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Thanh Thai Nguyen, Thor Øivind Lia

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Thanh Nguyen & Thor Øivind Lia

Money in Norwegian politics:

How does political representation at the national level affect the funding of local party organizations?

Supervisor:
Jon H. Fiva

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Thanh Nguyen

Thor Øivind Lia

Abstract

Money in Norwegian politics is often perceived as not as prominent as in other countries such as the United States. Is the funding in Norway anything related to the elections? This master thesis examines if there exists a causal relationship between being represented in the Norwegian parliament and an increase in funding to the local political organization that is represented. Funding in this sense is transfers from the other party organizations within the same political party. The unique testing ground in Norway, with annual accounts available for the political parties down to the municipality level, the number of municipalities, and excellent data on the candidates running for parliamentary elections, makes it possible to examine a causal relationship on a local level. We use fixed effect regression and find a positive correlation of .27 between local representation and financial support to the local political organizations in the years after an election. This means that when a local political party organization is represented in parliament, they receive .27 more in funding per eligible voter. This is robust across different controls and fixed effects specifications. This confirms a positive relationship between having representation at the national level and the funding to the local political organizations. To further examine this effect, we use a regression discontinuity design to see if the local political party organizations with marginally elected candidates receive more funds than those who marginally did not. We find that the mean funding for local party organizations is larger for those who marginally got elected. However, the RDD estimates are imprecise, and we cannot conclude if there exists a causal effect for the local party organizations with marginal representation. Overall, there seems to be a positive effect of having national representation for the funding of local party organizations, but not on a marginal level.

Keywords – Money in politics, Election in Norway, Marginal candidates, Funding in the political parties

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1. Introduction

1.1 Introduction to Topic

Scholars assume that money in U.S. politics influences the elections, and research done is primarily restricted to the United States (Samuels, 2001). Money's influence in politics is often perceived as not as noticeable in Norway (Pedersen, 2017). There seems to be little focus on money, whereas the political parties' votes ultimately determine the political course. "Money counts, but votes decide," where money can be translated into more comprehensive and effective election campaigns, resulting in greater support for the political parties. The quote is a spin-off from Stein Rokkan, who famously quoted in 1966 that "votes count, but resources decide" (Regjeringen, 2004), which has been highly debated. We will examine if a relationship exists between being represented at the parliament (national level) and the money allocated within the political party organizations.

Norway's electoral system is based on principles such as direct election and proportional representation. Which means that the population vote for electoral lists, and not candidates directly, while proportional representation means that the seats in parliament are in proportion to the relationship to one another of the individual electoral list, to secure a fair representation of the political parties (Ministry of Local Government and Regional Development, 2009). Since there are no personal votes, the parties nominate candidates in each district, and can therefore be tied to the local party organizations.

Each Norwegian political party is obligated to report its accounting according to the Political Parties Act (Lovdata, 2005). These are publicly available from the national (main organization) down to the district- and municipality-level to provide transparency for the public. The accounting contains an overview of the political parties' income, expenses, assets, and liabilities. For instance, all the political parties' income in total for 2020 was approximately NOK 700 million, where much of the income comes from contributions from organizations, firms, or private persons (Tømmerås, 2021).

The annual accounting, combined with the dataset of Fiva & Smith (2022): Norwegian Parliamentary Elections, 1906-2021, gives a great opportunity to investigate if any causal effect of political representation on money allocation exists across local party organizations. We provide the first research within this field, as there is no previous research on these annual accountings combined with Norwegian parliament elections, which offers interesting insights. We use a design that exploits tools such as fixed effect regression and regression discontinuity design for any possible causal effect between being represented and the funding to the local party organization in the years after the election.

Norway is a great testing ground to examine local effects of representation since candidate-level data exists for all the parliament elections, annual accounts on the local political parties, and much accessible public information. Parliament only consists of 169 seats; accordingly, it is not possible for all the municipalities and local political parties in Norway to be represented at the national level. This makes it possible for us to measure local representation on funding.

1.2 Research Question

We investigate money in Norwegian politics and examine how local party organizations with national representation affect the funding they receive from the other party branches (*partiledd*) within their party. Hereafter, the terms local party organizations and party-municipalities are defined as the same. Our approach is to look at the party-municipalities with candidates running for parliament and match these up with their annual accounting in the following years after the elections. This specifies our research question to:

How does political representation at the national level affect the funding of local party organizations?

Funding is, in our thesis, defined as transfers from the main party organization (*hovedorganisasjon*), the district organization, or other party branches. This income is reported under transfers from other party branches (*overføringer fra andre partiledd*).

Our hypothesis behind the research question is that there exists a positive relationship between having representation at the parliament from party-municipalities and the

funding to their respective local political party. We believe the political parties want to maintain those that have received a seat in the parliament and having a representative at the national level is beneficial for the candidates' local political parties. Therefore, we suspect that the political parties will strategically place more funding in those municipalities that already have representation in parliament, to maintain this position.

The hypothesis stems from earlier research and theories. Fiva et al. (2021) explored in their article that it exists a local voter effect in Norway where geographic representation affects local voting behavior in closed-list proportional representation (PR) systems. Their regression discontinuity design on marginal candidates reveals "friends-and-neighbors" voting behavior. Candidates from a political party receive a greater voter share from the candidate's hometown than from the district's other municipalities. They also stated that districts contain more municipalities than seats, which consequently leads to not all municipalities being represented, which can affect how local citizens vote. Hence, many municipalities are without representation. This can be drawn to our research question that the local voter effect benefits local party financing.

Another article from Fiva & Smith (2018) finds an incumbency effect for the Norwegian politicians, and that there is an advantage in a future political career of winning a seat in parliament. Their results from using a regression discontinuity design indicate that even in a party-centered closed-list proportional representation setting like Norway, there exists an incumbency advantage. This advantage can be seen as the advantage of having name recognition and giving the candidates more experience, as well as making it harder for high-quality challengers to challenge the incumbents. This makes us question whether the incumbency effect can contribute to increasing funding of the local political organizations.

In addition, our theory stems from Cirone et al (2020) who define seniority procedures as methods of selection that prioritize prior experience holding political office. They detected that parties in closed-list proportional representation systems have incentives to build these seniority systems whereas an incumbent in good standing will be re-nominated. Furthermore, they found evidence that narrowly elected candidates are more than twice as likely to be re-nominated into parliament than narrowly losing

candidates. As they mention in their paper, political parties want to build these seniority systems for several reasons. Local candidates with higher seniority will be expected to go into cabinet faster than those with lower seniority and help stabilize parties' memberships. They can for instance promise nominations in safe spots in the parliament. One thing that is unexplored is whether the political parties also build these seniority systems to attract more funding to their local party organization.

These insights are the foundation of our hypothesis. Which is that local political representation is beneficial for the main party organization and remaining a strong political position. We further explore if this contributes to strategically placing more funding to the local political parties with representation in the same respective political party.

2. Background

2.1 Political System

The seven main political parties in Norway are the Labor Party (DNA), the Socialist Left Party (SV), the Center Party (SP), the Christian Democratic Party (KrF), the Liberal Party (V), the Conservative Party (H) and the Progress Party (FrP). Besides these, there are also other smaller parties, but they have little electoral support historically.

The most distinct dividing dimension between the parties in Norwegian politics is the left- and right-wing, where the parties are spread out based on how concerned they are with economic equalization and public governmental control. Traditionally, the left-wing consists of the socialist parties (SV & DNA). While the parties in the middle of the left-right dimension are called the center parties (SP, KrF & V). Furthermore, on the right-wing are the non-socialist parties, also called "bourgeois" parties (H & FrP) (Berg et al., 2021).

Norwegian political parties are structured relatively similarly. They are based on open membership and, in most cases, individual members. Each party is organized at the national, district, and municipality levels. The national assembly (*landsmøtet*) is the supreme governing body, while the central board (*sentralstyret*) is the supreme executive body. The leader of the parties is elected by the national assembly, which also often (but not always) is the party's parliamentary leader (Berg et al., 2021).

Articles of association are set by the main party organizations, explaining how the party prioritizes different social-political issues. The Labor party (Arbeiderpartiet, 2021) and the Conservative party (Høyre, 2021) have stated that the party-municipalities must follow the national organizations' articles of association. Party-municipalities must also set their article of association, but these must comply with the main party organizations´. Therefore, the party-municipalities execute the policy set on the national level and operate after the guidelines and politics set by the national assembly. Thus, an extension of the main party organizations' plan and policy.

2.2 Parliament Election System in Norway

Norwegian parliament elections take place every fourth year. The system is a modified St. Laguës method, where the number of seats is divided between the different election districts after their population- and area size. There are 19 election districts in Norway, which follow the old district borders. The total number of seats in parliament is 169. 150 of these seats are allocated using the modified St. Laguës method within each district, called first-tier seats. Since 2005 every district has had one additional adjustment seat, referred to as second-tier seats. Modified St. Laguës method divides all the votes by 1.4 and gives the first seat to the party with the largest vote share. After receiving their first seat, the party's votes are divided by 3 (then by 5, 7, etc.). Then the second seat is allocated to the party with the most votes after allocating the first seat and dividing the votes of the recipient according to the method. This continues until all the 150 seats are allocated (VALGdirektoratet, 2021c). After the first-tier seats are assigned, the 19 adjustment seats are allocated based on those parties that managed to get more than 4 percent of the votes on the national level. In this round, the St. Laguës method is used, not within each district but the entire country as one election district. These adjustment seats are given to those political parties that are underrepresented given their total amount of votes, and their representation depends solely on how much of the votes the other parties have received (VALGdirektoratet, 2021b). In *Table 1*, we display the historical allocation of seats in parliament.

Table 1 – Representatives at Parliament

Party / Year	**2005**	**2009**	**2013**	**2017**	**Total**
DNA	61	64	55	49	229
H	23	30	48	45	146
FRP	38	41	29	27	135
SP	11	11	10	19	51
SV	15	11	7	11	44
KRF	11	10	10	8	39
V	10	2	9	8	16
MDG	0	0	1	1	2
R	0	0	0	1	1
Total	169	169	169	169	676

Notes: These are the total number of seats for each party in the elections 2005-2017. Retrieved from the dataset of Fiva & Smith (2022).

To vote in parliament elections, you must turn 18 years old within the election year, be a Norwegian citizen and live (or have been registered as residing for some time) in Norway (VALGdirektoratet, 2021a). The district you are registered in, according to the National Population Register, is where your vote is registered, regardless of the time or place of the vote. Political district parties hand in their candidates for the different districts and accommodate the rank of their candidates. All the seven main parties compete in the 19 election districts. Votes are given for each party, but it is possible to make personal changes to the rank of the candidates. For this change in rank to have any impact, over 50 percent of the voters in the district would have to do the same, which has never happened, and Norway has practically a closed-list system under parliament elections (Bergh & Saglie, 2018).

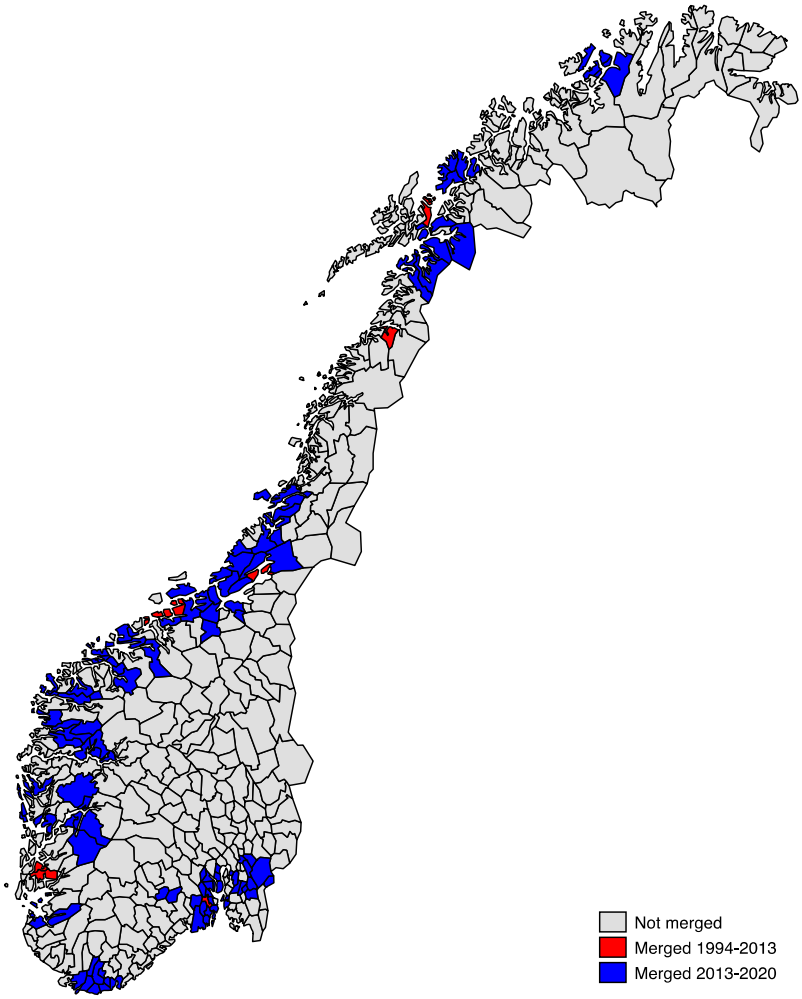
2.3 Municipalities

Norway consists of districts and municipalities, where the lowest level of government is the municipalities. Norway has had several municipality-mergers since the mid-1950s (Hansen & Thorsnæs, 2019). Accordingly, the number of municipalities varies over the years, as displayed in *Figure 1*. The size and population of the municipalities also vary, as some municipalities have a town status with more inhabitants and others are more rural.

Oslo is a special case for the municipalities as this is also a district. The district of Oslo is therefore not divided into multiple municipalities as the rest of Norway (Thorsnæs, 2022). Essentially, this means that candidates that have Oslo as their hometown also compete for seats in their municipality and not in a larger election district. Therefore, they do not provide a possibility to examine the local representation.

From 1994-2013, seven municipalities disappeared from voluntary municipality mergers (Moderniseringsdepartementet, 2021). In the spring of 2017, the right-wing government adopted a reform to reduce the number of districts and municipalities. The number of municipalities was reduced from 426 to 358, while the number of districts went from 19 to 11. Even though the districts changed, the 19 different election districts remained the same (Hansen & Tjernshaugen, 2021).

Figure 1 – Municipality Mergers in Norway 1994-2020



Notes: The figure is made using the spmap-function in STATA and coordinates from the period when there existed 435 municipalities (1994) retrieved from Fiva (2011-2015).. The municipalities in red merged in the period 1994-2013, and the blue is the mergers that took place during the municipality reform 2013-2020, which reduced the number of municipalities down to 358.

From *Figure 1*, one can see that many municipalities are not affected by municipality mergers. Most of the mergers took place in 2013-2020, and just a few mergers before that. The number of municipalities has varied over time. Still, regardless of the district and municipality reform, there have always been more municipalities than seats in the parliament. Thus, not every party-municipality will have a representative from their municipality. If the seven main parties had one representative from each municipality after all the mergers, the total number of candidates would be 2,506. When there are 169 representatives in the parliament, it goes without saying that not all the municipalities will be represented.

2.4 Income of Political Parties

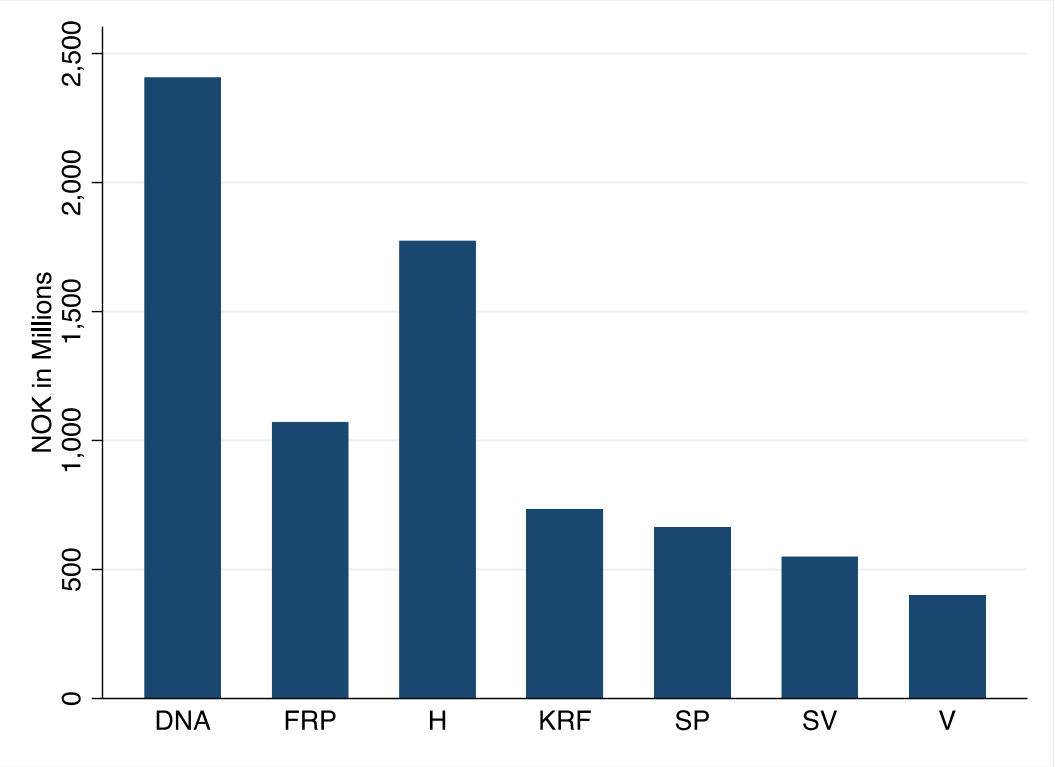
All the Norwegian political parties are subject to the Political Parties Act *(Partiloven)*, which states the formal guidelines and rules of the political parties and their annual accounting (Lovdata, 2005). These annual accountings are publicly available from the main party organizations down to the district- and municipality levels. There are some exceptions to this law; for instance, if the political party's income is under NOK 12 000, they do not have to report it. This is stated under §18 in the Political Parties Act. Party branches with an income over NOK 12 000 must send in annual accounts, and those that do not receive incomes over this threshold are only required to send in a *declaration*. Some party branches have not reported anything for unknown reasons.

The Norwegian political parties have different types of income, and the annual accounting gives an overview of these. One type of income is reported under transfers from other party branches (*overføringer fra andre partiledd*). The local political parties receive transfers from the main party organization, the district organization, or other party branches. This is an interesting part of the annual accounting, as it reports all the income received from other party branches (SSB, 2021). Therefore, it might be a strategic way for the political parties to allocate their funding. The data of the transfers income, what we call funding, for each party-municipality is what we are interested in our research, as we suspect these as more tactical than other income posts that could be more arbitrary.

Political parties at the national and regional level in Norway that are registered in the Party Register (*Partiregisteret*) may apply for public support, consisting of vote support (9/10 of the public support) and basic support (1/10 of the public support) (Kommunal- og distrikts departementet, n.d.). Hence, receiving more votes at the last parliament or municipality election gives greater public income. In 2020, the total public support for all the Norwegian political parties was NOK 512,3 million (Risberg & Tommerås, 2021). In addition, the political parties may have invested in capital that might give some additional income or receive donations from private firms, organizations, or people. The annual contributions must be reported if the amount exceeds the thresholds. For the main political party level, the threshold is NOK 35 000, the district level NOK 23 000, and the municipality level is NOK 12 000. The donor

must be identified and reported if the amount exceeds this threshold for the different levels (Kommunal- og moderniseringsdepartementet, n.d.).

Figure 2 – Total Sum of Income per Party, 2006-2020



Notes: This is the total income for all the main, district, municipality, and youth organizations of the seven main parties for the years 2006-2020. Retrieved from Partifinansiering (2006-2020).

In *Figure 2* we display the total income of the seven main parties for the years 2006-2020. This includes the main, district, municipality, and youth organizations. The Labor Party (DNA) and the Conservative Party (H) have the highest total income over the period, while the Socialist Left Party (SV) and the Liberal Party (V) are the parties with the lowest total income over the period.

2.5 Candidates

Political parties must send in lists with the candidates running in the respective district within the 31st of March in the election year. There must be at least as many candidates running from a political party in each district as there are seats at the parliament for that respective district and a maximum of six more candidates in addition to this. Identification of the candidates is important, and the list, therefore, needs to contain their first name, surname, and year of birth. Occupation and hometown are up to the

political party to decide if they want to report unless there is any reasonable doubt that there will be any confusion in the identification between some candidates. If, however, the political party decides to report the hometown or occupation of one or more candidates, then all the candidates on that list must also report it. This makes it possible to track candidates over time, as they are identifiable (Kommunal- og moderniseringsdepartementet, 2021).

It is also possible for candidates to run in different districts in the same year (Kommunal- og moderniseringsdepartementet, 2021). This is rare for the seven main parties, although there are examples, e.g., the Liberal Party (V) running with the same list in both Vest-Agder and Aust-Agder. Since they can run in different districts in the same year, the same candidate might appear multiple times, which is more typical for smaller parties.

3. Methods

3.1 Fixed Effect Regression

To examine if there exists a correlation between being represented in the parliament and receiving increased funding to the represented local party organization, we will use a fixed effect (FE) regression. A fixed effect regression ensures to control for omitted variables in panel data when the omitted variables do not change over time but vary across entities. Each entity has its intercepts and absorbs the influences of all omitted variables that differ across the entities (Stock & Watson, 2019, p. 367). The different entities in our sample are the party-municipalities, which do not change over time but can vary in whether a party-municipality is represented or not in an election.

When estimating causal effects in experiments, there needs to be a treatment- and control group. The only reason for the systematic difference in outcomes should be the treatment, and the treatment should be randomly assigned between the two groups (Stock & Watson, 2019, p. 48). In our regression, treatment is having candidates from the party-municipality represented in the parliament. To examine the treatment and control group, we will look at those party-municipalities with and without representation and compare the means. As the candidates and the party municipalities may vary for each election, our sample does not necessarily contain the same number of entities every period. It is therefore considered an unbalanced panel (Stock & Watson, 2019, p. 362).

Four key assumptions exist for identifying causal inference for fixed effects regressions (Stock & Watson, 2019, p. 375). These four key assumptions are:

1. $\varepsilon_{i,t}$ has a conditional mean of zero, given all *T* values of that entity,
2. variables are i.i.d across entities for *i=1*, …, *n,*
3. large outliers are unlikely and
4. there is no perfect multicollinearity.

The first assumption states that there is no omitted variable bias. To comply with the second assumption, we will cluster the standard errors at the municipality level. The third assumption needs to be evaluated when the data is examined.

We present our fixed effects regression model in *Equation (1)*.

$$(1) \quad Funding\ per\ eligible_{i,t} = \beta_0 + \beta_1 Represented_{i,t-1} + \beta_2 Controls_{i,t} + \beta_3 Party\ FE_i + \beta_4 Period\ FE_i + + \varepsilon_{i,t} + \beta_5 District\ FE_i + \varepsilon_{i,t}$$

Where the subscripts i indicate the party-municipality, t the sample period, $t-1$ the election prior to the sample period. $\varepsilon_{i,t}$ is the error term, i =1, …., n, t = 2006-2009, 2010-2013, 2014-2017, 2018-2020 and $t-1$ = 2005, 2009, 2013, 2017. *Represented* is a dummy variable equal to one if the party-municipality has representation from the last election and zero otherwise. We will also include *hometown population* and *magnitude of seats* as controls in the regression. The magnitude of seats is the number of seats in each district, excluding second-tier seats, and is determined by the area size and population of the district. There is a possibility that the population and magnitude of the municipalities might affect their funding, and we want to isolate the effect of having representation, and therefore we add these controls. The fourth assumption of causality was about having no perfect multicollinearity. Our independent variables are *Represented*, different *fixed effects* specifications and controls such as *hometown population* and *magnitude*. None of these have an exact linear relationship between each other; accordingly, we can conclude that there is no perfect multicollinearity.

The coefficient of interest is the β_1-coefficient that shows the increase in funding per eligible voter for having one more represented party-municipality, keeping all the other coefficients constant. We also have different fixed effects specifications such as party, district, and period. These fixed effects are unobserved variables that vary from one party-municipality to the next but do not change over time, *Equation (1)* can be interpreted as having *n* intercepts, one for each of the party-municipalities (Stock & Watson, 2019, p. 367). Then, we can rewrite *Equation (1)* to:

$$(2) \quad Funding\ per\ eligible_{i,t} = \beta_1 Represented_{i,t-1} + \beta_2 Controls_{i,t} + \gamma_i + \varepsilon_{i,t}$$

Where $\gamma_i = \beta_0 + \beta_3 Party\ FE_i + \beta_4 Period\ FE_i + \beta_5 District\ FE_i$, and $\gamma_i, \dots \gamma_n$ are unknown intercepts that need to be estimated for each party-municipality. The variation in these entities' fixed effects arises from omitted variables, and the fixed effects vary across party-municipalities, but not over time (Stock & Watson, 2019, p. 368). The regression is pooled meaning we will look at all the party-municipalities and periods under one common regression.

3.2 Regression Discontinuity Design

Lee & Lemieux (2010) discuss the possibility of using an RDD to find a local average treatment effect when agents do not have precise control over the assignment variable. As in a randomized experiment, the distribution of observed baseline covariates should not change discontinuously at the threshold. It is essential that the threshold for receiving treatment is not possible to manipulate. If the individuals have imprecise control over the threshold, the treatment is "as goods as" randomly assigned at the cut-off.

Using the whole sample to examine causal inference might not be as straightforward as one wants. We will use regression discontinuity design (RDD) to examine a more causal relationship. The treatment is not randomly assigned, like in an experiment. Still, we can examine those that might be more comparable by narrowing the sample and achieving as good as a randomly assigned treatment between the two groups.

Fiva & Smith (2018) define three categories for the candidates: those with *safe positions*, those with *some chance of winning (marginal),* and those with *virtually no chance at all*. The running variable is *margin* from the Fiva-Smith dataset derived using the distance measure proposed by Folke (2014), where he measured how far a party is from receiving a seat change by the party's vote share. Hence, Fiva and Smith generate a margin for each candidate that represents how far from winning or losing a first-tier seat a candidate is relative to the number of votes for each party in that district.

Since the margin for winning or losing a seat is not decided in advance and depends on the votes the other political parties receive within each district, the threshold is impossible to predict in advance. Thus, making the threshold impossible to manipulate for the candidates running. To check for discontinuity in the baseline characteristics,

we will do some balancing checks on the sample, as well as a frequency check around the threshold.

We use the party-municipalities with one candidate who marginally won a seat and the party-municipalities with one candidate that marginally did not. Marginal is here defined as five percentage points from winning or losing a first-tier seat, and the equation is as follows:

$$(3) \quad Funding\ per\ eligible_{i,t} = \alpha_0 + \alpha_1 Represented_{i,t-1} + \alpha_2 Represented_{i,t-1} \times Margin_{i,t-1} + \alpha_3 Margin_{i,t-1} + \alpha_4 Party\ FE_i + \alpha_5 Period\ FE_i + \alpha_6 District\ FE_i + \alpha_7 Rank\ FE_i + u_{i,t}$$

The subscripts are the same as in *Equation (2)* and *(3)*. This is a pooled regression meaning we will look at all the party-municipalities and periods under one regression. To allow the slope of the regression to differ on each side of the threshold, we have added an interaction term between *represented* and *margin*. We cluster standard errors at the municipality level. We have the same fixed effects in *Equation (3)* as in *Equation (2)*, but we have added rank fixed effects since we now have one marginal represented for each of the party-municipalities. We rewrite *Equation (3)*, as we did in *Equation (2)*:

$$(4) \quad Funding\ per\ eligible_{i,t} = \alpha_1 Represented_{i,t-1} + \alpha_2 Represented_{i,t-1} \times Margin_{i,t-1} + \alpha_3 Margin_{i,t-1} + \lambda_i + u_{i,t}$$

Where $\lambda_i = \alpha_0 + \alpha_4 Party\ FE_i + \alpha_5 Period\ FE_i + \alpha_6 District\ FE_i + \alpha_7 Rank\ FE_i$, and $\alpha_i, \ldots \alpha_n$ are unknown intercepts that need to be estimated for each party-municipality. The coefficient of interest is the α_1-coefficient, representing the same as the β_1 we had earlier.

Equation (4) is a fuzzy RDD since we have included first- and second-tier seats. Even though a party-municipality does not get the first-tier seat, it can still get representation

by receiving a second-tier seat. This makes the probability of being represented in the parliament between 0 and 1 around the threshold.

3.3 Supplementary Analysis

According to Athey & Imbens (2017), a supplementary analysis can be provided to further convince the readers of the credibility of the primary analysis. According to them, there are four types of supplementary analyses. Firstly, there is placebo analysis, where one replicates the primary analysis with the outcome replaced by a pseudo-outcome that is known not to be influenced by the treatment. Secondly, sensitivity and robustness checks where the assumptions in the primary analysis are weakened to see if the results are robust to changes. Third, one can highlight what features of the data that identify the parameters of interest. And lastly, a type of supplementary analysis that is specific for regression discontinuity analyses, where one can check whether the density of the forcing variable is discontinuous at the threshold (Athey & Imbens, 2017).

In both the fixed effect regression and regression discontinuity design, we will do some sensitivity and robustness checks with different sets of controls and fixed effects to see if the estimates change. While in the regression discontinuity design, we will look at the density of the running variable to see if the treatment is manipulated.

4. Data

This section discusses the data used to answer the research question presented in the introduction. The data used is the *annual accounts, Fiva-Smith 2022*, and the combination of these will be the *final dataset* used to perform our fixed effect regression and RDD analysis. For a detailed description of how we modified and made the final dataset, see *Appendix A.1*.

4.1 Sample Period

We examine the elections taking place from 2005-2017, with the annual accounts' years in the following years after the previous election. This is because the annual accounts are available from 2005-2020, which gives us four election periods with accompanying annual accounts. The first period is based on the party-municipalities winning representation or not from the election in 2005, and the funding from 2006-2009. The second period is based on the election in 2009, and the funding from 2010-2013. Then we have the third period based on the election in 2013 and funding from 2014-2017. Lastly, the fourth period is based on the 2017 election and funding from 2018 to 2020. The annual accounts for 2021 are not yet available. Hence, the last period consists of fewer observations than the other periods.

Since we examine the years after the election, we use the eligible voters, hometown population, mean age, female share, and children share reported at the end of the sample for each period. This is a form of standardization for the different periods. This means that period one will have the hometown population reported in 2009, the second period will have 2013, etc. The reasoning is that our hypothesis for the funding placed in the years after is meant to maintain their strategic positions.

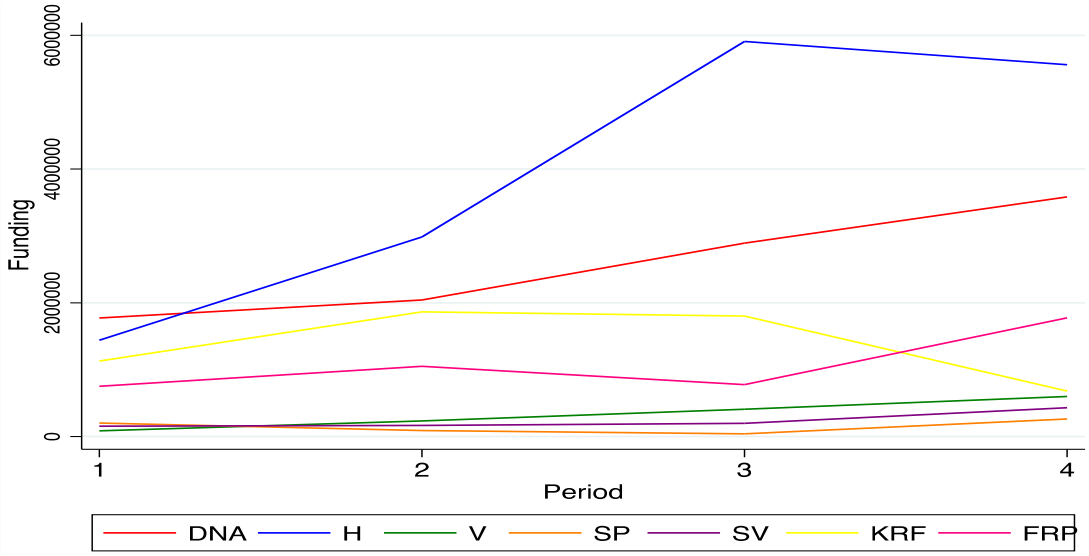
4.2 Annual Accounts

The political parties' annual accounts contain descriptive accounting posts on how their funds are received and used. A complete dataset that contains all the political party branches' annual accounts for each given year can be found at *partifinasiering.no*. Partifinansiering combines all the reported annual accounts from Statistics Norway (SSB). As mentioned, our dependent variable is funding, which is transfers from other party branches to the party-municipality. To avoid any problems with the answer type

declaration or not answered, we have replaced all posts including answer type declaration, with zero. At the same time, we exclude all the party-municipalities that have not submitted a declaration or annual accounts. We also exclude all the main party organizations, district organizations, and youth organizations as these cannot be linked to any party-municipalities and therefore do not provide helpful information. The political parties that have not reported their municipality have also been excluded, but these are rare.

To make the periods as comparable as possible, we collapse the annual accounts belonging to each time period into a mean for each party-municipality. We have displayed the development of the sum of funding in *Figure 3* for the seven main parties.

Figure 3 – Sum of Funding per Period and Party



Notes: This figure shows the sum of funding for the party-municipalities over the four sample periods. The vertical axis displays the amount in NOK. The horizontal axis displays the four periods. The different colored lines indicate each of the seven main parties.

As a common pattern for the periods, the Labor Party (DNA) and the Conservative Party (H) have the largest sum of funding. We also see that the overall trend in funding for these two parties is positive. This makes sense since these are the two biggest parties in Norway the recent years representing each of the political wings. The Conservative Party (H) is the party with the highest increase in funding over the time periods. Their highest peak is the third period that follows the 2013 election. This was also the

strongest election year for the party in terms of representatives in parliament, which can be seen in *Table 1*. Their number of representatives was slightly reduced in the 2017 election, and *Figure 3* also shows a slight decrease from the previous period. On the other hand, the Labor Party (DNA) has had a decreasing number of representations in parliament but an increasing sum of funding for each period. For the Liberal Party (V), the Center Party (SP), and the Socialist Left Party (SV), the trend is slightly positive over time, while the Progress Party (FrP) has remained on a higher level of sum funding but fluctuated more. The Christian Democrats (KRF) has had a smilingly stable sum of funding, before decreasing it substantially in the last period. This could potentially be seen in line with how they have lost representation over time.

4.3 Fiva-Smith 2022

Fiva and Smith have collected all the candidates running for parliamentary elections in Norway from 1906 to 2021 in one dataset. Their dataset contains various information regarding the candidates' characteristics like *hometown, representation in parliament, first-year running for parliament,* and *gender* of the candidates. We measure local representation as the party-municipality having candidates elected to parliament that originate from that municipality. The variable *hometown* is essential for our research question as this is the variable that will link the candidates to the funding for their local political parties. For our regression discontinuity design, the variable *margin* is crucial since this shows how far the candidates were from losing or winning a first-tier seat.

There are some candidates with missing hometowns in the dataset. Missing hometowns are most likely due to the candidates not listing them up. To correct this, we altered the dataset to change the candidates' hometowns based on their earlier listed hometowns if they had run for election before our sample period. Doing this, the missing observations of hometowns for the seven main parties and the districts we are interested in went from 81 to 78. The missing hometowns only represent 1 percent of all the observations.

We will use the candidates from Fiva & Smith to identify all the party-municipalities from the main parties with candidates running for parliament. In *Table 2,* we present a summary statistic of these party-municipalities. Since Fiva & Smith's dataset is on a

candidate level, we also include the *mean age of the population, female share, children share,* and *area size* collected from Statistics Norway. These characteristics in addition to Fiva-Smith's municipality characteristics are added to better evaluate the differences between the party-municipalities. Mean age, female share, and children share is added to compare the population of the municipalities, to ensure if the people residing in the municipalities are systematically different. The area size, population, and town status are used to measure the difference in how the structure of the municipalities differs. Magnitude is calculated after the size and population of the district and is therefore common for the municipalities from the same district.

Table 2 – Summary Statistics of Fiva Smith 2022 Party-Municipalities

	Party-municipalities			
Represented	Yes	No	Diff	Average
Characteristics				
Mean age	39.50	40.20	-.69	40.12
	(.09)	(.04)	(.11)	(.03)
Female share	.50	.50	.00	.50
	(.00)	(.00)	(.00)	(.00)
Children share (0-17 year)	.23	.23	.00	.23
	(.00)	(.00)	(.00)	(.00)
Magnitude	9.02	8.09	.93	8.19
	(.17)	(.06)	(.17)	(.05)
Area (km^2)	641.52	785.54	-144.02	769.63
	(32.42)	(15.32)	(44.94)	(14.10)
Population	63.06[1]	15.13[1]	47.93[1]	20.42[1]
	(5.19)	(.41)	(2.17)	(.71)
Town status	.44	.18	.25	.21
	(.02)	(.01)	(.02)	(.01)
Observations	574	4,623	5,197	5,197

Notes: This is the entire sample of party-municipalities with candidates from the main parties running for parliament from 2005-2017, with a hometown identification number (hometownID) from the dataset Fiva-Smith 2022. Each column represents a mean of the underlying party-municipalities for the periods. The numbers are presented with two decimal points. The variable *town is a* dummy variable that turns on for the party-municipalities having a hometown with town status. Standard errors are reported in parenthesis. The diff-column is the difference between represented and not represented. The fourth column is the average of the entire sample running for parliament.

1. The population is displayed in thousands.

From *Table 2* we see that there are a total of 5,197 party-municipalities with candidates running for parliament in the election period 2005-2017. Many of these party-municipalities have candidates running each year, and therefore not 5,197 unique party-municipalities running each election. We divide the table into those that achieve representation in the parliament, those that do not, a difference comparison, and the average party-municipality of the sample.

Examining the municipality characteristics for the average-column of the sample, we see that the average party-municipality has a population of 20.42 thousand people, is more likely not to have a town status, an area size of 769.63 squared kilometers, and a magnitude of 8.19. From the population characteristics, we see that the population has a mean age of 40.12, an equal quantity of males and females, and the share of children (0-17 years) is around 23 percent.

Most of the party-municipalities do not receive any representation in the parliament. Out of the 5,197 observations, only 574 receive representation, around 11 percent of all the party-municipalities. Those with representation are centered in districts with a higher magnitude, higher population, higher town status, and smaller area size. This indicates that the party-municipalities with representations more often are from city areas, while the party-municipalities without are from more rural places.

4.4 Explanation of Final Dataset

In our research sample, we limit the sample to those municipalities that are not involved in any mergers. This is to ensure that the entities of party-municipalities are consistent throughout the periods and do not change over time. For instance, Sandefjord has merged with Stokke and Andebu and the merged municipality has kept the "Sandefjord"-name, even though it in fact consists of three municipalities. The former municipalities Bø and Sauherad merged into a new one, called Midt-Telemark (Regjeringen, 2020). By excluding all the municipalities that have merged, we will eliminate the possibility that funding might be allocated incorrectly.

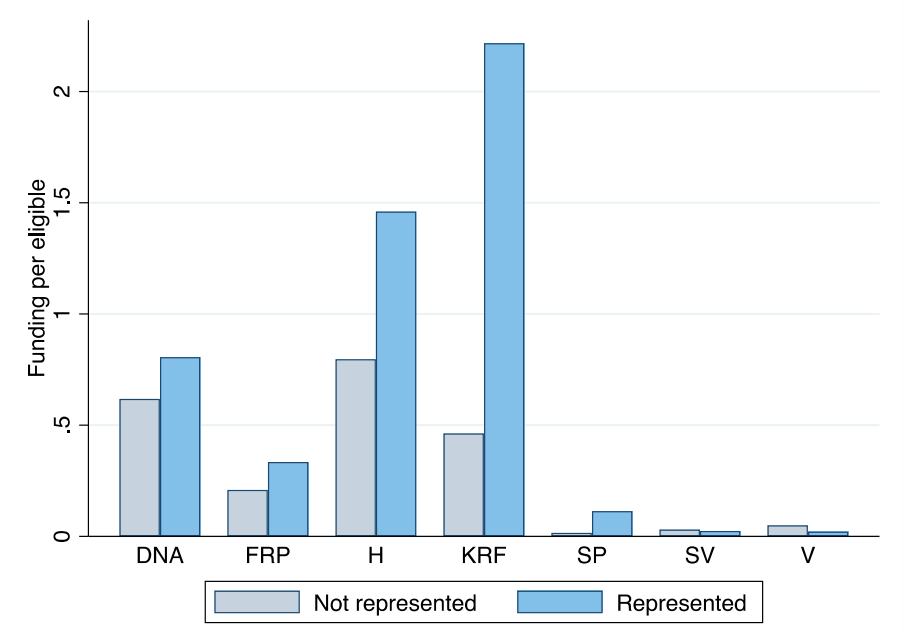
Furthermore, party-municipalities from Oslo are also excluded from our sample, as the local representation is not identified for this municipality. Candidates with missing

hometowns (municipalities) are also excluded, for instance, the district Vestfold as there were many missing hometowns for these candidates.

Candidates running in other districts than the district of their hometown are defined as *parachute* candidates. Parachute candidates "belong" to the party-municipality from their hometown, but since they compete for seats in another district, they compete abroad from their party-municipality. Our sample has only 38 parachute candidates, so these are rare. We exclude them since they run in a district, not in association with the funding the party-municipalities receive.

To investigate the effect of local representation, we have identified all the party-municipalities with candidates running for parliament using the candidates from Fiva & Smith. Then we allocate the collapsed annual accounts for each political party-municipality in their respective time period. As a standardization, we divide the funding by eligible voters in each municipality to make the funding of party-municipalities comparable. We divide it by eligible voters per municipality and not the municipality population because they are the number of inhabitants that can vote and therefore influence the elections.

Figure 4 – Mean of Funding per Eligible per Party



Notes: Figure shows the average sums of funding per eligible for all the party-municipalities in the four sample periods. The vertical axis displays the average funding per eligible. The horizontal axis shows the sums for each of the seven main parties. The two different colors indicate whether each of the parties had representation or not.

In *Figure 4*, we present the mean of funding per eligible voter for all the party-municipalities with candidates running for parliament, categorized by their party for the seven main parties. The funding per eligible voter is higher for most of the party-municipalities with representation than those without. This could indicate that the political parties strategically fund the already represented party-municipalities. The Christian Democrats (KrF) is now the party with the highest mean funding for the represented party-municipalities. The Conservative Party (H) is the next in line, followed by The Labor Party (DNA).

The exception of funding per eligible being higher for the party-municipalities with representation are the Socialist Left Party (SV) and the Liberal Party (V). There seems to be a very small negative to no effect of having representation on funding. As seen from *Figure 2*, which displays the total income for the seven main parties, these two parties also have the lowest total income. This could be seen in line with their funding in *Figure 4*, where these two parties might not strategically allocate their funding since they have less to squander within the parties. Therefore, we will exclude the Socialist Left Party (SV) and the Liberal Party (V) since we can assume that they are not allocating funds like the rest of the main parties.

After all the exclusions we have mentioned are done, we have our fixed effect regression sample. Representation is the party-municipality having candidates winning either a first-or second-tier seat. If the party-municipality has one candidate from their party elected, the representation variable turns on, regardless of how many candidates are running from that municipality.

For the RDD, we only use the party-municipalities with one marginal electable candidate, defined as those being five percentage points from winning or losing a first-tier seat or getting a second-tier seat in the second round.

5. Results

5.1 Balancing of the Fixed Effect Regression Sample

As mentioned in the method section, to have a valid result from the regression, it is important that the treatment- and control group is not systematically different other than receiving the treatment. Before doing the fixed effect regression, we therefore check the balancing of the party-municipalities that have representations and those that do not. The summary statistics of our balancing are presented in *Table 3* and contain the same municipality characteristics collected from Statistics Norway and Fiva & Smith from *Table 2*.

Table 3 – Summary Statistics of the Final Regression Sample

		Party-municipalities		
Represented	Yes	No	Diff	Average
Characteristics				
Mean age	40.58	41.27	-.69	41.18
	(.14)	(.05)	(.15)	(.05)
Female share	.50	.49	.00	.49
	(.00)	(.00)	(.00)	(.00)
Children share (0-17 year)	.22	.22	.00	.22
	(.00)	(.00)	(.00)	(.00)
Magnitude	8.47	7.91	.55	7.98
	(.23)	(.08)	(.22)	(.07)
Area (km^2)	802.97	948.47	-145.50	930.56
	(47.59)	(24.83)	(68.64)	(22.59)
Population	37.11[1]	12.88[1]	24.23[1]	15.86[1]
	(3.34)	(.38)	(1.61)	(.55)
Town status	.31	.15	.16	.17
	(.03)	(.01)	(.02)	(.01)
Observations	318	2,266	2,584	2,584

Notes: This is the fixed effect regression sample containing party-municipalities with candidates running for parliament from 2005-2017, for DNA, H, KRF, FRP, and SP. Each column represents a mean of the underlying party-municipalities for the periods. The numbers are presented with two decimal points. The variable *town* is a dummy variable that turns on for the party-municipalities having a hometown with town status. Standard errors are reported in parenthesis. The diff-column is the difference between represented and not represented. The fourth column is the average of the entire sample running for parliament.

1. The population is displayed in thousands.

Comparing our final regression sample in *Table 3* to the party-municipality sample from *Table 2*, we see fewer observations, as we have excluded party-municipalities to maintain a concise sample throughout our sample period, to follow the same entities over time. Still, the party-municipalities with representation only account for about 14 percent of the entire sample, and the same patterns are still visible in our sample. The party-municipalities with representation still have a larger town status and are centered in districts with higher magnitude, higher population, and smaller area size than those without representation.

We see that the average party-municipality represented by the *average*-column has a somewhat lower population mean and magnitude, a lower town status, and a larger area size, compared to *Table 2*. This could be because we have excluded huge cities like Trondheim, Stavanger, and Kristiansand because of mergers. However, it is also important to note that municipalities without town status and with lower populations have been excluded as well. The characteristics of mean age, female share, and children share are very similar to the one shown in *Table 2* and indicate that the population belonging to the party-municipalities still resembles the full party-municipality sample from *Table 2*.

In the *Diff-column* of *Table 3*, we display the difference between the party-municipalities with representation in the parliament against those without. The characteristics mean age, female share, and children share are seemingly balanced. The rest of the characteristics are not balanced and tells us that the party-municipalities that have representation on average have a larger population, are more likely to have a town status, and belong to districts with a higher magnitude and area size. This indicates that the party-municipalities with representation are more likely to be cities. To control these unbalances, we will include the control of hometown population and magnitude.

5.2 Fixed Effect Regression Estimates

We present our fixed effect regression estimates from *Equation (2)* in *Table 4*. Each column represents a specification or an additional fixed effect to the regression. All the different columns are on a pooled level for the whole sample of different party-municipalities and all four time periods. There appears to be an overall positive correlation between having party-municipalities represented from the previous elections and funding per eligible voter in the following years. In *Appendix A.3* we have provided a supplementary analysis without controls in the fixed effect regression, and see that the coefficients do not change significantly from the results in *Table 4*.

Table 4 – Regression Estimates of Local Representation on Funding

	(1)	(2)	(3)	(4)	(5)
Represented	.35***	.36***	.30***	.29***	.27***
	(.09)	(.09)	(.09)	(.08)	(.09)
Hometown population[1]		-.08	-.10*	-.11*	-.08
		(.05)	(.06)	(.06)	(.06)
Magnitude		.01	.01	.01	-.03
		(.01)	(.01)	(.01)	(.06)
Observations	2,584	2,584	2,584	2,584	2,584
R^2	.01	.01	.08	.10	.11
Party fixed effects	No	No	Yes	Yes	Yes
Period fixed effects	No	No	No	Yes	Yes
District fixed effects	No	No	No	No	Yes

Notes: Standard errors presented in parenthesis are clustered at the municipality level. The underlying data is the party-municipalities with candidates running for parliament, where each observation is a party-municipality from one of the periods. The results are shown with two decimal points. Each observation represents a party-municipality. 1. The hometown population is scaled per 1:100 000.

*** 1% significance level. ** 5% significance level. * 10% significance level.

We have a regression in column (1) with no fixed effects or controls. The estimate is .35 on funding per eligible voter, which is significant at the one percent level. This is the most simplistic of our regressions but shows a clear sign of increased funding when having representation. We then add the controls as a sensitivity check, and we see from column (2) that the estimate barely changes. The result is still significant at the one

percent level, and the hometown population has a slightly negative coefficient. This could indicate that the controls do not affect the funding of the party-municipalities.

However, this is a pooled regression with five political parties included. The parties are pretty different from each other when it comes to funding and having representation, from what we can see from *Figure 3* and *4*. We therefore add party fixed effects to control for the variety of the parties in column (3). The estimate goes down to .30 on funding per eligible voter but is still significant at the one percent level. The R^2 measures the linear relationships among the independent variables and is a measure between zero and one. A high R^2 means that the sample variation in the independent variable can be explained by the other independent variables (Wooldridge, 2015, p. 83). Column (3) has a very low R^2, but the representation coefficient is still significant at any significance level, which speaks in favor of an effect. The estimate is still the same when keeping periods fixed in column (4), but R^2 has improved slightly. This shows that the result is robust when controlling for period variation, visualized by *Figure 3*.

Adding district fixed effects in column (5), the correlation goes down to .27 of funding per eligible voter. The β_1-coefficient reduces a bit when adding district fixed effects which makes sense since the effects might change from district to district. Each of the districts is different, and by keeping them constant, we can isolate the effect of being represented. The estimate is still significant at the one percent level.

Column (1) and (2) does not include any fixed effects, and we see from adding these that the estimates drop. Even though the estimates reduce throughout the different specifications for the fixed effects regressions, it does not change drastically after column (3). It is worth noting that for every specification, the result is significant at the one percent level, which indicates that the coefficient is robust. The standard errors are low for every different specification. This provides evidence for a positive correlation between being represented in parliament and getting increased funding to the represented party-municipality. Having a represented party-municipality leads to a .27 increase in funding per eligible voter to the party-municipality.

Our coefficient of interest is significantly relevant, with a low p-value; this alone does not conclude that there exists causality (Imbens, 2021). The first of the key assumptions for finding causality was that $\varepsilon_{i,t}$ has a conditional mean of zero, given all *T* values of that entity. Since the party-municipalities with representation are more likely to be cities than those without representation, there might be differences between the two groups. The treatment is not randomly assigned, as the candidates from party-municipalities with town status and larger populations are more likely to obtain representation than those without this. To control for these aspects, we have used fixed effects and controls to minimize the possibility of omitted variables. The third assumption was that there are unlikely to be any outliers, and from what we can see from *Appendix A.4*, this is satisfied.

The result of a positive correlation is in line with our hypothesis that being represented in parliament is beneficial for local party financing. There seems to be an incumbency effect, where it is advantageous to fund the seats that already have been won in an earlier election. This could be because of the main party organizations trying to exploit the "friends-and-neighbors" voting behavior or building more seniority systems for the represented candidates.

The effect of .27 funding per eligible voter of having representation is robust and significant at any level. Still, to further see if we can conclude that we have a positive causal effect between being represented and increased funding, we use the party-municipalities with a marginal chance for a seat in our RDD.

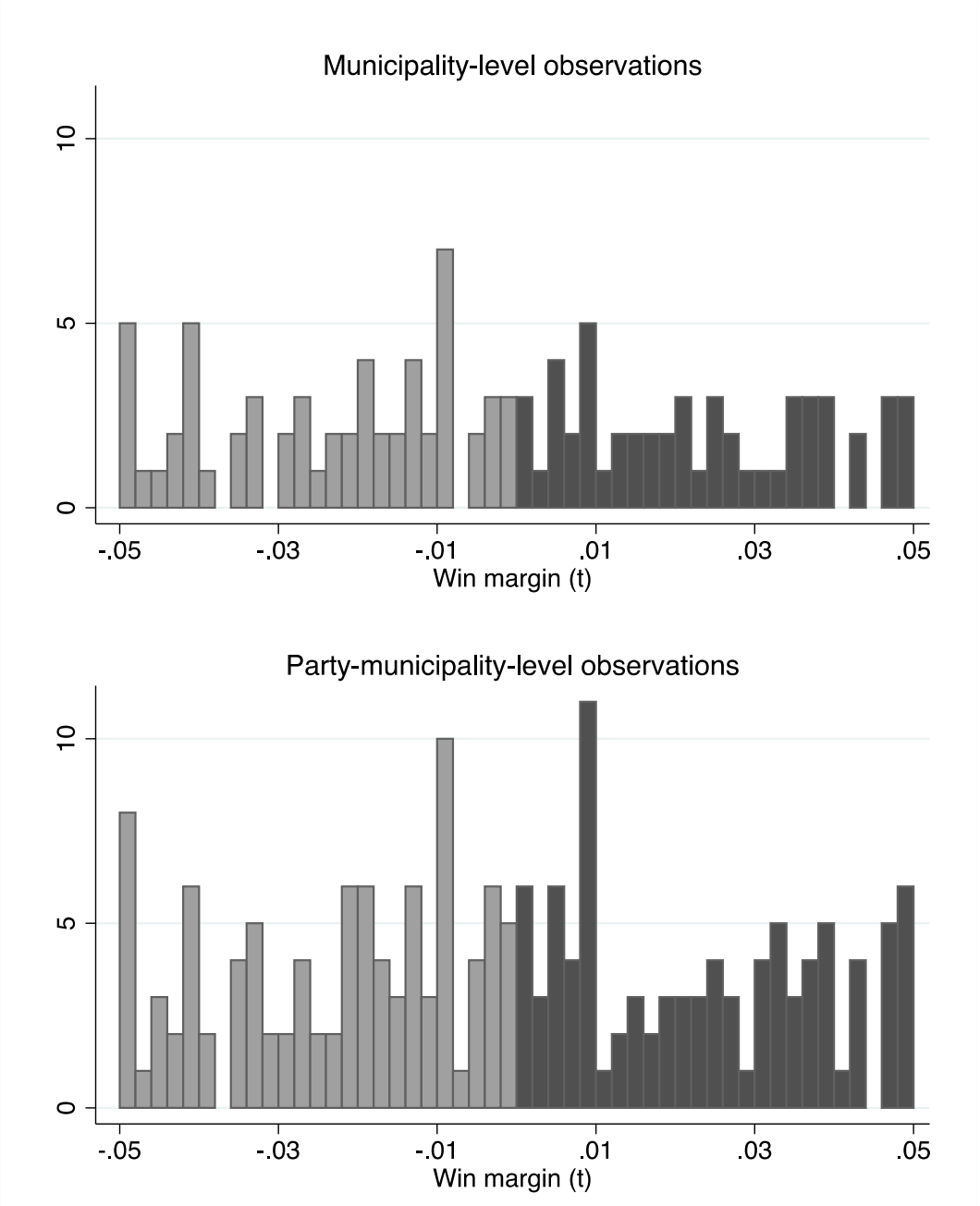
5.3 Balancing of the RDD sample

As mentioned in the method section, the distribution of observed baseline covariates should not change discontinuously at the threshold, and there should not be bunching on either side. To examine this, we look at the frequencies of the observations and the balancing of municipality characteristics.

Figure 5 displays the frequencies around the threshold at party-municipality and municipality levels. We see no clear sign of bunching on each side of the cut-off, which is a good indication of no threshold manipulation. This, again, supports the key assumption in the RDD, with as good as randomly assigned treatment around the

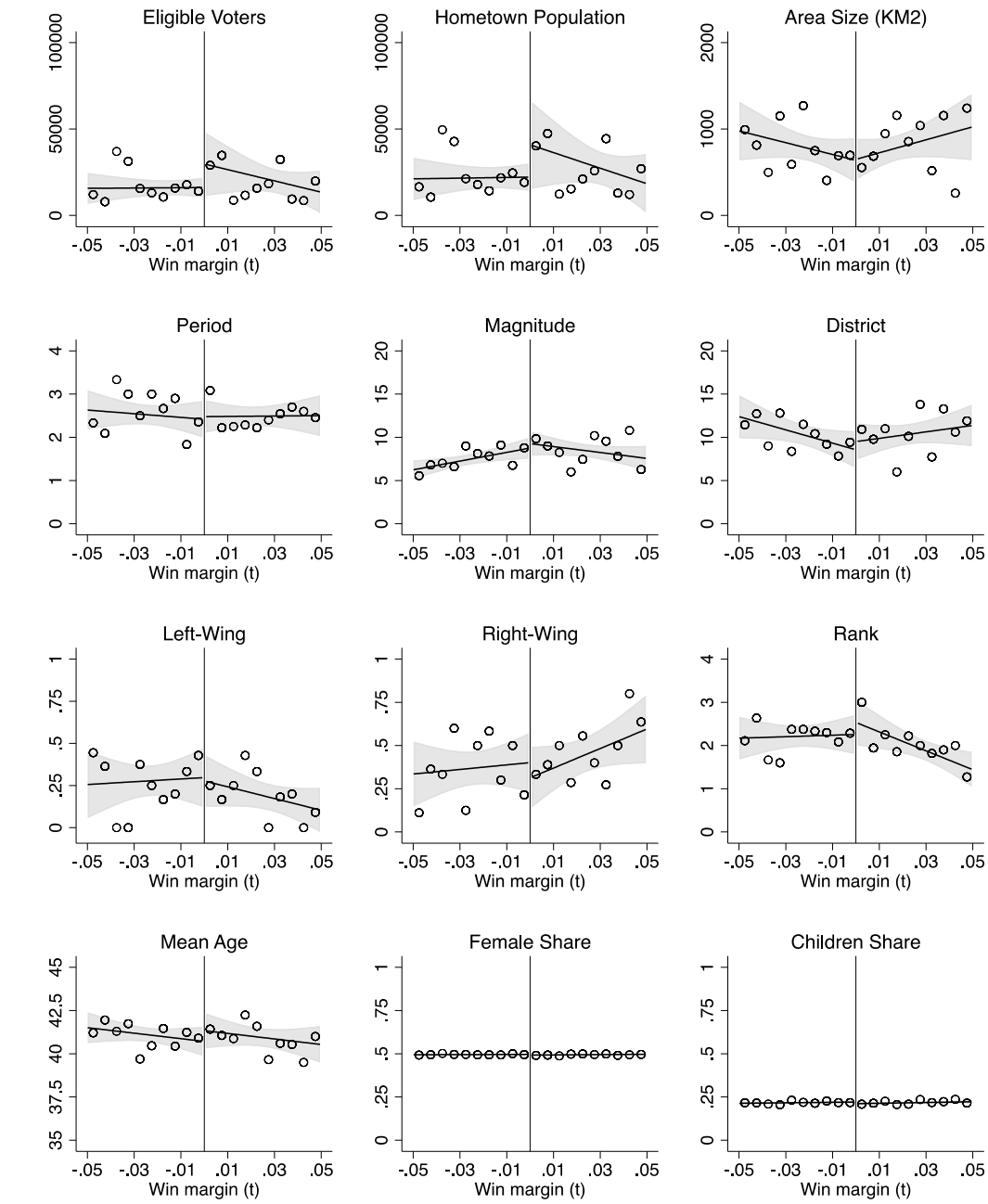
threshold. However, the number of observations is low, which might give imprecise estimates.

Figure 5 – Frequency of Observations



Note: We have followed the same approach as Fiva-Halse-Smith (2021) and restricted the sample in the top panel to exactly one marginal candidate from any party, defined as those winning a first-tier seat and no candidate winning a first-tier seat by a larger margin. The threshold is at zero. In the bottom panel, the sample has the same restrictions but now also includes combinations of party and municipality. Vertical axes display the number of observations. Horizontal axes show the margin of the candidates with a marginal chance of winning or losing a first-tier seat. There are 20 bins, each representing a margin of 0.005. The number of observations in the bottom panel is 189.

Figure 6 – Balancing of Hometown Characteristics



Note: We have followed the same approach as Fiva-Halse-Smith (2021). The sample is the party municipalities with marginal candidates. The threshold is at zero. There are 20 bins, each representing a margin of 0.005. Separate linear regression lines are used on each side of the threshold using the underlying data and not the bins. Vertical axes display the quantity of the presented variable. Horizontal axes show the margin of the candidates with a marginal chance of winning or losing a first-tier seat. The number of observations is 189.

In *Figure 6*, we have shown the balancing of some hometown characteristics. *Eligible* and *population* size have the same patterns, which makes sense since these variables are somewhat related. Eligible is the size of the population who is eligible for voting, which is a fraction of the hometown population. Other related characteristics are *area size* and *magnitude*. Magnitude represents the number of parliament members elected in the district, excluding adjustment seats, based on the area size and population. *Left-wing parties* and *right-wing parties* have the opposite direction after the cut-off. The left-wing now only consists of the Labor Party (DNA), while the Conservative Party (H) and the Progress Party (FrP) represent right-wing parties in this figure. We have also included characteristics such as *rank, mean age, female share,* and *children share.* These characteristics are similar before and after the cut-off.

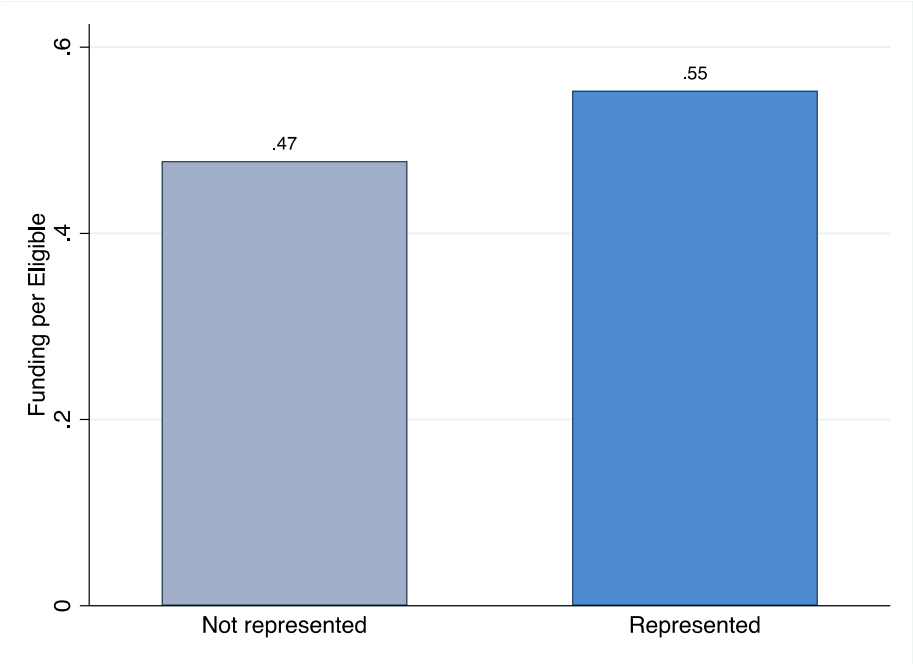
The plots for the municipality characteristics are balanced around the threshold, where the observations on the left- and- right-hand sides are comparable. The graphs also include 95 percent confidence intervals, which overlap around the threshold. The key identifying assumption of an RD design, that pre-treatment characteristic does not have any sorting around the threshold, is therefore satisfied. This indicates that the samples to the left and the right of the cut-off are similar and comparable.

5.4 RDD estimates

In *Figure 7*, we display the mean funding for those party-municipalities that marginally got representation versus those that marginally did not. *Figure 4* was categorized by the different parties, and the sample was not narrowed by marginally represented party-municipalities. In contrast, *Figure 7* displays all the party-municipalities from any of the five parties, with only one marginally represented candidate.

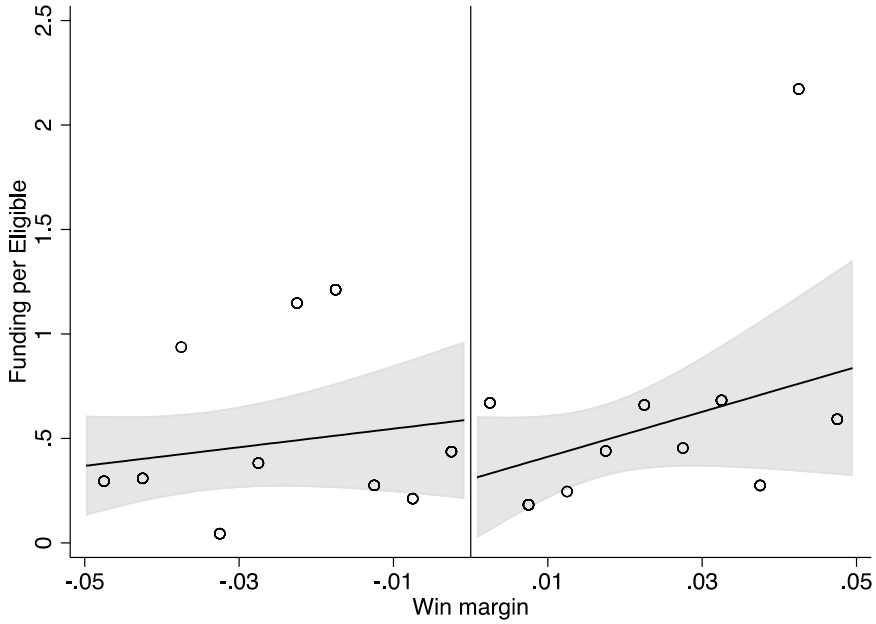
From *Figure 7,* the effect of being marginally represented seemingly increases funding with .08 per eligible voter. This visualization indicates a positive relationship between local representation nationally and receiving more funding for those party-municipalities. This comparison confirms our findings from the fixed effect regression. However, we will use an RDD regression to establish any causal effect for the party-municipalities with marginally electable candidates.

Figure 7 – Mean Funding with and without Representation



Notes: This is the RDD sample consisting of 189 observations and shows the mean funding between represented and not represented party-municipalities. The *not represented* are those who marginally did not win, and the *represented* are those who marginally won. The y-axis shows the funding per eligible voter, and the x-axis is simply the two groups.

Figure 8 – Visual Representation of the RD analysisv



Note: This is a visual representation of the RD plot showing the effect of being elected to parliament on funding. The sample is the party-municipalities with marginal candidates. There are 20 bins, each representing a margin of 0.005. Separate linear regression lines are used on each side of the threshold using the underlying data and not the bins. Vertical axes display the funding per eligible. Horizontal axes display the party-municipalities with candidates with a marginal chance of winning or losing a first-tier seat. The number of observations in the RDD is 189.

Examining *Figure 8*, the visualization of the RDD analysis, it looks like there is not much of an effect. The classical RDD shape is not precise here since there are not too many party-municipalities around the cut-off, and the confidence intervals are large. From *Figure 5*, there was no bunching around the threshold on either side, but the number of observations is a bit lacking. *Figure 7* shows that the mean sum of funding per eligible is larger for those with marginal representation, which is not visible in *Figure 8*. Albeit *Figure 7* is a simple comparison of the means on each side of the threshold, while *Figure* 8 is the RDD regression and uses OLS on each side of the threshold to estimate any effect. The positive effect of representation from the fixed effect regression is no longer visible in the RDD.

In *Table 5*, we display the results from *Equation (4)* for the pooled RDD regression with and without different fixed effects.

Table 5 – RDD Estimates of Local Representation on Funding

	(1)	(2)	(3)	(4)	(5)	(6)
Elected	-.12	.01	-.03	-.12	-.16	-.08
	(.28)	(.26)	(.26)	(.23)	(.23)	(.23)
N	189	189	189	189	189	189
R^2	.01	.14	.15	.23	.26	.30
Party fixed effects	No	Yes	Yes	Yes	Yes	Yes
Period fixed effects	No	No	Yes	Yes	Yes	Yes
District fixed effects	No	No	No	Yes	Yes	Yes
Rank fixed effects	No	No	No	No	Yes	Yes
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Triangular

Notes: Standard errors shown in parenthesis are clustered at the municipality level. The sample is limited to party-municipalities with only one candidate defined as marginal. The regressions include different fixed effects such as party, period, district, and rank.

*** 1% significance level. ** 5% significance level. *10% significance level.

In column (1), we find a negative estimate of -.12, the same as in *Figure 8*. However, this is a very naïve regression as this does not contain any fixed effects. The coefficient is insignificant at any significance level, with a standard error much larger than the coefficient itself.

We then add different fixed effects to control for the variations as in the fixed effect regressions. Rank is an additional fixed effect in the RDD, and we use it because the RDD sample contains one marginal represented candidate for each of the party-municipalities, which we want to have fixed.

Adding party fixed effects in column (2), the estimate becomes slightly positive and is the only estimate in our RDD regression with a positive effect. However, the standard error is much larger than the estimate, making the coefficient insignificant, and the R^2 is low. Adding period fixed effects in column (3), the estimate is slightly negative and adding district fixed effects and rank fixed effects in column (4) and (5), it becomes more negative. The R^2 is slightly higher for column (3)-(5) than in column (2), and the standard errors are at the same levels. Column (6) displays the same as column (5) but with a different kernel weight.

None of the coefficients are significant at any significance level. Even though the effects in columns (3)-(6) are negative, the coefficients are small with high standard errors. This indicates that there are too few observations to give any precise estimates of any causal effect of having representation for the party-municipalities with marginal candidates.

The comparison analysis in *Figure 7* shows us that the mean funding of party-municipalities with marginal representation is larger than those without. On the other hand, the estimates from the RDD are unprecise, and we cannot conclude whether there exists a causal effect for the marginally represented party-municipalities or not. Cirone et al. (2020) found that narrowly elected candidates are twice as likely to be renominated. We examine funding in the period after for the party-municipalities with marginally elected candidates, but we see no sign of increased funding to the marginally elected candidates to maintain their position. We do not claim that increased funding equals renomination but examine if party-municipalities receive more funding after getting representation but see no clear effect of this. We keep in mind that even though our RDD estimates are imprecise, the results from the fixed effect regression are still convincing since they were robust estimates across all the different specifications.

5.5 Internal validity

If the statistical inferences about causal effects are valid for the population studied, it is said that the statistical analysis has internal validity. To have internal validity, the estimator of the causal effect should be unbiased and consistent, and hypothesis tests should have the desired significance level (Stock & Watson, 2019, p. 331). There are five potential sources for why the estimator can be biased: omitted variables, misspecification of the functional form of the regression function, imprecise measurement of the independent variables, sample selection, and simultaneously causality (Stock & Watson, 2019, p.333).

Omitted variable bias occurs when a variable that determines the dependent variable and is correlated with one of the independent variables is omitted from the regression (Stock & Watson, 2019, p. 334). In our fixed effect regression, we found a positive correlation between being represented and increased funding in the following years after an election. We suspected the fixed effect regression could have omitted variables since we can assume that other factors can affect whether a political party receives more funding or not rather than being represented earlier. We added controls such as magnitude, hometown population, but also party, period, and district fixed effects. The results were significant at all levels for all these specifications. The regression discontinuity design further examined if there existed a causal effect between party-municipalities with marginally elected candidates and increased funding. The key assumption in the RDD is that the party-municipalities with marginal candidates that got represented and the not represented are comparable. Therefore, we can assume that our RDD does not contain omitted variable bias, as seen in the balancing of the sample.

There are many possible sources of measurement errors of the independent variables (Stock & Watson, 2019, p.337). For instance, Statistics Norway reports that errors may occur when entering the different sums for each party branch into income, costs, and balance sheet posts in the reporting forms. The party branches have different levels of knowledge and quality of reporting in the forms. Some may enter a sum in the wrong category post. The reporting forms are based on gross income and costs, but some party branches may enter net values instead. This can potentially cause lower net income-

and cost values to be posted rather than gross values. But we do not think that measurement problems are a big concern here.

Sample selection bias occurs when a selection process affects the data's availability, and that process is related to the dependent variable beyond depending on the regressors (Stock & Watson, 2019, p. 340). Since there are only 169 seats in the parliament, not all local political parties will be represented, which threatens the sample selection of the fixed effect regression sample. However, when we look at the RDD with marginal candidates' sample selection bias is less prominent, as the treatment is as good as randomly assigned. Another related bias to sample selection bias is missing data (Stock & Watson, 2019, p. 339). Despite the obligation to report according to the Political Parties Act, some party branches have not reported annual accountings (SSB, n.d.-b). An additional potential source for biases can be the eligible voters' data. Statistics Norway reports that the population sizes in the election years are extracted in March/April, while the elections are held in September. There can be changes upon the election in September due to deaths, changes in citizenships, etc. (SSB, n.d.-a). We exclude some municipalities due to mergers, missing hometowns, and Oslo for being a municipality and a district. The results might have differed if these municipalities had not been excluded from the sample.

Lastly, the fifth source for threatening internal validity is simultaneously causality, which means that the dependent variable also causes the independent variable (Stock & Watson, 2019, p. 341). It is safe to say that increased funding in the years after an election that is already held will not influence local representative parties in the already held election.

Even though there are some threats to internal validity, we believe that both the fixed effect regression and RDD have satisfiable internal validity, given by the specifications of our models, controls, and balancing.

6. Conclusion

In this master thesis, we aim to answer the research question *how does political representation at the national level affect the funding of local party organizations?* We looked at the funding the local political parties receive after getting their candidates represented or not at the parliament in a given election. We hypothesized that a positive relationship exists between being represented in the parliament and the funding to the represented party-municipalities. We believed that the political parties strategically place more funding to the local political parties that have already won a seat to maintain their position in the parliament.

We find a statistically significant result of a positive correlation of .27 funding per eligible voter between being represented in parliament for the fixed effect regression. This tells us that being represented in parliament, leads to a .27 increase in funding per eligible voter to the party-municipality. The regression included fixed effects such as party, period, and district fixed effects, but also controls like hometown population and magnitude. Even with all these specifications, the result of a positive correlation remained with a low p-value, and the coefficient did not change much. We find evidence for our hypothesis that if a party-municipality is represented from a given election, this indicates increased funding to their respective local party.

Examining the party-municipalities with candidates that marginally got elected and those that did not, we find that there is higher mean funding for the party-municipalities with marginally elected candidates compared to those with none. On the other hand, in the RDD regression, we find none to minor negative effects of being represented in parliament on receiving more funding. The RDD plot shows no clear sign of a causal relationship between having marginally elected candidates and receiving more funding. This tells us that we cannot conclude whether there is a causal effect between being represented and the funding afterward when looking at the marginal candidates. To further convince us that there is a causal effect, future research could extend our RDD analysis over more years to get a larger data sample, which could give a more robust and precise answer. This could potentially provide the same results as in the fixed effects regression.

External validity is if the inferences can be generalized from the population and setting studied to other populations and settings (Stock & Watson, 2019, p. 331). Our research question is based on the Norwegian political system and therefore does not generalize easily over to other countries with different political systems and rules. The number of municipalities and seats in parliament will vary for each country. Norway is a small country in terms of population and still has many municipalities and election districts, making tracing funds to local political levels possible. This might not be as feasible for other countries. Other countries with closed list proportional election systems might be more comparable to Norway, than countries without.

Even though we did not get a precise answer of whether there exists a causal relationship between the party-municipalities with marginally elected candidates in the RDD, the results from our fixed effect regression were robust and statistically significant at any given significance level. We therefore conclude that there exists an effect of being represented in parliament from a party-municipality and receiving more funding per eligible voter. Whether or not this is to maintain their position is beyond the scope of this paper but speaks in favor of such an effect.

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Appendix

A.1 – Detailed Description of the Final Dataset

We have used the Fiva-Smith dataset (2022) as the baseline. To make the annual accounts excel files from *Partifinansiering* compatible with this dataset, we had to make some adjustments. Firstly, we imported the excel datasets into STATA-datasets to start with the adjustments. We renamed some variable names in accordance with the baseline dataset and used the party identification number to make acronyms that match the acronyms in Fiva-Smith. The structure of the annual accounts has some variations, so we had to generate total income, total public support and total income excluded public support for the years 2006-2015 (this was just simple addition of some account posts already reported). Since the title of the annual accounts contains the year, we added a variable for year to differentiate the annual accounts when all of them were appended. In 2018, the hometown identification number changed, and to keep the same municipality numbers as before, we had to use the hometown names from 2017 and merge them into the 2018, 2019 and 2020 dataset to match on the party branch names. Before merging the datasets together, we had to duplicate the Fiva-Smith dataset three more times, to make it compatible with the yearly annual accounts, as the candidates only appear every four years. After the adjustments with the annual accounts where finished we used the hometown identification number (hometownID) and party acronym to allocate the annual accounts to their respective candidates in the Fiva-Smith. We also imported the number of eligible voters from *Valgdata*. In addition to this we collected hometown population, share of females, share of kids, are size of the municipalities and the mean age for each municipality from *Statistics Norway*, using the same method as mentioned above.

We used the information from *Regjeringen* to identify the municipalities that had merged in our sample period and generated a variable that turns on for these municipalities which we later excluded when doing our regression and RDD.

A.2 – Summary Statistics of Fiva-Smith 2022 Candidate Level

	Full sample of candidates			
Elected	Yes	No	Average	Diff
Candidate characteristics				
Age	46.33	44.82	44.95	1.51
	(.41)	(.16)	(.15)	(.54)
Female	.40	.47	.47	-.07
	(.02)	(.01)	(.01)	(.02)
First year running	1999.40	2006.49	2005.86	7.10
	(.35)	(.10)	(.10)	(.35)
Hometown characteristics				
Magnitude	9.7	8.8	8.90	.85
	(.17)	(.05)	(.05)	(.18)
Population	106.18[1]	65.08[1]	68.74[1]	41.10[1]
	(7.17)	(1.82)	(1.79)	(6.26)
Town-status	.50	.34	.36	.16
	(.02)	(.01)	(.01)	(.02)
Observations	658	6,738	7,396	7,396

Notes: This the full sample of candidates from the main parties running for parliament in 2005-2017, with a hometown identification number (hometownID) from the dataset Fiva-Smith 2022. The numbers are presented with 2 decimal points. Standard errors are reported in parenthesis. The variables *female* and *town* are dummy variables that turns on for those candidates being female or having a hometown with a town status. Standard errors are reported in parenthesis. The third column is the average of the entire sample running for parliament. The diff-column is the difference between elected and not elected-column.

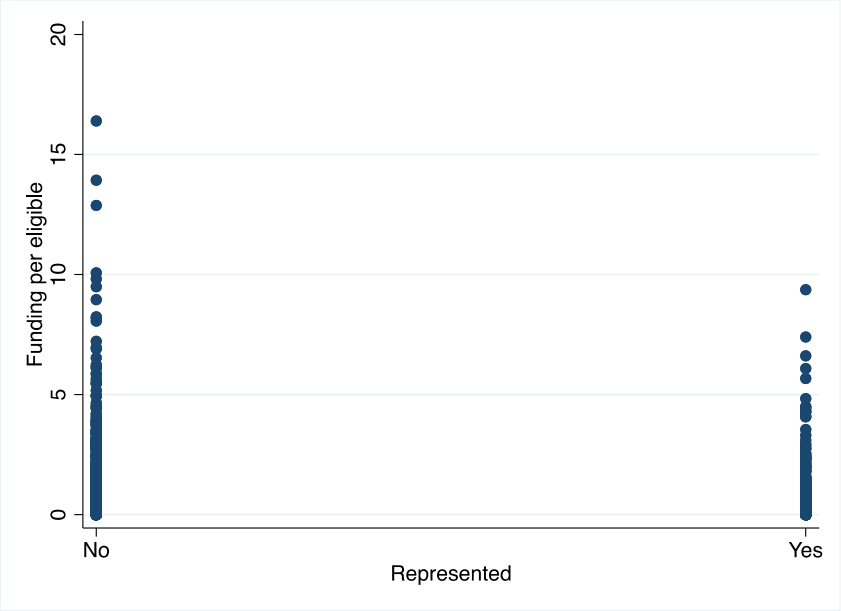
1. The population is displayed in thousands.

A.3 – Supplementary Analysis – Fixed Effects Regression

	(1)	(2)	(3)	(4)	(5)
Represented	.35***	.36***	.28***	.27***	.26***
	(.09)	(.09)	(.08)	(.08)	(.08)
Hometown population[1]		-.08			
		(.05)			
Magnitude		.01			
		(.01)			
Observations	2,584	2,584	2,584	2,584	2,584
R^2	.01	.01	.08	.09	.10
Party fixed effects	No	No	Yes	Yes	Yes
Period fixed effects	No	No	No	Yes	Yes
District fixed effects	No	No	No	No	Yes

Notes: Standard errors presented in parenthesis are clustered at the municipality level. The results are shown with two decimal points. Each observation represents a party-municipality. 1. The hometown population is shown per 100 000.
*** 1% significance level. ** 5% significance level. * 10% significance level.

A.4 – Scatter of Funding per Eligible for Regression Sample



Notes: This is a scatter over the party-municipalities with candidates running for parliament in the period 2005-2017. The vertical axis shows funding per eligible, and the horizontal axis show the Representation status of winning or losing a seat.