Online Appendix to "The Power of Parties: Evidence From Close Municipal Elections in Norway"*

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Abstract

In recent years regression discontinuity (RD) designs have allowed scholars to perform strong empirical tests of how parties affect various political and economic outcomes. Most existing studies have applied RD designs in situations with two political parties (or candidates) in one election district (e.g., Lee, Moretti and Butler, 2004, Ferreira and Gyourko, 2009). The seat-majority threshold (commonly winning a single seat) is 50 percent of the votes. The treatment variable is sharply defined by the vote share of one of the parties, facilitating a straightforward implementation of standard RD designs. The standard approach should, however, not be applied directly to proportional representation systems when estimating the effects of seat majorities. In Appendix B we explain why this is the case, and present our alternative method. In Appendix C we provide additional descriptive statistics and empirical analysis.

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Online Appendix B: Methods

In this note we explain why seat and vote shares should *not* be used as forcing variables when estimating the effects of bloc majorities in proportional representation systems. We also present our alternative method.

Seat share as forcing variable

We are interested in the effects of right-wing vs. left-wing party bloc majorities. The treatment status is crossing the threshold for having 50 percent of the seats. One possibility is defining the forcing variable as the seat share of the right-wing political bloc. This is, however, a discrete variable for which the size of the jumps will depend on the size of the legislature. This feature makes it impossible to implement the standard RD design. The issues arising from a discrete forcing variable in RD designs are described and addressed in Lee and Card (2008). However, Lee and Card only consider situations where the forcing discrete variable have jumps of *constant size*.

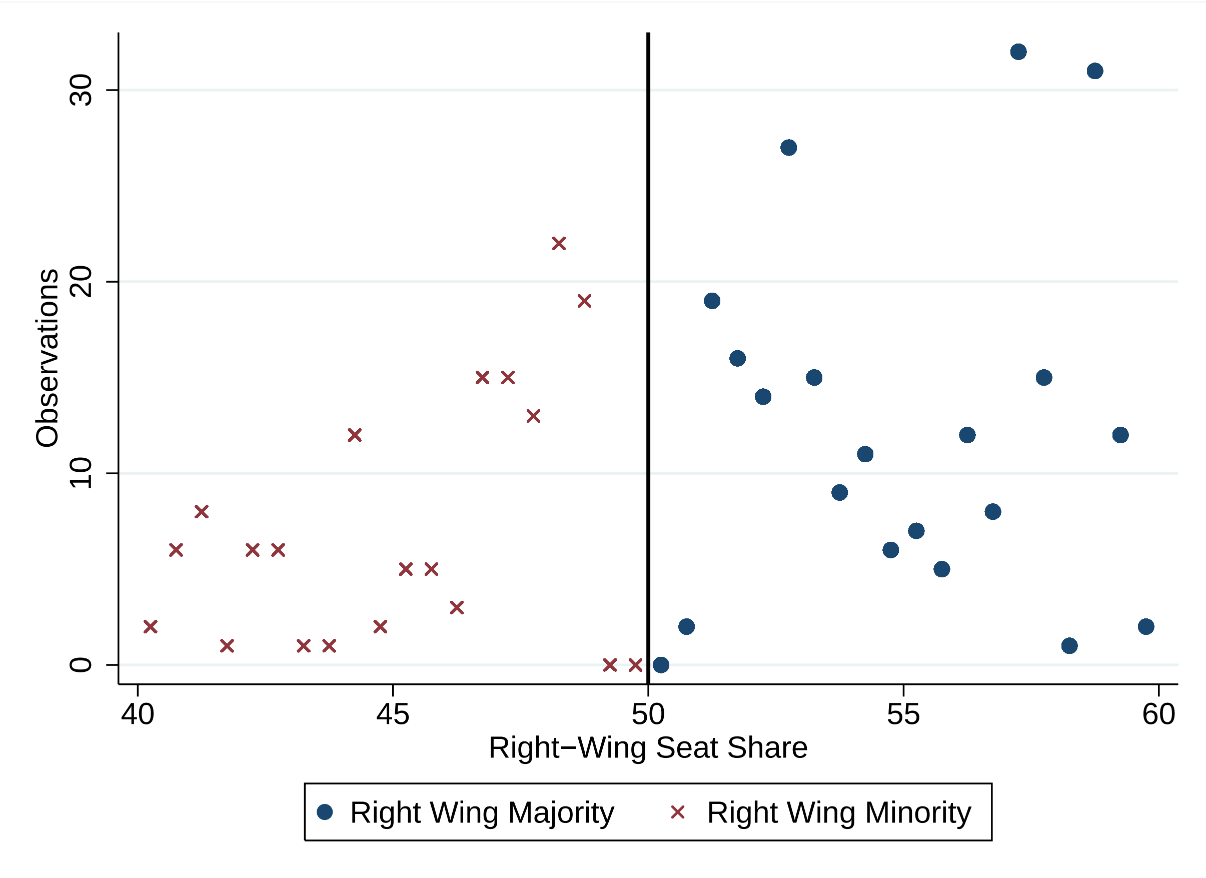
There are two additional concerns of having a discrete forcing variable with jumps of *different magnitudes*. Both are related to the fact that there will be a lower density in observations as we approach the seat-majority threshold, something we illustrate in Figure B.1.[1] Figure B.1 shows the density of observations in our data set as a function of the seat share of the right-wing bloc. Only two observations are less than one percentage point away from crossing the 50 percent threshold in seat shares. Conducting an RD design based on a sample of very close elections in terms of seat shares will therefore result in a sample selected on legislature size. Also, it is not necessarily true that elections that are close in terms of seats are actually close.[2] For the RD designs that use separate control functions on either side of the discontinuity the end points of the functions will have very few observations, which means the control functions will adjust to these points.

[1] For example, when there are 51 seats you will not be able to get closer than 1 percentage point and when there are 25 seats you cannot get closer than 2 percentage points.

[2] This is especially problematic in majoritarian legislatures where there is scope for gerrymandering and strong parties can target key districts.

The control functions will also capture some of the relationship between council size and outcome variable. These two issues have the implication that we will not be able to use the standard regression discontinuity designs with the seat share as the forcing variable.

Figure B.1: Frequency of observations and seat share of the right-wing bloc



Note: The figure shows the number of observations as a function of the seat share of the rightt-wing bloc. Each bin is for an interval of 0.5 percentage points.

Vote share as forcing variable

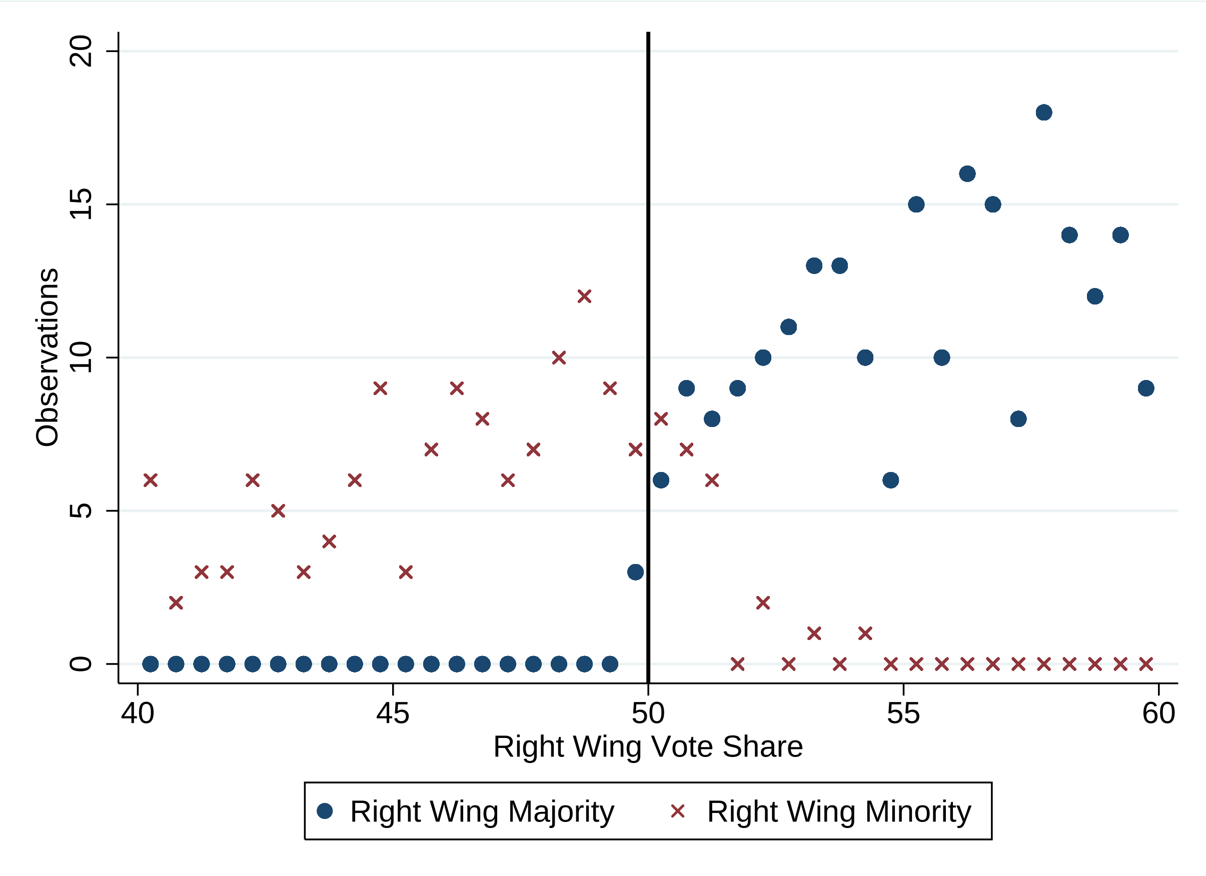
Pettersson-Lidbom (2008) defines treatment according to having a seat majority, but uses the vote share to define the forcing variable. This violates the basic idea of the RD design, whereby the treatment status should be determined entirely by the forcing variable.[3] The design of Pettersson-Lidbom (2008) could still yield unbiased estimates as long as the global vote share control function captures the relationship between the true forcing variable, i.e. seat share, and the relevant unobservable factors. Designs using a separate control function on either side of the threshold wouldn't work due to the lack of an actual margin of victory/loss that can be defined according to the vote share. Figure B.2 illustrates this by showing the number of observations as a function of the vote share of the right-wing bloc independently for the cases on either side of the seat discontinuity. As we see, for some vote shares the coalition can be either in the minority or majority.

The most problematic aspect of using the vote share as the forcing variable is that we cannot use specifications that limit the sample to observations that are close to the threshold for a seat majority change. This is because we do not know if we are close to the *seat* majority threshold or not. On top of that there is typically a systematic difference between the vote share and the seat share that depends on the interaction between factors such as council size, seat allocation formula and relative party size. This means that one bloc might have an inherent advantage in the seat allocation and that they, thus, are much more likely than the other bloc to win a seat majority when they hold close to 50 percent of the votes.

In Norway, the right-wing bloc is more fragmented than the left-wing bloc. This results in an advantage for the left-wing bloc, because the dominant party, the Labor party, has an advantage in the allocation of seats due to its size (see Fiva and Folke (2016) for an explanation). This means that in the most narrow window that Pettersson-Lidbom (2008) uses to define close elections in Sweden, ±2 percent of the vote share, the right wing bloc wins a seat majority in 37 percent of the elections. This is true even if we cut the window in half. Furthermore, there is not only sorting overall, the sorting will also be correlated with factors such as council size and the number of parties competing. Clearly, this violates the identifying assumption of no sorting in close elections.

[3]The standard approach, which is the one recommended by Lee and Lemieux (2010), is to use split polynomials. This is not, however, possible in this setting since it would have decreased the density of observations as we approached the threshold.

Figure B.2: Frequency of observations and vote share of the right-wing bloc

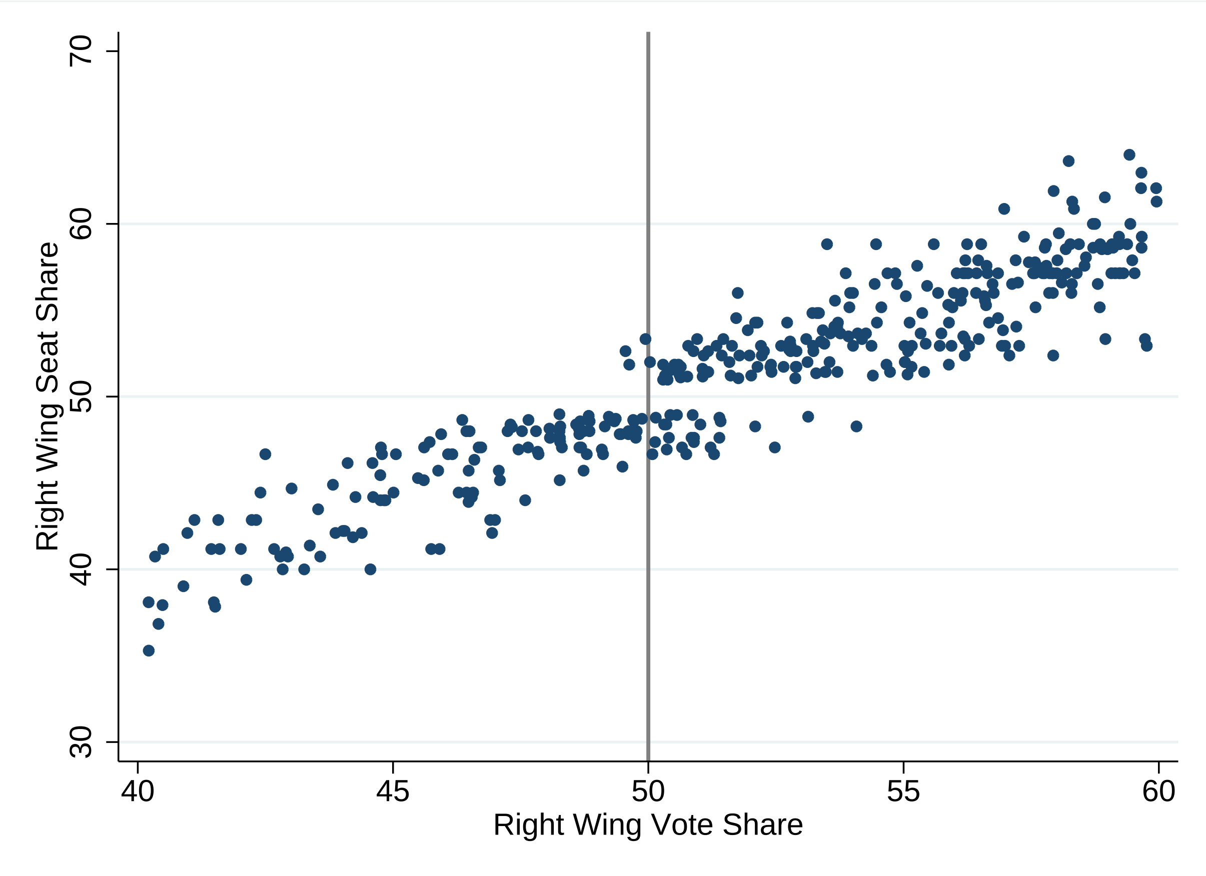


Note: The figure shows the number of observations as a function of the vote share of the right-wing bloc. The observation numbers are shown independently of whether the right-wing bloc has a seat majority or not. Each bin is for an interval of 0.5 percentage points.

Threshold distance as a forcing variable

For a given bloc-wise vote allocation we can get many different seat allocations, both within, and across, the blocs. In Figure B.3, which shows a scatter plot of the relationship between the vote share and seat share, we can see that, for any given vote share, there is a large deviation in the seat share. We could observe changes in majority status as a consequence of changes in the allocation of votes within the blocs. Furthermore, a given vote change could in some instances lead to a change in majority status, while in others it won't.

Figure B.3: Vote share vs. seat share



Note: The figure shows the relationship between seat shares and vote shares of the left-wing bloc.

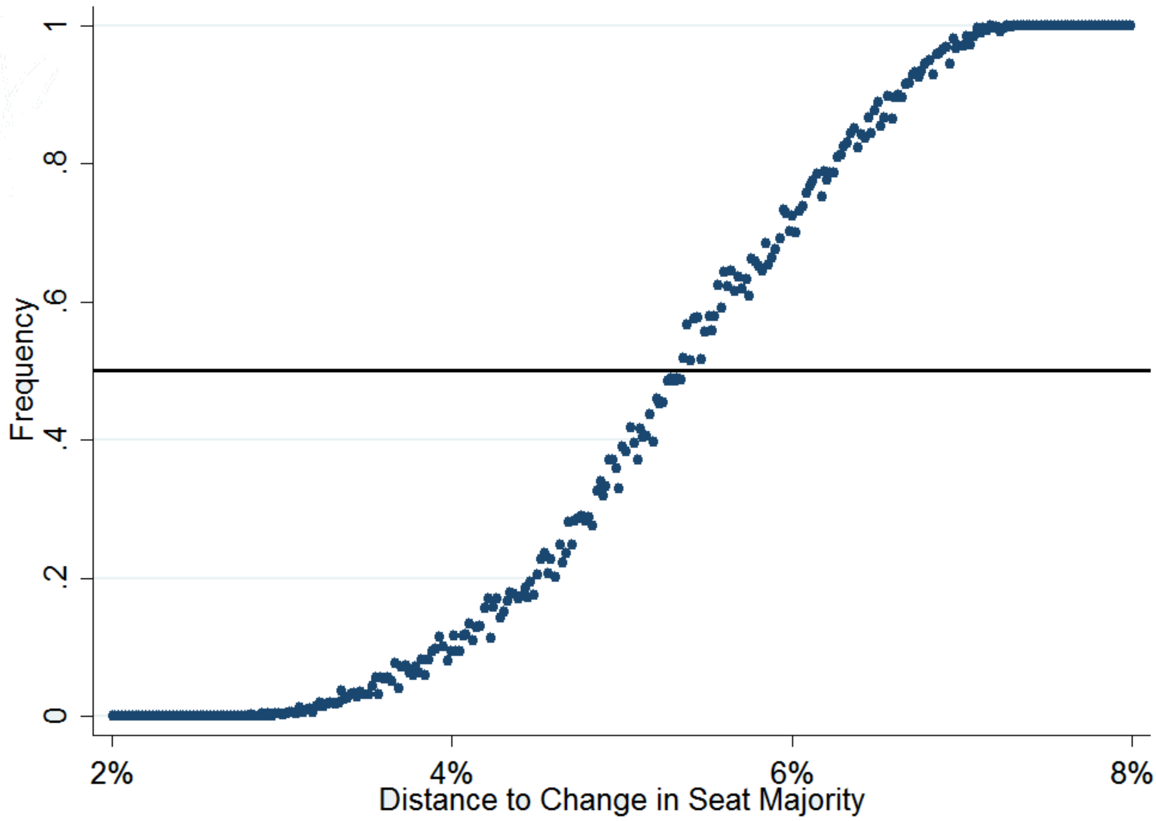
In our RD design we define treatment status in the same manner as Pettersson-Lidbom (2008), i.e, treatment status is defined by having a seat majority or not. The difference is that rather than relying on vote share as the forcing variable, we identify changes in electoral support that are likely to result in a change of seat majority in a simulation procedure. The forcing variable is defined as the vote change (across political blocs) that would have been sufficient to change the seat majority in at least half of the simulations. The properties of this forcing variable are such that it will allow us to implement all of the standard RD designs. To measure the change in votes that could be expected to lead to a change in majority status, we use the following procedure. For each vote change, defined in 0.1 percentage points intervals, that could possibly lead to a change in majority status, we run a large number of simulations (at least 2000) in which we randomly allocate the votes gained or lost by the blocs as a whole between the parties in each respective bloc.[4] For each vote change, we then measure the share of simulations for which we have a change in majority status. Based on this we define the distance to a seat threshold as the minimum vote change for which we have a change in majority status in at least half of the simulations.

In Figure B.4 we illustrate our simulation approach using the 2007 election in the municipality of *Selbu*. In Selbu the left-wing bloc was in minority with 44 percent of the seats and 46 percent of the votes. The figure shows the share of simulations with a change in majority status as a function of the aggregate vote change of the left-wing bloc. At a vote gain of 5.2 percentage points, the left-wing bloc will win a seat majority in half of the simulations, making this the distance to the threshold.

In Figure B.5 we plot the density of observations as a function of the distance to the majority threshold, our forcing variable. We see from the figure that that there is no drop in the density of observations as we approach the majority threshold. We therefore avoid the problems of using the seat share, or the vote share, as forcing variables. Using the distance to the majority threshold as a forcing variable we can therefore implement the standard RD designs.

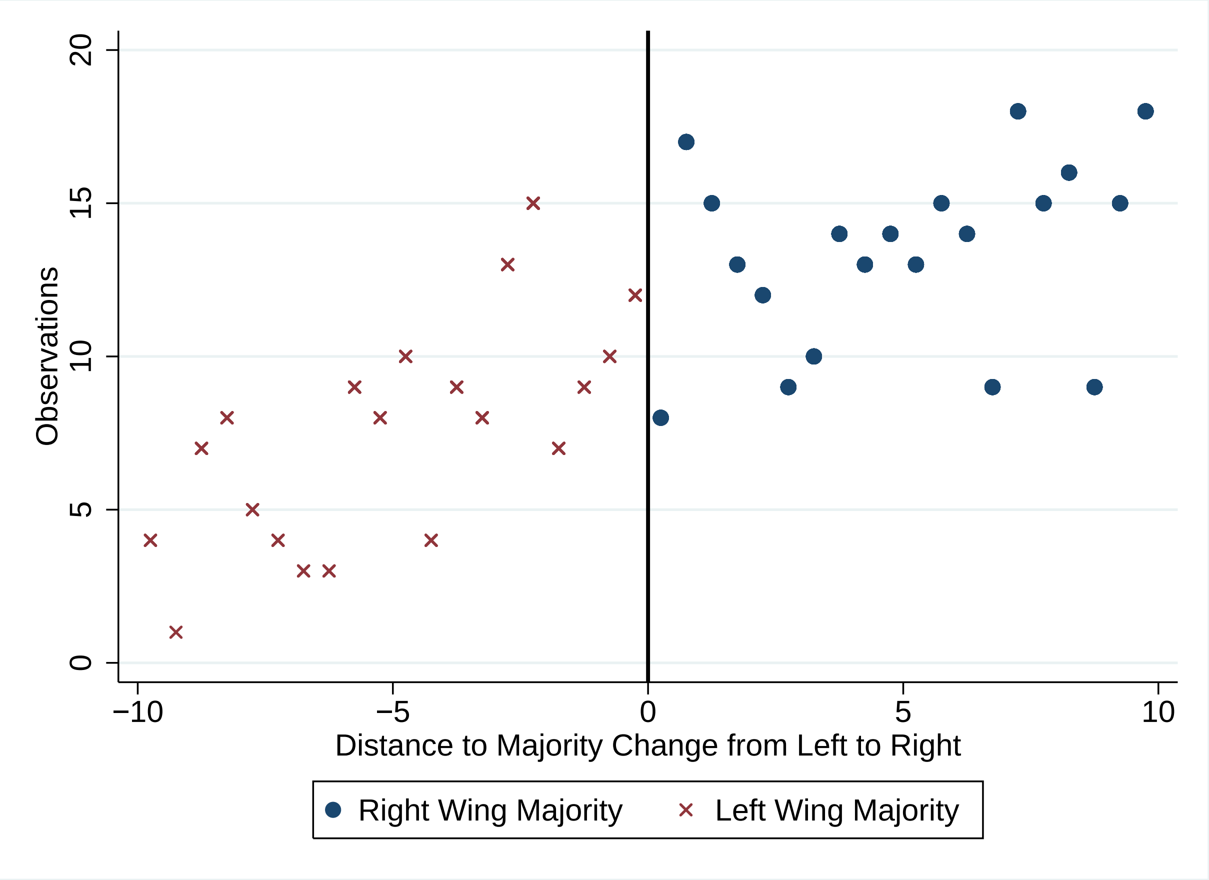
[4] Changes in vote shares are uniformly distributed across the parties with the changes weighted according to the relative size of the parties within the blocs.

Figure B.4: Example from the 2007 elections of Selbu



Note: The figure shows the share of simulations in which there is a change of majority status as a function of the aggregate vote change for the left-wing bloc.

Figure B.5: Frequency of observations as a function of the distance to the majority threshold



Note: The figure shows the number of observations as a function of the distance to majority change from right to left (i.e. right-wing win margin). Each bin is for an interval of 0.5 percentage points.

References

Ferreira, Fernando and Joseph Gyourko. 2009. “Do Political Parties Matter? Evidence from U.S. Cities.” *Quarterly Journal of Economics* 124(1):349–397.

Fiva, Jon H. and Jørn Rattsø. 2007. “Local Choice of Property Taxation: evidence from Norway.” *Public Choice* 132(3-4):457–470.

Fiva, Jon H. and Olle Folke. 2016. “Mechanical and Psychological Effects of Electoral Reform.” *British Journal of Political Science* 46(2):265–279.

Lee, David S. and David Card. 2008. “Regression Discontinuity Inference with Specification Error.” *Journal of Econometrics* 142(2):655–674.

Lee, David S., Enrico Moretti and Matthew Butler. 2004. “Do Voters Affect or Elect Policies? Evidence from the U.S. House.” *Quarterly Journal of Economics* 119(3):807–859.

Lee, David S. and Thomas Lemieux. 2010. “Regression Discontinuity Designs in Economics.” *Journal of Economic Literature* 48(2):281–355.

Pettersson-Lidbom, Per. 2008. “Do Parties Matter for Economic Outcomes: A Regression-Discontinuity Approach.” *Journal of the European Economic Association* 6(5):1037–1056.

Online Appendix C: Supplementary Analyses

Table C.1: The ideological positions of local politicians

Specification	(1)	(2)	(3)	(4)	(5)
R^2	0.716	0.005	0.091	0.749	0.838
$R^2 adj$	0.715	0.005	0.082	0.725	0.733
Fixed Effects					
Party	Yes	No	No	Yes	Yes
Year	No	Yes	No	Yes	Yes
Municipality	No	No	Yes	Yes	Yes
Party X Year	No	No	No	No	Yes
Party X Municipality	No	No	No	No	Yes
Party X Year X Municipality	No	No	No	No	Yes

Note: The ideological positions of elected council members have been measured by a survey question to all members of 121 local councils (response rate: 60 percent) for the election periods 2003-2007 and 2007-2011. The left-right self-placement is measured by means of a question where respondents placed themselves on a scale from 0 (the extreme left) to 10 (the extreme right). The individual-level responses were regressed against combinations and interactions of party fixed effects, year fixed effects and municipality fixed effects.

Table C.2: First Stage

	(1)	(2)	(3)
Red Electoral Alliance (RV)	-6.84***	-6.79***	-6.79***
	(0.76)	(0.79)	(0.81)
Socialist Left Party (SV)	-3.96***	-3.92***	-3.93***
	(0.44)	(0.45)	(0.45)
Green Party (MDG)	-4.46***	-4.53***	-4.50***
	(1.25)	(1.32)	(1.36)
Joint Left	-4.00***	-3.69***	-3.84***
	(1.13)	(1.15)	(1.17)
Liberal Party (V)	1.46**	1.36**	1.33**
	(0.57)	(0.58)	(0.58)
Centre Party (SP)	0.28	0.17	0.15
	(0.49)	(0.49)	(0.50)
Christian Democratic Party (KRF)	1.56***	1.52***	1.53***
	(0.46)	(0.47)	(0.48)
Conservative Party (H)	6.05***	5.98***	5.96***
	(0.49)	(0.50)	(0.50)
Progress Party (FRP)	6.85***	6.89***	6.89***
	(0.52)	(0.52)	(0.52)
Pensioners' Party (PP)	0.97	0.87	0.85
	(1.15)	(1.14)	(1.17)
Joint Right	7.16***	6.33***	6.20***
	(1.84)	(1.83)	(1.87)
Independent	1.65**	1.51**	1.53**
	(0.65)	(0.67)	(0.67)
Left Right Control	0.98***	0.99***	0.99***
	(0.00)	(0.01)	(0.01)
$F-statistic$	49.32	47.61	47.50
R^2	0.987	0.987	0.987

*Note: In specification (1), (4), and (5) of Table 2, we instrumented the left right index with the treatment variables ($\frac{t_p}{S}$) in a 2SLS framework. This table provides the corresponding first stage results (N=1122). We report regression coefficients for the excluded instruments and the vote share control function, only. The Labor Party (DNA) is the reference category. Standard errors clustered at the local government level in parentheses, * p < 0.10,** p < 0.05, *** p < 0.01.*

Table C.3: Demographic Control Variables and Election Period Fixed Effects Included

	(1) Index	(2) Majority 2nd order	(3) Majority 3rd order	(4) Both 2nd order	(5) Both 3rd order
Property Tax					
- Index	-0.13			-0.10	-0.09
	(0.43)			(0.43)	(0.43)
- Majority		-0.24	-0.36*	-0.22	-0.35*
		(0.16)	(0.21)	(0.16)	(0.20)
User Charges					
- Index	-0.50			-0.51	-0.52
	(0.36)			(0.36)	(0.36)
- Majority		0.10	0.23	0.13	0.26
		(0.13)	(0.16)	(0.13)	(0.16)
Child care					
- Index	-0.65**			-0.65**	-0.66**
	(0.27)			(0.28)	(0.28)
- Majority		-0.01	0.06	0.04	0.11
		(0.10)	(0.14)	(0.11)	(0.15)
Education					
- Index	0.14			0.18	0.17
	(0.39)			(0.39)	(0.39)
- Majority		-0.07	-0.04	-0.06	-0.05
		(0.14)	(0.18)	(0.15)	(0.19)
Elderly Care					
- Index	0.79**			0.76**	0.77**
	(0.38)			(0.38)	(0.38)
- Majority		0.01	-0.16	-0.03	-0.22
		(0.14)	(0.22)	(0.15)	(0.23)
Health Care					
- Index	0.32			0.29	0.29
	(0.36)			(0.37)	(0.37)
- Majority		0.22	0.18	0.19	0.17
		(0.16)	(0.21)	(0.16)	(0.21)
Culture					
- Index	-0.33			-0.29	-0.30
	(0.39)			(0.39)	(0.38)
- Majority		-0.17	0.11	-0.18	0.12
		(0.13)	(0.16)	(0.13)	(0.16)
Transport					
- Index	-0.12			-0.13	-0.13
	(0.52)			(0.52)	(0.52)
- Majority		-0.07	-0.08	-0.08	-0.12
		(0.13)	(0.16)	(0.13)	(0.17)
Central Administration					
- Index	-0.32			-0.32	-0.32
	(0.33)			(0.33)	(0.33)
- Majority		0.03	0.08	0.04	0.12
		(0.14)	(0.18)	(0.13)	(0.18)

*Note: The parameter estimates reported in the first row give standard deviation changes in fiscal policy of a one standard deviation increase in the policy indexes. The policy index is instrumented with the treatment variables ($\frac{t_P}{S}$) in a 2SLS framework. The parameter estimates reported in the second row give standard deviation changes in fiscal policy of changing the majority from the left to the right-wing bloc. In specification (2) and (4) a second order polynomial in the forcing variable is included on each side of the discontinuity. In specification (3) and (5) a third order polynomial is included on each side of the discontinuity. In specification (1), (4), and (5) we include a vote share control function (cf. Equation (4)). In all specifications we control for election period fixed effects, (log) population, share of people living in rural areas, fraction of children (1-5), fraction of young (6-15), fraction of elderly (81+), unemployment rate, and historical town status. Standard errors clustered at the local government level in parentheses, * $p < 0.10$, ** $p < 0.05$.*

Table C.4: Estimated effects of left-right index and right wing-majority on demographic control variables

	(1) Index	(2) Majority 2nd order	(3) Majority 3rd order	(4) Both 2nd order	(5) Both 3rd order
Population (log)					
- Index	0.12			0.15	0.15
	(0.43)			(0.38)	(0.38)
- Majority		-0.36*	-0.07	-0.30**	-0.14
		(0.19)	(0.24)	(0.14)	(0.19)
Share of population living in rural areas					
- Index	0.08			-0.01	-0.01
	(0.45)			(0.37)	(0.37)
- Majority		0.47***	0.38*	0.41***	0.42**
		(0.17)	(0.22)	(0.15)	(0.19)
Fraction of children (1-5)					
- Index	-0.02			-0.01	-0.01
	(0.41)			(0.41)	(0.41)
- Majority		-0.05	0.01	-0.04	-0.00
		(0.16)	(0.22)	(0.16)	(0.22)
Fraction of young (6-15)					
- Index	-0.58			-0.57	-0.58
	(0.43)			(0.43)	(0.43)
- Majority		-0.10	0.10	-0.05	0.13
		(0.14)	(0.18)	(0.14)	(0.18)
Fraction of elderly (81+)					
- Index	0.03			0.01	0.01
	(0.44)			(0.42)	(0.42)
- Majority		0.10	0.06	0.04	0.08
		(0.17)	(0.22)	(0.16)	(0.20)
Unemployment rate					
- Index	0.24			0.26	0.29
	(0.44)			(0.42)	(0.42)
- Majority		0.33	-0.11	0.31	-0.12
		(0.20)	(0.27)	(0.20)	(0.27)
Historical town status					
- Index	-0.22			-0.21	-0.22
	(0.54)			(0.53)	(0.53)
- Majority		-0.22	0.04	-0.20	0.01
		(0.21)	(0.25)	(0.18)	(0.23)

*Note: The parameter estimates reported in the first row give standard deviation changes in the control variable of a one standard deviation increase in the policy indexes. The policy index is instrumented with the treatment variables ($\frac{t_p}{S}$) in a 2SLS framework. The parameter estimates reported in the second row give standard deviation changes in the control variable of changing the majority from the left to the right-wing bloc. The control variables are measured in the previous election period. In specification (2) and (4) a second order polynomial in the forcing variable is included on each side of the discontinuity. In specification (3) and (5) a third order polynomial is included on each side of the discontinuity. In specification (1), (4), and (5) we include a vote share control function (cf. Equation (4)). Standard errors clustered at the local government level in parentheses, * $p < 0.10$,** $p < 0.05$.*

Table C.5: Left-right party positions by closeness of elections, seat thresholds

	(1) Close		(2) Not close		(3) Difference	
	Mean	SD	Mean	SD	Estimate	SE
Socialist Left Party (SV)	2.055	(0.942)	2.053	(0.814)	0.003	(0.189)
Labor Party (DNA)	3.611	(0.857)	3.607	(0.700)	0.003	(0.137)
Centre Party (SP)	4.887	(0.862)	4.743	(0.701)	0.144	(0.164)
Christian Dem. Party (KrF)	5.266	(0.966)	5.504	(0.862)	-0.238	(0.195)
Liberal Party (V)	5.132	(1.142)	5.420	(0.825)	-0.288	(0.272)
Conservative Party (H)	7.631	(0.720)	7.654	(0.392)	-0.024	(0.132)
Progress Party (FrP)	8.529	(0.846)	8.461	(0.916)	0.067	(0.160)
Party independent lists	5.422	(2.002)	5.667	(1.500)	-0.245	(0.643)

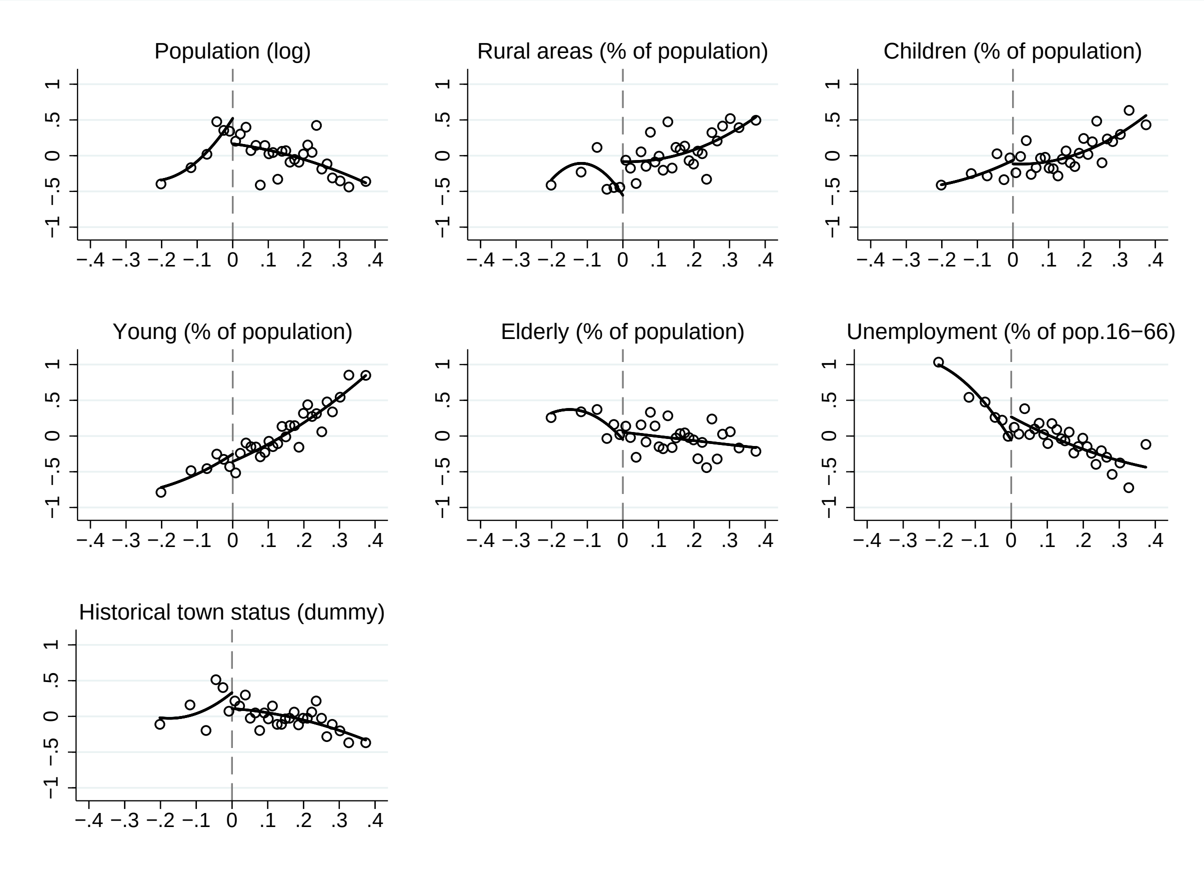
Note: Columns (1) and (2) show average values of policy positions for the sample of close and non-close elections. An election is defined to be 'close' if the distance to the seat threshold for the relevant party is less than 0.25 percentage points. The sample is restricted to the 310 municipality-year combinations for which we have council member survey data. The number of observations varies across parties because not all parties are represented in all municipalities. Column (3) shows the average difference in party platforms between close and non-close elections in the sample. We do not present results for minor parties (low statistical power) and joint lists (we have no measured policy positions). For details on the survey data, see Figure 2.

Table C.6: Left-right party positions by closeness of elections, seat majorities

	(1) Close		(2) Not close		(3) Difference	
	Mean	SD	Mean	SD	Estimate	SE
Socialist Left Party (SV)	2.124	(0.682)	2.009	(0.960)	0.115	(0.176)
Labor Party (DNA)	3.536	(0.646)	3.618	(0.853)	-0.082	(0.149)
Centre Party (SP)	4.976	(0.778)	4.835	(0.845)	0.141	(0.173)
Christian Dem. Party (KrF)	5.321	(0.884)	5.318	(0.965)	0.004	(0.202)
Liberal Party (V)	5.353	(0.848)	5.135	(1.157)	0.219	(0.251)
Conservative Party (H)	7.612	(0.628)	7.642	(0.682)	-0.030	(0.129)
Progress Party (FrP)	8.590	(0.723)	8.494	(0.893)	0.097	(0.170)
Party independent lists	5.583	(1.281)	5.454	(1.976)	0.129	(0.829)

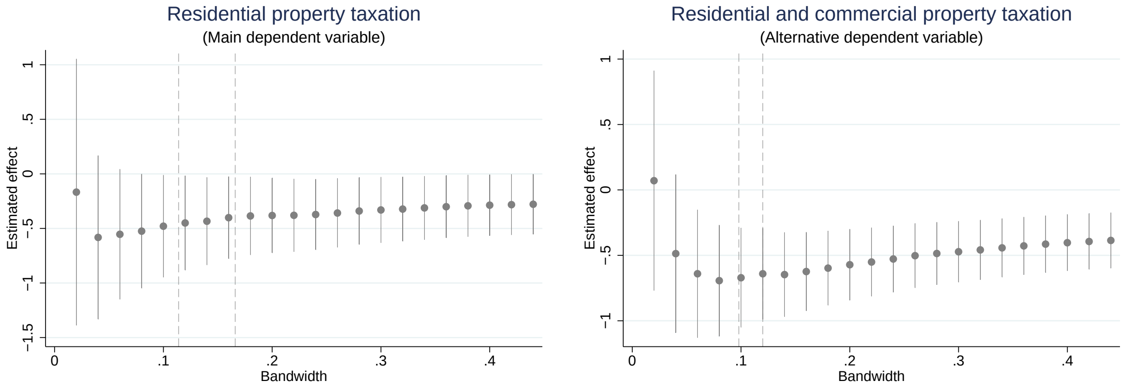
Note: Columns (1) and (2) show average values of policy positions for the sample of close and non-close elections. An election is defined to be 'close' if the distance to the majority threshold is less than five percentage points. The sample is restricted to the 310 municipality-year combinations where we have council member survey data. The number of observations varies across parties because all parties are not represented in all municipalities. Column (3) shows the average difference in party platforms between close and non-close elections in the sample. We do not present results for minor parties (low statistical power) and joint lists (we have no measured policy positions). For details on the survey data, see Figure 2.

Figure C.1: Demographic control variable averages as a function of the distance to majority change



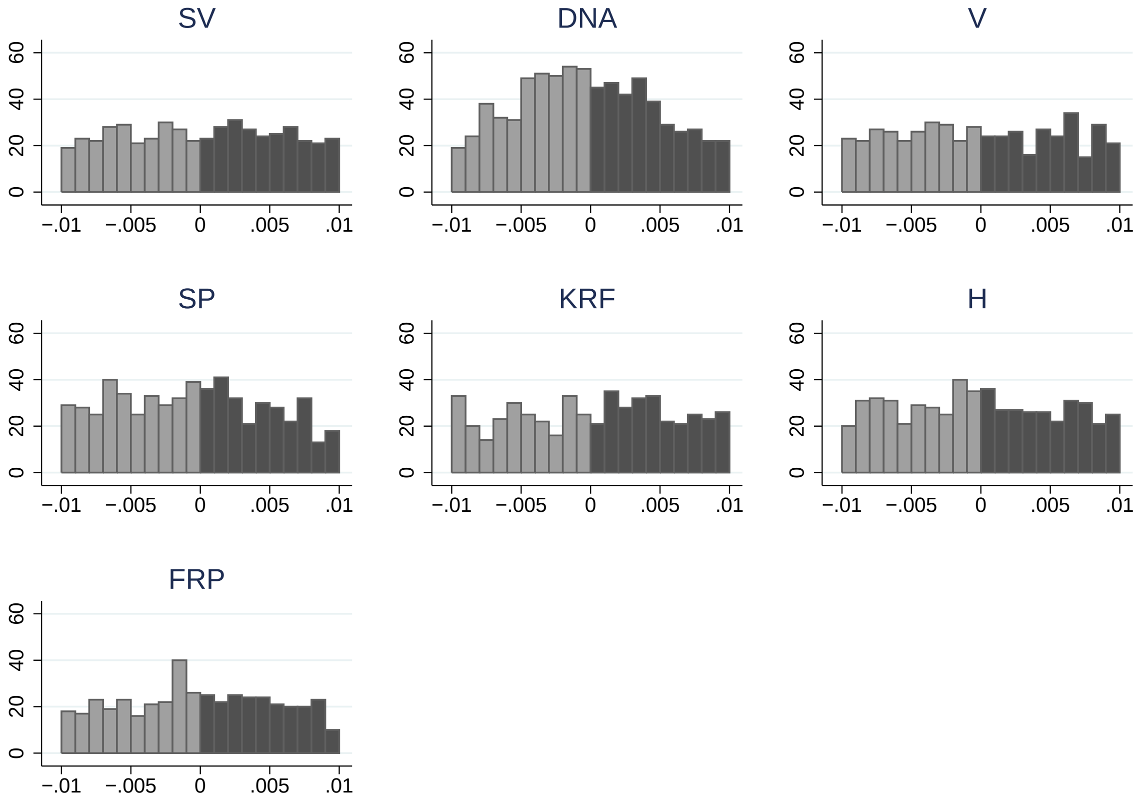
Note: The figure shows the relation between demographic control variables and the distance to majority change from right to left (i.e. right-wing win margin). Each control variable is standardized to have mean zero and standard deviation one. Each bin includes about 37 observations (n=1122). Separate quadratic lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The figure is produced with the Binscatter module in STATA.

Figure C.2: Estimated property tax effects of a right-wing majority for various bandwidths using a local linear control function



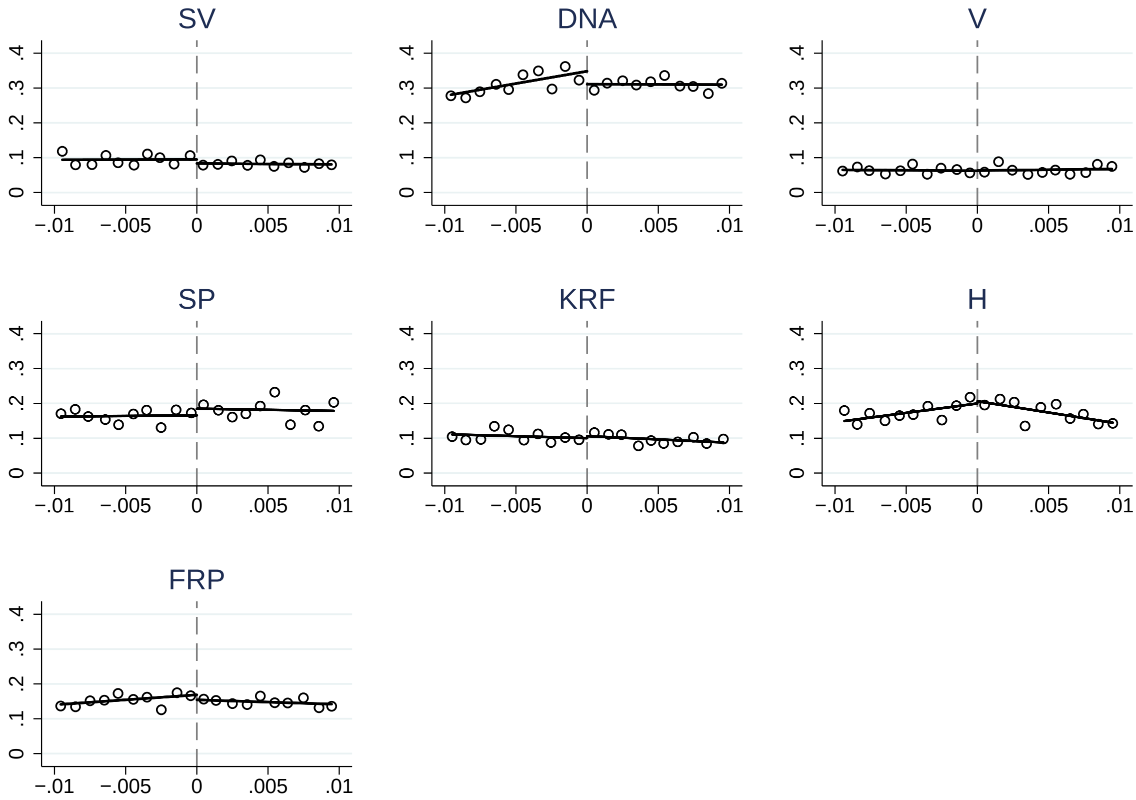
Note: Account data from Statistics Norway do not separate between income from residential and commercial property taxation until 2007. In our baseline analysis we rely on survey data from 2001 from Fiva and Rattsø (2007) to capture property tax decisions for our first election period. For our second election period we rely on Statistics Norway data from 2007. For our third election period we rely on Statistics Norway data from 2008-2010. The left panel display the estimated effect of a right-wing seat majority using this outcome variable using various bandwidths and a local linear specification. In the right panel we use account data for property taxation, which includes commercial property taxation, for the entire period. The bars below and above the point estimates show the 95 percent confidence intervals. The left-most vertical line marks the optimal bandwidth from the Calonico et al. (2014) method. The right-most vertical line marks the optimal bandwidth from the Imbens Kalyanaraman (2012) method.

Figure C.3: Frequency of observations by distance to seat change



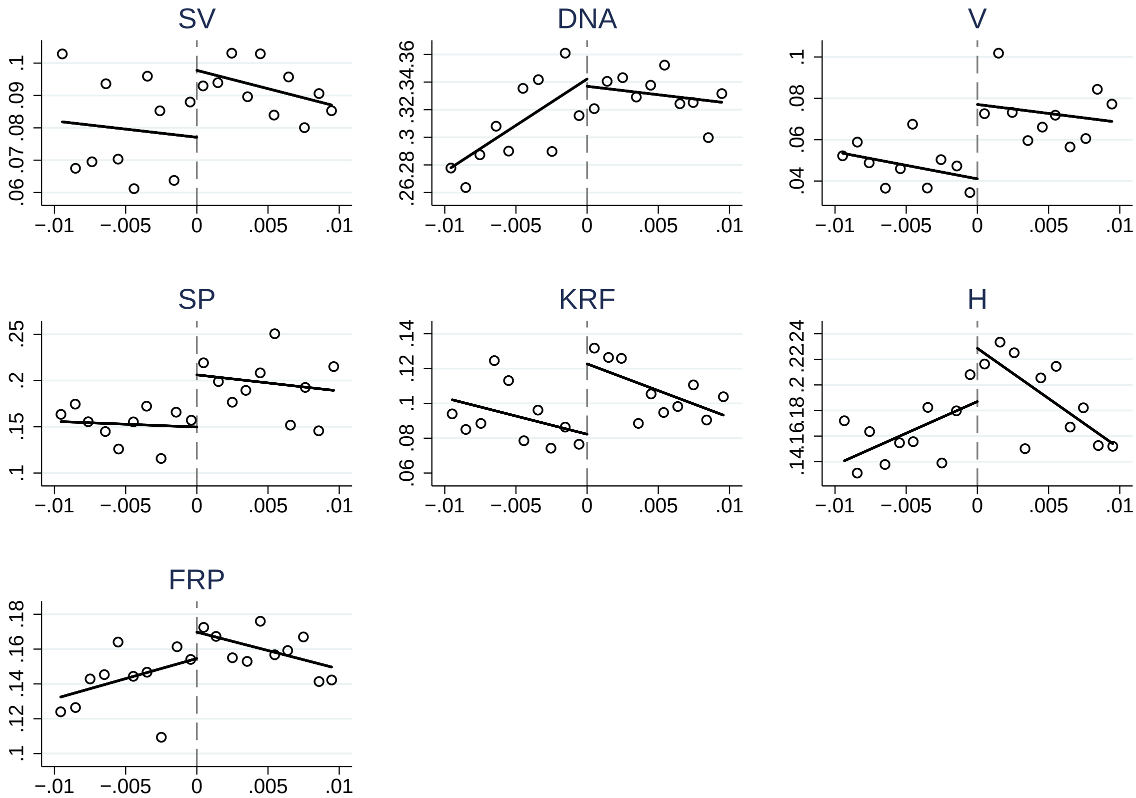
Note: The figure shows the density of observations and the distance to the seat change. The width of the intervals is 0.1 percentage points. Party acronyms are explained in Table C.2.

Figure C.4: Parties' vote share by the distance to seat change



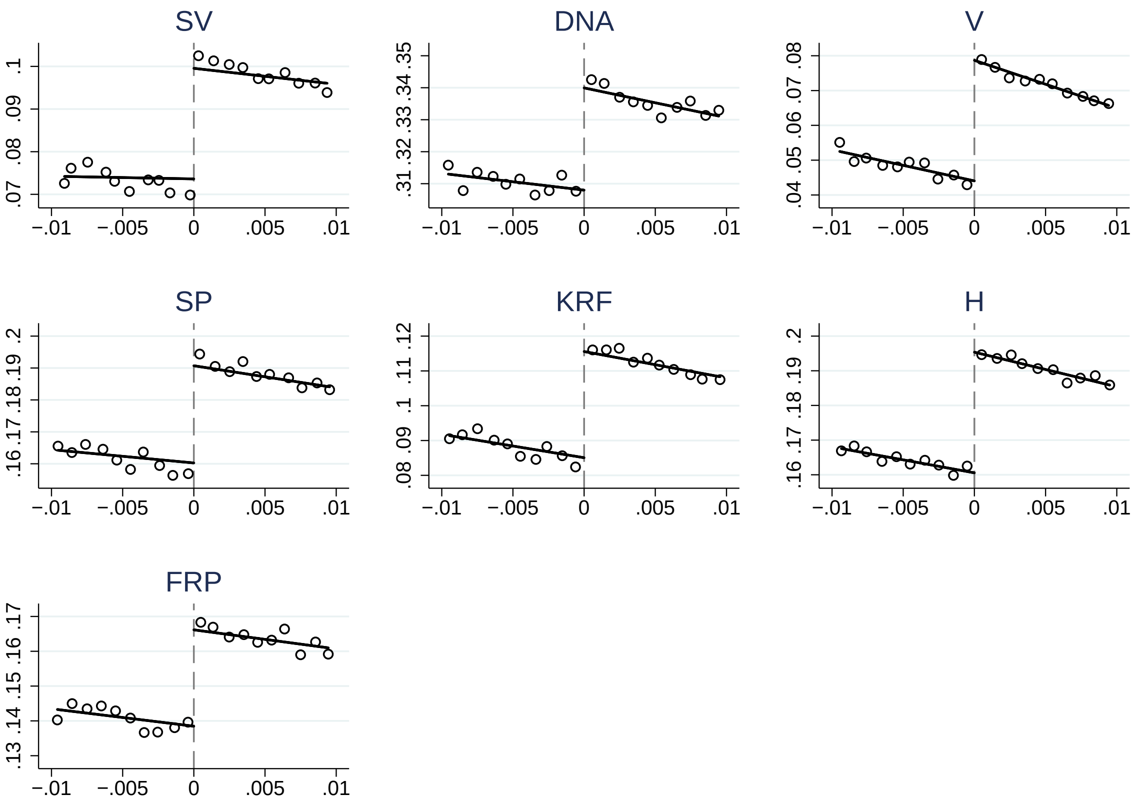
Note: The figure shows the relation between parties' voteshares and the distance to the seat change. The width of the intervals is 0.1 percentage points. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.5: Party seat share and the distance to seat change



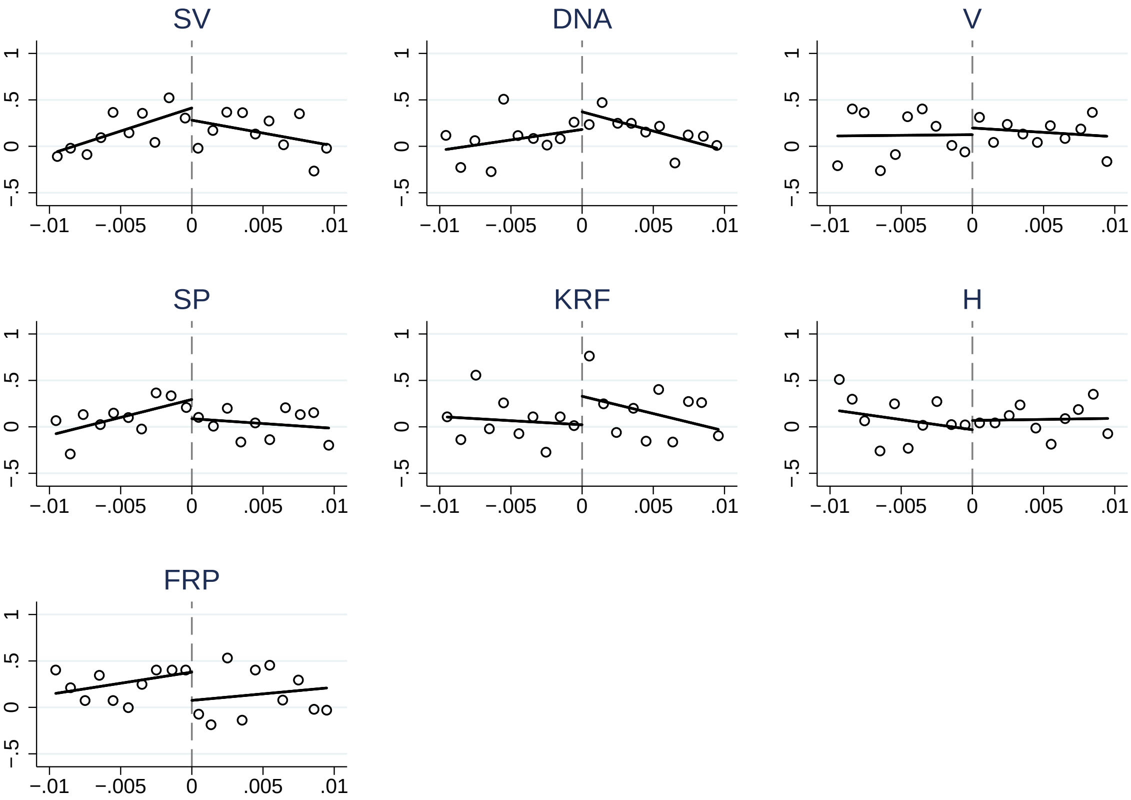
Note: The figure shows the relation between parties' seat shares and the distance to the seat change. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.6: Party seat share and the distance to seat change after residualizing on party vote share



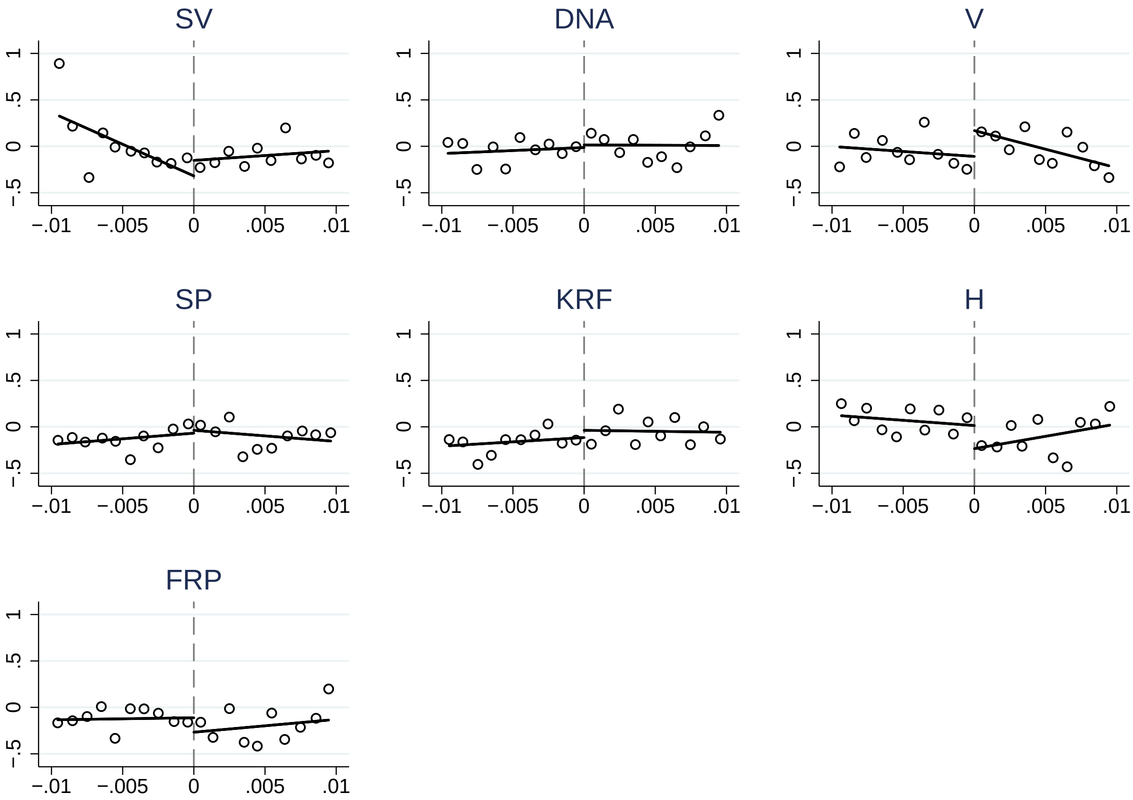
Note: The figure shows the relation between parties' seat shares and the distance to the seat change after residualizing on party vote share. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.7: Residential property taxation and the distance to seat change



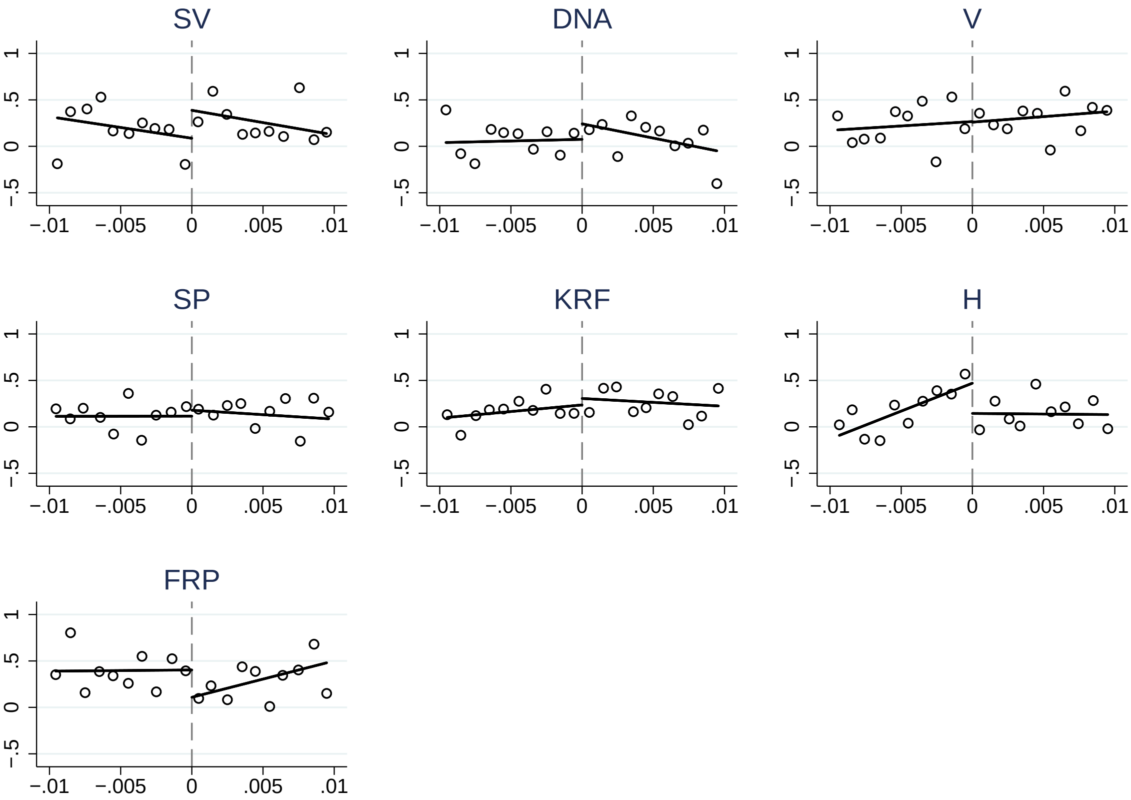
Note: The figures shows the relation between residential property taxation and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.8: User charges and the distance to seat change



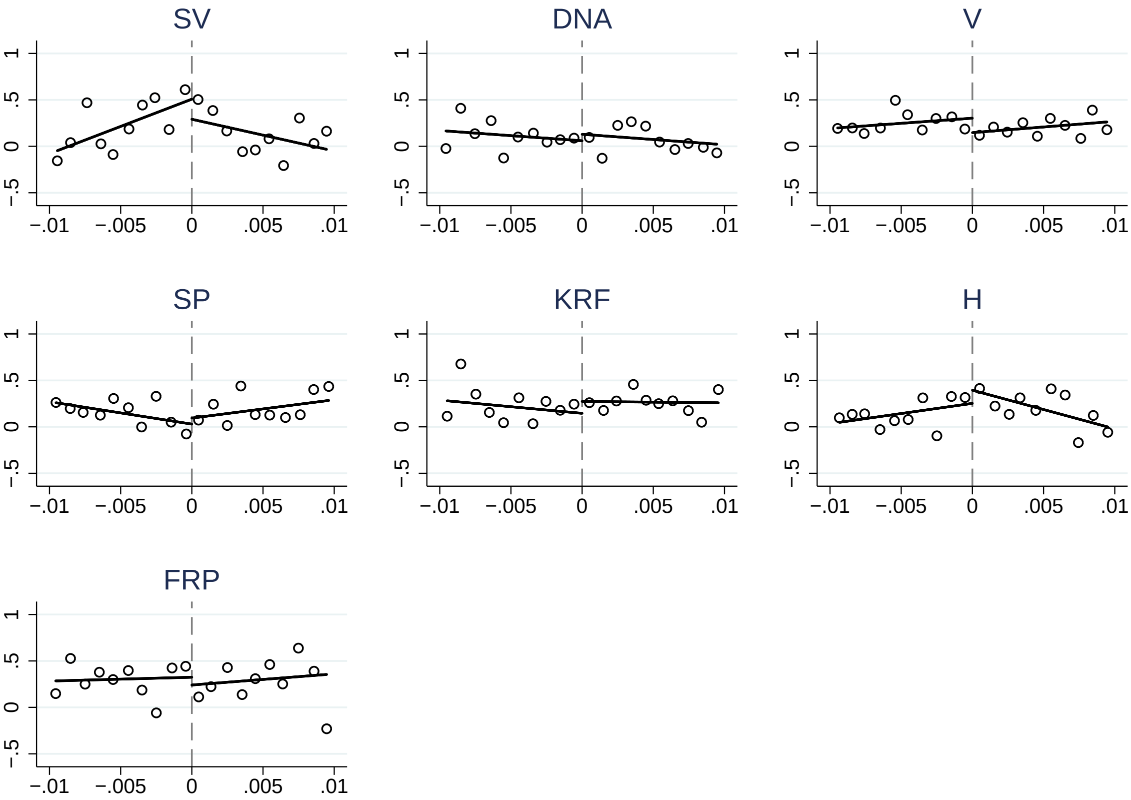
Note: The figures shows the relation between user charges and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.9: Child care spending and the distance to seat change



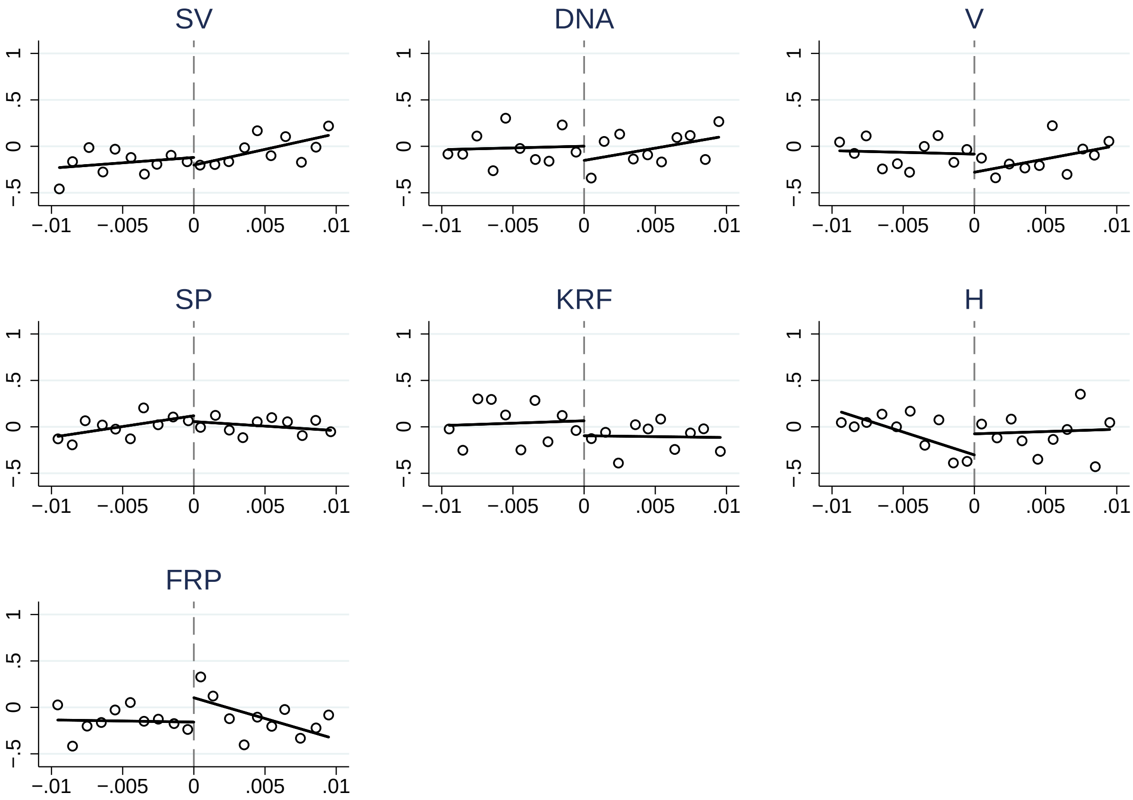
Note: The figures shows the relation between child care spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.10: Education spending and the distance to seat change



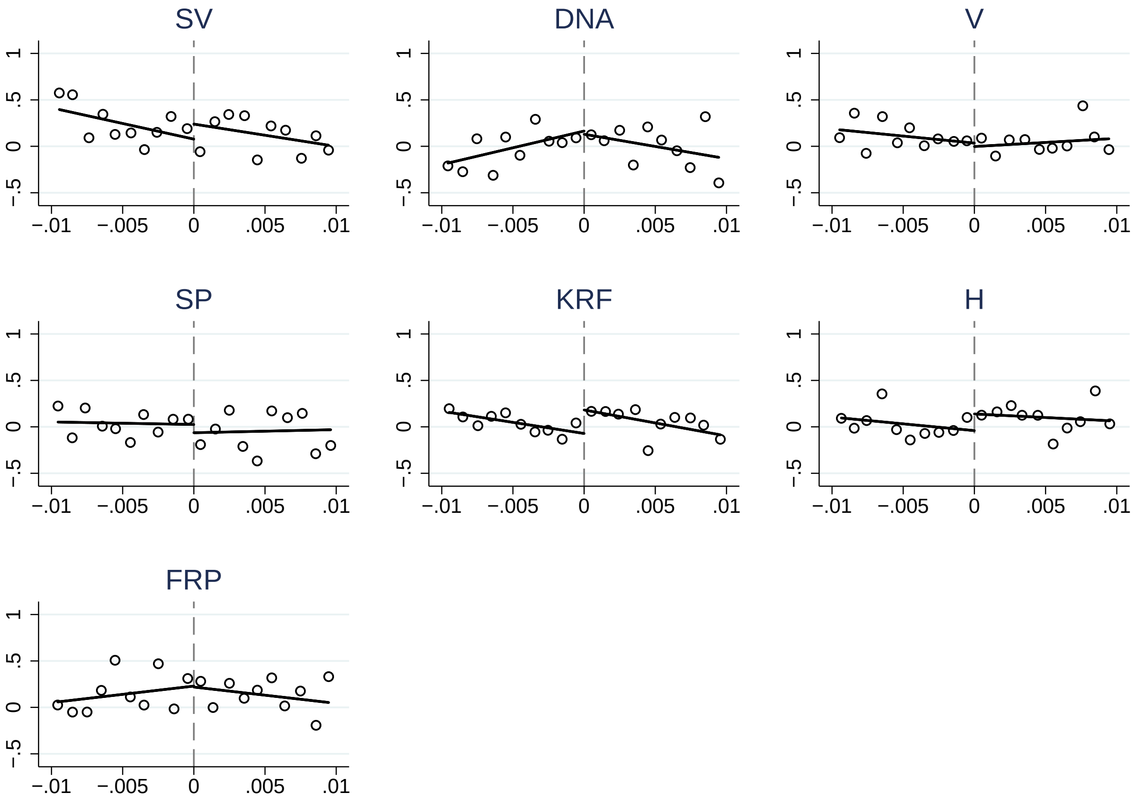
Note: The figures shows the relation between education spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.11: Elderly care spending and the distance to seat change



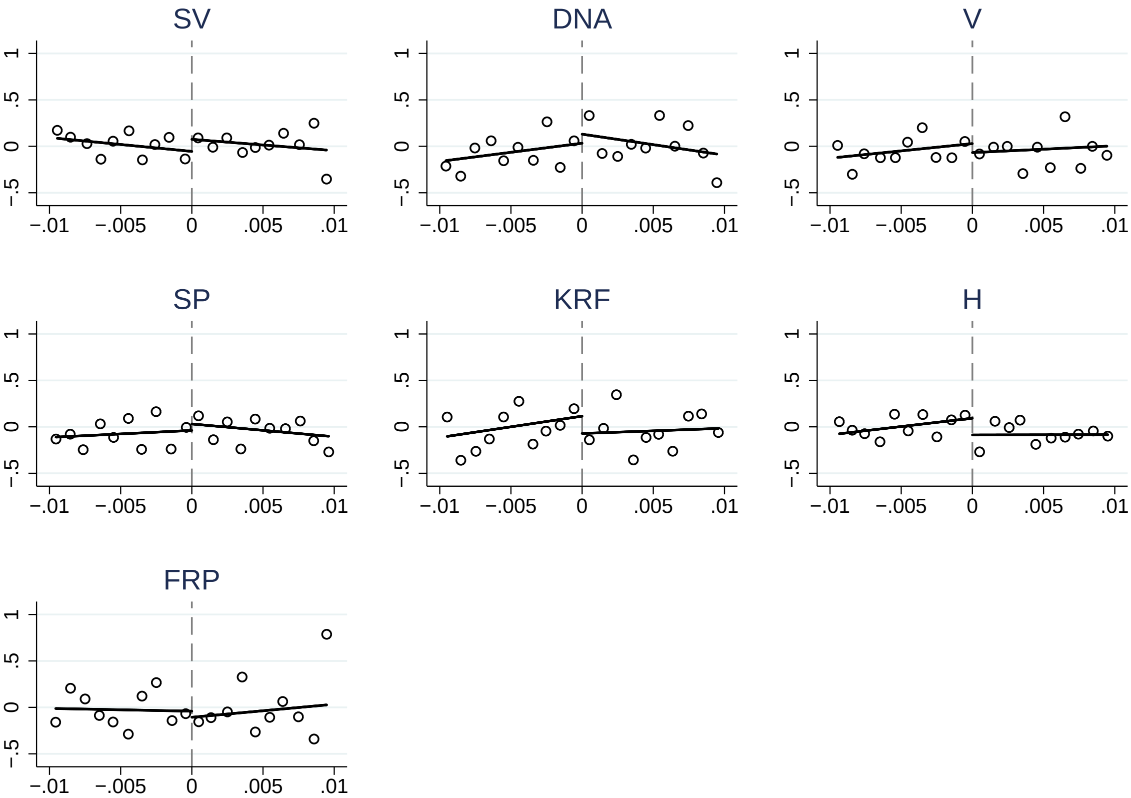
Note: The figures shows the relation between elderly care spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.12: Health care spending and the distance to seat change



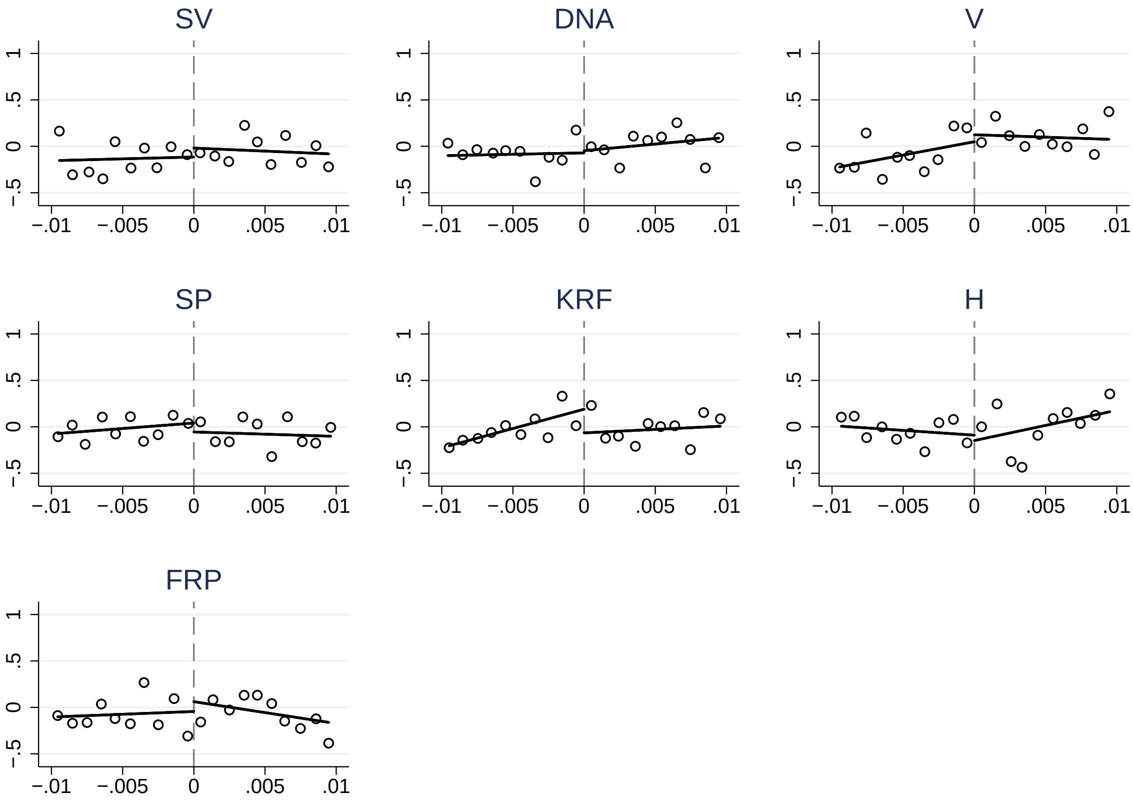
Note: The figures shows the relation between health care spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.13: Culture spending and the distance to seat change



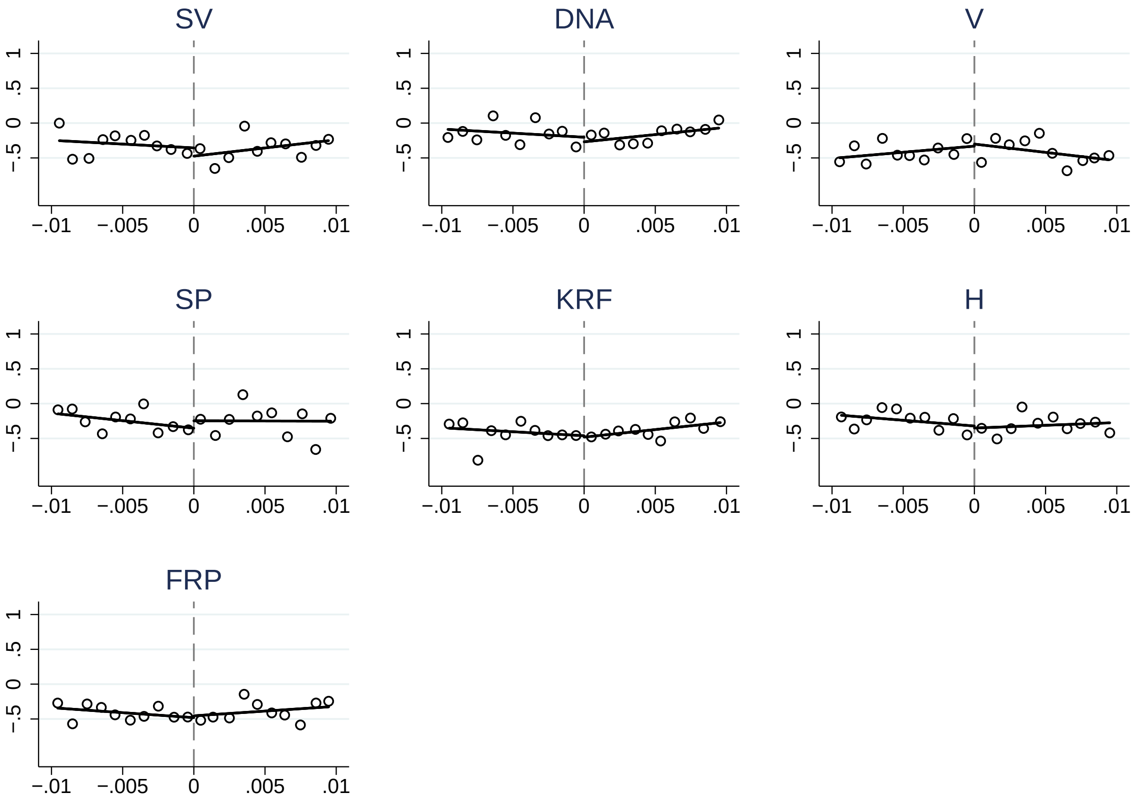
Note: The figures shows the relation between culture spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.14: Transport spending and the distance to seat change



Note: The figures shows the relation between transport spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.

Figure C.15: Administration spending and the distance to seat change



Note: The figures shows the relation between administration spending and the distance to the seat change. The dependent variable is standardized to have mean zero and standard deviation one. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. The width of the intervals is 0.1 percentage points. The figure is produced with the Binscatter module in STATA. Party acronyms are explained in Table C.2.