Spillover effects in women’s political representation∗

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Abstract

ELECTING women to political office is widely believe to have important symbolic consequences, as descriptive representation affects how women are perceived in the political arena. Moreover, successful female politicians can be role models for other women considering a political career, and they can help party elites overcome reservations about the qualifications of female candidates. Importantly, these effects can be expected not only within jurisdictions, but also across them. The consequences of improved descriptive representation in one unit can spill over to other units. This paper builds on previous research by relying on an original dataset including over 9,400 municipal elections in Switzerland since the first introduction of women’s suffrage at the local level in 1959. The empirical analysis finds that the degree of spatial correlation of female candidates has decreased significantly in the past fifty years.

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1 Introduction

Despite significant improvements in recent decades, in virtually all countries women remain underrepresented in politics, sometimes dramatically so. 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), 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 project aims to study the supply side of women’s political representation by analyzing how the motivation of women to run for office at the local level is influenced by role models. 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). As discussed in Section 2, this is one among many types of spillovers that scholars associate with the presence of women in elected office.

Previous research has found that, in the canton of Zurich, the availability of role models, defined as successful female politicians with whom women can identify, was associated with higher numbers of female candidates, but only for about four elections (Gilardi, 2015). In part, this seems linked to a perverse effect of the success of female candidates: female incumbents running for re-election dampen the influence of role models and discourage other women from becoming candidates (Gilardi, 2015). More generally, Gilardi (2015) argues that role models help to bring more women into politics until women’s representation becomes taken for granted and the number of women in politics is considered adequate. However, the specific mechanisms by which the effect of role models decrease over time remain unclear and needs further investigation.

This paper presents the first output of our project, namely, our dataset of women’s representation at the local in Switzerland level since 1959 as well as first results. We find that the spatial correlation of female candidates was sizable and significant in the 1960s and 1970s but decreased over time. Future iterations of this paper will aim to identify the causal effects possibly driving these relationships.
2 Theoretical background

Women’s political representation is influenced by many factors. Contextual variables such as the electoral and party systems, legislative competition, and party ideology and organization play an important role. It is well established that electoral systems with party lists, proportional representation, and large district magnitudes create favorable conditions for the election of women (Wängnerud, 2009, 54). Within these constraints, demand- and supply-side factors are crucial (Norris, 1997; Krook and Schwindt-Bayer, 2013, 556). First, there must be a demand for female candidates. Party elites and other gatekeepers must be willing to put women on their lists. Second, there must be a sufficient supply of female candidates, that is, enough women 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). Indeed, the limited willingness of women to run for office compared with men is one of the main reasons 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 (Lawless and Fox, 2010; Fox and Lawless, 2004, 2011). Second, women may be “election averse.” According to Kanthak and Woon (2015), 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, 2015).

This project 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), “[l]ow percentages of […] women representatives […] create the meaning that […] women cannot rule, or are not suitable for rule.” Similarly, Alexander (2012, 437) considers that “[f]or 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., Kittilson, 2005, 643; Dovi, 2002, 730; 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 (Verba, Burns and Schlozman, 1997; Koch, 1997; Hansen, 1997; Atkeson, 2003; Campbell and Wollbrecht, 2006; Wollbrecht and Campbell, 2007; Reingold and Harrell, 2010), New Zealand (Banducci, Donovan and Karp, 2004), Latin America (Desposato and Norrander, 2008), 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 women 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 (Bhavnani, 2009; Beaman et al., 2009). Bhalotra, Clots-Figueras and Iyer (2013) find similar patterns when women were elected despite the absence of quotas, while Beaman et al. (2012, 582) conclude that exposure to women politicians elected thanks to quotas reduce the gender gap in career aspirations among both adolescents and their parents. In the US, Palmer and Simon (2005) found that the presence of female incumbents is associated with greater numbers of women candidates within the same district. By contrast, Ferreira and Gyourko (2014), using a regression-discontinuity design with a sample of large US cities, found no evidence of spillovers: the election of a woman 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 women’s representation is party competition, which could lead to a “contagion” of women candidates (Matland and Studlar, 1996). According to this argument, “traditional parties will feel pressured to nominate more women if one of their political rivals, usually a smaller
To the left, starts to promote representation of women” (Matland and Studlar, 1996, 707). Two mechanisms could drive this process. First, parties learn from the experience of other parties that women are electorally competitive; second, as women 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 women’s descriptive representation produces a number of spillovers: women’s presence in politics signals that women 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 women candidates. Indeed, these spillovers are the reason why descriptive representation is important.

Gilardi (2015) contributed to these debates in three ways. First, it examined explicitly whether women’s representation can be self-reinforcing and whether this happens because descriptive representation affects the number of women running for office or their electability. Second, it focused on the interdependent dimension of women’s representation. Following the recent diffusion literature (Dobbin, Simmons and Garrett, 2007; Graham, Shipan and Volden, 2013; Gilardi, 2012), it argued 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. In other words, the idea is that both potential female candidates and voters pay attention not only to the events in their own jurisdictions, but also to what happens in others (Broockman, 2014). Third, contrary to Broockman (2014), it explicitly looked at how the effects of role models change over time, arguing that, when women’s representation 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 analysis in Gilardi (2015) found that, 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 re-election. 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.

This project takes Gilardi’s (2015) conclusion—the availability of role models is associated with a greater number of female candidates, but only for a relatively short time since the introduction of women’s suffrage—as a starting point and pursues two goals. First, it attempts to replicate the findings with a broader sample. Gilardi (2015) focused on a single canton and it could be that the patterns, though robust within the specific case, do not hold in other cases. Second, and more importantly, the project aims to establish the causal effect of role models. This second goal will be pursued more directly in future iterations of this work.

3 Data

We collected the protocols of elections of the municipal executives—including mayoral elections and replacement elections—for the period since introduction of female suffrage at the municipal level in the Swiss cantons. Our initial goal was to obtain protocols for the 17 cantons with a sufficient number municipalities to permit statistical analysis, that is, about 30. In these cantons we first contacted the state administration, statistical state archives and statistical offices in order to check for centrally stored protocols. For the canton Thurgau we could find quite complete archives for the period until 2003, for Schwyz a more fragmentary collection was available up to 2010. Although the state archive in Basel-Land keeps the protocols, up the 1990s the protocols usually lack information on non-elected candidates, so we had to give up that canton. For the canton of Geneva, protocols for both the municipal executive and legislative body were stored with the state chancellery; however, the existence of the legislative body seems to lower the electoral contest for the executive body. In Neuchâtel, the indirect elections of the executive in most municipalities meant that only legislative elections were centrally stored.

For the remaining cantons, municipal election protocols were not systematically stored at either the cantonal or district level and data collection required vast efforts. We asked the secretaries of each single municipality to grant us access to the documents, often requiring personal searches in the single municipal archives by assistants based in Zurich or Lausanne. Based on the support by the cantonal associations of municipalities (or mayors or secretaries) and the feasibility of the task
Table 1: Cantonal key indications on general elections of municipal executive councils (provisional data).
Note: The table only accounts for elections of the executive collective council without additional or separate vice-/mayoral elections. Participation rates relate to first election rounds only. Indications for 2014 refer to the most recent general elections (for SZ, the most recent collected data is from 2010).

<table>
<thead>
<tr>
<th>Canton</th>
<th>First election</th>
<th># Municipalities</th>
<th>Coverage (%), 2014</th>
<th>Coverage (%), 1st election</th>
<th>Female cand. (%), 2014</th>
<th>Women elected (%), 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG</td>
<td>1974</td>
<td>214</td>
<td>67.8</td>
<td>48.7</td>
<td>26.1</td>
<td>26.3</td>
</tr>
<tr>
<td>LU</td>
<td>1971</td>
<td>88</td>
<td>73.9</td>
<td>68.2</td>
<td>33.3</td>
<td>33.0</td>
</tr>
<tr>
<td>SG</td>
<td>1974</td>
<td>87</td>
<td>78.2</td>
<td>66.7</td>
<td>22.8</td>
<td>23.2</td>
</tr>
<tr>
<td>SH</td>
<td>1973</td>
<td>26</td>
<td>73.1</td>
<td>52.9</td>
<td>30.2</td>
<td>28.9</td>
</tr>
<tr>
<td>SZ</td>
<td>1972</td>
<td>30</td>
<td>40.0</td>
<td>76.7</td>
<td>12.9</td>
<td>12.6</td>
</tr>
<tr>
<td>TG</td>
<td>1975</td>
<td>80</td>
<td>98.8</td>
<td>20.1</td>
<td>24.6</td>
<td>24.4</td>
</tr>
<tr>
<td>VD</td>
<td>1962</td>
<td>339</td>
<td>87.9</td>
<td>42.5</td>
<td>22.7</td>
<td>23.6</td>
</tr>
<tr>
<td>ZH</td>
<td>1970</td>
<td>171</td>
<td>81.9</td>
<td>88.4</td>
<td>21.9</td>
<td>23.1</td>
</tr>
</tbody>
</table>

Table 3 gives some key indications for the provisional data set used in this paper. More data will be added shortly for the cantons of Luzern and Geneva, which will leave us with nine cantons overall. The data we collected on the legislative councils of municipalities in Geneva and Neuchâtel will allow for additional analyses.

From our final selection of cantons a major problem for data collection was posed by the canton of Thurgau (TG) for the period before the mid-1990s. That was the time point for a large municipal reform, merging parallel structures of civic and political municipalities. In the course of the reform, also many inter-municipal mergers took place, partly explaining the low coverage of municipalities before the reform. More a challenge than a problem was the canton of Vaud (VD), the first canton introducing women’s suffrage at cantonal and municipal level in 1959. Given the many hand-written protocols, the
Figure 1: Women’s representation at the local level: percent women in municipal executives, 1980 and 2010. An animation covering the 1962–2014 period is available at this link: https://fabriziogilardi.org/resources/misc/women-map-1962-2014.gif
widely spread small municipalities, and a considerable number of mergers, data collection has required
the clearly largest share of our efforts, and data entry is still in progress.

Even though the preliminary results indicate remarkable differences in terms of voter participation,
but also with regard to female candidacies, some caveats should be noted here. The data has so far been
calculated only based on the elections of the collective executive council. Since mayors in Schwyz (SZ)
and since 1992 also St. Gallen (SG) are elected in completely separate elections (not requiring electoral
support as ordinary council members), they are not considered in our calculations. We will correct this
for the next version of this paper. Another issue are presidents of school boards simultaneously form
part of the executive council, which has become popular in St. Gallen. We have not systematically
collected school board elections. Lastly, general elections in Schwyz take place on a biannual basis,
electing alternately about half of the executive council for a four year period. The figures used here
thus depict only the newly elected half of the municipal council. Depending on data availability we
will try to reconstruct the council composition for every two years.

Further variation that remains to be explored and exploited for analysis concerns the electoral
systems. Executive councillors in many municipalities in Schwyz but also in Vaud are elected at
town meetings, often holding separate elections for each seat. In Luzern, some offices with particular
portfolios were held at ballot elections. In Thurgau, three per cent of municipalities held proportional
elections back in 1974. And in Vaud, earlier elections in smaller towns were held not by the citizens
but by the “conseil général” (thus with a lower number of entitled voters), which in contrast to the
institutionalised legislative (“conseil communal”) in larger municipalities consists of people that agreed
to be sworn to take an active role in municipal elections.

Figure 1 offers a descriptive overview of the data for two years, 1980 and 2010. An animation
covering the 1962–2014 period is available at this link: https://fabriziogilardi.org/resources/
misc/women-map-1962-2014.gif. For these graphs, we have reshaped the data set in order to match
the present-day municipal boarders. For each point in time, the preceding municipal units were
accordingly grouped and we use the averages of their respective shares of women running for office or
getting elected.

1The maps were produced by adapting ggplot code by Timo Grossenbacher (https://timogrossenbacher.ch/2016/
12/beautiful-thematic-maps-with-ggplot2-only/).
4 Methods

Our main analysis estimates two versions of this model:

\[ y_{i,t} = \alpha_{i,t} + \rho W y_t + X_{i,t} \beta + \epsilon_{i,t}. \]

We construct \( y_{i,t} \) in two ways. First, as the percentage of female candidates in municipality \( i \) in year \( t \). Second, we dichotomize this variable such that it takes the value of one if there is at least one female candidate, and the value of zero otherwise. \( W y_t \) is the spatial lag, that is, the weighted average of the dependent variable among a municipality’s “neighbors.” We rely on data from the Bundesamt für Raumentwicklung (Aberegg and Tschopp, 2010), which estimated distances and travel times between each pair of Swiss municipalities for 2010. Unfortunately, data for earlier periods are not available. We use distances (in km) reasoning that they are possibly a bit more stable over the years than travel times. Although the measure is not ideal, it is superior to the alternative of focusing on shared borders. It is not uncommon that two municipalities share a border but are actually not really close to one another, for instance when the border runs through a natural barrier. Finally, we dichotomize the values in the connectivity matrix (\( W \)) so that they take the value of one if distance is 15 km or less, and zero otherwise. We do so because we want the spatial lag to be sharply focused on local conditions. The spatial lag results from the multiplication of the connectivity matrix \( W \) with the vector of values for the dependent variable in each year. The models include time and year fixed effects (\( \alpha_{i,t} \)) as well as fixed effects for election records that were not fully complete or could not be transcribed with complete accuracy (\( X_{i,t} \)).

In addition to these pooled models, we also estimated repeated cross-sections for each year for which we have data for twenty elections or more:

\[ y_i = \alpha + \rho W y + X_i \beta + \epsilon_i. \]

We estimate all models with OLS.

5 Results

Table 2 shows the estimates for the models described in Section 4. Models 1, 2, 4, and 5 show the presence of significant spatial correlation for both dependent variables. Models 3 and 6 show that spatial
Table 2: OLS estimates with cluster-robust standard errors in parentheses. **p < 0.001, *p < 0.01, p < 0.05

<table>
<thead>
<tr>
<th></th>
<th>Percent female candidates</th>
<th>At least one female candidate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>7.12***</td>
<td>-331.20***</td>
</tr>
<tr>
<td></td>
<td>(0.81)</td>
<td>(75.90)</td>
</tr>
<tr>
<td>Spatial lag</td>
<td>0.61***</td>
<td>0.61***</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>Linear trend</td>
<td>0.17***</td>
<td>0.26***</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Spatial lag × Linear trend</td>
<td>-0.02***</td>
<td>-0.00***</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
</tbody>
</table>

Unit FE | Yes | Yes | Yes | Yes | Yes | Yes |
Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
Incomplete records FE | Yes | Yes | Yes | Yes | Yes | Yes |
R²      | 0.59 | 0.59 | 0.59 | 0.57 | 0.57 | 0.58 |
Adj. R² | 0.53 | 0.53 | 0.53 | 0.52 | 0.52 | 0.52 |
Num. obs. | 9417 | 9417 | 9417 | 9417 | 9417 | 9417 |
RMSE    | 9.91 | 9.91 | 9.89 | 0.34 | 0.34 | 0.34 |

correlation decreases over time, again for both dependent variables.

The decreasing spatial correlation of female candidates is visible more clearly in Figure 2. The top panel shows that an increase in the percent of female candidates in a municipality’s neighborhood of 10 percentage points was associated with an increase of the percent of female candidates in that municipality of about 15 percentage points in 1960, but only of less than 5 percentage points in 2010. The bottom panel shows that an increase of 10 percentage points in the share of neighbors with at least one female candidate was associated with an increase of the probability that a municipality has at least one female candidate of about fifteen percentage points in 1960, but only of about 5 percentage points in 2010.

Figure 3 shows the results of the repeated cross-sectional analysis. The findings remain substantively unchanged: the spatial correlation of female candidates decreases over time.
Figure 2: Spatial correlation of female candidates, conditional on year (pooled analysis, Table 2).
Figure 3: Spatial correlation of female candidates, conditional on year (repeated cross-sectional analysis).
6 Conclusion

This paper has provided a brief overview of the data collection in our project on women’s representation in Swiss municipalities since the introduction of women’s suffrage as well as first results. Specifically, we have shown that the degree of spatial correlation of female candidates has decreased significantly since the introduction of women’s suffrage.

The next steps will include in particular a stronger focus on causal identification. Specifically, we plan to use a difference-in-differences design to identify the effect of electing a woman in one municipality on the number of female candidates in other municipalities. Additionally, or alternatively, the strategy will involve the comparison of municipalities whose neighbors elect women for the first time with municipalities whose neighbors have yet to elect women.

References


