Female Mayors and Gender Policies in a Developed Country **

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Abstract

We study whether female mayors in Spain are more likely to engage in gender sensitive policies such as long-term care support for families, preschooling, or work and family life balancing services. Using panel methods and a fuzzy regression discontinuity design which focuses on mixed electoral races for the 2007 and 2011 municipal elections, we find no evidence of female mayors being more likely to implement these policies at the local level. The results are consistent across specifications. Conversely, we do find significant and robust evidence of differences between parties in the probability of implementing these policies, suggesting that the gender of the politician is less important than partisan or ideological position when it comes to these policy levers. Our results inform discussions on the impact of female representation on gender policies.

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1. Introduction

Women are under-represented in top political positions in the vast majority of countries, be it in national politics or at the local level.[1] That said, recent decades have seen an increase in the representation of women in leadership positions in government.

The increase in female representation can be relevant for (at least) two reasons. It may have symbolic consequences, by changing the attitudes of voters and the general public towards other women inside and outside politics (Beaman et al., 2012). In addition, if the identity of politicians matters for policies (as in Besley and Coate (1997), Osborne and Slivinski (1996)), it might be the case that female leaders choose different policies from their male counterparts.

Women experience some phenomena in an idiosyncratic manner such as sexual and domestic violence, labour discrimination (Goldin and Rouse (2000)), pay and employment gap (Olivetti and Petrongolo (2008)) or caring activities within the family to cite a few examples. Furthermore, it is known that at the household level, women attend better the necessities of other female members of the family (Duflo (2003), Thomas (1990)). Hence, if gender is a relevant identity trait, and if the identity of politicians matters for policy, it might well be the case that women attend better these gender specific phenomena.

Our paper attempts to answer this question by focusing on the application of three gender-sensitive policies in Spanish municipalities between 2010 and 2014. By focusing on mixed-gender electoral races defined by a narrow margin we implement a regression discontinuity design (RDD) that provides credibly exogenous variation in the gender of the municipal mayor. Our results indicate there is no statistical difference in the implementation of gender sensitive policies between male and female mayors. Using an analogous approach, we do find significant differences in policy-making across parties. Reassuringly, our RDD are broadly consistent with results obtained using an alternative municipal fixed effects specification.

Studies on the effect of female leaders on policy choices are abundant and cover both a wide variety of policies and several countries. Chattopadhyay and Duflo (2004) use randomization of women reserved mayoralties on Indian villages to find that they attend better formal requests to local councils presented by female villagers. Also in the context of India, Clots-Figueras (2011) shows female politicians from low castes favour female-friendly policies. In particular, the reform of the Hindu succession act which gave women the same succession rights as men. A common characteristic between both of these studies is that they are able to study policies which have a specific gender component. Unfortunately, the policies under study are somewhat specific to the Indian context. This limits the possibility to extrapolate results of the effect of female politicians on gender-friendly policies to other countries.

Much of the subsequent literature studying the effect of politicians' gender on policy has not focused on policies that systematically favour (or are systematically prioritized by) women. Ferreira and Gyourko (2014) find no effect of gender of the local mayor on broadly defined policies such as size of local government or the broad composition of municipal spending. Likewise, Campa (2011) combines RD methods with time variation and finds no effect of the gender composition

[1] To this day, only 12%, 19% and 40% of legislators are women in India, the United States and Spain to cite three examples. Under-representation is also present at the local level, with only 18% and 17% of female mayors in the United States and Spain, respectively.

of Spanish municipal councils on broadly defined social policies. Conversely, Brollo and Troiano (2014) use a close election RD for Brazilian municipalities and find significant effects on corruption and measures of patronage indicating female mayors are less likely to engage in these practices. Clots-Figueras (2012) focuses on outcomes and finds electing a female politician has a positive impact on educational outcomes in Indian urban areas. Rehavi (2007) uses data on US members of state legislatures and shows compelling evidence that legislatures with higher proportions of female legislators tend to spend more in health programs and less in correctional facilities. And turning attention to female *voters*, Funk and Gathmann (2015) find strong gender differences in broadly defined policies such as defence, health or environmental protection in Switzerland. While each of these studies are of interest in their own right, they do not answer whether female politicians systematically choose gender-based or gender friendly policies when in power. The policies or outcomes they analyse are not clearly linked to gender specific problems.

This paper attempts to tackle this question in a context where we can both identify key gender-friendly policies which are widespread in many economies and implement a state-of-the-art identification strategy. We implement a close election regression discontinuity design using disaggregated data on program spending by Spanish municipalities to identify the effect of mayoral gender on a set of three policies: Long-Term Care (LTC); preschool education; and work and family life balancing services (labelled as complementary education expenses in the municipal budget). It is interesting to point out that the three of them are included in the European Parliament's Gender Equality reports as key policies directed to enhance the position of women in society.

Regarding LTC, Spanish micro-data from *Instituto Nacional de Estadística* shows that it is women who are disproportionately performing these activities. In 2008, before our period of study, 76% of professional and non-professional caregivers of long term patients were women. In 2004, 84% of non-professional caregivers were women. As Crespo and Mira (2014) show, this has an impact in labour market decisions of mature women in Southern Europe. 20% of women between ages 50 and 60 whose parents lack autonomy take up daily care with half of them dropping out of the labour force.

The case of preschool and complementary education spending is very similar, with early-life care being carried out disproportionately by mothers. The 2009-2010 wave of the Spanish time use survey indicates that women engage more often in childcare activities than men, and that they devote more time per day. According to this survey, 22.2% of women report engaging in childcare activities while only 16.7% of men do so. Average time devoted to childcare conditional on it being positive is 2h 22m for females while it is 1h 46m for males. Time-use data for the United States shows similar qualitative patterns, with women devoting 125% more time to caring activities for household members than males (American Time Use Survey 2015). Moreover, as in the case of long term care, maternity impacts labour market decisions of women. According to Landwerlin, Balsas and Saura (2012), only 55% of women in Spain return to full time job after maternity, for 100% of men. 35% return to part-time work or take part-time leave, 7% give up paid work altogether and 3% loose their job. As in the case of LTC, this could also lead to statistical discrimination in hiring and promotion decisions.

The Spanish context is excellent to study these policies for two reasons. First, the national government passed a long-term care law in 2007. It granted discretionarity to Spanish municipalities in the provision of supplemental services for long term patients relative to those established

nationally and regionally. Moreover, as the minimum services guaranteed at the national and regional level were considered insufficient to meet demand,[2] municipal action was in practice an important complement to these services The case of preschooling from 0 to 3 years and work and family life balancing services was very similar. None of them were granted at the national level, and the municipalities were the main providers of these public services.[3] Secondly, the budget structure law passed in 2008 (*ORDEN EHA/3565/2008*) established municipalities have to separately report spending in LTC, preschool and complementary educational policies. This allows us to directly identify which municipalities are executing these policies from administrative records and, in doing so, allows us to dig beyond the broad spending categories that had been studied in much of the related literature.

Our results show no evidence of female politicians being more likely to implement gender-sensitive policies. The coefficient estimates are always insignificant, with p-values usually well above 50%, and either negative or very small (e.g. one fortieth of a standard deviation) point estimates across specifications. When turning to the effect of parties we consistently find statistically significant differences for different policies and different specifications. Right-wing mayors are 10 percentage points less likely to implement these policies. Comparison of both sets of estimates are not straightforward as they are based on different samples.[4] Still, a naive comparison suggests that party lines are more important than mayoral gender in determining gender policies.

2. Data

We use data from four different sources. Electoral results for Spanish municipalities in the 2007 and 2011 municipal elections are obtained from the Spanish *Ministerio del Interior* which collects and disseminates electoral data. The electoral data includes both municipal level results for all running parties and the list of candidates parties presented in every municipality. It includes the ordering of these lists and, importantly, the gender of each candidate. Data on mayors was facilitated as well by the *Ministerio de Hacienda y Administraciones Públicas* upon request.

We obtain data on municipal characteristics from the 2001 Census of Population. These include average household size, fraction of population with tertiary (college) education, fraction of housewives, and average dwelling age for 2001.[5] Data from *Estadística del padrón Continuo* include yearly information on population and population by age categories for all the sample period.

Data on yearly municipal budgets is obtained from the database on local authorities budgets published by the *Ministerio de Hacienda y Administraciones Públicas*. These include information on revenues and spending disaggregated by spending category. The fine level of disaggregation is crucial to identify the policies we analyze in this paper. Also from the *Ministerio de Hacienda y Administraciones Públicas* we take the outstanding debt by municipality in 2009.

[2] In 2007, asked about the LTC national and regional policy, 61.6% of women and 53.9% of men (difference significant at 1%) saw it as poor/limited vs. sufficient or excessive (CIS national survey).

[3] Some Autonomous Regions provide also these services, but they do definitely not guarantee their universality (as is the case for curricular education from 3 y.o. onwards)

[4] In both cases, we are estimating a local average treatment effect but what is "local" about these estimates is different.

[5] Data is also available from the 2011 census. Given that this falls within our sample period, the characteristics themselves could be outcomes of the treatment so we focused on demographics measured in 2001 as controls. Preliminary analyses suggested that this decision does not have an effect on our main results.

Merging data from these sources we construct a panel of municipalities for the period 2010-2014 indicating the vote shares obtained by all parties, gender of the municipal mayor, information on municipal spending by program (including LTC, preschool and complementary education spending), outstanding debt in 2009 and municipal characteristics.

2.1. Municipalities and Local Elections

Spain had 8,116 municipalities in 2011. Municipalities are the lowest level of territorial administration of the Spanish state. They have autonomy in managing their interests as recognized in the Spanish constitution (Article 140). Their functions are partly dependent on size but encompass waste disposal, water and sewage services, lighting, transport network upkeep, public parks, and, crucially, the provision of some local public services services (e.g. long-term care, preschooling) which constitute the object of this study.[6] Municipal financing is based on municipal taxes (the largest of which are a property tax and a business tax) and transfers from the national and regional governments.

Municipalities' governing body is the municipal council and its members are directly elected by residents. Municipal elections are held every four years and the electoral system varies with population. Municipalities with populations over 250 are characterised by a single-district, closed list, proportional electoral system. Municipalities with populations under 250 inhabitants have an open list system with voters able to express multiple preferences for different candidates. These municipalities will not be used in our analysis precisely because of this difference and its implications for our empirical strategy. Henceforth, we will only refer to municipalities with populations over 250. Municipal council seats (from a minimum of three to a maximum of 57 in Madrid) are assigned following the D'Hondt rule. Only parties with more than 5% vote share can take a place in the council. The municipal mayor is elected by the council under a majority rule and in general this majority is obtained through coalition building after elections. It is important to note that mayors are not elected directly by the voters but rather indirectly via de council. Below, the *ruling party* refers to the party of the mayor.

2.2. Sample and Descriptives

Changes in the law regulating the level of disaggregation in municipal budgets allow us to identify data on specific gender-sensitive programs. The availability of this data is restricted to the period 2009-2014. Hence, we will restrict to these years and to municipal elections taking place in 2007 and 2011. Some, typically small, municipalities fail to report their budget in time every year, so we loose 1,141 further year-municipality observations for that reason (roughly 4.2% of the final sample). In addition, as mentioned above, we restrict our sample to municipalities with populations above 250 inhabitants in electoral years.

Municipal descriptives for our sample are presented in tables 1 and 2. In table 1 we present mean and standard deviation for both our outcome variables (the three selected policies) and municipal characteristics. We show these statistics for all municipalities, for municipalities ruled by a female mayor, by a male mayor, and for municipalities where a mixed race took place (male and female candidates running for election) in columns 1 through 4, respectively. We measure

[6] See details in law number 7/1985 (2 of April 1985). *Ley reguladora de las bases del régimen local.*

our outcome variables both in terms of the extensive (whether spending in a policy takes place) and intensive (what is the fraction of total spending allocated to that policy) margins. Additional characteristics include population, fraction of municipalities ruled by PSOE (centre-left) and PP (centre-right) as well as other relevant variables. The average population of municipalities in our sample is 8.65 thousand inhabitants, of which an average of 7.29% have more than 80 years of age. We can observe that municipalities governed by a woman are usually larger but otherwise not very different from municipalities ruled by men in terms of observables. The average fraction of women living as housewives in Spanish municipalities is 33%. In terms of our outcome variables, municipalities ruled by women tend to devote slightly more resources to long term care than the average (0.66%). But both the dummy indicating whether a policy is funded and the intensity measures for other policies captured by budget shares have similar means across groups.

In table 2 we present similar descriptives for municipalities split by ruling party. Female mayors are more common in towns ruled by PSOE than in towns ruled by PP although the difference is small (18% vs. 17%). There is substantial difference in the three gender policies by party with PSOE being more likely to implement these policies and to allocate a larger fraction of spending to them. While this difference is suggestive, other variables in table 2 indicate there are other differences between PP and PSOE municipalities which highlight that these mean comparisons can hardly be given any causal interpretation. We will return to these differences in the next sections.

Finally, a summary of the characteristics of the municipalities that have positive spending on each policy category can be found in table 3. The most frequently implemented policy is preschool education, being also the one with a higher average share of spending among those that have it in place (3,36%). On the other hand, Work-Life Balancing services is the one with the smallest average spending share among those municipalities which offer it (1.36%). The percentage of observations with a positive spending share on LTC, Preschool, and Work-Life Balancing Services is 22%, 35.6% and 24.7% respectively. The three of them are observed in municipalities across the full range of populations. [7] The number of observations in this table refers to the number of year-municipality pairs with positive spending in the corresponding category. Very high levels of spending (above 10% of the budget) in gender policies are relatively uncommon and characteristic of smaller municipalities.

3. Empirical Analysis

3.1. OLS

We start our empirical analysis by computing the conditional correlation of a female mayor dummy on the fraction of spending devoted to LTC policies, preschool and complementary educational services. For this purpose, we estimate:

$$PolicyShare_{it} = \beta Female_{it} + \gamma' X_{it} + Party_{it} + Prov_i + \eta_t + \epsilon_{it}$$

[7] The minimum is in all cases below 250 people. This may seem puzzling given that we restrict the sample to municipalities with more than 250 inhabitants. Notice that we do the sample restriction in electoral years (when the different electoral rules above and below the 250 threshold apply). If a municipality loses population after the elections, we keep it in the sample for the intervening electoral period. Excluding these municipalities from our sample has no effect on qualitative results and a negligible effect on point estimates.

Where $PolicyShare_{it}$ is the fraction of total municipal spending devoted to a specific policy (i.e. LTC, preschool or complementary education services) in municipality i and year t, $Female_{it}$ is a dummy taking value 1 if the mayor is female in municipality i and year t, X_{it} is a vector of controls including municipal population, average household size, fraction of population with tertiary education, mean population age, fraction of children, fraction of population over 80 years of age, fraction of housewives and outstanding debt in 2009. $Prov_i$ corresponds to a set of province dummies (50 provinces in total), while $Party_{it}$ represents a set of ruling party dummies times a conformable vector of coefficients.[8]) Finally, η_t is a set of year dummies that capture aggregate changes in policy during this period. With this exercise we want to test whether after controlling for observable municipal characteristics, we can detect some robust correlation between the presence of a female mayor and gender-specific policies.

Results for OLS estimation of the previous equation are provided in table 4. Columns 1 and 2 correspond to the share of LTC spending, columns 3 and 4 to the share of preschool policy spending and columns 5 and 6 to the share of complementary education spending. All columns include year effects and columns 2, 4 and 6 include the set of controls outlined above as well as party and province dummies. As can be seen from the table, we find a positive and significant effect of having a female mayor on spending in LTC policies in both columns 1 and 2 (i.e. with and without controls). The coefficient in column 2 indicates that having a female mayor rises the share of spending in LTC by 0.118 percentage points, almost a fifth of the average spending share in LTC. Furthermore, if we restrict to the sample of those municipalities with positive spending in LTC, having a female mayor rises average spending by 0.65 percentage points[9]. However, turning to the other gender-specific policies considered here, we find no evidence of an effect of the gender of the mayor on spending. The point estimate for preschool spending shares is positive but statistically insignificant. Its magnitude make it economically insignificant too, as it indicates having a female mayor is associated with 0.0073 percentage points higher spending in preschool education. A similar result is found for the share of spending in life balancing services. The coefficient is now negative but insignificant both statistically and economically.

These results would provide mixed evidence on the effect of female mayors on gender-specific policies. However, it is unlikely the conditional exogeneity assumptions required to give causal interpretation to these parameters are satisfied in this context.

3.2. Municipal Fixed Effects

In this section, we provide estimates from a municipal fixed effects regression of our different gender-policy variables on the female mayor dummy. For this purpose, we estimate:

$$PolicyShare_{it} = \beta Female_{it} + \gamma pop_{it} + \eta_t + \alpha_i + \epsilon_{it}$$

By including α_i in our model we want to account for possible fixed unobserved factors at the municipal level that could be simultaneously correlated with the gender of the mayor and with

[8]The set of party dummies includes a dummy for each of the 14 most prevalent parties in Spanish local government and one dummy for all other parties

[9]Not reported in the table. Coefficient significant at any conventional level. Without controls, coefficient equals 0.49, and is significant at any conventional level.

spending in gender-sensitive policies (long-term care, preschool services or life-balancing services). For example, more gender-aware polities may be more likely to vote for a party headed by a female leader and, simultaneously, demand more spending in gender-sensitive long-term care policies. This would induce a positive bias in our OLS estimates and invalidate causal interpretation. Conversely, low-educated, poor municipalities may be less likely to elect a female mayor but simultaneously have higher demand for long-term care spending linked to disability or other health problems. This would induce a negative bias in our OLS estimates in columns 1 and 2 of table 4. As long as these confounding factors are fixed over time we can exploit the longitudinal variation in the gender of mayors to estimate the effect of gender on these policies. Given that most of the controls included in vector X_{it} defined in the previous section are fixed over time, we only include population as a control in our panel specifications. As indicated in the specification above, party dummies and year effects are also included.

We will also consider two alternative fixed effect specifications. In one of them, we will replace the dependent variable with a dummy taking value 1 if municipality i devotes any spending to the corresponding policy. With this we intend to capture the effect of mayoral gender on the *extensive* margin of gender policies. The interpretation of the resulting coefficient is similar to that corresponding to a linear probability model, so that β measures the increase in probability that a municipality has the selected gender policy in place. Next, we consider an alternative specification in which the gender dummy is replaced by a dummy taking value 1 if the party of the mayor is the conservative *PP*. With this, we try to explore whether other characteristics of the mayor (in this case, partisan alignment) have an effect on gender related policies.[10].

Results from our fixed effects specifications with spending shares and spending dummies as dependent variables are provided in tables 5 and 6, respectively. In both tables, columns 1 through 3 refer to results in which we use a gender dummy as our main regressor of interest whereas columns 4 to 6 correspond to specifications focusing on the effect of the *PP* mayor dummy.

Both in the case of the intensive and extensive margins we find no evidence of an effect of mayoral gender on our set of gender-sensitive policies. The coefficients of interest are never statistically significant, their signs are not consistent across policies or specifications and the point estimates are fairly small. For example, abstracting from issues of statistical significance, the coefficient in the first column in table 5 indicates that going from a male to a female mayor leads to an increase in the share of spending devoted to LTC policies of only 0.04 percentage points. This is roughly 1/20 of the corresponding mean spending shares. When looking at the extensive margins, the point estimates continue are even smaller, with female mayors increasing the probability of engaging in LTC policies by a meagre 0.01%.

The picture changes somewhat when we move on to look at the effects of the party of the mayor on gender policies. When looking at spending shares, we find a small negative effect of having a PP mayor on LTC policies which is marginally significant (see column 4). The effect is small but roughly twice as large in absolute value as the effect of gender. The effect on other policies is not statistically significant so the picture emerging from table 5 is not completely clear. However, when turning to the effects on the extensive margins we find negative and strongly

[10]Party dummies are of course removed from the specifications focusing on the effect of right-wing mayors on gender policies

significant effects of the PP mayor dummy for both LTC policies and life balancing services. Interpretation of coefficients is straightforward, having a PP mayor decreases the probability of engaging in LTC policies by 1.84 percentage points. Insofar as the baseline probability is 22%, this effect is not very large but still significant.

The overarching message emerging from this analysis is that mayoral gender has no effect on gender-related policies. On the other hand, the party of the mayor does have an effect, albeit arguably the magnitude of the effect is small. Center-right mayors are less likely to engage in two out of three gender-related policies. We will come back to these results when considering our RDD estimates. [11]

3.3. Close Elections RD

Several unobservables could simultaneously affect both the probability of having a female mayor and the amount of spending in gender related policies. Moreover, some of those factors, such as local economic conditions, may vary over time, rendering inadequate the causal interpretation of our fixed effects estimates.

To overcome these issues, we need an alternative empirical strategy that is not subject to these sources of bias. For this purpose we implement a close election regression discontinuity design (as in Lee (2001) and a large subsequent literature) focusing on *mixed races*. Mixed races are defined as municipal elections in which a female candidate runs against a male candidate. Several studies have used this strategy to look at gender or party differences in policies (see for example Ferreira and Gyourko (2009), Beland (2015), Brollo and Troiano (2014) or Solé-Ollé and Viladecans-Marsal (2013)) and other political outcomes (Gagliarducci and Paserman, 2012). With this method, we exploit the stochastic nature of electoral outcomes to obtain quasi-random variation in the gender of the elected mayor. In doing so, we overcome some of the issued associated with the observational or panel methods discussed above.

Given the specificities of the Spanish electoral system, we define as *mixed* electoral races those in which first-in-the-list candidates of the most voted and second most voted parties are of different gender. Note that being the most voted candidate does not necessarily imply becoming mayor (see section2.1). It is the council that ultimately elects this position depending on coalition and majority formation strategies. That being said, figure 1 does show a large jump in the probability of having a female mayor when the party list headed by a woman wins the election. We exploit this discontinuity in our empirical strategy below.

We will use the female victory (or loss) margin as running variable. Given that the probability of treatment is not zero below the threshold nor one above it, this research design corresponds to a *Fuzzy* RDD. We will show both the reduced form effect of a female candidate winning elections on gender-specific policies and also obtain instrumental variable (IV) estimates using 2SLS in which the female mayor variable is instrumented with a female winner dummy.

The first-stage in our IV estimation is:

[11] The case of preschool services is somewhat paradoxical as we find a positive effect of center-right parties on the probability of engaging in these policies (see column 5 in table 6). Given the effect is weakly significant, is not present in the intensive margin and has opposite sign to other policies, we do not feel comfortable with interpreting this result as definitive evidence. We will come back to this when considering our RDD estimates.

$$Female_{it} = \pi_0 + \pi_1 \mathbf{1}(FemaleVoteMargin_{it} > 0) + f(FemaleVoteMargin_{it}) + \gamma_1' X_{it} + \eta_t + u_{it}$$

Where variable $Female_{it}$ is a dummy taking value 1 if municipality i is ruled by a female mayor in year t, $FemaleVoteMargin_{it} > 0$ is a dummy taking value 1 if the party headed by a female candidate was the most voted party in the 2007 or 2011 municipal election and $f(FemaleVoteMargin_{it})$ is a polynomial in the female vote margin fitted at the two sides of the discontinuity Tables are reported as using first order polynomials estimated on either side of the threshold value as suggested in Imbens and Lemieux (2008). Results for higher order polynomials are commented throughout the text. X_{it} is a vector of controls defined as above and η_t is a series of year dummies. The second stage is given by:

$$Policy_{it} = \alpha + f(FemaleVoteMargin_{it}) + \delta Female_{it} + \gamma_2' X_{it} + \eta_t + \epsilon_{it}$$

We show results for 2SLS estimates at varying bandwidths around the 0 vote margin threshold below. We provide both results using spending shares ($PolicyShare_{it}$) and positive spending dummies as dependent variables indicating if any spending took place on the specified category by municipality i in year t. Given that most municipalities only change mayors in election years, we cluster standard errors at the municipality-legislative period level. The parameter of interest in each specification is δ, capturing the effect of having a female mayor on either spending shares (intensive and extensive margins) or a program spending dummy (extensive margin only).

We later turn to exploring differences in spending across political parties. For this purpose we estimate:

$$Policy_{it} = \alpha + f(PPVoteMargin_{it}) + \delta_1 PP_{it} + \gamma_2' X_{it} + \eta_t + \epsilon_{it}$$

Where PP_{it} is a dummy variable taking value 1 if the municipality is ruled by the *Partido Popular*. As in the analysis for gender, we use $1(PPVoteMargin_{it} > 0)$ as an instrument for PP_{it}. The instrument is strong as shown in figure 7.

A large methodological literature on the implementation of RDDs suggests different methods to choose i) the bandwidths around the threshold which determines the discontinuity in treatment probability, ii) length of the polynomials in function $f()$ and iii) varying weights given to observations around the cut-off. In our paper we follow Calonico, Cattaneo and Titiunik (2014) and Calonico et al. (2016) both in selecting the optimal bandwidth for our regressions and for conducting inference based on this optimal bandwidth selection. We then show the robustness of our results to different choice of polynomial length and different weighting observations kernel functions.

Before discussing the results for the effects of gender and parties on the outcomes of interest, a few notes are due regarding the validity of the regression discontinuity design in this context. Figure 1 shows that the instrument is strong: the probability of having a female mayor jumps sub-

stantially when $FemaleVoteMargin_{it}$ goes above 0. This is confirmed in table 7, which reports first stage regressions for different lengths of the polynomials of the running variable, with or without controls. These regressions correspond to a restricted sample given by the optimal bandwidth selector discussed above. We observe that the probability of having a female mayor jumps by about 45 percentage points if a women wins the election by a small margin, a magnitude comparable to the jump displayed in figure 1.

Figure 2 shows the histogram of the running variable for the RDDs studying the effect of female mayors on policies. We observe that the distribution of $FemaleVoteMargin_{it}$ has no obvious discontinuity at the 0 margin or other thresholds. A similar histogram is displayed in figure 11 for variable $PPVoteMargin_{it}$. In both cases the assumption of no perfect manipulation of the running variable that is required for consistent estimation of the local average treatment effect appears to be satisfied. This is not particularly surprising as it is unlikely that political parties can affect vote shares in a deterministic way (in the vast majority of cases, pre-election polls are not available at the municipal level).

An additional assumption required for validity of the RD design requires that no municipal or politicians' characteristics (other than gender or party) jump discontinuously at the threshold. We find no evidence of discontinuities in our X_{it} variables at this threshold. This is visible in the graphs provided in figure 3. For completeness, we also provide results using local linear regressions in table 10. In both cases, we observe that the coefficients measuring discontinuities in the covariates are small and not statisticaly significantly different from 0. Similar results are provided for our political party RDD in figure 12 and table 12. Together, these results show the assumptions required for identification based on a RDD are justified.

We now turn to the effects of mayoral gender on our set of gender-related policies estimated using our RDD specification. We start by providing some reduced form graphs indicating the effect of a female candidate victory on a dummy indicating whether the municipality engaged in these policies. The graphs plotted in figures 4, 5 and 6 plot flexible quartic polynomials at both sides of the threshold and include average values of the policy dummies calculated for bins of the running variable as is customary. Visual inspection reveals that, should their be a discontinuity, it is hardly visible from the graphs. Similar results are obtained when using a continuous measure of policy intensity such as the share of budget allocated to each policy. To find the actual estimated effect of mayoral gender on policies we need to re-scale the reduced-form estimated discontinuity by the change in probability of treatment at the threshold. That being said, these graphs already suggest it is very unlikely we find economically or statistically significant results.

Tables 8 and 9 report the 2SLS estimates of the effect of $Female_{it}$ on the share of spending in each of these policies and a dummy taking value one if each of the policies was implemented, respectively. Results for Long-term care policies are presented in columns 1 and 4. Results for Preschool education are presented in columns 2 and 5. Finally, results for life-balancing services are presented in columns 3 and 6. In all columns we provide results for optimal choice of bandwidth and triangular kernel, with or without controls. We observe none of the coefficients is statistically significantly different from 0. This is still true if we use a uniform kernel, a polynomial of order two or three, or the half optimal bandwidth (results available upon request).

Point estimates are in most cases quite small. In the case of column 1 of table 8, the coefficient indicates that municipalities ruled by a female mayor spend 0.0212 percentage points more of

their budget in long term care services. Column 2 would indicate that the total share of preschool spending increases by about 0.1 percentage points when a municipality is ruled by a female mayor. For life-balancing services in column 3 the coefficient is negative and has similar magnitude (in absolute value). Compared to the standard deviations reported in table 1, we can observe that these three estimates have a magnitude below a ninth of the variable's standard deviation.

When studying the effects on the intensive margin only, using a dummy for engaging in the policy as our outcome variable, we obtain very similar results, with all estimates being insignificant. The coefficients for long term care and balancing services policies are 0.4 and 0.2 percentage points, respectively (columns 1 and 3). Given the baseline probabilities of engaging in these policies (see table 1)both coefficients are very small. The second coefficient in table 9 indicates female mayors are 8% less likely to spend in preschooling (column 2). Still, this number is not significantly different from zero even if the point estimate is not small. If anything, these estimates would go against the hypothesis that female majors invest more on gender-related issues. Our results line up with our estimates from the fixed effects model presented in the previous section.

These findings contrast with those in the literature studying developing countries, which found large and significant effects of politician's gender on gender sensitive policies (see Clots-Figueras (2012), Chattopadhyay and Duflo (2004)). It is important to highlight that the policies, as well as women's role in society is very different in the contexts at hand. Hence, this difference in results is perhaps not so surprising. Moreover, our results are consistent with the literature on developed countries finding no effect of gender on broadly defined policy areas which are not necessarily gender specific (Ferreira and Gyourko (2014)). For completeness, we have also tested whether the gender of the politician affects broad spending categories such as basic services, social spending, transport or health spending among others. Across variable definitions we find little evidence of systematic and interpretable differences in policies by gender. The vast majority of coefficients on the gender variable in our IV estimates are statistically indistinguishable from 0.

We then turn to explore whether parties are relevant for gender policies. Results for the effect of having a PP mayor on the likelihood of implementing a gender policy are presented in table 11. Across columns, estimates are obtained using local linear regressions with optimal bandwidth and inference as in Calonico, Cattaneo and Titiunik (2014) and Calonico et al. (2016). We now find statistically significant effects indicating that mayors from the right-wing party are less likely to engage in gender-friendly policies across specifications. Results are robust to using quadratic polynomials on both sides of the threshold and using different weighting kernels. The coefficients are significant both statistically and economically, with the effect of a PP mayor on the probability of engaging in a gender-related policy decreasing by roughly 10 percentage points. This weaker commitment of right wing parties with gender policies has been pursued as an explanation by (Iversen and Rosenbluth, 2006) for the voting behavior of women moving left during last decades. It could also explain the gender gap in favour of PSOE (center-left party) in Spanish general elections of 2011 (CIS 2011; Estudio 2920), during the period of study.

Graphical depictions of these discontinuities are reported in figures 8 through 10. The discontinuity is clearly visible in the three graphs, particularly large for preschool and work-life balancing service policies.

A final comment is due regarding our results on the effect of conservative mayors on preschooling. Our panel results suggested a marginally significant but positive effect in contrast from

our RD estimates. Insofar as we believe the identifying assumptions involved in our RD estimates are weaker, we believe they provide a more trustworthy measure of this effect. Moreover, the RD estimates seem to be more consistent with results for other policies.

4. Conclusions

Despite enduring gaps in political representation between women and men, the fraction of female politicians leading public office has increased in most countries. This change in representation came alongside an increase in the debate about gender policies; policies specifically directed to reduce gender inequalities in, for example, labour market participation. A natural emerging question in this context is whether increased female representation fosters the application or extension of these "gender-friendly" policies.

We have sought to answer this question using budget information on municipal spending for Spanish local governments. The Spanish context has several advantages because recent policy changes have expanded the set of discretionary gender-related policies available for municipal governments (with the passing of *Ley de Dependencia* in 2007) and made disaggregated administrative data on spending available for research. In our analysis we have implemented a panel approach and a close election regression discontinuity design, both leading to broadly consistent conclusions. Our findings indicate that there is no evidence that female mayors are more likely to engage in gender sensitive policies. The evidence is robust across specifications and policies, with coefficients estimates as precise zeroes in most cases. It contrasts with some of the previous studies which had focused on context-specific gender policies in developing countries and found strong effects. We find no evidence of this in the context of the more widespread policies considered here. On the other hand, we do find a significant difference in spending decisions in such policies related to political affiliation. Conservative mayors are less likely to spend in gender-friendly policies. This shows that policies are not orthogonal to the political process altogether, but do respond to some of the politicians' characteristics.

References

Beaman, Lori, Esther Duflo, Rohini Pande, and Petia Topalova. 2012. "Female leadership raises aspirations and educational attainment for girls: A policy experiment in India." *Science*, 335(6068): 582–586.

Beland, Louis-Philippe. 2015. "Political Parties and Labor-Market Outcomes: Evidence from US States." *American Economic Journal: Applied Economics*, 7(4): 198–220.

Besley, Timothy, and Stephen Coate. 1997. "An economic model of representative democracy." *The Quarterly Journal of Economics*, 85–114.

Brollo, Fernanda, and Ugo Troiano. 2014. "What happens when a woman wins an election? Evidence from close races in Brazil." *Evidence from Close Races in Brazil*.

Calonico, Sebastian, Matias D Cattaneo, and Rocio Titiunik. 2014. "Robust Nonparametric Confidence Intervals for Regression-Discontinuity Designs." *Econometrica*, 82(6): 2295–2326.

Calonico, Sebastian, Matias D Cattaneo, Max H Farrell, and Rocıo Titiunik. 2016. "Regression Discontinuity Designs Using Covariates." working paper, University of Michigan.

Campa, Pamela. 2011. "Gender quotas, female politicians and public expenditures: quasi-experimental evidence."

Chattopadhyay, Raghabendra, and Esther Duflo. 2004. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica*, 72(5): 1409–1443.

Clots-Figueras, Irma. 2011. "Women in politics: Evidence from the Indian States." *Journal of Public Economics*, 95(7): 664–690.

Clots-Figueras, Irma. 2012. "Are Female Leaders Good for Education? Evidence from India." *American Economic Journal: Applied Economics*, 4(1): 212–44.

Crespo, Laura, and Pedro Mira. 2014. "Caregiving to elderly parents and employment status of European mature women." *Review of Economics and Statistics*, 96(4): 693–709.

Duflo, Esther. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *World Bank Economic Review*, 17(1): 1–25.

Ferreira, Fernando, and Joseph Gyourko. 2009. "Do Political Parties Matter? Evidence from US Cities*." *The Quarterly journal of economics*, 124(1): 399–422.

Ferreira, Fernando, and Joseph Gyourko. 2014. "Does gender matter for political leadership? The case of US mayors." *Journal of Public Economics*, 112: 24–39.

Funk, Patricia, and Christina Gathmann. 2015. "Gender gaps in policy making: evidence from direct democracy in Switzerland." *Economic Policy*, 30(81): 141–181.

Gagliarducci, Stefano, and M Daniele Paserman. 2012. "Gender interactions within hierarchies: evidence from the political arena." *The Review of Economic Studies*, 79(3): 1021–1052.

Goldin, Claudia, and Cecilia Rouse. 2000. "Orchestrating Impartiality: The Impact of "Blind" Auditions on Female Musicians." *American Economic Review*, 90(4): 715–741.

Imbens, Guido W, and Thomas Lemieux. 2008. "Regression discontinuity designs: A guide to practice." *Journal of econometrics*, 142(2): 615–635.

Iversen, Torben, and Frances Rosenbluth. 2006. "The Political Economy of Gender: Explaining Cross-National Variation in the Gender Division of Labor and the Gender Voting Gap." *American Journal of Political Science*, 50(1): 1–19.

Landwerlin, Gerardo Meil, Pedro Romero Balsas, and Dafne Muntanyola Saura. 2012. "El uso de los permisos parentales en España The Social Use of Parental Leaves in Spain." *Working Paper*.

Lee, David S. 2001. "The Electoral Advantage to Incumbency and Voters' Valuation of Politicians' Experience: A Regression Discontinuity Analysis of Elections to the US." National Bureau of Economic Research.

Olivetti, Claudia, and Barbara Petrongolo. 2008. "Unequal Pay or Unequal Employment? A Cross-Country Analysis of Gender Gaps." *Journal of Labor Economics*, 26(4): 621–654.

Osborne, Martin J, and Al Slivinski. 1996. "A model of political competition with citizen-candidates." *The Quarterly Journal of Economics*, 65–96.

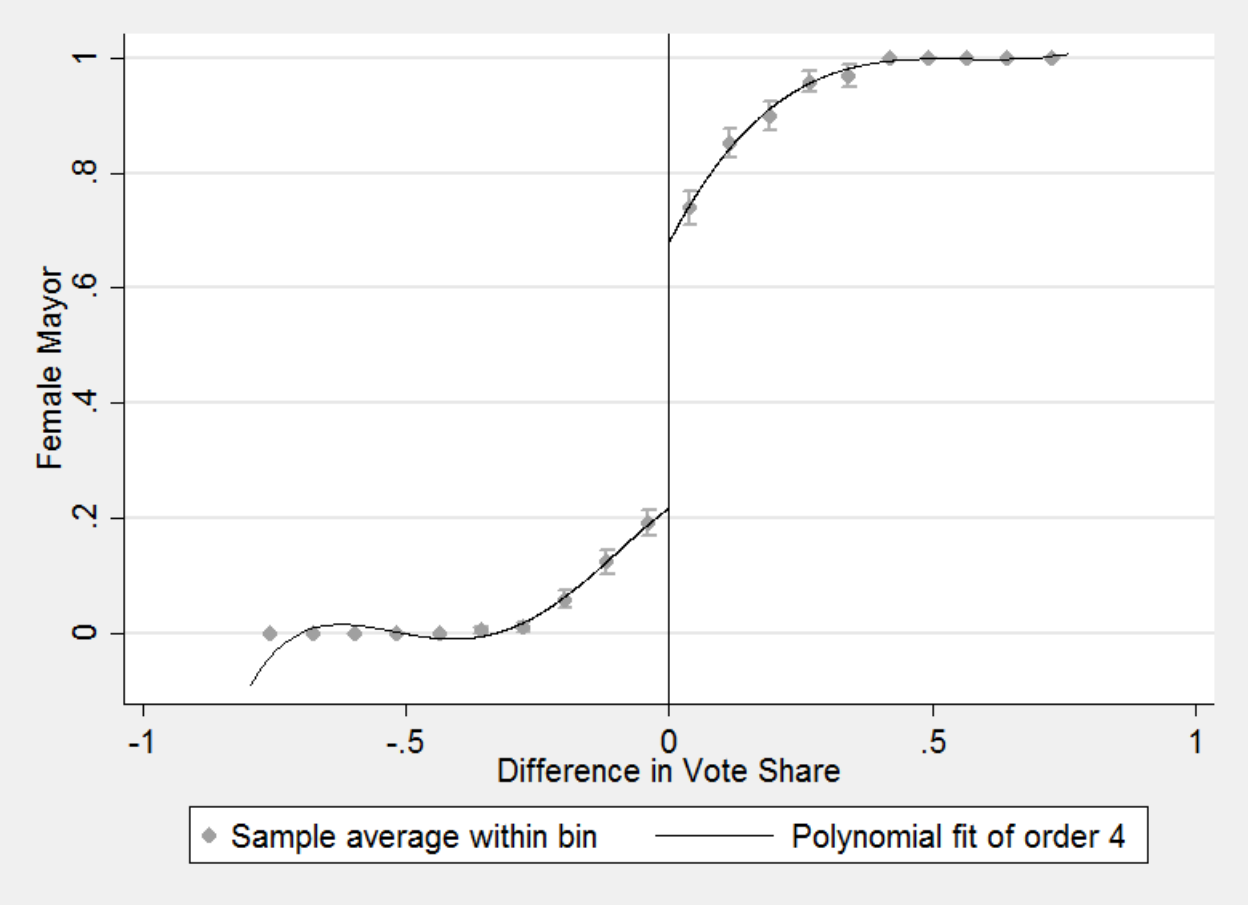
Rehavi, M Marit. 2007. "Sex and politics: Do female legislators affect state spending?" *Unpublished manuscript, University of Michigan.*

Solé-Ollé, Albert, and Elisabet Viladecans-Marsal. 2013. "Do political parties matter for local land use policies?" *Journal of Urban Economics*, 78: 42–56.

Thomas, Duncan. 1990. "Intra-Household Resource Allocation: An Inferential Approach." *Journal of Human Resources*, 25(4): 635–664.

Figures & Tables

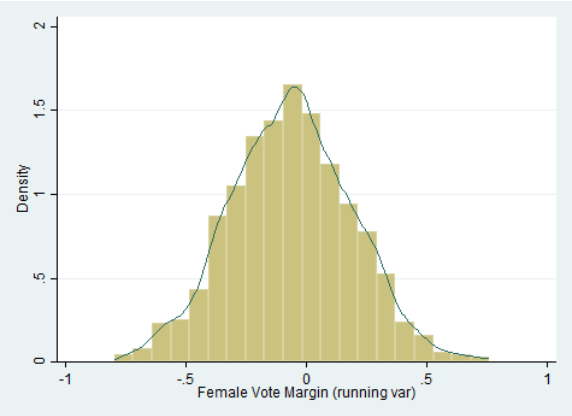
FIGURE 1
FIRST STAGE



Notes: Graph indicates the discontinuity in the probability of having a female mayor when a woman barely wins a mixed race. Vertical axis represents fraction of female mayors. Horizontal axis represents female winning vote share margin, negative if female candidate lost election. Points indicate averages within bins of the female victory margin. Line represents a quartic fit on either side of the threshold value. Sample restricted to mixed races.

Figure 2

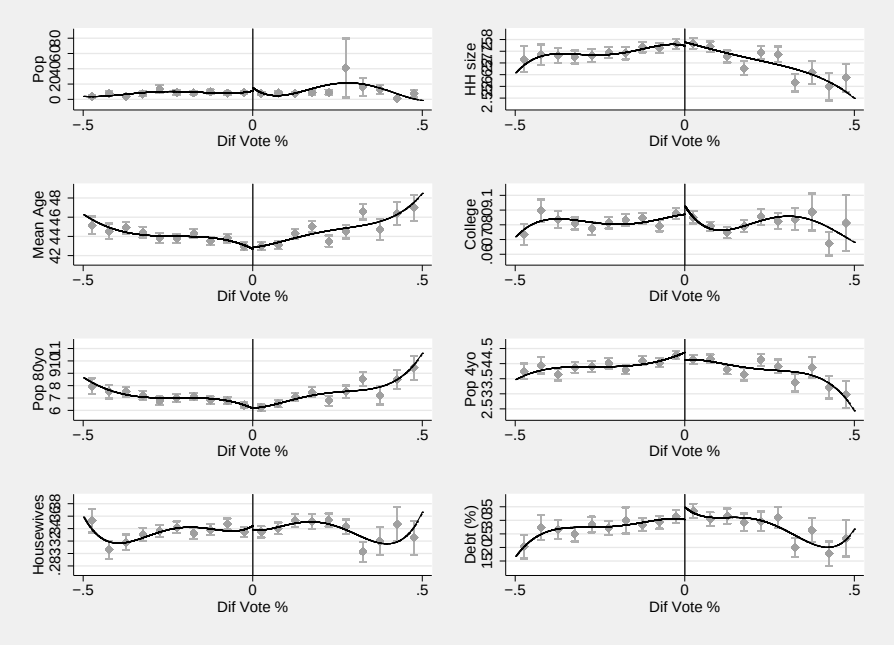
Running Variable Histogram - Female Mayor



Notes: Distribution of female vote shares in mixed races in the 2007 and 2011 elections (pooled). Smooth density estimated with an Epanechnikov kernel.

Figure 3

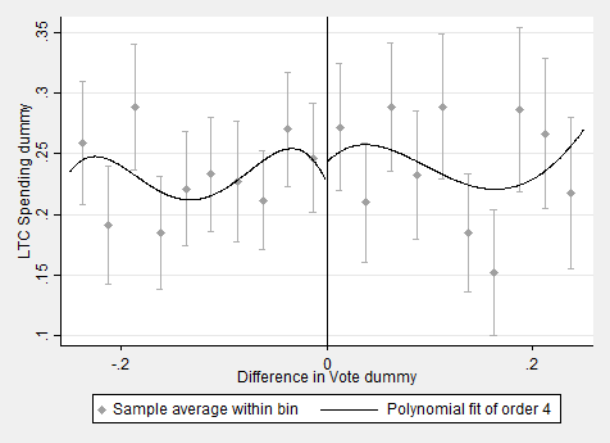
Female Mayor - Covariates



Notes: Panels indicate the continuity of the outcome variable in the vertical axis across the distribution of the female vote margin running variable. From left to right and top to bottom the outcome variables are population, households size (2001 census), mean age, fraction with college education, percentage of population above 80 years of age, percentage of people with less that 4 years of age, fraction of housewives (2001 census) and percentage of outstanding debt of municipality before sample period.

Figure 4

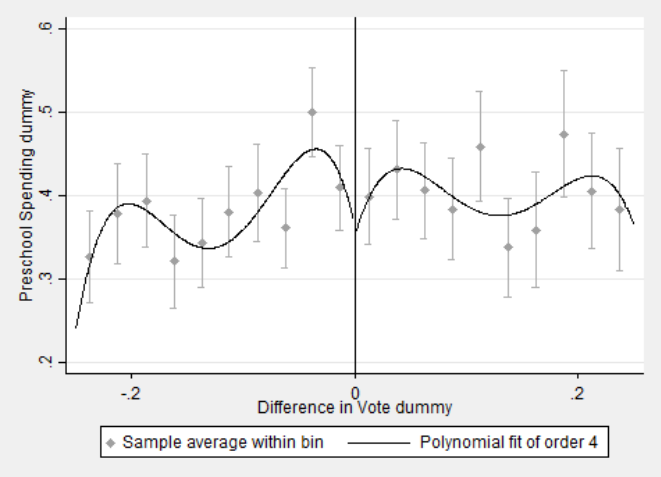
Female Mayor & Dependence Dummy (Reduced Form)



Notes: Graph indicates the discontinuity in the probability that a municipality engages in Long-term Care policies when a woman barely wins a mixed race. Vertical axis represents fraction of municipalities engaging in LTC policies. Horizontal axis represents female winning vote share margin, negative if female candidate lost election. Points indicate averages within bins of the female victory margin. Line represents a quartic fit on either side of the threshold value. Sample restricted to mixed races.

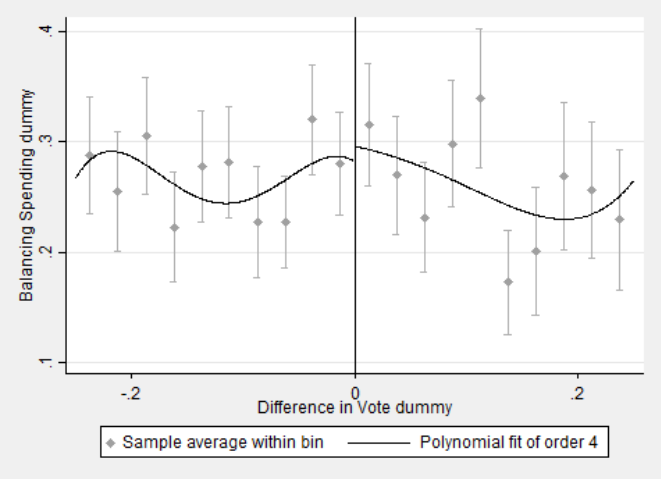
Figure 5

Female Mayor & Preschool Dummy (Reduced Form)



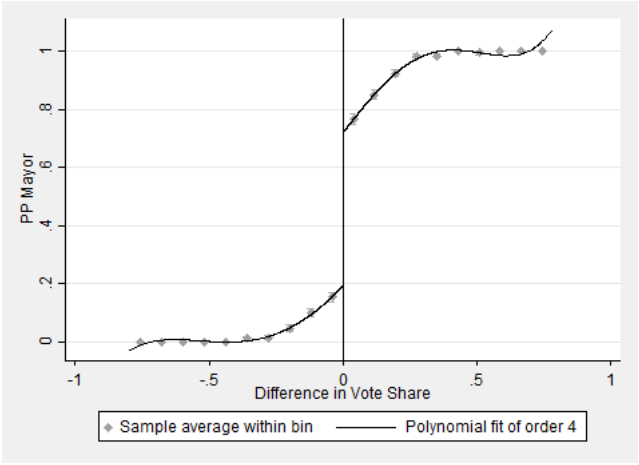
Notes: Graph indicates the discontinuity in the probability that a municipality engages in Pre-schooling services policies when a woman barely wins a mixed race. Vertical axis represents fraction of municipalities engaging in Pre-schooling policies. Horizontal axis represents female winning vote share margin, negative if female candidate lost election. Points indicate averages within bins of the female victory margin. Line represents a quartic fit on either side of the threshold value. Sample restricted to mixed races.

Figure 6
Female Mayor - Work-Life Bal. Serv. Dummy



Notes: Graph indicates the discontinuity in the probability that a municipality engages in Work - Life Balancing services policies when a woman barely wins a mixed race. Vertical axis represents fraction of municipalities engaging in Work - Life Balancing services policies. Horizontal axis represents female winning vote share margin, negative if female candidate lost election. Points indicate averages within bins of the female victory margin. Line represents a quartic fit on either side of the threshold value. Sample restricted to mixed races.

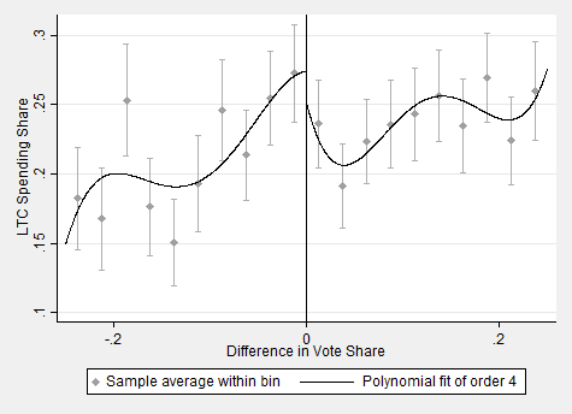
Figure 7
First Stage - PP Mayor



Notes: Graph indicates the discontinuity in the probability of having a mayor from Partido Popular (PP) when a PP candidate barely wins an election. Vertical axis represents fraction of PP mayors. Horizontal axis represents PP candidate winning vote share margin, negative if PP lost election. Points indicate averages within bins of the PP victory margin. Line represents a quartic fit on either side of the threshold value.

Figure 8

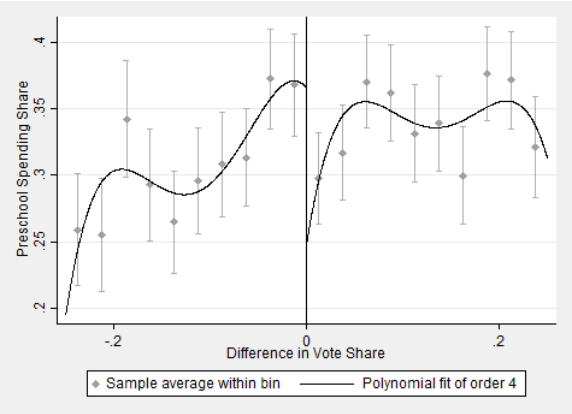
PP Mayor - Dependence Dummy



Notes: Graph indicates the discontinuity in the probability that a municipality engages in Long-term Care policies when a PP candidate wins an election. Vertical axis represents fraction of municipalities engaging in LTC policies. Horizontal axis represents PP candidate winning vote share margin, negative if PP lost election. Points indicate averages within bins of PP victory margin. Line represents a quartic fit on either side of the threshold value.

Figure 9

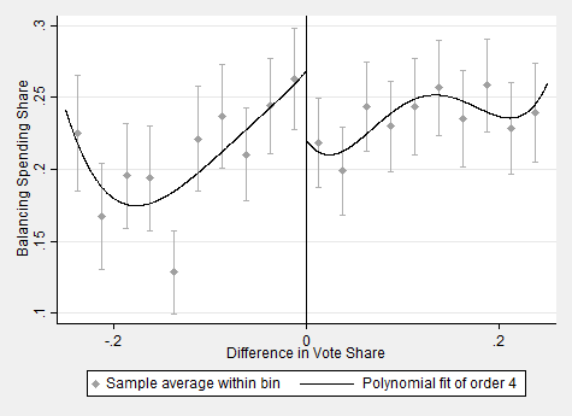
PP Mayor - Preschool Dummy



Notes: Graph indicates the discontinuity in the probability that a municipality engages in Preschool policies when a PP candidate wins an election. Vertical axis represents fraction of municipalities engaging in preschool policies. Horizontal axis represents PP candidate winning vote share margin, negative if PP lost election. Points indicate averages within bins of PP victory margin. Line represents a quartic fit on either side of the threshold value.

Figure 10

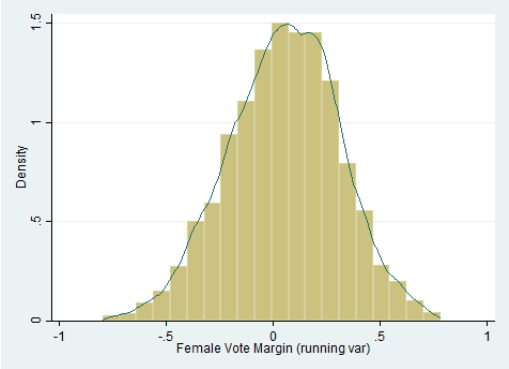
PP Mayor - Work-Life Bal. Serv. Dummy



Notes: Graph indicates the discontinuity in the probability that a municipality engages in Work - Life Balancing services policies when a PP candidate wins an election. Vertical axis represents fraction of municipalities engaging in Work - Life Balancing policies. Horizontal axis represents PP candidate winning vote share margin, negative if PP lost election. Points indicate averages within bins of PP victory margin. Line represents a quartic fit on either side of the threshold value.

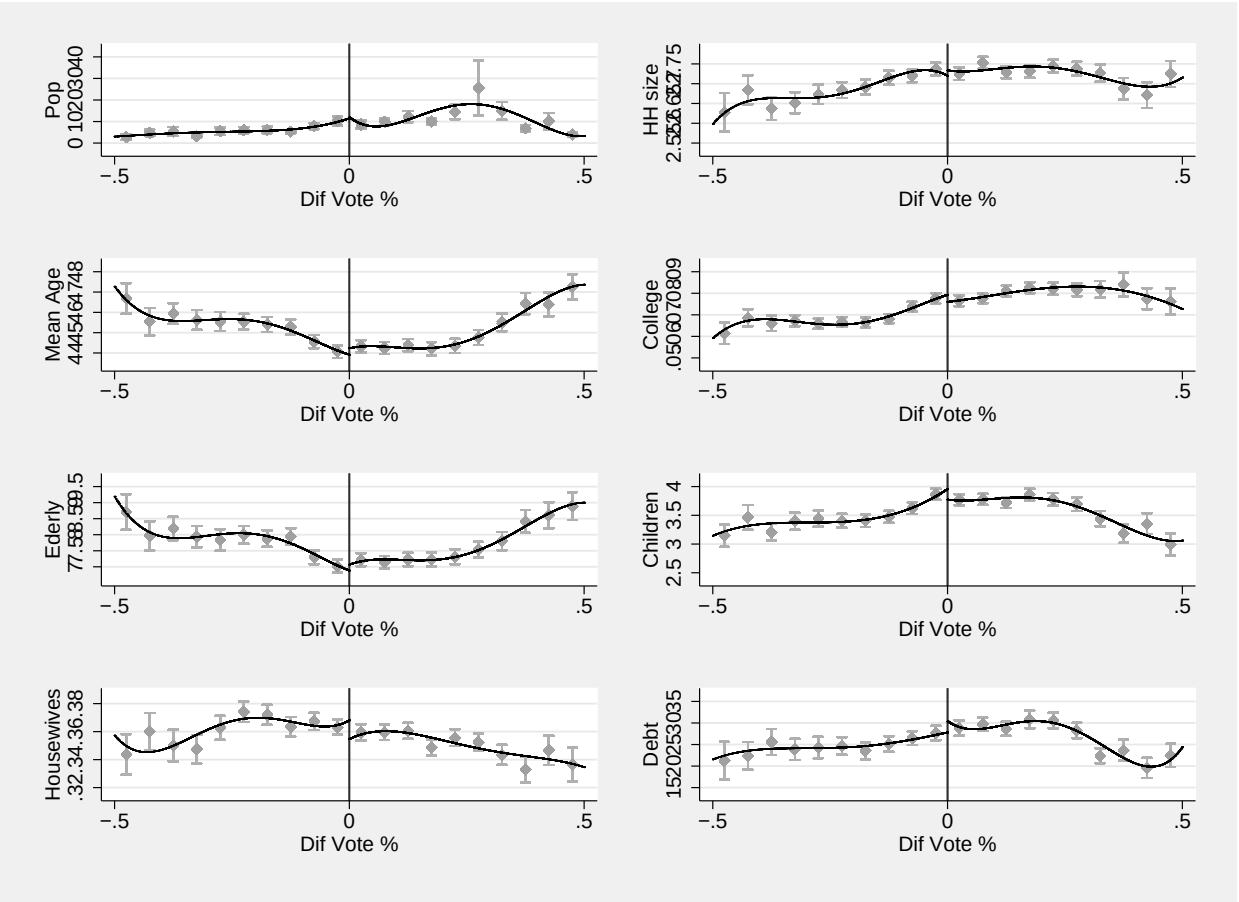
Figure 11

Running Variable Histogram - PP Mayor



Notes: Distribution of PP candidate winning vote share margin, negative if PP lost election, in the 2007 and 2011 elections (pooled). Smooth density estimated with an Epanechnikov kernel.

Figure 12
PP Mayor - Covariates



Panels indicate the continuity of the outcome variable in the vertical axis across the distribution of the PP vote margin running variable. From left to right and top to bottom the outcome variables are population, households size (2001 census), mean age, fraction with college education, percentage of population above 80 years of age, percentage of people with less that 4 years of age, fraction of housewives (2001 census) and percentage of outstanding debt of municipality before sample period.

Table 1

Municipal Descriptives

	All	Female Mayor	Male Mayor	Mixed Races
Municipal Characteristics				
Long-Term Care share	0.61	0.66	0.60	0.63
	(1.9)	(2.0)	(1.9)	(1.9)
Long-Term Care dummy	0.22	0.22	0.22	0.22
	(0.4)	(0.4)	(0.4)	(0.4)
Preschool share	1.16	1.15	1.17	1.20
	(2.2)	(2.2)	(2.2)	(2.3)
Preschool dummy	0.36	0.36	0.36	0.37
	(0.5)	(0.5)	(0.5)	(0.5)
Work-life balancing serv. share	0.32	0.32	0.33	0.32
	(0.9)	(0.9)	(0.9)	(0.9)
Work-life balancing serv. dummy	0.25	0.24	0.25	0.25
	(0.4)	(0.4)	(0.4)	(0.4)
Population 2007 (000s)	8.65	11.39	8.09	9.52
	(58.4)	(91.8)	(48.8)	(69.8)
PSOE mayor (%)	34.87	37.82	34.26	35.01
	(47.7)	(48.5)	(47.5)	(47.7)
PP mayor (%)	39.88	40.69	39.71	41.03
	(49.0)	(49.1)	(48.9)	(49.2)
	(0.0)	(0.0)	(0.0)	(0.0)
Pop % above 80	7.29	7.18	7.31	7.13
	(3.8)	(3.8)	(3.8)	(3.8)
Pop % under 4	3.81	3.86	3.80	3.89
	(1.8)	(1.9)	(1.8)	(1.9)
Fraction housewives 2001 Census	0.33	0.34	0.33	0.34
	(0.1)	(0.1)	(0.1)	(0.1)
Observations	26255	4468	21787	8147
Municipality*Elections	10911	1826	9085	3348

Notes: Descriptives for all municipalities with populations over 250 for which budget data is available. Column 1 includes all municipalities, column 2 includes municipalities led by a female mayor, column 3 includes municipalities led by a male mayor and column 4 presents descriptives for municipalities with mixed races (male and female candidates run for election). A total of 62 municipalities had no budget data for the first legislature (2007-2010) and 104 of these municipalities had no budget data in the second legislature (2010-2014). Standard deviations of the selected variables presented in parentheses.

Table 2

Municipal Descriptives

	All	PP Mayor	PSOE Mayor
Municipal Characteristics			
Female Mayor	0.17	0.17	0.18
	(0.4)	(0.4)	(0.4)
Long-Term Care share	0.61	0.64	0.67
	(1.9)	(1.9)	(2.0)
Long-Term Care dummy	0.22	0.22	0.23
	(0.4)	(0.4)	(0.4)
Preschool share	1.16	0.90	1.11
	(2.2)	(1.9)	(2.2)
Preschool dummy	0.36	0.30	0.35
	(0.5)	(0.5)	(0.5)
Work-life balancing serv. share	0.32	0.26	0.30
	(0.9)	(0.8)	(0.9)
Work-life balancing serv. dummy	0.25	0.21	0.23
	(0.4)	(0.4)	(0.4)
Population 2007 (000s)	8.65	10.68	7.83
	(58.4)	(79.8)	(37.6)
Pop % above 80	7.29	7.79	7.32
	(3.8)	(4.1)	(3.8)
Pop % under 4	3.81	3.52	3.72
	(1.8)	(1.9)	(1.8)
Fraction housewives 2001 Census	0.33	0.36	0.35
	(0.1)	(0.1)	(0.1)
Observations	26255	10470	9155
Municipality*Elections	10911	4125	3844

Notes: All municipalities for which budget data is available. Column 1 includes all municipalities, column 2 includes municipalities led by a female mayor, column 3 includes municipalities led by a male mayor. Standard deviations of the selected variables presented in parentheses.

Table 3

Municipal Descriptives

	LTC	Preschool	Work-Life Bal. Serv.
Descriptives			
Avg Spend.	2,92%	3,36%	1,36%
Std Spend.	3,22%	2,64%	1,47%
Max Spend.	13,90%	11,85%	6,53%
Avg Pop.	25.098	18.039	22.669
Max Pop.	3.273.049	3.273.049	3.273.049
Min Pop.	220	217	232
Obs.	5.423	8.964	6.166
Obs.(%)	22(%)	35.6(%)	24.7(%)
Clusters	2.737	4.487	3.160

Notes: All municipalities for which budget data is available. Column 1 includes all municipalities, column 2 includes municipalities led by a female mayor, column 3 includes municipalities led by a male mayor. Standard deviations of the selected variables presented in parentheses.

Table 4

OLS - Female Mayor - Gender Policies (%)

	(1) LTC	(2) LTC	(3) Preschool	(4) Preschool	(5) Bal. Serv.	(6) Bal. Serv.
Female Mayor	0.0955*	0.118**	-0.0156	0.0125	-0.00509	-0.00641
	(0.05)	(0.05)	(0.05)	(0.05)	(0.02)	(0.02)
Population (10^6)		2.166***		0.423**		0.526
		(0.33)		(0.21)		(0.32)
Pop 80yo		0.0423***		0.0468***		0.00998**
		(0.01)		(0.01)		(0.00)
Pop 4yo		0.00887		0.170***		0.0157*
		(0.02)		(0.02)		(0.01)
R^2	0.0111	0.105	0.00732	0.235	0.00317	0.0983
Observations	25993	25965	25993	25965	25993	25965
Controls	N	Y	N	Y	N	Y
Year Effects	Y	Y	Y	Y	Y	Y
Party Effects	N	Y	N	Y	N	Y
Province Effects	N	Y	N	Y	N	Y

Notes: Dependent variable in columns 1 and 2 is the share of total spending in long-term care. Dependent variable in columns 3 and 4 is the share of spending in preschool education. Dependent variable in columns 5 and 6 is the share of total spending allocated to complementary educational services. All columns include year effects. Columns 2, 4 and 6 include province and party dummies. Controls in columns 2, 4 and 6 include average household size, average age of population, fraction of females living as housewives, fraction of population with tertiary (university) education, municipal population in levels, fraction of population with ages above 80 and fraction of population with age under 10 years of age. In all columns, standard errors are clustered at the level of municipality and term.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 5

Fixed Effects - Gender Policies (%)

	(1) LTC	(2) Preschool	(3) Bal. Serv.	(4) LTC	(5) Preschool	(6) Bal. Serv.
Female Mayor	0.0410	-0.0510	0.0187			
	(0.05)	(0.04)	(0.02)			
PP Mayor				-0.0718*	0.0382	-0.0136
				(0.04)	(0.03)	(0.02)
R^2	0.698	0.814	0.758	0.698	0.813	0.758
Observations	25993	25993	25993	25993	25993	25993
Town Effects	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Party Effects	Y	Y	Y	N	N	N

Notes: Dependent variable in columns 1 and 4 is the share of total spending in long-term care. Dependent variable in columns 2 and 5 is the share of spending in preschool education. Dependent variable in columns 3 and 6 is the share of total spending allocated to complementary educational services. All columns include year and municipality effects as well as a linear term in population. In columns 1 through 3 the independent variable of interest is an indicator taking value 1 if the mayor is female. Conversely, in columns 4 through 6 the independent variable of interest is an indicator taking value 1 if the mayor is from the center-right PP. In all columns, standard errors are clustered at the level of municipality and term.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 6

Fixed Effects - Gender Policy Dummies

	(1) LTC	(2) Preschool	(3) Bal. Serv.	(4) LTC	(5) Preschool	(6) Bal. Serv.
Female Mayor	0.000101	-0.00771	0.0187			
	(0.01)	(0.01)	(0.02)			
PP Mayor				-0.0184***	0.0112*	-0.0138**
				(0.01)	(0.01)	(0.01)
R^2	0.793	0.823	0.758	0.793	0.823	0.794
Observations	26255	26255	25993	26255	26255	26255
Town Effects	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Party Effects	Y	Y	Y	N	N	N

Notes: Dependent variable in columns 1 and 4 is the a dummy taking value 1 if the municipality engages in any long term care spending in that year. Dependent variable in columns 1 and 4 is the a dummy taking value 1 if the municipality spends in preschool service policies. Dependent variable in columns 3 and 6 is a similar dummy for spending allocated to complementary educational services. All columns include year and municipality effects as well as a linear term in population. In columns 1 through 3 the independent variable of interest is an indicator taking value 1 if the mayor is female. Conversely, in columns 4 through 6 the independent variable of interest is an indicator taking value 1 if the mayor is from the center-right PP. In all columns, standard errors are clustered at the level of municipality and term.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 7

First Stage - Female Mayor

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor
RD_Estimate	0.473***	0.462***	0.479***	0.468***	0.456***	0.484***
	(0.0420)	(0.0505)	(0.0597)	(0.0412)	(0.0524)	(0.0625)
Observations	8143	8143	8143	8137	8137	8137
Clusters	1862	2187	2589	1901	2048	2442
Controls	NO	NO	NO	YES	YES	YES
p-value	0.000	0.000	0.000	0.000	0.000	0.000
Order Poly.	1.000	2.000	3.000	1.000	2.000	3.000
Bandwidth	0.196	0.237	0.305	0.202	0.222	0.279

Sample restricted to mixed races. The dependent variable is a Female Mayor dummy in all columns and the coefficient displayed corresponds to a dummy taking value 1 if a party headed by a female candidate won the municipal election. In all columns we report results obtained restricting the sample to bandwidths around the female vote margin threshold selected using the methods described in Calonico, Cattaneo and Titiunik (2014) and Calonico et al. (2016). Columns 1 through 3 do not include controls other than the running variable on either side of the threshold. Columns 4 to 6 include controls as described in the text. Standard errors clustered at the level of town-electoral period.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 8

2nd Stage - Female Mayor - Gender Policies (%)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	LTC	Preschool	Bal. Serv.	LTC	Preschool	Bal. Serv.
RD_Estimate	0.0212	0.0938	-0.108	-0.00233	0.150	-0.0692
	(0.362)	(0.480)	(0.205)	(0.363)	(0.454)	(0.208)
Observations	8009	8014	8044	8003	8008	8038
Clusters	1702	1638	1413	1660	1662	1246
Controls	NO	NO	NO	YES	YES	YES
p-value	0.953	0.845	0.598	0.995	0.741	0.739
Bandwidth	0.176	0.168	0.141	0.170	0.171	0.122

Dependent variables: Dependent variables: Spending share over total budget in Long Term Care, Preschooling and Work and Family Life Balancing Services. In columns we report local linear regressions with triangular kernel and polynomials of order 1 fitted at the two sides of the discontinuity. Standard errors clustered at the level of town-electoral period.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 9

2nd Stage - Female Mayor - Gender Policy Dummies

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	LTC	Preschool	Bal. Serv.	LTC	Preschool	Bal. Serv.
RD_Estimate	0.00402	-0.0811	-0.00249	0.00597	-0.0698	0.00816
	(0.0910)	(0.105)	(0.101)	(0.0869)	(0.0989)	(0.0977)
Observations	8147	8147	8147	8141	8141	8141
Clusters	1639	1600	1456	1596	1474	1268
Controls	NO	NO	NO	YES	YES	YES
p-value	0.965	0.442	0.980	0.945	0.481	0.933
Bandwidth	0.168	0.162	0.145	0.162	0.147	0.125

Dependent variables: Dummy taking value one if spending in Long Term Care, Preschooling and Work and Family Life Balancing Services respectively is above zero. In columns we report local linear regressions with triangular kernel and polynomials of order 1 fitted at the two sides of the discontinuity. Standard errors clustered at the level of town-electoral period.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 10

Female Mayor - Covariates

VARIABLES	(1) Pop	(2) HH size	(3) Mean Age	(4) College	(5) Pop 80yo	(6) Pop 4yo	(7) Housewives	(8) Debt (%)
RD_Estimate	-2.763	0.0162	0.0470	0.000409	-0.368	-0.402	-0.00472	4.935
	(7.775)	(0.0492)	(1.191)	(0.0117)	(0.733)	(0.419)	(0.0237)	(6.513)
Observations	8147	8141	8144	8141	8144	8144	8141	8144
Clusters	1020	2306	1534	1639	1579	1549	1637	2042
Controls	NO	NO	NO	NO	NO	NO	NO	NO
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Order Poly.	1	1	1	1	1	1	1	1
p-value	0.722	0.742	0.969	0.972	0.616	0.338	0.842	0.449
Bandwidth	0.098	0.256	0.153	0.168	0.159	0.155	0.168	0.221

Dependent variables: (1) Population, (2) Houshold size, (3) Mean age of inhabitants in the municipality, (4) Proportion of inhabitants with a college degree, (5) Fraction of inhabitants older than 80, (6) Fraction of inhabitants younger than 4, (7) Fraction of housewives in 2001 census, (8) Outstanding debt share in 2009. In columns we report local linear regressions with triangular kernel and polynomials of order 1 fitted at the two sides of the discontinuity. Standard errors clustered at the level of town-electoral period.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 11

2nd Stage - PP Mayor - Gender Policies (Dummy)

VARIABLES	(1) LTC	(2) LTC	(3) Preschool	(4) Preschool	(5) Bal. Serv.	(6) Bal. Serv.
RD_Estimate	-0.116**	-0.104**	-0.0913*	-0.132**	-0.0996**	-0.0959*
	(0.0560)	(0.0511)	(0.0496)	(0.0556)	(0.0473)	(0.0494)
Observations	18228	18225	18228	18225	18228	18225
Clusters	3203	3203	4821	3160	4323	3245
Kernel	Tri.	Tri.	Tri.	Tri.	Tri.	Tri.
Controls	NO	YES	NO	YES	NO	YES
Order Poly.	1	1	1	1	1	1
p-value	0.039	0.042	0.066	0.018	0.035	0.052
Bandwidth	0.158	0.158	0.254	0.155	0.222	0.161

Dependent variables: Dummy taking value one if spending in Long Term Care, Preschooling and Work and Family Life Balancing Services respectively is above zero. In columns we report local linear regressions with triangular kernel and polynomials of order 1 fitted at the two sides of the discontinuity. Standard errors clustered at the level of town-electoral period.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Table 12

PP Mayor - Covariates

VARIABLES	(1) HH size	(2) Mean Age	(3) College	(4) Ederly	(5) Children	(6) Housewives	(7) Debt
RD_Estimate	-0.0127	0.768	-0.00609	0.505	-0.288	-0.0159	2.949
	(0.0404)	(0.791)	(0.00624)	(0.548)	(0.216)	(0.0138)	(4.249)
Observations	18225	18225	18225	18225	18225	18225	18228
Clusters	3386	3274	3320	2981	4354	3581	3623
Controls	NO	NO	NO	NO	NO	NO	NO
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Order Poly.	1	1	1	1	1	1	1
p-value	0.753	0.331	0.329	0.357	0.183	0.247	0.488
Bandwidth	0.169	0.163	0.164	0.146	0.224	0.179	0.182

Dependent variables: (1) Population, (2) Household size, (3) Mean age of inhabitants in the municipality, (4) Proportion of inhabitants with a college degree, (5) Fraction of inhabitants older than 80, (6) Fraction of inhabitants younger than 4, (7) Fraction of housewives in 2001 census, (8) Outstanding debt share in 2009. In columns we report local linear regressions with triangular kernel and polynomials of order 1 fitted at the two sides of the discontinuity. Standard errors clustered at the level of town-electoral period.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.