The Temporary Importance of Role Models for Women’s Political Representation

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This article investigates the supply side of women’s political representation by focusing on how the election of female politicians affects the motivation of women to run for office in other units. The analysis relies on an original data set of over 1,500 municipal elections in Switzerland, starting with the first election after the introduction of women’s suffrage. In the first election in which women could participate, the election of a woman in a given municipality was associated in the next election with an additional female candidate in 10% of its neighbors. The relationship decreases over time, fades away after 16 years, and is driven primarily by new female candidates in units where no female incumbents are running for reelection. These findings suggest that role models are important for improving women’s representation, but only in its early stages. This conclusion could be relevant for understanding the political representation of other underrepresented groups.

In the last several decades, the political representation of women has improved sharply, thanks in part to the introduction of legislative quotas in many countries. At the same time, worldwide, only one in five members of parliament are female, on average, and even Nordic countries, with about 42% women in parliament, have yet to reach full gender equality in this area. There are many reasons for the underrepresentation of women in politics. Following an influential model of political recruitment (Norris 1997), women’s representation is determined by the interaction between the supply of aspirants and the demands of gatekeepers, which are themselves shaped by the rules and procedures deriving from the legal, electoral, and party systems. Although both demand- and supply-side factors play an important role (Krook and Schwindt-Bayer 2013, 556; Paxton, Kunovich, and Hughes 2007, 266), one of the main reasons for the enduring gender gap in politics is that women are less likely to run for office than men (Lawless and Fox 2010). This is due in part to women’s reluctance to stand as candidates, but also to the political and institutional context, which contributes to pulling women into or pushing women out of electoral politics (Paxton, Kunovich, and Hughes 2007, 268–71; Wängnerud 2009, 54). This article focuses on a specific aspect of the supply side of women’s representation. It argues that the availability of role models could help to redress the gender gap by shaping the motivation of women to run for office. Many authors understand women’s representation as a virtuous circle: As more women are elected to office, their political role becomes more accepted, such that more women will develop political ambitions and more female candidates will find support among voters (Wängnerud 2009, 54). Consistent with this view, the literature has shown that women’s political attitudes and behavior are shaped by the gender of their representatives (Fox and Lawless 2004; Lawless and Fox 2010). This article elaborates on the idea that the political representation of women can be enhanced by the availability of role models, defined as successful female politicians with whom women can identify. Specifically, I argue that, on average, more women run for office if more women are elected in nearby jurisdictions in the previous election.

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DOI: 10.1111/ajps.12155

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I thank Maya Ackermann, Tom Koritschan, Sophie Nägele, Thomas Schäubli, Nathalie Schreiber, and especially Olivier Baumann (who coordinated data collection and conducted most of the interviews) for excellent research assistance. I am grateful to Peter Moser for advice on persuading the municipalities to give us access to their archives and to Andrea Gisler for providing valuable information on the Frauenzentrale Zurich. Finally, I thank Stefanie Bailer, Daniel Bochsler, David Broockman, Scott Desposato, Jos Elkin, Vincenzo Galasso, Brian Greenhill, Katerina Linos, Martino Maggetti, Licia Papavero, Raphael Parchet, Jan Rosset, Didier Ruedin, Fabio Wasserfallen, Bruno Wiest, and Francesco Zucchini for helpful comments. Replication files are available at the AJPS Data Archive on Dataverse (http://dx.doi.org/10.7910/DVN/26570).
the perception of potential female candidates regarding their suitability for a political career (Lawless and Fox 2010, 174) or their prospects in the electoral process (Kanthak and Woon 2014). Moreover, when more women hold office in nearby jurisdictions, it could make voters more comfortable with the idea of electing women to political office. However, these effects likely weaken over time, as women become more established in the political arena.

I analyze these arguments empirically with an original data set of over 1,500 municipal elections in the Swiss canton of Zurich from 1970 to 2010, complemented with archival sources and a dozen interviews with female politicians. This case is very specific, but it has several important advantages. First, due to Switzerland’s (in)famous late adoption of women’s suffrage, the 1970 municipal elections were the first in which women could participate. Thus, this case allows me to track diffusion effects since the extension of suffrage to women and up to the consolidation of women’s representation. Second, despite its peculiarities, Switzerland is a “typical” case in cross-national comparisons of women’s representation; in this sense, the Swiss case is representative of the broader population. Third, the narrow geographic scope reinforces the plausibility of the argument that political behavior is influenced by the experience of nearby communities. Fourth, the number of units (168 municipalities) corresponds roughly to that of a global cross-country comparison, but the focus on a single canton overcomes many drawbacks of typical cross-national studies, such as unit heterogeneity and unreliable data. Although this research design is not sufficient for a clean identification of causal effects, it does increase the credibility of the findings.

The spatial econometric analysis finds support for the theoretical expectations and is consistent with the qualitative evidence from interviews and archival sources. On average, more women ran for office in a given municipality if more women were elected in the previous election in nearby municipalities. No such effects can be uncovered for male candidates. In the very first election in which women could vote and run for office, the election of a woman in a given municipality was associated with an additional female candidate in 10% of its neighbors in the next election. The relationship is driven primarily by new female candidates aiming for office in units where no female incumbents are running for reelection. This helps to explain why the relationship decreases over time and fades away after about four election cycles (16 years), but there is evidence that the pattern is also due to women’s representation becoming taken for granted. Moreover, there is only weak evidence that the number of women elected to office is significantly influenced by similar factors. That is, the diffusion of women’s representation occurs primarily by increasing the number of new female candidates, rather than by making them more electable.

These findings suggest that role models are important for advancing women’s political representation, but only temporarily. This could explain why the only other study that has addressed this question explicitly could not identify any such spillovers (Broockman 2014). The conclusion that role models play a much more important role when a given group is still establishing itself in the political arena has implications for designing policy interventions aimed at improving the representation of women and other groups, such as ethnic minorities, resident aliens, young adults, people with disabilities, and gays and lesbians.

The Spillovers of Women’s Representation

Women’s political representation is influenced by many variables. An influential framework emphasizes demand and supply-side factors (Krook 2010, 708–9; Krook and Schwindt-Bayer 2013, 556; Norris 1997; Paxton, Kunovich, and Hughes 2007, 266–71). To start with, there must be a sufficient supply of qualified female candidates, that is, enough women able and willing to run for office. This depends on the resources available to potential female candidates, such as time, money, and skills, but also on their motivation (Norris and Lovenduski 1995). For some authors, the limited willingness of women to run for office compared with men is the main reason for the enduring underrepresentation of women in politics (Lawless and Fox 2010). There are at least two explanations for this. First, potential female candidates tend to doubt their abilities, even when their qualifications are objectively as good as those of men (Fox and Lawless 2004, 2011; Lawless and Fox 2010). Second, women may be “election averse.” According to Kanthak and Woon (2014) potential female candidates do not lack confidence in their abilities or qualifications but are turned off by the electoral process itself. Specifically, even though they do not doubt their qualifications, women fear that they will not be properly recognized in the electoral context and therefore are afraid they will not receive enough support (Kanthak and Woon 2014).

However, supply-side factors alone cannot adequately explain why women’s representation varies strongly across countries (Krook 2010, 707). First, there must be a demand for female candidates: Party elites and other gatekeepers must be willing to put women on their lists. Outside of the United States, in particular, partisan
structures and strategies play an important role in candidate selection (Krook 2010, 709). As Kittilson (2006, 10) puts it, “parties can make or break women’s efforts to run for office.” The role of women within parties is particularly important in shaping opportunity structures for female candidates (Caul 1999; Kittilson 2006). Second, structural factors such as the electoral system play a decisive role in promoting or hindering women’s representation. Robust evidence demonstrates that electoral systems with party lists, proportional representation, and large district magnitudes create favorable conditions for the election of women (Paxton, Kunovich, and Hughes 2007, 269; Wängnerud 2009, 54). Third, electoral quotas have been a powerful driver of improved gender equality in the countries that have adopted them (Krook 2009; Tripp and Kang 2008). These institutional factors have differential effects on the political involvement of women and men, thus influencing the size of the gender gap (Kittilson and Schwindt-Bayer 2010, 2012). Thus, supply-side factors operate in conjunction with demand-side factors and within the constraints set by the political system.

This article focuses on the supply side of women’s representation by looking at how spillovers affect the motivation of women to run for office. The presence of women in political fora is believed to generate important spillovers. In particular, the example of successful female politicians is expected to change perceptions of the role of women in politics and to enhance their political engagement and participation. This is the symbolic dimension of descriptive representation. In the words of Mansbridge (1999, 649), “low percentages of ... women representatives ... create the meaning that ... women cannot rule, or are not suitable for rule.” Similarly, Alexander (2012, 437) considers that “for underrepresented groups, increases in their descriptive representation symbolize a more open political arena. This improves the group’s political participation as well as beliefs about the group’s role in politics.” Similar views have been expressed by many other authors (e.g., Dovi 2002, 730; Kittilson 2005, 643; McDonagh 2009, 94; McDonagh 2010, 70; Pande and Ford 2011, 16) and were found to have empirical support in many studies using survey data in a number of countries, including the United States (Atkeson 2003; Campbell and Wolbrecht 2006; Hansen 1997; Koch 1997; Reingold and Harrell 2010; Verba, Burns, and Schlozman 1997; Wolbrecht and Campbell 2007), New Zealand (Banducci, Donovan, and Karp 2004), Latin America (Desposato and Norrander 2008), and sub-Saharan Africa (Barnes and Burchard 2013), as well as in broader samples (Karp and Banducci 2008). Lawless (2004) is one of the few exceptions, finding that women represented by women are not more likely to participate in politics.

The symbolic effects of women’s representation are potentially crucial for bringing more women into electoral politics. Regardless of whether women doubt their political qualifications in general or their electoral skills in particular, a greater availability of successful female politicians might make other women more likely to consider running by altering their perceptions of their suitability for a political career (Lawless and Fox 2010, 174). Consistent with this view, Fox and Lawless (2004, 272) find that “the gender gap narrows considerably and becomes statistically insignificant as women perceive themselves as increasingly qualified to run for office.” Thus, the availability of role models may increase the confidence of potential female candidates and the likelihood of their actually deciding to run for office. In line with this argument, several studies of women’s representation in India have shown that women are more likely to be elected to office in jurisdictions in which, in the previous election, seats were reserved to women, than in jurisdictions that have always been open (Beaman et al. 2009; Bhavnani 2009).1 Bhalotra, Clots-Figuera, and Iyer (2013) find similar patterns when women were elected despite the absence of quotas, whereas Beaman et al. (2012, 582) conclude that exposure to female politicians elected thanks to quotas reduces the gender gap in career aspirations among both adolescents and their parents. In the United States, Palmer and Simon (2005) found that the presence of female incumbents is associated with greater numbers of female candidates within the same district. By contrast, Ferreira and Gyourko (2014), using a regression-discontinuity design with a sample of large U.S. cities, found no evidence of spillovers: The election of a female mayor does not affect the political success of other female candidates in the same city. Broockman (2014) comes to the same conclusion using a similar methodology but studying spillovers across jurisdictions.

Another source of spillovers for female’s representation is party competition, which could lead to a “contagion” of female candidates (Matland and Studlar 1996). According to this argument, “traditional parties will feel pressured to nominate more female if one of their political rivals, usually a smaller party farther to the left, starts to promote representation of female” (Matland and Studlar 1996, 707). Two mechanisms could drive this process. First, parties learn from the experience of other parties that female are electorally competitive; second,

1Moreover, Bhavnani (2009) finds that the performance of female candidates does not weaken after quotas expire, and that the effect is driven by female incumbents running for reelection.
as female candidates become accepted as normal, parties may feel compelled to conform to this expectation (Matland and Studlar 1996, 712).

In sum, there is agreement in the literature that female’s descriptive representation produces a number of spillovers: Women’s presence in politics signals that female are equal citizens, shapes their political attitudes, stimulates their political participation, makes them more comfortable with the idea of running for office, and puts pressure on parties to recruit more female candidates. Indeed, these spillovers are the reason why descriptive representation is important.

This article contributes to these debates in three ways. First, I examine explicitly whether female’s representation can be self-reinforcing and whether this happens because descriptive representation affects the number of female running for office or their electability. Are elected female role models for potential candidates, or are they a signal to voters? Answering this question is important to understand to what extent role models help to address one of the main reasons for the enduring gender gap in politics: the lack of female candidates (Lawless and Fox 2010).

Second, I focus on the interdependent dimension of women’s representation. Following the recent diffusion literature (Dobbin, Simmons, and Garrett 2007; Gilardi 2012; Graham, Shipan, and Volden 2013), I argue that the number of women running for and/or elected to office is influenced by women’s descriptive representation not only in the same unit, but also in other units. The idea is simple: Both potential female candidates and voters pay attention not only to the events in their own jurisdictions, but also to what happens in others. For example, voters may rely on other jurisdictions as benchmarks to evaluate the performance of their politicians (Besley and Case 2013; Kayser and Peress 2012). While simple, the idea is also powerful; it means that, through a diffusion multiplier, descriptive representation in one unit has consequences for women’s representation not only in that same unit, but also in other units. In other words, the symbolic dimension of descriptive representation may reach much further than has been recognized in the literature. To the best of my knowledge, Broockman (2014) is the only study that also focuses on the effects of role models across units.

Third, contrary to Broockman (2014), I explicitly look at how the effects of role models change over time. Role models arguably play a more important role when women’s political participation is not yet well established. By contrast, when it becomes widely accepted as a normal part of politics, specific examples of successful female politicians likely become less relevant than broader social norms (which may or may not be conducive to a high degree of political participation by women). The empirical design of this study is particularly favorable for investigating this question, as I am able to track women’s political participation since the introduction of women’s suffrage.

Theory and Expectations

The main idea advanced in this article is that women’s political representation is characterized by cross-unit spillovers. The theoretical foundation for this argument is found in the recent diffusion literature, which posits that political processes and outcomes in one unit are influenced by those of other units (Dobbin, Simmons, and Garrett 2007; Gilardi 2012; Graham, Shipan, and Volden 2013). Specifically, an important mechanism is learning, that is, a process in which political actors change their beliefs about the consequences of a course of action based on the outcomes observed elsewhere (Gilardi 2010). In this article, the argument is that potential female candidates update their beliefs about their qualifications for political office (Lawless and Fox 2010) or fitness for the electoral process (Kanthak and Woon 2014) when they observe that other women were elected in comparable contexts. This makes them more likely to run for office. In the case I analyze empirically (the Swiss canton of Zurich), the relevance of supply-side factors and the assumption that potential female candidates need an extra push is confirmed, for instance, by evidence found in the archive of the Frauenzentrale, a nonconfessional and nonpartisan umbrella organization for women’s groups. In a report for its 75th anniversary in 1989, we can read: “Many women] tend to avoid challenges and taking up responsibility. There remains a lot of work for the [Frauenzentrale] in order to motivate these women.”2 The interviews I conducted with women elected in the 1970s and 1980s also confirm the plausibility of the argument. Although few reported that they were influenced by specific successful examples, many thought they were themselves role models that they eased other women’s entry into politics. Moreover, several emphasized that their election brought them visibility not only in their own community, but also in the whole region. Based on this argument, the first expectation is the following:

E1: The number of female candidates in a given unit increases with the number of women elected in other units.

The second main argument is that the nature of the diffusion process changes over time. Diffusion theory posits that as certain practices or behaviors gain strong normative acceptance and become progressively internalized, the “logic of consequences” gives way to the “logic of appropriateness” and learning loses significance as a diffusion mechanism (Gilardi 2012, 466–69). In the present context, the argument is that, as women’s position in the political arena consolidates, potential female candidates are less likely to be influenced by specific examples of successful female politicians because it is widely accepted, and maybe even internalized, that the election chances of women are comparable to those of men. In my case, the success rate of male and female candidates has been statistically indistinguishable since the 1990s (Figure SI2). Moreover, the interviews revealed a widespread opinion that many of the obstacles women faced in the 1970s and 1980s no longer exist, and that one of the challenges for further consolidating women’s political representation is the lack of awareness of younger women regarding gender equality issues. Indeed, the presence of women in politics has been relatively quickly taken for granted, including by women and women’s organizations. The number of local women’s organizations (Frauenpodien) decreased sharply between 1970 and 1998, from 15 to nine.3 The minutes of the meetings of these organizations show that the engagement for women’s political representation was considerable in the 1970s and 1980s but lost steam in the 1990s, when women’s representation reached its peak.4 Members’ attendance at political events declined, and the organizations became concerned about their future. The president of a local organization even stated that “the Frauenpodien have reached their goal.”4 The current president of the Frauenzentrale confirmed the view that women’s representation is now taken for granted. Thus, the second expectation is as follows:

E2: The positive relationship between the number of female candidates in a given unit and the number of women elected in other units weakens over time.

The next four expectations are additional implications further probing the soundness of the two main arguments. First, there is little reason why the arguments advanced here should apply to male candidates. Thus, the following expectation can be considered a “placebo test”:

E3a: There is no relationship between the number of male candidates in a given unit and the number of men elected in other units.

Second, potential candidates are more likely to be aware of successful female politicians in their own community than in others, and they are more likely to consider those candidates’ experiences as more relevant to them than are the experiences of female candidates in other jurisdictions.

E3b: The positive relationship between the number of female candidates in a given unit and the number of women elected in other units is weaker than the positive relationship with the number of women elected within the same unit.

Third, the relationship should be driven primarily by new candidates rather than by incumbents running for reelection. Incumbents can be encouraged to aim for reelection by the example of other female politicians, but role models should be particularly influential to women aiming for political office for the first time.

E3c: The positive relationship between the number of female candidates in a given unit and the number of women elected in other units is driven by new candidates.

Fourth, it could be that diffusion affects women’s representation not by increasing the number of female candidates but by making them more electable. Voters may be more comfortable with electing a women if they see that female politicians are elected and do a good job elsewhere.

E3d: Conditional on the number of female candidates, the electoral performance of female candidates in a given unit increases with the number of women elected in other units.

### Women’s Political Representation in Switzerland

In Switzerland, women’s suffrage was introduced (in)famously late, first by two cantons in 1959 and only in 1971 at the federal level (Table SI1). Moreover, complete countrywide women’s suffrage has been in place only since 1990, when the Federal Supreme Court forced it upon the canton of Appenzell Innerrhoden against the will of its legislative body, the then-men-only Landsgerinde. A few reasons can be mentioned for these developments (Linder 1999, 60–2). First, although the Swiss women’s movement was not generally weaker than its...
European and American counterparts (Banaszak 1996a, 840–41), it lost momentum after the unsuccessful push for women’s suffrage in the 1920s. Moreover, like the women’s movements of many other European countries (Beckwith 2000, 446; Rucht 2003, 261), it relied on education and referendum campaigns instead of more confrontational tactics that could have been more successful (Banaszak 1996b, 148–85). Second, Swiss society has been traditionally conservative in all matters related to gender equality. Third, direct democratic institutions have further slowed down the process, as male voters had veto power over the extension of suffrage to women. Despite this slow start, women’s representation has caught up quickly since 1971 (Bütikofer, Engeli, and Ballmer-Cao 2008). The percentage of women in the national parliament (both houses combined) has increased fivefold since 1971, and, at 25%, it currently puts Switzerland in the top 20% worldwide and top 35% in Europe (Ruedin 2012).

Switzerland is an excellent case to study women’s representation. On the one hand, its late adoption of women’s suffrage makes it possible to study the evolution of women’s representation systematically since its introduction and until its (relative) consolidation. On the other hand, despite this peculiarity, Switzerland can actually be considered a “typical” case that is well representative of the broader population (Seawright and Gerring 2008, 299). Switzerland is a clear on-lier in at least three different analyses (see Section SI2 of the supporting information): Kenworthy and Malami (1999), which uses data from 1998 for 146 countries; Tripp and Kang (2008), which relies on data from 2006 for 153 countries; and Ruedin (2012), which analyzes data from 2006 for 131 countries. Moreover, Krook and O’Brien (2012), in their study of the determinants of women’s representation in national executives, situate Switzerland in the largest cluster, together with about 70 other countries. Similarly, Rule (1987), using data on the percentage of women in parliament from 1980 to 1982, places Switzerland in the largest group (12 cases) in a sample of 23 democracies.

In this article, I focus even more specifically on the canton of Zurich, where passive and active voting rights for women were introduced in 1969 and 1970 at the municipal and cantonal levels, respectively. This case is particularly suitable for examining the arguments developed in the previous two sections. Any diffusion effects can be detected more accurately at the local level, where the example of successful female politicians is more immediately available due to the proximity between communities. Zurich is Switzerland’s largest canton; however, with respect to women’s representation, it is not particularly unique in comparison with other cantons. First, Zurich introduced women’s suffrage essentially at the same time as the majority of other cantons (Table SI1). Second, the trend of women’s representation in its municipalities is comparable with that of other Swiss municipalities and with that at the national level (Figure SI1). Third, based on linear regressions of the percentage of women in the cantonal parliament on two explanatory variables (log of population and language) for several years between 1971 and 2011, Zurich tends to be an on-lier (Figure SI4). Fourth, Zurich prescribes a majoritarian voting system to all its municipalities, as half of the cantons do (Table SI2).

In Switzerland in general, local political recruitment is a closed and opaque process in which national political parties often play only a marginal role (Plüss and Rusch 2012, 62–3). In the canton of Zurich, as few as 15 voters can put forward a candidate for municipal elections. A significant proportion of the members of municipal executives are not affiliated with a political party (in 2006, about 36%). The nomination process takes place largely within each community, with cantonal party organizations sometimes exerting some influence over the selection process, but in ways that are very difficult to characterize precisely and impossible to measure. To the extent that there are official guidelines or expectations from the cantonal party organization, local parties tend to conform more or less voluntarily, but in case they disagree with the cantonal party, there is little the latter can do to enforce its policy. Furthermore, archival evidence shows that, at least in the 1970s and 1980s, the recruitment of female candidates was significantly driven by nonpartisan dynamics. Local women’s groups tried proactively first to find potential female candidates and then to put them in contact with an appropriate party. In some cases, the parties themselves asked for these groups’ help to find suitable female candidates. In sum, the recruitment of female candidates takes place at the local level with weak influence from cantonal parties and is significantly influenced by nonpartisan logic.

5 Gesetz über die politischen Rechte, §42.
6 Gesetz über die politischen Rechte, §51.
7 Interview with the president of the Frauenzentrale, February 4, 2014.
**Data and Methods**

The main dependent variable is the number of women running for office in municipal executive elections held between 1970 and 2010 in the Swiss canton of Zurich. The election records had to be retrieved individually from each of the 171 municipalities. I could obtain the records from 168 municipalities, for a total of 1,741 elections. Using this information, I counted the number of men and women running for office based on the first name of the candidates. Focusing on counts instead of percentages has the advantage of isolating variation in the number of female candidates from that in the number of male candidates. In effect, an increase in the percentage of female candidates could result from a constant number of female candidates accompanied by a decrease of male candidates. The number of female candidates is a count variable whose distribution turns out not to be overdispersed (mean = 1.16, variance = 1.17). Therefore, I estimate Poisson models.

The main explanatory variable (Expectation 1) measures the weighted average of the number of women elected to office in other municipalities, whereby “closer” municipalities carry a greater weight. Technically, it is the product of a row-standardized, zero-diagonal connectivity matrix measuring how the municipalities are connected with one another (W) with a vector of the number of women elected in each municipality in the previous election year. Strictly speaking, this variable is not a spatial lag because the connectivity matrix is not multiplied with the lagged dependent variable (the number of female candidates). However, the logic is essentially the same as that of standard spatial-econometric models (Beck, Gleditsch, and Beardsley 2006; Franzese and Hays 2007). Therefore, for simplicity I will use the term *spatial lag* to refer to this variable in the rest of the article. To model the time-changing effects of the spatial lag (Expectation 2), I include its interaction with election-year fixed effects, which also help to control for unobserved factors specific to each election year and common to all municipalities.

I construct W by identifying, for each municipality, its 20 closest neighbors based on travel distance by car, using travel distance by public transit to break ties. The 20 neighbors identified by this procedure are coded 1 and all other municipalities 0. Geography is effective to measure the presence of interdependence, at least as a first approximation, but it is usually quite blunt when it comes to understanding its nature. However, in this specific case, geographic proximity captures quite directly the idea that potential female candidates are influenced by the examples of success available to them, especially because, unlike in most applications, “success” is measured directly by the variable with which W is multiplied.

The models include a comprehensive set of controls: number of female candidates in the previous election (lagged dependent variable), number of female incumbent candidates, number of male incumbent candidates, number of women elected in the same municipality in the previous election, number of seats at stake, total number of candidates, average support for a series of national and cantonal referenda on gender equality issues held between 1981 and 2010, average percentage of votes for female candidates in the cantonal election prior to the municipal election, distance from the canton’s capital city (Zurich) (logged), population (logged), support for the Swiss People’s Party (a conservative party) at the cantonal elections prior to the municipal election, tax level, and type of municipality (center, suburb, or rural). These variables are described in Section S13 of the supporting information, which also shows descriptive statistics.

There is one important variable that I cannot measure: the partisan affiliation of candidates. Unfortunately, this information is reported very inconsistently on official election records and cannot possibly be retrieved. However, for the reasons explained in the last section, and given the otherwise comprehensive set of controls, including support for the conservative party in cantonal elections, I am confident there is little bias resulting from this omitted variable.

I estimate several variations of these models for the theoretical purposes discussed in the third section. First, I reestimate the models using the number of male candidates as the dependent variable (Expectation 3a). Second, I include the number of women elected in the *same* municipality in the previous election and interact this variable with the election-year dummies (Expectation 3b). Third, I estimate models using the number of *new* female candidates as the dependent variable (Expectation 3c). Finally, I estimate models with two additional dependent variables: the number of women elected and the ratio of the votes for the women and the men who received the most votes (Expectation 3d).

To complement the statistical analysis, I conducted semistructured interviews with 11 female candidates who were elected in the 1970s and 1980s and with the current president of the most important women’s organization in the canton of Zurich, the *Frauenzentrale*, whose archives I have also consulted. Key excerpts from the interviews are reported in Section S15.

I acknowledge that this research design does not allow a clean identification of causal effects. However, given the characteristics of the case, the quality of the data, the comprehensive list of control variables, and the extensive robustness tests (including unit fixed-effects specifications), I am confident that, within the inherent
limitations of an observational design, the inferences are highly credible.

**Results**

Figure 1 offers first evidence supporting the theoretical expectations. It shows the value of Moran’s I (a measure of spatial autocorrelation), computed for the percent of female candidates using the connectivity matrix described in the previous section, for all election years since the introduction of women’s suffrage. The geographic distribution of the percent of female candidates for all elections between 1970 and 2010 is shown in Figure SI3. The level of spatial autocorrelation is essentially 0 in the first election in which women were allowed to participate. Strikingly, the autocorrelation increases sharply in the next election, remains at roughly the same level for the subsequent three elections, then decreases and eventually becomes again indistinguishable from 0. This suggests that diffusion effects were at work as soon as the experience of nearby municipalities became available, that is, not in the first election to which women could participate, but in the second. Moreover, diffusion effects seem to decrease over time, which is consistent with the idea that, after a few elections, available role models become less influential as women’s political representation becomes more consolidated.

Table 1 shows the main results of the statistical analysis. It provides strong support for the arguments advanced in the third section. On average, the number of successful candidates in other municipalities, measured by the spatial lag, is not significantly associated with the number of candidates in a given jurisdiction (Expectation 1, Model 1). However, a diffusion effect becomes clearly apparent once the coefficient of the spatial lag is allowed to vary over time (Expectation 2, Model 2). The coefficient of the spatial lag is large and statistically significant in 1974 and then becomes progressively smaller, as expected. By contrast, no diffusion effects at all can be identified for men (Expectation 3a, Table SI3).

Models 3 and 4 in Table 1 provide a benchmark for assessing diffusion effects by including interactions between the number of women elected in the same municipality in the previous election and election dummies (Expectation 3b). Similar to Model 2, successful examples (this time within the same unit) are positively associated with the number of female candidates, but the strength of the association decreases over time. This result strengthens the findings of Models 1 and 2, demonstrating similar patterns for the influence of successful examples both within a municipality and among its neighbors. The positive but decreasing association between the spatial lag and the number of female candidates holds even when the model includes the interactions between the number of women elected in the same unit and time dummies (Model 4). Again, no such patterns are detectable for men (Expectation 3a, Table SI3). Model 5 shows that, save for some unsurprising increase in the variance of the estimates, the results are unaffected by the inclusion of unit fixed effects.

Figure 2 helps with the substantive interpretation of these findings. It shows the effect of an additional woman elected in other municipalities in the previous election. The baseline is the mode (most frequent value) for the corresponding year. The figure shows that in 1974, this was associated with an expected increase of about 0.1 female candidates in the municipality exposed to this example. In other words, if a municipality elected a woman, 1 in 10 of its neighbors would put forward an additional woman candidate. Because, by construction, each of the municipalities has 20 neighbors, electing an additional woman was associated with two more women running for office in the next election among neighbors. This estimate can be compared with the effect of an additional woman being elected in the previous election in the same municipality. In 1974, a woman elected in 1970 produced about 0.6 more female candidates on average (Figure SI5). In other words, 6 in 10 municipalities where a woman was elected in 1970 had one additional female candidate in 1974. Thus, in 1974, the effect of women elected in other municipalities was about one-sixth of that of women elected in the same municipality, which seems both a credible and nontrivial order of magnitude. The size of the effects decreases sharply after 1974, but they remain significantly larger than 0 for the next three elections. In 1978, 1982, and 1986, the effect of women elected in other municipalities is about one-tenth of that of women elected in the same municipality. From 1990 on, both these effects fade away. Thus, the analysis supports the idea that, in the first few elections after the introduction of women’s suffrage, the example of successful female candidates, both within a municipality and among neighbors, is associated with more women running for office. After a few elections, these effects taper off.

Additional analyses help to understand this pattern. In the first few elections after the introduction of women’s suffrage, more new female candidates ran for office if more women were elected in nearby municipalities (Table SI4); by contrast, no such relationship exists for female incumbents running for reelection (Table SI5; Expectation 3c). Moreover, when distinguishing between two subsamples,
Table 1 Poisson Regression Coefficients and Standard Errors

<table>
<thead>
<tr>
<th>DV: Number of Female Candidates</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2.61 (0.82)**</td>
<td>-3.49 (0.85)**</td>
<td>-2.61 (0.83)**</td>
<td>-3.45 (0.86)**</td>
<td>1.15 (5.85)</td>
</tr>
<tr>
<td>Spatial lag</td>
<td>0.08 (0.10)</td>
<td>8.77 (2.44)**</td>
<td>0.10 (0.10)</td>
<td>9.11 (2.53)**</td>
<td>8.34 (2.65)**</td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1)</td>
<td>0.05 (0.06)</td>
<td>0.07 (0.06)</td>
<td>0.95 (0.39)*</td>
<td>0.94 (0.40)*</td>
<td>0.96 (0.41)*</td>
</tr>
<tr>
<td>No. of ♀ incumbent cand. (t − 1)</td>
<td>0.24 (0.04)**</td>
<td>0.24 (0.04)**</td>
<td>0.23 (0.05)**</td>
<td>0.23 (0.05)**</td>
<td>0.23 (0.05)**</td>
</tr>
<tr>
<td>No. of ♀ incumbent cand. (t − 1)</td>
<td>-0.11 (0.02)**</td>
<td>-0.11 (0.02)**</td>
<td>-0.11 (0.02)**</td>
<td>-0.11 (0.02)**</td>
<td>-0.10 (0.02)**</td>
</tr>
<tr>
<td>No. of ♀ cand. (t − 1)</td>
<td>-0.02 (0.04)</td>
<td>-0.02 (0.04)</td>
<td>-0.01 (0.04)</td>
<td>-0.01 (0.04)</td>
<td>-0.05 (0.04)</td>
</tr>
<tr>
<td>No. of seats</td>
<td>0.07 (0.03)*</td>
<td>0.03 (0.03)</td>
<td>0.04 (0.03)</td>
<td>0.02 (0.03)</td>
<td>-0.01 (0.05)</td>
</tr>
<tr>
<td>Total no. of candidates</td>
<td>0.12 (0.01)**</td>
<td>0.13 (0.02)**</td>
<td>0.13 (0.02)**</td>
<td>0.13 (0.02)**</td>
<td>0.15 (0.02)**</td>
</tr>
<tr>
<td>Referenda on gender equality</td>
<td>1.31 (1.01)</td>
<td>1.25 (1.01)</td>
<td>1.22 (1.01)</td>
<td>1.22 (1.01)</td>
<td>-2.18 (15.28)</td>
</tr>
<tr>
<td>Support for ♀ in cantonal elec.</td>
<td>0.48 (0.36)</td>
<td>0.45 (0.36)</td>
<td>0.43 (0.37)</td>
<td>0.44 (0.37)</td>
<td>0.37 (0.47)</td>
</tr>
<tr>
<td>Distance from Zurich (log)</td>
<td>0.11 (0.11)</td>
<td>0.22 (0.11)*</td>
<td>0.16 (0.11)</td>
<td>0.23 (0.11)*</td>
<td>3.52 (2.54)</td>
</tr>
<tr>
<td>Population (log)</td>
<td>-0.01 (0.05)</td>
<td>0.00 (0.05)</td>
<td>-0.02 (0.05)</td>
<td>-0.01 (0.05)</td>
<td>0.28 (0.34)</td>
</tr>
<tr>
<td>Support for conservative party</td>
<td>-0.01 (0.01)</td>
<td>-0.01 (0.01)</td>
<td>-0.01 (0.01)</td>
<td>-0.01 (0.01)</td>
<td>-0.06 (0.04)</td>
</tr>
<tr>
<td>Tax level</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
<td>-0.09 (0.07)</td>
</tr>
<tr>
<td>Suburb</td>
<td>0.27 (0.15)</td>
<td>0.24 (0.15)</td>
<td>0.25 (0.15)</td>
<td>0.23 (0.15)</td>
<td>-3.73 (3.49)</td>
</tr>
<tr>
<td>Countryside</td>
<td>0.49 (0.17)**</td>
<td>0.42 (0.17)*</td>
<td>0.46 (0.17)**</td>
<td>0.41 (0.17)*</td>
<td>-4.27 (4.60)</td>
</tr>
<tr>
<td>1978</td>
<td>0.17 (0.19)</td>
<td>0.03 (0.34)</td>
<td>-0.07 (0.23)</td>
<td>0.04 (0.36)</td>
<td>0.06 (0.37)</td>
</tr>
<tr>
<td>1982</td>
<td>0.29 (0.21)</td>
<td>0.45 (0.33)</td>
<td>0.19 (0.24)</td>
<td>0.55 (0.34)</td>
<td>0.60 (0.35)</td>
</tr>
<tr>
<td>1986</td>
<td>0.67 (0.25)**</td>
<td>0.89 (0.34)**</td>
<td>0.54 (0.27)*</td>
<td>0.96 (0.36)**</td>
<td>1.04 (0.39)**</td>
</tr>
<tr>
<td>1990</td>
<td>1.03 (0.18)**</td>
<td>1.45 (0.29)**</td>
<td>1.06 (0.20)**</td>
<td>1.55 (0.30)**</td>
<td>1.57 (0.32)**</td>
</tr>
<tr>
<td>1994</td>
<td>1.28 (0.23)**</td>
<td>1.76 (0.33)**</td>
<td>1.40 (0.26)**</td>
<td>1.88 (0.35)**</td>
<td>1.97 (0.39)**</td>
</tr>
<tr>
<td>1998</td>
<td>1.16 (0.25)**</td>
<td>1.80 (0.35)**</td>
<td>1.31 (0.27)**</td>
<td>1.91 (0.36)**</td>
<td>2.03 (0.42)**</td>
</tr>
<tr>
<td>2002</td>
<td>1.06 (0.28)**</td>
<td>1.91 (0.41)**</td>
<td>1.32 (0.31)**</td>
<td>2.04 (0.42)**</td>
<td>2.25 (0.49)**</td>
</tr>
<tr>
<td>2006</td>
<td>1.17 (0.27)**</td>
<td>1.90 (0.44)**</td>
<td>1.47 (0.30)**</td>
<td>2.05 (0.45)**</td>
<td>2.31 (0.54)**</td>
</tr>
<tr>
<td>2010</td>
<td>1.14 (0.28)**</td>
<td>1.82 (0.47)**</td>
<td>1.28 (0.32)**</td>
<td>1.96 (0.48)**</td>
<td>2.20 (0.58)**</td>
</tr>
<tr>
<td>Spatial lag × 1978</td>
<td>-5.88 (2.52)*</td>
<td>-6.81 (2.64)**</td>
<td>-6.13 (2.70)*</td>
<td>-7.40 (2.67)**</td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 1982</td>
<td>-7.32 (2.47)**</td>
<td>-8.05 (2.59)**</td>
<td>-7.93 (2.64)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 1986</td>
<td>-7.90 (2.45)**</td>
<td>-8.58 (2.55)**</td>
<td>-7.93 (2.64)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 1990</td>
<td>-8.48 (2.44)**</td>
<td>-8.87 (2.53)**</td>
<td>-8.12 (2.63)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 1998</td>
<td>-8.77 (2.44)**</td>
<td>-9.07 (2.53)**</td>
<td>-8.25 (2.64)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 2002</td>
<td>-8.91 (2.44)**</td>
<td>-9.17 (2.53)**</td>
<td>-8.43 (2.63)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 2006</td>
<td>-8.84 (2.44)**</td>
<td>-9.04 (2.53)**</td>
<td>-8.37 (2.63)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial lag × 2010</td>
<td>-8.81 (2.44)**</td>
<td>-9.13 (2.53)**</td>
<td>-8.43 (2.63)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1978</td>
<td>-0.15 (0.42)</td>
<td>-0.30 (0.43)</td>
<td>-0.37 (0.44)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1982</td>
<td>-0.44 (0.43)</td>
<td>-0.57 (0.44)</td>
<td>-0.63 (0.46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1986</td>
<td>-0.50 (0.41)</td>
<td>-0.54 (0.42)</td>
<td>-0.59 (0.44)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1990</td>
<td>-0.82 (0.40)*</td>
<td>-0.81 (0.40)*</td>
<td>-0.86 (0.42)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1994</td>
<td>-0.91 (0.40)*</td>
<td>-0.91 (0.40)*</td>
<td>-0.97 (0.42)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 1998</td>
<td>-0.95 (0.40)*</td>
<td>-0.90 (0.40)*</td>
<td>-1.02 (0.42)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 2002</td>
<td>-1.00 (0.40)*</td>
<td>-0.94 (0.40)*</td>
<td>-1.03 (0.42)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 2006</td>
<td>-1.03 (0.40)*</td>
<td>-1.00 (0.40)*</td>
<td>-1.09 (0.42)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of ♀ elected (t − 1) × 2010</td>
<td>-0.93 (0.40)*</td>
<td>-0.90 (0.40)*</td>
<td>-1.00 (0.42)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit fixed effects</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Deviance</td>
<td>868.15</td>
<td>826.22</td>
<td>825.89</td>
<td>801.23</td>
<td>689.15</td>
</tr>
<tr>
<td>Number of observations</td>
<td>1531</td>
<td>1531</td>
<td>1531</td>
<td>1531</td>
<td>1531</td>
</tr>
</tbody>
</table>

Notes: “Spatial lag” refers to the average number of women elected in other municipalities in the previous election. **∗∗∗p < 0.001, **∗∗p < 0.01, ∗p < 0.05.”
FABRIZIO GILARDI

**Figure 1** Spatial Autocorrelation (Moran’s I and 95% CI) of the Percent of Female Candidates, 1970–2010

![Figure 1](image1)

**Figure 2** Effect of an Additional Woman Elected in Other Municipalities on the Number of Female Candidates (t–1)

![Figure 2](image2)

Notes: This figure is based on Model 2 in Table 1. The baseline is the year-specific modal (most frequent) value. The lines denote 95% confidence intervals.

diffusion effects for new female candidates can be identified in units in which no female incumbent was running for reelection, but not in units in which at least one female incumbent was running again. That is, the main findings are driven by new women aiming for office in municipalities where no incumbents are running for reelection. Role models seem to influence potential female candidates when there is a “vacuum” to be filled, whereas, in the presence of a female incumbent, they are not enough to bring new women into politics. Instead, the number of female incumbents is in general very strongly negatively related with the number of new candidates. Thus, part of the reason that the influence of role models faded away after a few elections is that, in an increasing share of municipalities, at least one woman ran for reelection, which discouraged other women from running. In part, this
pattern is probably due to party leaders feeling that they do not need to ask additional women to run. However, the qualitative evidence discussed in the third section supports the view that women themselves feel less pressure to run for office if women are already represented, not because they think there is little room for additional women, but because there is little need for them.

Is it also the case that female candidates receive more votes, and are more likely to be elected, if more examples of successful female politicians are available (Expectation 3d). Although there is some evidence that successful female candidates among neighbors somewhat improved the electoral performance of women in the first few elections, they did not have a significant effect on the number of women elected (Table SI7). Therefore, the influence of successful examples on women’s political representation operated primarily via an increase in the number of female candidates, and especially of new female candidates when no female incumbent is running for reelection. Even here, however, the effects decrease over time and are limited to the first few elections after the introduction of women’s suffrage.

I have performed extensive tests to establish the robustness of the results. Specifically, I have used alternative operationalizations of the connectivity matrix, introduced unit fixed effects, added and removed control variables, used the percent of female candidates as the dependent variable, coded various control variables as factors, estimated negative binomial models, computed robust standard errors, and used alternative operationalization for the performance of female candidates. The tests are shown and discussed in Section S16 and uniformly support the findings discussed in this section.

One remaining concern could be that the results are driven by the geographic distribution of local women’s groups. Using information available in the archive of the Frauenzentrale, I could include in the regressions a measure of the distance of each municipality from the nearest women’s group (Table SI8). The relationship between the distance from the nearest women’s group and the number of female candidates varies significantly over time, with a pattern similar to that of role models (Figure S16). However, the influence of role models remains even after controlling for local women’s groups (Table SI8).

Implications for Other Countries and Underrepresented Groups

Despite its peculiarities, the Swiss case is by no means deviant. It is quite representative of cross-national trends, as discussed in the fourth section, and the dynamics uncovered in Switzerland should not be dismissed as the product of an idiosyncratic context. This does not mean that the results can be mindlessly generalized. The late introduction of women’s suffrage in Switzerland arguably leads to an underestimation of the effect of role models because examples of successful female politicians were available in nearby countries. In contexts where the representation of women (or of other groups, such as gays and lesbians) is a true novelty, I would expect role models to play a stronger and longer-lasting effect than that shown in this study, although this depends also on the speed with which their representation becomes taken for granted.

Keeping these caveats in mind, my analysis has three concrete implications. First, policies aiming to increase the representation of women should take their spillovers into account. For instance, if quotas are introduced only in a subset of jurisdictions, as in India, their (geographic) distribution should be designed to maximize the “diffusion multiplier.” Second, the timing of such interventions is crucial because, after a few election cycles, diffusion effects are likely to fade away, especially when female incumbents run for reelection but, more generally, when a given level of representation is considered appropriate. This is a perverse consequence of improvements in women’s representation: Progress may become taken for granted too quickly, which can lead to disengagement. In this perspective, women’s groups should push the message that women’s representation is insufficient unless full equality is reached—“30% is not enough,” to borrow the slogan used by the Frauenzentrale in Zurich. Third, one of the intended effects of quotas is to increase the political engagement of women, including their willingness to run for office (Franceschet, Krook, and Piscopo 2012, 18). Although the impact of quotas is likely to vary over time, most research has focused on their direct and immediate effects (Franceschet, Krook, and Piscopo 2012, 13). The findings presented here suggest that the effects of quotas may fade away rather quickly instead of building up over time, thus limiting their impact—paradoxically, especially if they are successful.

Beyond the case of women, the findings could be relevant for other underrepresented groups, such as ethnic minorities (Bird 2005; Gay 2001; Ruedin 2009), resident aliens (Day and Shaw 2002; Earnest 2006), gays and lesbians (Reynolds 2013), people with disabilities (HM Government 2012), and young adults. There is no agreement on whether women can be directly compared with other minority groups. Unlike ethnicity, for instance, gender tends to cut across political cleavages (Htun 2004); moreover, the concept of intersectionality points to complex interactions between gender and ethnicity (Hughes
On the other hand, there is evidence that the same factors influencing women’s representation affect the representation of ethnic minorities (Banducci, Donovan, and Karp 2004; Ruedin 2010). Several authors draw explicit parallels between the representation of women and that of blacks (Broockman 2013; Dovi 2002; Mansbridge 1999). Krook and O’Brien (2012, 854) state their results (for women) can be “adapted quite easily [to] other politically marginalized groups,” and Lijphart (1999, 280) argues that women’s representation is a good proxy for the representation of other minorities (but see Ruedin 2010). Thus, the findings of this article have at least some relevance for other underrepresented groups.

**Conclusion**

One of the main obstacles to closing the gender gap in politics is the insufficient number of women willing to run for office. This article studied the effect of role models on the number of female candidates by looking at the diffusion of women’s political representation in 168 municipalities of the Swiss canton of Zurich between 1970 and 2010. Consistent with theoretical expectations, the analysis found that more women ran for office if more women were elected in nearby municipalities in the previous election. By contrast, controlling for the number of female candidates, the number of women elected is not dependent on the success of women in nearby units. Moreover, the relationship decreases over time and is driven largely by new candidates in units where the female incumbent is not running for reelection. Strengthening women’s representation implies there are more female incumbents, most of whom run for reelection. Consequently, the scope for bringing in new women decreases, as both political parties and potential candidates feel that an adequate level of women’s representation has been reached, thus reducing the urgency of further efforts. At least in part, this explains the declining influence of role models over time.

Despite its specificities, the Swiss case is quite representative of broad cross-national patterns. Thus, the findings bear some relevance for other cases as well; if anything, the late introduction of women’s suffrage in Switzerland leads to an underestimation of the effects of role models. Moreover, the results have implications for other underrepresented groups. Interventions aiming to improve the political representation of a given group should take their spillovers into account to maximize their impact, and their influence is likely to decrease over time. Thus, their timing is of great importance. The political representation of women has improved significantly in the past decades, but nowhere in the world are women fully equally represented in political institutions. The lesson from this study is that the example of successful female politicians can motivate other women to pursue a political career, but only women’s representation is not considered adequate. Therefore, whether role models will be a significant factor in taking the political representation of women to the next level will depend on how current levels of representation are perceived both by political actors and by the public at large—and on the success of women’s groups in shaping these views.

**References**


Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher’s website:

SI1: Women’s representation in Switzerland
SI2: Switzerland in comparative perspective
SI3: Descriptive statistics and variable description
SI4: Additional analyses
SI5: Interview excerpts
SI6: Robustness tests