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Women's Representation in Politics and Government Stability

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Abstract

Evidence from Italian municipalities indicates that government stability enhances when the share of female councillors increases while it weakens when that share is reduced. Results related to the 2012 gender quota imply that a higher share by 10 percentage points decreases the probability of early termination by 3 percentage points. This effect holds true even controlling for education levels of councillors, party concentration within the council, sex of the Mayor, and unobserved municipal characteristics; it becomes stronger when the municipality is headed by a female Mayor. Results obtained by exploiting the abolition of the 1993 gender quota confirm the relationship between government stability and females' representation. Taken together, our evidence suggests more willingness of females to settle disagreements and foster cooperation.

Keywords: Government Stability, Women in Politics, Cooperation, Gender Quotas.

JEL Classification: D74, J16, D72.

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1 Introduction

While women are still significantly underrepresented in politics, during the last decades their presence markedly increased both in developed and developing countries. Women parliamentarians worldwide have risen from 11.7% in 1997 to 24.9% in 2020; during the same period, women parliamentarians in Europe have increased by about 10 percentage points (EIGE, 2021; Women, 2020). The appointment of Kamala Harris as the 49th vice president of the United States—the first woman to achieve such top position—also contributed to the visibility of women as political leaders. Assessing the effects of higher women’s political representation has thus become of interest, regardless of the fact that policy commitment to equality between man and women is relevant for its own sake (Duflo, 2012). In this paper, we look at Italian municipalities and provide evidence on the relationship between local government stability and the share of female councillors.

Elections of local governments in Italy provide a helpful framework to investigate whether more women as policymakers do make a difference. We may rely on two events far apart in time determining, respectively, an exogenous drop and an exogenous increase in the share of female councillors. The variations induced by these events allow to control for the plausible endogeneity regarding women in leadership positions: they tend to be sorted in organizations with poorer outcomes (Gagliarducci and Paserman, 2015), appointed to precarious leadership positions (Xing et al., 2020), and elected into office during difficult times (O’Brien, 2015), thus inducing the likely false conclusion that worst accomplishments are due to women. In particular, Law No. 215, 2012, issued to foster women’s participation in local governments, determined a discrete jump in the share of female councillors (Baltrunaite et al., 2019); previously, the ruling of the Italian Constitutional Court in 1995 had, instead, determined a strong drop in this share. Moreover, we also notice that while the statutory duration of the city-council legislature is five years, at least since 2000, anticipated elections can be called because of well defined reasons. Information about such reasons allows to sort out episodes of early termination for political motivations from other ones. Therefore, we can investigate whether a change in the number of women has any effect on the intensity of political disagreement among local policymakers.

Two main characteristics of Law No. 215 are particularly useful for our purpose. First, the gender quota only applies to municipalities with more than

five thousands inhabitants and elections since 2013. Therefore, we can exploit temporal and spatial variations in the data (comparing municipalities above and below the threshold of inhabitants whose governments were elected before and after 2013). Second, people are entitled to vote for two candidates (instead of one) as long as of different gender. This contributed to increase women’s political representation without forcing all voters to choose between men and women, thus overcoming potential gender discrimination. In other words, exercising the right of double preference does not undermine the possibility to vote for a valid woman even when voters have stronger preference for men as councillors.

Our results show that a larger share of women among councillors reduces the probability of early termination of local governments for political reasons. Specifically, increasing female representation by 10 percentage points—due to the gender quota—reduces the probability of early termination by 3 percentage points. For comparison, the average probability of early termination of municipal councils before the introduction of the 2012 law was about 8.1%. In particular, this effect holds true in addition to any potential effect due to the higher education of elected women and controlling for differences across municipalities in female labor supply, unemployment, and concentration of political parties. Therefore, it supports the idea that female policymakers are better suited to cooperate for a common goal (Gagliarducci and Paserman, 2016) and that females reveal to be more cooperative than males possibly due to gender difference in self-confidence (Kuhn and Villeval, 2015). Moreover, our finding that the stability of governance is reinforced when female councillors interact with female mayor is in line with evidence by Gagliarducci and Paserman (2012) and accords with conclusions by Eckel and Grossman (2001), Baskaran and Hessesami (2018a), and Xing et al. (2020) overall suggesting that agreements among women are more easily achievable and that women cooperate more with women than with men.

Before Law No. 215, another law was already issued in 1993 to increase female political representation in local governments. Differently from the more recent one, however, the 1993 gender quota characterized all municipalities.¹ In September 1995, the law was declared unconstitutional because prejudicial to the principle of equal access to elective offices. As expected, by comparing councils formed before September 1995 and those formed during the last three months of the year—when elections were no more characterized by the gender

¹The law was issued together with a change in the electoral regime.

quota—a strong drop in the share of female councillors emerges: the abolition of the quota reduced female-elected councillors from more than 21% to less than 15%. In connection with this drop we find a clear increment in episodes of early termination.

The debate on whether gender matters in politics is ongoing (Hessami and da Fonseca, 2020). Previous results suggest that a higher share of female legislators increases electoral participation (De Paola et al., 2014), lowers numbers of low-educated elected men (Baltrunaite et al., 2014; Besley et al., 2017), positively affects adolescent girls ambitions (Beaman et al., 2012), and curbs the diffusion of corruption (Jha and Sarangi, 2018; Brollo and Troiano, 2016). Hence, beside ensuring equal opportunities and legitimate democracy, promoting women’s presence in politics seems to be beneficial for governmental quality.² We contribute to this literature suggesting that the share of female council members also contributes to enhancing political stability: less women fuel episodes of early termination while more women curb them.

The rest of the paper is organized as follows. Section 2 describes the data. Section 3 introduces the econometric framework and how potential endogeneity is addressed. Section 4 presents the results. Section 5 concludes.

2 Institutional Details and Data

The municipal government administration in Italy is in the hands of a Mayor and two public bodies, the Council and the Executive Committee. The size of each body is statutory according to population of municipality. The Council is an administrative and political body whose members exercise the legislative authority and finance the affairs of the municipality. The Mayor is responsible for the governance of the local administration as well as for public order, civil defense, electoral and registry offices, and other duties delegated by higher-order political body. The Executive Committee is appointed by, and cooperates with the Mayor; usually, management powers on specific sectors are attributed to

²In general, less clear-cut results emerge regarding the supply of public services when more women are policymakers (Bagues and Campa, 2021; Ferreira and Gyourko, 2014; Geys and Sørensen, 2019). Yet, female politicians seems to better address women’s needs, investing more in health and education (Chattopadhyay and Duflo, 2004; Clots-Figueras, 2011; Baskaran and Hessami, 2019; Casarico et al., 2019). Moreover, regarding private firms it has been found that those managed by women increase relative labor costs and employment levels (Matsa and Miller, 2013) while those with more gender-diverse boards allocate more effort to monitoring (Adams and Ferreira, 2009).

each member of this committee.³ Since 1993, councillors are elected with an open list system; they are elected by the citizens together with the Mayor. Up to the introduction of the gender quota in 2013, voters had one vote for one council candidate. From 1986 to 2016 about fifty thousands municipal Councils have been elected in Italy.

The statutory duration of the municipal administration is five years, except for the period 1993-99 when it was four years. However, legislatures can terminate before the natural end of the term for a number of reasons. Table 1 shows that more than one third of all Italian municipalities experienced at least one episode of city-council early termination.⁴ These municipalities are similar to the rest of the sample in terms of average education of their citizens and participation of females to the labor force. They, instead, differs in terms of average unemployment rate, which is higher among municipalities with greater government instability, and population. Table 2 also shows that the two groups of municipalities are quite different in terms of female presence among municipal councillors: a lower percentage of female councillors characterizes municipalities with at least one episode of early termination. In particular, females in municipalities that never experienced legislature early termination is about 20%, more than the presence in municipalities prematurely terminated only once which, in turn, is larger than the presence of women elected in municipalities that experienced more than one episode of early termination. Both differences are statistically significant a 1 percent level. On average, in municipalities experiencing more than one episode of early termination the percentage of females drop to 13.4%. A similar view is suggested by Figure 1 showing the frequency of early terminations for different intensity of females in the Councils. Early terminations decreases monotonically from 20% to 6.6% as the number of females increases.

An inside look at characteristics of the councillors by gender is reported in Table 3. We regressed the Council-level percentage of females on characteristics of the Council and the municipality; evidence in columns 1 and 2 refers to municipalities whose local governments have always reached the statutory date while that in columns 3 and 4 to the rest of the sample. The main results are those related to the dummy Mayor and the Herfindahl index. The

³For municipalities under 15 thousand inhabitants, the Executive Committee is nominated among the members of the Council, while for municipalities with 15 thousand inhabitants or more, the members of the Executive Committee can be also external to the Council.

⁴Since official information on early termination is available since 1990, local governments ruling previously have been considered prematurely dissolved if they lasted less than five years.

coefficient attached to the dummy Mayor is estimated positive not allowing for the municipality effect, otherwise it is negative. Therefore, municipalities characterized by more females among councillors also have more episodes of local governments headed by a female (see columns 1 and 3). However, a female mayor is associated with a *lower* number of females in the Council (see columns 2 and 4). This evidence applies to both groups of municipalities, even though it is stronger for municipalities not experiencing early terminations. It likely reflects the intent of political parties to balance their female mayoral candidate with predominantly male council candidates. Moreover, the Herfindahl index suggests a positive correlation with the presence of female councillors, that is more females are elected when the composition of the council is characterized by a lower number of political parties. Since councillors are elected according to both the received votes and the position in the party list, this result likely reflects women being placed at the bottom positions of party lists.⁵ Finally, results also suggest that female councillors are significantly younger and more educated than males; slightly less females are elected in their birth-province and slightly more are unemployed at election.

As we mentioned, different motivations can be attributable to early terminations. Some of them are the natural consequence of formal acts by the councillors, others are due to mayor's decision, and some others are unrelated to political motivations. The group of our main interest is composed of early termination episodes due to formal acts by the councillors explicitly aimed at the dissolution of the legislature, arguably because of political disagreements, that is Councillors' Resignation and No-Confidence Vote. These circumstances realize when either more than 50% of total councillors resigned or explicitly voted to force Mayor's Resignation.⁶ Therefore, they plainly depend on councillors' willingness to cooperate in the interest of preventing government instability and on their ability to settle disagreements. This group includes 2,700 cases, that is more than half of total number of episodes (see Table 4). Early terminations attributable to the Mayor are those due to Mayor's Resignation, Incompatibility, and Mayor's Removal. The residual group consists of the fol-

⁵Even when gender quotas are in place, their rules only refer to the number of women in the list, leaving the party free to place them at the bottom of the list. Thus, when many people are elected from the same party, it will be more likely to pick women.

⁶According to Law 267/2000, when more than 50% of the councillors resign simultaneously the legislature must be stopped. Formally, it ends up when the President of the Republic issues a decree upon recommendation of the Ministry of Interior; a commissioner rules the municipality until the next election. The election will take place in the first electoral round prescribed by the national schedule (usually in spring).

lowing categories plausibly unrelated to political motivations: Financial Statement Rejection, Mayor’s Death, Mafia infiltration in city council, and not-coded reasons.

We recognize that sometimes the rejection of financial statement, formally related to technical assessments regarding the municipal budgetary situation, is achieved to ending the legislature because of disagreements among political parties. Therefore, in the following we check the robustness of our results by adding episodes of Financial Statement Rejection to our group of interest. Since they are few in numbers, our results are not at all due to the way they are considered. Moreover, we notice that early termination due to mafia infiltration is unrelated to councillors’ decisions because it takes place when “*evidence emerges regarding direct or indirect links between members of the local government and criminal organisations [...] jeopardising the free will of the electoral body and the sound functioning of the municipal administration*” (D.L. 31/05/1991 No. 164). Therefore, this circumstance is unrelated to political disputes within the majority coalition or between the latter and the opposition coalition. Anyway, although there is no specific evidence on early termination for mafia we also notice that the relationship between early termination for corruption and women’s presence in municipal bodies, if any, would be negative (Dollar et al., 2001; Jha and Sarangi, 2018). Hence, not accounting for this relationship will penalize our main evidence.

All reasons together imply an average early termination probability of roughly 11%. In the following, we provide evidence on early terminations attributable to councillors and mayor, separately. In particular, for the baseline evidence we drop cases due to Mayor’s Death, Mafia infiltration, and Financial Statement Rejection, while those without information on the reasons are considered part of the untreated group.

2.1 Gender Quota for Local Elections

Figure 2 depicts the yearly average of female councillors—as percentage of total councillors—across municipalities. Over the years 1985-2015, the percentage of females increased sixfold reaching more than 26% at the end of the sample, a value quite similar to female representation in municipal political bodies of European countries. In particular, women councillors sharply increased as a consequence of the two laws issued in 1993 and 2012, respectively, aiming to promote gender equality in local governments.

The number of females in local political bodies markedly increased in the last part of the sample. According to Law No. 215/2012, since 2013 constituents of councillors in municipalities with at least five thousand inhabitants are allowed to vote for two candidates of a given party list as long as of different gender, otherwise the second vote would be cancelled. Moreover, the same law also prescribes that no more than $2/3$ of the candidates of an electoral list can be of the same sex. By mitigating voters' potential gender discrimination, this provision turned out to be particularly effective to raise the number of elected females. In particular, since the law only applies to a subset of municipalities we can implement an instrumental variable difference-in-difference strategy, to investigate the effect of a sudden increase in women's councillors on the stability of local government.

Law No. 81/1993 established that in municipalities with more than 15,000 inhabitants no more than $2/3$ of candidates of a given party list to municipal Council could be of the same sex; in smaller municipalities the threshold was fixed at $3/4$. While this law was formally addressed to change women's presence in electoral lists, its likely consequence was to increase the number of elected women (De Paola et al., 2010). However, since it applied to all municipalities and overlapped with relevant changes in electoral system (from a party-ballot to an individual ballot election of the mayor), it is poorly suited to ascertain the causal effect of more woman on government stability.⁷

In September 1995, the Constitutional Court declared the gender quota unconstitutional because prejudicial to the equal access to elective offices (Art. 3 and 51 of the Italian Constitution) and it was repealed. Therefore, by relying on this very peculiar occurrence we can exploit the potential variation in the number of women elected soon after the abrogation of the gender quota. Actually, although in 1995 many municipalities voted during the period of validity of the quota, a relevant number of Councils were elected in the last part of the year.

3 Econometric Framework

To uncover the effect of gender composition in municipal government on early termination, we consider all city councils elected during the period 1986-2015

⁷Moreover, at the time of the 1993 gender quota the well known set of judicial inquiries, called by the media 'Mani Pulite', revealed the massive diffusion of corruption within the Italian political and entrepreneurial system, determining the collapse of the leading parties.

and estimate the following empirical specification:

$$EARLY_{i,t} = \sigma_i + \delta_t + \beta FEMALE_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t} \quad (1)$$

where $EARLY_{i,t}$ is a dummy variable whose value is 100 if the Council of municipality i elected in the year t terminated before the natural end of the legislature, and 0 otherwise; $FEMALE_{i,t}$ is the percentage of females among councillors; $X_{i,t}$ is a vector of time-varying control variables (and thus γ a vector of coefficients); σ_i is a municipality fixed effect; δ_t is a time fixed effect; $\varepsilon_{i,t}$ is an idiosyncratic error term.

In principle, two major controls need to be considered in our analysis. The degree of government stability is reputedly related to the distribution of councillors among parties or the size of the majority party in the Council. If, say, the majority party is characterized by a relatively large share of women, then we may mistakenly attribute greater stability to large share of women. To control for this possibility, the empirical specification contains the Herfindahl index of party concentration within the Council. Another potential major issue is related to the education of the councillors. As pointed out by Table 3, female councillors in our sample are on average more qualified than their male colleagues. Since the quality of government and, eventually, its stability is also determined by the level of education (Glaeser et al., 2004; Fortunato and Panizza, 2015), a higher number of women among councillors might be correlated with the government stability.

In addition, we also include controls related to councillors' age and occupation, a dummy identifying councillors elected in their birth-province, a dummy picking the sex of the Mayor—given its suggested impact on the probability of early termination (Gagliarducci and Paserman, 2012)—and municipal-level regressors, that is labour-force participation rate of females, unemployment rate, percentage of educated citizens, and size of population. The panel structure of the data set allows to take into account systematic differences in government stability across municipalities as well as any time-specific shock affecting the election outcomes of a given year.⁸

⁸All results are robust to the exclusion of municipalities that were not part of the same province during the sample period.

3.1 Endogeneity and Gender Quota

In order to address the endogeneity characterizing our key regressor (Gagliarducci and Paserman, 2015; Xing et al., 2020), we mainly rely on the sharp increase in female councillors that followed the Law No. 215/2012. In particular, we identify local governments elected in municipalities with more than five thousand inhabitants after 2012 as the treatment group and those elected before this year together with those related to smaller municipalities as the control group.

Specifically, we recover the difference-in-difference variation in female councillors due to the law by estimating the following first stage regression:

$$FEMALE_{i,t} = \sigma_i + \delta_t + \delta LAW2012_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t} \quad (2)$$

where $LAW2012_{i,t}$ is a dummy variable with values equal to one for treated observations and 0 otherwise. Hence, the 2SLS estimate of β in equation 1 provides our measure of the female effect on government stability.⁹

4 Results

Tables 5 and 6 present our basic results relative to the full sample. In particular, Table 5 presents the first stage while 6 the second stage; the first two columns refer to councillors-related early terminations, the rest of the table to mayor-related early terminations. In columns 1 and 3 we report results without controls for characteristics of the councillors.

As expected, the 2012 law was particularly effective in increasing female representation within municipal administrations: because of the gender law favoring female participation in local governments, the average percentage of females among councillors increased by about 10 percentage points, whatever the group considered. The t-statistics is extremely high, reassuring about weak instrument concern. Results relative to the control variables are clearly in line with what we observed above: female politicians have on average a higher level of education; their presence in the council tends to reduce when the mayor is female and to increase with parties concentration.

Focusing on the second stage, it follows an estimate of the key coefficient

⁹Chesher and Rosen (2013) show that with dummy outcome variable the 2SLS estimator is still consistent for the local average treatment response under the standard restrictions of Imbens and Angrist (1994).

negative and statistically significant—at the 1% level—only in the case of early terminations related to councillors’ decisions. Its magnitude implies that the increment of females determined a reduction in the probability of early termination by about 3 percentage points. This effect is robust to the inclusion of controls for council characteristics which only slightly affect the point estimate of the coefficient, from -0.29 to -0.33 . Given the number of early terminations in the sample, we conclude that the introduction of the double preference voting conditional on gender and the gender quota in electoral lists determined a reduction in the probability of early termination by about 30%.

Evidence on controls suggest that education of the councillors is positively correlated with the probability of early termination perhaps because more educated councillors have better outside options, thus they are less ‘scared’ to loose the role of public administrator. Age is negatively correlated with early termination that is, *ceteris paribus*, more stable governments are those with older councillors. We do not find any effect of the number of parties in the council. Hence, even when we control for a number of features of municipal council determined by the share of females, we still find a distinctive effect on early termination imputable to the variable Female.

For Italian city councils during 1993-2003, [Gagliarducci and Paserman \(2012\)](#) find higher probability of early termination when the mayor is female. Our evidence relative to the Mayor dummy is consistent with their result, though it implies a bit smaller effect. Quite relevant, controlling for the sex of the Mayor does not affect the coefficient on female councillors. According to our estimates, the stability effect to the governance induced by the 2012 law is stronger than the instability associated with a female mayor. In this sense, the law seems to have really contributed to increase local government stability. Consistent with this conclusion, we also notice that by interacting the variables Female and Mayor the attached coefficient is estimated negative and significant at 5 percent level—results not reported—suggesting a potential amplifying effect to the performance of an organization when women play different roles at the top echelons of an organization ([Xing et al., 2020](#)).

A completely different picture emerges when we look at episodes of early terminations related to the mayor. None of the main coefficients of the second stage regression is estimated statistically significant at the 5 percent level. In particular, the coefficient of the dummy Mayor is virtually zero; the coefficient of Female is even *positive*. Arguably, this evidence supports our conclusion that by increasing the presence of females in the council the 2012 law has contributed

to the reduction of early terminations determined by councillors' political decisions, consistent with potential differences by gender in the ability to foster cooperation and settle disagreements in a forum.

4.1 Further Results

In this section, we further investigate the properties of our empirical model. Specifically, we analyze the influence of special status regions and the implications of restricting our sample to municipalities more closely in terms of size and to recent years.

Five Italian regions, *Valle d'Aosta*, *Trentino-Alto Adige*, *Friuli-Venezia Giulia*, *Sicilia*, and *Sardegna*, are recognised by the Constitutional Chart as regions with special status which allows, among others, more independence in the governance of local institutions. In particular, circumstances leading to local government's early termination are regulated by regional laws. For instance, the official decree of local government's dissolution is issued by the President of the Region instead of the President of the Republic. Table 7, column 1, presents the 2SLS results when early terminations are related to councillors and regions with special status are dropped. Results are virtually unaffected.

In column 2, we further restrict the sample to municipalities whose population is in the range 3-15 thousands of people. Electoral rules in municipalities with more than 15 thousands people are a bit different compared to those legal in the rest of the country. Moreover, municipalities with less than 3 thousands people share a different rule relative to the election of the Executive Committee compared to all others.¹⁰ Therefore, we drop these two groups of municipalities from the sample. Notice that in doing so we also restrict the sample to municipalities more closely in size to the threshold determining the 2012 gender law for local elections, in the spirit of a regression discontinuity analysis. Clearly, even in this case the key coefficient remains negative, statistically significant, and only slightly different in size. The main difference attains at the coefficient of the dummy Mayor which becomes insignificantly different from zero.

¹⁰Municipalities with less than 15 thousands inhabitants follow a single-ballot rule, that is, the mayoral candidate who received the relative majority is elected; moreover, no coalition of electoral lists is allowed. Municipalities with more than 15 thousands inhabitants follow a dual-ballot rule: candidates can be supported by a plurality of lists and the candidate who gets an absolute majority is appointed to be the mayor. If no candidate receives more than 50% of the votes, then the two candidates who gets the higher number of votes face a second round. With reference to the Executive Committee, in municipalities with more than 3 thousands inhabitants no more than 60% of the members can be of the same sex (Law No. 56/2014).

In the last column of Table 7 we show the effects of restricting the sample to the shortest possible period to implement our analysis. Our main findings still hold. Overall, these results confirm our main conclusion regarding the impact of the 2012 gender law on government stability.¹¹

4.2 The case of the 1993 Law

During 1993-94, all local governments in Italy were elected according to Law No. 81, 1993, which introduced a gender quota favouring females. However, in September 1995 the gender quota was abolished whereby elections during the last three months of the year were carried out without that provision. We rely on this circumstance to further investigate the impact of female participation in politics. In particular, we estimate equation (1) restricting the sample to 1995 and exploiting the following first stage regression:

$$FEMALE_i = \beta LAW1995_i + \gamma X_i + \varepsilon_i \quad (3)$$

where $LAW1995_i$ is a dummy variable accounting for municipalities that voted after the abolition of the gender quota.

Figure 3 summarizes the main evidence. As expected, revocation of gender quota had a relevant impact on women election: municipalities that voted without the gender quota show a markedly lower female representation in local councils compared to municipalities that voted before the revocation, that is 15.1% vs. 21.5%. Looking at the probability of early termination, the corresponding figures are roughly 20% and 7%.

A closer analysis of the municipalities that voted in 1995 after revocation of the quota reveals that 64% of them had elections not because the former government naturally ended but because it was dismissed. This finding could arise concerns related to the potential self-selection of municipalities inherently more unstable in the group that voted after September 1995. However, this concern does not find support in the data. In fact, comparing local governments elected in 1995 because the previous legislature naturally ended with the ones elected because the former administration was dismissed, it turns out that the difference in the probability of early termination between the two groups is not statistically significant. Therefore, the high probability of early termination of local governments elected after the revocation of the gender quota—as shown

¹¹Table 8 shows results when early terminations are attributable to Mayor. Evidence is in line with that relative to the full sample.

in Figure 3—seems completely unrelated to the sizeable presence in this group of municipalities whose former government terminated early.

Table 9 and 10 present respectively first and second stage regression results. The first two columns refers to councillors-related early terminations, the rest of the table to all the remaining early termination episodes, including Mayor’s Death, Financial Statement Rejection and Mafia. In columns 1 and 3 we report results without controls for characteristics of the councillors. In all regressions, standard errors are robust to heteroscedasticity. First stage estimations show that, regardless of the specification, local governments elected after the law repeal have a significantly lower female representation among councillors: about 5 percentage points fewer females including control variables. Second stage results deliver an estimate of the key coefficient which is negative and statistically significant only for councillor-related early terminations, suggesting that reducing female representation negatively affects the stability of the government. In particular, a 5 percentage points reduction in females tends to increase the probability of early termination by 5.5 percentage points. All other results are in line with those of the previous analysis. In particular, the coefficient on the sex of the Mayor is positive and significant (only for councillor-related early terminations); the average education level of the councillors has a positive and highly significant effect on the probability of early termination; the party concentration within the Council has no significant effect on government’s probability of early termination.

5 Conclusion

We contribute to the debate on the impact of females in leadership positions by investigating the government stability in Italy at municipality level. A law issued in Italy to foster female participation in politics determined a strong increase in the share of females elected as councillors of municipal governments. This discrete shift— by about 10 percentage points—determined a reduction in the probability of legislature’s premature end by roughly 30%.

The estimated effect is obtained controlling for a variety of councillors’ characteristics (such as education, age, and occupation) and for the municipality-level fixed effect. It does not hold when early terminations do not depend on councillors’ behavior; it is reinforced when female councillors interact with a female Mayor. Taken together, these results point to the potential increase in

cooperation due to females, as previously suggested by [Gagliarducci and Paserman \(2016\)](#) and [Baskaran and Hessami \(2018b\)](#), among others.

Since political instability decreases investment ([Darby et al. 2004](#)), worsens the quality of institutions ([Aron, 2000](#)), and ultimately reduces GDP growth ([Alesina et al., 1996](#); [Aisen and Veiga, 2013](#)), our results have implications for the relationship between gender bias and the performance of an economy. The recent worldwide increasing trend in female political representation should be favorably seen on an economic ground, too.

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APPENDIX

A List of Variables

In the following we specify the definition and the source of all the variables used in our paper.

Early: Dummy variable indicating if the local government terminated before the statutory end of the term. It takes value of 100 if the local government has been subject to early termination and 0 otherwise. Source: Ministry of Interior.

Female: Percentage of females among the councillors. It is computed as $100 * (\text{Number female councillors}) / (\text{Total number of seats in the Municipal Council})$. Source: Ministry of Interior.

Law2012: Dummy variable capturing the elections in which voters could express a double preference conditional on gender and electoral lists were subject to gender quotas; that is, the two main novelties introduced by law no. 215/2012. It takes value of 1 for local governments elected after December 2012 in municipalities with at least five thousand inhabitants, 0 otherwise.

Law1995: Dummy variable capturing the local governments elected after gender quota provision of law no. 81/1993 was repealed. It takes value of 1 for local governments elected after September 1995, and 0 for local governments elected before September 1995.

Education: Average education level of Municipal Council members. For each member of the local government, the years of education are computed considering the minimum number of years required to obtain her/his reported qualification: 0 if ‘no qualification’, 3 if ‘three years of primary school’, 5 if ‘5 years of primary school’, 8 if ‘secondary school, first level’, 13 if ‘secondary school, second level’, 16 if ‘bachelor’s degree’, 18 if ‘master’s degree’, 21 if ‘PhD degree’. Source: Ministry of Interior.

Age: Average age of Municipal Council members. Source: Ministry of Interior.

Herfindahl: Herfindahl index of political party concentration within the Council; it is computed by summing the squares of each party’s share in the Council. It takes value from 0 to 1 where 1 stands for maximum concentration, that is all the councillors belong to the same party. Source: Ministry of Interior.

Unemployment: Percentage of councillors that did not have an occupation (at election). Source: Ministry of Interior.

Birth-province: Percentage of councillors elected in their birth-province. Source: Ministry of Interior.

Municipal labour-force participation rate of females: Percentage rate of municipal labour force participation for women; that is, the percentage of active female population (employed or actively seeking employment) with respect to the whole female working-age population (aged 15-64). Source: Censuses data, National Institute of Statistics (ISTAT).

Municipal unemployment rate: Percentage rate of municipal unemployment. Source: Censuses data, National Institute of Statistics (ISTAT).

Percentage of educated citizens: In a municipality, it is the percentage of citizens with a qualification over the total population. Source: Censuses data, National Institute of Statistics (ISTAT).

Pop_5k: Dummy variable taking value of 1 for local government elected in municipalities with a population greater than or equal to five thousand inhabitants, and 0 otherwise. Source: National Institute of Statistics (ISTAT).

Population: Number of citizens of a municipality, in thousands. Source: National Institute of Statistics (ISTAT).

B Early Termination Episodes

A legislature can terminate before the natural end of the term for several reasons, broadly classifiable in two groups: the ones related to political motivations and the ones unrelated to political motivation (Table [A1](#)). In the first group, early termination episodes can be driven by councillors' decision or Mayor's decision. Our main interest is on early terminations due to formal acts by the councillors explicitly aimed at the dissolution of the legislature, arguably because of political disagreements, that is Councillors' Resignation and No-Confidence Vote. These circumstances realize when either more than 50% of total councillors resigned or explicitly voted to force Mayor's Resignation. Therefore, they plainly depend on councillors' willingness to cooperate in the interest of preventing government instability and on their ability to settle disagreements. This group includes 2,700 cases, that is more than half of total number of episodes. Early terminations attributable to the Mayor are those due to Mayor's Resignation, Incompatibility, and Mayor's Removal, accounting for 1037 cases. In fact, these episodes result from a mayoral decision, respectively of stepping down, under-

taking a different job and committing serious infringements.¹² The residual group consists of the following categories plausibly unrelated to political motivations: Financial Statement Rejection, Mayor's Death, Mafia infiltration in city council, and not-coded reasons. Financial Statement Rejection is mainly due to technical assessments regarding the municipal budgetary situation; Mafia infiltration realizes when “*evidence emerges regarding direct or indirect links between members of the local government and criminal organisations [. . .] jeopardising the free will of the electoral body and the sound functioning of the municipal administration*” (D.L. 31/05/1991 No. 164); lastly, there are 317 early termination episodes without any indication of the underlying reason.

¹²For example, the Mayor is removed whenever she/he is charged for a crime.

Table A1: Early Terminations

	Freq.	Percent	Description
Related to Political Motivations			
Councillors' Decision			
<i>Councillors' Resignation</i>	2,541	50.84	More than 50 percent of councillors resign.
<i>No-Confidence Vote</i>	159	3.18	The councillors vote to force the Mayor out from his office.
Mayor's Decision			
<i>Mayor's Resignation</i>	740	14.81	The Mayor steps down from her/his office.
<i>Mayor's Removal</i>	30	0.60	The Mayor is removed after committing serious infringements.
<i>Incompatibility</i>	267	5.34	The Mayor undertakes some activities not compatible with her/his office.
Unrelated to Political Motivations			
<i>Mayor's Death</i>	408	8.16	The Mayor dies.
<i>Financial Statement Rejection</i>	190	3.80	The councillors do not approve the final municipal budget.
<i>Mafia</i>	292	5.84	The administration is dismissed for suspected mafia infiltration.
<i>Not-coded</i>	371	7.42	Early termination episodes without any indication of the underlying reason.
Total	4998	100.00	

Notes: The percentages are relative to the total number of local governments terminated early.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Median
Panel A.			
Municipalities without early termination episodes: 4615			
<i>Citizens with qualification</i> (%)	89.2	6.0	91.3
<i>Unemployment rate</i> (%)	9.5	7.8	6.7
<i>Labour force female participation</i> (%)	37.7	8.7	38.3
<i>Population</i> (Total)	4,181.7	14,666.8	1,860
Panel B			
Municipalities with at least one early termination episode: 3105			
<i>Citizens with qualification</i> (%)	87.4	6.4	89.2
<i>Unemployment rate</i> (%)	13.5	9.5	10.5
<i>Labour force female participation</i> (%)	35.9	8.0	35.6
<i>Population</i> (Total)	12,236.0	65,194.3	3,976

Notes: Panel A refers to municipalities whose local governments have never been subject to early termination while Panel B refers to municipalities where at least one local government terminated early. *Citizens with qualification* is the percentage of citizens with a qualification with respect to the total municipal population. *Unemployment rate* is the municipal percentage rate of unemployment. *Labour force female participation* is the municipal percentage rate of labour force participation for women. *Population* is the number of citizens of a municipality.

Table 2: Mean Difference Tests

	Early Terminations per Municipality		
	0	1	> 1
Female	19.89%	17.47%	13.40%
Difference		2.42***	4.06***

Notes: Municipalities are pooled according to the number of early termination episodes: zero, one, more than one. The first row reports the percentage of female councillors in each group; the second row reports the difference in the percentage of females between groups. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table 3: Women in Local Governments

	(1)	(2)	(3)	(4)
	Municipalities with Early Termination			
	No	No	Yes	Yes
Mayor	0.87*** (3.36)	-1.85*** (-6.93)	1.75*** (5.27)	-0.63* (-2.02)
Education	0.54*** (9.50)	1.02*** (14.50)	0.10 (1.49)	0.97*** (11.41)
Age	-0.41*** (-19.48)	-0.43*** (-19.29)	-0.45*** (-17.12)	-0.47*** (-16.50)
Herfindahl	0.72* (2.22)	1.74*** (5.50)	3.56*** (10.27)	2.40*** (6.68)
Unemployment	1.09*** (5.00)	0.76*** (3.53)	1.40*** (5.83)	1.05*** (4.67)
Municipality Effect	No	Yes	No	Yes
Observations	26,773	26,773	18,663	18,663

Notes: The table presents results of regressing the percentage of women among councillors on a number of covariates relative to the Council and the municipality. Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Unemployment is the percentage of councillors that did not have an occupation (at election); Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council. Further regressors are: a dummy identifying councillors elected in their birth-province, a dummy identifying municipalities with at least five thousands inhabitants, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. All empirical specifications control for year fixed effect. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table 4: Reasons of Early Termination

	Attributable to		Other	All
	Councillors	Mayor		
Number	2,700	1,037	1,261	4,998
Percent	5.91	2.27	2.76	10.94

Notes: Reasons of early terminations attributable to councillors are to those caused by their political decisions and willingness to cooperate: Councillors' Resignation and No-Confidence Vote. Those attributable to Mayor are Mayor's Resignation, Mayor's Removal, Incompatibility. The residual group consists of the following categories: Financial Statement Rejection, Mayor's Death, Mafia infiltration in city council, and other not-coded reasons. Percent values are relative to the total number of local governments in the data set.

Table 5: Government Stability and Women

	(1)	(2)	(3)	(4)
	First Stage			
	Councillors		Mayor	
Law2012	10.38*** (26.37)	9.86*** (25.37)	10.47*** (26.41)	9.89*** (25.28)
Mayor		-1.44*** (-7.00)		-1.47*** (-6.89)
Education		1.03*** (18.97)		1.04*** (18.57)
Age		-0.43*** (-24.25)		-0.42*** (-23.41)
Herfindahl		1.69*** (6.81)		1.69*** (6.59)
Unemployment		0.88*** (5.55)		0.81*** (4.96)
Observations	43,661	43,636	42,050	42,010

Notes: The table presents results of first stage estimations. The first two columns refer to councillors-related early terminations, the rest of the table to mayor-related early terminations. In columns 1 and 3 we report results without controls for characteristics of the councillors. The dependent variable is the percentage of females among councillors; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further regressors are: a dummy identifying councillors elected in their birth-province, a dummy identifying municipalities with at least five thousands inhabitants, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. All empirical specifications control for municipality fixed effect and year fixed effect. Clustered t-statistics that account for within-municipality correlation are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Table 6: Government Stability and Women

	(1)	(2)	(3)	(4)
	Second Stage			
	Councillors		Mayor	
Female	-0.29*** (-3.74)	-0.33*** (-3.95)	0.11 (1.80)	0.13 (1.91)
Mayor		1.75*** (3.47)		0.21 (0.65)
Education		0.38** (2.63)		-0.18 (-1.68)
Age		-0.19*** (-3.62)		0.05 (1.36)
Herfindahl		-0.22 (-0.34)		-0.60 (-1.47)
Unemployment		0.59 (1.42)		-0.31 (-1.16)
Observations	43,661	43,636	42,050	42,010

Notes: The table presents results of second stage estimations. The first two columns refer to councillors-related early terminations, the rest of the table to mayor-related early terminations. In columns 1 and 3 we report results without controls for characteristics of the councillors. The dependent variable is a dummy equals to 100 if the council terminated before the natural end of the legislature; Female is the percentage of females among councillors; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further regressors are: a dummy identifying councillors elected in their birth-province, a dummy identifying municipalities with at least five thousands inhabitants, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. All empirical specifications control for municipality fixed effect and year fixed effect. Clustered t-statistics that account for within-municipality correlation are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Table 7: Further Results on Government Stability, A

	(1)	(2)	(3)
	Ordinary	Population	2008-15
Female	-0.31*** (-3.68)	-0.28** (-2.75)	-0.30** (-2.91)
Mayor	1.81*** (3.41)	1.31 (1.46)	1.20 (1.10)
Education	0.40** (2.64)	0.68* (2.52)	-0.41 (-1.34)
Age	-0.14** (-2.61)	-0.10 (-0.96)	-0.29** (-2.71)
Herfindahl	-0.40 (-0.54)	0.38 (0.27)	-0.03 (-0.01)
Unemployment	0.39 (0.84)	0.64 (0.74)	2.51 (1.80)
Observations	38,582	13,520	8,717

Notes: The table presents second stage estimations when early terminations are related to councillors' decisions. Under the heading Ordinary we report results restricting to regions with special status; under the heading population we also restrict the sample to municipalities whose population is in the range 3-15 thousands of people; under the heading 2008-15 we further restrict the sample to the period 2008-2015. The dependent variable is a dummy equals to 100 if the council terminated before the natural end of the legislature; Female is the percentage of females among councillors; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further regressors are: a dummy identifying councillors elected in their birth-province, a dummy identifying municipalities with at least five thousands inhabitants, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. All empirical specifications control for municipality fixed effect and year fixed effect. Clustered t-statistics that account for within-municipality correlation are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Table 8: Further Results on Government Stability, B

	(1)	(2)	(3)
	Ordinary	Population	2008-15
Female	0.13 (1.88)	0.10 (1.21)	0.01 (0.12)
Mayor	0.25 (0.71)	-0.35 (-0.70)	-1.39 (-1.47)
Education	-0.20 (-1.72)	-0.18 (-0.97)	0.23 (0.87)
Age	0.05 (1.18)	0.04 (0.50)	0.11 (1.21)
Herfindahl	-0.58 (-1.26)	0.13 (0.14)	2.60 (1.86)
Unemployment	-0.35 (-1.13)	-0.16 (-0.30)	0.72 (0.67)
Observations	37,074	12,768	8,449

Notes: The table presents second stage estimations when early terminations are related to Mayor. Under the heading Ordinary we report results restricting to regions with special status; under the heading population we also restrict the sample to municipalities whose population is in the range 3-15 thousands of people; under the heading 2008-15 we further restrict the sample to the period 2008-2015. The dependent variable is a dummy equals to 100 if the council terminated before the natural end of the legislature; Female is the percentage of females among councillors; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further regressors are: a dummy identifying councillors elected in their birth-province, a dummy identifying municipalities with at least five thousands inhabitants, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. All empirical specifications control for municipality fixed effect and year fixed effect. Clustered t-statistics that account for within-municipality correlation are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Table 9: Early Termination and Women in 1995

	(1)	(2)	(3)	(4)
	First Stage			
	Councillors		Other	
Law1995	-5.79*** (-6.21)	-5.07*** (-5.61)	-5.75*** (-5.91)	-4.96*** (-5.24)
Mayor		-0.36 (-0.66)		-0.21 (-0.39)
Education		0.06 (0.60)		0.08 (0.81)
Age		-0.45*** (-11.32)		-0.43*** (-10.92)
Herfindahl		2.51*** (4.18)		2.43*** (4.04)
Unemployment		0.16*** (4.45)		0.16*** (4.38)
Observations	5,137	5,137	5,095	5,084

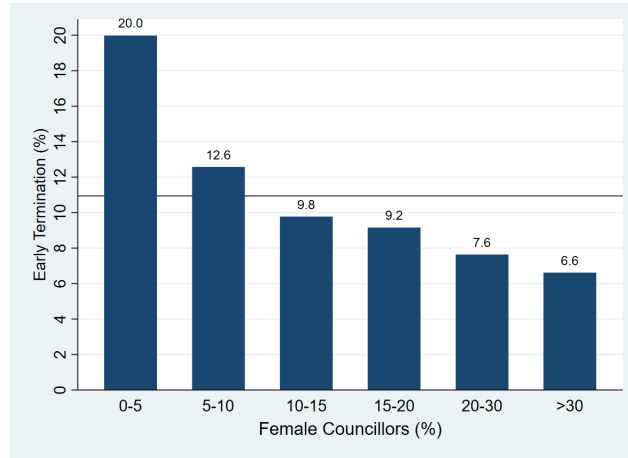
Notes: The table presents results of first stage estimations. The first two columns refers to councillors-related early terminations, the rest of the table to all the remaining early termination episodes, including Mayor's Death, Financial Statement Rejection and Mafia. In columns 1 and 3 we report results without controls for characteristics of the councillors. The dependent variable is the percentage of females among councillors; Law1995 is a dummy equals to 1 for local governments elected during the last three months of 1995; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further controls are: a dummy identifying councillors elected in their birth-province, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. Robust t-statistics are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Table 10: Early Termination and Women in 1995

	(1)	(2)	(3)	(4)
	Second Stage			
	Councillors		Other	
Female	-1.02*	-1.09*	-0.64	-0.76
	(-1.85)	(-1.72)	(-1.33)	(-1.35)
Mayor		2.83*		0.48
		(1.86)		(0.40)
Education		0.42**		0.41**
		(2.08)		(2.29)
Age		-0.40		-0.27
		(-1.34)		(-1.06)
Herfindahl		0.01		2.96
		(0.00)		(1.62)
Unemployment		-0.04		-0.01
		(-0.28)		(-0.05)
Observations	5,137	5,137	5,095	5,084

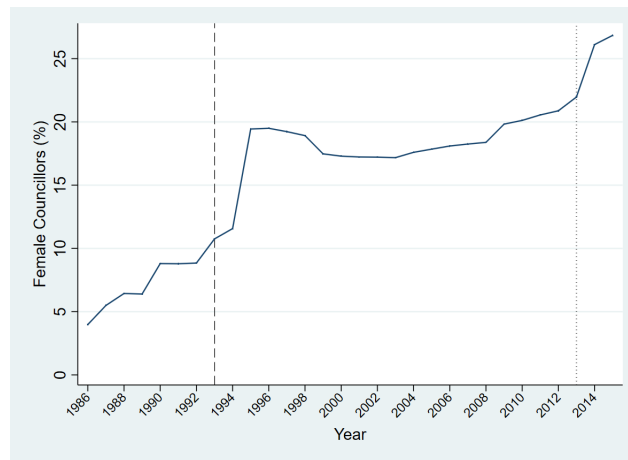
Notes: The table presents results of second stage estimations. The first two columns refers to councillors-related early terminations, the rest of the table to all the remaining early termination episodes, including Mayor's Death, Financial Statement Rejection and Mafia. In columns 1 and 3 we report results without controls for characteristics of the councillors. The dependent variable is a dummy equals to 100 if the council terminated before the natural end of the legislature; Female is the percentage of females among councillors; Mayor is a dummy equals to 1 for female Mayor; Education refers to the average years of education of councillors; Age is the average age of councillors; Herfindahl is the Herfindahl index of political party concentration in the Council; Unemployment is the percentage of councillors that did not have an occupation (at election). Further controls are: a dummy identifying councillors elected in their birth-province, municipal population, municipal labour-force participation rate of females, municipal unemployment rate, percentage of educated citizens in the municipality. Robust t-statistics are in parentheses. Significance is denoted as follows: * significant at the 10% level; ** significant at the 5% level; ***significant at the 1% level.

Figure 1: Early Termination and Women in Local Governments



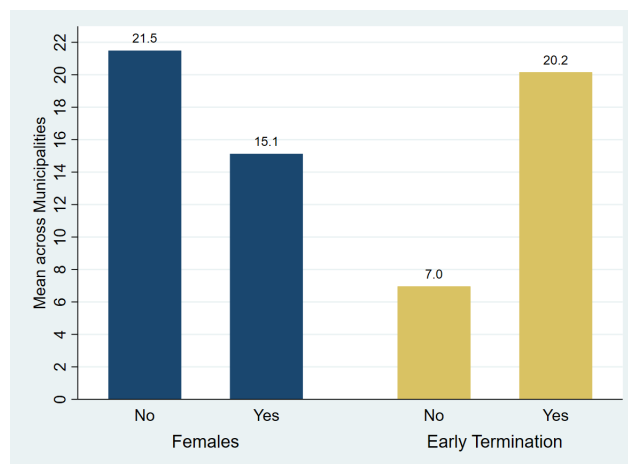
Notes: Percentage of early terminations in municipal administrations according to the percentage of females in their councils. The horizontal line represents the percentage of early terminations in the whole sample.

Figure 2: Women in Local Governments



Notes: The average percentage of females each year is computed across local councils of all the Italian municipalities. The dashed line and the dotted line mark the introduction of respectively the gender quota law and the double preference voting law, the two main reforms on female political representation over the considered time-frame.

Figure 3: Early Termination and Women in 1995



Notes: Local governments elected in 1995 have been divided in two groups: the first one (Treated= No) is made of local governments elected before gender quota abolition; the second one (Treated= Yes) is made of local governments appointed after law no. 81/1993 was abolished. The figure shows the percentage of early termination cases and the percentage of female councillors in local governments.