next time period. Our main parameter of interest  $\beta_1$  is the differential in re-election probability of women ( $w_i=1$ ) relative to men ( $w_i=0$ ). We divide our control variables into two groups, individual ( $I_{it}$ ) and political ( $P_{it}$ ).

Table 5 shows the results from estimating Equation (1) for nine different specifications, in which we gradually increase the number of controls. We first run the baseline specification without any controls to simply capture the difference in re-election probabilities between women and men (Column 1). In the second specification (Column 2), we introduce fixed effects for party ( $\delta_p$ ), year ( $\gamma_t$ ), municipality ( $\tau_m$ ) and interaction fixed effect between party and year. In the third specification we include the individual characteristics  $I_{it}$  to control for gender-related differences in characteristics associated with gender-differentiated re-election probabilities.<sup>19</sup> While it is important to control for differences in election probabilities stemming from outside of the political arena, we should take note that several of these individual variables are measured “post treatment” and therefore risks introducing bias in our results.<sup>20</sup>

Next, we introduce the controls for political characteristics  $P_{it}$ . A caveat with these controls is that we lack high quality data prior to 1998. To rule out that the effect on our main estimates from the added controls stems from the change of sample, we start by re-estimating specification three on the three most recent elections (specification four). In the fifth specification, we then include fixed effects for the candidate’s rank order on the party list. It is noteworthy that this approach controls for the fact that men tend to hold the highest list positions<sup>21</sup>

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<sup>19</sup> Namely: dummies for age categories, a dummy for higher education (taking the value one for individuals having completed a three-year tertiary degree or above), a dummy for being an immigrant (defined as being born outside of Sweden) a dummy for having an additional, or first, child during the election period, the candidate’s number of children, log wages in constant 2000 prices and a dummy for having moved to another municipality.

<sup>20</sup> Consider the wage measure as the most prominent example. Labor market segregation implies that women generally earn less than men. If higher incomes are correlated with a greater probability of re-election, women’s relative re-election probability can become under-estimated. If, on the other hand, women are discriminated against in the labor market, and thus receive a lower wage, our control captures unwarranted wage differences due to discrimination. This will lead to an over-estimate of the women’s relative re-election probabilities.

<sup>21</sup> With these fixed effects we aim to control for consistency in list placement between elections. They will capture a part of the greater likelihood of re-election for candidates with higher list placements. But arguably, the dummies can remove some of our variation of interest. Placing men on the top of the party list is the main mechanism that channels a male bias in political parties into higher re-election probabilities of male candidates in list (PR) systems (European Commission, 2009).

Specification six adds controls for whether or not the politician is an incumbent and dummies for whether he or she has served a total of one, two or three terms in office (consecutive or non-consecutive). This control aims to capture variation in both political experience as well as voters' bias for incumbents.<sup>22</sup>

As noted above, Sweden's system of semi-open party lists allows voters to express preference for one specific candidate. It is through this mechanism that voter bias could play a direct role in the disadvantage for women, which we control for in specification seven. Voter bias for male candidates could affect the outcome in two ways. First, it could signal popularity and trust for the candidate among the electorate, and parties could respond by promoting the candidate to a higher list position in the next election. We control for this mechanism by adding a dummy for whether a candidate was elected through the personal vote at time  $t$ .<sup>23</sup> Secondly, personal votes may parachute candidates from unelectable positions on the party list.<sup>24</sup> To account for this we exclude all candidates who were re-elected through the personal vote at time  $t+1$  and whose list placement would not otherwise have qualified them for a seat.<sup>25</sup>

To account for gender differential family responsibilities we introduce family size and parenthood controls interacted with the female dummy (specification eight). In specification nine we instead use the strategy of simply excluding all parents from the sample.

## 6.2 Baseline results

The results from Table 5 can be summarized as follows. Women have a lower probability of re-election than men, and the difference is quantitatively important. The first specification, without any controls, shows that women are on average 3.6 percentage points less likely to be re-elected. Given that the overall re-election rate is roughly 50 percent, this point estimate translates into a 7 percent lower re-election probability for women compared to men.<sup>26</sup> Another way of interpreting the result is

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<sup>22</sup> These controls could, however, fall short of controlling for men's average incumbency advantage to the extent that the truncation in the maximum number of periods served affects male candidates more than female. Survey data however indicates that this should not be a major source of bias. In a survey of all freshmen politicians for the 1998 municipal elections, the average length of membership in the political party did not differ between men and women (Nielsen, 2001)

<sup>23</sup> Note that this conclusion regarding the male preference assumes an equal "spread" of individual votes for men and for women. If the average woman elected by individual votes received a higher number of individual votes than the average male candidate, or if the average woman NOT elected by individual votes got a larger number of such votes than the average man not elected, our estimate would under estimate the disadvantage for women.

<sup>24</sup> It is important to note that nine out of ten candidates elected through the personal votes did not need these votes to secure their election.

<sup>25</sup> Defined as having a list ranking which is lower than the party's number of elected representatives.

<sup>26</sup> Approximately, we can say that the likelihood that a man stays in office is 52% compared to 48.5% for women, a 3.5 percentage point difference. Thus, in percentage terms, men's likelihood of re-election is  $52/48.5 \approx 1.07$ , or 7 percent.

in accumulated terms: if the average woman is seven percent less likely to be elected in each election, the gender difference in career length will magnify over numerous election cycles.

Introducing the fixed effects in specification two marginally increases our point estimate of women's relative re-election disadvantage. Adding the individual controls in specification three only marginally reduces the point estimate. The estimates for the individual characteristics help us contextualize disadvantage of being a woman. For example, the advantage in re-election probability for men compared to women is of similar magnitude to the increased re-election probability from doubling a candidate's income, or three times that of having a university degree.<sup>27</sup>

Before introducing the political controls, we repeat the estimation of specification three in the post-94 period. This increases the size of the point estimate for women's re-election disadvantage to 5.2 percentage points. This change is likely to stem from the introduction of stricter quota policies in the three largest parties prior to 1998. The introduction of the quotas increased the re-election probabilities of all women within the parties in question, regardless of background characteristics and list placement, and decreased them for all men.<sup>28</sup> Arguably, measuring our outcome variable for the years 2002 and 2006 is more appropriate to get closer to women's "true" relative likelihood of re-election.

When we introduce fixed effects for list placement in specification five, the point estimate for being a woman decreases slightly. This shows that the disadvantage for women is not (fully) explained by men's greater likelihood of being higher ranked on party lists. Similarly, adding the controls for previous political experience in specification six hardly affects the point estimate. The results for specification seven, where we control for voter bias expressed through the personal vote, show that this control explains about one tenth of re-election disadvantage associated with being a woman.

Finally, we introduce controls for differential family responsibilities. When we add interaction terms between our measures of family size and parenthood, and the female dummy (specification eight) women's re-election disadvantage decreases by one fourth.<sup>29</sup> If we instead omit all politicians with children the corresponding decreases is less than a tenth. What we can say from these estimates is that parenthood and family size indeed plays a differential role for the likelihood of a continued political career among female and male politicians.

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<sup>27</sup> Their point estimates of the control variables are not shown due to the space constraint, they can however be provided by the authors upon requests.

<sup>28</sup> Representatives from the Social Democrats made up 36 percent of the sample in 1991, and the share of elected women in that party increased by 11 percentage points in the 1994 election.

<sup>29</sup> The results are not sensitive to changing the specifications of the child variables. For example, if only use the interacted dummies between being a woman and having children, the point estimate on this variable is negative, statistically significant. The parameter shows that women with small children are three percentage points more likely to be ousted compared to men with children. The estimated (lower) re-election probability is unaffected. Adding an additional control and interaction term for having an additional child in the next election period (t+1) does not change the point estimate for women's relative re-election probability.

**Table 5.** OLS estimation results of women's relative re-election probabilities, 1991-2006.

	1	2	3	4	5	6	7	8	9
Woman	-3.72*** (0.43)	-3.82*** (0.43)	-3.63*** (0.41)	-4.97*** (0.56)	-4.70*** (0.57)	-4.47*** (0.56)	-4.01*** (0.56)	-3.12*** (0.74)	-3.73*** (0.87)
Individual Controls			x	x	x	x	x	x	x
Political Controls						x	x	x	x
Personal Vote Controls							x	x	x
Child Interaction								x	
Parents omitted									x
Year FE		x	x	x	x	x	x	x	x
Party FE		x	x	x	x	x	x	x	x
Municipality FE		x	x	x	x	x	x	x	x
Year*Party FE		x	x	x	x	x	x	x	x
List rank FE					x	x	x	x	x
Election Sample	91-02	91-02	91-02	98, 02	98, 02	98, 02	98, 02	98, 02	98, 02
Observations	53,674	53,674	53,416	26,464	26,464	26,464	26,286	26,286	14,402
R-squared	0.00	0.04	0.13	0.14	0.17	0.17	0.17	0.17	0.17

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The dependent variable is a dummy for re-election in period t+1. Controls are measured for elected politicians in period t. The coefficients are scaled up with 100 to let point estimates be interpreted as 1.0 = 1 percentage point. The political controls include dummies for age categories, a dummy for higher education (taking the value one for individuals having completed a three-year tertiary degree or above), a dummy for being an immigrant (defined as being born outside of Sweden), a dummy for politician who move to another municipality at the time of the next election (t+1) or after, and log wages in constant 2000 prices. The political controls include incumbency, political experience (one, two or three terms), a dummy for personal votes above the cut-off-value, and fixed effects for the candidate's rank order on the ballot. Robust standard errors clustered at municipality level are in parentheses.

### 6.3 Robustness Checks

We control the robustness of the baseline results various ways. First, we estimate our specifications separately for each election cycle to rule out that specific periods drive our main result. This exercise shows that women's re-election disadvantage becomes slightly larger in the latter periods.

A relevant aspect of our results is whether they are driven by a gender difference in *voluntary* quits. We address this by accessing survey data for council members who left their offices before finishing their term. This data is only available for the 2002-2006 election period, but the "defectors" make up a non-negligible 15 percent of those elected. A 2001 survey of defectors self-reported motives showed that 52 percent politicians quit primarily for personal reasons and 26 percent for political reasons. Among the given alternatives, the most common private reasons were work conditions (36%), moving (32%) and family concerns (21%). Among the political reasons, the most common were the feeling of pointlessness and lack of influence, as well as a perceived lack of discussion of political issues (Nielsen, 2001). Against this backdrop, it is arguably so that our baseline variables control for the most common reasons for voluntary quits that are not implicitly linked to marginalization.

Excluding the defectors is associated with an important measurement problem. Because women drop out prematurely to a (slightly) larger extent, there will be more vacant seats for women under a hard gender quota. This means that the women remaining on the lists will have an inherent advantage, which will put a downward bias on the estimate of average woman's disadvantage. With this concern in mind, we proceed to comparing the restricted sample result to our baseline findings for specifications: number one without any controls, number seven with the full set of individual and political controls, and number eight with the controls for gender differential family responsibilities.

The results, see Table 6, show that the defections are responsible for a substantial share of women's disadvantage in the benchmark findings. Without control variables, compare columns 1 and 2, differential defections between men and women actually account for half of women's disadvantage. However, as we include the controls, compare columns 3 and 4, this difference is cut to a fourth, and as we control for differential family responsibilities, compare columns 5 and 6, the difference disappears completely. As such, the results strongly support that we are able to control for the factors that account for differential defections between men and women in the baseline specification. In the limited sample, where the size of the baseline re-election disadvantage of women remains largely intact, we would thereby be left with a gender difference in involuntary quits.

**Table 6.** OLS estimation results of women’s relative re-election probabilities, a sensitivity analysis for defectors.

	1	2	3	4	5	6
Woman	-4.18*** (0.76)	-1.98** (0.82)	-3.70*** (0.80)	-2.57*** (0.87)	-2.02** (1.01)	-2.02* (1.09)
Individual Controls			x	x	x	x
Political Controls			x	x	x	x
Child Interaction					x	x
Defectors omitted		x		x		x
Observations	13,241	11,086	13,065	10,955	13,065	10,955
R-squared	0.00	0.00	0.18	0.14	0.18	0.14

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . The dependent variable is a dummy for re-election in period  $t+1$ . Controls are measured for elected politicians in period  $t$ . The coefficients are scaled up with 100 to let point estimates be interpreted as 1.0 = 1 percentage point. The political and individual controls are the same as in the baseline specification. The sample is restricted to 2002. Robust standard errors clustered at municipality level are in parentheses

An alternative method to control for voluntary quits could be to also drop the candidates that do not re-appear on the party list at  $t+1$ . Here we are however likely to also pick up an even greater share of involuntary quits. Because moving persons down on the list involuntarily is highly sensitive, involuntary quits are likely reflected in failures to re-appear as well as in downward list-movements. Indeed, carrying out this robustness check reduces the point estimate substantially, showing that our results are mainly driven by candidates who do not re-appear on the party lists.

We could also be concerned about measurement error in our key variables. First, our market income variable can mis-measure gender differences in labor market success if women and men are segregated across sectors and jobs. Including interaction terms between the wage variable and dummies for the ten main occupational sectors however leaves our results unaffected. Second, our crude education measure could under-estimate men’s education level if they are over-represented among those with graduate studies of more than three years. But replacing the education variable with dummies for each of the forty six education categories listed in the register data is trivial to our results.

We could also be concerned that gender segregation across occupations creates gender differences in learned skills that make candidates better politicians. Such unobserved skills could contribute to a higher valuation of male politicians and hence explain our results. To control for this, we include a dummy for each of the eight hundred occupational categories in the Swedish register data. We do not get any noticeable impact from adding these controls.

Finally, we can conclude that the precision and size of our baseline point estimates are not affected by changing the estimation method from OLS to Probit. If anything, the Probit estimates suggest a larger disadvantage for women.

## 6.4 Alternative outcomes

There are other ways to measure the relative political influence of female politicians. In our main specification we only focus on the access to seniority itself. Another dimension is the access to specific positions of influence. We use three alternative outcomes to capture gender differences in this dimension: whether the politician moves up to a higher list ranking, if he or she becomes the top ranked candidate on a list, and finally, if he or she is appointed as the chair, or vice chair, of the municipal council or a committee. Below we will apply our baseline set of specifications to each of these outcomes, and discuss the intuition of our results, but in the interest of space we abstain from reporting the detailed analysis.

Politicians placed higher on party lists generally have more political influence. We re-define our dependent variable as dummy variable taking the value one if a candidate either i) moves up the party list in election  $t+1$ , or ii) remains in the top rank between  $t$  and  $t+1$ . Running the estimations gives us a slightly smaller point estimate for the female dummy compared to the baseline specification, but the estimated disadvantage remains substantial and is statistically significant across all specifications. There are however two caveats with specification. First, list rank is an imperfect measure of influence to the extent that mandatory alternation of male and female names on the list disrupts the correlation between tenure and rank. Also, since women are more likely to leave the list, either voluntarily or not, the women that remain are more likely to move up in order to fill the vacant positions that may or may not require a female candidate. We can address the first problem by omitting parties with zipped lists, an exclusion that gives a substantially larger estimate for women's disadvantage in the likelihood of an upward movement on the list. Nevertheless, we cannot say whether this change in estimation results stems from the sample restriction or from reducing the mis-measurement of women's relative influence in our measure of rank movement.

A more suitable measure of influence that is also based on list rank is to only count the instances when a candidate reaches the top ranked position on the list. For this definition, it does not matter if we have zippered lists or if women are more likely to be mechanically move up into vacated positions. Running our estimations using this definition of influence gives us essentially the same relative disadvantage for women compared to men as found in the baseline specification, even when we control for the current list placement of a candidate. This means that, conditional on the current position (and all other observables), women have a much smaller probability of moving into a top ranked position compared with their male colleagues.

Our third and final alternative outcome takes the value one if a politician obtains the chair position, or a vice-chair position, of either the municipal council or of one of the committees. Since we only have this outcome for 2006 we cannot examine the career path for reaching a chair position. Nevertheless, we can still use the 2006 data to examine if women are less likely to hold a chair or a vice chair position conditional on all the observables we include in the baseline specification. Here it is important to note that our most restrictive specifications even control for list placement. Because men are more likely to be ranked in high positions on the party lists, controlling for placement will capture some of the gender difference in influence. But despite this negative bias on women's disadvantage, our results show an even greater gender difference in the probability of holding a chair or vice chair position than our baseline difference in the likelihood of re-election. In each pair wise comparison with the equivalent baseline specification we find a larger negative point estimate for the female dummy. Thus, if anything, our baseline specification underestimates the disadvantage for women in terms of holding influential positions. All in all, the results for the alternative outcome show that our results are not sensitive to how we define our outcome variable.

## **7. Male entrenchment: competition and quota introduction**

Our simple arguments derived from the formal model in Besley, Folke, Persson and Rickne (2011) suggests that entrenched (male) elites have incentives to protect the sources of utility associated with their political jobs by limiting the access to seniority of (female) newcomers. More entrenched elites should be more successful in this endeavor, and we test the hypothesis regarding the male elites by creating two cross-municipality measures of the degree of entrenchment.

### **7.1 Political competition**

Based on Besley, Folke, Persson and Rickne (2011) we propose that gender parity will always be an optimal election strategy. The more competitive the electoral environment, the more costly it will be for the entrenched elite to depart from gender parity in substantive representation. Thus, political competition should generate more equal opportunities to accumulate political seniority for men and women. Under the condition that parity in substantive representation is a vote-winning strategy, the same intuition can be derived from the standard Becker (1957) assumption that competition makes it more costly for entrenched elites to limit access to seniority based on non-productive variables such as gender.

Sweden's political parties are traditionally divided into two ideological blocks. The Left wing block comprises the Social Democrats, the Left Party, and the Green Party, and the Right wing block

consists of the Conservative Party, the Center Party, the Liberal Party and the Christian Democrats.<sup>30</sup> We use this left-right divide to construct a crude measure of competition,  $c$ , as a three year moving average of the difference in the vote shares won by the two blocks in the municipal elections. Although we would argue that this measure captures the main axis of political competition in the Swedish political landscape, deviations may exist. For example, parties from the center of the political spectrum sometimes govern together.

In Table 7, we report the result from adding an interaction variable between the measure of competition and the female dummy to our baseline specifications. The specifications follow the basic pattern of i) no controls (specification one), ii) individual controls (specification two), and iii) the full set of individual and political controls (specification three). Note here that a greater block difference equals *less* competition. Thus, support for our prediction that competition constrains the male elite from limiting women's relative seniority is implied by a negative estimate for the interaction between the competition variable and the female dummy.

Unobserved municipality characteristics may be correlated both with competition and with other factors that affect the women's relative probability of re-election. Such characteristics would not be fully accounted for by the municipality fixed effects. As a robustness check, we introduce interaction terms between key municipality characteristics and the female dummy, as well as the un-interacted characteristics (presented in the fourth specification in Table 7). These include measures of the municipalities' i) population share with above-high school education, ii) average income level, and iii) and population (both in linear and log form).

Finally, in specification five and six, we conduct a sensitivity analysis by restricting the sample to the 2002 election period and omitting all candidates that deflect from their position during the election period. For this exercise we re-estimate our most restrictive specifications, namely 3 and 4.

In all specifications, the results yield negative and significant estimates for the interaction term between the measure of competition and the female dummy. The point estimates range between -10 and -15. One way to interpret this result is by first noting that over our sample period, the average difference between the two blocks across all municipalities was a 19 percentage points, with a standard deviation of 14 percentage points. Hence, our point estimate of -15 means that increasing the degree of competition by one standard deviation (14 percentage points) would increase the relative re-election probability of women by 2 percentage points. These results are not dependent on calculating competition as a moving average of the block difference. Using instead the absolute block difference at time  $t$  yields highly similar results.

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<sup>30</sup> Including the Green Party in the left block follows the approach by Svaleryd and Vlachos (2009). Instead following Pettersson-Lidbom (2008) and exclude it from either block does not affect our results.

**Table 7.** Competition and women's relative re-election probability, 1991-2006.

	1	2	3	4	5	6
Woman	-1.77** (0.76)	-0.02 (0.81)	-0.09 (1.04)	-8.53 (9.55)	0.61 (1.45)	-17.43 (15.34)
Woman * Block difference	<b>-10.84*** (4.18)</b>	<b>-12.18*** (3.49)</b>	<b>-15.50*** (4.35)</b>	<b>-14.27*** (4.72)</b>	<b>-13.58*** (5.89)</b>	<b>-13.76*** (6.47)</b>
Block difference	18.05** (7.72)	13.24* (7.20)	8.14 (16.49)	0.15 (17.11)		
Individual controls		x	x	x	x	x
Political controls			x	x	x	x
Municipal control interaction				x		x
Defectors omitted					x	x
Election sample	91-02	91-02	98, 02	98, 02	02	02
Observations	53,581	53,325	26,195	26,105	10,906	10,870
R-squared	0.04	0.13	0.17	0.17	0.14	0.14

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The dependent variable is a dummy for re-election in period t+1. Dummy variables are coded as 0 or 100 to let point estimates be interpreted as 1.0 = 1 percentage point. The difference between the left and right wing political blocks is measured in percentage points and is calculated as a three year moving average. All estimations include fixed effects for municipality, party, year, and interaction fixed effects for party and year. The political and individual controls are the same as in the baseline specification, Due to the use of only one election period for the estimates in columns 5 and 6, the municipality fixed effects are omitted from these specifications.

Although our empirical analysis does not address the mechanisms through which competition affects women's probability for re-election, the result is in accordance with our basic theoretical framework. By interpreting competition as a larger share of swing voters, it forces the male elite to cater to the swing vote in order to win the election. Because the swing voters prefer parity, the career opportunities of men and women become more equal when these voters make up a greater share of the electorate, which is what precisely what our results show.<sup>31</sup>

Note that our interpretation ignores sorting by gender into more or less competitive political environments. If this type of sorting would explain our results, it would require that less career oriented women, compared to men, enter politics in when political competition is low. If anything, the previous literature would make us believe that sorting would work in the opposite direction. A relatively greater reluctance among women's for competing and risk taking are standard findings in

<sup>31</sup> But we could also imagine other mechanisms. For example, competition could have an intermediate role in propelling high quality selectors to the party top. These selectors could then be more prone to provide men and women with equal career opportunities. Similarly, competition may trigger changes in the gender composition of the selectors. A greater presence of females in that group could provide mentorships and social networks to junior female politicians which could increase the career opportunities of this group relative to men.

laboratory experiments. This would give a relatively faster drop-out rate for women in municipalities with more competitive political contexts. The fact that our results show the exact opposite situation (improved female careers under competitive conditions), indicates that gender based sorting does not explain our results. If anything, the results indicate that a relative aversion for a risky political career is not a major driver of women's lower probability of re-election.

From the result of specification four we can add the insight that women's lower probability for re-election in less competitive municipalities is not driven by the underlying municipality traits of population, income or education level. The point estimates for the interaction term between the female dummy and our proxy for competition are only marginally affected by the inclusion of the additional interaction terms between the female dummy and the control variables for municipal characteristics. Nor are the results sensitive to excluding those candidates that defect during the election period.

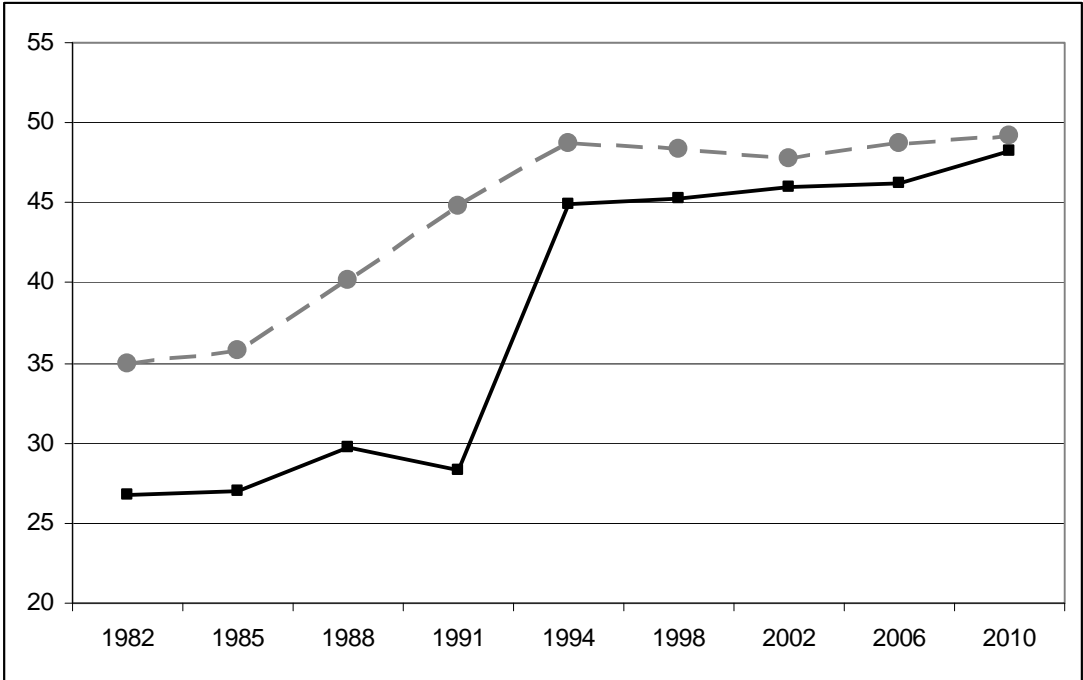
Our result adds a potentially important insight to the literature that relates political competition to the characteristics of elected representatives. Compared to previous studies that have showed a positive correlation between the share of elected women and competition, we show that women are also more likely to gain influence over political outcomes in competitive political contexts. By raising women's relative probability of re-election as compared to men's, competition could level the seniority playing field between the genders. In turn, women should be more likely to efficiently affect and implement a policy agenda geared to their interests.

## **7.2 Quota introduction**

We now proceed to our attempt to directly measure the existence of male elites and, in turn, how the entrenchment of those elites affects women's likelihood of re-election. A measure of the elite's entrenchment in each municipality is derived by examining the impact of a change in the gender quota policy of Sweden's largest political party, the Social Democrats. In 1993, the its central party board replaced the previous soft quota with a hard quota with a zipper mandate (as previously detailed in Section 4.3) Because this policy change was negotiated on the central level and imposed on the municipalities it forced reluctant male elites at the municipal level to relinquish seats to females. This enables us to use the share of women in the party group at the prior to the quota adoption as a measure of the strength of the male elite. There are several advantages of this approach. Social Democrats make up roughly 40% of all elected municipal politicians in our dataset. Using a policy change in a specific party also allows us to abstract from the problem that a party's quota policy is correlated with unobserved party characteristics that affect women's political careers, such as the internal legitimacy of the quota tool.

To provide a more intuition for our measure of male entrenchment, we divide all Social Democratic municipal party groups by the median share of women elected in the 1991 election, just

prior to the introduction of the placement mandate. Figure 1 shows the trends in the share of women in these two groups. In the municipalities with the fewest women, the trend line is flat before the adoption of the placement mandate, indicating that the soft quota did not prevent the male elites from strategic nomination of women to non-electable positions on the party lists (or from at all nominating women). Furthermore, the sharp increase in the share of women at the time of the quota adoption shows that the policy was indeed imposed exogenously on these municipalities.



**Figure 1.** Share of elected women (%) in Social Democratic municipal party groups with below the median share of women in 1991 (solid line), and above the median share of women in 1991 (dotted line) .

A continuous measure of male entrenchment is calculated based on the share of men in the Social Democratic party delegation of each municipality in the election before the quota.<sup>32</sup> To make gender parity the baseline in the estimations, we define this measure as the difference between the share of men and gender parity (50% men). Our prediction is that more entrenched elites (*a larger share of men prior to the quota*) are more successful in limiting women’s relative seniority. We introduce an interaction variable between our proxy for entrenchment and the female dummy in the empirical specifications used in the competition tests in the previous section. If women’s re-election disadvantage is associated with male elite entrenchment, we expect the coefficient on this interaction variable to take a negative sign.

<sup>32</sup> To allow for a meaningful measure of the share of men, we drop municipalities with less than six elected Social Democrats. Because of the large size of the party, this restriction has virtually no impact on the sample size.

**Table 8.** OLS estimates of women's relative re-election probability contingent on male entrenchment.

	1	2	3	4	5	6
Woman	-2.65** (1.15)	-0.34 (1.23)	0.64 (1.43)	-10.51 (16.05)	2.17 (2.31)	-10.29
Woman * (Share men 91 - 50%)	<b>-13.12*</b> <b>(7.43)</b>	<b>-11.83*</b> <b>(6.87)</b>	<b>-17.13***</b> <b>(7.80)</b>	<b>-12.63</b> <b>(8.80)</b>	<b>-20.44</b> <b>(12.99)</b>	<b>-15.15</b> <b>(14.17)</b>
Share of men in 1991 - 50%	2.84 (5.85)	1.27 (5.56)	-0.62 (6.30)	0.27 6.80	-1.03 (8.99)	-3.23 (9.66)
Individual controls		x	x	x	x	x
Political controls			x	x	x	x
Municipal control interaction				x		x
Defectors omitted					x	x
Election sample	94-02	94-02	98, 02	98, 02	02	02
Observations	16,123	16,089	9,985	9,954	4,344	4,332
R-squared	0.00	0.12	0.15	0.15	0.11	0.10

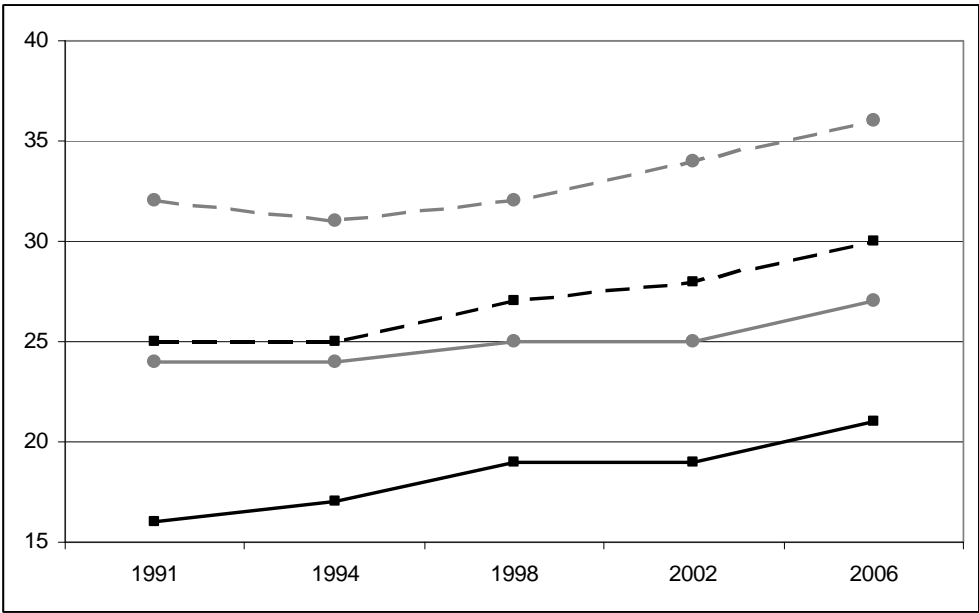
Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . The dependent variable is a dummy for re-election in period  $t+1$ . Dummy variables are coded as 0 or 100 to let point estimates be interpreted as 1.0 = 1 percentage point. The political and individual controls are the same as in the baseline specification.

The results presented in Table 8 show a strong relationship between male entrenchment and the electoral disadvantage of women. The interaction variable between the female dummy and the degree of male entrenchment has large and negative point estimates. The size of this parameter is almost -20 when we use the full set of controls (specification three). This can be interpreted as a 10 percentage point higher male representation prior to the introduction of the quota being associated with a 2 percentage point lower re-election probability for women relative to men after the quota introduction. In terms of our hypothesis this implies that it is in the places with the most entrenched male elite presence where we also see the largest re-election disadvantage for women. The results for the un-interacted female dummy also show that in those municipalities where gender parity in representation was achieved prior to the introduction of the hard quota, there was essentially no disadvantage for women over the subsequent elections. This implies that we find no disadvantage for women in the places where we do not observe the presence of a male elite.

The results of specification four show that the results are slightly sensitive to municipality characteristics. Thus, there seems to exist some municipal characteristics that are related to both the disadvantage for women in politics and male entrenchment. Moreover we find that the results are not sensitive to restricting the sample to the 2002 election period and excluding the defectors, but due to the reduction in sample size, the estimates are not statistically significant in this specification.

**Alternative explanation: Quotas and quality.** A common argument against the use of affirmative action is that it reduces the quality the employees by circumscribing the candidate pool. A potential concern with our study could be that municipalities that needed to increase their share of women dramatically could not find enough suitable candidates. Our finding of a faster drop-out rate in these municipalities could then, arguably, be explained by the quality shift rather than by the existence and incentives of a male elite. Drawing on our detailed background information about each politician, we can address this concern by examining trends in the characteristics of male and female politicians.

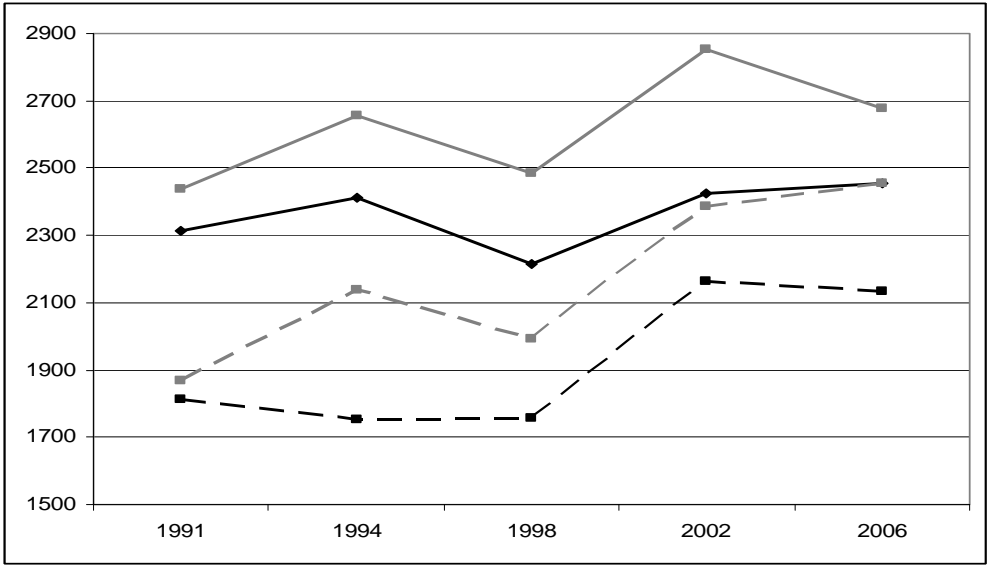
We divide the sample by the median share of women prior to the quota introduction (c.f. Figure 1) and focus on two standard measures of candidate quality, namely education and market income. Arguably, they capture variation in the acquisition of formal human capital and skills, market success and the candidate’s general ability (Galasso and Nannicini, 2009).<sup>33</sup> Figure 2 shows the share of representatives with higher education and the gender difference in educational attainment by municipality group and gender. The trend lines show that both male and female Social Democrats in municipalities with more entrenched elites were less likely to hold a tertiary degree. In these places, we also note a reduction in the gender difference in educational attainment with the introduction of the quota. This change was driven by an increase in men’s average education level rather than a reduction of women’s, indicating that a below-average educational attainment among the outstated men.



**Figure 2.** Share (%) of female (dotted lines) and male (solid lines) elected politicians having attained a college degree of above in municipalities with strongly (black) and weakly entrenched male elites (gray).

<sup>33</sup> Education is the most commonly used indicator of politician quality in empirical studies, and it is also argued to be the most objective measure (Besley and Reynal-Querol, 2010). Among politicians, education has been found to contribute to less opportunism (Besley et al., 2005), and in more general studies, it has been found to instill civic values (Dee, 2004; Milligan et al., 2004).

Next, we examine the development of market wages. Figure 3 shows parallel trends in the wages of men and women in the half of municipalities there the least women entered politics in the quota year (gray lines). In contrast, we see a widened wage gap in the municipalities where the quota led to the largest increase in the share of women (black lines). This comes from a reduction in the average wage for the female politicians, suggesting that the quota did lead to the selection of women with somewhat lower wages. However, by 1998 the wage gap is back at the initial level. This is important for interpreting our results. If the disadvantage of women in places with strong male elites had been driven by a reduction in candidate quality, as measured by their relative market wage, we should observe a reduction in the relative disadvantage of women as the wage gap narrowed. This is in fact opposite to our results which showed that the relative disadvantage for women in places with a strong male elite actually increased over time.



**Figure 3.** Wages of female (dotted lines) and male (solid lines) elected politicians in municipalities with strongly (black) and weakly entrenched male elites (gray).

In sum, the data thus shows that at large, the dramatic rise in the share of female representatives did not coincide with a drop in average candidate quality.

## 7. Concluding remarks

This paper examines gender differences in the main criteria for establishing a political career and influencing public policy, namely the event of being re-elected to a political position. We find that women are on average seven to ten percent less likely to be re-elected than men. This difference shrinks slightly when we control for gender differences in family size, the timing of parenthood, and voter preferences expressed through casting a personal vote for a particular candidate. Although the

differential family responsibilities are not the focus of this paper, our results speak to an important challenge. To allow women the same career opportunities and influence as men within politics, this issue needs to be addressed, both regarding the differential effects of family size and pregnancy.

The gender difference in the probability of re-election is robust across numerous alternative specifications and to excluding candidates who left their elected offices before the completion of the election term. Using alternative measures of political influence, namely whether politicians move to higher positions on party lists or reach specific influential positions in the municipal political hierarchy, also gives further evidence of a systematic disadvantage for women's in reaching higher political offices.

We draw on the theoretical model developed in Besley, Folke, Persson and Rickne (2011) to understand the origins of women's disadvantage in political career length. It argues that entrenched (male) elites have the incentive to limit the numerical – and substantive – representation of (female) political newcomers. We find support for the model's main mechanism for increasing gender parity, namely political competition. An increase in our measure of competition by one standard deviation cuts the relative re-election disadvantage of women in half. This result supports the model assumption that competition pushes the entrenched male elites to yield policy influence to women there is a greater cost of not catering to voter preferences. The result is also interesting because it shows that political competition not only propels gender parity in seats (Volart and Bagues, 2009, Galasso and Nannicini, 2011), but also improves the relative career advancements of the elected women.

We attempt to measure male elite entrenchment directly by exploiting the enforcement of mandatory gender alternation of candidates on the party list of Sweden's largest political party. Because this quota removed the entrenched elite's influence over the number of elected women, we can deduce the strength of the elite from the quota's numerical impact. Our results show a strong correlation between this impact and women's re-election disadvantage in subsequent elections. This finding further support our idea that women's systematically slower career advancements stem from the existence of entrenched male elites.

Importantly, our results do not support the idea that gender parity in substantive representation will automatically evolve over time. Even though we see that women's access to seats and influence gradually improved in some places, their disadvantages remained the same – or even worsened in others. Similarly, our findings on the impact on women's representation from the zipper system gender quota are not fully optimistic. The quota led to a large increase in women's numerical representation, but this was not (automatically) accompanied by an equivalent rise in relative influence. This indicates that parties may need to address deeper power structures to assure that groups with socioeconomic characteristics that differ from those of the elite are granted representation not only in numbers but also in substance.

Our robustness checks further contribute to the literature on gender quotas by providing unique descriptive evidence on the effect of quotas on candidate quality. When the gender quota was adopted, the women who entered politics were more qualified, as measured by educational attainment, both compared to the female and male incumbents. Thus, the quota went beyond its stated goal of a greater female representation in providing an increase in the average education level of the legislative body.

We do not claim that the existence of male party elites is the sole explanation for women's career disadvantages in politics. In fact, our results show that family size, becoming a parent and leaving the municipality impacts disproportionately on women's advancements. Women are also over-represented among those that leave their elected office before the completing the election term. Future work could attempt to unravel more mechanisms behind women's relative career advancements. For example, women's movements may play an important role in pressuring parties and mobilizing the electorate to improve women's say in the political process. The role of party leaders could also be further explored to trace out effects of recruitment, mentoring, role-modeling or promotion policies (Athey et al., 2000; Bell, 2005; Kittilson, 2006). Another avenue of research could be to further explore the role of the family unit in women's and men's career choices. Women's lower bargaining power in the household could yield differential opportunity costs for political work and, over time, generate highly diverse career patterns across genders. In an effort of this kind, the scope of the present study could be widened to include all levels of government and politician's moves between those levels.

## References

- Athey Susan, Avery, Christopher, Zemsky, Peter (2000) Mentoring and Diversity. *American Economic Review* 0(4), 765-786.
- Bagues, Manuel. F., Esteve-Volart, Berta (2010) Can Gender Parity Break the Glass Ceiling? Evidence from a Repeated Randomized Experiment. *Review of Economic Studies* 77, 1301-1328.
- Becker, Gary S. (1957) *The Economics of Discrimination*. Chicago: The University of Chicago Press.
- Bell, Linda, A. (2005) Women-Led Firms and the Gender Gap in Top Executive Jobs, IZA Discussion Paper No. 1689.
- Besley, Timothy, Coate, Stephen (1997) An economic model of representative democracy. *Quarterly Journal of Economics* 112(1), 85-114.
- Besley, Timothy (2005) Political Selection. *Journal of Economic Perspective* 19(3), 43–60.
- Besley, Timothy, Reynal-Querol, Marta (2011) Do democracies select more educated leaders? *American Political Science Review* 105, 552-566.
- Besley, Timothy, Folke, Olle, Persson, Torsten & Rickne, Johanna (2011). Forced to succeed? Quotas, competition and candidate characteristic. *Manuscript in preparation*
- Brothén, Martin (2010) Anciennitetsprincipen i Sveriges riksdag (the seniority principle in the Swedish parliament), *Statsvetenskaplig Tidskrift* 99(1), 37-52.
- Chattopadhyay, Raghavendra, Duflo, Esther (2004) Women as policy makers: Evidence from a randomized policy experiment in India. *Econometrica* 72(5), 1409-1443.
- Childs, Sarah and Krook, Lena Mona (2009) Analysing women's substantive representation: From critical mass to critical actors. *Governments and Opposition* 44(2), 125-145.
- Clots-Figueras, Irma (2011) Are female leaders good for education? Evidence from India, *American Economic Journal Applied Economics*, forthcoming.
- Croson, Rachel, Gneezy, Uri (2009) Gender differences in preferences. *Journal of Economic Literature* 47(2), 448-474.
- Dahlerup, Drude (Ed.) (2006) *Women, quotas and politics*. Routledge: Oxon and New York.
- Dahlerup, Drude, Freidenvall, Lenita (2008) Electoral gender quota systems and their implementation in Europe. *European Parliament Study* 408.309.
- Dahlerup, Drude (2006) The Story of the Theory of Critical Mass. *Politics and Gender* 2(4), 511-522.
- Gupta, Datta, Poulsen, Anders, N. Villeval, Marie, C. (2005) Male and Female Competitive Behavior- Experimental Evidence, IZA Discussion Paper No. 1833
- Dee, Thomas, S. (2004) Are there civic returns to education?. *Journal of Public Economics*, Volume 88 (9-10) 1697-1720.

- Diermeier, Daniel, Keane, Michael, Merlo, Antonio (2005) A political economy model of congressional careers. *American Economic Review* 95, 347–373.
- European Commission (2009) *Women in parliament – Time for action*. Luxembourg: Office for Official Publications of the European Communities.
- Edlund, Lena, Pande, Rohini (2002) Why have women become left-wing? The political gender gap and the decline in marriage. *The Quarterly Journal of Economics* 117(4), 917-961.
- Lawless, Jennifer L. and Fox, Richard L. (2010) *It Still Takes A Candidate: Why Women Don't Run for Office*. New York: Cambridge University Press.
- Fréchette, Guillaume, R., Maniquet, Francois, and Morelli, Massimo (2008) Incumbents' Interests and Gender Quotas. *American Journal of Political Science* 52(4), 891-909.
- Freidenvall, Lenita, Dahlerup, Drude, Skeije, Hege (2006) The Nordic countries: An incremental model, in Dahlerup, Drude (Ed.) *Women, quotas and politics*. Oxon and New York: Routledge.
- Galasso, Vincenzo, Nannicini, Tommaso (2011) Competing on good politicians. *American Economic Review* 105, 79-99.
- Goldin, Claudia, Rouse, Cecilia (2000) Orchestrating Impartiality: The Impact of "Blind" Auditions on Female Musicians. *The American Economic Review* 90(4), 715-741.
- Heath, Michelle (1995) Women on the Sidelines: Women's Representation on Committees in Latin American Legislatures. *American Journal of Political Science* 49(2), 420-436.
- Hakesworth, Mary (2003) Congressional enactments of race-gender: Toward a theory of race-gendered institutions. *American Political Science Review* 97(4), 529-549.
- Holzer, Harry, Neumark, David (1999) Are affirmative action hires less qualified? Evidence from employer-employee data on new hires. *Journal of Labor Economics*, 17(3), 534-569.
- Hunter Alfred. A., Denton, Margaret, A. (1984) Do female candidates lose votes? The experience of female candidates in the 1979 and 1980 Canadian general elections. *Canadian Review of Sociology and Anthropology* 1, 395-406.
- Jones, Mark P. (1998) Gender Quotas, Electoral Laws, and the Election of Women: Lessons from the Argentine Province. *Comparative Political Studies* 31(1), 3-21.
- Kanter, Rosabeth Moss (1977a) Some Effects of Proportions on Group Life. *American Journal of Sociology* 82(5), 965–90;
- Kanter, Rosabeth Moss (1977b) *Men and Women of the Corporation*. New York: Basic Books.
- Kathlene, Lyn (1994) Power and Influence in State Legislative Policymaking: The Interaction of Gender and Position in Committee Hearing Debates. *American Political Science Review* 88(3), 560-576.
- Kelley, Jonathan, McAllister, Ian (1984) Ballot Paper Cues and the Vote in Australia and Britain: Alphabetic Voting, Sex, and Title. *Public Opinion Quarterly* 48, 452-66.

- Kittilson, Miki, C. (2006) *Challenging parties, changing parliaments – Women and Elected office in contemporary Western Europe*. Columbus: The Ohio State University Press.
- Kittilson, Miki Caul (2010) Women, parties and platforms in postindustrial democracies. *Party Politics* 17(1), 66-92.
- Krook, Mona, L. (2009) *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*. New York: Oxford University Press.
- Krook, Mona, L., Lovenduski, Joni, Squires, Judith (2006) Western Europe, North America, Australia and New Zealand, in Dahlerup, Drude (Ed.) *Women, quotas and politics*. Oxon and New York: Routledge.
- Miller, Grant (2008) Womens suffrage, political responsiveness, and child survival in American history. *Quarterly Journal of Economics* 123(3), 1287-1327.
- Milligan, Kevin, Moretti, Enrico, Oreopoulos, Philip (2004) Does education improve citizenship? Evidence from the United States and the United Kingdom. *Journal of Public Economics* 88 (9-10), 1667-1695.
- Montabes Pereira, J., Ortega, Carmen, V. (2002) Position Effects and Party Nomination Strategies under the Limited Vote: The 2000 Spanish Senate Election, *Representation* 38(4), 304-16.
- Murray, Rainbow (2010) Second among unequals? A study of whether France's "quota women" are up to the job. *Politics and Gender* 6, 93-118.
- Munshi, Kaivan. Rosenzweig, Mark (2008) The efficacy of parochial politics: Caste, commitment, and competence in Indian local governments. Mimeo.
- Neumark, David (1996) Sex discrimination in restaurant hiring: An audit study. *The Quarterly Journal of Economics* 111(3), 915-41.
- Niederle, Muriel, Vesterlund, Lise (2007) Do women shy away from competition? Do men compete too much?. *Quarterly Journal of Economics* 122(3), 1067–1101.
- Niederle, Muriel, Yestrumskas, Alexandra, H. (2008) Gender differences in seeking challenges: The role of institutions, NBER Working Paper 13922.
- Niederle, Muriel, Segal, Carmit, Vesterlund, Lise (2008) How costly is diversity? Affirmative action in light of gender differences in competitiveness. NBER Working Paper 13923.
- Nielsen, Peder (2001) På och av – om uppdragsvillighet, rekrytering och avhopp i den kommunala demokratin (On and off – motivation for public office, recruitment and quits in the municipal democracy). in *Att vara med på riktigt. Bilagor till betänkande av Kommundemokratikommittén*. Bilaga till SOU 2001:48.
- Niven, David (1998) *The Missing Majority: The Recruitment of Women as State Legislative Candidates*. Westport, CT: Praeger.
- Niven, David (2010) Party Elites and Women Candidates: The Shape of Bias, in *Women, gender and politics: A reader*. Krook, Mona, L. (Ed), Oxford: Oxford University Press.

- Norris, Pippa (2004) *Electoral Engineering: Voting Rules and Political Behavior*. New York: Cambridge University Press.
- Osborne, Martin, J., Slivinski, Al (1996) A model of political competition with citizen-candidates. *The Quarterly Journal of Economics* 111(1), 65-69.
- Palmer, Barbara and Dennis Simon (2006) *Breaking the Political Glass Ceiling: Women and Congressional Elections*. New York: Routledge.
- Pettersson-Lidbom, Per (2008) Do parties matter for economic outcomes? A regression-discontinuity approach. *Journal of the European Economic Association* 6(5), 1037-1056.
- Phillips, Anne (1995) *The politics of presence: The political representation of gender, ethnicity, and race*. New York: Oxford University Press.
- Pitkin, Hanna F. (1967) *The Concept of Representation*. Los Angeles: The University of California Press.
- Rehavi, Marit M. (2008) Sex and politics: Do female legislators affect state spending?. Mimeo, Berkeley.
- Sanbonmatsu, Kira (2006) *Where Women Run: Gender and Party in the American States*. Ann Arbor: University of Michigan.
- Svaleryd, Helena (2009) Women's representation and public spending. *European Journal of Political Economy* 25(2), 186-198.
- Svaleryd, Helena, Vlachos, Jonas (2009) Political rents in a non-corrupt democracy. *Journal of Public Economics* 93(3-4), 355-372.
- Thomas, Sue (1991) The Impact of Women on State Legislative Policies. *Journal of Politics* 53(3), 958-76.
- Vega, Arturo, Firestone, Juanita M. (1995) The effects of gender on congressional behavior and the substantive representation of women. *Legislative Studies Quarterly* 20(2), 213-222.
- Volart, Berta Esteve, Bagues, Manuel (2009) Are women pawns in the political game? Evidence from elections to the Spanish senate. Fundacion de Estudios de Economia Aplicada (FEDEA) Working Paper 30.
- Welch, Susan (1985) Are women more liberal than men in the U.S. Congress?. *Legislative Studies Quarterly* 10, 125-134.