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## Do Electoral Rules Matter for Female Representation?

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# Do Electoral Rules Matter for Female Representation?

## Abstract

How do electoral rules affect the representation of women? We collect panel data on the universe of Italian politicians from all levels of government over the period 1987-2013 and obtain a complete picture of the career paths of male and female politicians across the whole arc of their careers in public office. We use our unique dataset to analyse the effects on female political representation of an Italian reform which, in 2005, changed the electoral rule for national elections from (mostly) majoritarian to proportional, but did not affect sub-national level elections. We find that proportional electoral rules favour the election of women. We propose a new channel through which this result is obtained, related to the different nature of political competition in the two electoral systems: under proportional rules, parties place women less frequently in competitive seats. This is consistent with the fact that proportional systems value gender diversity more than majoritarian ones, while majoritarian systems rely on head-to-head electoral races, which are not gender neutral. We also find that electoral rules have weaker effects on female representation in geographical areas where traditional gender roles are dominant.

JEL-Codes: H700.

Keywords: electoral systems, majoritarian, proportional, difference-in-differences.

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# 1 Introduction

Women are under-represented on the political stage across the globe. According to the Inter-Parliamentary Union database, only 11 countries out of 193 have more than 40% of women in their national parliaments and 121 countries have less than 25% female representation (IPU, 2017). This picture does not become much less bleak when one considers only advanced economies. Of the OECD countries, for example, not a single country has yet reached gender parity in their national parliaments (the highest is Iceland with 47.6%) and the OECD average remains at 28.68% (OECD, 2017).

Much attention has been paid to female representation in national governments. However, this is only the tip of the iceberg. Sub-national levels of government are crucial for how power gets translated into action. Yet, there is a lack of research here. Much of this is due to the fact that there is currently no global data on the proportion of women elected to local government. This is a major knowledge gap, as the UN recognises, and, indeed, UN Women is currently in the process of establishing a database on this vital area of research. Existing partial data on women in local governments suggest that women may be even more under-represented at local levels of government than they are at the national level. For example, in 2014 the International City/County Management Association reported that only 14.4% of chief administrative officers in their international database (now covering over 60 countries worldwide, at various stages of development) of local politicians were women (ICMA, 2014). When one concentrates on a single country, comprehensive studies of women's representation at all levels of governments are even more scarce. Some efforts have been made in both the fields of public administration (Cayer and Sigelman, 1980) and political science (Bratton and Ray, 2002), but much remains solely descriptive and many realities are still unknown.

In addition to being interesting *per se*, a comprehensive vision of women's representation at all levels of government in a given country is useful to understand which electoral rules - majoritarian versus proportional - have an impact on the promotion of gender equality in politics. Since electoral rules are often heterogeneous across different levels of government within the same country, a within-country approach may allow one to appropriately identify the effects of electoral rules on female representation. Indeed, within-country analysis is required to be able to isolate the causal channel from electoral rules to women's representation from confounding phenomena. Such phenomena may affect the success of women in being elected to office and may have impacted the choice of the electoral system in the first place - for example, the institutional setting or political culture in the country in question or its history in terms of ruling forces (e.g. British colony).

This paper adopts such a comprehensive vision. We focus on Italy and assemble data of the universe of Italian politicians from all levels of government - national, regional, provincial, municipal - over the period 1987-2013. We use our dataset to provide a

complete picture of female representation at all levels of Italian government for these years. We then use our newly assembled panel dataset to identify the causal impact of electoral rules on women’s political empowerment. To do this, we analyse the introduction in 2005 of a reform which changed the electoral rule for national elections from mixed, but mostly majoritarian, to fully proportional. Since the reform applies only to national elections and not to sub-national ones, we can use a Difference-in-Differences (hereafter, DiD) approach to show that the proportional electoral rule has a positive effect on female politicians’ relative probability of reaching national office. We also investigate the channel through which this increase of female representation is reached and we find that an important role is played by how parties and candidates respond to competition under the different electoral rules. We find that under the proportional rule parties place women in safer (i.e. less competitive) seats and more women are elected. This is consistent with the fact that proportional systems value gender diversity more than majoritarian ones, while majoritarian systems rely on head-to-head electoral races, which are not gender neutral. This is because women tend to shy away from competition and/or because parties are not confident of female candidates’ ability to win competitive seats.

Italy is an interesting case to investigate for at least two main reasons. First, it lags behind its Western neighbours in all gender statistics, including female political empowerment. Italy currently ranks just above the halfway point in terms of female representation as compared to the other EU28 countries (10th position, with 36 per cent women in national office as of the 2018 elections) and in 29th position in the IPU’s global classification. However, only in the most recent elections has Italy achieved such levels of female representation. For example, in 2000 Italy had only 11% women in national office (ranking 29th position amongst OECD members and well below the OECD average), in 2005 still only 11.5% (37th position), and in 2010 21.3% (24th position). In different levels of sub-national government female representation varies substantially, but it remains low: in 2013 in Italy, 17% of politicians at the regional level were female, 16% at the provincial level, and 21% at the municipal level. In such a context, it is particularly interesting to understand whether electoral rules have any impact on female representation.

Second, Italy has experienced several reforms in electoral rules at different levels of government, which may have affected women’s political representation. The process of electoral reform is still ongoing and a new electoral rule has recently been enacted by the Italian national government. As these reforms do not affect all levels of government, Italy provides interesting within-country variation in the electoral system over time. We focus on the 2005 *Legge Calderoli*, which introduced, only for national elections, a proportional electoral rule with a majority bonus and closed lists, meaning that parties had complete control over which candidates would be placed in safe, competitive or ‘no chance’ positions on their list and that voters had no say in which individual candidates they preferred.<sup>1</sup>

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<sup>1</sup>Indeed, the 2005 *Legge Calderoli* was ruled unconstitutional in 2014 precisely due to its fixed candidate

The previous electoral rule was established by the 1993 *Legge Mattarella* and consisted of a system whereby 75% of the available seats for the house were assigned via plurality voting in 475 single member districts (hereafter, SMD) and the remaining 25% of seats were elected from closed party lists in 26 multi-member districts under proportional rules. Under these previous electoral rules, parties' gate-keeping powers were also very strong, in the sense that party leaders had a strong degree of control "over access to their party's label" (Carey and Shugart, 1995). They could effectively decide which candidates would win and lose by placing them in safe or competitive districts in the majoritarian tier<sup>2</sup> or in safe or competitive positions on the closed lists. With the 2005 reform which we analyse, then, the national electoral rule changed, but parties' gate-keeping powers remained consistently strong.

This institutional context together with our newly collected multi-level microdata on Italian politicians allow us to respond to calls for more in-depth, single country, longitudinal studies capable of taking into account how electoral rules interact with other changing features of the political landscape and looking at local patterns of female representation too (Krook, 2010b; Hinojosa and Franceschet, 2012). We are able to estimate the effect of the electoral rule on female representation over time, to include individual-level controls, and to create a measure of the competitiveness of seats under each system to see how this interacts with the electoral rule to influence women's chances of election. After a thorough description of female political representation over the period 1987-2013 and across levels of government, we use our data to establish that the 2005 electoral reform did indeed have a positive impact on the relative likelihood of being elected as a woman. We use a DiD strategy exploiting the sub-national levels of government as control groups to be compared with the treated national group. We undertake both aggregate analyses and analyses exploiting the microdata, introducing controls for individual characteristics that may boost one's likelihood of being elected - namely age, education level, years of sub-national political experience, number of candidates in race, region of election and party affiliation. Our findings are robust to all specifications of the model. Our results are in line with the political science literature which has found (mostly in cross-national studies) that more women are usually elected to parliament under proportional rules than under majoritarian rules (see the literature review in Section 2).

We then hone in on a specific channel through which the proportional rule can influence the likelihood of women making it to national elected office: the competition landscape created by the electoral rules. To do this, we introduce candidate and margin of victory data to our analyses, defining competitive seats and estimating the likelihood of being placed in these seats as a woman under the different electoral rules. In this part of

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lists that leave voters without a say about the *candidate* they prefer.

<sup>2</sup>There were no residency requirements under the *Legge Mattarella* that would have restricted parties' abilities to place whomsoever they liked in a given district.

the paper, we are speaking directly to the literature linking electoral rules to candidate nomination procedures and how they can be gendered (Norris and Lovenduski, 1995; Hinojosa, 2009, 2012). We find that under majoritarian rules women and men are placed in competitive seats with comparable likelihood, whereas under proportional rules women are significantly less likely than men to be placed in competitive seats, and more likely to be placed in safe seats. Moreover, the share of safe seats in a proportional system is higher than in the majoritarian. Our result is slightly different from what has been found in the previous literature which associates majoritarian elections with the placement of women in hard-to-win seats, i.e. parties see female candidates as a liability in terms of election chances, perceiving male candidates as more capable of winning (Murray, 2008, p.541), so they place female candidates in seats in which they stand no chance of being elected.

Our findings compound one another in the following direction: under proportional rules more women come forward as candidates - both the share of women and the absolute number who come forward as candidates increase, which may be due to parties recruiting them more actively or due to women's own preferences - and parties place their female candidates less frequently in competitive positions (more often in safe seats). Moreover, there is a greater share of safe seats. Thus, more women are elected to office. We further expand our analysis to consider how the efficacy of electoral reforms in affecting female political representation may depend on culture, namely on gender norms. Exploiting another specificity of Italy as an empirical context, - its geographical variation in gender norms - we find that the change to proportional rules had less of an effect in regions where gender traditionalism is weaker.

The paper is organised as follows. Section 2 discusses the related literature. Section 3 describes the Italian institutional context. Section 4 describes our data and provides descriptive statistics which deliver the picture of female representation at all levels of Italian government. Section 5 presents the estimation strategy and main results and performs some robustness checks. Section 6 discusses the results. Finally, Section 7 concludes.

## 2 Related Literature

There is consensus in the literature on political representation that countries applying proportional rules are associated with higher numbers of women in their national parliaments than those with majoritarian rules (Norris, 1985; Rule, 1981, 1987; Rule and Zimmerman, 1994; Rule, 1994; Matland and Studlar, 1996; Matland, 1998; Vengroff et al., 2003; Kittilson and Schwindt-Bayer, 2012). Indeed, the Inter-Parliamentary Union reports that in 2016 women won 23.9% of seats in chambers elected by proportional rule and 24.4% in those using either proportional or mixed electoral systems, compared to 15% of seats in chambers elected through a majority rule and 22.2% where the chamber is appointed or

indirectly elected (Inter-Parliamentary Union, 2016). Many other factors play a role in the number of women elected to political office, including political culture<sup>3</sup> (Norris, 1985; Rule, 1987; Kenworthy and Malami, 1999; Reynolds, 1999; Inglehart and Norris, 2003; Yoon, 2004), the distribution of party ideology (left-wing and more environmentally conscious parties have been found to nominate more female candidates (Caul, 1999; Kunovich, 2003; Kittilson, 2006)), female labour force participation which can increase women’s likelihood of participating in politics (Norris, 1985; Rule, 1987; Matland, 1998), a stronger welfare state that helps women to enter the labour force, directly provides jobs and changes the political interests of working women (Rosenbluth et al., 2006), and targeted policy interventions such as gender quotas in candidate lists that have been shown to be effective in increasing female representation (De Paola et al., 2010).<sup>4</sup> Institutional features such as electoral rules have been generally found to have a strong and immediate<sup>5</sup> impact on female representation. It is also important to note that the relevance of all these factors depend, in turn, on the level of development of a country (Matland, 1998).

Proportional systems are argued to promote greater representation of women through several mechanisms. The literature has concentrated on the following: candidates’ characteristics, incumbency patterns, district magnitude and specific features of proportional systems (e.g. open/closed lists or zipper systems, single or multi-member districts). Firstly, proportional and majoritarian systems present parties with different vote maximising incentives: in proportional systems a balanced and diverse ticket is preferable in order to appeal to a wider spectrum of voters, whereas in majoritarian systems the optimal strategy is to choose the strongest candidate with the broadest appeal, experience or vote base. As Norris (1985) puts it, given that in majoritarian settings more emphasis is placed on individuals than on parties, “candidates’ abilities, experience, policies, and personal characteristics are scrutinised, their sex may play a more important role than under proportional arrangements” (p. 99). Secondly, patterns of incumbency turnover vary across electoral systems with fewer incumbents being re-elected under proportional rules (Norris, 1985, 2006), which should favour women who have historically been under-represented in most political contexts. Thirdly, party and district magnitude vary significantly across electoral contexts: proportional systems have consistently higher district magnitudes (and

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<sup>3</sup>This includes corruption which has been shown to be negatively associated with female political representation (Dollar et al., 2001; Swamy et al., 2001), however the direction of the causal link here is unclear (Sung, 2003).

<sup>4</sup>Electoral gender quotas are widely studied (see, for example, Dahlerup and Freidenvall (2011); Krook (2010a); Krook and Mackay (2010). Recent research has shown that they may be effective not only at increasing female representation, but also at reducing voters’ gender stereotypes (Beaman et al., 2009), and increasing the overall level of quality of politicians (Baltrunaite et al., 2014; Weeks and Baldez, 2015; Allen et al., 2016; Besley et al., 2017). However, gender quotas may also not be sufficient to increase female representation if parties discriminate against women and place them in weak strategic positions (Campa, 2011; Casas-Arce and Saiz, 2015).

<sup>5</sup>Thames (2017) finds that long term effects are also instigated by electoral reforms, but the vast majority of the literature focuses on short-term effects and finds much evidence.

higher party magnitudes), so parties can pull from deeper in their lists, which scholars have argued increases the chances of women being elected (Rule, 1987; Norris, 2006). Matland and Brown (1992) find that, indeed, in the USA, a larger district magnitude has a strong and positive impact on female representation,<sup>6</sup> as confirmed by results for Wyoming (Clark et al., 1984), West Virginia (Welch and Studlar, 1990) and a US-wide candidate survey (Carroll, 1994).<sup>7</sup> Recent analyses in contexts such as Brazil (Meireles et al., 2017) have confirmed this positive link between district magnitude and female representation. Fourth, proportional representation rules allow for features such as closed lists which encourage - or even force in the case of zipper systems - parties to include women in their lists to present a balanced ticket.

However, the evidence on how the nature of the list - open or closed - used in proportional elections affects female representation is mixed. Early works argued that open lists were preferable for female candidates (Shugart, 1994; Rule and Shugart, 1995) as voters can express a preference for a particular candidate and move them higher/lower on the list, thus preventing parties from holding women back by putting them low on the list. Open lists, however, tend to lead to the cultivation of the personal vote (Carey and Shugart, 1995) and this can have a negative effect on the representation of women when negative cultural bias against women is present (Larserud and Taphorn, 2007; Valdin, 2013; Buitrago and Aroca, 2017).<sup>8</sup> Finally, the nature of a district itself - whether it be a single- or multi-member district - has been found to affect female representation, with multi-member districts being found to favour higher female representation (King, 2002). In sum, not all proportional systems are equally as ‘minority friendly’. Key features for higher female representation are argued to be large district and party magnitudes, closed party lists, and positive action strategies (Norris, 2006).

We hone in on another key channel through which electoral rules - majoritarian versus proportional - may affect female political selection: competition. There is a wealth of recent literature on the importance of electoral competition on political outcomes, such as the election of higher quality politicians, (Galasso and Nannicini, 2011; Besley et al.,

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<sup>6</sup>Matland and Brown (1992) refute the null finding regarding the effect of district magnitude on female representation in Welch and Studlar (1990), attributing it to the specificities of the 1982 election in New Hampshire.

<sup>7</sup>In Norway, Matland (1993) finds that the effect of district magnitude on female representation follows a cyclical pattern: playing no role when there is no demand for female representation, playing a significant role when women mobilise and demands are made, then reducing again once women are well established in the political field.

<sup>8</sup>There is also evidence that in open list contexts policy interventions such as quotas (Jones and Navia, 1999) may be ineffective in that they have a positive effect with low numbers of women, but demonstrate diminishing rates of return as the number of female candidates increases. Indeed, more recent studies have generally found closed lists to be conducive to higher female representation when combined with placement mandates (Htun, 2002; Htun and Jones, 2002; Schmidt, 2009), but, again, this is not always the case. For example, Esteve-Volart and Bagues (2012) find that parties strategise against female candidates by placing them lower on closed lists even in the presence of gender quotas, finding ways to circumvent even targeted policies. There is also evidence that quota design overrides the nature of the list being used (Schwindt-Bayer, 2009).

2017) the reduction of discrimination against minorities (Esteve-Volart and Bagues, 2012; Besley et al., 2017) and the retention and promotion of the most competent politicians to top positions (Folke and Rickne, 2016), but no work (to the best of our knowledge) exists on the link between electoral rules, the competitiveness of seats and female representation. When we focus on the political outcome of gender-balanced representation, there are two potential channels to consider, which in turn interact with the electoral rules: i) female politicians, being risk averse, prefer not to present themselves as candidates in more competitive systems; and ii) female politicians are not nominated as candidates by parties in competitive systems because they are perceived as less likely to be elected. The first channel is based on the large evidence in the economic literature, which has found that women are competition-averse (Gupta et al., 2005; Niederle and Vesterlund, 2007; Croson and Gneezy, 2009). The experimental literature has looked further into this aversion (Bertrand (2011) provides an excellent review of this psychological/socio-psychological literature), finding that women are also generally more risk averse than men (Eckel and Grossman, 2002; Gupta et al., 2005; Sapienza et al., 2009; Charness and Gneezy, 2012). In the political context, an experiment focused specifically on gender differences in political candidate emergence finds that women are “election averse” stating specifically that “women are sensitive to the details of the selection process, whereas men are not” (Kanthak and Woon, 2015, p. 609). This could be linked, for example, to competition aversion paired with a conviction that society at large and the media will not treat female political candidates as they treat their male counterparts (Kahn, 1992, 1994).

The second channel is based on the literature on gendered nomination procedures, (Norris and Lovenduski, 1995; Matland and Studlar, 1996; Hinojosa, 2009, 2012) which finds that women tend to benefit from more centralised recruitment processes, where they can avoid self-nominating and sidestep local power monopolies from which they may be excluded (Hinojosa, 2009). In a similar vein of thought, the level of institutionalisation or formalisation of the procedures by which candidates are recruited has also been shown to improve female representation (Caul, 1999). The literature has shown that these are features associated with proportional representation rules, thus suggesting a higher presence of women in proportional systems.<sup>9</sup>

In our within-country analysis, we are able to test how electoral rules affect female representation through electoral competition. We find that in the majoritarian system the

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<sup>9</sup>The importance of electoral rules’ impact on candidate nomination and selection processes cannot be overstated, such effects can even overshadow gender quotas. For example, Hinojosa (2009) notes that the conservative *Unión Demócrata Independiente* party outperforms all three major Chilean centre-left parties in terms of female representation even though the latter three use gender quotas. Gender quotas however can be difficult to implement for constitutional or cultural reasons. In Italy, gender quotas were introduced in 1993 at both national and municipal level, but remained in place only until 1995 when they were declared unconstitutional by the Supreme Court of Cassation (*Corte Suprema di Cassazione*). Thus, at the national level, only the election of 1994 was held with quotas and at the municipal level only the elections held in the years 1993-1995.

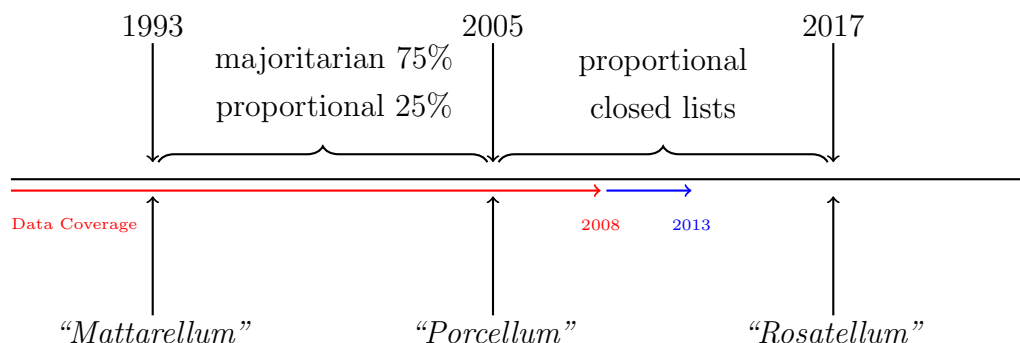
proportion of competitive seats is higher. As predicted by channel i), fewer women come forward as candidates and fewer women are elected. In the proportional system instead, we find that the relative share of competitive seats decreases. In this context, parties have more room for manoeuvre and we see channel ii) in action: parties leave the competitive seats to male candidates, who they see as more capable and more likely to succeed in competitive positions. As women are placed in the safer seats, more women are elected.

### 3 The Italian Electoral System

Italy has experienced several major electoral reforms over the years. The Italian Parliament is composed of the House (*Camera*) and the Senate (*Senato*). From 1946-1993 parliamentarians were elected under an open list proportional system with 32 districts for the House and 21 for the Senate. Following the 1993 *Mattarellum*, parliamentarians were elected via a mixed methods system with two tiers (25% closed-list proportional with a 4% vote threshold and 75% single round majoritarian with 475 SMDs). The electoral rules were changed again in 2005 with the *Legge Calderoli* or *Porcellum*, returning to a proportional system, but this time with closed lists and 27 districts for the House and 20 for the Senate. This system entailed a majority bonus for the winning coalition of party lists. In the House, there was an electoral threshold of 10% for coalitions and of 4% for party lists running alone; there was also a threshold of 2% for party lists belonging to a coalition above the 10-percent threshold. In the Senate, the same thresholds were 20% for coalitions and 8% for parties running alone. The main difference between the Senate and the House is that both the majority bonus and the electoral thresholds were calculated at the regional level for the Senate. Most recently, the *Rosatellum* passed in the autumn of 2017, introducing a new mixed electoral system with 232 SMDs (37%) to be elected via majoritarian rule and 386 districts (plus 12 seats for foreign constituencies) (63%) to be elected via closed list proportional rule, with a gender quota imposed on all parties ensuring that no more than 60% of the candidates can be of one sex.

Figure 1 summarizes the timeline of national electoral reforms in Italy. We consider the period 1987-2013. During this period national elections were held in 1987, 1992, 1994, 1996, 2001, 2006, 2008 and 2013. The number of parliamentarians and senators has remained fixed for this whole period: 630 parliamentarians and 315 senators. Since 1994, the Italian party system has been dominated by two main coalitions of parties: center-left and center-right. Yet, the system has remained relatively fragmented, with parties outside the two main coalitions attracting significant electoral support.

**Figure 1. Timeline of National Electoral Reforms in Italy, 1993-2017**



We will be focusing on the 2005 *Porcellum* reform as it changed the electoral rule, while maintaining a party-centric system where parties have very strong gate-keeping powers. As opposed, for example, to an open list proportional system where voters can directly influence the positioning of candidates on a list through preference votes. This way we are able to focus on how the electoral rules affected parties' incentives with respect to positioning women on their lists or across their SMDs.

For the validity of our results, it is important to underline that the 2005 reform was not intended to improve female representation. This is central to our argument in as much as the effects of the electoral reform on female representation could be attributed to forces other than the electoral rule itself if the debate had involved female representation, with anticipation effects or public pressure leading to greater female political presence rather than the reform itself. The reformers were more interested in the balance of power between parties. The battle lines of the debate around electoral reform at the time centred on party politics and which parties were likely to benefit most from the reform.<sup>10</sup> This is in contrast to, for example, the 1993 reform where gender quotas were integrated into the reform and a significant part of the debate focused on them. Indeed, "the desire to increase women's representation [...] is rarely, if ever, a primary demand of reformers" (Thames, 2017). With the desire to increase party seat shares (Remington and Smith, 1996; Boix, 1999; Benoit and Schiemann, 2001; Benoit and Hayden, 2004), aspirations for greater policy influence (Bawn, 1993), and voter response to gerrymandering (Tolbert et al., 2009) or corruption (as in the Italian 1993 case) (Katz, 1996) tending to take precedence.

We now turn to the sub-national levels of government during the period under consideration. We underscore that the electoral rules at the sub-national levels functioned

<sup>10</sup>Translation by the authors: "Calderoli said that it [the 1993 reform] had been designed purposefully to ensure that the centre-left could not win a majority in the 2006 elections, as many centre-right figures have since confirmed in debates and interviews. *"Calderoli disse che era stata pensata appositamente per non far vincere con una maggioranza chiara il centrosinistra alle elezioni del 2006, come oggi confermano senza problemi in dibattiti e interviste molti esponenti del centrodestra allora al governo"* (Il Post, 2012).

entirely independently to those at the national level. Italy is a unitary state composed of 20 regions<sup>11</sup> with devolved powers. 5 of these regions (Sicilia, Sardegna, Trentino-Alto Adige/Südtirol, Valle d'Aosta and Friuli-Venezia Giulia) have special degrees of autonomy and there are 2 autonomous provinces (Trento and Bolzano, which compose the Trentino-Alto Adige/Südtirol region). In terms of the administrative organisation of the country, the regional level of government corresponds to the aforementioned 20 regions,<sup>12</sup> each consisting of a minimum of 2 provinces<sup>13</sup> (Molise, Umbria, Basilicata) and a maximum of 11 provinces (Lombardia, 12 if you count the *città metropolitana* Milan). The provincial level of government consists of 97 provinces, these cover a minimum of 7 municipalities, known as *comuni*, (Prato) and a maximum of 250 (Cuneo). The municipal level of government consists of 7,971 *comuni* and 14 *città metropolitane*,<sup>14</sup> the smallest *comune* (Pedesina) has 30 inhabitants and the largest (Roma) has 2,617,175. More information on the functioning of these administrative levels is available in the Appendix (Section 1).

**Figure 2. Timeline of Sub-National Electoral Rules in Italy, 1993-2017**

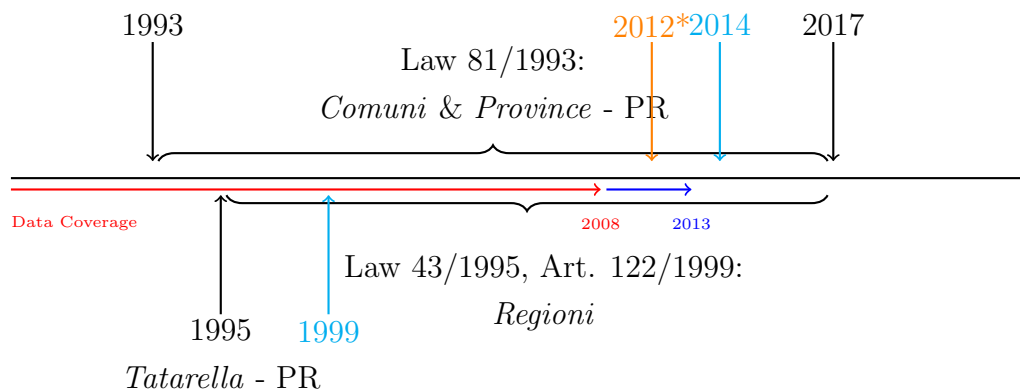


Figure 2 shows the sub-national electoral rules in place during the time period under consideration. The regional elections in the period under analysis were mostly governed by (versions of) the 1995 *Legge Tatarella*, which was mixed, with 80% of the seats being assigned via an open list proportional rule and 20% of the seats being assigned via a majoritarian rule. *Panachage* was permitted, so voters could distribute their votes to a candidate for the presidency and a list that was not the one he/she was associated with.

<sup>11</sup>Article 116 of the Italian Constitution grants these regions powers related to legislation, administration and finance. We invite interested readers to consult the Italian constitution (L'Assemblea Costituente, 1946) for more information on the *Regioni a Statuto Speciale* as we must limit our attention to the other regions due to space constraints.

<sup>12</sup>In alphabetical order: Abruzzo, Basilicata, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Sardegna, Sicilia, Toscana, Trentino-Alto Adige, Umbria, Valle d'Aosta, Veneto.

<sup>13</sup>Excluding Friuli-Venezia Giulia and Trentino-Alto Adige, as provinces in these areas were abolished in 2014. All figures reported are according to the most recent available data (ISTAT, 2017a).

<sup>14</sup>Bari, Bologna, Cagliari, Catania, Firenze, Genova, Messina, Milano, Napoli, Palermo, Reggio Calabria, Roma Capitale, Torino and Venezia.

The law also had mechanisms to protect minorities in case of a landslide win for a single list and to ensure some stability of governance in case of a split election.

The provincial and municipal elections, on the other hand, were governed by Law 81/1993. The electoral rule here was also proportional, but the 1993 law established that mayors were to be directly elected by their own constituents (previously they had been appointed by municipal councillors<sup>15</sup>), instigated a majoritarian mechanism (assigning 60% of available seats to the winning coalition) and split municipalities into two groups: those with less than 15,000 inhabitants and those with more. Both groups have to be elected directly by citizens via plurality rule. The former group have single-round elections, whereas the latter group's elections are governed by a run-off rule.<sup>16</sup> The former group have the option of expressing a preference for a specific councillor as well as the mayoral candidate of choice, whereas in the latter group the elections allow for a disjoint preference between mayoral candidate and party list, but not specific preference for an individual council member. Both systems also entail a mechanism whereby the winning mayoral candidate obtains two-thirds of all seats on the *consiglio* with the remaining third being distributed among the losing lists in proportional to their vote shares. We direct interested readers to Bordignon et al. (2016) for more details on the functioning of the electoral rules at the municipal level of government.

In Figure 2, the light blue arrows indicate changes that were made at the regional and provincial levels. The light blue 1999 arrow refers to the amendment made to Article 122 of the Constitution that allowed the regions to choose their *form* of government, even if central government laws determined the fundamental principles of the electoral law (Bologna et al., 2003). This came before the reform we are looking at and did not involve a uniform, decisive change across all regions in electoral rules, rather a gradual piecemeal evolution. Indeed, modifications to the regional laws took place slowly and in a highly varied fashion - some kept the 1995 *Legge Tatarella* almost entirely in tact, whereas others modified it significantly. The first regional elections held under new regional electoral rules were in Friuli-Venezia Giulia in 2002 (following a modification of the regional law in 2001) and changes are still occurring today.<sup>17</sup> The *Tatarellum* continued to govern any regional elections where the regional law had not been changed and, as mentioned before, was maintained even in some cases where the regional law *was* changed. The light blue 2014

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<sup>15</sup>Prior to 1993 municipal governments in Italy were ruled by a pure parliamentary system. The legislative body (i.e., the city council) was elected under proportional election rule with closed party lists; the council then appointed the mayor and the executive office (Bordignon et al., 2016).

<sup>16</sup>Single round: the candidate or party that wins the relative majority in the single election forms the government. Run-off: voters cast two sequential votes. First, they vote on whoever stands for election. The two parties or candidates that obtain more votes are then allowed to compete again in a second round. Whoever wins the second round forms the government (Bordignon et al., 2017).

<sup>17</sup>Regional law modifications were gradually made over the period 2001-today by the following regions: Friuli-Venezia Giulia (2001), Toscana (2004), Sicilia (2005), Calabria (2005), Campania (2009), Lombardia (2012), Veneto (2012), Abruzzo (2013), Emilia Romagna (2014), Liguria (2015), Marche (2015) and Umbria (2015).

arrow refers to a major reform of the provinces and the structure of municipalities (Law 56/2014 or *Legge Delrio*), with the birth of *città metropolitane*, for example. However, this occurred after the period that we are analysing. Thus, the changes indicated by our light blue arrows do not affect our estimates.<sup>18</sup>

## 4 Data and Descriptive Statistics

To be able to undertake our analyses, we combined various data sources. Firstly, we collected the name, date of birth, gender, education level, profession, district of election and political role of all elected politicians for the years 1987-2013 from the municipal, provincial and regional levels of government. These data are provided by the Ministry of Internal Affairs (*Ministero dell'Interno*) and include all mayors, councillors, executive officers and presidents for the aforementioned sub-national levels of government. The data are provided in a sparse way and separately for the different levels of government, so we had to make a concerted effort to collect, assemble and render them all usable. Indeed, we focus on *all* elected figures (not just mayors), giving us the full picture of female political representation in Italy. As can be seen in Figure 3, female representation has increased significantly in Italy over the years, but remains overall at just over 20% at its highest point in our sample. Figure 4 shows the variation of the level of female political representation across sub-national levels. As can be seen, here too female political representation is very low and varies significantly from level to level.

FIGURES 3-4 ABOUT HERE

In Figures 5 and 6 we present data on the number of candidates who put themselves forward for the national elections under consideration, again collected from the Ministry of Internal Affairs. The dip in the share of female candidates during the elections under majoritarian rule (1994, 1996, 2001) is striking (Figure 5), as is the difference in the share of women selecting or being selected into the proportional and majoritarian tiers (Figure 6).<sup>19</sup>

FIGURES 5-6 ABOUT HERE

We then combined these data with those from Gagliarducci et al. (2011), which include the following information for Italian members of Parliament from 1987 to 2008: detailed

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<sup>18</sup>We also run all of our regressions on control groups made up of each of the different levels separately and our findings are robust. See Table 9, Robustness Tests.

<sup>19</sup>Please see Weeks and Baldez (2015) for a study exploiting this tier feature of the Italian electoral system in these years comparing the quality of quota and non-quota female politicians.

demographic characteristics (age, gender, place of residence, education), self-declared previous job, parliamentary appointments (president, vice-president, secretary of the parliament or of a legislative committee), party affiliation and experience (member of the party directive board at the local, regional or national level), local government experience (mayor, councillor, regional president etc.), system of election, district and vote share. These data are further supplemented with the same information for the election of 2013, with aggregate data on the number of candidates for national office, and with a measure of regional magnitude.<sup>20</sup>

Combining these data sources, then, we obtain our main control variables which can be grouped as follows: age, gender, education level (primary school, middle school, secondary school, bachelor's degree, higher than bachelor's degree), years spent in municipal, provincial, regional and national office, party affiliation (left, centre-left, centre, centre-right, right) and district-level characteristics (regional magnitude).

#### TABLE 1 ABOUT HERE

In order to capture the competitiveness of the electoral systems pre- and post-reform, we make use of two additional data sources. The first, pre-2005 reform, source is Gagliarducci et al. (2011) which includes the margin of victory with which a given politician won his/her election in the national elections of 1994, 1996, 2001. The second includes estimates of how many seats each party was expected to obtain, according to polls, in each district - both in the House and the Senate - for the 2013 national election. The estimates were elaborated by Galasso and Nannicini (2015) based on data from a research centre specialised in electoral studies (Centro Italiano Studi Elettorali, CISE) which both conducted original polls and performed projections.<sup>21</sup> The estimates defined those positions on each list in each district that were “competitive” positions (i.e., candidates in tight-race positions where the seat could be just won or lost according to the polls). We thus obtain the overall share of women in safe, competitive and ‘no chance’ seats under the two electoral systems, which we present in Tables 2, 3 and 4.

#### TABLES 2-4 ABOUT HERE

Summary statistics about the individual characteristics of the politicians included in these samples are provided in Tables 5 and 6.

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<sup>20</sup>That is to say, the number of seats available per region calculated by summing the electoral districts within a given region. We do this as districting changed across electoral systems over time, but the geographical regions remained the same so the seats available within their borders are more comparable.

<sup>21</sup>Individual information is provided for candidates in these competitive positions. Given that the number of competitive candidates is much superior to the number of safe candidates, information was collected on the same number of safe candidates as competitive ones in order to avoid extremely costly data collection. For major parties this equates to the universe of candidates whereas for minor parties - where only a few candidates had some chance of being elected - the information is incomplete.

TABLES 5-6 ABOUT HERE

## 4.1 Female political representation

Our final dataset delivers a complete picture of female political representation at all levels of government for the same country and its evolution over the considered period. As mentioned before, such a comprehensive picture is rare in existing studies. We thus present here the most interesting features, which will also be important for our analysis and discussion of the gender effects of the 2005 reform of the Italian electoral rule. To present our data we focus on the following dimensions, which, as aforementioned, the literature has found to be important for female political representation, as well as for the effects of electoral rules: individual characteristics, incumbency, and district magnitude.

We start with individual characteristics and consider various measures of the “quality” of the elected politicians, including: education, sub-national experience, the share of “parachuted” politicians, the share of “loyalist” politicians, re-election chances and how successful politicians are in moving up political levels (e.g. from municipal to provincial). The richness of our indicators of quality, which we will include as additional individual control variables, build on existing studies about the characteristics of Italian politicians.

Figure 7 shows the education level of male and female politicians at all levels. Women are more educated than men at all sub-national levels of government, whereas at the national level they are marginally less educated.<sup>22</sup>

FIGURE 7 ABOUT HERE

Other measures of quality, such as sub-national experience and the share of “parachuted” politicians, however, add nuance to the picture. With respect to sub-national experience, women are always *less* experienced than their male counterparts (Figure 8). When examining, instead, politicians who we shall here define as “parachuters” i.e. those who reach national office having absolutely no prior sub-national experience, the differences in the gender composition of this group are striking. Overall, we see a greater share of female than male “parachuters” (Figure 9, Panel “OVERALL”). Following the 2005 reform, however, the share of female “parachuters” increases significantly and strengthens the trend of there being more female than male “parachuters” (Figure 9, Panel “PRE-POST”). Indeed, the effect of the reform on the share of “parachuters” is statistically significant at the 1% level both overall and for women and at the 5% level for men.

FIGURES 8-9 ABOUT HERE

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<sup>22</sup>This is statistically significant at the 10% level - as compared to the 1% level for the other administrative levels - and is very slight, women: 3.81 men: 3.84

A similar gendered change in composition can be seen in the case of loyalist politicians. We define loyalists as those individuals with less than average education and less than average experience with respect to their peers in the same government level and year. We do not have a measure of how much time a person has devoted to the party structure (youth party membership or hours volunteered), so use the lack of education and previous political experience as a proxy assuming that the party bolsters these weaker candidates. In Figure 10 we split the overall national sample between pre- and post-2005 reform: the reform appears to have brought with it a slight decrease in the share of loyalists overall. As with “parachute” politicians, however, the gender dimension of the reform’s effect is telling. Of the loyalists elected to government, there is an increase in the share of females and a decrease in the share of males. These differences are significant at the 1% level. It has been argued that female politicians in Italy may follow differing entry paths into politics, with women entering into politics more frequently as part of a particular leader’s team. This may, in turn, explain some of the high turnover rate we will now see (below) amongst women (Figure 11). This increase in the share of female loyalists following the reform provides some suggestive evidence that proportional electoral rules may attract weaker female political candidates or provide parties with incentives to select such sub-optimal candidates.

FIGURE 10 ABOUT HERE

Other indicators we are able to construct of the quality of politicians are how frequently they are re-elected and how successfully they manage to navigate the political hierarchy, moving up through the administrative levels. As can be seen in Figure 11, women are re-elected (as measured by who manages to get re-elected for a second consecutive term at a given level of government) less frequently than men at all sub-national levels of government. Interesting, however, at the national level they were more frequently re-elected than men under the majoritarian electoral rules, with a sizeable difference then emerging following the reform to the detriment of women’s re-election chances. Women also generally seem to be less able or less willing to move up through the various political levels as can be seen in Figure 12. The 2005 reform is associated with a slight increase in women’s likelihood of moving up a level, but the divergence between male and female politicians increases with it.

FIGURES 11-12 ABOUT HERE

For the 2013 national election, we can also compare characteristics of candidates as opposed to elected politicians: when comparing pooled candidates and elected politicians,

women are more educated than men (Figure 13, Panel “OVERALL”) and the difference is statistically significant at the 1% level. However, when one splits the sample into candidates and elected politicians an interesting dynamic emerges: the women who are *not* elected are still more educated than their male counterparts (again statistically significant at the 1% level), whereas the women who *are* elected are indistinguishable from their male counterparts (Figure 13, Panels “NON-ELECTED” and “ELECTED”). The highest quality female candidates are not being elected. The same phenomenon occurs when looking at sub-national experience (Figure 14); women with less sub-national experience than average are elected and men with more experience than average are elected.

FIGURES 13-14 ABOUT HERE

When looking at the geographical North-South divide in Italy (more on this in Section 5.3), we find that both pre- and post-reform the women elected to national office in the South are more educated than their counterparts in the North (Figure 15). This is also true for all sub-national levels of government and these differences are all significant at the 1% level.

FIGURE 15 ABOUT HERE

Female political representation may also be related to district magnitude, as we mentioned in the literature section. Prior to the 2005 reform, women did indeed tend to be placed on lists where the district magnitude was higher (looking only at the proportional electoral tier: Figure 16, Panel “PRE”). Whereas following the reform, the average district magnitudes of the lists on which men and women were assigned were statistically indistinguishable (Figure 16: Panel “POST”).

FIGURE 16 ABOUT HERE

To sum up, we find that women at all sub-national levels of government are more educated than their male counterparts, whereas women consistently perform worse than men in terms of their sub-national experience, which is perhaps unsurprising given the historical under-representation of women in Italian politics. We also find that women are more likely to be “parachuted” into national office on the whole and that, specifically following the reform this trend intensifies. Women are also overall more likely to be “loyalists” and they make up more of the loyal group following the 2005 reform. At all levels, women are less likely to be re-elected than men and they are less likely to move up a political level. When comparing candidates and elected politicians, we find that

the highest educated women are not being elected and neither are those with the most sub-national experience. Looking at the north-south divide in the country, we find that women from the South are more educated than their peers from the North at all levels of government. The picture, in short, is one in which female politicians are less able to accrue political experience and in which the best female candidates seem to be left behind.

## 5 Empirical Strategy and Main Results

We use our dataset to test the following hypotheses:

- **Hypothesis 1:** more female politicians are elected under a proportional electoral system than under a majoritarian system, taking into account time trends in female political representation.
- **Hypothesis 2:** this result is, at least partially, driven by the competitive landscape created by the electoral rule, and its interaction with gender.

### 5.1 Does the 2005 reform have an effect on the election of women? (Hyp. 1)

We take a DiD approach in order to identify within-country electoral system effects on the political career outcomes of women. The treated group, here, are the national level politicians who were those exposed to the 2005 change in electoral rule from a mixed, largely majoritarian system to a proportional system.<sup>23</sup> For our main analyses we exclude the years 2012 and 2013 as the effect of the 2005 reform could be contaminated by a sub-national reform implemented at the very end of 2012 (*Legge n.215*, see Figure 2 orange arrow) that introduced a candidate quota stipulating that no single gender could represent more than 2/3 of the candidates on a list and establishing a double preference so that voters can express two preferences rather than one as long as each preference is for a candidate of a different gender. This reform could confound our findings and has, indeed, been shown to have increased the number of female councillors significantly (Baltrunaite et al., 2017).<sup>24</sup> Whereas, the control group is made up of the sub-national politicians (1987-2011) who were not exposed to the change in electoral rule. Thus, in the equations that follow,  $l$  refers to the level of government that the individual politician ( $i$ ) has been elected to (national, regional, provincial or municipal) and  $t$  refers to the time period of the election. We present both aggregate versions of the estimations where all variables

<sup>23</sup>We only consider members of the House (*Camera*), as the electoral rules for the *Senato* were slightly different to those of the *Camera* and we want to avoid any contamination of the results (both at the aggregate and individual level). Adding the Senate does not change the results (see Table 8).

<sup>24</sup>Our results are robust to including 2013 and are available upon request.

are measured at the average level for the level of government and time period in question and individual versions where variables are measured at the person level.

In order to justify inference from the DiD model, the following assumptions are required: classical linear regression model assumptions and parallel trends. Parallel trends in this case mean that the sub-national (control) and national (treated) groups must have been moving in parallel to one another in terms of female political representation ahead of the 2005 reform which, we argue, exogenously affected the number of women being elected to national office, but not to sub-national offices. If these parallel trends hold, then the DiD estimator can be interpreted as the treatment effect on the treated. Thus, the difference in pre- and post-treatment differences equates to the effect of the 2005 reform on national level female representation. Parallel trends are shown in Figures 17 and 18.<sup>25</sup>

FIGURES 17-18 ABOUT HERE

We first estimate the following equation on aggregate data:

$$Y_{lt} = \alpha + \gamma TREAT_l + \lambda POST_t + \delta_{DiD}(TREAT_l \times POST_t) + \mathbf{X}'_{lt}\beta + e_{lt} \quad (1)$$

Where  $Y_{lt}$  is the share of women in political level  $l$  and year  $t$ ,  $TREAT_l$  is a dummy variable equal to 1 if we consider women elected at the national level and to 0 for sub-national levels,  $POST_t$  is a dummy variable equal to 1 if the politician has been elected after 2005 and 0 for years before and the interaction term  $TREAT_l \times POST_t$  indicates national observations for post-reform years.  $\delta_{DiD}$  is the DiD estimate that captures the effect of the 2005 reform on the share of female politicians in national office.  $\mathbf{X}'_{lt}$  is a vector of controls (age, gender, education level, years spent in sub-national office, party affiliation, macro-regional controls, regional magnitude and the number of female candidates at the national level) measured for each political level in each year. It is important to note that district magnitude cannot be controlled for here as we are looking at SMDs only, for the pre-reform analyses we look only at the 75% majoritarian tier of the elections.

We also estimate a similar equation using individual level information:

$$Y_{ilt} = \alpha + \gamma TREAT_{il} + \lambda POST_{it} + \delta_{DiD}(TREAT_{il} \times POST_{it}) + \mathbf{X}'_{it}\beta_i + e_{ilt} \quad (2)$$

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<sup>25</sup>We also tested the parallel trends assumption by introducing leads for the years preceding the reform year to our basic DiD model. These results confirm the parallel trends and can be consulted upon request. In addition, we tested that there were no discontinuities in any other trends around the date of the reform: there were not (Appendix, Section 2).

Where  $Y_{ilt}$  is a dummy variable equal to 1 if the politician  $i$  elected at level  $l$  and year  $t$  is a woman and 0 if the politician is a man.  $\mathbf{X}'_i$  is a vector of controls (age, gender, education level, years spent in sub-national office, party affiliation, macro-regional controls, regional magnitude and the number of female candidates at the national level) for politician  $i$  and the other variables are the same as in Equation 1, but measured at the individual level. Thus,  $\alpha$  captures the effect for the non-treated group (sub-national politicians) prior to the reform,  $\alpha + \gamma$  captures the effect for the treated group (national politicians) prior to the reform,  $\alpha + \lambda$  captures the effect for the non-treated group post-reform and  $\alpha + \gamma + \lambda + \delta$  captures the effect for the treated group post-reform. The DiD estimator is, thus:

$$(TREAT_1, POST_0 - TREAT_1, POST_1) - (TREAT_0, POST_0 - TREAT_0, POST_1) = \delta$$

Results are presented in Table 7. We show both the aggregate results (Columns 1-2, Equation 1) and the individual data results (Columns 3-6, Equation 2) with various combinations of controls and specifications. Columns 1-2, then, are estimated on data aggregated by year and political level in order to look at how the share of female parliamentarians elected to national office changes following the reform. The dependent variable here is the share of women elected to national office and the independent variables are also aggregated to get the mean levels of our control variables. Column 1 shows the basic specification with no controls. Column 2 instead shows the aggregate specification with aggregate control variables. Columns 3-6 show the results when we estimate our models on microdata in order to exploit the individual-level information we have on each of the politicians. Column 3 shows the basic specification with no controls. Column 4 shows the basic specification plus a time trend. Column 5 shows the specification with individual level controls (Equation 2). Finally, Column 6 shows the specification with all individual level controls and higher level controls such as regional magnitude and the overall number of female candidates per national election. The dependent variable here is a binary variable indicating whether the politician in question is a man or a woman. The control variables are all measured at the individual level, apart from regional magnitude (pooled constituencies up to level) and overall number of candidates (national level). The message to be taken from Table 7 is that the 2005 reform changing the electoral rule from a majoritarian to a proportional system has a statistically significant, positive impact on women elected to national office.<sup>26</sup> The share of women being elected to sub-national offices was following a positive trend ahead of the reform (Row 1) and the share of women elected to sub-national offices prior to the reform was significantly higher than the share of women elected to national office (Row 2). The change in the electoral rule changed the national representation of women significantly (Row 3), almost

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<sup>26</sup>We exclude three regions (Valle d'Aosta, Molise, and Trentino-Alto Adige) from our analyses because they elected their parliamentarians with a different (majoritarian) system in the post-reform period.

entirely compensating for the pre-existing higher levels of female representation at the sub-national levels ( $Treatment + Post * Treatment$ ).<sup>27</sup>

#### TABLE 7 ABOUT HERE

In Table 8 we present equivalent results to the fullest model of the main findings (Table 7, Column 6, full controls), but broken down by party affiliation to test whether the effect of the reform is being driven by a specific group of parties. As can be seen in the table below, the results are driven by the centre-left, centre right and right of the political spectrum.

#### TABLE 8 ABOUT HERE

In Table 9 we test the robustness of our findings. In Columns 1-3, we change the time span used to define the sample for our main estimations: changing it from 1994 to 1993, 1995, 2000.<sup>28</sup> In Column 4, we eliminate any politicians who are exception in terms of their political longevity and could have been driving the results<sup>29</sup> in terms of sub-national experience as there are some individuals who have very long sub-national careers (over 15 years) and we want to make sure they are not driving any of the results. In Column 5, we bring senators into the analysis as they had been eliminated from the main analyses given the slightly different electoral reform rules that applied to their election. In Columns 6-8, we change the control group from the usual pooling of all three municipal, provincial and regional levels to each of the separate groups. Finally, in Column 9 we include individual controls for each of Italy's 20 regions as opposed to the macro regions (north, centre, south) used in the main models. Our findings are robust to all these tests.

#### TABLE 9 ABOUT HERE

In Table 10 we estimate the same regression equations as in the main results, but we use a placebo reform year for the national-level reform.<sup>30</sup> The interaction goes in the opposite direction to the true reform year and this effect disappears when we account for individual traits and then also the electoral environment (the number of female candidates).

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<sup>27</sup>For example, in the case of Column 1 the mean difference in the share of women being elected to national office was  $-0.0533 + 0.0512 = -0.0021$ , as compared to the prior difference of  $-0.0533$ .

<sup>28</sup>The cut-off date is key as we don't want to include trends from decades before the reform as it would contaminate the estimation due to previous electoral reforms, but equally we don't want to lose too much statistical power. We cannot use data from before 1993 as there was another major national-level electoral reform that could confound our results. Equally, we cannot use data only very close to the 2005 reform date as we would lose the essential time trends we need for the estimation.

<sup>29</sup>Outliers are here defined as those individuals with more than 15 years of sub-national experience, as only the top 5% the distribution have more than 15 years of sub-national experience.

<sup>30</sup>We also ran placebo tests on other years and found no effect. Results are available upon request.

## TABLE 10 ABOUT HERE

As further within-country evidence that proportional electoral systems favour female representation, we also estimated the effects of a previous 1993 reform from a (see ‘Mattarellum, 1993’ in Figure 1) full proportion system into the mixed (75% majoritarian) system we have been referring to throughout the article. We find that, indeed, the move away from a fully proportional system has an adverse effect on female representation.

## TABLE 11 ABOUT HERE

### 5.2 Does competition drive some of the effect we see the 2005 reform having on women in national politics? (Hyp. 2)

Why are more women elected under proportional rule? We propose a mechanism based on the competitiveness of seats under the different electoral rules.

Majoritarian electoral systems are generally regarded to be more competitive than proportional ones given their “winner-takes-all nature” (Mattozzi and Merlo, 2015). In order to provide some suggestive evidence to this effect for the case of our sample, we create a measure of competitiveness of a given seat combining different methods. We are aware of several alternative methods for measuring the competitiveness of a seat across electoral systems (Stoffel, 2014; Kotakorpi et al., 2017) that would be more appropriate than the measure we are able to calculate, but unfortunately data restraints mean that we cannot implement them. This limitation of our sample presents a fruitful future research opportunity, to elaborate such a measure using Italian data.

For the post-2005 data, we have official poll estimates provided by CISE that tell us how competitive (i.e. safe, competitive or no chance of being won) a given seat in a given constituency was for a given party according to the pre-election polls. These polls were generally accurate, predicting the seat incorrectly in 90% of cases (see Appendix, Section 3). For the pre-2005 data, we create a measure of how competitive a seat was according to the party’s (or same party grouping’s) margin of victory in the same constituency at time  $t - 1$ . This measure is also generally accurate, predicting the seat correctly in 86.5% of cases. For the post-2005 data, specifically the 2013 election year, we also have information on political candidates and, thus, are able to estimate the effect of being placed in a competitive seat on one’s election chances.

The competitiveness of seat measures allow us to analyse where parties place women in terms of competitive seats and, in the 2013 case, where we also have candidate data, to see if this has an impact on their likelihood of being elected.

Before presenting the regression analysis, note that in the proportional system the share of safe seats is higher than in the majoritarian one, while the share of competitive seats is lower (see Table 2). Thus, if women are more likely to be found in safe seats,

and these seats are more numerous in a proportional than in a majoritarian system, the proportional system will feature higher female representation.

The regression equation we estimate for this section of the analysis is the following probit specification of a binary response model:

$$Y^* = \beta_1 MALE + \mathbf{X}'_j \beta_j + \epsilon \quad (3)$$

$$Y_i = \begin{cases} 1 & \text{if } Y_i^* > \tau \\ 0 & \text{if } Y_i^* \leq \tau \end{cases}$$

Where  $Y^*$  is the latent likelihood of being placed in a competitive seat,  $\tau$  is the threshold over which the probit link function,<sup>31</sup> which created the continuous, real-valued  $Y^*$ , predicts a positive value of  $Y_i$ .  $\beta_1 MALE$  is our independent variable of interest the gender of the politician,  $\mathbf{X}'_j$  is a vector of controls for politician  $j$  (education level, party affiliation, sub-national political experience and district magnitude) and  $\epsilon$  is an error term.

Tables 12-15 show our results for the allocation of safe and competitive seats across gender both pre- and post-reform. Prior to the 2005 reform (Tables 12 and 13), whether or not one is a woman does not seem to matter for one's placement in a safe or competitive seat (Row 1). Indeed, other characteristics such as one's education level or position as a loyalist matter for the kind of seat one is allocated: more educated candidates belong to competitive seats and more loyalists to safe seats. Whereas following the 2005 reform, the fact that one is a woman seems to be the most salient factor in the kind of seat being allocated (Tables 14 and 15, Row 1), apart from the case where education is included (Column 3). This is probably due to the fact that on the one hand women are allocated to safe seats, while on the other women are more educated than men and more educated candidates are less likely to stay in safe seats. Tables 12-15 show estimates obtained using a binary response model (with a binary measure categorising a seat as competitive or not as the dependent variable) estimated with maximum likelihood. We also analysed the effect by party affiliation, looking at how the seat distribution changes across the ideological spectrum (i.e. left, centre-left, centre, centre-right, right). The results are presented in the Appendix (Section 4).

#### TABLES 12-15 ABOUT HERE

We estimate another version of Equation 3 to test whether one's likelihood of being elected is affected by an interaction between one's gender and a competitive seat position.

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<sup>31</sup> $Y = \Phi(X\beta + \epsilon)$ ,  $\Phi^{-1}(Y) = X\beta + \epsilon$ ,  $Y^* = X\beta + \epsilon$ , so the link function is:  $F(Y) = \Phi^{-1}(Y)$ .

We are able to estimate this model only for the 2013 election as we have information on political *candidates* only for this year.

$$Y^* = \beta_1 MALE + \beta_2 SEAT + \beta_3 (MALE \times SEAT) + \mathbf{X}'\beta_j + \epsilon \quad (4)$$

Where  $Y^*$  is the latent likelihood of being elected,  $\beta_2 SEAT$  is the nature of the seat one has been assigned to (i.e. competitive or not, measured either in a binary or a continuous fashion, where the continuous measure allows us to capture the intensity of the competitive seat) and the interaction term  $\beta_3 (MALE \times SEAT)$  captures the effect that being a man as opposed to a woman has on your chances of being elected given the kind of seat (competitive or not) you have been allocated. The rest of the regression equation is as in Equation 3.

Table 16 shows our results regarding the likelihood of election. We see that, if anything, female politicians are more likely to be elected than their male counterparts in safe and competitive seats. In ‘no chance’ seats they are less likely to be elected than men, but this is less indicative of female politicians’ overall ability to convince voters as the ‘no chance’ seats are relatively few and not where parties are concentrating their election efforts. Column 4 shows us that when looking only at seats that are fiercely competitive one’s gender does not have an impact on the likelihood of being elected.

TABLE 16 ABOUT HERE

In all these specifications we control for the individual and electoral system features thought to influence one’s likelihood of being elected as a woman: individual characteristics (age, education, party affiliation), sub-national experience and district magnitude. These features have been proposed by the literature (see Section 2) to explain why proportional systems are associated with a larger presence of women. Our results show that competition plays an important role even when these alternative channels are taken into account.

Note that district magnitude may be an endogenous control, as the 2005 electoral reform affected district magnitudes: under the *Mattarellum* the proportional seat tier district magnitudes had ranged from a minimum of 2 (Basilicata, Umbria) to a maximum of 11 (Lombardia 2) in the House and from a minimum of 2 (Friuli-Venezia Giulia, Umbria, Marche, Abruzzo, Basilicata) to a maximum of 12 (Lombardia) in the Senate.<sup>32</sup> Whereas after the 2005 reform, in the 2013 election, for example, the census-based district magnitude ranged from a minimum of 6 (Basilicata) to a maximum of 45 (Lombardia 2) in the House, and from a minimum of 7 (Friuli-Venezia Giulia, Umbria, Abruzzo,

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<sup>32</sup>Excluding Valle d’Aosta, Molise and Trentino-Alto Adige from the analyses, due to their autonomous status and different electoral rules.

Basilicata) to a maximum of 49 (Lombardia) in the Senate.<sup>33</sup> The district magnitudes, then, increased substantially after the reform when comparing the proportional rule. To rule out the possibility that district magnitude drives our results, we control for these changing elements of the electoral system.

### 5.3 The Role of Gender Culture

When exploring the determinants of female representation, a natural factor to consider is culture. Here, again, our setting and unique dataset allow us to explore the role of culture in a within-country setting. Italy is unusual in that its position as a young country (having been unified as a nation-state only in 1861) means that highly varied cultures remain within the borders of a single country and the same institutional setting. As an indication of this, the most recent ISTAT figures for female employment levels across the country run as follows: North: 58.2%, Centre: 54.4%, South: 31.3% (ISTAT, 2017b). The divergence between the North and South is, then, extreme: almost double the share of women in the North work as compared to the South. Indeed, studies have shown that regional gender culture has an impact on economic outcomes such as female labour force participation (Campa et al., 2010). Despite the institutional setting remaining the same across the country, one could argue that this heterogeneity in cultural norms may drive some of our result. In order to address this, we ran our main analyses in each of the low and high gender traditional settings. The intuition being that if one comes from a region where gender norms are particularly traditional, the effect of the electoral reform may be more muted or more acute than if one comes from a more gender progressive region.

We undertook factor analyses of responses to questions about gender norms from the European Value Survey in order to create measures of the regional gender norms in Italy (see Appendix, Section 5 for more details). Indeed, we find support for the generally held notion that the North of the country is more gender progressive and the South more gender traditional. In Table 17 we present our main DiD results, split by regional gender culture and find that the effect is driven by the gender traditional regions. The same phenomenon emerges when we split our seat allocation analyses into these two groups, with most of the effect coming from gender traditional regions (Tables 18 and 19).<sup>34</sup>

TABLES 17-19 ABOUT HERE

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<sup>33</sup>As in footnote 32.

<sup>34</sup>We present only the post-reform results here for the sake of concision, pre-reform results are available upon request.

## 6 Discussion

We have established several stylised facts about female political careers in the Italian context and how electoral rules affect them. We have found that proportional electoral rules promote female representation in that under them, women are less likely to be placed in competitive seats, which would reduce the likelihood of being elected. However, the promotion of the *quantity* of women does not necessarily seem to bring forward the *quality* of women, if we measure quality by education and previous experience in line with the literature (Jacobson, 1989; Shugart et al., 2005; Galasso and Nannicini, 2011). Indeed, the share of parachuted women substantially increases, there are more loyalist women, and elected women have a lower education level than non-elected ones. Moreover, under majoritarian rules a woman’s characteristics influence her likelihood of being placed in a safe or competitive seat, whereas under proportional rules the salience of being a woman overrides these qualities.

How might we explain this? We recall that the nature of competition is different in proportional and majoritarian systems: under majoritarian rules, competition is more exclusionary, in the sense that it is a “zero-sum game where one person’s gain is another person’s loss” (Norris, 2006) and parties have to choose the best person for a specific district, whereas under proportional rule parties have an incentive to present a diverse range of candidates who appeal to different groups of voters. In other words, majoritarian systems rely on selecting the strongest candidates - regardless of their gender - while in proportional systems instead, gender diversity is a value, and attention to the presence of women is higher. Our data show that in majoritarian systems the presence of women is scarce, whereas in proportional systems more women are elected but they are concentrated in safe seats. Why are there so few women in majoritarian systems where their characteristics are evaluated more fairly and many more under proportional rules where merely being a woman seems to matter more than one’s job-relevant qualities?

A possible explanation is linked to risk aversion, which - as covered in the literature section - has been shown to be more prevalent amongst women than men. To test whether this might be the case amongst real-world political candidates and, more specifically, political candidates in Italy, we undertook analyses (see Appendix, Section 6) of survey data on political candidates from across a range of countries (Comparative Candidates Survey, 2018) and found that, like the wider population, it would appear that female political candidates (in Italy and cross-nationally) are also competition averse. Thus, women are more likely to present themselves as candidates if they are placed in safer positions: if proportional (majoritarian) rules provide a smaller (larger) number of competitive positions to women, we expect to see more (less) women elected under proportional (majoritarian) rules. Given that the level of competition in a given election affects both party selection and self-selection of candidates, it is difficult to disentangle these effects.

However, these data seem to suggest that female risk aversion may contribute to explain female under-representation in specific contexts: rather than being used as ‘pawns’ by political parties or being overlooked by such organisations, women may be acting according to their preferences, being more proactive when they see preferable conditions (i.e. less competitive and more safe seats) and strategically holding back when this is not the case. Thus, we may be seeing a gendered version of the ‘mediocracy’ model developed by Mattozzi and Merlo (2015) who show that a mediocre selection equilibrium is more likely to occur under proportional rules than majoritarian ones when political talent is scarce. We propose that this phenomenon may be particularly pronounced amongst female candidates due to their risk preferences, meaning that only the strongest candidates would come forward under majoritarian rules. We hope that future work will contribute to this important avenue of research.

Another phenomenon at play in the context under consideration is the role of culture in mediating changes in electoral rules. We have shown that gender traditional regions drive the effect of the reform and that women elected from these more gender traditional areas are above average in terms of quality indicators such as education (Figure 15). This lends support to the idea that either parties (demand) overcompensate in terms of the quality of their female candidates in order to justify their choices, or candidates themselves (supply) realise that they are fighting against fixed ideas about the role of a woman in society and, thus, only come forward if they feel they have the credentials to quash such preconceptions.<sup>35</sup> Though we are not able to disentangle the demand and supply mechanism, we argue that culture is at the origin of both channels.

The fact that gender culture plays an important role in Italian politics is not surprising. Italian political parties - on both sides of the ideological spectrum - do not necessarily see women as competitive, capable political agents. Many prominent contemporary political figures in Italy have expressed less than flattering opinions of their female colleagues, despite female politicians in Italy - as in many other countries - having been shown to be as qualified (if not more so) than their male counterparts (see Baltrunaite et al. (2014) and the related literature section). For example, in the 2008 election two of the main parties contending, the *Partito Democratico* (hereafter, PD) and *Popolo della Libertà* (hereafter, PdL), accused one another of including “*sciampiste*” (PdL directed at the PD’s Walter Veltroni) and “*letteronze*” (PD directed at PdL) in their lists (roughly translated as “shampooers” - in the derogatory sense of a very junior hairdresser - and “showgirls”, respectively).<sup>36</sup>

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<sup>35</sup>Indeed, conditional on their seat positions female candidates in both safe and competitive seats are more likely than their male counterparts to be elected, once placed (Table 16).

<sup>36</sup>Innumerable other examples exist. Even more recently, in the 2013 election the Secretary of the PD, Pierluigi Bersani commented “To Monti I ask: how many women will you elect? To Berlusconi, instead, I should ask ‘how many dolls will you bring?’” referring to Berlusconi’s alleged ‘window-dressing’ approach to bringing female politicians into parliament. Beppe Grillo made an even more explicit statement later in 2013, calling the President of the Chamber of Deputies, Laura Boldrini, “a furnishing object of power”

In such a setting, where parties see female candidates as a burden, our findings are in line with a reading in which majoritarian rules negate these preferences through competition and force parties to allocate male and female candidates (see Tables 3, 12 and 13) to seats in a comparable manner in order to adhere to voters' preferences. Assuming, as in Galasso and Nannicini (2017), that in majoritarian systems independent voters care about the average quality as well as about the valence of the representative of their own district, whereas in proportional systems they care only about the average quality of the politicians on the party list, our results indicate that majoritarian rules may actually be more effective in forcing parties to treat male and female candidates equally, even if this comes at a cost in terms of elected female politicians as the concentration of competitive seats increases under such an electoral rule (Table 2). Under proportional rule, on the other hand, where competition is less direct, we observe men being placed in competitive seats and women in the safer safe seats (Tables 3 and 4), which is consistent with a strategy whereby parties - when they are not forced to consider head-to-head races and voters' specific preferences in a given district - 'cherry pick' their female candidates according to their beliefs that women are less capable political agents. We find further evidence consistent with this story in our additional analyses regarding the increase in parachuted women following the 2005 reform (Figure 9). This is not necessarily negative in itself, however, it does not seem consistent with a view of women as equal players and competent professionals.

## 7 Conclusions

Our findings confirm the positive effect that proportional rules have on female political representation. Our data and the Italian institutional setting allow us to isolate the effect of the 2005 reform and provide causal, within-country evidence of the phenomenon signalled by previous cross-country analyses. We show that women's representation benefits from proportional rules and explore a new channel through which proportional rules can influence women's electoral success: how predisposed parties are to place women in competitive seats or how willing female candidates are to be placed in these seats. We further this analysis by looking at the differential effects of the reform across Italy's regions which vary in their levels of gender traditionalism.

Thinking more about a long-term perspective, if women are elected more frequently because they are placed in less competitive seats either because they feel they cannot compete in tight races or because parties are not recruiting and supporting the strongest

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(“*oggetto di arredamento del potere*” (Il Corriere della Sera, 2013)). Entire books have been written on the extent of misogyny in Italian politics (Battaglia, 2015), but we hope these examples suffice to demonstrate that there is good reason to believe that Italian political parties may see female candidates as less capable than their male counterparts.

candidates, as soon as there is an institutional change female representation is likely to suffer as the rules of the game change and it may no longer be possible to be elected via a safe seat route. This is particularly poignant in contexts such as Italy where extensive electoral reform occurs periodically and tends to develop along party lines rather than according to what will be best in terms of representation. We would encourage further analyses that consider the impact of electoral rules on aspects of representation that go beyond the number of women in office, looking more closely at how electoral systems affect parties' behaviours and attitudes towards female politicians. Future research should also try to disentangle the demand and supply effects we have highlighted here, i.e., understanding better if, when making the decision to run for office, candidates' own perceptions of their chances of winning as opposed to party selection dynamics prevent them from coming forward or from running in a competitive seat.

Finally, it is important to consider that the context we analyse in the case of Italy - with unequal gender norms and internal national discord about the role of women in society - may be more representative of many of the countries that are consolidating their democracies at present and which may consider electoral reform in the coming years or decades. Our results indicate that when debating the kind of electoral rule to instigate, it would be wise in such contexts to consider not only the number of women elected to office, but also the kinds of behaviours that such a rule would facilitate in the parties inhabiting its political landscape.

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# Appendix

## 1. Additional Information on Sub-National Levels of Government

In terms of the functioning of these administrative levels, there are different areas of competence that dictate which level administers which services. The national government has exclusive competence over certain policy areas, such as foreign policy or competition. Indeed, unless it is expressly stated that the State has a given competence it is automatically the regions' responsibility.<sup>37</sup> For example, the regions are responsible for the programming and organisation of health services, for providing educational facilities and for infrastructure on their territories. These macro areas are then delegated further down the administrative structure with the provinces, for example, being responsible for urban development, public transport and the management of school buildings in their jurisdictions. Municipalities, in turn, are responsible for an array of services from the registry of births and deaths, to the provision of local public services such as water supply, waste management and municipal police, to the implementation of housing and welfare policies.

In terms of organisation, at each of the levels a *presidente* (president, regions and provinces) or a *sindaco* (mayor, municipalities) is elected. This figure then heads a *consiglio* (legislative body) and a *giunta* (executive body). The former body is made up of elected councillors who manage the political and bureaucratic activities of the government in question. The latter body is composed of *assessori* (councillors) chosen by the figurehead to take charge of a specific kind of activity. For example at the regional level, the *Assessore all'Economia, Crescita e Semplificazione* (Councillor for the Economy, Growth and Simplification) manages the region's balance sheets and tax system, its financial resources to encourage growth, the streamlining of its bureaucracy and digitalisation. This brings us to the electoral rules determining how such figures are elected.

## 2. Checking for other Discontinuities

Here we check that there are no discontinuities around the 2005 reform date apart from that we identify and are interested in: the share of women being elected to national office. As can be seen below, all the other characteristics of politicians we are able to test for (see graphs) do not display discontinuities around the reform date.

FIGURES 19-21 ABOUT HERE

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<sup>37</sup>That being said, until 2015 when amendment was made to Art. 117 of the Constitution that clearly separated the responsibilities of the national and regional governments, the distinctions between what was of national or regional competence were not always hard and fast.

### 3. Accuracy of Safeness of Seats

Here we investigate how accurate the measures of safeness of seats for the various parties are. As can be seen below, generally both the measures are successful in predicting who will be elected.

FIGURES 22-23 ABOUT HERE

### 4. Party Break-down of Seat Allocation Models

Unsurprisingly, given our main results for the gender distribution over competitive seats (Tables 12-15) we find null results across parties for the pre-reform period. However, when we look at the post-reform period we find that the main effects on competitive seats seem to be driven by the centre-left parties who are more likely to place men in competitive seats. Men are overall more likely to be placed in competitive seats and women in the safe seats. The centre and centre-right do not appear to differentiate between how men and women are placed in competitive seats.<sup>38</sup>

TABLES 20-21 ABOUT HERE

### 5. Measures of Regional Gender Traditionalism

Here we create a measure of regional gender norms, using different waves of the European Value Survey (hereafter, EVS). We use the 1990, 1999 and 2008 EVS surveys as they are those that match most closely to the time period under consideration and include questions about attitudes towards women's role in society. The variables have been coded such that the higher the score, the more gender traditional the view being expressed is. The questions that we use for our factor analysis are as follows:

1. "Having a job is the best way for a woman to be an independent person"\*<sup>39</sup>
2. "Both the husband and wife should contribute to household income"\*
3. "Do you think that a woman has to have children in order to be fulfilled or is this not necessary?"

---

<sup>38</sup>We are unable to estimate the likelihood of being placed in an safe/competitive/'no chance' seat for left- and right-wing parties as we do not have the statistical power to do so.

<sup>39</sup>The asterisked questions were to be answered on a scale of agree strongly/agree/disagree/disagree strongly. Whereas, the non-asterisked questions had a binary tend to agree/tend to disagree or needs children/not necessary choice option.

4. “A working mother can establish just as warm and secure a relationship with her children as a mother who does not work”\*
5. “A pre-school child is likely to suffer if his or her mother works”\*
6. “A job is alright but what most women really want is a home and children”\*
7. “Do you agree or disagree with the following statement: Marriage is an outdated institution?”
8. “If a woman wants to have a child as a single parent, but she doesn’t want to have a stable relationship with a man, do you approve or disapprove?”

We create a general measure of gender traditionalism on the basis of responses to these questions. Then, from our factor analysis, the following separate strands of gender traditionalism emerge:

*How a person feels about:*

1. Equality within the household and labour force.
2. Women as care-givers to children, their identity being essentially bound to childcare.
3. The institution of marriage as a defining feature of modern life.

## 6. Risk Aversion in Political Candidates

Here we investigate whether female politicians display the risk aversion the women in the wider population have been shown to have. These measures are created using the Comparative Candidate Survey (hereafter, CCS), Module 1 Data (FORS, 2016) which covers candidates running for national parliamentary elections in different countries using a common core questionnaire to allow for cross-country comparison. The data include surveys of candidates as well as relevant context information concerning the constituency of the candidate and the political system at large. The core CCS candidate questionnaire focuses on the relationships between the candidate, the party and the voters. Issues such as campaigning, recruitment, career patterns, ideology, democracy and representation are included in the questionnaire. CCS is conducted in modules that are in the field about 5 years. The surveys for Module 1 were conducted between 2005 and 2013 cover 35 elections.

Measure 1 is created on the basis of the question “A MP in a conflict between own opinion and the party position should follow: 1. His/Her own opinion; 2. The party’s position?”. So, a higher value response indicates greater amenability to following the party’s position when in a position of conflict. This measure is intended to capture the

extent to which candidates are willing to sacrifice their own beliefs in order to avoid conflict with the party, a form of risk or confrontation aversion. As can be seen in the table above, female candidates are more likely than their male counterparts to toe the party line even when they disagree with it.

Measure 2 is created on the basis of a series of questions regarding how often the candidate re-presents his/her candidature after a failure in an election: “Stood as a candidate in year of most recent [second most recent etc.] national election”. A higher value indicates more resilience to losing elections, in the sense of trying again more frequently after a loss. This measure is intended to capture how willing a candidate is to try again if he/she loses an electoral race, a form of risk or competition aversion. As can be seen in the table above, female candidates are less likely than their male counterparts to re-run in an electoral race after they lose.

TABLE 23 AROUND HERE

# Figures and Tables

## Figures

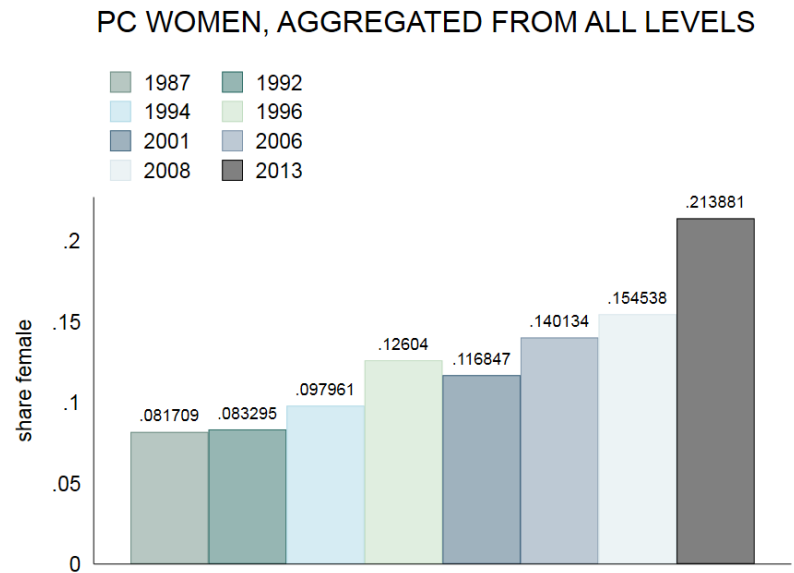


Figure 3

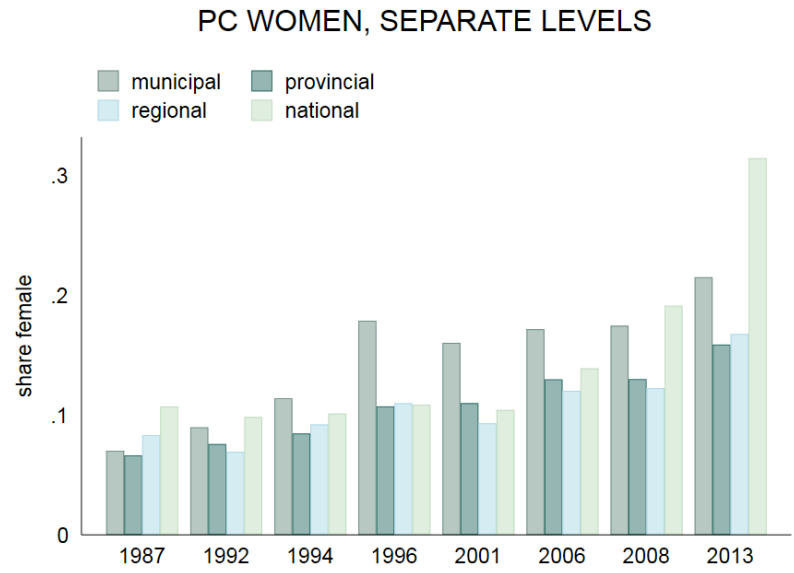


Figure 4

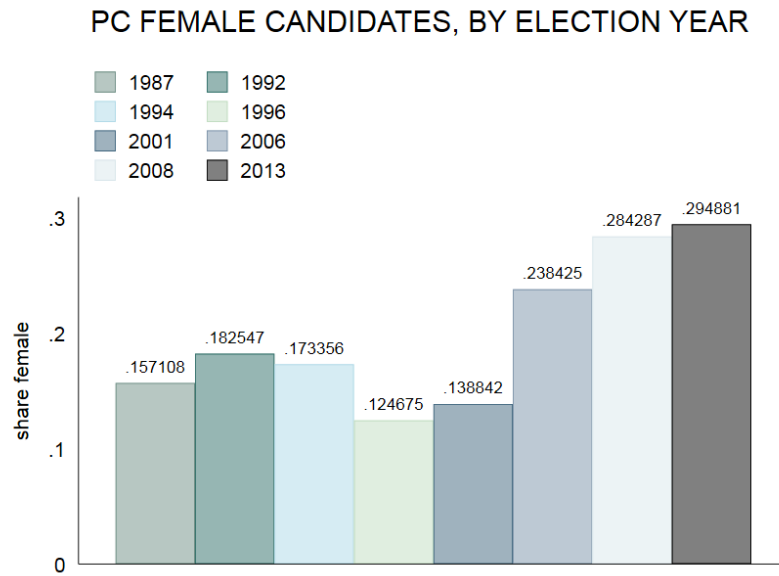


Figure 5  
(National elections only)

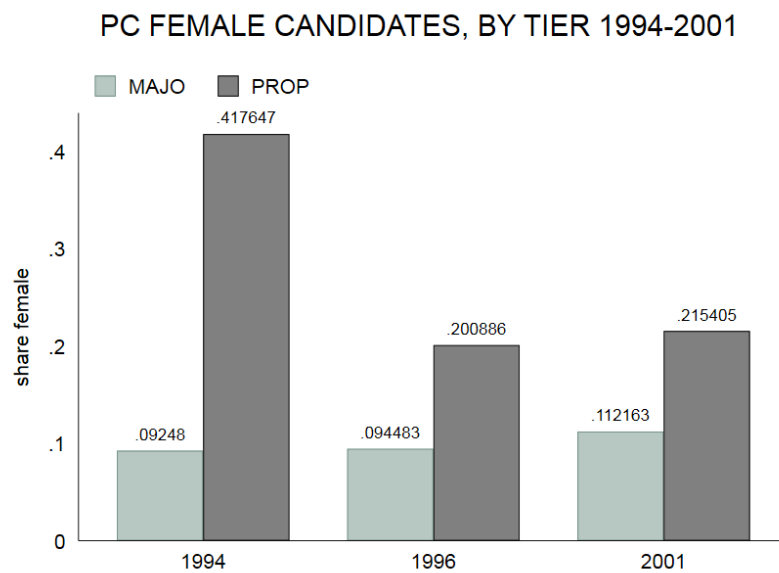


Figure 6  
(National elections only)

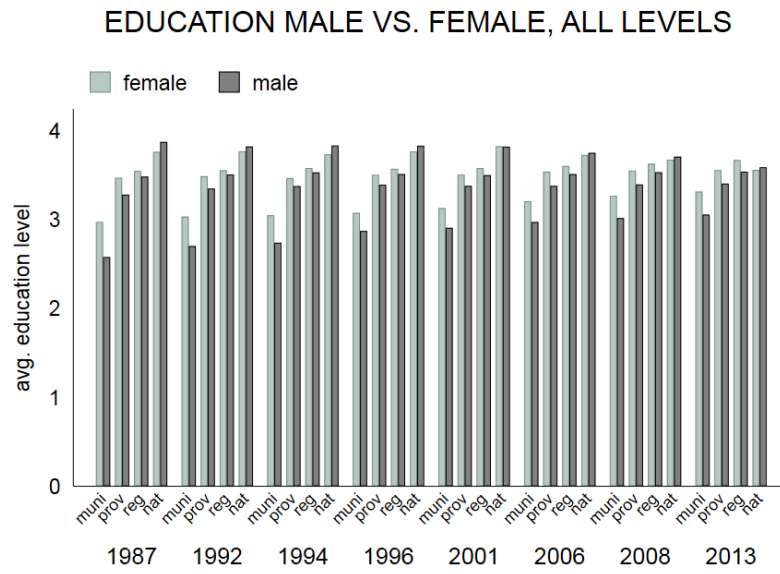


Figure 7

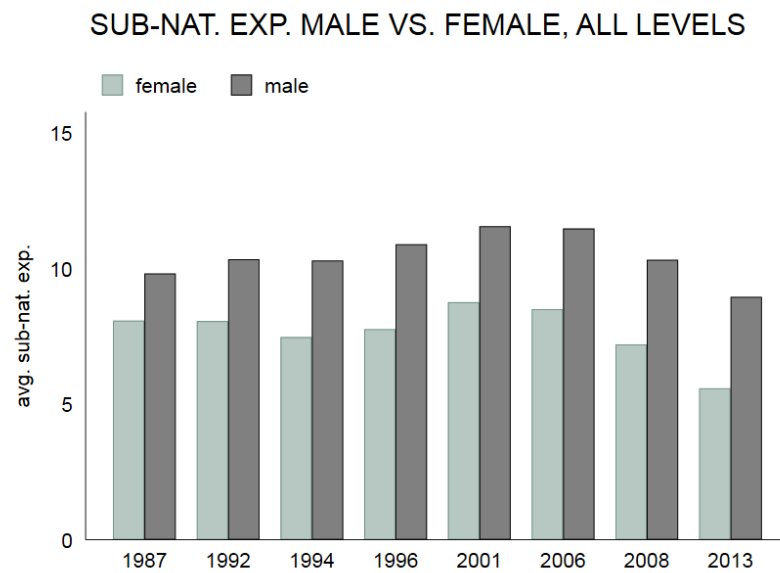


Figure 8

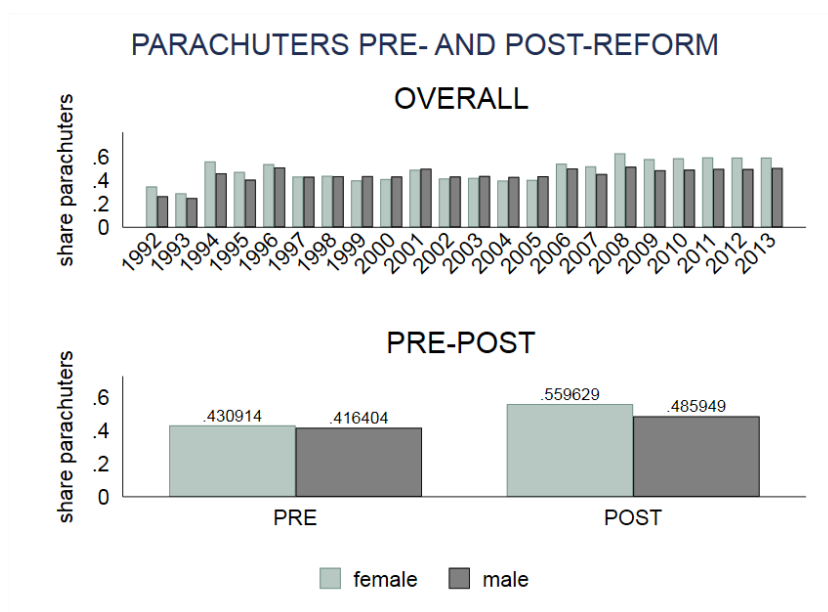


Figure 9  
(National elections only)

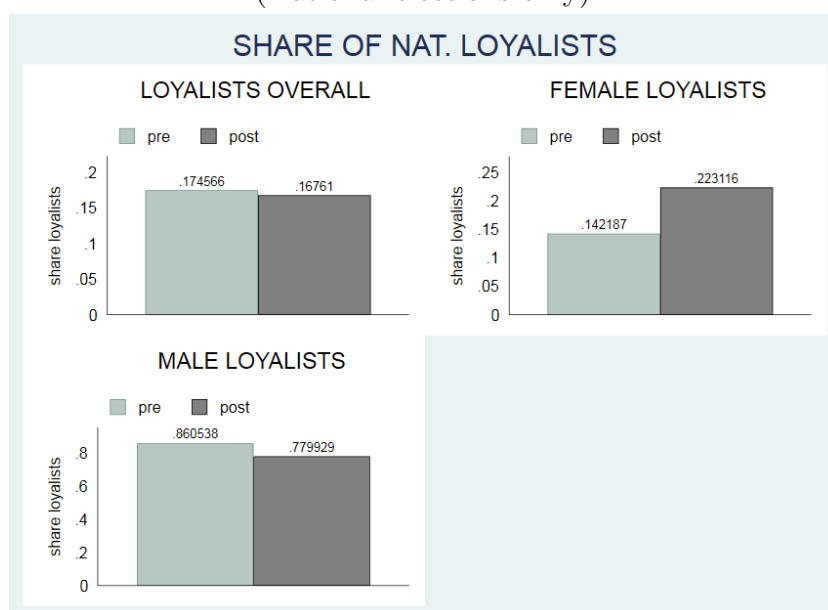


Figure 10

### MALE VS. FEMALE RE-ELECTION, ALL LEVELS

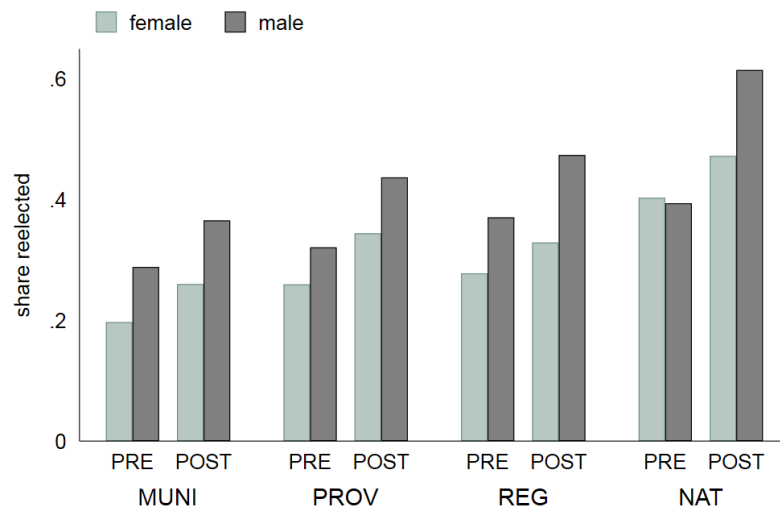


Figure 11

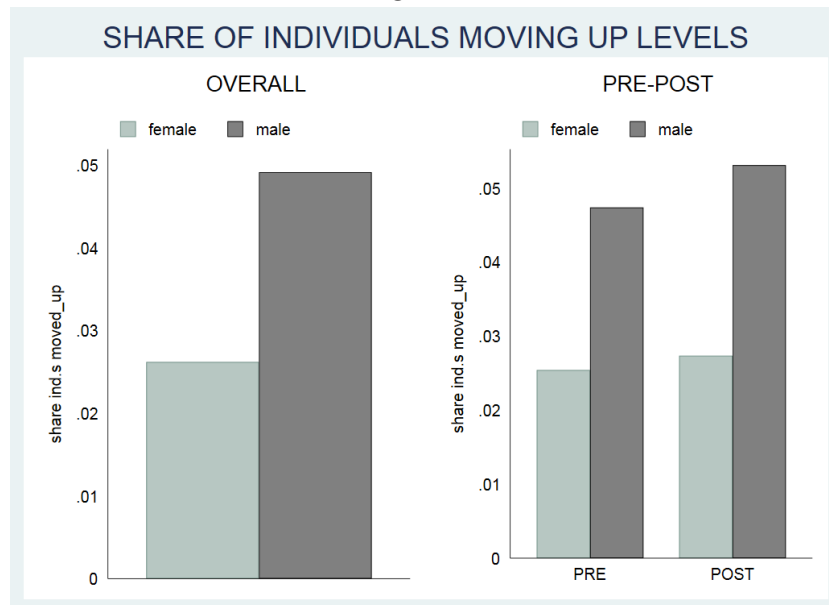


Figure 12

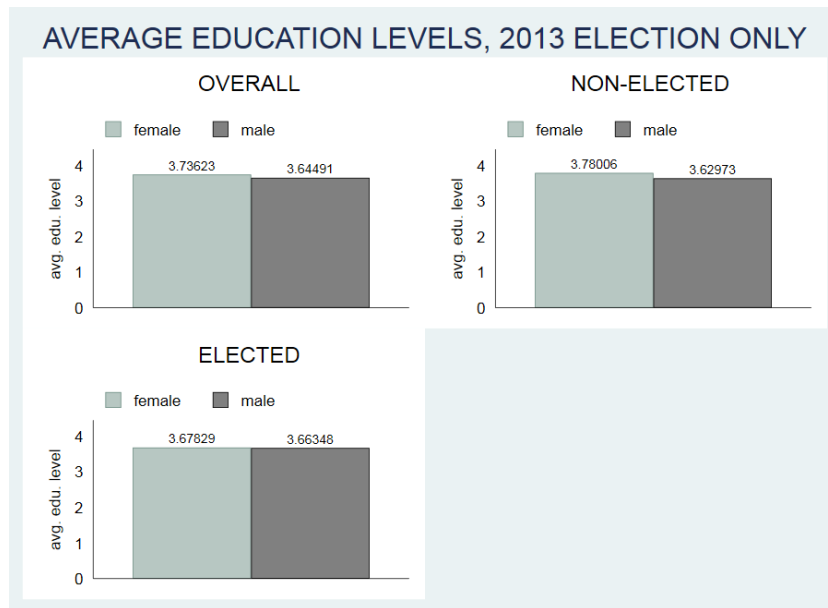


Figure 13  
(2013 election only)

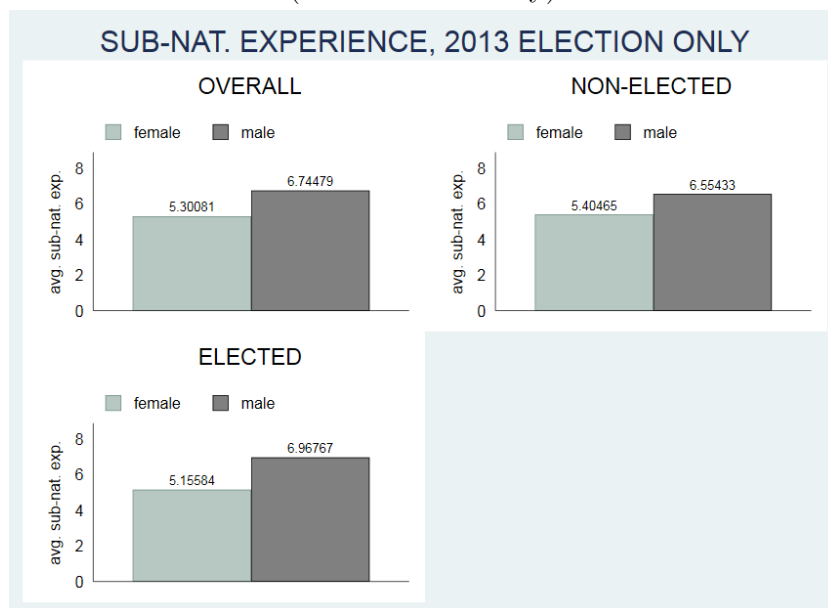


Figure 14  
(2013 election only)

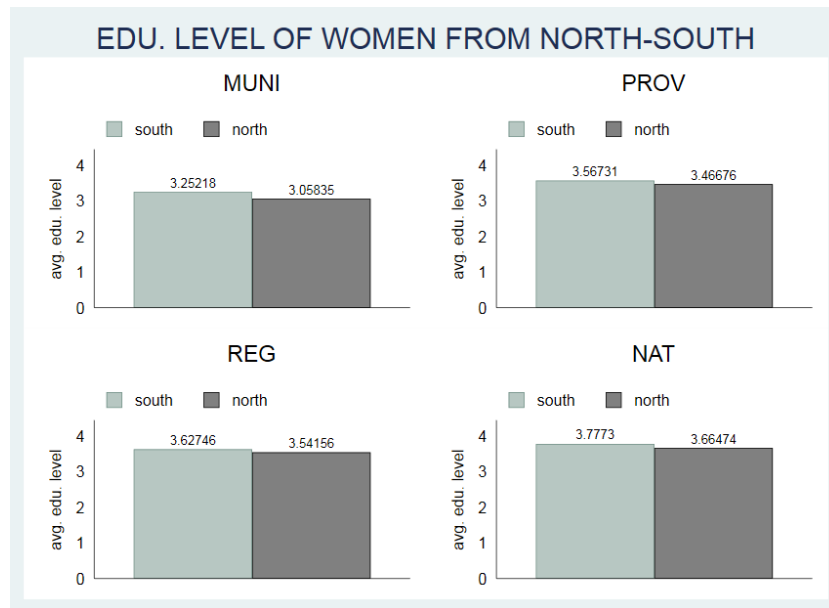


Figure 15

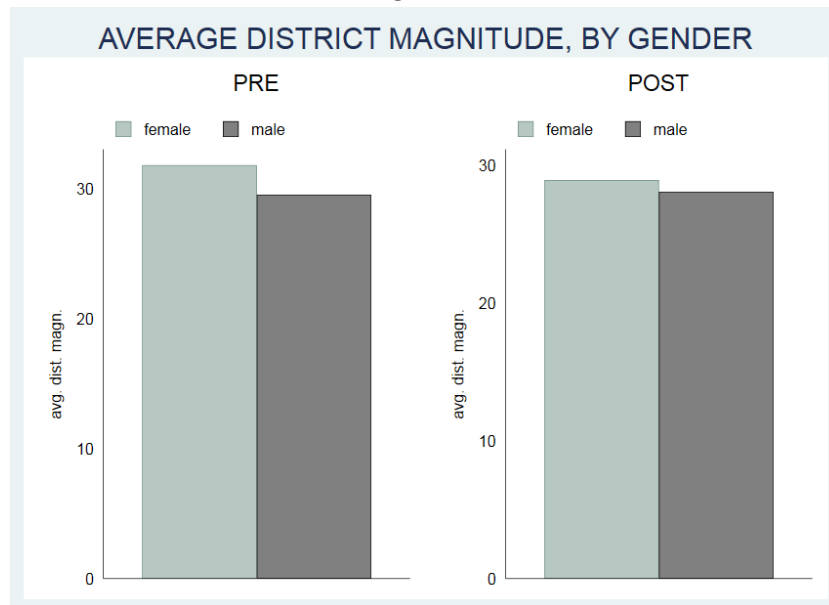


Figure 16

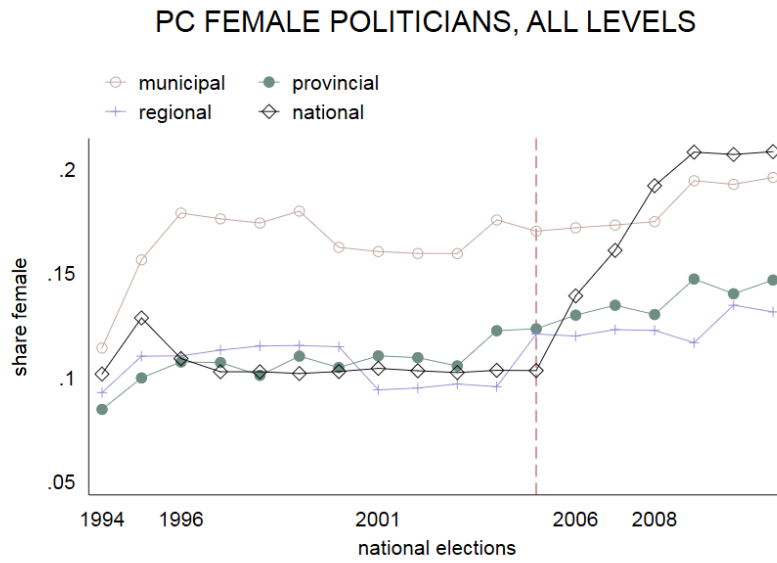


Figure 17

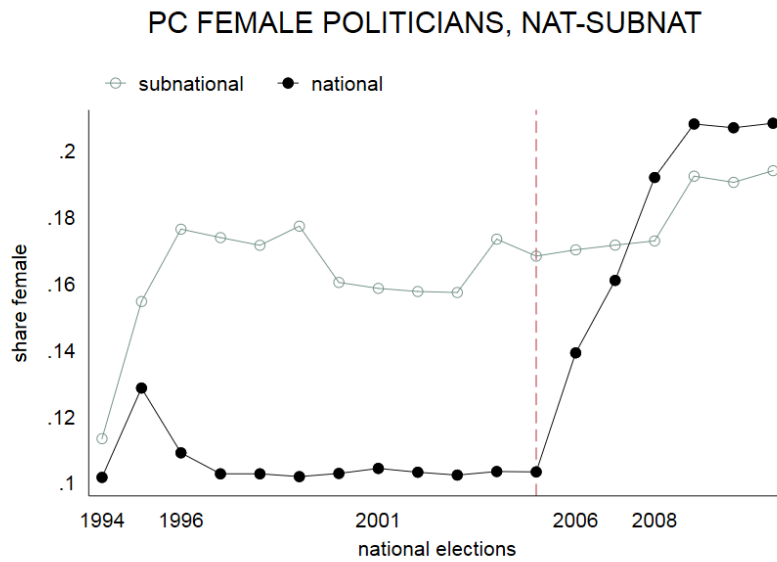


Figure 18

# Tables

## 1. Summary Statistics: Panel Data, All Levels

	male	level	age	education	experience	party	district
mean	.8516707	1.060717	44.72778	2.894598	5.485816	2.513695	53.0604
p50	1	1	44	3	4	2	48
min	0	1	0	1	1	1	1
max	1	4	105	5	27	5	192
<i>N</i>	4245021						

*Note:* Baseline covariates for all levels of government. Covariates are: gender (male: 1, female: 0), level of government to which the person is elected (1=municipal, 2=provincial, 3=regional, 4=national), age in years, education level (1=primary school, 2=middle school, 3=high school, 4=degree, 5= higher than degree), sub-national experience in years, party affiliation (1=left, 2=centre-left, 3=centre, 4=centre-right, 5=right) and district magnitude.

## 2. Distribution of Seats, Pre and Post

All Politicians				
Seat-Type	Pre	Post	Total	
Safe	309	681	36%	74%
Comp.	496	184	57%	20%
No chance	57	62	7%	6%
Total	862	927	100%	

## 3. Distribution of Female Politicians Across Seats: PRE

Pre-Reform: Female Politicians		
Seat-Type	Count	Share
Safe	**35/79	44%
Comp.	*40/79	51%
No chance	4/79	5%

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 4. Distribution of Female Politicians Across Seats: POST

Post-Reform: Female Politicians		
Seat-Type	Count	Share
Safe	**222/281	79%
Comp.	*41/281	15%
No chance	18/281	6%

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 5. Summary Statistics: 1994/2001, National Only

(1)								
	male	age	yrs sch.	subnat.	marg. vict.	safe	comp.	no ch.
mean	.877575	48.32195	16.0053	5.621542	12.23337	.2147325	.3446838	.0396108
p50	1	48	17	5	8.899998	0	0	0
min	0	27	5	1	0	0	0	0
max	1	84	20	23	75.6	1	1	1
N	1699							

Note: Pre-reform baseline covariates for national-level politicians only. Covariates are: gender, age in years, education level (in years of schooling: 5, 8, 13, 17 or 20 - these are later standardised to match with the panel data education measures), years of sub-national political experience, the margin of victory in terms of the difference in the percentage of votes won by the politician who was elected as compared to the next best candidate, and a binary categorisation of whether the politician was placed in a safe, competitive or ‘no chance’ seat.

#### 6. Summary Statistics: 2013, National Only

(1)								
	male	age	edu.	subnat.	status	safe	comp.	no ch.
mean	.6849817	49.13507	5.727179	6.354394	1.989927	.3887363	.2326007	.378663
p50	1	50	6	5	2	0	0	0
min	0	25	0	1	1	0	0	0
max	1	89	9	25	3	1	1	1
N	2184							

Note: Post-reform baseline covariates for national-level politicians only. Covariates are: gender, age in years, education level (0, 3/9 categorisation from no schooling to degree level - these are later standardised to match with the panel data education measures), the status assigned to the candidate by the CISE polls referring to how likely they thought his/her election to be (1=very likely, 2=unsure, 3=very unlikely), and a binary categorisation of whether the politician was placed in a safe, competitive or ‘no chance’ seat.

# 7. Main Results

VARIABLES	(1) Agg. OLS	(2) Agg. Cntrl	(3) Ind: No Cntrl	(4) Ind: Time	(5) Ind: Cntrl	(6) Ind. Full
post	0.0161** (0.00705)	-0.00370 (0.0124)	0.0163*** (0.000863)	-0.00646*** (0.00107)	0.000559 (0.00129)	0.151*** (0.00789)
treated	-0.0533*** (0.00608)	-0.149 (0.158)	-0.0534*** (0.00786)	-0.0531*** (0.00787)	-0.0515*** (0.0108)	-0.0471*** (0.0115)
post*treated	0.0500*** (0.0168)	0.0701*** (0.0237)	0.0487*** (0.00983)	0.0486*** (0.00981)	0.0566*** (0.0134)	0.0364** (0.0142)
Constant	0.161*** (0.00549)	0.236 (0.804)	0.162*** (0.000698)	-4.843*** (0.207)	-8.698*** (0.302)	-8.976*** (0.423)
Time Trend				YES	YES	YES
Ind. Controls					YES	YES
Full controls		YES				YES
Observations	36	36	2,731,747	2,731,747	1,524,424	426,733
R-squared	0.672	0.838	0.001	0.001	0.047	0.057

*Note:* The table reports the DiD coefficient (and control variable coefficients) from OLS regressions of the likelihood of seeing a woman elected to national office. The sample covers years 1994-2011. Dependent variable: binary where “Ind.” is indicated (politician: female (1)/male (0)), continuous where “Agg.” is indicated (share of female politicians). Columns 1-2 use aggregate data looking at the share of women elected to national and sub-national office, whereas columns 3-6 use individual data to look at the likelihood of seeing a woman elected to national office. Standard errors are clustered at the national-sub-national levels for columns 1-2 and at the individual level for columns 3-6 and are reported in parenthesis. Columns 1 and 3 report the basic DiD model with no controls. Column 2 reports the aggregate DiD model with controls for sub-national years of experience, age, district magnitude, party affiliation and education (as described in Table 1). Column 4 reports the basic DiD regression with a linear time trend included. Column 5 reports the DiD regression with full individual level controls (as described in Table 1). Column 6 reports the DiD regression with full controls including all the individual controls in column 5, as well as the district magnitude for the constituency where the politician was elected, dummies for the macro regions of Italy (1=North, 2=Centre, 3=South) and the number of female candidates coming forward for the national elections in a given year. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

### 8. Party Analysis

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Left	CL	Centre	CR	Right
post	0.167*** (0.0126)	-0.0195 (0.0349)	0.237*** (0.0193)	0.105*** (0.0164)	0.0832*** (0.0253)
treated	-0.0733*** (0.0189)	-0.00979 (0.0659)	-0.00786 (0.0645)	-0.0957*** (0.00931)	-0.0798*** (0.0251)
post*treated	0.0587** (0.0238)	0.0528 (0.0679)	-0.0240 (0.0689)	0.0415*** (0.0141)	0.0924** (0.0363)
Constant	-1.490** (0.632)	-7.914*** (1.988)	4.303*** (1.044)	1.334* (0.762)	7.452*** (1.620)
Observations	187,025	24,935	59,796	109,735	33,685
R-squared	0.076	0.052	0.069	0.038	0.039
Full Controls	YES	YES	YES	YES	YES

*Note:* DV: binary (politician: female (1) or male (0)). OLS. Baseline regressions with full controls. Equivalent to Column 6 of main results (Table 6). The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%



Table 9: Robustness Checks

VARIABLES	(1) 1993 Span	(2) 1995 Span	(3) 2000 Span	(4) Outliers	(5) Senators	(6) Muni. CG	(7) Prov. CG	(8) Reg. CG	(9) Reg. Cntrls
post	-0.00764*** (0.00129)	0.000662 (0.00124)	-0.0128*** (0.00124)	-0.00429*** (0.00143)	-0.000681 (0.00128)	-0.00205 (0.00135)	0.00468 (0.00534)	0.00654 (0.00956)	-0.000678 (0.00128)
treated	-0.0497*** (0.0107)	-0.0518*** (0.0114)	-0.0467*** (0.0120)	-0.0491*** (0.0112)	-0.0477*** (0.0110)				-0.0486*** (0.0111)
post*treated	0.0567*** (0.0146)	0.0588*** (0.0148)	0.0479*** (0.0138)	0.0526*** (0.0142)	0.0528*** (0.0137)				0.0530*** (0.0135)
muni CG						-0.0499*** (0.0111)			
post*muni						0.0544*** (0.0135)			
prov CG							-0.0336*** (0.0116)		
post*prov							0.0291** (0.0144)		
reg CG								-0.0412*** (0.0129)	
post*reg								0.0458*** (0.0167)	
Constant	-11.77*** (0.265)	-9.277*** (0.295)	-14.02*** (0.411)	-9.743*** (0.311)	-9.628*** (0.302)	-9.699*** (0.313)	-12.46*** (1.208)	-7.262*** (1.937)	-9.629*** (0.302)
Observations	1,761,691	1,520,950	1,000,315	1,412,023	1,524,840	1,435,230	76,238	25,822	1,524,284
R-squared	0.060	0.061	0.061	0.058	0.059	0.060	0.068	0.046	0.059
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES

*Note:* The table reports the DiD coefficient (and control variable coefficients) from OLS regressions of the likelihood of seeing a woman elected to national office. Dependent variable: binary male (0) or female (1). The sample, as in the main regressions, covers 1987-2011 except where we test robustness by changing the span of years. CG stands for control group. Columns 1-3 change the time span surrounding the reform year for the main estimation, respectively to 1993, 1995 and 2000. Column 4 eliminates all politicians with more than 15 years of sub-national experience. Columns 6-8 replace the usual pooled (muni-prov-reg) control group to a control group made up only of each group separately. Column 9 includes individual controls for each of the 20 regions of Italy as opposed to the macro regions (north, centre, south) used in the main models. The models are estimated on individual data with controls: age, education, party affiliation, sub-national experience and regional magnitude. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

10. Placebo Test: 2001 as Reform Year

	(1)	(2)	(3)	(4)
VARIABLES	No Cntrl	Time	Ind. Cntrl	Ind. Full
post	0.0230*** (0.000832)	-0.0514*** (0.000920)	-0.0392*** (0.000897)	-0.143*** (0.00367)
treatment	-0.0307*** (0.00691)	-0.0308*** (0.00692)	-0.0679*** (0.00835)	-0.117*** (0.00815)
post*treatment	-0.0234*** (0.00780)	-0.0218*** (0.00781)	-0.00702 (0.00821)	0.00898 (0.00865)
Constant	0.135*** (0.000597)	-20.67*** (0.243)	-12.12*** (0.252)	-46.29*** (1.186)
Observations	2,294,578	2,294,578	2,170,614	575,238
R-squared	0.001	0.008	0.057	0.067
Year FE		YES	YES	YES
Ind. Controls			YES	YES
Full Controls				YES

*Note:* The table reports the DiD coefficient from OLS regressions of the likelihood of seeing a woman elected to national office. Dependent variable: binary (politician: female (1) or male (0)). Here a fake reform year (2001) is used as the treatment date. The same individual and full controls are used as in Table 5. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

## 11. 1993 Reform

VARIABLES	(1) Agg. OLS	(2) Agg. Cntrls	(3) Ind: No Cntrls	(4) Ind: Time	(5) Ind: Cntrls	(6) Ind: Full
post	0.0756*** (0.0101)	0.0148 (0.0118)	0.0743*** (0.000740)	0.0281*** (0.000810)	0.0302*** (0.000811)	-0.0237*** (0.00560)
treated	0.0319*** (0.00590)	-0.295*** (0.0673)	0.0294*** (0.01000)	0.0291*** (0.0100)	0.0183 (0.0125)	-0.0122 (0.0131)
post*treated	-0.0795*** (0.0118)	-0.0269* (0.0138)	-0.0765*** (0.0111)	-0.0765*** (0.0111)	-0.0683*** (0.0135)	-0.0313** (0.0129)
Constant	0.0789*** (0.00406)	-0.802*** (0.265)	0.0798*** (0.000587)	-12.61*** (0.241)	-18.29*** (0.412)	-15.02*** (0.425)
Observations	30	30	2,300,827	2,300,827	1,379,756	412,166
R-squared	0.728	0.940	0.012	0.014	0.052	0.058
Year FE				YES	YES	YES
Ind. Controls					YES	YES
Full Controls						YES

*Note:* The table reports the DiD coefficient from OLS regressions of the likelihood of seeing a woman elected to national office. The sample covers years 1987-200. Dependent variable: binary where “Ind.” is indicated (politician: female (1)/male (0)), continuous where “Agg.” is indicated (share of female politicians). Columns 1-2 use aggregate data looking at the share of women elected to national and sub-national office, whereas columns 3-6 use individual data to look at the likelihood of seeing a woman elected to national office. Standard errors are clustered at the national-sub-national levels for columns 1-2 and at the individual level for columns 3-6 and are reported in parenthesis. Columns 1 and 3 report the basic DiD model with no controls. Column 2 reports the aggregate DiD model with controls for sub-national years of experience, age, district magnitude, party affiliation and education (as described in Table 1). Column 4 reports the basic DiD regression with a linear time trend included. Column 5 reports the DiD regression with full individual level controls (as described in Table 1). Column 6 reports the DiD regression with full controls including all the individual controls in column 5, as well as the district magnitude for the constituency where the politician was elected, dummies for the macro regions of Italy (1=North, 2=Centre, 3=South) and the number of female candidates coming forward for the national elections in a given year. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

12. Likelihood of Being Placed in Safe Seat: PRE-2005

VARIABLES	(1) baseline	(2) edu	(3) edu*fem	(4) loy.	(5) loy*fem	(6) para.	(7) para*fem
female	0.407 (0.333)		0.476 (0.352)		0.284 (0.185)		0.353 (0.246)
edu_high		-0.278*** (0.106)	-0.270** (0.111)				
female*edu_high			-0.137 (0.388)				
loyalist				0.245* (0.133)	0.203 (0.140)		
female*loyalist					0.239 (0.408)		
parachute						-0.142 (0.173)	-0.158 (0.177)
female*parachute							-0.00995 (0.323)
Constant	-3.987*** (0.241)	-4.733 (3.750)	-4.458*** (0.810)	-4.730** (1.909)	-4.734*** (1.333)	-5.938 (12.65)	-5.005 (5.581)
Observations	1,246	1,238	1,238	1,238	1,238	1,238	1,238
Pseudo R2	0.234	0.253	0.256	0.250	0.253	0.248	0.252

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a safe seat prior to the 2005 reform. Dependent variable: a binary measure indicating whether a seat is safe (1 if safe, 0 otherwise). Additional controls: individual characteristics (as described in Tables 3 and 4) are controlled for but coefficients are not shown: age, education level, party affiliation, and sub-national political experience. The total number of safe seats is controlled for. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

13. Likelihood of Being Placed in Comp. Seat: PRE-2005

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
female	-0.842 (2.280)		-0.258 (0.348)		-0.287 (0.181)		-0.139 (0.241)
edu_high		0.261** (0.106)	0.275** (0.110)				
female*edu_high			-0.0864 (0.395)				
loyalist				-0.216 (0.133)	-0.204 (0.141)		
female*loyalist					-0.00134 (0.414)		
parachute						0.172 (0.170)	0.211 (0.173)
female*parachute							-0.275 (0.312)
Constant	-3.023*** (0.155)	-3.264*** (0.309)	-3.185*** (0.317)	-3.083*** (0.303)	-3.013*** (0.308)	-3.221*** (0.311)	-3.152*** (0.315)
Observations	1,246	1,238	1,238	1,238	1,238	1,238	1,238
Pseudo R2	0.316	0.328	0.331	0.326	0.328	0.325	0.327
Addit. Controls	YES	YES	YES	YES	YES	YES	YES

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a competitive seat following the 2005 reform. Dependent variable: a binary measure indicating whether a seat is competitive (1 if competitive, 0 otherwise). Controls (not shown): education level, party affiliation, sub-national political experience and district magnitude. The total number of competitive seats cannot be controlled for here as we have only one election year. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

14. Likelihood of Being Placed in Safe Seat: POST-2005							
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
female	0.248** (0.110)		0.0875 (0.189)		0.402*** (0.105)		0.385*** (0.121)
edu_high		0.165 (0.136)	0.0837 (0.158)				
female*edu_high			0.231 (0.217)				
loyalist				-0.247* (0.136)	0.317 (0.199)		
female*loyalist					-1.660*** (0.331)		
parachute						0.481** (0.191)	0.741*** (0.253)
female*parachute							-0.881*** (0.299)
Constant	0.558*** (0.0607)	0.738*** (0.280)	0.597** (0.287)	0.822*** (0.287)	0.628** (0.287)	0.854*** (0.285)	0.725** (0.298)
Observations	926	742	742	742	742	742	742
Pseudo R2	0.00595	0.0500	0.0565	0.0490	0.0734	0.0582	0.0736
Addit. Controls	YES	YES	YES	YES	YES	YES	YES

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a safe seat following the 2005 reform. Dependent variable: a binary measure indicating whether a seat is safe (1 if safe, 0 otherwise). Controls (not shown): education level, party affiliation, sub-national political experience and district magnitude. The total number of safe seats cannot be controlled for here as we have only one election year. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

15. Likelihood of Being Placed in Comp. Seat: POST-2005							
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
female	-0.288** (0.125)		0.0491 (0.221)		-0.440*** (0.119)		-0.432*** (0.128)
edu_high		-0.177 (0.123)	-0.0418 (0.136)				
female*edu_high			-0.437* (0.239)				
loyalist				0.371** (0.149)	-0.274 (0.235)		
female*loyalist					1.847*** (0.392)		
parachute						-0.347** (0.142)	-0.665*** (0.218)
female*parachute							1.047*** (0.285)
Constant	-0.766*** (0.0687)	-0.729** (0.299)	-0.599* (0.305)	-0.825*** (0.312)	-0.619** (0.314)	-0.833*** (0.306)	-0.705** (0.318)
Observations	926	742	742	742	742	742	742
Pseudo R2	0.00800	0.0221	0.0314	0.0230	0.0548	0.0250	0.0465
Controls	YES	YES	YES	YES	YES	YES	YES

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a competitive seat following the 2005 reform. Dependent variable: a binary measure indicating whether a seat is competitive (1 if competitive, 0 otherwise). Controls (not shown): education level, party affiliation, sub-national political experience and district magnitude. The total number of competitive seats cannot be controlled for here as we have only one election year. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

16. Likelihood of Election, 2013

VARIABLES	(1) Safe	(2) Comp.	(3) No Ch.	(4) Tight Races
male	0.160 (0.167)	0.190** (0.0894)	-0.291*** (0.105)	-0.243 (0.212)
safe	2.413*** (0.212)			
safe*male	-0.441* (0.239)			
comp.		0.0205 (0.200)		
comp*male		-0.458** (0.229)		
no chance			-2.894*** (0.315)	
no chance*male			0.725** (0.362)	
age	-0.00116 (0.00371)	0.00197 (0.00249)	-0.00846** (0.00344)	-0.00924 (0.00688)
2: edu. level	0.0786 (0.314)	-0.318 (0.308)	0.140 (0.356)	
3: edu. level	0.0475 (0.133)	-0.0796 (0.109)	-0.164 (0.131)	-0.811 (0.835)
4: edu. level				-0.727 (0.793)
party affil.	0.0719 (0.0702)	0.00657 (0.0511)	0.0477 (0.0637)	-0.0248 (0.0737)
dist. magn.	0.00242 (0.00399)	0.00478** (0.00230)	0.0130*** (0.00333)	0.0105** (0.00480)
Sub-nat. Exp.	-0.00648 (0.00730)	-0.00279 (0.00548)	0.00364 (0.00870)	-0.0178 (0.0152)
Constant	-1.294*** (0.249)	-0.385** (0.191)	0.656** (0.268)	0.935 (0.942)
Observations	1,058	1,058	1,058	249
Pseudo R2	0.384	0.0161	0.345	0.0257

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing a candidate elected to national office in the 2013 election. Dependent variable: binary indicating if a candidate was elected (1) or not (0). The seat classifications define a seat as safe (1) or not (0), competitive (1) or not (0) and ‘no chance’ (1) or not (0). Columns 1-3 analyse the likelihood of a candidate being elected given his/her gender and other individual characteristics and his/her seat position. Column 4 looks at the likelihood of being elected in a sample reduced only to tight races. Individual controls for age, education level, party affiliation, district magnitude and sub-national experience are included for all models. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

17. Low vs. High Gender Traditionalism

VARIABLES	(1) LOW	(2) HIGH
Post	5.83e-05 (0.00152)	-0.0172*** (0.00261)
Treatment	-0.0444*** (0.0124)	-0.0709*** (0.0196)
Post*Treatment	0.0171 (0.0123)	0.0820*** (0.0233)
Constant	-8.789*** (0.439)	-15.44*** (0.502)
Observations	838,457	556,208
R-squared	0.064	0.069
Full Controls	YES	YES

Note: The table reports the DiD coefficient from OLS regressions the likelihood of seeing a woman elected to national office. Equivalent of Column 6 of Table 5. The sample covers years 1994-2013. Dependent variable: binary, politician is female (1), male (0). The full set of individual controls described in Table 5 are included as well as regional level controls overall gender traditionalism. Column 1 refers to regions of below-average gender traditionalism and Column 2 to regions with above-average gender traditionalism. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

18. Low Gender Traditionalism: POST

VARIABLES	(1) comp.	(2) comp.	(3) comp.	(4) safe	(5) safe	(6) safe
female	0.433 (0.350)	-0.222 (0.141)	-0.0338 (0.202)	0.0169 (0.353)	0.332** (0.138)	0.117 (0.195)
edu_high	-0.398* (0.225)			0.459 (0.285)		
female*edu_high	-0.523 (0.414)			0.108 (0.394)		
loyalist		-0.123 (0.428)			0.493 (0.450)	
female*loyalist		2.128*** (0.405)			-2.091*** (0.308)	
parachute			-1.161** (0.506)			1.438*** (0.525)
female*parachute			1.409*** (0.456)			-1.364*** (0.369)
Constant	-2.037*** (0.408)	-2.053*** (0.437)	-1.130*** (0.430)	1.232** (0.505)	1.236** (0.502)	0.229 (0.531)
Observations	312	312	294	312	312	294
Pseudo R2	0.0713	0.0814	0.0908	0.105	0.112	0.149
Controls	YES	YES	YES	YES	YES	YES

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a competitive or safe seat in low gender traditionalism contexts following the 2005 reform. Dependent variable: a binary measure indicating whether a seat is competitive/safe (1 if competitive/safe, 0 otherwise). Additional controls: individual characteristics are controlled for but coefficients are not shown: age, education level, party affiliation, sub-national political experience and district magnitude. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

19. High Gender Traditionalism: POST

VARIABLES	(1) comp.	(2) comp.	(3) comp.	(4) safe	(5) safe	(6) safe
female	-0.177 (0.273)	-0.577*** (0.141)	-0.597*** (0.151)	0.134 (0.228)	0.444*** (0.148)	0.497*** (0.169)
edu_high	0.136 (0.133)			-0.135 (0.133)		
female*edu_high	-0.376 (0.305)			0.300 (0.254)		
loyalist		-0.262 (0.296)			0.175 (0.230)	
female*loyalist		1.617*** (0.566)			-1.371*** (0.474)	
parachute			-0.369* (0.195)			0.299 (0.201)
female*parachute			0.964** (0.400)			-0.767* (0.414)
Constant	0.0983 (0.389)	0.151 (0.372)	-0.157 (0.493)	0.296 (0.401)	0.242 (0.373)	0.473 (0.541)
Observations	430	430	412	430	430	412
Controls	YES	YES	YES	YES	YES	YES

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing politician placed in a competitive or safe seat in high gender traditionalism contexts following the 2005 reform. Dependent variable: a binary measure indicating whether a seat is competitive/safe (1 if competitive/safe, 0 otherwise). Additional controls: individual characteristics are controlled for but coefficients are not shown: age, education level, party affiliation, sub-national political experience and district magnitude. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

# Appendix

## Figures

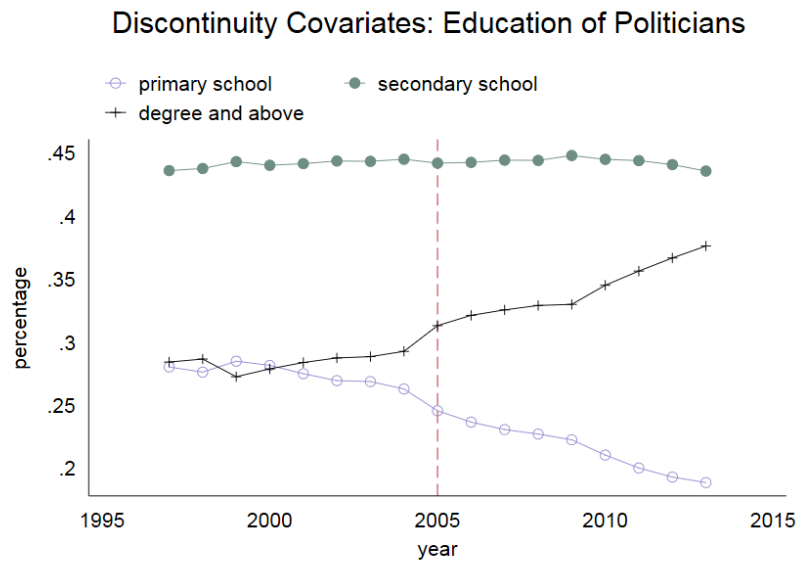


Figure 19

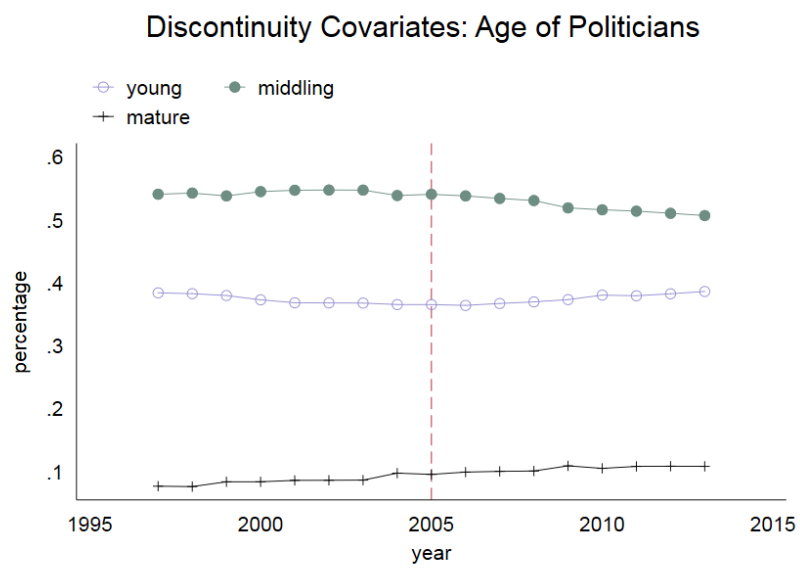


Figure 20

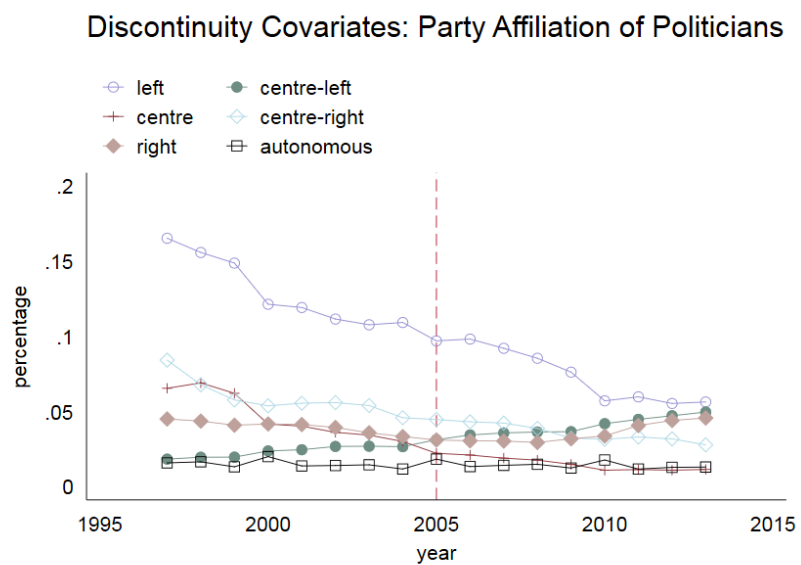


Figure 21

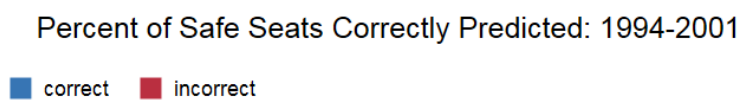


Figure 22

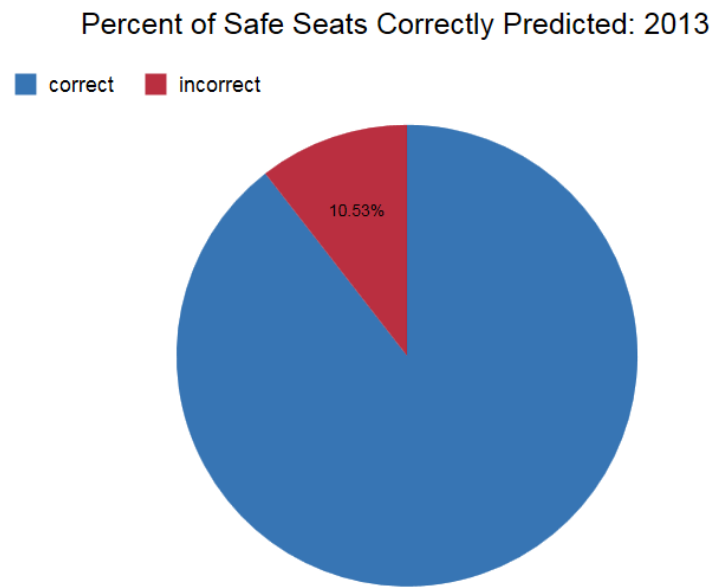


Figure 23

## Tables

Table 20: Safe/Uncertain Seats, PRE-2005: Party Analysis

VARIABLES	(1) Safe CL	(2) Comp. CL	(3) No Ch. CL	(4) Safe CR	(5) Comp. CR	(6) No Ch. CR	(7) Safe R	(8) Comp. R	(9) No Ch. R
Male	-0.582*** (0.204)	0.394* (0.228)	0.682 (0.443)	-0.00810 (0.254)	0.0906 (0.247)	-0.294 (0.367)	-0.622 (0.384)	0.489 (0.517)	-0.921 (0.627)
Age	0.0286*** (0.00853)	0.000830 (0.00783)	-0.0103 (0.0115)	0.0138** (0.00597)	0.0176*** (0.00626)	-0.00658 (0.0106)	-0.0310*** (0.0114)	0.0120 (0.00994)	0.0219 (0.0247)
Edu: 2	0.0196 (0.531)	-0.0136 (0.568)							
Edu: 3	0.102 (0.269)	-0.249 (0.232)	-0.0210 (0.234)	-0.878 (0.846)	-0.232 (0.202)	-0.350 (0.343)	1.060** (0.492)	0.0279 (0.573)	
Edu: 4	-0.240 (0.252)	-0.105 (0.216)		-0.674 (0.843)	0.00406 (0.175)	-0.283 (0.278)	0.279 (0.470)	0.759 (0.512)	-0.657 (0.570)
Sub-nat. Exp.	0.0626** (0.0280)	0.0112 (0.0262)	-0.0345 (0.0404)	-0.00911 (0.0229)	0.0800*** (0.0250)	0.0256 (0.0353)	-0.0384 (0.0427)	0.0398 (0.0413)	-0.272* (0.155)
Constant	-1.690*** (0.510)	-0.483 (0.497)	-1.296** (0.655)	-0.677 (0.920)	-1.624*** (0.397)	-1.190* (0.609)	1.302* (0.724)	-2.581*** (0.805)	-0.424 (1.836)
Observations	410	410	358	510	508	508	165	165	107
Pseudo R2	0.0481	0.00968	0.0217	0.0179	0.0424	0.0159	0.130	0.0747	0.166

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing a man or a woman placed in a safe, competitive or ‘no chance’ seat prior to the 2005 reform. Dependent variable: a binary measure indicating whether a seat is safe (1 if uncertain, 0 otherwise), competitive (1 if uncertain, 0 otherwise) or ‘no chance’ (1 if uncertain, 0 otherwise). Individual characteristics (as described in Tables 3 and 4) are controlled for, as are individual sub-national experience in years and the number of candidates for the election year. District magnitude cannot be controlled for here as we are looking at SMDs only. We look at CL, CR and R parties here as we did not have enough power with the other parties for the estimations. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

Table 21: Safe/Uncertain Seats, POST-2005: Party Analysis

VARIABLES	(1) Safe CL	(2) Comp. CL	(3) No Ch. CL	(4) Safe C	(5) Comp. C	(6) No Ch. C	(7) Safe CR	(8) Comp. CR	(9) No Ch. CR
Male	0.283*** (0.0785)	0.286*** (0.110)	-0.474*** (0.103)	0.486 (0.303)	0.228 (0.312)	-0.647** (0.293)	-0.177 (0.199)	-0.0886 (0.202)	0.270 (0.230)
Age	-0.00416 (0.00542)	0.0130** (0.00590)	-0.00423 (0.00443)	0.0426*** (0.0139)	-0.0209* (0.0125)	-0.0224 (0.0139)	0.00426 (0.00557)	0.0155** (0.00634)	-0.0178** (0.00709)
Edu: 2							-0.735* (0.412)	0.0569 (0.463)	0.653* (0.337)
Edu: 3	0.155 (0.480)	0.0355 (0.455)	-0.157 (0.654)	0.105 (0.258)	0.0166 (0.242)	-0.141 (0.289)	-0.553*** (0.147)	0.520*** (0.159)	0.0971 (0.0923)
Edu: 4	0.168 (0.456)	-0.0476 (0.464)	-0.120 (0.645)						
Dist. Magn.	0.00712*** (0.00243)	-0.0182*** (0.00382)	0.00491* (0.00291)	-0.00475 (0.00440)	-0.00151 (0.00423)	0.00504 (0.00454)	0.00825*** (0.00309)	-0.0152*** (0.00479)	0.00494 (0.00301)
Sub-nat. Exp.	0.0126* (0.00761)	-0.0115 (0.0115)	-0.00490 (0.00632)	-0.0575* (0.0327)	0.0118 (0.0214)	0.0462** (0.0227)	0.0152 (0.0164)	-0.0391*** (0.0152)	0.0151 (0.0163)
Constant	-0.488 (0.544)	-1.216** (0.504)	0.158 (0.653)	-2.566*** (0.796)	0.444 (0.774)	0.766 (0.808)	-0.488 (0.316)	-0.889*** (0.329)	0.00339 (0.407)
Observations	567	567	567	136	136	136	321	321	321
Pseudo R2	0.0143	0.0451	0.0295	0.0870	0.0226	0.0554	0.0452	0.0556	0.0288

*Note:* The table reports the coefficients from probit regressions of the likelihood of seeing a man or a woman placed in a safe, competitive or ‘no chance’ seat following to the 2005 reform. Dependent variable: a binary measure indicating whether a seat is safe (1 if uncertain, 0 otherwise), competitive (1 if uncertain, 0 otherwise) or ‘no chance’ (1 if uncertain, 0 otherwise). Individual characteristics (as described in Tables 3 and 4) are controlled for, as are individual sub-national experience in years and the number of candidates for the election year. District magnitude is controlled for here. We look at CL, C and CR parties here as we did not have enough power with the other parties for the estimations. The following symbols indicate different significance levels: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

### 23. Risk Aversion Measures

	M	F	Diff.	SE	Obs.
Measure 1: Conflict	1.3579	1.4080	0.0501***	0.0086	14352
Measure 2: Resilience	1.6580	1.5167	-0.1413**	0.0572	1610