Beyond the Coalition: Measuring the Effect of Absolute Majority on Municipal Finances

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1 Introduction

Elections provide voters with an opportunity to hold politicians accountable for the current policies in place (Alesina and Rosenthal, 1995; Ashworth, 2012). Citizens can either vote for the politicians in power or the political opposition that each claim to represent different political ideals and policy choices. Behind these claims lies an assumption that politicians are able to make their partisanship matter for policy outcomes. Several studies have used regression discontinuity designs (RDD) to show that political leaders with different characteristics (e.g. partisanship, gender, education) matter for policy outcomes (Lee, 2008; Besley, Montalvo and Reynal-Querol, 2011; Brollo and Troiano, 2016; Ferreira and Gyourko, 2014; Freier and Thomasius, 2016; Dreher et al., 2009). The RDD is also used by Gerber and Hopkins (2011) to estimate the effect of mayors on the local policies of their constituency.

In this paper, we reproduce the results of Gerber and Hopkins (2011) in the context of Danish municipalities. To reproduce the analysis in the Danish multiparty system, we estimate the effect of mayors with absolute majority on local policy outcomes. We compile a data set with public expenditures and election results from all Danish municipalities in the period 1989-2017. In the following sections, we summarize the findings of Gerber and Hopkins (2011), and we present our theoretical expectations and hypotheses. Secondly, we describe our identification strategy and the data that we have compiled. Thirdly, we present our results and test their robustness. Throughout the analysis, we compare our findings to Gerber and Hopkins (2011). Finally, we discuss the limitations of our research design and the inferences that can be drawn from it. We also reflect on how potential changes to the design can improve the credibility of the inferences.

2 Prior Results and Theoretical Expectations

In this section, we first summarize the hypotheses and findings of Gerber and Hopkins (2011) about the effect of mayoral partisanship on local policy outcomes. Afterwards, we present our theoretical expectations and hypotheses about the influence of mayors on local policies in the Danish multi-party system.

2.1 Results of Gerber and Hopkins (2011)

The aim of Gerber and Hopkins (2011) is to estimate the impact of mayoral partisanship on city policies. Their primary hypothesis is that the influence of mayoral partisanship will be stronger in policy areas where there is less shared authority between local, state and federal governments. This expectation is tested against (1) an alternative hypothesis that contends that partisanship has an influence in *most* local policy areas, and (2) a null hypothesis that contends that partisanship does *not* have an influence on local policy areas (Gerber and Hopkins, 2011, 330).

To test their hypotheses, they link the results of 134 U.S. mayoral elections from 1990 to 2006 with the fiscal data of the respective cities. With a RDD, they examine the change in policy areas in cities where the Democratic candidate narrowly won the election with similar cities where the Democratic candidate narrowly lost the election. They argue that since these cities are assumed to be similar in their probability of electing a Democrat, the partisanship of the elected mayor can be conceived as the local average treatment effect on city policies (Gerber and Hopkins, 2011, 327).

The findings of Gerber and Hopkins (2011) are that cities that narrowly elect a Democratic mayor spend less on public safety, which is an area with high local authority, compared to cities that narrowly elect an Independent or Republican. Accordingly, they do not find differences in policy areas with overlapping authority where the local influence of mayors is more restricted (Gerber and Hopkins, 2011, 326). Given their design, they conclude that these results suggest the causal effect of partisanship. To assess whether these findings are also applicable in Denmark, we have reproduced the analysis with Danish municipal data.

2.2 Hypotheses and Predictions

The multi-party system in Denmark and the local political institutions necessitate that we conceptualize and measure the influence of mayoralty differently in comparison to the U.S. context in Gerber and Hopkins (2011). The multi-party system in Denmark implies that the mayor typically wins elections in coalitions with supporting parties. Consequently, the influence of mayoralty is restricted by the local coalitions which makes it difficult to

estimate the particular impact of mayors and partisanship. Accordingly, we rely on a different approach than Gerber and Hopkins (2011) to deal with these contextual circumstances.

To observe the influence of mayors independent of the political constraints of local coalitions, we focus on the impact of mayors with absolute majority. Mayors with absolute majority are able to set the political agenda and implement their preferred policies without reliance on other parties. Since absolute majority allows the mayor to bypass the political constraints of the supporting parties, we can expect these municipalities to implement different policies than municipalities that are based on coalitions.

H1: The local policies will be different in municipalities where one party has absolute majority compared to municipalities where the elected mayor has to rely on supporting parties.

However, the literature suggests that the Danish municipal government is characterized by a consensus norm where politicians attempt to achieve the broadest possible majority behind the decisions, even in municipalities where one party has an absolute majority (Berg and Kjær, 2007, 111). Therefore, the alternative hypothesis contends that absolute majority does not have an influence on local policies.

H2: The local policies will *not* be different in municipalities where one party has absolute majority compared to municipalities where the elected mayor has to rely on supporting parties.

Like Gerber and Hopkins (2011), we measure local policies as changes in municipal expenditures. These competing hypotheses lead us to expect different observable implications of absolute majority. The first hypothesis leads us to expect that there will be differences in expenditures, and the second lead us to expect that there will not be differences. Contrary to Gerber and Hopkins (2011), we do not have prior expectations about which policy areas that are most likely to be affected by the mayoral parties because of high local discretion.

The last hypothesis follows Gerber and Hopkins (2011) and holds that partisanship an important determinant of the influence of mayors on local policies. According to this per-

spective, our theoretical expectation is that Social Democratic and Venstre mayors will differ in their local policies when they hold absolute majority.

H3: Partisanship is an important determinant of the influence of mayors on local policies.

The alternative and contending hypothesis holds that the expenditure on policy areas will not be different in Social Democratic and Venstre municipalities. These perspectives on the influence of mayors are similar to the competing hypotheses presented in Gerber and Hopkins (2011). Therefore, we can arguably replicate and examine the original concepts in Gerber and Hopkins (2011) about the influence of mayors in spite of the different political and institutional settings of Denmark and the U.S.

3 Identification Strategy and Data

To reproduce both the identification strategy and findings in Gerber and Hopkins (2011), we rely on a RDD to estimate the causal effect of winning close elections on changes in expenditures for various policy areas. In this section, we first explain the logic of the RDD in close elections and how we use it to identify the causal influence of mayors with absolute majority. Then, we describe the data set that we have compiled and the variables of interest.

3.1 Regression Discontinuity in Close Elections

In close elections, we can assume that candidates that narrowly win the election are comparable to candidates that narrowly lose the election, so the difference of winning the election can be considered a treatment. The as-if random variation of winning the election can therefore be used to estimate the causal effect on dependent variables within the scope of similar observations. With an experimental logic, the average outcome of the elections marginally below the 50% vote share threshold represents a valid counterfactual for the outcome of the "treated" group of elections (Lee, 2008). Since parties win elections when controlling exactly 50% of the vote, close election RDDs can be classified as sharp RDDs in which all observations above the cut-off are treated Angrist and Pischke (2014).

To reproduce the empirical approach of Gerber and Hopkins (2011) in a Danish context, we also use a close election RDD to estimate the causal effect of mayors on the local policies of their municipality. Here, our running variable is the proportion of votes that the Social Democrats or Venstre receives. Since we aim to capture the effect of winning the election with absolute majority, we use the 50% cutoff for each of the two parties and not the collective vote share of the different municipal coalitions that they are part of. This approach is expressed in equation (1) where M_{mt} denotes winning with absolute majority, and V_{mt} denotes the vote share of the Social Democrats or Venstre in municipality m in election year t.

$$M_{mt} = \begin{cases} 1 & \text{if } V_{mt} > 0.5 \\ 0 & \text{if } V_{mt} < 0.5 \end{cases} \tag{1}$$

Municipalities where the mayor barely won the election with absolute majority can thus be compared to similar municipalities where the candidate barely received half of the votes. This makes it possible to estimate the causal influence of absolute majority on local policies. This is estimated as β in equation (2) where Y_{mt} is the change in the expenditure on a policy area and $f(V_{mt})$ is the effect of the vote share with different polynomial transformations.

$$Y_{mt} = \alpha + \beta \times M_{mt} + f(V_{mt}) + \epsilon_{mt} \tag{2}$$

This identification strategy makes it possible to observe the unilateral influence of the Social Democrats and Venstre because we focus on the specific municipalities where the parties were able to enact policy decisions with absolute majority.

3.2 Data Compilation: Municipal Elections and Public Finances

To test our hypotheses, we have compiled a data set with municipal public expenditures and election results in 289 unique municipalities in the period 1989-2020. The data set includes the vote shares of all political parties in 1333 election observations, the expenditure on various municipal policy areas and the tax rates in each municipality. The municipal

election results and public finances were collected from Statistics Denmark.[1]

To retrieve data about all the required mayors, we used the *rJava* and *tabulizer* packages in R to preprocess the text in Kjær and Opstrup (2018) and extract the list of all Danish mayors in the period that we examine.[2] The Danish municipal system was reformed in 2007, and the number of municipalities was reduced from 271 to 98. This means that there is a break in the data set due to the reform. Consequently, we have removed the 2005 election and the associated election period because the municipalities changed throughout the period. However, since the mayoral functions and municipal policy areas are similar before and after the reform, we use observations from both periods in our models.

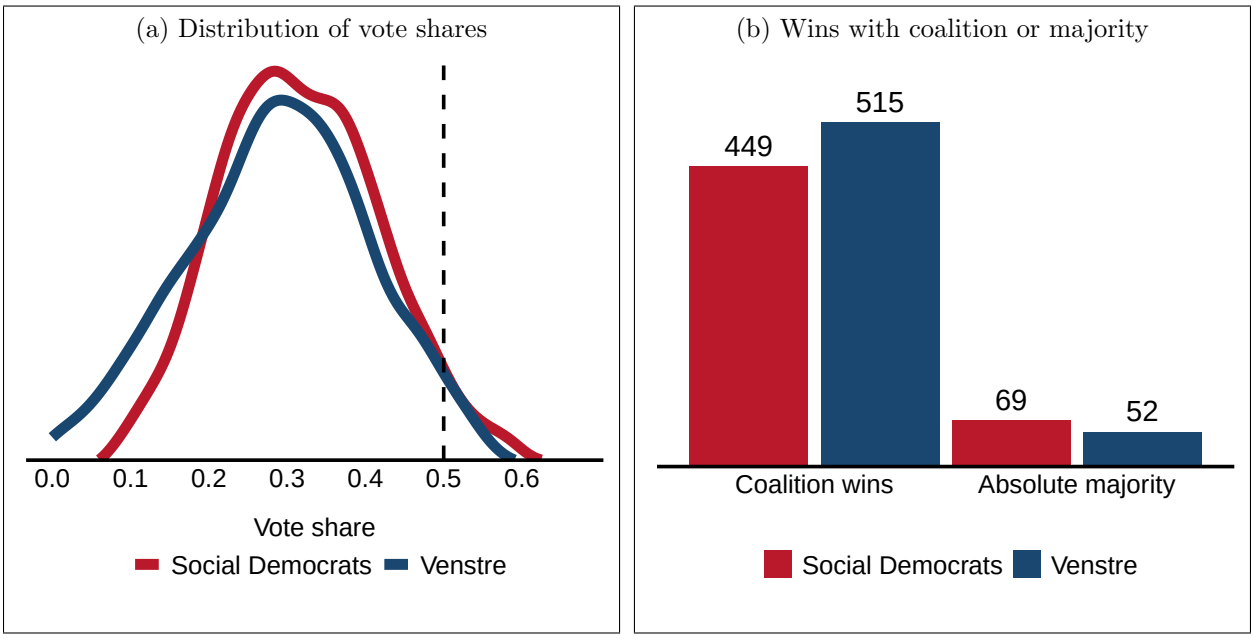
The dependent variable in our analysis is based on the measurement strategy in Gerber and Hopkins (2011). The mayors and municipal election results were paired with the expenditure on the specified budget areas and the tax rate for each year in the period. To observe the effect of mayors on the different policy areas across different municipalities, we focus on the share of the total expenditures allocated to the different policy areas in each year of the election period. We measure the political influence of mayors as the share of total expenditure allocated to a given policy area in the last year of the election period compared to the share allocated to the same area in the first year.

In our analysis, we focus on the Social Democrats and Venstre since they are the major political parties in Denmark and have occupied most of the mayor positions in our data set. Figure 1 shows the density distribution of the election results of the parties and the number of elections that the two parties have won with either absolute majority or support from a coalition. Figure 1a shows that the distribution of vote shares are similar for Social Democrats and Venstre. The majority of the distribution is to the left of the cut-off, but there is a substantial part of the distribution that falls to the right of the cut-off. Figure 1b shows that the Social Democrats have 69 wins with an absolute majority and 442 with supporting parties, whereas Venstre has 52 wins with absolute majority and 515 with supporting parties.

[1]The municipal election results were collected through the Statics Denmark API in R. The municipal public expenditures were not available through the API, so we downloaded it from StatBank. The data can found in the tables KVRES, VALGK3X, REGK11 and REG2.

[2]The *rJava* and *tabulizer* package is used to preprocess PDF-formated data.

Figure 1: Distribution of vote shares and number of wins with coalition or absolute majority



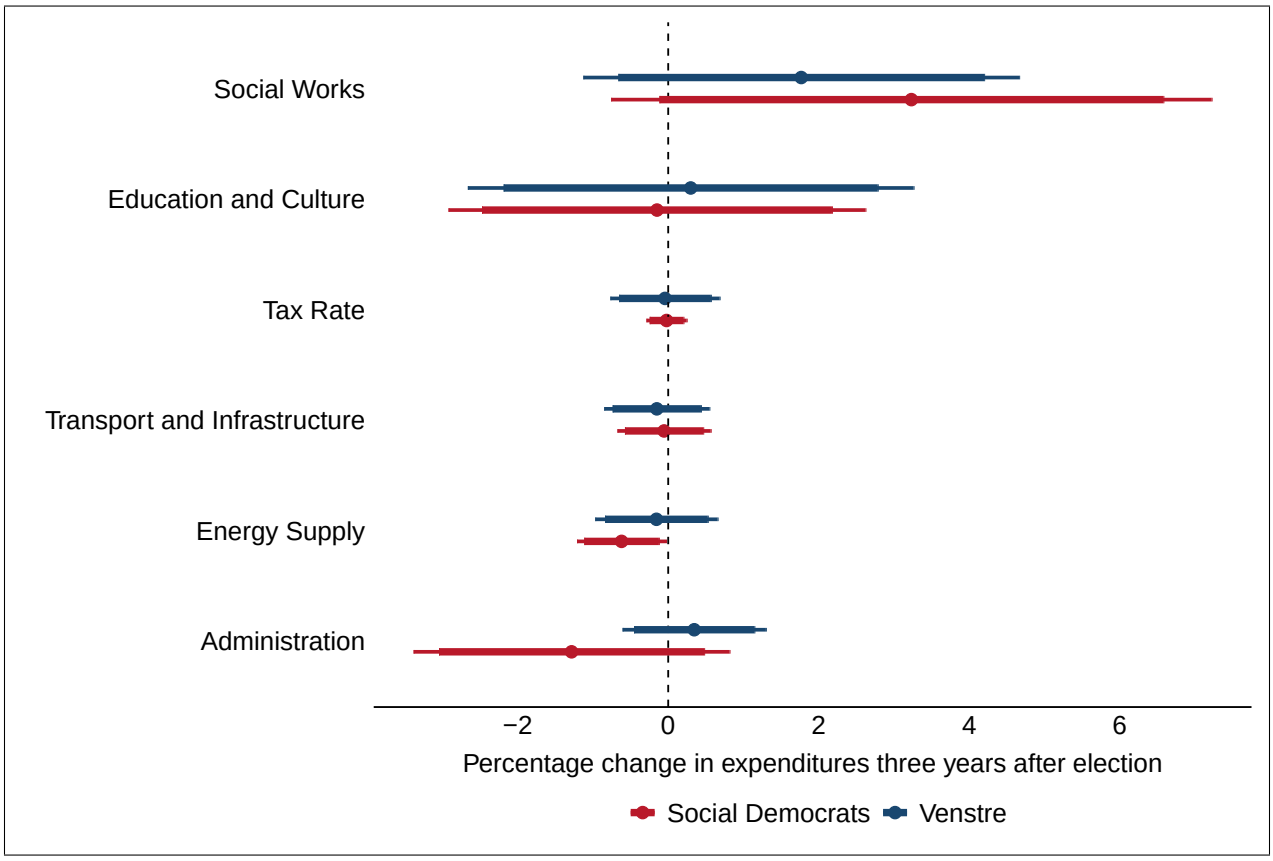
4 Results and Findings

In this section, we report the results from our analyses. First, we specify RDD models to estimate the effect of absolute majority on the different municipal policy areas for the Social Democrats and Venstre. Secondly, we perform a number of robustness checks to qualify our findings given the different specifications of our RDD models.

4.1 Modeling Changes in Expenditure on Local Policies

We specify a model for each policy area for both all the elections won by the Social Democrats and all the elections won by Venstre. In total, we specify six different RDD models for each of the two parties. The models are estimated with the *rdrobust* package in R that calculates the optimal bandwidth for each model. Like Gerber and Hopkins (2011), we cluster the standard errors on municipalities. Figure 2 shows the effect of absolute majority on the expenditure on each policy area. The regression tables with the model estimates can be found in Table 2 and Table 3 in Appendix A.

Figure 2: The effect of winning with absolute majority on municipal expenditure



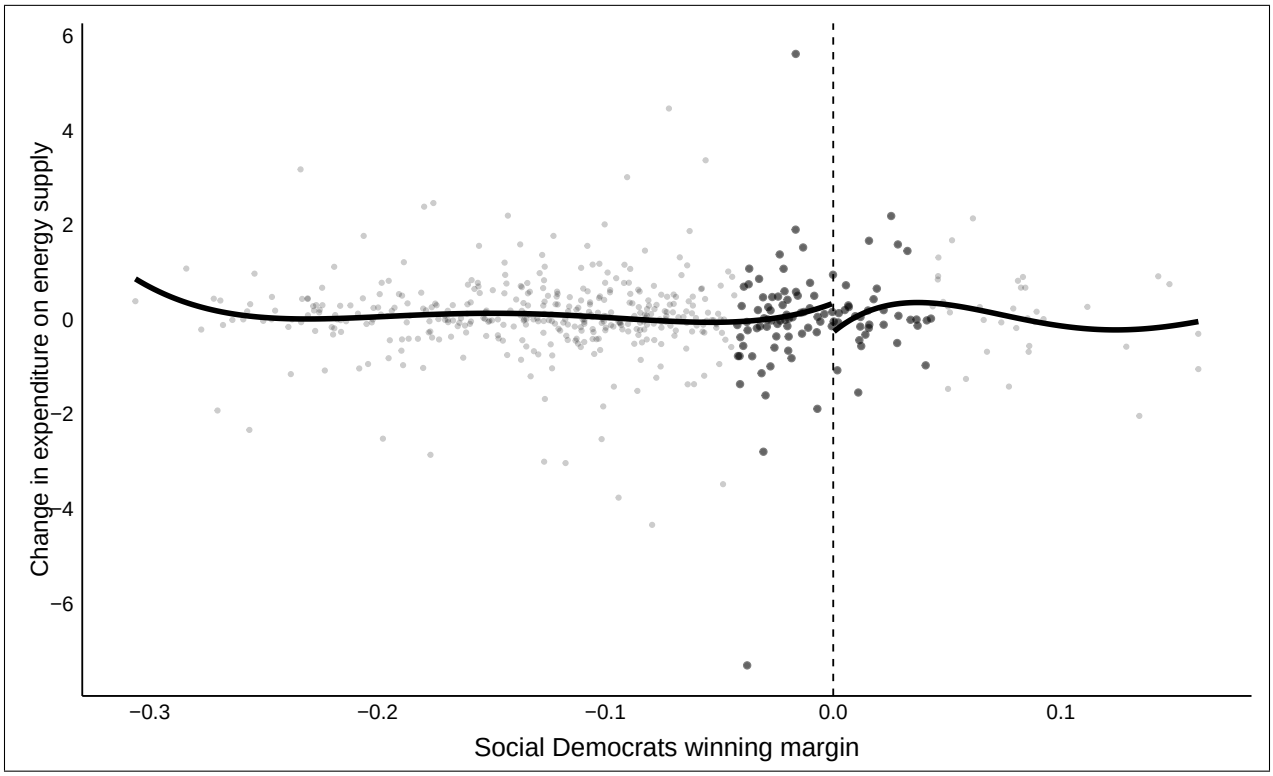
Note: Thin line = 95% confidence interval, bold line = 90% confidence interval

Overall, Figure 2 indicates that winning with an absolute majority does not have a significant effect on the expenditure for most of the specified policy areas. The estimates show that there are not significant differences within the two parties or between them. The confidence intervals for both parties overlap each other as well as 0 in all but one model. The only significant model relates to the policy area of energy supply. In this policy area, we observe a negative significant effect of gaining absolute majority on energy supply expenditure for the Social Democrats.

The finding suggests that energy supply's share of the total budget decreases by approximately 0.6 percentage points over a period of three years when the Social Democrats have an absolute majority. However, since energy supply is budgeted as a negative expenditure (i.e. income), the decrease reflects an increased income from energy supply. The finding is significant with a p-value of 4% when using a bandwidth of 4.3 percentage points and an effective sample of 101 elections. Figure 3 illustrates the RDD estimates for the energy

supply area. The plot shows that there is a small discontinuity in energy supply spending when Social Democrats narrowly win with an absolute majority.

Figure 3: Change in expenditure on energy supply by winning margin



Note: The dark points are the effective sample of the rdrobust model

These findings preliminarily suggest that mayors with an absolute majority have an effect on local policies as suggested in H1. The effect is significant for the Social Democrats and not for Venstre, but we do not observe significant differences between the two parties. However, it should be noted that the negative effect of 0.6 percentage points is a small change in energy supply's share of the budget over a three year period. The effect is barely significant with a confidence interval of 95%. Furthermore, the fact that we run twelve models increases the likelihood of finding a false-positive to a point where it may even be expected. Therefore, we test the robustness of the finding to assess its validity.

4.2 Robustness Checks: Modeling Expenditure on Energy Supply

To test the robustness of our finding, we check the model's sensitivity to different functional forms, sensitivity to different bandwidths and sensitivity to outliers and different time horizons of the dependent variable. We also check for sorting in regards to incumbency in subsection 5.1. These robustness checks are similar to the ones done in Gerber and Hopkins (2011). We estimate four models: (1) a simple differences-in-means on observations close to the cut-off (bandwidth = 0.02), (2) a local linear model with the calculated optimal bandwidth of 0.043 and with an interaction term that allows for different effects of the vote share for either side of the absolute majority cut-off, (3) a cubic model with all of the observations, and (4) a cubic model with an interaction term for each polynomial transformation. These models are similar to the ones used by Eggers et al. (2015) and Hall (2015). Table 1 reports the results of the four different models.[3]

Table 1: The effect of gaining absolute majority on energy supply spending

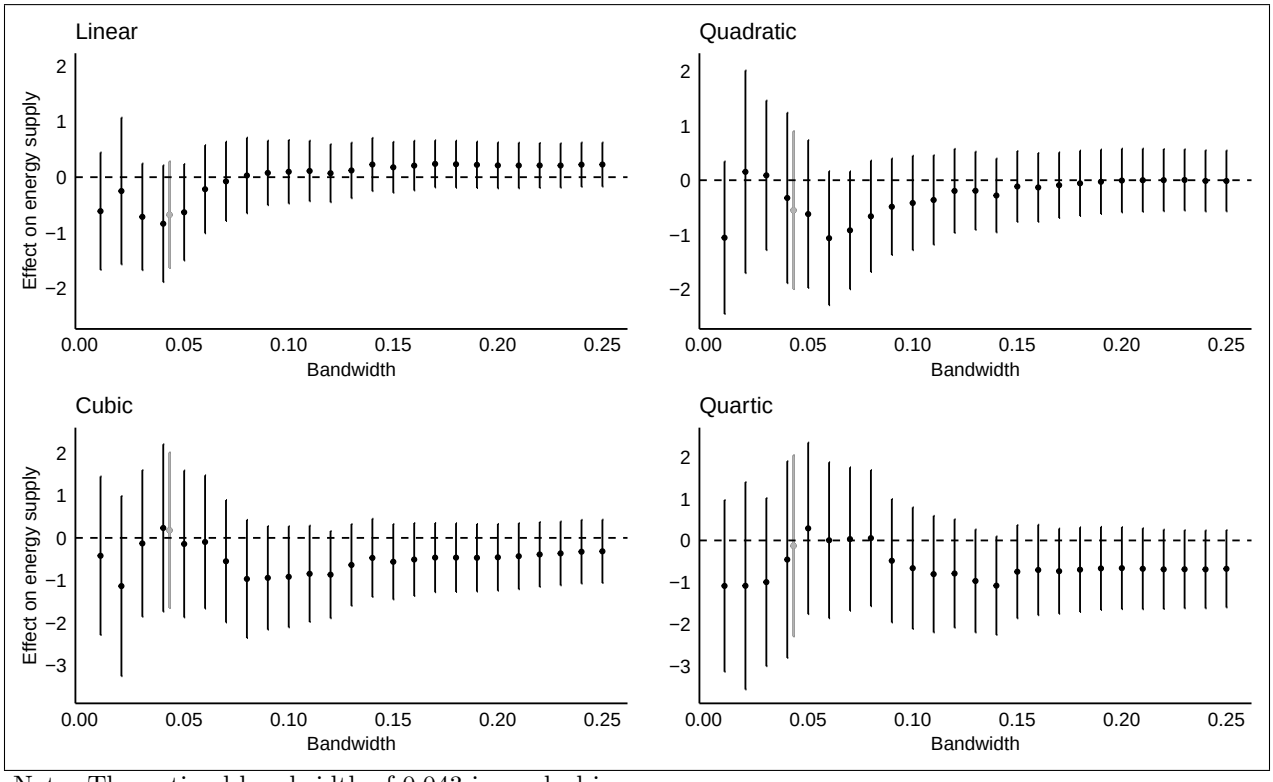
	Dependent variable:			
	Percentage change in expenditures three years after election			
	Diff-in-Means (1)	Local Linear (2)	Cubic (3)	Cubic Interaction (4)
Absolute Majority	−0.34 (0.32)	−0.69 (0.50)	0.21 (0.22)	−0.29 (0.37)
Social Democrats		29.33* (12.48)	−1.15 (1.47)	3.51 (5.60)
SD*AM		−20.61 (21.38)		23.22 (22.26)
SD^2				−451.44 (357.32)
SD^3				1,452.66 (1,534.91)
SD^2*AM			−7.31 (9.31)	34.72 (47.57)
SD^3*AM			−17.29 (34.61)	85.31 (116.11)
Constant	0.34 (0.21)	0.66* (0.33)	−0.01 (0.11)	0.11 (0.19)
Bandwidth	0.02	0.043	-	-
Observations	46	101	518	518
R^2	0.025	0.060	0.003	0.008
Adjusted R^2	0.003	0.031	−0.005	−0.006
Note:				*p<0.05; **p<0.01

[3]Whereas the *rdrobust* package uses a trinagular kernel, we estimate the models with uniform kernels.

Table 1 shows that the treatment variable *Absolute Majority* has no significant effect on energy supply spending three years after the election in any of the models. Put differently, we are not able to reproduce the finding from the previous section, and this indicates that our result is not robust.

To investigate the robustness further, we have extended the sensitivity analysis by conducting a bandwidth check across different polynomial orders. Figure 4 plots the linear, quadratic, cubic and quartic estimates for the effect of absolute majority on energy supply across different bandwidths with 95% confidence intervals. This additional robustness check confirms the results in Table 1 since all of the confidence intervals in the four functional forms overlap with zero.

Figure 4: Effect on energy supply for different bandwidths and functional forms

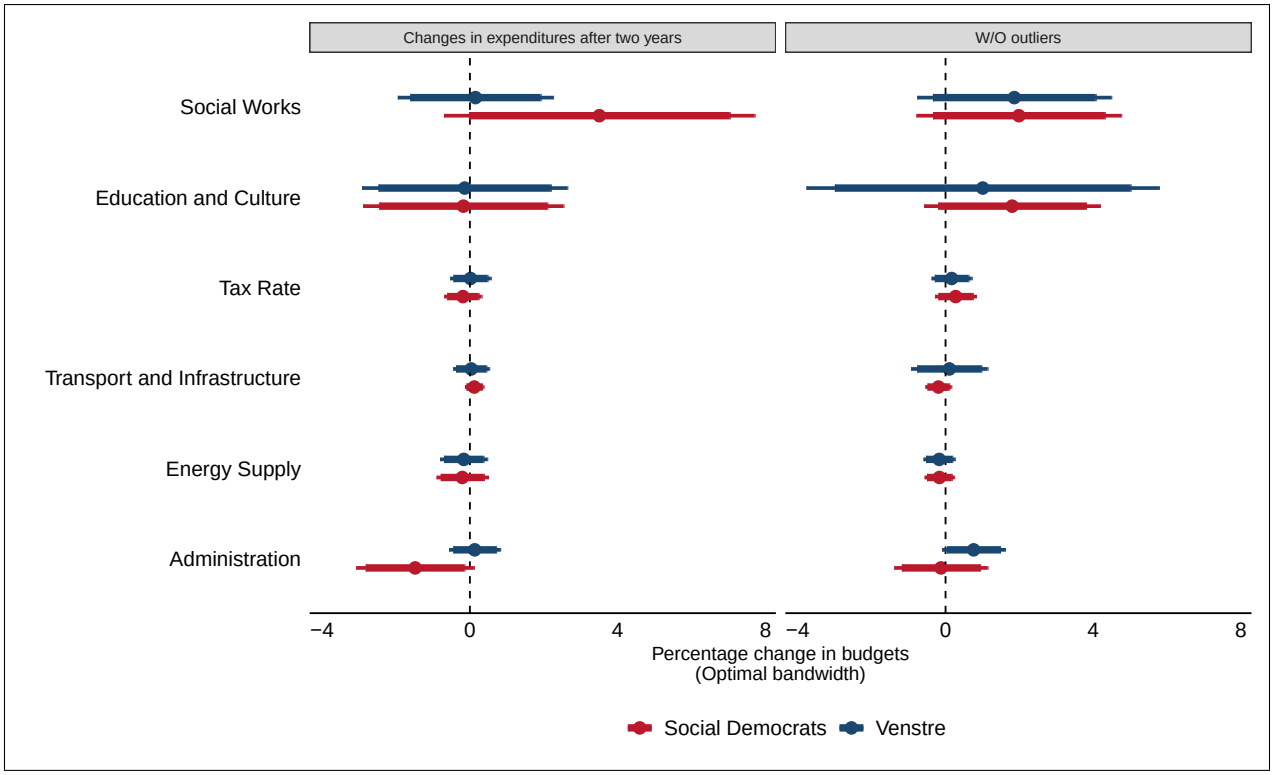


Note: The optimal bandwidth of 0.043 is marked in gray

Finally, we have also specified the *rdrobust* models without outliers and another set of models with a different dependent variable measuring the change in expenditure over a period of two years rather than three years. Figure 5 illustrates that all of the models report insignificant

estimates for the effect of narrowly winning with an absolute majority across all policy areas.

Figure 5: Models with re-specifications of dependent variable and without outliers



4.3 Comparison of Results

The robustness checks lead us to reconsider the validity of our initial finding about the change in expenditure on energy supply. The finding of the analysis is unstable, and we are not able to reproduce it with different specifications of our regression discontinuity design. Thus, while Gerber and Hopkins (2011) find support for their hypothesis about the effect of partisanship, we do not observe an effect of absolute majority or partisanship on municipal expenditures. These findings support the expectations of H2 that municipal councils are characterised by a strong consensus norm (Berg and Kjær, 2007). The difference between our reproduction and the original analysis can also be explained by the fact that the Danish state is characterised by a high degree of centralisation compared to the U.S. Put differently, the differences probably reflect the institutional differences between the two political systems as well.

5 Discussion: Limitations and Possibilities

In the following section, we first discuss the limitations of our research design and how they matter for the inferences we can draw from it. To further assess our findings, we check for continuity of the running variable around the cut-off with the McCrary test, and we examine the incumbency of mayors to test for discontinuity in this pre-treatment variable. Last, we suggest potential changes to our research design that would allow for a more credible inference.

5.1 The Randomness of Close Elections

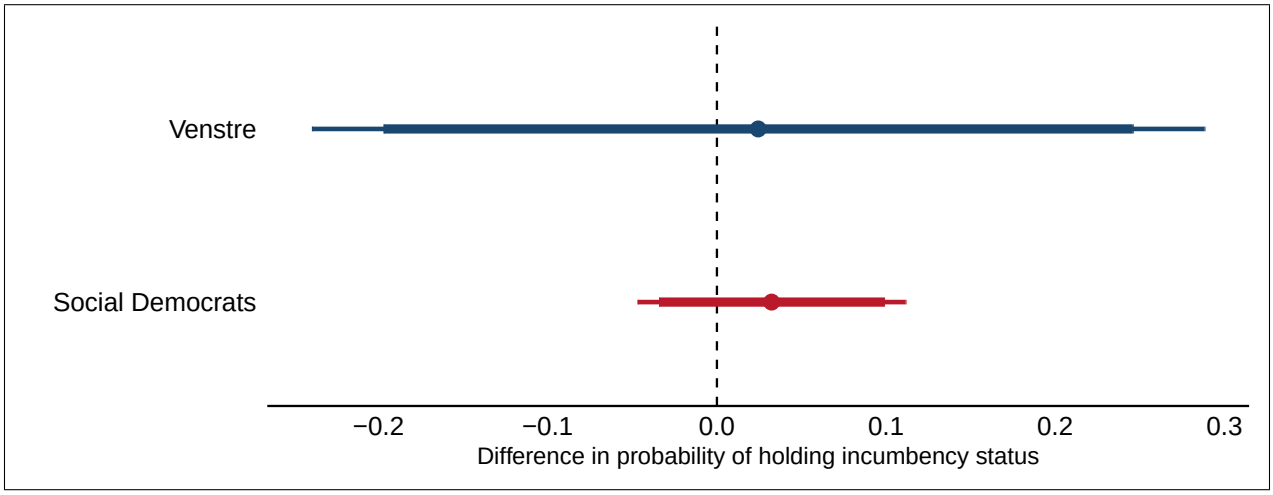
A central assumption underlying the RDD is that there is an absence of sorting around the discontinuity threshold. If this assumption is violated, the observations around the threshold will be non-random, and we will not be able to draw valid causal conclusions. This assumption is checked with McCrary's test on the two running variables (McCrary, 2008). The resulting p-values of the test are 0,75 for the Social Democrats and 0,86 for Venstre. This means that we cannot reject the null-hypothesis of the running variable being continuous at the cut-off which suggests that the assumption of non-manipulation is not violated. The plots from these tests can be found in Appendix B.

Regarding sorting of pre-treatment variables in close election RDD studies, Caughey and Sekhon (2017) show that marginal winners of US House elections hold large *ex ante* advantages in a number of different covariates. For example, bare winners tend to have better financial support and more experience than their losing counterparts (Caughey and Sekhon, 2017). This could cast doubt on the findings in Gerber and Hopkins (2011) and our replication study as well. Therefore, the validity of the findings is contingent on the fact that mayoral elections do not suffer from these pre-treatment discontinuities.

For our study, we could not find data on campaign spending or political experience. Therefore, we only check for discontinuities of incumbency. We specify a RDD model with *rdrobust* that estimates the pre-treatment variable of incumbency with the treatment of absolute majority. If there were significant differences in incumbency between the observations just below and above the cut-off, we would not be able to consider the wins as random, and

we would not be able to draw causal inferences. Figure 6 shows that there is not a significant difference in the rate of incumbency between mayors that win with absolute majority and mayors that win with coaltions. Future research could thus try to extend our study by gathering data for the pre-treatment variables mentioned above in order to test for threshold discontinuities in mayoral elections.

Figure 6: Check for discontinuities in incumbency as a pre-treatment



Lastly, regarding the randomness of close elections, a minor limitation of both our and the Gerber and Hopkins (2011) study relates to the concept of local average treatment effects. While the randomness of the close elections ensures strong internal validity, the external validity might be poor since the identified effect is local to the specified cut-off. This means that we measure the effects of absolute majority amongst municipalities where either the Social Democrats or Venstre holds a large share of the votes and that Gerber and Hopkins (2011) measure the effect of a Democratic mayor only in cities with a large proportion of Democratic voters. The effect of having a Democratic mayor as well as the effect of having absolute majority might be different in cities or municipalities that differ substantially from the ones with close elections.

5.2 Measurement Validity of Budgets

The inferences that we can draw from our study are additionally contingent upon the measurement validity of our concepts. To measure the influence of mayors on local policies, we have reproduced the approach in Gerber and Hopkins (2011) and examined the changes in expenditure on the specified budget areas. However, the expenditure areas that we have used are more broad and general compared to the ones used in the original study. The inferences that we draw about the effects of mayoral partisanship would be more credible if we had measured changes in budget areas that are more specific such as public expenditure on municipal schools and home care services. On the other hand, the budget areas that we have used are still indicative of the broad trends in the public expenditure of the municipalities and the political priorities of the incumbent politicians. Therefore, the fact that we do not observe changes in the expenditure on the measured policy areas suggest that the broad political priorities of the municipalities do not change when mayors win with absolute majority. Future avenues for research would be to measure the effect of mayors on policies that are more salient at the local level.

5.3 Alternative Research Designs

As suggested above, one approach that can improve our design is changing the focus from a intra-party comparison to a inter-party comparison. In our replication study, we investigate the effect of partisanship in situations with absolute majority vis-a-vis coalitions. We investigate this effect for the two major parties in Denmark. However, the Danish system is a multiparty system where parties often participate in a coalition in order to gain the majority. Therefore, an alternative approach that may improve the conditions for finding the effect of partisanship in Danish municipal elections would be to group parties by political blocks. By grouping the municipal parties into left-wing and right-wing coalitions, it would be possible to use a RDD to estimate the effect of partisanship on local policies more validly. This approach would mirror the study of the U.S. two-party system in Gerber and Hopkins (2011) more closely.

An example of this approach can be found in Fiva, Folke and Sørensen (2016). The au-

thors utilize a RDD to investigate the differences in policy outcomes between left and right wing majorities in Norwegian municipalities. Amongst other thing, they find that a larger left wing party leads to more property taxation, higher childcare expenditures etc. (Fiva, Folke and Sørensen, 2016). However, there are two main reasons why we did not design our reproduction study this way. First, there are cases of winning municipal coalitions that do not follow traditional left and right-wing divides. For example, Social Democrats have given their support to Venstre, and the Danish Social Liberal-Party has won with support from the Danish Peoples Party. Thus, the lines between partisan blocs are blurry in municipal elections, and careful considerations needs to be made when coding the different coalitions. Second, municipalities often include local political parties that are unique to specific municipalities and do not follow traditional partisanship divides. These circumstances implied that we did not have the time and resources to properly categorize all of the municipal left right-wing coalitions since 1989.

6 Conclusion

The aim of this paper has been to reproduce the regression discontinuity design in Gerber and Hopkins (2011) with data on municipal elections and local policies in Denmark. To extend their study theoretically, we have adapted their approach to the context of the Danish multi-party system and measured the effect of mayors with absolute majority that can bypass the constraints of political coalitions. We have compiled a data set that includes the results of all the municipal elections in the period from 1989 to 2020, the public expenditure on various policy areas and the tax rate. In our analysis, we have found that mayors with absolute majority do not have a causal effect on the municipal expenditures on policy areas. The expenditure on policy areas were also not different in terms of partisanship since there were not significant differences between the Social Democratic and Venstre mayors with absolute majority. The robustness of these findings have been checked with different model specifications, different bandwidths and different functional forms. The continuity of the running variable has been checked with the McCrary test, and we have examined the incumbency of mayors to test for discontinuity of this pre-treament variable. The inferences

that we are able to draw are primarily limited due to (1) the measurement validity of public expenditures as a measure of local policies, and (2) the fact that we could not categorize left- and right-wing coalitions. Therefore, we suggest that future research should focus on respecifying the policy areas and categorizing the political coalitions of municipal elections.

References

Alesina, Alberto and Howard Rosenthal. 1995. *Partisan Politics, Divided Government, and the Economy*. Cambridge University Press.

Angrist, Joshua D. and Jörn-Steffen Pischke. 2014. *Mastering 'Metrics: The Path from Cause to Effect*. Princeton University Press.

Ashworth, Scott. 2012. "Electoral Accountability: Recent Theoretical and Empirical Work." *Annual Review of Political Science* 15(1):183–201.

Berg, Rikke and Ulrik Kjær. 2007. *Lokalt politisk lederskab*. Syddansk Universitetsforlag.

Besley, Timothy, Jose G. Montalvo and Marta Reynal-Querol. 2011. "Do Educated Leaders Matter?" *The Economic Journal* 121(554):205–227.

Brollo, Fernanda and Ugo Troiano. 2016. "What happens when a woman wins an election? Evidence from close races in Brazil." *Journal of Development Economics* 122:28–45.

Caughey, Devin and Jasjeet S. Sekhon. 2017. "Elections and the Regression Discontinuity Design: Lessons from Close U.S. House Races, 1942–2008." *Political Analysis* 19(4):385–408.

Dreher, Axel, Michael J. Lamla, Sarah M. Lein and Frank Somogyi. 2009. "The impact of political leaders' profession and education on reforms." *Journal of Comparative Economics* 37(1):169–193.

Eggers, Andrew C., Anthony Fowler, Jens Hainmueller, Andrew B. Hall and James M. Snyder Jr. 2015. "On the Validity of the Regression Discontinuity Design for Estimating

Electoral Effects: New Evidence from Over 40,000 Close Races." *American Journal of Political Science* 59(1):259–274.

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

Fiva, Jon, Olle Folke and Rune Sørensen. 2016. "The Power of Parties: Evidence from Close Municipal Elections in Norway." *The Scandinavian Journal of Economics* 120.

Freier, Ronny and Sebastian Thomasius. 2016. "Voters prefer more qualified mayors, but does it matter for public finances? Evidence for Germany." *International Tax and Public Finance* 23:875–910.

Gerber, Elisabeth R and Daniel J Hopkins. 2011. "When Mayors Matter: Estimating the Impact of Mayoral Partisanship on City Policy." *American Journal of Political Science* 55(2):326–339.

Hall, Andrew B. 2015. "What happens when extremists win primaries?" *American Political Science Review* 109(1):18–42.

Kjær, Ulrik and Niels Opstrup. 2018. *Danske borgmestre 1970-2018*. Syddansk Universitet.

Lee, David S. 2008. "Randomized experiments from non-random selection in U.S. House elections." *Journal of Econometrics* 142(2):675–697.

McCrary, Justin. 2008. "Manipulation of the running variable in the regression discontinuity design: A density test." *Journal of Econometrics* 142(2):698 – 714.

A Appendix: Regression outputs for rdrobust models

Table 2 shows the results of our regressions discontinuity model for the effect of gaining absolute majority on different municipal budget areas for the Social Democrats. All the models are run with the *Rdrobust* package in R.

Table 2: Social Democrats
Rdrobust estimates on the effect of absolute majority on municipal expenditures

	Social works	Education and culture	Tax rate	Transport and infrastructure	Energy supply	Administration
Abs. Maj.	3.23	-0.15	-0.02	-0.05	-0.62*	-1.28
	(2.03)	(1.41)	(0.14)	(0.32)	(0.30)	(1.07)
N	124	151	117	84	101	86
RDD BW	0.05	0.06	0.05	0.04	0.04	0.04

Note: *p<0.05; **p<0.01

Table 3 shows the results of our regressions discontinuity model for the effect of gaining absolute majority on different municipal budget areas for Venstre. All the models are run with the *Rdrobust* package in R.

Table 3: Venstre
Rdrobust estimates on the effect of absolute majority on municipal expenditures

	Social works	Education and culture	Tax rate	Transport and infrastructure	Energy supply	Administration
Abs. Maj	1.77	0.30	-0.04	-0.15	-0.16	0.35
	(1.48)	(1.51)	(0.37)	(0.36)	(0.41)	(0.49)
N	32	97	58	64	75	91
RDD BW	0.02	0.04	0.02	0.03	0.03	0.04

Note: *p<0.05; **p<0.01

B Appendix: McCrary test plots

Figure 7: McCrary plots