Erasmus University Rotterdam
Erasmus School of Economics

Master thesis Economics of Markets and Organisations

An empirical test of the pivotal voter theorem

Name Student: Harm Clerx

Student ID number: 492861

Supervisor: Prof. Josse Delfgaauw

Second assessor: Jori Korpershoek

Date final version: 22-06-2022

Table of Contents

Abstract

Voter turnout is declining all over the world. This worries society as low turnout is associated with biased results and policy tailored to the voter group. The pivotal voter theorem argues that an increase in pivotality should, ceteris paribus, lead to an increase in voter turnout as the benefits of voting increase while the costs stay the same. In this paper this theoretical prediction will be tested using a sharp regression discontinuity design. In article L2121-2 of the French general code of local and regional authorities a sharp increase in municipality council seats is dictated at certain population thresholds. This makes people more pivotal and can thus be used to test the theory. Article L2121-2 has been in place since 2014 allowing for the use of both the 2014 and 2020 data. After correcting for multiple hypothesis testing, no significant result is found of an increase in seats on turnout. This is caused either by the effect of additional candidates at the threshold or because people are not concerned with actual pivotality when making their voting decision.

Introduction

Average turnout across the world has declined in almost every continent over the past 30 years (International Institute for Democracy and Electoral Assistance, 2016). Trivially, this means that the group of non-voters is growing compared to the voters. Non-voters are often lower educated, younger, less religious and poorer than voters (Nevitte et al., 2009). In theory this can bias results and policy through unequal turnout as politicians tailor their policy to the voter group (Lijphart, 1997). Nevertheless, empirical tests of bias for election results find that it is unsystematic which leads to limited overall bias on election results (Lutz & Marsh, 2007; Rosema, 2007). Moreover, when comparing the difference in policy preferences for voters and non-voters they are very similar which makes tailoring policy difficult (Shaffer, 1982; Studlar & Welch, 1986).

Still, declining turnout is seen as a problem by many in society. Despite what the literature says, in several elections across the world it was argued that low turnout did change the results in the past years (British Broadcasting Cooperation, 2019; Algemeen Dagblad, 2022b; Radio France Internationale, 2022). Other media also explicitly call it a problem that needs solving (Center for American Progress, 2021; NRC, 2022). Furthermore, politicians care about turnout too. In the 2022 municipality elections in the Netherlands, the Minister of Internal Affairs announced an investigation into voter turnout within 24 hours of the publication of the election results in which turnout dropped with five percentage points (NOS, 2022). Although politicians do not often elaborate on why low turnout is a problem, multiple politicians describe the low turnout is ‘alarming’ and ‘very disheartening’ and want to investigate how to improve turnout in the coming years (Algemeen Dagblad, 2022a).

Given that society and politics clearly care about voter turnout, it is crucial to understand which factors drive turnout. This will help to determine whether and how voter turnout can be improved in a way that does not waste resources. Factors that correlate with voter turnout can be categorized into one of three categories: socio-economic environment, institution, and party systems (Blais & Dobrzynska, 1998).

Socio-economic correlations are GNP per capita, economic development and population size (Powell, 1984). Institutional factors that correlate with turnout are the compulsory vote (Fowler, 2013), the voting system and the importance of the election

(Franklin, 1996). The number of parties (Powell, 1986) and the closeness of the election (Blais & Carty, 1990) are examples of party system factors which correlate with turnout.

This paper will focus on the pivotal voter theorem as an explanation of the inverse socio-economic association between population and turnout. This theorem argues that voting is a cost-benefit analysis and that (part of) the benefit of voting is driven by the probability of influencing the election outcome (Downs, 1957; Tullock, 1967; Riker & Ordeshook, 1968). The rational individual votes when the benefit of voting exceeds the cost of voting. Benefits consist, among others, of the probability of one's vote being pivotal multiplied by the benefit of changing the results. Trivially, this means that if the probability of being pivotal increases while the rest of the factors are constant, turnout should increase as the benefits of voting increase while costs stay the same.

Municipality elections in France grant a great opportunity to empirically test this theory. Municipalities in France are given a number of seats in their municipality council based on their population, as described in article L2121-2 of the 'code général des collectivités territoriales', the general code of local and regional authorities in France (Légifrance, 2014). These seats are determined based on sharp cut-offs at certain population levels. Additional seats at a similar population level result in additional pivotality[1]. Article L2121-2 thus facilitates the use of a sharp regression discontinuity design (RDD) as one extra person in a municipality can result in more seats. The probability of the treatment, in this case extra seats, is one after the threshold and zero before. This article is unchanged since 2014, allowing the use of 2014 and 2020 French municipality election data. Table A1 in the appendix shows the number of seats per population level.

Next to testing for a jump in turnout at the seat thresholds in the main analyses, several sub analyses will be carried out. These sub analyses have several purposes. First, it will be analysed whether the effect on turnout persist throughout the years, as the theory would predict, or whether the effect observed in the main analysis is an anomaly caused by a single year. Moreover, two sub analyses will split the data based on theoretical predictions which should cause a higher turnout. It can then be examined if the result found at the threshold is sensitive to the base voter turnout in the election. Additionally, this paper will examine whether the effect differs at the threshold for municipalities which supported the losing

---

[1] This mechanism will be explained in more detail in section 3

candidate in the preceding presidential election. This research is mainly of an exploratory nature to explore whether supporting a losing candidate makes a difference in the next election. Lastly, France uses different voting systems for those municipalities below and above 1,000 in population. In this last sub analysis, it will be investigated whether this difference in voting system also causes a difference in candidates, votes cast or turnout. Like the research on the losing candidate, this sub analysis is of an exploratory nature.

The rest of this paper will be structured as follows. In the next section the French institutional structure and the French municipality elections are explained. Section 3 will discuss the validity of the design. Section 4 discusses the data, section 5 discusses the methodology and in section 6 the results are presented. Section 7 goes over the interpretation and limitations and the paper concludes in section 8.

French institutional structure and municipality elections

The geographical structure of France has several layers. In 2021, there were 34,965 municipalities, divided into 101 departments. These departments are divided into 18 regions (Ministère de la Cohésion des territoires et des Relations avec les collectivités territoriales, 2021). All these layers have their own elections. This paper will focus on the municipality elections.

Municipality elections are organized differently depending on the population. This threshold was changed in 2013 from 3,500 to 1,000 allowing the use of 2014 and 2020 data (Légifrance, 2013b). For the 2014 and 2020 elections municipalities with a population under 1,000 and those with a population above 1,000 follow a different set of election rules.

For municipalities with a population under 1,000 majority two-round voting with panachage is used. Under panachage voters get a ballot with the names of all candidates on which they cross off names until only those names remain that they want to vote for. Voters can vote for multiple representatives at the same time. Voters must vote for at least one candidate and at most they can vote for an amount of people equal to the number of seats. Votes per candidate are tallied by the number of votes received. Representatives are elected in the first round when they receive at least 25 percent of votes compared to the eligible population and 50 percent of the votes cast. If there are any remaining seats there is a second round in which the candidates obtaining the greatest number of votes are selected until the municipality council is completed (Vie publique, 2021b). The big advantage of this system for this paper is that it allows voters to know the number of seats in the municipality council, so that they can actually know their pivotality.

For municipalities with a population above 1,000 proportional list two-round voting with majority bonus is used.[2] Voters vote on lists instead of people and can only vote for one list. The lists on which one can vote are composed of as many women as men, which must be alternated on the list. The first round is sufficient if one list obtains the absolute majority of votes cast. This list then gets half of the seats, rounded up if necessary. The rest of the seats are then distributed proportionally over the lists which received at least five percent of the votes. If no majority is obtained in the first round a second round is organized. Only lists that received at least 10 percent of the votes cast are allowed to participate. They may merge with other lists that received at least five percent of the votes. Distribution follows the same pattern as in the first round. If a list received a majority they receive half of the votes, with the lists with at least five percent getting the rest of the seats. If there is no majority again seats are distributed proportionally over the lists with at least five percent of the votes (Vie publique, 2021a).

Validity of the design

In line with the theoretical literature, the probability of being pivotal is defined as the probability that the election outcome is changed in favour of the party that one voted for. Therefore, the probability of affecting the outcome and gaining the benefit of affecting the election results is equal to the probability that in the absence of the individual's vote the candidate is not elected, but if the individual does vote, the candidate is elected or gains an additional seat.

As described in the theory by Riker and Ordeshoek (1968), election results can only be influenced if the vote cast breaks or creates a tie. In the municipalities with a population under 1000 there is only one relevant threshold, as candidates cannot get more than 1 seat. In the first round it only matters whether one has more than half of the casted votes and a quarter of the eligible voters. In the second round it only matters that the candidate has more votes than the candidate who fills the last seat. In both rounds per candidate there is thus only one

---

[2] Note that the change in voting system is the only change occurring at 1,000 population. There is no change in number of seats, these change at 500 and 1,500 population.

possible situation per candidate in which the vote of the individual is pivotal. However, in the 11-seat municipality one can vote for 11 representatives, meaning that the individual has 11 chances to affect this threshold compared to the seven chances that the individual in the 7-seat municipality has. Therefore, the candidate in the 11-seat municipality has, ceteris paribus, a higher chance of affecting the election outcome.

In the municipalities with a population above 1000, there are several relevant thresholds, given that lists can obtain multiple seats. A list can thus draw with other lists for any number of seats. If there are more seats, there are more seats to be divided and therefore there are more thresholds at which a voter can grant their preferred list an extra seat. Consider the extreme case in which crossing the threshold results in a seat per person rather than one seat in total. In the first case one's vote has immediate effect on the outcome, whereas in the second case one must make sure their party gets the most votes by relying on others and their vote is pivotal only in specific cases. In the latter case, the probability of affecting the outcome is small, especially in a relatively big municipality, while in the former case the probability of affecting the outcome is one.

This is further supported by research from Lyttikäinen and Tukiainen (2013) who ran simulations based on actual Finnish municipality election data and recorded the number of times an additional vote would have been pivotal. They found that at thresholds of seat changes the probability of being pivotal sharply increases. Also, the effect gets smaller with bigger jumps in population but similar or smaller jumps in the seat increase as should be expected. Given that additional seats result in a higher pivotality, the pivotal voter theorem predicts that additional seats will lead to a jump in turnout at the threshold. For municipalities with a population above 1,000 it is assumed that the pivotality is driven purely by affecting the election result and not by the influence on enacted policy. One could argue that in a bigger council, a single member would have less to say. This would result in a higher probability of pivotality, but lower benefits of affecting the result, resulting in an ambiguous effect. For municipalities with a population under 1,000 this line of reasoning is not valid, as they can vote for as many candidates as there are seats. Therefore, their influence on the enacted policy stays the same for a larger municipality council.

According to the theory, a jump in voter turnout should be expected at the threshold. However, it should also be expected that the effect is smaller at a higher population level, since the increase in pivotality is smaller in these municipalities as the municipality size increases faster than the seats.

The RDD used in this paper has one caveat as there might be two changes at the threshold. The first one is the actual seat change. The second is the change in the number of candidates. Given that there are more seats at the threshold, this may have an influence on the potential candidates which apply for candidacy. This is also observed in the data. In table A2 it is observed that at the thresholds the number of candidates, especially in the municipalities with a population under 1,000, sharply increases. This increase in candidates is comparable to the increase in seats. Therefore, in this paper the effect of the RDD always measures the joint effect of additional candidates and additional seats rather than only the effect of additional seats.

In the literature there has been a lot of research on the pivotal voter theorem. Several proxies for pivotality have been used in field experiments, such as the closeness of the election (Blais et al., 2000) and the number of people which are eligible to vote (Hansen et al., 1987). Additionally, there are also a multitude of lab experiments (Duffy & Tavits, 2008; Labbé St-Vincent, 2013). Lyttikäinen and Tukiainen (2013) is, to my knowledge, the only paper that also uses an RDD to discover the effect of additional seats. The authors combine the RDD with an IV to test if pivotality affects turnout. Their IV regresses turnout on the simulated pivotal probability and the number of candidates, where threshold dummies are used as instruments. They found that the number of candidates, which changes at the thresholds in their data as well, has no effect on turnout. Seat changes do have a significant positive effect on turnout of roughly two to three percent in Finland. Still, this paper adds to the literature as it uses a pure RDD and it can be used to see if these results are robust across countries, as France and Finland are very different.

It is not unlikely that pivotality influences turnout. In the first round of the 2020 municipal elections in France 27 percent of non-voters reported that their vote would not change anything as one of the top three reasons for not voting (Ipsos, 2020). In the 2022 municipality elections in the Netherlands, 15 percent of non-voters reported as their main reason that their vote would not matter. (Ipsos, 2022). Although this motivation to not vote because of the vote changing nothing can have several underlying causes, it is most likely that people are pushed into the non-voter group by the perception that their vote does not influence the overall outcome.

Data

Article L2121-2 has been enacted since 2014, allowing the use of the data for both the 2014 and 2020 municipal elections. This provides the eligible population, the turnout and the invalid votes per municipality per round. These results are obtained from the French government (République Française, 2022). For 2020, this data also includes the different types of invalid votes, namely the number of blanc votes and the number of null votes. As per article R25-1 from the 'code électoral', the regulation for elections, the last authenticated population number before the elections is used to determine the number of seats (Légifrance, 2009). For 2014 and 2020 these are the population figures of 2011 and 2017, authenticated by decree No. 2013-1289 and decree No. 2019-1546 respectively (Légifrance, 2013a; Légifrance 2019). The total of round one and two in 2014 and 2020 provides 82,389 observations over 36,726 unique municipalities. The municipalities of Paris, Lyon and Marseille are excluded as they have their own unique seat division.

This data allows the running of an RDD with population as the running variable, the number of seats, elicited from population, as the treatment variable and turnout as the outcome variable. For the seat thresholds of 11 to 49 there is enough data to run this RDD. This amounts to all the data up to municipalities with 70,000 in population. This is done as observations are a lot less present after 70,000 as can also be observed in table A1.

Additionally, data on median income, age groups and education for 2014 are obtained from the 'Institut National de la Statistique et des Études Économiques' (INSEE) (INSEE, 2017a; INSEE, 2017b). For 2020 this data is not yet available. Moreover, data on the turnout and results in preceding presidential elections for the 2014 and 2020 municipality election, the 2012 and 2017 presidential elections, are obtained from the French government (République Française, 2022).

Methodology

In this paper a sharp regression discontinuity design (RDD) will be used based on the population cut-offs that determine the number of seats in the French municipality elections.

If the assumptions of the RDD hold this provides a causal effect. In this instance a compelling case can be made that these assumptions are met. There is a known and measured deterministic decision rule, given by article L2121-2, which moves the probability of treatment from 0 to 1 at the cut-off. The municipalities below and above the threshold should also not differ significantly. Although this cannot be excluded, it seems unlikely that a few people make a significant difference to the municipality. People are also unlikely to manipulate their position at the threshold as that would take an exorbitant amount of planning and luck. There is one additional difference that is observed in the data at the thresholds. These are the number of candidates. No other sources could be found, excluding seats and candidates, which change at the threshold. However, the effect that is found should thus be interpreted as the joint effect of the additional candidates and the change in seats.

All thresholds specified in article L2121-2 for which there is enough data at the thresholds will be tested. In practice, this means that the thresholds from 11 to 49 seats will be used. Including the thresholds at higher seat values did not change the interpretation. Special attention will be given to the municipalities with a population under 1,000 population, as they use panachage and therefore it is relatively easy for these municipalities to know how many seats there are. The thresholds above 1,000 will also be tested but should be interpreted with caution as it is unknown whether people actually know the number of seats. If they do not know this, they can obviously not take this into account in their voting decision.

Multiple specifications will be used. In all specifications different trends on both sides of the threshold will be allowed for. Bandwidths are selected using the method described in Calonico et al. (2017). In the first specification there are linear trends on both sides of the threshold, with different possible trends on both sides and year fixed effects. T_i is the turnout for municipality i, β_0 is the constant, D_i is the dummy for being above the threshold, Y_i is a dummy which is 1 if the year is 2020, and 0 if the year is 2014. P_i is the population for municipality i, P_0 is the value of the population at the threshold, γ_t are the time fixed effects and θ_d are department fixed effects. All specifications will be run both with the department fixed effects and without.

The first specification allows for a different linear specification on both sides of the threshold.

$$T_i = \beta_0 + \beta_1 D_i + \beta_2 (P_i - P_0) + \beta_3 D_i\,(P_i - P_0) + \gamma_t + \theta_d \qquad (1)$$

In the second specification different linear trends are available on both sides of the threshold and these trends are also allowed to be different per year.

$$T_i = \beta_0 + \beta_1 D_i + \beta_2(P_i - P_0) + \beta_3 Y_i(P_i - P_0) + \beta_4 D_i\ (P_i - P_0)) + \beta_4 D_i Y_i\ (P_i - P_0) + \gamma_t + \theta_d \qquad (2)$$

The third specification allows for a different quadratic specification on both sides of the threshold.

$$T_i = \beta_0 + \beta_0 D_i + \beta_0(P_i - P_0) + \beta_0(P_i - P_0)^2 + \beta_0 D_i\ (P_i - P_0) + \beta_0 D_i(P_i - P_0)^2 + \gamma_t + \theta_d \qquad (3)$$

The fourth specification allows both for a different quadratic specification on both sides of the threshold and per year.

$$T_i = \beta_0 + \beta_0 D_i + \beta_0(P_i - P_0) + \beta_0(P_i - P_0)^2 + \beta_0 Y_i(P_i - P_0) + \beta_0 Y_i(P_i - P_0)^2 + \beta_0 D_i\ (P_i - P_0) + \beta_0 D_i(P_i - P_0)^2 + \beta_0 D_i Y_i\ (P_i - P_0) + \beta_0 D_i Y_i(P_i - P_0)^2 + \gamma_t + \theta_d \qquad (4)$$

The analysis will also be broken down by year, round and presidential election factors. These will be used to test if the effect size is persistent and different for higher base turnout. Testing all these thresholds grants a lot of coefficients. Therefore, multiple hypothesis correction will be used. The adjusted p-value that will be used is the Romano-Wolf stepdown adjusted p-value (Clarke et al., 2020). This accounts for correlation across outcomes, which is important as an effect that occurs at one threshold, is also expected to occur at different specifications of that threshold and at other thresholds.[3]

These sub analyses by year, round and presidential election factors will be conducted using the data on municipality and presidential elections.

The first and second sub analysis are the analyses at the seat threshold for year and round using the municipality data to check whether the effect is more pronounced for these subgroups. The third and fourth sub analysis use the presidential data and split the data on polarization and whether a municipality supported the loser.

In the first sub analysis the data will be split on year, to see if the effect is different for 2014 and 2020. If the theory is right, it should be expected that there is an effect in both 2014 and 2020, as the effect should persist throughout the years.

---

[3] A more extensive explanation can be found in Appendix A

Second, the data will be split on round, to check if the effect is different in the first and second round of the election. In this analysis it should be expected that the only municipalities in which the elections were close go to a second round. Although a higher base turnout may be expected, at the threshold both rounds should yield an effect as additional seats still give extra pivotality, but this could shed light on the difference in the jump at higher base turnout levels.

Third, the data will be split based on the top 50 percent of absolute percentage point distance from a 50/50 vote for both presidential candidates in the second round of the preceding presidential election. This is done to create a proxy for polarization. The proxy works as follows. The absolute distance from 50 percent vote for the winner is constructed, which is the distance from a 50/50 result in the second round of the presidential election. Literature has shown that increasing polarization increases turnout (Abramowitz & Stone, 2006). This analysis may thus give insight into the difference in the jump at the threshold at a higher base turnout level. If the results of the second round and this analysis overlap, it provides strong evidence for the effect at higher base levels. Still, according to the pivotal voter theorem there should be an effect for both groups at the thresholds. It is of an exploratory nature to see if these differ.

For the fourth sub analysis, the data will be split on a dummy which will be set to 1 if more than 50 percent of the municipality voted for the losing candidate in the preceding presidential election. This comparison is of the exploratory nature and could shed light on what it does with perceived pivotality when one voted for one candidate, but the other still won.

Moreover, as mentioned before, the voting system changes at a population of 1,000 from majority two-round voting with panachage to proportional list two-round voting with majority bonus. Interestingly, the number of seats does not switch at the threshold of a 1,000 people, but only at 500 and 1,500. Therefore, the last sub analysis will dissect whether the change in voting system has any effect on the turnout, number of candidates and blanc, null and invalid votes. Given that the two voting systems are very specific, there are no expectations, and the results will be of exploratory nature.

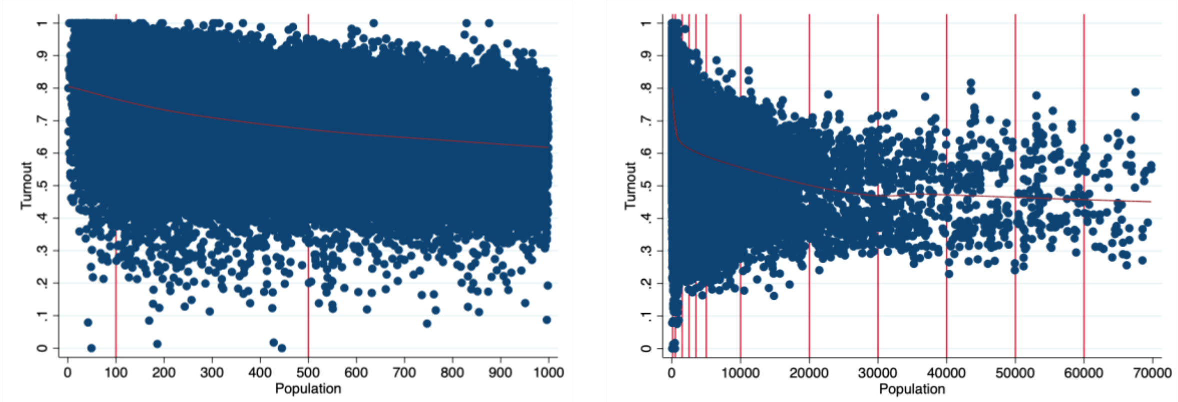
Results

The results are split up into three parts: the descriptive statistics, the main results and the results of the sub analyses. The descriptive statistics consist of the correlation between population and turnout in the sample, descriptive statistics of the data and balance tests at the thresholds. The main results consist of the linear and quadratic RDD. The sub analyses consist of these same RDD's, but split by year, round, polarization and support for the loser or winner in the preceding presidential election. This will be supplemented with an RDD on the change of voting system which occurs at a population of 1,000.

Descriptive statistics

Similar to the literature, figure 1 shows the negative correlation, fitted with Locally Weighted Scatterplot Smoothing (LOWESS), between population and turnout. Panel A shows the municipalities with the majority two-round voting with panachage. Panel B shows the correlation up to 70,000 in population as these are the municipalities used in this paper. In both figures there is a clear downward trend between population and turnout visible although this does weaken the more people there are in the municipality.

Figure 1. Correlation between turnout and population with thresholds



Panel A. Turnout for municipalities with under 1,000 in population

Panel B. Turnout for municipalities with under 70000 in population

Notes. This figure shows the correlation between population and turnout for municipalities with under 1,000 in population in panel A and for municipalities under 70000 in population in panel B. Turnout is given on the y-axis and population on the x-axis. The vertical red lines are the thresholds at which there is a seat change and the fitted line is the LOWESS.

Table 1 below shows the descriptive statistics for the main variables used in this paper. In this table it can be observed that the eligible population is roughly 68 percent of the actual population within a municipality. Moreover, average turnout is just under 67 percent and a relatively small percentage of votes are blanc or null votes. Median income is relatively stable. On average, 45 percent of people has obtained a 'Brevet d'Etudes du Premier Cycle' (BEPC), college patent, 'Diplôme National du Brevet des Collèges' (DNB), 'Certificat d'aptitudes Professionelles' (CAP) or 'Brevet d'Etudes Professionelles' (BEP) at most. 12 percent have a baccalaureate at most, and 16 percent are highly educated. Over the whole sample, just over 29 percent of people are between 2 and 30. Turnout in the preceding presidential election was, on average, roughly 15 percent higher than in the municipality elections. The winner of the presidential election in the second round over 2010 and 2016 on average had a slim majority of 53 percent. On average there were just over 2 lists and just under 23 candidates on the ballot.

Table 1 – Descriptive statistics

	Observations	Mean	Std. Dev.	Min	Max
Total population	82,389	2,112	9,595	1	484,809
Eligible	82,389	1,427	5,620	5	254,547
Turnout	82,389	.668	.149	0	1
Legal votes	82,389	734	2,589	0	141,577
Blanc votes	39,486	.015	.027	0	1
Null votes	39,486	.029	.043	0	.687
Median income	38,723	20,371	2,889	9,958	45,902
Out of school	42,115	.739	.054	.312	1
Low education	42,115	.451	.087	.077	1
Middle education	42,115	.128	.030	0	0.5
High education	42,115	.160	.058	0	0.75
People under 30	42,115	.291	.059	0	.680
Preceding turnout	82,389	.825	.057	.153	1
Preceding votes winner	82,368	.529	.130	0	1
Number lists	22,649	2.34	1.42	1	16
Number candidates	70,827	22.94	33.74	1	916

Notes. This table shows the descriptive statistics of the variables. Total population shows the last certified population before the municipality election. Eligible shows the number of people who are eligible to vote. Turnout is a variable between 0 and 1 which captures the percentage of people who voted. Legal votes shows the number of legal votes. Blanc votes and null votes are variables between 0 and 1 which show the percentage of blanc and null votes as a share of the votes cast. Median income is given in euros. Out of school is a variable which ranges from 0 to 1 and captures the fraction of people that is not currently enrolled in any school that is 15 and older. All other education statistics are also for people above 15. Low education is a variable from 0 to 1 which captures the fraction of all the people that are out of school which have a BEPC, college patent, DNB or CAP/BEP at most. Middle education is a variable from 0 to 1 which captures the fraction of all people that are out of school and have a general, technological or professional baccalaureate. High education is a variable from 0 to 1 which captures the fraction of all people that are out of school and have a higher education diploma. People under 30 is a variable between 0 and 1 which capture the fraction of people that are between the age of 2 and 30. Preceding turnout is a variable between 0 and 1 which denotes the turnout in the presidential election preceding the municipality election. Preceding votes winner is a variable between 0 and 1 which denotes the percentage of votes the winner of the presidential election obtained. Number of candidates are the number of candidates that stand on the ballot both in municipalities with a population above as below 1000. Number of lists are the number of lists that are on the ballot for municipalities with a population higher than 1000. Blanc and null votes are only provided for 2020 due to the specification of invalid votes not being public in 2014. Median income, the school variables and the people under 30 are only provided for 2014 as numbers for 2020 are not published yet.

Before diving into the results of the RDD it is first necessary to establish that there is balance between the groups at the thresholds. The results of the balance tests are given in table A2 in the appendix. Among the tested variables are also age, income and education, all which are relevant factors for voter turnout as mentioned before (Nevitte et al. 2009). The results show that, after correcting for multiple hypothesis testing, only a few significant results remain. Most of these should be expected, such as the significant change in number of candidates and number of lists, also discussed before, which sharply change at the threshold. For 11 seats several significant results remain. These are people under 30 and the absolute percentage gap to a 50/50 result in the previous presidential election. Although these coefficients are of statistical significance, the value of the coefficients is roughly one percent and the actual economic significance is debatable. At the 11-seat threshold there are 100 people, which corresponds to 1 person who is under 30 instead of over 30 and 0.7 person who voted for one candidate over the other resulting in 1.3 total gap. Nevertheless, above the threshold people are thus slightly younger and the election is expected to be a little closer. The latter would correspond with a slightly higher turnout and the former with a slightly lower turnout according to Nevitte et al. (2009). The results of the regressions done for 11 seats should thus still be interpreted with caution. All other statistically significant results fall away after the multiple hypothesis correction.

Main results

Table A3 and A4 give the coefficients for the RDD for all eight linear and quadratic specifications and for all seat changes, from 11 to 49. Turnout is given from 0 to 1. This means that the only significant coefficient in table A3, the third column of 49 seats, should be interpreted as a jump in turnout of 9.5 percentage points at the threshold. Trivially, this would be very economically significant. However, from the rest of table A3 it is immediately clear that this jump at the threshold does not actually exist. With only one significant result at the 10 percent level for the 49-seat threshold, it is no surprise that when controlling for multiple hypothesis testing, the significance disappears completely, with the lowest Romano-Wolf p-value being 0.952. The quadratic specification in table A4 does not change a lot. Although there are more statistically significant results, these are all the result of a positive and negative parabola connecting at the threshold, more so creating the effect than uncovering any effect.

Moreover, when controlling for multiple hypothesis testing, the effect, like in the linear specification, completely disappears, with the lowest Romano-Wolf p-value being 0.776.

However, there is still one concern that remains. Of the 81,797 observations for which there is data on the number of candidates and the number of lists, 36,832 have nothing to choose. This occurs because there are less than or an equal number of candidates to the number of seats in municipalities with less than 1,000 inhabitants or there is only one list in municipalities with more than 1,000 inhabitants. This means that their pivotality is by definition 0, because there is nothing to change in favour of the candidate or list they support. It could be that these municipalities where there is nothing to choose are dampening the results. Therefore, table A5 repeats the main results for linear and quadratic specification only for those municipalities that have something to choose in their municipality elections. 39 to 49 seats are excluded here, since all municipalities that were considered in table A3 and A4 had more than 1 list. Different year trends will be excluded as table A3 and A4 show that this does not change the interpretation of the result. Column 1 and 2 report coefficients for the linear specification and column 3 and 4 report coefficients for the quadratic specification. The results observed in table A5 are very similar to those in A3 and A4. There are some significant results, but after controlling for the testing of multiple hypotheses, no significant results remain.

All in all, two scenarios could be at play. Given that the effect given by the RDD tests for a joint effect of the increase in seats and the increase in candidacy, either both effects cancel each other out or both effects are zero. It seems unlikely that in this data a persistent effect exists which affects multiple thresholds in the same way as the theory would predict.

Sub analyses results

The sub analyses results given in table A6 to A9 were carried out for the thresholds of 11 to 35 seats as there were sufficient observations to split the data on. Table 2 to 5 show the population, turnout and number of observations for each split. The analyses of table A6 to A9 were also carried out using the sub-sample of pivotal municipalities. Those Romano-Wolf adjusted p-values can be found in table A10.

The population, turnout and number of observations by year split can be observed in table 2. First off, note that there are less municipalities in which there were elections in 2020. Several municipalities have merged throughout the years resulting in less, but on average slightly larger, municipalities. Interestingly, there is a huge gap in turnout. Looking at historical data, a slight downward trend is observed, and should be expected, in municipality voter turnout. However, the decline from 2014 to 2020 is exacerbated by COVID (Leromain & Vannoorenberghe, 2022). Interestingly and unintentionally, next to checking if the effect persists throughout years, it allows to check if the effect differs for higher base levels of turnout. If there are differences, these would not necessarily be causal, given the additional differences between the 2014 and 2020, but would give an indication that it may be interesting to further look in to.

Table 2 – Population and turnout for year split

	2014	2020
Population	2,043	2,187
Turnout	.742	.588
Observations	43,029	39,360

Notes. This table shows the population, turnout and observations for the number of municipalities in the 2014 and 2020 municipality elections. Turnout is given from 0 to 1.

The results of the analysis per year are given in table A6. Columns 1 and 2 correspond to 2014 and columns 3 and 4 correspond to 2020. Table A6 clearly shows that significant results that exist without multiple hypothesis correction are scattered. Significant results for linear specifications do not carry over to quadratic specifications for the same year and same number of seats. Moreover, some results are observed in 2014 and some in 2020, without a clear pattern. This shows that there is not a consistent coefficient, or at least a consistent sign that carries over year on year. This goes against the theory as in both years there is a discontinuity in seats, so in both years there should be an observable effect. Additionally, multiple hypothesis testing makes most results null findings, except the finding in column 3 and 4 of the quadratic specification of 15 seats. Similar to in table A4, this seems to be mostly driven by the positive and negative parabola which lead to a gap at the threshold which is not actually there. Moreover, it can be observed in column 3 and 4 of the linear specification that this effect is not robust to other specifications. In table A10 similar results are found for the sub-sample of pivotal municipalities. There is one result which remains significant at the 10 percent level. This result occurs in 2020 at the 33 seats threshold with the quadratic specification and without department fixed effects. Similar to the findings in the whole sample, this seems to be mostly driven by opposing parabolas as the result does not hold up in the linear specification or with the addition of department fixed effects. Therefore, neither a persistent effect is found, nor a difference in effect for differences in levels of base turnout.

Table 3 shows the population, turnout and number of observations per round. It is observed that municipalities which continue to a second round are often larger, which could be partly due to the different system used in municipalities with a population above 1000. Surprisingly, the turnout only differs 0.8 percentage points and is higher in the first round. This is not in line with the expectation that there would be higher turnout in the second round as the election can be expected to be closer. It can also be observed that there are relatively few second rounds overall. Only in just over 15 percent of the municipalities a second round is required to decide the election.

Table 3 – Population and turnout for round split

	Round 1	Round 2
Population	1,777	4,293
Turnout	.669	.661
Observations	71,417	10,972

Notes. This table shows the population, turnout and observations for the number of municipalities having first and second rounds in municipality elections. Turnout is given from 0 to 1.

Table A7 shows the results for the analysis per round. Columns 1 and 2 correspond to round 1 and columns 3 and 4 correspond to round 2. Similar to the year analysis, most significant results are found at 11 and 15 seats, with the significant coefficient carrying over from the linear to the quadratic specification. For both 11 and 15 seats the coefficients are also way larger in the second round than in the first round. Nevertheless, once multiple hypothesis testing is controlled for, none of the coefficients remain significant, with only the third column of 15 seats in both the linear and quadratic specification coming close to significance. However, even if it is close to significance, column 4 shows that the result is not very robust to adding department fixed effects. The opposite is observed in the sub-sample of pivotal municipalities. In the first round at the 11-seat threshold with the quadratic specification with department fixed effects significance remains after controlling for testing multiple hypotheses. This, like all the other significant results before, is not robust to a different specification as the adjusted p-value with the linear specification is 0.911. Therefore, it is unlikely that such an effect is more pronounced at a given threshold in both samples. The different rounds thus do not seem to make a difference in both turnout and the effect of additional pivotality through more seats.

Table 4 shows the population, turnout and number of observations for the median split using the absolute distance to a 50/50 result using the presidential election data. Similar to the difference in the round analysis, the expected higher base turnout is not observed. Although the turnout is 0.6 percentage points higher in polarized municipalities, these are also the municipalities with, on average, a lower population. In other words, the gap is even smaller than 0.6 percent after adjusting for population. More polarization in a preceding presidential election thus does not seem to lead to additional turnout. This could be due to several factors, but one of the most compelling is the difference in polarization in presidential elections and municipality elections. It seems that polarization observed in presidential elections does not carry over to polarization in municipality elections.

Table 4 – Population and turnout for polarization split

	Polarized municipalities	Non-polarized municipalities
Population	1,706	2,518
Turnout	.671	.665
Observations	41,209	41,180

Notes. This table shows the population, turnout and observations for the median split on the absolute gap to a 50/50 result in the preceding presidential election. Turnout is given from 0 to 1.

In table A8 the results for the analysis by polarization are given. In this analysis the data was split on the absolute gap from a 50/50 result in the preceding presidential election. Columns 1 and 2 show the group with the lowest 50 percent of absolute difference and columns 3 and 4 show the group with the highest 50 percent of absolute difference. Similar to both table A6 and table A7 most of the significant signs are at 11 and 15 seats. The significant results show a similar pattern to the year analysis. Significant signs are scattered, often not surviving a change in specification. Moreover, sometimes the top 50 percent has a significant coefficient and sometimes the bottom 50 percent has a significant coefficient. There is thus not a clear pattern throughout the results. Additionally, once the correction for multiple hypothesis testing is applied significance completely disappears. The only coefficients which come close to significance are, just like in A6 and A7, to be found at the quadratic coefficients of 15 seats, where a positive and negative parabola meet in the middle and seem to create an effect which is close to significance, which, judging by the other coefficients at 15 seats, does not exist very convincingly. Moreover, in table A10 it can be observed that all results are clearly insignificant after controlling for testing multiple hypotheses, with the lowest p-value being 0.537. Taken together, it thus also seems unlikely that the effect is more pronounced in municipalities or that there is an effect in one of the two sub-samples which dampened the overall result.

Table 5 shows the population, turnout and number of observations for the municipalities in which the majority supported the winner in the preceding presidential election and for the municipalities in which the majority supported the loser in the preceding presidential election. Like before, the higher turnout is observed in the municipalities in which there is, on average, a lower population. However, this gap is substantially bigger than in the round and polarization split. This could be used again to check if in this split a different effect is observed for a higher base turnout.

Table 5 – Population and turnout for support in preceding election split

	Supported winner	Supported loser
Population	2,791	1,204
Turnout	.647	.697
Observations	47,494	34,167

Notes. This table shows the population, turnout and observations for the median split on whether the majority of a municipality supported the winner or the loser in the preceding presidential election. Turnout is given from 0 to 1.

Table A9 shows the results for the analysis where the data was split on whether the majority of the municipality voted for the losing candidate. Columns 1 and 2 consist of the municipalities which supported the winner in the preceding presidential elections and columns 3 and 4 consist of the municipalities which supported the loser in the preceding presidential elections. Just like in all the sub analyses before, the main significant results are at the quadratic specification of 15 seats. This effect seems to be more expressed for those who supported the winner in the preceding presidential election. However, this is once again driven by opposing parabolas on both sides, as it does not carry over to the linear specification and is also not significant anymore after applying multiple hypothesis correction. Moreover, in table A10 it is observed that, after controlling for multiple hypothesis testing, all p-values are relatively high, with the lowest being 0.328. Therefore, it is unlikely that supporting the loser or the winner has a different effect, if any effect at all, at the threshold for gaining additional seats.

Overall, like in the main analysis at all thresholds null results are found. There is no persistent effect and no difference in results for municipalities with a higher base turnout. This would not support the theory, as the additional pivotality does not lead to an increase in turnout.

Table A11 gives the results for the analysis at the threshold of where the voting systems change from majority two-round voting with panachage to proportional list two-round voting with majority bonus. A linear RDD is run on turnout, number of candidates and invalid votes, consisting of null and blanc votes, at the threshold. From column 1 and 2 it should be clear that the new system has no effect on turnout. People are thus not affected by the voting system on whether they show up to the voting booth. However, although the seats do not change, the number of candidates do. The proportional list two-round voting with majority bonus system, in which candidates must be part of a list to participate in the election, results in roughly 2 extra candidates than the majority two-round voting with panachage. More research is needed on why this may be the case.

Additionally, although the list voting system has no effect on actual turnout, it does have an effect on the type of casted votes. From columns 5 and 6 one can see that the list system increases the invalid votes by roughly 4 percentage points. This result is extra reliable given that no difference is observed, as seen in the last two columns, for invalid votes at the preceding presidential election when the voting system is the same for the municipalities on both sides. Invalid votes are still relatively unclear, as they could be both null votes, from people filling in their ballot wrong, or blanc votes, which are seen more as a protest vote, especially in France (Zulfikarpasic, 2001). Column 7 to 10 break down these invalid votes by these types. Most of the effect, roughly three percentage points, is coming from people filling in the ballot in a way which is invalid. This could be due to a number of factors, like the ballot being harder to fill in correctly. However, for the moment this is purely speculative. Further research should research the actual reasons. Moreover, the rest of the effect, roughly one percentage point, is explained by the blanc votes. This implies that roughly one additional percentage point of the votes that is being cast is cast as a protest vote. Both the null votes and the blanc votes are also very economically significant. An increase of one and three percentage points concerns 10 and 30 votes of the total votes at a threshold at 1,000 population. Moreover, the mean over all the observations in the data is 1.5 percent for blanc votes and 2.9 percent for null votes. This increase is thus massive compared to the average occurrence in the complete sample. These results could be the result of a ballot which is harder to fill in and a choice of lists instead of candidates, but more research is needed.

Interpretation and limitations

The results in both the main analysis and the sub analyses clearly show scattered significant results that mainly disappear under multiple hypothesis testing. The results that do remain significant do not persist both in the linear and quadratic specification. From this it is clear that there is no effect of increased pivotality, through additional seats, on turnout in French municipality elections in 2014 and 2020. Although no effect was found there are still some caveats to discuss.

First, as discussed before, this paper cannot distinguish between the additional number of candidates and the additional seats. The null effect that is found can thus be due to two factors; either the effect of number of candidates and additional seats cancel each other out, or both effects are zero.

Second, in this paper pivotality is defined as the actual probability that one breaks or creates a tie. However, the average voter may not be able to make such complicated calculations. In other words, the perceived pivotality that the voters base their voting decision on may not be aligned with the actual probability that one is pivotal. If this is the case, this paper does not consider the same information on pivotality that the voter does. Therefore, this paper may find a null effect even if there is an effect given a change in the perceived pivotality that the voters base their voting decision on.

Third, people might not know about the seat change. In the municipalities with a population under 1,000 this is less likely given that they can vote for exactly as many candidates as there are seats, but this still constrains itself to the group who have voted at least once in their life or have learned it somewhere else, like in a school, the news or through others. In municipalities with a population above 1,000 this is a more valid concern, given that they only vote on a list, without any guidance on the number of seats in the municipality council.

Fourth, it may be the case that in municipalities with a population above 1,000 voters anticipate the effect their vote will have on the policy decision. If they anticipate this, at the threshold the benefit of having a list win a seat or an additional seat is smaller, and therefore the increasing probability and decreasing benefit would oppose each other. It is impossible to say from the research in this paper which effect would dominate and which way the effect would go.

Conclusion

In conclusion, the municipality election of 2014 and 2020 in France provide little evidence for the pivotal voter theorem. Either the candidate and seats effects cancel each other out or there is no effect of actual pivotality on the voting decision. All in all, given that the number of lists does not change significantly at the higher seat threshold and there is also no effect there, it seems that the latter is more likely. This means that if governments and other organizations would want to increase turnout it would be of no avail to spend money and resources to increase the number of seats to increase actual pivotality. This should be the main takeaway from this research; increasing actual pivotality through an increase in seats should not be considered as a possible mechanism to increase turnout.

If people are rational, there should thus be other factors which make people vote. Further research should focus on finding those factors that do influence turnout and finding mechanisms for the correlations described by Blais and Dobrzynska (1998) to ensure the right policies are put in place, and resources are not wasted on mechanisms which do not influence turnout.

Moreover, future research should focus on perceived pivotality to see if the theory predicts behaviour on that level. If that is the case, governments and organisations should focus more on creating awareness of pivotality and increasing the perceived pivotality rather than increasing the actual pivotality by increasing the number of seats.

If the vote cast is of little or no importance to the voter as their perception is that it will not change the results, the vote cast could be different than the vote cast when one considers themselves pivotal. This is exactly what Caplan (2007) argues. He argues that in a large enough election the cost of voting erroneously is zero. Given that the private cost to the voter is zero, voters vote to make themselves feel good. This preference for candidates that make the voter feel good rather than candidates of which they prefer the policy is also referred to as expressive voting. This could be a large threat to democracy as the results do not reflect the policy preferences of the population anymore, especially if, as Caplan (2007) argues, the errors due to expressive voting are not random, but rather systematic. Future research should consider this threat and look for solutions.

Also, future research should look at similar settings in which it is 100 percent clear to everyone in the eligible population how many seats there are in each municipality. This most probably suits itself mostly to the experimental setting, given the difficulty of guaranteeing this in an actual election.

Moreover, it was also clear that the change in voting system did have an effect on the number of candidates and the number of invalid votes. Future research is needed to dissect the reasons behind these exploratory results. This could be done through a survey in which people are asked why they submitted a blanc or invalid vote, but this is complicated because an invalid vote may be a mistake which voters never realize, votes are not public and votes are protected by secrecy in most countries. Also, this paper only considered two voting systems, while there are a multitude of options available. Research should thus focus on the differences between other voting systems as well.

Given that the voting systems are so specific it may be more worthwhile to research whether the effect on blanc votes is driven by the biggest change between the two systems: voting for candidates or for lists. These results could have implications on how governments and municipalities set up their voting system if they are trying to achieve a reduction in protest votes.

References

Abramowitz, A. I., & Stone, W. J. (2006). The Bush Effect: Polarization, Turnout, and Activism in the 2004 Presidential Election. *Presidential Studies Quarterly*, *36*(2), 141–154. https://doi.org/10.1111/j.1741-5705.2006.00295.x

Algemeen Dagblad. (2022a). *Belangrijkste verkiezingsnieuws: onderzoek naar historisch lage opkomst, wantrouwen in politiek*. AD.nl. https://www.ad.nl/politiek/belangrijkste-verkiezingsnieuws-onderzoek-naar-historisch-lage-opkomst-wantrouwen-in-politiek~a9633774/

Algemeen Dagblad. (2022b). *Vooral de niet-stemmer heeft de verkiezingsuitslag in Delft bepaald: 'Het zet de democratie onder druk'*. AD.nl. https://www.ad.nl/delft/vooral-de-niet-stemmer-heeft-de-verkiezingsuitslag-in-delft-bepaald-het-zet-de-democratie-onder-druk~a8bc6e0c/?cb=010f0b653c2166c15e623ad8ea297680&auth_rd=1

Blais, A., & Carty, R. K. (1990). Does proportional representation foster voter turnout? *European Journal of Political Research*, *18*(2), 167–181. https://doi.org/10.1111/j.1475-6765.1990.tb00227.x

Blais, A., & Dobrzynska, A. (1998). Turnout in Electoral Democracies. *European Journal of Political Research*, *33*(2), 239–261. https://doi.org/10.1111/1475-6765.00382

Blais, A., Young, R., & Lapp, M. (2000). The calculus of voting: An empirical test. *European Journal of Political Research*, *37*(2), 181–201. https://doi.org/10.1111/1475-6765.00509

British Broadcasting Cooperation. (2019). *General Election 2019: The untapped influence of the non-voter*. BBC News. https://www.bbc.com/news/election-2019-50393317

Calonico, S., Cattaneo, M. D., Farrell, M. H., & Titiunik, R. (2017). Rdrobust: Software for Regression-discontinuity Designs. *The Stata Journal: Promoting communications on statistics and Stata*, *17*(2), 372–404. https://doi.org/10.1177/1536867x1701700208

Caplan, B. D. (2007). *The Myth of the Rational Voter*. Amsterdam University Press.

Center for American Progress. (2021). *How the Biden Administration Can Tackle America's Voter Turnout Problem*. https://www.americanprogress.org/article/biden-administration-can-tackle-americas-voter-turnout-problem/

Clarke, D., Romano, J. P., & Wolf, M. (2020). The Romano–Wolf multiple-hypothesis correction in Stata. *The Stata Journal: Promoting communications on statistics and Stata*, *20*(4), 812–843. https://doi.org/10.1177/1536867x20976314

Downs, S. F. A. (1957). *An Economic Theory of Democracy*. Harper.

Duffy, J., & Tavits, M. (2008). Beliefs and Voting Decisions: A Test of the Pivotal Voter Model. *American Journal of Political Science*, *52*(3), 603–618. https://doi.org/10.1111/j.1540-5907.2008.00332.x

Fowler, A. (2013). Electoral and Policy Consequences of Voter Turnout: Evidence from Compulsory Voting in Australia. *Quarterly Journal of Political Science*, *8*(2), 159–182. https://doi.org/10.1561/100.00012055

Franklin, M.N. (1996). Electoral participation. In L. LeDuc, R.G. Niemi & P. Norris (eds.), Comparing democracies: Elections and voting in global perspective. Thousand Oaks: Sage.

Hansen, S., Palfrey, T. R., & Rosenthal, H. (1987). The Downsian model of electoral participation: Formal theory and empirical analysis of the constituency size effect. *Public Choice*, *52*(1), 15–33. https://doi.org/10.1007/bf00116941

Holm, S. (1979). A Simple Sequentially Rejective Multiple Test Procedure. *Scandinavian Journal of Statistics*, *6*(2), 65–70. http://www.jstor.org/stable/4615733

INSEE. (2017a). *Diplômes - Formation en 2014*. https://www.insee.fr/fr/statistiques/3137418

INSEE. (2017b). *Revenus et pauvreté des ménages en 2014*. https://www.insee.fr/fr/statistiques/3126432

International Institute for Democracy and Electoral Assistance. (2016). *Voter Turnout Trends around the World*. https://www.idea.int/sites/default/files/publications/voter-turnout-trends-around-the-world.pdf

Ipsos. (2020). *Comprendre le vote des Français - Municipales 2020 - 1er tour*. https://www.ipsos.com/sites/default/files/ct/news/documents/2020-03/comprendre_le_vote_premier_tour_municipales_2020.pdf

Ipsos. (2022). *Overzicht gemeenteraadsverkiezingen 2022*. https://www.ipsos.com/nl-nl/overzicht-gemeenteraadsverkiezingen-2022

Labbé St-Vincent, S. (2013). An experimental test of the pivotal voter model under plurality and PR elections. *Electoral Studies*, *32*(4), 795–806. https://doi.org/10.1016/j.electstud.2013.03.002

Légifrance. (2009). *Article R25-1*. https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000020535353/

Légifrance. (2013a). *Decree No. 2013–1289*. https://www.legifrance.gouv.fr/loda/id/JORFTEXT000028408259/

Légifrance. (2013b). *LOI n° 2013–403*. https://www.legifrance.gouv.fr/loda/id/JORFTEXT000027414225/

Légifrance. (2014). *Article L2121-2*. https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000027433884/

Légifrance. (2019). *Décret n° 2019–1546*. https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000039699648

Leromain, E., & Vannoorenberghe, G. (2022). Voting under threat: Evidence from the 2020 French local elections. *European Journal of Political Economy*, 102204. https://doi.org/10.1016/j.ejpoleco.2022.102204

Lijphart, A. (1997). Unequal Participation: Democracy's Unresolved Dilemma Presidential Address, American Political Science Association, 1996. *American Political Science Review*, *91*(1), 1–14. https://doi.org/10.2307/2952255

Lutz, G., & Marsh, M. (2007). Introduction: Consequences of low turnout. *Electoral Studies*, *26*(3), 539–547. https://doi.org/10.1016/j.electstud.2006.10.001

Lyytikkäinen, T., & Tukiainen, J. (2013). Voters are Rational. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2334094

Ministère de la Cohésion des territoires et des Relations avec les collectivités territoriales. (2021). *Les collectivités locales en chiffres 2021*. https://www.collectivites-locales.gouv.fr/files/Accueil/DESL/2021/Colloc%20en%20chiffres/CL_en_chiffres_2021.pdf

Nevitte, N., Blais, A., Gidengil, E., & Nadeau, R. (2009). Socioeconomic Status and Nonvoting: A Cross-National Comparative Analysis. *Oxford University Press*. https://www.researchgate.net/publication/235319770_Socioeconomic_Status_and_Nonvoting_A_Cross-National_Comparative_Analysis/link/53d6445e0cf2a7fbb2ea9822/download

NOS. (2022). *Historisch lage opkomst, waarom gingen zo weinig mensen naar de stembus?* https://nos.nl/collectie/13894/artikel/2421544-historisch-lage-opkomst-waarom-gingen-zo-weinig-mensen-naar-de-stembus

NRC. (2022). *Bijzonder lage opkomst? Een opkomstplicht biedt uitkomst*. https://www.nrc.nl/nieuws/2022/03/18/bijzonder-lage-opkomst-een-opkomstplicht-biedt-uitkomst-a4102866

Powell, G. B. (1984). Contemporary Democracies: Participation, Stability, and Violence. *Political Science Quarterly*, *99*(1), 107. https://doi.org/10.2307/2150271

Powell, G. B. (1986). American Voter Turnout in Comparative Perspective. *American Political Science Review*, *80*(1), 17–43. https://doi.org/10.2307/1957082

Radio France Internationale. (2022). *Abstention on the rise as French no longer see voting as a duty*. RFI. https://www.rfi.fr/en/france/20220413-abstention-on-the-rise-as-french-no-longer-see-voting-as-a-duty

République Française. (2022). *Les données relatives aux élections et aux référendums*. https://www.data.gouv.fr/fr/pages/donnees-des-elections-et-referendums/

Riker, W. H., & Ordeshook, P. C. (1968). A Theory of the Calculus of Voting. *American Political Science Review*, *62*(1), 25–42. https://doi.org/10.2307/1953324

Rosema, M. (2007). Low turnout: Threat to democracy or blessing in disguise? Consequences of citizens' varying tendencies to vote. *Electoral Studies*, *26*(3), 612–623. https://doi.org/10.1016/j.electstud.2006.10.007

Shaffer, S. D. (1982). Policy Differences Between Voters and Non-Voters in American Elections. *Western Political Quarterly*, *35*(4), 496–510. https://doi.org/10.1177/106591298203500403

Studlar, D. T., & Welch, S. (1986). The policy opinions of British nonvoters; a research note. *European Journal of Political Research*, *14*(1–2), 139–148. https://doi.org/10.1111/j.1475-6765.1986.tb00826.x

Tullock, G. (1967). *Toward a Mathematics of Politics*. University of Michigan Press.

Vie publique. (2021a). *Quel est le mode de scrutin pour les élections municipales dans les communes de 1 000 habitants et plus ?* vie-publique.fr. https://www.vie-publique.fr/fiches/20204-municipales-quel-mode-de-scrutin-dans-les-communes-de-1000-hab-et-plus

Vie publique. (2021b). *Quel est le mode de scrutin pour les élections municipales dans les communes de moins de 1 000 habitants ?* vie-publique.fr. https://www.vie-publique.fr/fiches/20203-municipales-quel-mode-de-scrutin-dans-les-communes-de-moins-de-1000-hab

Zulfikarpasic, A. (2001). Le vote blanc : abstention civique ou expression politique ? *Revue française de science politique*, *51*(1), 247. https://doi.org/10.3917/rfsp.511.0247

Appendix A

Romano-Wolf step-down p-value method

This method, described in Clarke et al. (2020), controls for the family-wise error rate (FWER) and provides new p-values for each null hypothesis H_s where $s = 1, \dots, S$. Each null hypothesis has its own parameter of interest θ_s, in this paper the coefficient associated with the dummy for additional seats. Through the regression discontinuity design the estimator of this is thus $\widehat{\theta_s}$ with a standard error of $\widehat{\sigma_s}$. The t-statistic for H_s is then given by:

$$t_s = \frac{\widehat{\theta_s}}{\widehat{\sigma_s}}$$

After this the data is resampled M times, in this paper $M = 3{,}000$ each time multiple hypothesis correction is used. This grants matrices which give new estimators $\hat{\theta}_s^{*,m}$ with a standard error of $\hat{\sigma}_s^{*,m}$ for all $m = 1, \dots, M$. For each resample a new null statistic is calculated:

$$t_s^{*,m} = \frac{\hat{\theta}_s^{*,m} - \widehat{\theta_s}}{\hat{\sigma}_s^{*,m}}$$

Both test statistics are used in their absolute value, given that a two-sided test is performed, such that $t_s = |t_s|$ and $t_s^{*,m} = |t_s^{*,m}|$. Test statistics are then ordered by their test statistics where $t_{(1)}$ denotes the highest test statistic and $t_{(S)}$ the lowest. The maximum t-statistic of a vector is denoted by:

$$max_{t,j}^{*,m} = \max \{t_{(j)}^{*,m}, \dots, t_{(S)}^{*,m}\} \text{ for } j = 1, \dots, S \text{ and } m = 1, \dots, M.$$

The following algorithm is then implemented by the rwolf command to obtain the adjusted p-values in Stata:

1. Define

$$p_{(1)}^{adj} = \frac{\#\{max_{t,1}^{*,m} > t_{(1)}\} + 1}{M + 1}$$

2. For $s = 2, \dots, S$,
   a. first let

$$p_{(s)}^{initial} = \frac{\#\{max_{t,s}^{*,m} > t_{(s)}\} + 1}{M + 1}$$

   b. then enforce monotonicity by defining

$$p_{(s)}^{adj} = \max \{p_{(s)}^{initial}, p_{(s-1)}^{adj}\}$$

Appendix B

Table A1 – Municipality council size for each municipality

Population	Municipality council size	N
<100	7	7,374
100-499	11	35,955
500-1,499	15	22,322
1,500-2,499	19	5,692
2,500-3,499	23	2,749
3,500-4,999	27	2,319
5,000-9,999	29	2,979
10,000-19,999	33	1,538
20,000-29,999	35	582
30,000-39,999	39	262
40,000-49,999	43	188
50,000-59,999	45	135
60,000-79,999	49	109
80,000-99,999	53	62
100,000-149,999	55	96
150,000-199,999	59	37
200,000-249,999	61	11
250,000-299,999	65	12
>300,000	69	10

Notes. This table shows the municipality council size in the middle column which is dependent on the municipality population size given in the left-hand column. The right-hand column shows how many observations there are per municipality council size in both 2014 and 2020 combined.

Table A2 – Balance at thresholds

	11 seats	15 seats	19 seats	23 seats	27 seats	29 seats	33 seats	35 seats	39 seats	43 seats	45 seats	49 seats
Median Income	-203.96	164.91**	37.01	98.13	-256.36	-518.93	-484.91*	969.47	-1528.51	-195.94	-2355.52*	3805.94
	(210.43)	(70.02)	(170.31)	(160.75)	(289.16)	(422.16)	(265.48)	(617.34)	(1032.69)	(889.78)	(1203.35)	(3257.24)
Adjusted p-value	[1.00]	[.796]	[1.00]	[1.00]	[1.00]	[1.00]	[.981]	[.997]	[.999]	[1.00]	[.958]	[1.00]
Out of school	-.008***	-.004***	.002	.003	-.001	-.007	.002	-.013**	-.001	-.037**	-.035***	.006
	(.002)	(.001)	(.002)	(.002)	(.003)	(.004)	(.003)	(.005)	(.009)	(.016)	(.010)	(.014)
Adjusted p-value	[.122]	[.407]	[1.00]	[.998]	[1.00]	[.996]	[1.00]	[.759]	[1.00]	[.806]	[.222]	[1.00]
Low education	-.005*	-.004*	.004	-.001	.003	.018*	.008	-.036***	.017	-.023	.035	.001
	(.003)	(.002)	(.005)	(.005)	(.007)	(.010)	(.006)	(.014)	(.019)	(.018)	(.023)	(.040)
Adjusted p-value	[.993]	[.962]	[1.00]	[1.00]	[1.00]	[.980]	[1.00]	[.588]	[1.00]	[1.00]	[.998]	[1.00]
Middle education	-.003**	-.001	-.000	.002**	-.003	-.004**	-.001	-.001	-.002	-.014**	-.008*	-.008*
	(.001)	(.001)	(.001)	(.001)	(.002)	(.002)	(.001)	(.002)	(.003)	(.006)	(.004)	(.004)
Adjusted p-value	[.796]	[1.00]	[1.00]	[.946]	[.996]	[.958]	[1.00]	[1.00]	[1.00]	[.826]	[.936]	[.981]
High education	-.000	.001	-.002	.003	-.003	-.022***	-.005	.025**	-.016	-.000	-.063**	.014
	(.002)	(.001)	(.003)	(.003)	(.005)	(.007)	(.005)	(.012)	(.018)	(.020)	(.025)	(.043)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.389]	[1.00]	[.908]	[1.00]	[1.00]	[.697]	[1.00]
People under 30	.010***	.004***	-.003	-.003	.003	.011**	.001	.017***	.012	.045**	.038***	-.018
	(.002)	(.001)	(.002)	(.002)	(.004)	(.004)	(.003)	(.006)	(.011)	(.019)	(.012)	(.017)
Adjusted p-value	[.076]	[.435]	[1.00]	[.998]	[1.00]	[.826]	[1.00]	[.549]	[1.00]	[.786]	[.353]	[1.00]
Number of candidates	4.02***	5.03***										
	(.063)	(.131)										
Adjusted p-value	[.001]	[.001]										
Number of lists			-.023	.069**	.127**	-.206***	.327***	-.038	.295	-.171	.116	-.059
			(.028)	(.031)	(.054)	(.077)	(.063)	(.151)	(.221)	(.424)	(.387)	(.527)
Adjusted p-value			[1.00]	[.858]	[.806]	[.584]	[.058]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Percentage gap	-1.31***	-.081	.056	-.199	.515	.461	.086	-.323	1.21	-.821	2.39	.051
	(.180)	(.133)	(.272)	(.268)	(.467)	(.611)	(.404)	(.821)	(1.27)	(2.09)	(2.20)	(2.73)
Adjusted p-value	[.012]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]

Notes. This table shows the balance test for all thresholds relevant to this paper. Median income is given in euros. Out of school is a variable which ranges from 0 to 1 and captures the fraction of people that is not currently enrolled in any school that is 15 and older. All other education statistics are also for people above 15. Low education is a variable from 0 to 1 which captures the fraction of all the people that are out of school which have a BEPC, college patent, DNB or CAP/BEP at most. Middle education is a variable from 0 to 1 which captures the fraction of all people that are out of school and have a general, technological or professional baccalaureate. High education is a variable from 0 to 1 which captures the fraction of all people that are out of school and have a higher education diploma. People under 30 is a variable between 0 and 1 which capture the fraction of people that are under the age of 30. Number of candidates are the number of candidates that stand on the ballot in the municipalities with a population lower than 1000. Number of lists are the number of lists that are on the ballot for municipalities with a population higher than 1000. Percentage gap shows the absolute percentage point gap from a 50/50 result in the preceding presidential election. The adjusted p-value is a Romano-Wolf adjusted p-value.

Table A3 – Coefficients for RDD with linear specification

	11 seats				15 seats				19 seats				23 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.007	-.007	-.005	-.006	-.004	-.004	-.004	-.004	-.013	-.013	-.010	-.010	.002	.002	-.003	-.003
	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)	(.008)	(.008)	(.008)	(.008)	(.007)	(.007)	(.007)	(.007)
Adjusted p-value	[0.974]	[0.973]	[0.989]	[0.986]	[0.998]	[0.998]	[0.989]	[0.991]	[0.974]	[0.974]	[0.989]	[0.989]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	-.128		-.139		-.006		-.030		.083		.082		.002		.003	
	(.141)		(.137)		(.044)		(.041)		(.066)		(.061)		(.022)		(.020)	
Population (x1000) x seats dummy	-.250		-.244		-.112*		-.053		-.106		-.128		-.042		-.032	
	(.185)		(.179)		(.066)		(.060)		(.096)		(.088)		(.033)		(.030)	
Constant	.816	.817	.786	.788	.750	.752	.704	.706	.705	.707	.668	.668	.679	.676	.629	.628
Observations	10,138	10,138	10,138	10,138	10,545	10,545	10,545	10,545	2,641	2,641	2,641	2,641	2,940	2,940	2,940	2,940
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A3 (continued)

	27 seats				29 seats				33 seats				35 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.003	.002	.005	.005	.015	.015	.012	.012	.011	.011	.004	.004	-.002	-.001	.005	.005
	(.011)	(.011)	(.010)	(.010)	(.013)	(.013)	(.013)	(.013)	(.007)	(.007)	(.006)	(.006)	(.011)	(.011)	(.013)	(.013)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[0.993]	[0.995]	[0.998]	[0.998]	[0.974]	[0.974]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	.048		.040		-.078		-.046		-.006**		-.001		.012**		.012*	
	(.045)		(.042)		(.049)		(.050)		(.003)		(.003)		(.006)		(.007)	
Population (x1000) x seats dummy	-.050		-.032		.001		-.019		.001		-.003		-.030***		-.031***	
	(.069)		(.064)		(.077)		(.074)		(.005)		(.005)		(.009)		(.012)	
Constant	.679	.672	.600	.595	.654	.653	.627	.630	.627	.626	.597	.597	.597	.598	.563	.558
Observations	1,129	1,129	1,129	1,129	642	642	642	642	1,594	1,594	1,594	1,594	358	358	358	358
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A3 (continued)

	39 seats				43 seats				45 seats				49 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.015	-.016	-.003	-.003	-.024	-.025	-.020	-.024	.007	.010	-.018	-.012	.041	.042	.095*	.080
	(.020)	(.021)	(.017)	(.018)	(.030)	(.030)	(.032)	(.023)	(.046)	(.046)	(.053)	(.054)	(.031)	(.032)	(.053)	(.049)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[0.999]	[0.999]	[1.00]	[0.996]	[1.00]	[1.00]	[1.00]	[1.00]	[0.989]	[0.989]	[0.952]	[0.974]
Population (x1000)	.023**		.016		-.040		-.051*		-.023		-.001		-.012		-.003	
	(.011)		(.011)		(.027)		(.029)		(.025)		(.036)		(.016)		(.021)	
Population (x1000) x seats dummy	-.027*		-.012		.054*		.071*		.033		.030		.000		-.038	
	(.016)		(.015)		(.030)		(.035)		(.029)		(.038)		(.019)		(.026)	
Constant	.587	.592	.548	.548	.541	.541	.548	.582	.547	.565	.495	.471	.521	.521	.565	.595
Observations	178	178	178	178	68	68	68	68	58	58	58	58	44	44	44	44
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Notes. This table shows the coefficients for the RDD with linear specification. Column 1 shows the specification with year fixed effects, but without allowing for different trends and department fixed effects. Column 2 and 3 add different year trends and department fixed effects separately and column 4 combines them. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is interacted with the seats dummy to allow for different trends on both sides of the threshold. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A4 – Coefficients for RDD with quadratic specification

	11 seats				15 seats				19 seats				23 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.004	-.004	-.001	-.001	-.019***	-.019***	-.019***	-.019***	-.023*	-.023*	-.013	-.013	.015	.015	.007	.007
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.005)	(.005)	(.013)	(.012)	(.012)	(.012)	(.010)	(.011)	(.010)	(.010)
Adjusted p-value	[0.996]	[0.996]	[0.998]	[0.999]	[0.855]	[0.856]	[0.794]	[0.794]	[0.963]	[0.963]	[0.978]	[0.978]	[0.975]	[0.974]	[0.996]	[0.996]
Population (x1000)	.054		-.142		.683***		.644***		-.021		-.108		-.107		-.123	
	(.560)		(.546)		(.193)		(.169)		(.269)		(.246)		(.089)		(.084)	
Population (x1000)^2	4.58		-.086		6.39***		6.26***		-.685		-1.25		-.268		-.312	
	(13.73)		(13.38)		(1.66)		(1.53)		(.169)		(1.55)		(.215)		(.201)	
Population (x1000) x seats dummy	-1.04		-.945		-.670**		-.581**		.512		.363		-.023		.082	
	(.733)		(.711)		(.267)		(.247)		(.390)		(.360)		(.129)		(.122)	
Population (x1000)^2 x seats dummy	11.08		18.16		-7.67***		-7.69***		-2.77		-.772		.502		.342	
	(17.95)		(17.50)		(2.49)		(2.29)		(2.52)		(2.31)		(.319)		(.298)	
Constant	.817	.818	.786	.788	.762	.759	.717	.714	.703	.712	.663	.671	.671	.661	.620	.613
Observations	10,138	10,138	10,138	10,138	10,545	10,545	10,545	10,545	2,641	2,641	2,641	2,641	2,940	2,940	2,940	2,940
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A4 (continued)

	27 seats				29 seats				33 seats				35 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.026	.026	.025*	.025*	.012	.013	.019	.019	.011	.011	-.001	-.001	-.006	-.001	.021	.028
	(.017)	(.017)	(.014)	(.015)	(.019)	(.019)	(.019)	(.019)	(.010)	(.010)	(.009)	(.009)	(.016)	(.016)	(.018)	(.018)
Adjusted p-value	[0.963]	[0.963]	[0.963]	[0.963]	[0.996]	[0.996]	[0.978]	[0.978]	[0.978]	[0.978]	[0.999]	[0.999]	[0.996]	[0.999]	[0.978]	[0.963]
Population (x1000)	-.110		-.041		-.165		-.088		-.010		.013		.026		.018	
	(.182)		(.169)		(.207)		(.199)		(.012)		(.011)		(.025)		(.025)	
Population (x1000)^2	-.582		-.297		-.296		-.142		-.002		.006		.006		.003	
	(.667)		(.624)		(.679)		(.653)		(.005)		(.005)		(.011)		(.011)	
Population (x1000) x seats dummy	-.253		-.307		.241		-.075		.011		-.018		-.044		-.093**	
	(.288)		(.249)		(.315)		(.293)		(.021)		(.019)		(.038)		(.045)	
Population (x1000)^2 x seats dummy	1.91*		1.60*		-.228		.475		-.001		-.005		-.006		.025	
	(1.02)		(.926)		(1.05)		(.988)		(.008)		(.007)		(.018)		(.021)	
Constant	.672	.676	.596	.594	.650	.653	.625	.627	.625	.617	.603	.600	.602	.583	.560	.532
Observations	1,129	1,129	1,129	1,129	642	642	642	642	1,594	1,594	1,594	1,594	358	358	358	358
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A4 (continued)

	39 seats				43 seats				45 seats				49 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.018	.021	.010	.016	-.102**	-.107**	-.091*	-.095	.080	.111**	-.190**	-.307***	.035	.053	.135***	.112*
	(.035)	(.038)	(.027)	(.027)	(.040)	(.041)	(.049)	(.072)	(.064)	(.054)	(.088)	(.057)	(.033)	(.041)	(.047)	(.054)
Adjusted p-value	[0.996]	[0.996]	[0.996]	[0.996]	[0.916]	[0.911]	[0.963]	[0.978]	[0.978]	[0.963]	[0.963]	[0.776]	[0.978]	[0.978]	[0.897]	[0.963]
Population (x1000)	-.038		.006		.225**		.153		-.178**		.215**		.052		.032	
	(.045)		(.036)		(.093)		(.127)		(.069)		(.093)		(.060)		(.061)	
Population (x1000)^2	-.025		-.004		.120**		.095		-.071**		.086**		.020		.014	
	(.018)		(.014)		(.046)		(.063)		(.031)		(.033)		(.017)		(.020)	
Population (x1000) x seats dummy	.018		-.025		-.273**		-.090		.162		-.079		-.136		-.167**	
	(.067)		(.059)		(.106)		(.186)		(.107)		(.156)		(.090)		(.067)	
Population (x1000)^2 x seats dummy	.033		.015		-.090*		-.122		.080**		-.127**		.005		.013	
	(.027)		(.021)		(.048)		(.078)		(.039)		(.054)		(.023)		(.024)	
Constant	.561	.541	.545	.515	.636	.629	.633	.629	.487	.393	.597	.705	.553	.555	.575	.641
Observations	178	178	178	178	68	68	68	68	58	58	58	58	44	44	44	44
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Different year trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Department FE	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Notes. This table shows the coefficients for the RDD with quadratic specification. Column 1 shows the specification with year fixed effects, but without allowing for different trends and department fixed effects. Column 2 and 3 add different year trends and department fixed effects separately and column 4 combines them. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is both squared and interacted with the seats dummy to allow for different quadratic trends on both sides of the threshold. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A5 – Coefficients for RDD with linear and quadratic specification with only pivotal municipalities

	11 seats				15 seats				19 seats				23 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.003	.005	.008	.016*	.001	.002	-.008	-.012	-.002	.000	-.019*	-.008	.009	.006	.011	.006
	(.006)	(.006)	(.009)	(.009)	(.005)	(.005)	(.008)	(.007)	(.007)	(.005)	(.010)	(.008)	(.006)	(.005)	(.008)	(.007)
Adjusted p-value	[1.00]	[.997]	[.997]	[.735]	[1.00]	[1.00]	[.992]	[.886]	[1.00]	[1.00]	[.735]	[.996]	[.890]	[.985]	[.952]	[.997]
Population (x1000)	-.226	-.258	-.419	-1.05	-.015	-.077	.518**	.481	-.049	-.068	-.029	-.155	-.044	-.027*	-.089	-.072
	(.188)	(.185)	(.745)	(.718)	(.057)	(.052)	(.231)	(.216)	(.056)	(.046)	(.224)	(.188)	(.017)	(.015)	(.069)	(.062)
Population (x1000)^2			-4.91	-20.17			4.90**	5.23***			.132	-.601			-.110	-.111
			(18.57)	(17.90)			(2.13)	(2.00)			(1.45)	(1.22)			(.169)	(.150)
Population (x1000) x seats dummy	-.325	-.393	-.690	-.451	-.208	-.073	-.726**	-.421	.030	.022	.675	.517**	-.000	-.015	.050	.068
	(.259)	(.252)	(1.05)	(1.00)	(.087)	(.081)	(.361)	(.337)	(.077)	(.063)	(.313)	(.253)	(.025)	(.022)	(.099)	(.088)
Population (x1000)^2 x seats dummy			19.90	41.54			-5.14	7.23**			-4.56	-2.13			.095	.010
			(25.52)	(24.63)			(3.34)	(3.12)			(2.03)	(1.73)			(.242)	(.216)
Constant	.850	.843	.848	.837	.783	.734	.793	.744	.753	.714	.753	.712	.710	.661	.707	.658
Observations	4,454	4,454	4,454	4,454	5,469	5,469	5,469	5,469	1,420	1,420	1,420	1,420	1,901	1,901	1,901	1,901
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Linear specification	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Table A5 (continued)

	27 seats				29 seats				33 seats				35 seats			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.005	.011	.018	.015	.018*	.024**	.009	.015	.015**	.008	.019**	.006	-.002	.004	-.007	.021
	(.009)	(.007)	(.013)	(.010)	(.011)	(.009)	(.015)	(.015)	(.006)	(.005)	(.009)	(.008)	(.011)	(.013)	(.016)	(.018)
Adjusted p-value	[1.00]	[.871]	[.952]	[.930]	[.816]	[.241]	[.999]	[.992]	[.276]	[.890]	[.521]	[.997]	[1.00]	[1.00]	[.999]	[.985]
Population (x1000)	-.020	-.052*	-.056	-.007	-.110***	-.098***	-.076	.031	-.013	-.007***	-.028**	-.003	.012**	.012*	.028	.018
	(.033)	(.029)	(.133)	(.121)	(.041)	(.036)	(.174)	(.156)	(.003)	(.002)	(.011)	(.004)	(.006)	(.007)	(.025)	(.025)
Population (x1000)^2			-.130	.172			.112	.439			-.006	.002			.008	.003
			(.505)	(.451)			(.557)	(.497)			(.005)	(.004)			(.012)	(.011)
Population (x1000) x seats dummy	.004	.029	-.218	-.138	.070	.050	.205	-.017	.007	.001	.028	-.002	-.029***	-.031***	-.045	-.093**
	(.053)	(.043)	(.225)	(.182)	(.059)	(.054)	(.241)	(.219)	(.005)	(.004)	(.020)	(.016)	(.009)	(.012)	(.038)	(.045)
Population (x1000)^2 x seats dummy			1.08	.276			-.688	-.648			.004	-.002			-.008	.025
			(.789)	(.642)			(.793)	(.718)			(.008)	(.007)			(.018)	(.021)
Constant	.698	.646	.696	.649	.658	.628	.660	.634	.623	.588	.617	.590	.597	.563	.602	.560
Observations	883	883	883	883	552	552	552	552	1,524	1,524	1,524	1,524	356	356	356	356
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Linear specification	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes. This table shows the coefficients for the RDD with linear specification. Column 1 and 2 are the results for a linear specification and column 3 and 4 report the results of a quadratic specification. Column 1 shows the linear specification with year fixed effects, but without department fixed effects. Column 2 add department fixed effects. Column 3 shows the quadratic specification with year fixed effects, but without department fixed effects. Column 4 add department fixed effects. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is both squared and interacted with the seats dummy to allow for different quadratic trends on both sides of the threshold. Observations are from 2014 and 2020 combined. Only observations are used which have more candidates than seats for 11 seat and 15 seat threshold or which have more than 1 list for the other thresholds. Standard errors are in parentheses. (*$p<0.1$, **$p<0.05$, ***$p<0.01$).

Table A6 – Coefficients for year RDD

	Linear				Quadratic				Linear				Quadratic			
	11 seats								15 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.009*	-.010**	-.004	-.001	-.006	-.004	-.001	.002	-.001	-.002	-.006	-.007	-.008	-.008	-.032***	-.031***
	(.005)	(.005)	(.007)	(.007)	(.008)	(.007)	(.010)	(.010)	(.005)	(.004)	(.006)	(.006)	(.007)	(.006)	(.010)	(.009)
Adjusted p-value	[.942]	[.855]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.094]*	[.044]**
Population (x1000)	.238	.284	-.524**	-.588***	.326	.204	-.313	-.465	.053	.014	-.073	-.088	.188	.145	1.26***	1.18***
	(.177)	(.174)	(.222)	(.215)	(.697)	(.685)	(.890)	(.873)	(.052)	(.047)	(.074)	(.068)	(.216)	(.197)	(.306)	(.284)
Population (x1000)^2					2.22	-1.99	5.28	3.06					1.25	1.22	12.37***	11.77***
					(17.39)	(17.04)	(21.45)	(21.01)					(1.96)	(1.79)	(2.77)	(2.56)
Population (x1000) x seats dummy	-.406*	-.476**	-.079	.009	-1.13	-1.30	-.922	-.696	-.212	-.138*	-.001	.044	-.130	-.069	-1.30***	-1.15***
	(.228)	(.222)	(.294)	(.285)	(.900)	(.879)	(1.18)	(1.15)	(.079)	(.071)	(.108)	(.101)	(.316)	(.290)	(.445)	(.412)
Population (x1000)^2 x seats dummy					14.19	25.22	10.90	11.84					-3.36	-3.18	-12.69***	-12.54***
					(22.30)	(21.83)	(28.53)	(27.91)					(2.94)	(2.70)	(4.13)	(3.80)
Constant	.818	.785	.724	.699	.819	.785	.725	.699	.751	.708	.588	.539	.754	.710	.613	.564
Observations	5,330	5,330	4,808	4,808	5,330	5,330	4,808	4,808	5,634	5,634	4,911	4,911	5,634	5,634	4,911	4,911
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020

Table A6 (continued)

	Linear				Quadratic				Linear				Quadratic			
	19 seats								23 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.003	-.004	-.023*	-.013	-.024	-.014	-.022	-.013	-.008	-.013*	.012	.008	-.000	-.005	.030*	.019
	(.010)	(.009)	(.014)	(.013)	(.015)	(.013)	(.021)	(.021)	(.008)	(.008)	(.012)	(.012)	(.012)	(.012)	(.018)	(.018)
Adjusted p-value	[1.00]	[1.00]	[.977]	[1.00]	[.987]	[1.00]	[1.00]	[1.00]	[1.00]	[.969]	[1.00]	[1.00]	[1.00]	[1.00]	[.983]	[1.00]
Population (x1000)	.056	.051	.110	.100	.437	.285	-.521	-.508	.008	.030	-.006	-.016	-.172*	-.195**	-.049	-.091
	(.078)	(.073)	(.107)	(.100)	(.311)	(.286)	(.449)	(.423)	(.025)	(.023)	(.037)	(.034)	(.098)	(.092)	(.147)	(.142)
Population (x1000)^2					2.53	1.56	-4.14	-3.98					-.444*	-.553**	-.107	-.183
					(2.00)	(1.85)	(2.78)	(2.62)					(.237)	(.220)	(.354)	(.337)
Population (x1000) x seats dummy	-.164	-.151	-.040	-.130	-.109	-.214	1.21*	1.13*	-.017	-.047	-.067	-.031	.242*	.299**	-.279	-.046
	(.113)	(.104)	(.157)	(.152)	(.451)	(.405)	(.647)	(.626)	(.037)	(.034)	(.055)	(.051)	(.145)	(.137)	(.212)	(.205)
Population (x1000)^2 x seats dummy					-5.47	-2.71	.025	-.352					.240	.237	.784	.417
					(2.92)	(2.65)	(4.16)	(4.00)					(.356)	(.330)	(.532)	(.520)
Constant	.703	.648	.509	.489	.712	.655	.493	.474	.681	.641	.470	.413	.669	.627	.467	.408
Observations	1,339	1,339	1,302	1,302	1,339	1,339	1,302	1,302	1,482	1,482	1,458	1,458	1,482	1,482	1,458	1,458
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020

Table A6 (continued)

	Linear				Quadratic				Linear				Quadratic			
	27 seats								29 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.012	-.003	.014	.012	.011	-.004	.039	.050**	.020	.026*	.010	-.001	-.009	.019	.035	.017
	(.015)	(.013)	(.016)	(.017)	(.026)	(.020)	(.024)	(.024)	(.015)	(.015)	(.021)	(.024)	(.021)	(.022)	(.032)	(.038)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.985]	[.830]	[1.00]	[.968]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	.022	-.003	.070	.042	.137	.159	-.361	-.313	-.100*	-.066	-.055	-.062	.159	-.062	-.471	-.154
	(.056)	(.052)	(.070)	(.070)	(.220)	(.207)	(.296)	(.298)	(.057)	(.061)	(.080)	(.091)	(.251)	(.273)	(.316)	(.366)
Population (x1000)^2					.431	.607	-1.57	-1.30					.860	.014	-1.44	-.318
					(.826)	(.757)	(1.06)	(1.10)					(.830)	(.927)	(1.06)	(1.23)
Population (x1000) x seats dummy	.081	.077	-.150	-.085	-.595	-.205	.150	-.278	.001	.011	.005	.056	.095	.124	.292	-.148
	(.093)	(.076)	(.103)	(.106)	(.399)	(.312)	(.435)	(.422)	(.089)	(.085)	(.127)	(.144)	(.360)	(.355)	(.527)	(.608)
Population (x1000)^2 x seats dummy					1.58	-.173	2.05	3.36**					-2.05	-.407	1.89	1.34
					(1.35)	(1.12)	(1.59)	(1.66)					(1.22)	(1.22)	(1.78)	(2.13)
Constant	.677	.555	.470	.411	.682	.560	.451	.392	.651	.620	.454	.429	.664	.617	.436	.425
Observations	554	554	575	575	554	554	575	575	312	312	330	330	312	312	330	330
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020

Table A6 (continued)

	Linear				Quadratic				Linear				Quadratic			
	33 seats								35 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.007	.001	.014	.001	-.014	-.011	.033**	.002	-.016	.005	.016	.007	-.008	-.009	.006	.054
	(.009)	(.008)	(.010)	(.010)	(.013)	(.012)	(.014)	(.014)	(.014)	(.021)	(.016)	(.028)	(.023)	(.030)	(.023)	(.042)
Adjusted p-value	[1.00]	[1.00]	[.997]	[1.00]	[1.00]	[1.00]	[.568]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	-.006	-.000	-.006	.000	-.004	.014	-.016	.004	.017**	.013	.007	.026*	-.031	.011	.067**	.019
	(.004)	(.003)	(.005)	(.005)	(.017)	(.013)	(.018)	(.018)	(.008)	(.009)	(.008)	(.014)	(.038)	(.042)	(.033)	(.062)
Population (x1000)^2					.001	.006	-.004	.002					-.023	-.001	.030*	-.003
					(.007)	(.005)	(.007)	(.007)					(.017)	(.018)	(.016)	(.027)
Population (x1000) x seats dummy	.002	-.004	.001	-.002	.054*	-.002	-.033	-.012	-.030**	-.033**	-.029**	-.054**	.047	.019	-.115**	-.170**
	(.007)	(.006)	(.008)	(.007)	(.028)	(.024)	(.031)	(.030)	(.013)	(.015)	(.014)	(.025)	(.054)	(.074)	(.052)	(.083)
Population (x1000)^2 x seats dummy					-.025**	-.013	.023*	.001					.008	-.027	-.018	.060
					(.011)	(.010)	(.013)	(.012)					(.026)	(.031)	(.025)	(.042)
Constant	.628	.569	.426	.430	.629	.577	.422	.431	.604	.535	.398	.384	.587	.535	.417	.361
Observations	788	788	806	806	788	788	806	806	179	179	179	179	179	179	179	179
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020	2014	2014	2020	2020

Notes. This table shows the coefficients for the RDD splitting the data on the municipality election year. All seat changes have both linear and quadratic specifications. Column 1 and 2 show the results for 2014. Column 1 is without department fixed effects and column 2 is with department fixed effects. Column 3 and 4 show the results for 2020. Column 3 is without department fixed effects and column 4 is with department fixed effects. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is interacted with the seats dummy to allow for different trends on both sides of the threshold. For the quadratic specification population is also squared. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A7 – Coefficients for round RDD

	Linear				Quadratic				Linear				Quadratic			
	11 seats								15 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.000	.001	-.039**	-.030*	.004	.005	-.040*	-.016	.002	.001	-.044***	-.030**	-.012**	-.013**	-.066***	-.063***
	(.004)	(.004)	(.016)	(.016)	(.006)	(.006)	(.024)	(.024)	(.004)	(.004)	(.015)	(.014)	(.006)	(.006)	(.022)	(.022)
Adjusted p-value	[1.00]	[1.00]	[.563]	[.935]	[1.00]	[1.00]	[.980]	[1.00]	[1.00]	[1.00]	[.193]	[.782]	[.841]	[.556]	[.199]	[.237]
Population (x1000)	-.213	-.213	.425	.355	-.284	-.364	1.85	.032	-.062	-.070	.348**	.115	.565***	.525***	1.57**	1.57**
	(.139)	(.135)	(.564)	(.559)	(.553)	(.540)	(2.25)	(2.29)	(.045)	(.041)	(.156)	(.151)	(.187)	(.170)	(.651)	(.649)
Population (x1000)^2					-1.78	-3.79	35.81	-8.21					5.83***	5.53***	11.32*	13.43**
					(13.51)	(13.15)	(56.29)	(56.87)					(1.68)	(1.53)	(5.97)	(5.91)
Population (x1000) x seats dummy	-.241	-.223	-.611	-.737	-.683	-.591	-3.45	-2.35	-.050	-.012	-.467**	-.181	-.502*	-.446*	-1.69*	-1.25
	(.179)	(.173)	(.722)	(.717)	(.709)	(.686)	(2.89)	(2.91)	(.065)	(.059)	(.247)	(.238)	(.264)	(.240)	(1.02)	(.982)
Population (x1000)^2 x seats dummy					14.89	17.08	.987	58.40					-7.54***	-7.10***	-11.36	-17.08*
					(17.31)	(16.82)	(71.63)	(72.29)					(2.44)	(2.22)	(9.51)	(9.26)
Constant	.817	.795	.812	.687	.816	.794	.822	.686	.749	.709	.759	.630	.760	.720	.781	.656
Observations	8,758	8,758	1,380	1,380	8,758	8,758	1,380	1,380	9,132	9,132	1,413	1,413	9,132	9,132	1,413	1,413
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Round	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2

Table A7 (continued)

	Linear				Quadratic				Linear				Quadratic			
	19 seats								23 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.010	-.009	.008	.008	-.023*	-.014	.004	.002	.002	-.003	.012	.006	.012	.005	.010	-.012
	(.008)	(.008)	(.027)	(.024)	(.013)	(.012)	(.041)	(.030)	(.008)	(.007)	(.015)	(.015)	(.011)	(.011)	(.022)	(.023)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[.959]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	.084	.088	-.150	-.148	.108	.021	-.592	-.680	-.008	-.000	-.052	-.007	-.112	-.121	-.031	.096
	(.067)	(.062)	(.223)	(.219)	(.272)	(.251)	(.915)	(.721)	(.023)	(.021)	(.052)	(.045)	(.093)	(.088)	(.202)	(.193)
Population (x1000)^2					.159	-.441	-3.03	-3.91					-.256	-.296	.053	.260
					(1.70)	(1.57)	(5.93)	(5.12)					(.224)	(.209)	(.490)	(.447)
Population (x1000) x seats dummy	-.115	-.141	-.010	.108	.348	.202	.999	1.39	-.025	-.023	.012	-.027	.027	.098	-.002	.065
	(.097)	(.090)	(.294)	(.278)	(.394)	(.369)	(1.27)	(1.04)	(.034)	(.032)	(.071)	(.062)	(.134)	(.128)	(.279)	(.265)
Population (x1000)^2 x seats dummy					-3.43	-1.42	-.666	-1.07					.391	.295	-.070	-.766
					(2.54)	(2.36)	(8.18)	(7.45)					(.332)	(.311)	(.691)	(.658)
Constant	.699	.667	.764	.728	.700	.665	.753	.710	.671	.626	.721	.706	.664	.617	.722	.706
Observations	2,495	2,495	146	146	2,495	2,495	146	146	2,687	2,687	253	253	2,687	2,687	253	253
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Round	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2

Table A7 (continued)

	Linear				Quadratic				Linear				Quadratic			
	27 seats								29 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.002	.002	.014	.027	.027	.025	.020	.005	.015	.013	.049*	.052*	.011	.022	.060	.024
	(.012)	(.011)	(.023)	(.020)	(.019)	(.016)	(.035)	(.031)	(.014)	(.014)	(.029)	(.030)	(.021)	(.022)	(.038)	(.047)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[.995]	[.988]	[1.00]	[1.00]	[1.00]	[1.00]	[.980]	[.972]	[1.00]	[1.00]	[.989]	[1.00]
Population (x1000)	.047	.051	-.029	-.198**	-.144	-.095	-.423	-.325	-.054	-.031	-.204**	-.155	-.119	-.116	-.627	.256
	(.049)	(.045)	(.084)	(.084)	(.198)	(.184)	(.371)	(.348)	(.055)	(.058)	(.099)	(.120)	(.227)	(.231)	(.436)	(.503)
Population (x1000)^2					-.700	-.538	-1.49	-.500					-.221	-.288	-1.42	1.39
					(.717)	(.676)	(1.44)	(1.32)					(.753)	(.751)	(1.33)	(1.51)
Population (x1000) x seats dummy	-.046	-.036	-.029	.183	-.224	-.262	.560	.849	-.034	-.049	.086	.003	.183	-.057	.677	-.200
	(.077)	(.070)	(.131)	(.116)	(.316)	(.274)	(.604)	(.534)	(.085)	(.083)	(.151)	(.192)	(.343)	(.332)	(.618)	(.632)
Population (x1000)^2 x seats dummy					2.07*	1.91*	.780	-1.40					-.301	.604	.839	-2.09
					(1.13)	(1.02)	(2.00)	(1.94)					(1.14)	(1.11)	(2.11)	(2.31)
Constant	.671	.604	.711	.680	.663	.597	.695	.671	.651	.633	.654	.772	.648	.629	.635	.789
Observations	967	967	162	162	967	967	162	162	531	531	111	111	531	531	111	111
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Round	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2

Table A7 (continued)

	Linear				Quadratic				Linear				Quadratic			
	33 seats								35 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.003 (.008)	-.003 (.007)	.025** (.012)	.023** (.011)	.002 (.011)	-.007 (.010)	.034* (.019)	.017 (.016)	-.005 (.012)	.002 (.015)	.008 (.020)	.022 (.032)	-.001 (.020)	.022 (.023)	-.022 (.028)	.018 (.036)
Adjusted p-value	[1.00]	[1.00]	[.833]	[.766]	[1.00]	[1.00]	[.951]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	-.003 (.004)	.001 (.003)	-.015*** (.005)	-.009* (.005)	-.002 (.014)	.013 (.013)	-.044* (.025)	.008 (.023)	.009 (.007)	.009 (.008)	.017 (.012)	.015 (.016)	.018 (.029)	.010 (.032)	.049 (.047)	.047 (.046)
Population (x1000)^2					.000 (.006)	.005 (.005)	-.012 (.010)	.007 (.009)					.004 (.013)	.000 (.014)	.016 (.022)	.016 (.025)
Population (x1000) x seats dummy	-.001 (.006)	-.003 (.005)	.008 (.010)	-.002 (.008)	-.000 (.024)	-.019 (.022)	.047 (.042)	-.019 (.034)	-.023** (.011)	-.025* (.014)	-.043** (.018)	-.042 (.033)	-.051 (.045)	-.087 (.054)	-.024 (.066)	-.094 (.100)
Population (x1000)^2 x seats dummy					-.001 (.010)	-.003 (.009)	.007 (.018)	-.007 (.013)					.006 (.021)	.030 (.025)	-.041 (.033)	-.006 (.053)
Constant	.623	.588	.635	.611	.624	.593	.623	.618	.586	.555	.615	.566	.589	.552	.627	.573
Observations	1,150	1,150	444	444	1,150	1,150	444	444	236	236	122	122	236	236	122	122
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Round	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2

Notes. This table shows the coefficients for the RDD splitting the data on the round of the municipality election. All seat changes have both linear and quadratic specifications. Column 1 and 2 show the results for round 1. Column 1 is without department fixed effects and column 2 is with department fixed effects. Column 3 and 4 show the results for round 2. Column 3 is without department fixed effects and column 4 is with department fixed effects. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is interacted with the seats dummy to allow for different trends on both sides of the threshold. For the quadratic specification population is also squared. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A8 – Coefficients for voting gaps RDD

	Linear				Quadratic				Linear				Quadratic			
	11 seats								15 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.013**	-.013**	-.002	-.000	-.017*	-.017*	.006	.009	.003	-.002	-.012*	-.007	-.011	-.014*	-.029***	-.026***
	(.006)	(.006)	(.005)	(.005)	(.010)	(.009)	(.008)	(.008)	(.005)	(.005)	(.006)	(.005)	(.008)	(.007)	(.009)	(.008)
Adjusted p-value	[.874]	[.892]	[1.00]	[1.00]	[.948]	[.967]	[1.00]	[1.00]	[1.00]	[1.00]	[.917]	[.997]	[.997]	[.943]	[.120]	[.123]
Population (x1000)	.015	.059	-.213	-.255	-.623	-.600	.491	.197	-.071	-.059	.072	-.008	.548**	.480**	.835***	.837***
	(.229)	(.222)	(.179)	(.175)	(.885)	(.868)	(.723)	(.712)	(.060)	(.056)	(.065)	(.059)	(.248)	(.234)	(.268)	(.245)
Population (x1000)^2					-16.25	-16.85	17.54	11.19					5.71**	4.98**	7.12***	7.89***
					(22.01)	(21.44)	(15.58)	(17.29)					(2.26)	(2.12)	(2.42)	(2.21)
Population (x1000) x seats dummy	-.197	-.237	-.323	-.275	1.80	1.68	-3.05***	-2.77***	-.032	-.013	-.198	-.090	-.556	-.416	-.763*	-.741**
	(.290)	(.283)	(.240)	(.234)	(1.14)	(1.12)	(.958)	(.928)	(.088)	(.082)	(.098)	(.089)	(.356)	(.336)	(.401)	(.366)
Population (x1000)^2 x seats dummy					-18.57	-15.24	34.42	41.42*					-6.64**	-6.30**	-9.06**	-9.79***
					(28.25)	(27.73)	(23.25)	(22.75)					(3.31)	(3.12)	(3.73)	(3.38)
Constant	.821	.821	.813	.752	.817	.817	.818	.757	.745	.721	.755	.680	.757	.732	.769	.696
Observations	4,245	4,245	5,893	5,893	4,245	4,245	5,893	5,893	5,783	5,783	4,762	4,762	5,783	5,783	4,762	4,762
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Top 50 percentile of voting gap	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A8 (continued)

	Linear				Quadratic				Linear				Quadratic			
	19 seats								23 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.009	-.002	-.018	-.020*	-.025	-.006	-.021	-.017	.007	-.001	-.003	-.003	-.002	-.007	.029*	.026*
	(.011)	(.010)	(.012)	(.012)	(.017)	(.015)	(.019)	(.018)	(.009)	(.009)	(.011)	(.010)	(.014)	(.014)	(.016)	(.015)
Adjusted p-value	[1.00]	[1.00]	[.996]	[.972]	[.995]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.967]	[.975]
Population (x1000)	.058	.032	.121	.118	-.241	-.471	.219	.041	-.009	.002	.011	.003	-.139	-.170	-.071	-.136
	(.090)	(.079)	(.098)	(.094)	(.357)	(.320)	(.412)	(.394)	(.028)	(.026)	(.034)	(.031)	(.115)	(.108)	(.138)	(.134)
Population (x1000)^2					-1.97	-3.30	.646	-.503					-.323	-.424*	-.202	-.341
					(2.24)	(2.01)	(2.60)	(2.51)					(.276)	(.258)	(.334)	(.321)
Population (x1000) x seats dummy	-.160	-.135	-.056	-.111	1.09	1.05**	-.135	-.063	-.031	-.031	-.052	-.039	.382**	.431***	-.431**	-.232
	(.128)	(.116)	(.145)	(.138)	(.509)	(.472)	(.604)	(.569)	(.042)	(.039)	(.050)	(.046)	(.169)	(.160)	(.193)	(.188)
Population (x1000)^2 x seats dummy					-4.47	-1.30	-.771	.687					-.406	-.323	1.42***	1.22***
					(3.30)	(3.06)	(3.88)	(3.68)					(.415)	(.388)	(.481)	(.468)
Constant	.707	.675	.703	.663	.700	.663	.705	.661	.680	.663	.674	.593	.671	.651	.668	.583
Observations	1,435	1,435	1,206	1,206	1,435	1,435	1,206	1,206	1,506	1,506	1,434	1,434	1,506	1,506	1,434	1,434
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Top 50 percentile of voting gap	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A8 (continued)

	Linear				Quadratic				Linear				Quadratic			
	27 seats								29 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.004	.011	.002	-.000	.047**	.040**	.003	.003	-.005	-.003	.033*	.035*	-.031	-.001	.046*	.064*
	(.015)	(.014)	(.017)	(.017)	(.023)	(.020)	(.025)	(.026)	(.018)	(.020)	(.019)	(.021)	(.027)	(.031)	(.027)	(.033)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[.882]	[.908]	[1.00]	[1.00]	[1.00]	[1.00]	[.967]	[.972]	[1.00]	[1.00]	[.971]	[.916]
Population (x1000)	.017	.026	.078	.058	-.185	-.087	.004	.141	.061	.060	-.195**	-.131	.676***	.138	-.843***	-.571
	(.061)	(.062)	(.066)	(.063)	(.258)	(.264)	(.258)	(.252)	(.058)	(.074)	(.078)	(.080)	(.244)	(.314)	(.324)	(.353)
Population (x1000)^2					-.735	-.406	-.275	.310					2.07***	.272	-2.20**	-1.50
					(.926)	(.955)	(.971)	(.946)					(.799)	(1.01)	(1.07)	(1.16)
Population (x1000) x seats dummy	-.043	-.052	-.057	-.026	-.624	-.496	.057	-.268	-.150	-.121	.120	-.009	-.821*	-.322	1.12***	.237
	(.095)	(.095)	(.102)	(.100)	(.400)	(.381)	(.415)	(.380)	(.105)	(.123)	(.111)	(.115)	(.467)	(.520)	(.434)	(.458)
Population (x1000)^2 x seats dummy					3.69***	2.51*	.131	.259					-1.87	.163	1.02	2.14
					(1.43)	(1.36)	(1.48)	(1.48)					(1.60)	(1.49)	(1.44)	(1.69)
Constant	.682	.561	.670	.632	.673	.554	.667	.635	.678	.634	.632	.636	.706	.638	.603	.621
Observations	583	583	546	546	583	583	546	546	302	302	340	340	302	302	340	340
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Top 50 percentile of voting gap	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A8 (continued)

	Linear				Quadratic				Linear				Quadratic			
	33 seats								35 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.009	.010	.013	.003	.012	.007	.013	-.001	-.021	-.053*	.009	.017	-.021	-.039	.001	.030
	(.011)	(.009)	(.008)	(.008)	(.016)	(.013)	(.012)	(.012)	(.016)	(.029)	(.014)	(.017)	(.026)	(.047)	(.020)	(.023)
Adjusted p-value	[1.00]	[1.00]	[.984]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.997]	[.954]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.998]
Population (x1000)	-.004	.003	-.008**	-.005	.009	.031**	-.024	-.010	.010	.026	.014*	.016*	-.007	.010	.042	.008
	(.004)	(.004)	(.004)	(.004)	(.018)	(.016)	(.017)	(.017)	(.009)	(.017)	(.007)	(.009)	(.041)	(.062)	(.031)	(.035)
Population (x1000)^2					.005	.012*	-.006	-.002					-.008	-.008	.013	-.004
					(.007)	(.006)	(.007)	(.007)					(.018)	(.024)	(.015)	(.016)
Population (x1000) x seats dummy	-.001	-.011	.002	.002	-.033	-.061**	.039	.025	-.015	-.010	-.041***	-.047***	.020	-.019	-.073	-.073
	(.008)	(.007)	(.006)	(.006)	(.031)	(.026)	(.028)	(.027)	(.014)	(.022)	(.012)	(.016)	(.061)	(.085)	(.047)	(.062)
Population (x1000)^2 x seats dummy					.003	-.002	-.004	-.006					.000	.020	-.011	.021
					(.013)	(.011)	(.012)	(.011)					(.028)	(.036)	(.023)	(.029)
Constant	.632	.570	.621	.611	.637	.584	.615	.610	.606	.540	.585	.551	.600	.535	.595	.545
Observations	694	694	900	900	694	694	900	900	134	134	224	224	134	134	224	224
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Top 50 percentile of voting gap	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Notes. This table shows the coefficients for the RDD splitting the data on the absolute gap from a 50/50 vote distribution on the preceding presidential election. All seat changes have both linear and quadratic specifications. Column 1 and 2 show the results for those that have a relatively low gap to a 50/50 vote. Column 1 is without department fixed effects and column 2 is with department fixed effects. Column 3 and 4 show the results for those that have a relatively high gap to a 50/50 vote. Column 3 is without department fixed effects and column 4 is with department fixed effects. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is interacted with the seats dummy to allow for different trends on both sides of the threshold. For the quadratic specification population is also squared. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A9 – Coefficients for loser RDD

	Linear				Quadratic				Linear				Quadratic			
	11 seats								15 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.005	-.006	-.009	-.005	-.003	-.003	-.006	.002	-.006	-.004	-.003	-.005	-.025***	-.024***	-.011	-.016**
	(.006)	(.006)	(.006)	(.006)	(.009)	(.008)	(.009)	(.009)	(.005)	(.005)	(.006)	(.005)	(.008)	(.007)	(.009)	(.008)
Adjusted p-value	[1.00]	[1.00]	[.996]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.248]	[.208]	[.999]	[.906]
Population (x1000)	-.339*	-.360	.119	.059	.080	-.075	.136	-.256	-.014	-.033	.005	-.016	.712***	.673***	.642**	.629**
	(.196)	(.192)	(.206)	(.201)	(.774)	(.765)	(.829)	(.809)	(.060)	(.055)	(.065)	(.061)	(.246)	(.227)	(.271)	(.259)
Population (x1000)^2					10.50	7.14	.436	-7.95					6.76***	6.57***	5.88**	5.96**
					(18.82)	(18.62)	(20.48)	(19.95)					(2.23)	(2.06)	(2.45)	(2.34)
Population (x1000) x seats dummy	-.004	.104	-.487*	-.494	-1.24	-1.03	-.915	-.896	-.129	-.073	-.071	-.035	-.464	-.348	-.914**	-.779**
	(.256)	(.249)	(.269)	(.263)	(1.02)	(.991)	(1.08)	(1.05)	(.089)	(.083)	(.095)	(.089)	(.364)	(.336)	(.390)	(.369)
Population (x1000)^2 x seats dummy					10.38	14.72	10.07	26.27					-10.58***	-10.78***	-3.87	-5.00
					(24.85)	(24.40)	(26.42)	(25.82)					(3.39)	(3.13)	(3.61)	(3.41)
Constant	.816	.752	.817	.813	.819	.754	.817	.811	.768	.704	.735	.699	.781	.718	.747	.711
Observations	5,080	5,080	4,856	4,856	5,080	5,080	4,856	4,856	5,859	5,859	4,606	4,606	5,589	5,589	4,606	4,606
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Supported loser	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A9 (continued)

	Linear				Quadratic				Linear				Quadratic			
	19 seats								23 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.021*	-.014	-.002	-.001	-.029*	-.013	-.018	-.006	.012	.005	-.016	-.015	.035**	.024*	-.024	-.008
	(.011)	(.010)	(.013)	(.012)	(.016)	(.015)	(.020)	(.019)	(.010)	(.009)	(.011)	(.011)	(.014)	(.014)	(.016)	(.016)
Adjusted p-value	[.909]	[.998]	[1.00]	[1.00]	[.965]	[1.00]	[1.00]	[1.00]	[.999]	[1.00]	[.992]	[.995]	[.616]	[.970]	[.992]	[1.00]
Population (x1000)	.129	.081	.036	.046	.205	-.033	-.402	-.319	-.018	-.009	.036	.029	-.187	-.185	.060	-.142
	(.085)	(.079)	(.103)	(.098)	(.348)	(.332)	(.426)	(.406)	(.029)	(.027)	(.033)	(.030)	(.118)	(.113)	(.126)	(.122)
Population (x1000)^2					.496	-.749	-2.91	-2.43					-.416	-.432	.060	-.424
					(2.14)	(2.07)	(2.75)	(2.63)					(.285)	(.266)	(.304)	(.299)
Population (x1000) x seats dummy	-.052	-.057	-.208	-.213	.110	.159	1.29**	.717	-.047	-.032	-.038	-.036	-.065	.027	.037	.211
	(.125)	(.117)	(.146)	(.142)	(.498)	(.474)	(.619)	(.604)	(.043)	(.039)	(.048)	(.046)	(.167)	(.158)	(.193)	(.189)
Population (x1000)^2 x seats dummy					-2.10	.056	-4.13	-1.33					.904**	.735	-.320	.225
					(3.21)	(2.99)	(4.01)	(3.95)					(.413)	(.393)	(.477)	(.474)
Constant	.724	.693	.690	.649	.726	.691	.679	.638	.683	.616	.680	.643	.671	.603	.681	.633
Observations	1,638	1,638	1,001	1,001	1,638	1,638	1,001	1,001	1,895	1,895	1,043	1,043	1,895	1,895	1,043	1,043
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Supported loser	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A9 (continued)

	Linear				Quadratic				Linear				Quadratic			
	27 seats								29 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	-.003 (.013)	.003 (.013)	.017 (.020)	.020 (.020)	.024 (.020)	.032 (.019)	.032 (.030)	.020 (.029)	.026 (.016)	.025 (.017)	-.007 (.024)	.003 (.022)	.051** (.023)	.042 (.026)	-.100*** (.031)	-.033 (.033)
Adjusted p-value	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.982]	[1.00]	[1.00]	[.982]	[.994]	[1.00]	[1.00]	[.766]	[.987]	[.222]	[1.00]
Population (x1000)	.079 (.058)	.047 (.053)	-.016 (.071)	-.027 (.082)	-.271 (.235)	-.208 (.216)	.242 (.279)	.289 (.354)	-.134** (.065)	-.087 (.072)	.007 (.071)	.059 (.088)	-.510* (.272)	-.151 (.273)	.432 (.282)	.269 (.347)
Population (x1000)^2					-1.30 (.870)	-.953 (.815)	.944 (1.01)	1.15 (1.24)					-1.28 (.905)	-.220 (.905)	1.41 (.934)	.727 (1.19)
Population (x1000) x seats dummy	-.087 (.084)	-.068 (.082)	.030 (.122)	.138 (.127)	.011 (.350)	-.188 (.324)	-.833 (.493)	-.501 (.520)	.073 (.092)	.004 (.101)	-.096 (.144)	-.118 (.147)	.278 (.390)	-.224 (.391)	.752 (.507)	.148 (.573)
Population (x1000)^2 x seats dummy					2.22* (1.26)	2.30* (1.22)	1.35 (1.66)	.117 (1.68)					1.88 (1.29)	1.22 (1.38)	-5.51*** (1.70)	-2.29 (1.66)
Constant	.698	.628	.653	.533	.682	.615	.664	.545	.648	.618	.665	.643	.631	.614	.687	.643
Observations	751	751	375	375	751	751	375	375	436	436	204	204	436	436	204	204
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Supported loser	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table A9 (continued)

	Linear				Quadratic				Linear				Quadratic			
	33 seats								35 seats							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Seats	.012 (.008)	.004 (.007)	.009 (.013)	-.001 (.012)	.021** (.011)	.006 (.010)	-.021 (.020)	-.018 (.018)	.006 (.012)	.004 (.014)	-.028 (.021)	.017 (.041)	.000 (.018)	.023 (.019)	-.016 (.028)	-.015 (.052)
Adjusted p-value	[.991]	[1.00]	[1.00]	[1.00]	[.909]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.998]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Population (x1000)	-.007 (.004)	-.002 (.004)	-.005 (.006)	.001 (.005)	-.010 (.014)	-.000 (.013)	-.006 (.023)	.036* (.022)	.007 (.006)	.009 (.007)	.033** (.014)	.036 (.022)	.025 (.027)	.014 (.025)	.030 (.050)	.066 (.112)
Population (x1000)^2					-.001 (.006)	.001 (.005)	-.000 (.009)	.015* (.009)					.009 (.013)	.002 (.012)	-.002 (.025)	.015 (.049)
Population (x1000) x seats dummy	.003 (.006)	-.001 (.005)	-.005 (.009)	-.003 (.009)	-.019 (.025)	-.010 (.022)	.076* (.039)	-.031 (.036)	-.026** (.010)	-.026* (.014)	-.056*** (.021)	-.100*** (.026)	-.046 (.042)	-.093* (.049)	-.083 (.075)	-.044 (.165)
Population (x1000)^2 x seats dummy					.012 (.011)	.002 (.009)	-.035** (.016)	-.019 (.015)					-.008 (.020)	.029 (.024)	.017 (.037)	-.065 (.058)
Constant	.621	.597	.638	.593	.620	.597	.637	.611	.586	.555	.632	.635	.592	.552	.631	.648
Observations	1,155	1,155	438	438	1,155	1,155	438	438	286	286	70	70	286	286	70	70
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Supported loser	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Notes. This table shows the coefficients for the RDD splitting the data on whether the municipality supported the loser in the preceding presidential election. All seat changes have both linear and quadratic specifications. Column 1 and 2 show the results for those that supported the winner. Column 1 is without department fixed effects and column 2 is with department fixed effects. Column 3 and 4 show the results for those that supported the loser. Column 3 is without department fixed effects and column 4 is with department fixed effects. Seats is a dummy which is 1 if the municipality is to the right of the threshold. The adjusted p-value is the Romano-Wolf adjusted p-value. Population is given in thousands and is interacted with the seats dummy to allow for different trends on both sides of the threshold. For the quadratic specification population is also squared. Observations are from 2014 and 2020 combined. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).

Table A10 – Romano-Wolf adjusted p-values for RDD's split on year, round, voting gap and loser support

		Linear				Quadratic			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Year	11 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.997]
	15 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.999]	[.998]
	19 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.999]	[.997]	[1.00]
	23 seats	[1.00]	[1.00]	[1.00]	[1.00]	[.997]	[1.00]	[1.00]	[1.00]
	27 seats	[1.00]	[1.00]	[1.00]	[.998]	[1.00]	[1.00]	[1.00]	[.995]
	29 seats	[1.00]	[.882]	[.999]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
	33 seats	[1.00]	[1.00]	[.823]	[1.00]	[1.00]	[1.00]	[.071]*	[1.00]
	35 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Round	11 seats	[.988]	[.911]	[1.00]	[1.00]	[.410]	[.060]*	[1.00]	[1.00]
	15 seats	[.950]	[.987]	[.994]	[1.00]	[1.00]	[1.00]	[.822]	[.781]
	19 seats	[1.00]	[1.00]	[1.00]	[1.00]	[.879]	[1.00]	[1.00]	[1.00]
	23 seats	[.996]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
	27 seats	[1.00]	[1.00]	[1.00]	[.999]	[1.00]	[.999]	[1.00]	[1.00]
	29 seats	[.999]	[.685]	[.980]	[.975]	[1.00]	[1.00]	[.990]	[1.00]
	33 seats	[.998]	[1.00]	[.851]	[.781]	[.999]	[1.00]	[.959]	[1.00]
	35 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Voting gap	11 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.969]	[.537]
	15 seats	[1.00]	[1.00]	[1.00]	[.997]	[1.00]	[.995]	[1.00]	[1.00]

	19 seats	[1.00]	[1.00]	[1.00]	[1.00]	[.964]	[1.00]	[1.00]	[1.00]
	23 seats	[.998]	[.997]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
	27 seats	[1.00]	[1.00]	[1.00]	[1.00]	[.922]	[1.00]	[1.00]	[1.00]
	29 seats	[1.00]	[1.00]	[.971]	[.933]	[1.00]	[1.00]	[1.00]	[1.00]
	33 seats	[1.00]	[1.00]	[.558]	[1.00]	[1.00]	[1.00]	[.897]	[1.00]
	35 seats	[1.00]	[.964]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]
Loser support	11 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.972]
	15 seats	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[1.00]	[.987]
	19 seats	[1.00]	[1.00]	[1.00]	[1.00]	[.972]	[1.00]	[.958]	[1.00]
	23 seats	[.733]	[.991]	[1.00]	[1.00]	[.502]	[.972]	[.972]	[1.00]
	27 seats	[1.00]	[.731]	[1.00]	[1.00]	[1.00]	[.995]	[.328]	[.989]
	29 seats	[.565]	[.665]	[1.00]	[1.00]	[.785]	[1.00]	[1.00]	[1.00]
	33 seats	[.785]	[.996]	[1.00]	[1.00]	[.439]	[.998]	[1.00]	[1.00]
	35 seats	[1.00]	[1.00]	[.999]	[1.00]	[1.00]	[1.00]	[.972]	[1.00]

Notes. This table shows the Romano-Wolf adjusted p-values for the four variables on which the data was split; year, round, voting gap and whether a municipality supported the loser. Columns 1 and 2 concern 2014, round 1, the lower half of municipalities of the voting gap and the ones who supported the winner. Column 1 concerns regressions without department fixed effects, which are added in column 2. Columns 3 and 4 concern 2020, round 2 the higher half of municipalities of the voting gap and the ones who supported the loser. Column 2 concerns regressions without department fixed effects, which are added in column 4. (*p<0.1, **p<0.05, ***p<0.01).

Table A11 – RDD results for the change in voting system

	Turnout		Number of candidates		Invalid votes municipality election		Null votes municipality election		Blanc votes municipality election		Invalid votes presidential election	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Above 1000 population	.000	-.001	1.95***	2.03***	.041***	.042***	.030***	.031***	.009***	.008***	-.000	-.001
	(.004)	(.004)	(.686)	(.685)	(.004)	(.004)	(.004)	(.004)	(.001)	(.001)	(.001)	(.001)
Population (x1000)	-.084***	-.083***	-4.90	-4.74	.009	-.007	-.024	-.028	-.006	-.003	-.000	.009
	(.015)	(.014)	(4.82)	(4.80)	(.027)	(.027)	(.028)	(.028)	(.011)	(.011)	(.010)	(.009)
Population (x1000) x System dummy	.040*	.045**	12.75*	12.38*	.328***	.349***	.271***	.268***	.074***	.073	-.005	-.012
	(.024)	(.022)	(7.41)	(7.28)	(.042)	(.042)	(.043)	(.043)	(.017)	(.017)	(.014)	(.014)
Constant	.708	.648	21.25	19.07	-.015	.045	.021	.021	.013	.015	.068	.067
Observations	11,430	11,430	2,895	2,895	5,605	5,605	2,694	2,694	2,694	2,694	5,605	5,605
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes. This table shows the regression discontinuity results at the threshold of 1000 in population, where the voting system changes from majority two-round voting with panachage to list two-round voting with majority bonus. Turnout is a value from 0 to 1, where 1 means 100 percent turnout. Number of candidates is a discrete number. Invalid votes, null votes and blanc votes are all values from 0 to 1, where 1 means 100 percent of the votes cast were of that kind. Observations for number of candidates, null votes and blanc votes only include observations for 2020 due to data availability. Other differences in observations are due to differences in bandwidths. Above 1000 population is a dummy variable which is 1 if the municipality has 1000 or more inhabitants. Population (x1000) is population given in thousands. This is interacted with the dummy for above 1000 population. Standard errors are in parentheses. (*p<0.1, **p<0.05, ***p<0.01).