Party ideology and fiscal policy:

quasi-experimental evidence from the German States

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Abstract

Is government ideology important for fiscal policy? I study this question with both aggregated and disaggregated public spending data from the German States over the period 1975-2010. To identify the effect of ideology, I rely on a fuzzy regression discontinuity design. I find that aggregated expenditures under left-wing state governments are higher than under right-wing governments. An analysis for different spending categories indicates that ideological differences are particularly important for education and social expenditures. The results are consistent with the view that politicians are policy rather than office motivated.

Keywords: Government ideology, Fiscal policy, Fiscal federalism

JEL codes: D72, D78, E62, H72

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1 Introduction

Modern political parties position themselves along many policy dimensions. One source of contention between different political camps are fiscal issues. Considerable anecdotal evidence suggests that left-wing parties propose higher taxes and more redistributive spending than right-wing parties. Based on this observation, several authors have argued that fiscal policy will differ decisively according to whether left-wing or right-wing parties are in power: politicians are believed to hold firm ideological convictions which, once elected, they implement into policy (Hibbs, 1977; Besley and Coate, 1997).

However, it is unclear whether the ideology of the government really matters for fiscal outcomes. One of the main ideas in political economics is that parties converge to the position of the median voter and implement the policies preferred by her (Downs, 1957; Wittman, 1983). Pre-election rhetoric may be helpful in motivating the party base to exert effort during the campaign, but politicians in representative democracies may renege on electoral pledges with impunity. Indeed, there is also some anecdotal evidence for the notion that superficial perceptions about party ideology do not necessarily correspond to actual policies. In the US, for example, it was Clinton's democratic administration that reduced welfare entitlements in the mid-nineties while presumably fiscally conservative republican administrations often incur large deficits at the federal level.

Which of the two competing theories then describes fiscal policy making in modern democracies: does ideology matter for fiscal policy or are voter preferences the key to understanding differences in policy outcomes between governments with presumably dis-

tinct ideologies? The main difficulty in answering this question is to separate the effect of government ideology from that of voter preferences and other unobserved variables. Since ideology is not allocated randomly to political jurisdictions, confounding variables might determine both government ideology and fiscal policy.

Given that it is not feasible to conduct randomized experiments, quasi-experimental methods have to be used to identify the fiscal effects of ideology. A credible quasi-experimental method that is increasingly employed to study the causal effects of ideology is the regression discontinuity design. This method uses the fact that a particular political bloc (consisting of left- or right-wing parties) can typically form the government once it receives 50% of the seats in parliament. There is hence a discontinuity in government ideology at the 50% seat share threshold. Political jurisdictions where e. g. the left-wing party bloc has a seat share just below this threshold should exhibit similar characteristics as jurisdictions where the left-wing party bloc has just above 50% of the seats, but government ideology in the two jurisdictions will differ distinctively. Therefore, the allocation of government ideology to political jurisdictions in the neighborhood of the threshold can, under reasonably weak assumptions, be perceived as random and observed differences in policy outcomes can be ascribed to ideology.

The evidence from different regression discontinuity studies on the effects of ideology is so far ambiguous. Lee et al. (2004) find that party ideology matters for how members of the US House of Representatives vote. Similarly, Pettersson-Lidbom (2008) concludes that ideology affects fiscal and macroeconomic outcomes in Swedish municipalities. On the other hand, Ferreira and Gyorko (2009) and Gerber and Hopkins (2011) find that ideology

has a negligible effect on policies in US cities. Furdas and Kis-Katos (2010) reach the same conclusion for German cities.

That no effects of ideology are found at the municipal level in the US and Germany is not surprising. Ferreira and Gyorko (2009) note that, for example, Tiebout competition may limit partisan politics at the local level in the US. Similarly, it is generally believed that municipal councils in Germany focus on practical day-to-day issues rather than ideological battles. However, Germany and the US possess a tier of government between the municipal and the federal level: the states. Ideology may be more important at this level of government.

This paper studies with a regression discontinuity design the fiscal effects of government ideology at a subordinate yet powerful level of government. More specifically, it explores whether government ideology affects the size and composition of state expenditures[1] using a dataset that covers all 16 German states over the period 1975-2010.[2] In contrast to

[1]Given the system of fiscal federalism in Germany, only expenditures are under effective control of state governments. Revenues, on the other hand, are essentially exogenous. See below for a more comprehensive discussion.

[2] Applications of regression discontinuity designs at levels of government above municipalities are rare. One example is Leigh (2007) who studies US States and uses a regression discontinuity design in some specifications. In contrast, there is a large number of studies investigating the effect of ideology on fiscal and economic policy using different estimation frameworks, notably Besley and Case (2003) and Reed (2006) for US States and Seitz (2000), Galli and Rossi (2002), Tepe and Vanhuysse (2008), Schneider (2010), and Potrafke (2012) for German States. Imbeau et al. (2001) offer a meta-analysis of studies for OECD countries. The role of ideology for budgetary reforms in Europe is studied by Fabrizio and Mody (2010). Ideological differences in macroeconomic policies are studied by Alesina et al. (1997) and Scruggs (2001).

municipalities which typically have little political or fiscal power vis-a-vis higher tiers of government, the German States have significant political and fiscal autonomy. Moreover, almost all states have witnessed both left-wing and right-wing governments during their histories, thereby providing a rich source of between- and within-variation in government ideology even at such a high tier of government. The German States are therefore a compelling institutional laboratory to study the causal effects of ideology on fiscal policy.

A further contribution of this paper is to explore the effect of ideology for different expenditure categories. Most studies at the local level explore only the effect of ideology on aggregate (current and capital) expenditures (Pettersson-Lidbom, 2008) or on expenditures for very limited and presumably ideologically uncontentious municipal tasks such policing and fire protection (Ferreira and Gyorko, 2009). In contrast, I study in addition to aggregate expenditures various disaggregated and ideologically contentious spending categories such as education, social services, and health. The availability of disaggregated state spending data allows me to investigate whether ideology is particularly important for specific policy areas and to establish the budget priorities of governments with different ideological persuasions.

The remainder of this paper is structured as follows. The next section provides a brief description of the political and fiscal system in Germany. Section 3 presents a graphical analysis of the relationship between ideology and public expenditures. Section 4 discusses the validity of the assumption that underly the regression discontinuity design in my setting. Section 5 introduces the empirical approach. The results are collected in Section 6. Section 7 concludes.

2 The German political and fiscal system

Germany is a peculiar federation. On the one hand, the German States are highly autonomous. In many policy areas, they may act independently from the federal government. Yet, subnational autonomy does not result in large institutional differences between states. This can be explained by a stipulation in the federal constitution that demands institutional homogeneity within the federation.[3] All sixteen states are consequently constituted as unicameral parliamentary democracies.[4] Each state is governed by its own state government (there are no federal territories). Since all states have parliamentary systems, a state government needs the support of at least 50% of the delegates in the state parliament to govern. In principle a government could organize majorities on an ad hoc basis while disregarding the party affiliations of delegates, but usually there is a distinct bloc of delegates with specific party affiliations supporting the government and another bloc that comprises the opposition.

The state parliament is normally elected after the end of a regular legislative period (four or five years depending on the state), but sometimes elections are called early if a government loses the support of the majority in the state parliament. The government loses majority support if, for example, coalitions break down. The specifics of the electoral rules differ between states, but the basic structure is similar.[5] All states employ some variation

[3]Notably the so called homogeneity clause (Art. 28 Abs. 1 GG).

[4]Bavaria had a second chamber, the Senate, until 1999. However, the Senate had no meaningful political role and was abolished by a popular referendum.

[5]The following exposition draws on Freitag and Vatter (2008).

of a proportional electoral rule. Bremen, Hamburg, and Saarland use a pure proportional system. In this system, voters have one vote which they cast for their preferred party. Seats in the state parliament are allocated to the parties according to their vote share. Most states, however, employ a variant called personalized proportional system. This system works as follows. First, the state is divided into different electoral districts. Then voters are given (in most states) two votes. A fraction of the parliamentary seats (there is some variation between states but the fraction is typically 50%) is reserved to candidates who are elected in their electoral district. That is, voters in a given electoral district vote with their "first vote" for their favored candidate and the candidate with the most votes wins a seat (a *direct mandate*). In principle party affiliation does not matter for the seats allocated according to this procedure, but in practice candidates that actually win a direct mandate are affiliated with one of the major parties. The other fraction of seats is allocated according to a proportional system in which voters choose with their "second vote" closed party lists.[6] Candidates that occupy a more prominent spot on the list are more likely to receive a seat.

The total number of seats that a party receives in the state parliament is mostly determined by its share of the second votes. That is, first the number of seats that should accrue to a party according to its second vote share is calculated. These seats are then filled with the candidates that have won a direct mandate. If any seats remain, these are given to the candidates who occupy the top places on the party list. If the number of direct

[6]In some states, voters only have one vote. With this vote they choose a particular candidate in their district and simultaneously his party. See Freitag and Vatter (2008) for details.

mandates of a party exceeds the number of seats that it should receive according to its second vote share, the party receives so called *Überhangmandate* i. e. additional seats that make up the difference between the number of its direct mandates and its seats according to the second vote share. In some states, the other parties also receive additional seats (so called *Ausgleichsmandate*) if there are any *Überhangmandate* in order to ensure that the relative seat shares in the state parliament reflects the relative second vote shares. Since the second vote essentially determines electoral outcomes, I will in the following imply the second vote when I refer to the "vote".

However, the variable that determines the ideology of the government is not its share of votes but rather its share of seats. Given the electoral formulas employed in the German States, it is possible that parties or coalitions acquire 50% of the seats in parliamant while receiving less than 50% of the votes. The reason is the so called five-percent hurdle. The five-percent hurdle, which exists in all states, is an election threshold which ensures that only parties with more than five percent of votes receive seat in parliament. Given that seats have only to be divided between parties that have more than five-percent of votes, it is possible for a single party or a coalition to achieve a majority of seats and thus form a stable government with less than 50% of votes. Because of this consequence of the electoral law, I will focus on the seat share in this paper. In particular, I will treat the seat share as the forcing variable in the regression discontinuity design.

Technically, the state parliament elects a state prime minister who then forms his cabinet. While the state prime minister and the parliament may appear to have an important role in determining the government, it is in reality the parties that are decisive. If after a state

election a particular party has received more than 50% of the seats, it forms the government i. e. elects the state prime minister and chooses the cabinet in internal negotiations. If no party has on its own more than 50% of the seats, the various parties engage in negotiations with each other to form a coalition. Usually, the parties manage to form some type of coalition. New elections almost never have to be called due to the inability to agree on a government.

State governments are usually either formed by a single party or by two parties. Coalitions involving three parties have been very rare and there have been no coalitions with more than three parties. Only five parties have been of relevance in Germany during the sample period: the CDU, the SPD, the FDP, the Green Party, and the PDS. The CDU is culturally conservative and free-market oriented. The SPD is the traditional social democratic party of Germany and left-leaning. The Green Party is culturally liberal and tends to be left-leaning with respect to economic policy. The FDP is culturally liberal and pro-market. The PDS is the successor of the communist ruling party of the German Democratic Republic and is to the left of the SPD. The SPD and CDU were often referred to as "big" parties during the sample period because they each typically received 30% or more of the votes in each election. The other parties typically received less than 10% each and were therefore referred to as the small parties.

The CDU, SPD, and FDP are old parties that have existed at least since the founding of the Federal Republic in 1949.[7] The Green Party was at the end of the seventies only

[7]The SPD is much older and has a history that reaches back more than a hundred years.

a marginal element of the political spectrum and of little relevance. However, during the eighties it witnessed a spectacular rise and became well entrenched both at the state and federal level. The PDS[8] emerged after 1990 and was only relevant in East-Germany and Berlin for most of the sample period.

While the CDU is unambiguously right- and the SPD, Green Party, and PDS are unambiguously left-wing, it is not somewhat difficult to classify the FDP because it was sometimes involved in coalitions with the SPD. I nevertheless classify the FDP as a right-wing party because that it its defining feature is its pro-market stance: the FDP has always been to the right of the political spectrum with respect to economic and fiscal policy.

While the political system is similar throughout the federation, there is a lot of ideological variation both within and between states. Figure 1 presents for each state the share of the 1975-2010 period ruled by a left-wing or right-wing government or by a government with mixed ideology. Left-wing governments during the sample period are either sole SPD governments, SPD-Green Party coalitions, and SPD-PDS coalitions. Right-wing governments are either sole CDU governments or CDU-FDP coalitions. Governments with mixed ideology are those that consist of at least one left-wing and one right-wing party. In many cases, these are "big" coalitions, i. e. coalitions between the CDU and the SPD. These types of coalitions are usually only formed if the share of seats of either big parties in the state parliament combined with that of their preferred small party (FDP in the case of the CDU or the Green Party/PDS in the case of the SPD) is less than 50%. In addition

[8]The PDS merged with a small West-German party called WASG (*Arbeit & soziale Gerechtigkeit - Die Wahlalternative*) in 2007 and reconstituted itself as *Die Linke*. For simplicity, I refer to *Die Linke* as PDS in this paper.

to the big coalitions, the so called traffic light coalition (i. e. SPD-Green Party-FDP[9]) in Bremen (1992-1994) the SPD-FDP coalition in Berlin (1975-1980), Hesse (1975-1982), Lower-Saxony (1975), North Rhine-Westphalia (1975-1979) Rhineland-Palatinate (1991-2006) and Hamburg (1975-1977, 1988-1990), the CDU-Green Party coalition in Hamburg (2008-2010), and the CDU-Green Party-FDP coalition in Saarland (2010-2012) are treated as governments with mixed ideology.

The existence of governments with mixed ideology has important consequences for the empirical analysis. In particular, I analyze left-wing and right-wing governments separately because the regressions for either one are not symmetric. That is, the control group for left-wing governments always consists of right-wing governments and governments with mixed ideology. Similarly, the control group for right-wing government are both left-wing governments and governments with mixed ideology.

Figure 1 shows that all states except Bavaria have witnessed changes in government ideology during the sample period. Table 1 shows the total number of government changes during the sample period in all 16 West-German States and also the specific transitions. There were altogether 62 government changes. Changes took place in all directions.

In addition to having an understanding of the political system, it is also important to be familiar with Germany's variant of fiscal federalism to understand state level fiscal policies. The fiscal constitution of Germany gives the states significant expenditure but only minuscule tax autonomy. For all intents and purposes, the states can determine their

[9]The name of this type of coalition is derived from the party colors of the parties involved. They resemble the traffic lights in Germany (SPD is red, the Green Party is green, and the FDP is yellow).

expenditure policy without federal oversight. While all states have had balanced budget rules during the sample period, these were weak and effectively not binding.

States receive most of their revenues through shared taxes and transfers. The revenues from the most important taxes – in particular the income, value added, and corporate tax – that are collected within the territory of a state are shared with the federal government (and to a smaller extent with the municipalities). States cannot set rates or define bases for these taxes, both rates and bases are the same throughout the federation. There are also no differences in rates for most state taxes either i. e. taxes whose revenues accrue completely to the states.

There are, however, differences in the value of the existing tax bases and hence in tax revenues collected by states. To account for any differences in fiscal capacities, several transfer mechanisms have been instituted. First, a certain fraction of total value added tax revenues is siphoned off from the standard tax distribution system and given to states with below average tax revenues. In a second step, states with above average fiscal capacity pay transfers to states with below average fiscal capacity. Since the federal government is not involved at this stage of the equalization scheme, it is referred to as horizontal equalization (*Länderfinanzausgleich im engeren Sinn*). Finally, the federal government pays various vertical transfers to states with below average tax revenues (*Bundesergänzungszuweisungen*). Both horizontal and vertical transfers have the effect that available total revenues of states are typically much closer to each other than initial tax revenues: there is a marked equalization of fiscal capacities.

The system of fiscal federalism in Germany implies that state governments can autonomously decide on expenditures but not on revenues. That revenues are essentially exogenous from the perspective of state governments is the reason why I focus only on expenditures in this paper.

In contrast to the relationship between the states and the federal government, which is characterized by significant autonomy of the lower tier of government, the sub-state jurisdictions (notably the counties and municipalities) are subordinate to their respective state. Sub-state jurisdictions have some degree of fiscal autonomy. For example, the municipalities may autonomously set certain taxes and decide on spending. On the other hand, they cannot refuse to obey state stipulations regarding spending obligations. Since the sub-state jurisdictions must in many ways conform to the fiscal policy goals of the state government, I always use spending data that is consolidated between the municipal and state tier in the empirical analysis.

3 Discontinuities in spending

As a precursor to the regression discontinuity regressions, this section presents a graphical analysis of how ideology affects fiscal policy. Panel (a) of Figure 2 plots real expenditures per capita in all 16 states during the 1975-2010 period against the share of seats that left-wing parties won in the latest election.[10] The share of seats are centered at 50%, i. e. 0 indicates a 50% seat share of left-wing parties. There is a discontinuity at 0 in the *probability*

[10] All fiscal variables are deflated to the year 2005 by the national CPI.

that a left-wing government forms the government. The discontinuity in ideology is thus only fuzzy and not sharp: in some cases, the SPD chose to govern with the CDU or the FDP even if there was a left-wing majority in the state parliament. However, in most cases a left-wing seat majority entailed a left-wing government. Below the 0 threshold, governments are either right-wing or of mixed ideology. These two types of governments thus comprise the control group in this figure.

To the left and right of the threshold, local polynomial plots with different bandwidths (1, 2, and 3 percentage points) are provided. If left-wing ideology has a causal effect on fiscal policy, the plots should display a discontinuous jump at the threshold.[11] As indicated in Panel (a), there is a small jump at the threshold in expenditures for larger bandwidths, indicating that left-wing governments spend more than the control group (governments with right-wing and mixed ideology).

The figure in Panel (b) plots real expenditures per capita against the normalized right-wing seat share. There is a discontinuity at 0 in the probability that right-wing parties form the government (i. e. the discontinuity is again fuzzy instead of sharp). Note again that the plot in Panel (b) is not symmetric to Panel (a) because of the existence of governments with mixed ideology. Consequently, the control group in the figure in Panel (b) is comprised of governments of mixed and of left-wing ideology. As indicated by the local polynomial plots in this subfigure, there is for all bandwidths a discontinuous drop in expenditures once the right-wing seat share crosses the threshold. The plots hence suggest that right-wing

[11]The polynomial plots are constructed with the Epanechnikov kernel.

governments spend less than the control group (left-wing governments and governments with mixed ideology).

While the plots for aggregate spending point toward the existence of ideological effects, it is equally interesting to explore whether left-wing governments spend more than right-wing governments across the board or only in specific policy areas. Figures 3 presents plots similar to those in Panel (a) of Figure 2 for six expenditure categories. This figure relates the left-wing seat share to expenditures for (i) education, (ii) social services, (iii) health, (iv) economic promotion, (v) traffic and communications, and (vi) public safety.

The plots indicate that ideology is important for some but not all expenditure categories. Left-wing governments spend noticeably more than the control group for education, social services, economic promotion, and public safety. However, there appear to be no differences between left-wing governments and the control group with respect to expenditures for health and traffic and communications.

Figure 4 presents the corresponding graphs for right-wing governments. Right-wing governments appear to spend less than the control group for education, social services, and public safety, even though the effect is less pronounced for the two latter categories. For health and traffic and communications, there is no difference between right-wing governments and the control group. With respect to economic promotion, right-wing governments appear to spend more than the control group. The results are not complete mirror images of those for left-wing governments, but they are largely consistent. In any case, I discuss the link between ideologies and fiscal policy more formally further below. First, however, I discuss whether the assumptions underlying a valid RDD hold in my setting.

4 Validity of the regression discontinuity design

4.1 Manipulation

The validity of a regression discontinuity design relies on several assumptions. An important one is that agents do not have the ability to precisely manipulate the forcing variable. This assumption is most likely fulfilled in my setting. Parties should be unable to manipulate electoral outcomes given the strong democratic institutions in Germany. In particular, elections are administered by independent bureaucrats rather than by the state governments. Coordination of voters is impractical as well at state elections.

Nevertheless, one possibility to test the no-manipulation assumption formally is the McCrary test. The test relies on the idea that if there is precise manipulation, the assignment variable should exhibit discontinuities at the threshold. For example, the empirical density of left-wing seat shares just below 50% should be much smaller than the density of left-wing seat shares above 50% if there is manipulation in favor of left-wing parties. Figure 5 provides McCrary plots for left-wing and right-wing seat shares, respectively.

As noted by McCrary (2008), the test is sensitive to the choice of bandwidths and bin sizes. I therefore construct for the left-wing and right-wing seat shares three graphs with different bandwidths and bin sizes in Figure 5. Using the default values for the bandwidth and bin size results in a discontinuity for the left-wing seat share. However, the discontinuity vanishes for smaller bandwidths and bin sizes. For right-wing seat share, the default values indicate no discontinuities at the threshold but there appear to be discontinuities for smaller bandwidths and bin sizes. While the test indeed appears to

be sensitive to the choice of bandwidths and bin sizes, there is no strong evidence for manipulation.

However, given the ambiguity of the McCrary plots I additionally implement an alternative method to check for manipulation. The idea is that if there is any manipulation at all, it is most likely to originate from the incumbent government. Left-wing and right-wing incumbent governments might be capable to precisely manipulate close elections such that the left-wing or right-wing seat share, respectively, is just above 50% while the opposition party cannot do so (Grimmer et al., 2011). Panel (a) and (b) of Figure 6 plot the left-wing and right-wing margins of victory/defeat in a given election (normalized such that 0 is 50%) against the ideology of the state government in the previous legislative period. This figure reveals that the left-wing seat share is more likely to be above 50% when the current incumbent is left-wing and that the right-wing seat share is more likely above 50% if the incumbent is right-wing. However, this pattern is expected and can be explained either by an incumbency advantage or the long-run propensity of a state to vote either for left-wing or right-wing parties. Conclusive evidence for manipulation would require that close elections are much more likely to be won by the incumbent parties. Yet the figures provide no such evidence. Panel (a) shows that within one to three percentage point bandwidths around 0, the number of close victories by left-wing parties is similar to the number of victories of right-wing parties if the incumbent government is left-wing. The same conclusion can be reached on the basis of Panel (b) for right-wing incumbents.

4.1.1 Discontinuities in pre-treatment control variables

Another critical assumption of the regression discontinuity design is that there are no discontinuities in pre-treatment variables at the threshold. If there are such discontinuities, the identification strategy could be questioned: any effect associated with ideology could also be explained by the discontinuities in the pre-treatment variables.

The standard approach to establish whether this assumption holds is to plot pre-treatment control variables against the forcing variable. Figure 7 plots four pre-treatment control variables against the left-wing seat share. The four control variables are real state GDP per capita, state unemployment rate, the share of inhabitants over 65, and the share of inhabitants below 15.[12] Each data point in the four subfigures refers to the average value of the respective control variable in the previous legislative period.[13] As indicated in the figure, there are no significant discontinuities at the thresholds. The plots to the left and to the right merge almost seamlessly. Figure 8 reports the corresponding plots for the right-wing seat share. As in the plots in Figure 7, no significant discontinuities are visible. Nevertheless, I report further below also regressions where I explicitly control for these variables.

[12]The definition and source of all variables can be found in Table A.1. Summary statistics are provided in Table A.2. Both tables are in the appendix.

[13]More specifically, assume that the election takes place in year t and that the next legislative period runs from t to t+5. Assume furthermore that the previous legislative period ran from t-5 to t-1. Then the pre-treatment value of GDP per capita for the period t to t+5 is the average during the period t-5 to t-1.

5 Empirical model

The figures reported in Section 3 give a first impression regarding the fiscal effects of ideology. In this section, I study the effect econometrically by estimating local linear regressions with bandwidths of different sizes. The basic model for left-wing governments is:

$$\begin{aligned} y_{i,t} =& \beta_1 \text{Left}_{i,t} + \beta_2 f(\text{Left seat share}_{i,t}) + \beta_3 \text{Left}_{it} \times f(\text{Left seat share}_{i,t}) \\ &+ \alpha_i + \gamma_t + \epsilon_{i,t}. \end{aligned} \tag{1}$$

The corresponding model for right-wing governments is:

$$\begin{aligned} y_i =& \beta_1 \text{Right}_{i,t} + \beta_2 f(\text{Right seat share}_{i,t}) + \beta_3 \text{Right}_{it} \times f(\text{Right seat share}_{i,t}) \\ &+ \alpha_i + \gamma_t + \epsilon_{i,t}. \end{aligned} \tag{2}$$

In these models y_i is either total real state expenditures per capita or real expenditures per capita for the six expenditure categories , *Left* and *Right* are dummies for either left-wing or right-wing state governments, respectively. *f(Left seat share)* and *f(Right seat share)* are flexible polynomials of the share of seats obtained by left-wing or right-wing parties in the last election, respectively. $Left_{it} \times \text{f}(Left\ seat\ share)_{i,t}$ and $Right_{it} \times \text{f}(Right\ seat\ share_{i,t})$ are interaction variables between the ideology dummy and the polynomials of the respective seat share. Consequently, the seat share of left-wing and

right-wing parties is allowed to have different slopes below and above the threshold. ϵ_{it} is the error term.

The variables of interest are the $Left$ and $Right$ dummies, which capture the ideology of the state government. As indicated above, there is no deterministic relationship between the share of left-wing seats and $Left$ and the share of right-wing seats and $Right$: sometimes the SPD chooses to form a government with the CDU or the FDP even if there is a left-wing majority and the CDU chooses to form a government with the SPD even if there is a right-wing majority. Consequently, I use a fuzzy regression discontinuity design. I instrument the $Left$ dummy with a dummy variable that is 1 if the left-wing seat share is above 50% and 0 else. Similarly, I instrument the $Right$ dummy with a dummy variable that is 1 when the right-wing seat share is above 50% and 0 else. Thus, I run two stage least squares on subsamples covering observations within specific bandwidths around the threshold. This approach is equivalent to local linear regressions with a rectangular kernel.

I estimate Models 1 and 2 using both relatively large windows (up to 10 percentage points) and correspondingly flexible polynomials (up to a cubic) of seat shares and relatively small windows (up to 3 percentage points) and a linear control function. The models with large windows correspond to a parametric RDD, where the flexible polynomial of seat share is supposed to control for all continuous effects correlated with seat share. Allowing for larger windows increases sample size, but comes at the cost of possible bias if the control function is misspecified. The models with smaller windows correspond to traditional non-parametric RDD designs. The possible drawback of this approach is large sampling variability because of the limited number of observations.

While pre-treatment control variables are in principle not necessary in regression discontinuity designs, they can reduce the variance of the estimates and guard against bias in small samples (Hoxby, 2000). Therefore, I include in all regressions state (α_i) and year (γ_t) fixed effects. As indicated above, I also report models with additional state-specific but time-varying control variables. As the state and year fixed effects, time-varying control variables are in principle not necessary in an RDD framework, but can help to reduce bias and sampling variability in small samples. As control variables, I use those variables that were already considered in Figures 7 and 8. More specifically, I include the average value in the previous legislative period of: the real GDP per capita, the unemployment rate, the share of below 15-year old, and the share of over 65-year old.

In addition, I include total real transfer receipts per capita as a control variable. Transfer receipts is defined as the sum of horizontal and vertical transfer receipts. For states that are net-payers into the horizontal equalization scheme in a given year, this variable is 0. Controlling for transfer receipts might be important because they are a crucial determinant of fiscal outcomes. At the same time, transfers might be affected by the ideology of the state government because they are ultimately decided in negotiations between the federal and state governments. The federal government (and other states) might be prepared to support higher transfers to states with the same ideology. Alternatively, the federal government might feel less compelled to grant transfers to states with the same ideology because it might take their political support as granted.

6 Results

6.1 Total expenditures

Table 2 presents the baseline RDD results regarding the effect of left-wing governments on total expenditures. Results for models with and without time-varying control variables are reported. The local linear regressions are conducted for bandwidths of 10, 7, 5, 4, and 3 percentage points. In the regressions with a bandwidth of 10, I use a cubic polynomial of the left-wing seat share as control function. In the regressions with a bandwidth of 7, I use a quadratic polynomial. For the smaller bandwidths, I rely on linear control functions. Since I employ a fuzzy regression discontinuity design, I report the Kleibergen-Paap Weak Identification F statistic at the bottom of the regression table. For the regressions reported in Table 2, this test statistic is always sufficiently large, suggesting that the instrument is strong. For hypothesis tests, I always use heteroscedasticity robust standard errors and cluster at the level of the current legislative period. That is, all observations on expenditures and deficits in a given legislative period are perceived as being part of the same cluster.

The results for total expenditures confirm the graphical analysis in Section 3. The coefficient for the left-wing dummy is always positive, both in models with and without time-varying control variables. The coefficient is not significant when no control variables are included, but the corresponding z-statistics are typically large. The estimates suggest that left-wing governments spend between 200 to 400 Euros more than right-wing

governments and governments with mixed ideology. With control variables included, the coefficient turns significant in some regressions.

The corresponding results for right-wing governments, too, are consistent with the graphical analysis. Right-wing governments spend significantly less than the control group. The estimate is significant and generally between -350 to -800 Euro in the regressions without control variables. The exception is Model III, where the coefficient is relatively small in absolute terms (-130 Euro) and insignificant. An explanation for this exception is that a linear control function is insufficient to control for all non-linearities given the relatively wide bandwidth of 5. Similarly, a coefficient estimate of -800 when a bandwidth of 3 is chosen seems very large given that average real expenditures per capita are around 3800 Euros, and can presumably be explained by sampling variability. With control variables, the coefficient continues to be negative and usually significant. However, the estimate is very large when a bandwidth of 3% is used (about -2200 Euro), which suggests once more high sampling variability in models with small bandwidths.

6.2 Expenditure categories

Table 3 presents regressions that relate left-wing ideology to different expenditure categories. The structure of the table generally resembles that of Table 2. However, I omit the diagnostic statistics for brevity.

Left-wing governments appear to spend significantly more for education than the control group. When no control variables are included, the coefficient displays a small negative

(but insignificant) sign when a bandwidth of 10 is used. But for smaller bandwidths, the estimate turns positive and is highly significant. In general, the results suggest that left-wing governments spend around 75 Euros more for education than the control group. The results become even clearer when the control variables are included. In these models, the coefficient for left-wing governments is consistently positive and around 70 Euros. The exception is the last model where a bandwidth of 3% is used. In this model, the coefficient is around 145 Euros.

Similar results are found for the effect of left-wing ideology on expenditures for social services. The estimated coefficient is positive for all bandwidths, but only significant in Model IV when no control variables are included. In the models with control variables, however, the coefficient is generally significant and positive. The estimates suggest that left-wing governments spend between 40 to 130 Euros more than the control group.

While less strong as for education and social services, there is also some evidence that left-wing governments spend more on economic promotion and for traffic and communications. The coefficient is in general positive but only rarely significant. For spending on public safety, the coefficient is negative in the first two but positive in the last three models when no control variables are included. With control variables, the coefficient is consistently positive, but again only significant in the models with narrower bandwidths.

Finally, the coefficient is negative but insignificant in four out of five models for health spending when no control variables are included. Even with control variables, the coefficient is erratic and changes signs between models. It is hence difficult to derive a meaningful conclusion for health expenditures.

Table 4 presents the corresponding estimates for right-wing governments. The results largely mirror those for left-wing governments. Spending for education is noticeably lower when a right-wing government is in power. Negative spending effects are also observable for social services, economic promotion and traffic and communications for either very flexible polynomials or very narrow bandwidths. Spending for public safety also appears to be lower under right-wing governments, but the coefficient is generally insignificant.

As for left-wing governments, ambiguous results are found for health spending. The estimated coefficient is in absolute terms very large and significant in Model I, but it declines, changes signs, and is generally insignificant in subsequent models.

Overall, conclusive evidence for ideological effects are found for education and social expenditures. While the estimates are not as unambiguous as for education and social services, it also appears for most of the remaining expenditure categories that left-wing governments spend more and right-wing governments spend less than the respective control groups. The only clear exception is health care, where no clear differences between left-wing and right-wing governments can be identified. It is also noteworthy that not all estimates are in line with the graphical evidence presented in Figure 3: for economic promotion, the graphs suggest that right-wing governments spend more than the control group while the regressions indicate no or even a negative effect of right-wing ideology.

7 Conclusion

I study the effect of ideology on fiscal policy. To identify the effect of ideology, I use a fuzzy regression discontinuity design. The estimates suggest that left-wing governments spend more and right-wing governments less than their respective control groups, both for aggregate and individual spending categories. With respect to the spending categories, evidence for ideological differences is particularly strong for education and social expenditures.

These results confirm that ideology has a significant effect on the fiscal policy of the German States. That ideology is important for fiscal outcomes is on the one hand reassuring. It indicates that by choosing different political parties, voters have the ability to change the fiscal trajectory of their state. On the other hand, it is also possible to interpret this finding in a negative light. That fiscal policy at the state level is subject to ideological considerations may indicate inefficient policy choices and sub-optimal fiscal outcomes. It appears that in Germany, ideological battles with respect to fiscal policy are being fought at the state level.

References

Alesina, A., N. Roubini, and G. Cohen (1997). *Political cycles and the macroeconomy.* Cambridge: MIT Press.

Besley, T. and A. Case (2003). Political institutions and policy choices: empirical evidence from the United States. *Journal of Economic Literature 41*, 7–73.

Besley, T. and S. Coate (1997). An economic model of representative democracy. *Quarterly Journal of Economics 112*, 85–114.

Downs, A. (1957). *An economic theory of democracy*. Addison-Wesley.

Fabrizio, S. and A. Mody (2010). Breaking the impediments to budgetary reforms: evidence from Europe. *Economics & Politics 22*, 362–391.

Ferreira, F. and J. Gyorko (2009). Do political parties matter? Evidence from U.S. cities. *Quarterly Journal of Economics 124*, 399–422.

Freitag, M. and A. Vatter (2008). *Die Demokratien der deutschen Bundesländer*. Stuttgart: Verlag Barbara Budrich Opladen & Farmington Hills.

Furdas, M. and K. Kis-Katos (2010). Does partisanship affect local fiscal policies? Mimeo (University of Freiburg).

Galli, E. and S. Rossi (2002). Political business cycles: the case of the Western German Länder. *Public Choice 110*, 283–303.

Gerber, E. R. and D. J. Hopkins (2011). When mayors matter: estimating the impact of mayoral partisanship on city policy. *American Journal of Political Science 55*, 326–329.

Grimmer, J., E. Hersh, B. Feinstein, and D. Carpenter (2011). Are close elections random? Mimeo (Universities of Stanford and Harvard).

Hibbs, D. (1977). Political parties and macroeconomic policy. *American Political Science Review 71*(4), 1467–87.

Hoxby, C. (2000). The effects of class size on student achievements: new evidence from population variation. *Quarterly Journal of Economics 115*, 1239–1985.

Imbeau, L., F. Petry, and M. Lamari (2001). Left-wing party ideology and government policies: a meta-analysis. *European Journal of Political Research 40*, 1–29.

Lee, D. S., E. Moretti, and M. Butler (2004). Do voters affect or elect policies? evidence from the U.S. House. *Quarterly Journal of Economics 199*, 807–859.

Leigh, A. (2007). Estimating the impact of gubernatorial partisanship on policy settings and economic outcomes: a regression discontinuity approach. *Europeam Journal of Political Economy 24*, 256–268.

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

Pettersson-Lidbom, P. (2008). Do parties matter for economic outcomes? a regression-discontinuity approach. *Journal of the European Economic Association 6*, 1037–1056.

Potrafke, N. (2012). Economic freedom and government ideology across the German States. *Regional Studies forthcoming*.

Reed, W. R. (2006). Democrats, Republicans, and taxes: evidence that political parties matter. *Journal of Public Economics 90*, 725–750.

Schneider, C. (2010). Fighting with one hand tied behind the back: political budget cycles in the West-German states. *Public Choice 142*, 125–150.

Scruggs, L. (2001). The politics of growth revisited. *Journal of Politics 63*, 120–140.

Seitz, H. (2000). Fiscal policy, deficits, and politics of subnational governments: the case of the German Länder. *Public Choice 102*(3-4), 183–218.

Tepe, M. and P. Vanhuysse (2008). Educational business cycles: the political economy of teacher hiring across German States, 1992-2004. *Public Choice 139*, 61–82.

Wittman, D. (1983). Candidate motivation: a synthesis of alternative theories. *American Political Science Review 72*, 142–157.

Table 1: Changes of German state governments

Changes	Number
Total	62
Left to Left	6
Right to Right	10
Mixed to Mixed	1
Left to Right	7
Right to Left	7
Left to Mixed	6
Right to Mixed	9
Mixed to Left	10
Mixed to Right	6

This table presents the number and type of changes in German state governments during the 1975-2010 period. Left to Left government changes are, for example, a change from a sole SPD government to a SPD-Green Party government. A Right to Right government change could be change from a CDU-FDP government to a sole CDU government.

Table 2: Ideology and fiscal policy, Total expenditures, German States 1975-2010, Fuzzy RDD, Left-wing governments

	I	II	III	IV	V
			Left-wing governments		
			Without control variables		
Left	191.236	343.807	217.722*	274.507**	322.349
	(346.787)	(217.168)	(118.665)	(131.966)	(205.569)
Kleibergen-Paap Weak ID F	7.523	17.396	57.588	53.030	44.740
Clusters	88	63	49	40	34
Observations	337	239	188	153	134
			With control variables		
Left	367.910*	248.412	151.472	238.391**	367.622
	(210.029)	(162.529)	(96.833)	(107.828)	(272.568)
Kleibergen-Paap Weak ID F	9.266	15.652	52.344	40.914	16.287
Clusters	77	56	45	38	33
Observations	300	212	173	147	131
			Right-wing governments		
			Without control variables		
Right	-490.712*	-344.506*	-229.001*	-531.582***	-778.734***
	(252.151)	(179.544)	(125.972)	(135.035)	(201.845)
Kleibergen-Paap Weak ID F	24.580	30.735	33.535	67.679	34.739
Clusters	88	62	46	37	30
Observations	337	239	179	145	121
			With control variables		
Right	-317.614	-373.932**	-213.958	-688.029***	-2184.539***
	(267.592)	(180.931)	(150.821)	(195.604)	(723.670)
Kleibergen-Paap Weak ID F	10.116	28.370	22.921	39.269	8.176
Clusters	77	55	42	35	29
Observations	300	212	164	139	118
Bandwidth	10%	7%	5%	4%	3%
Polynomial	Cubic	Quadratic	Linear	Linear	Linear

This table presents fuzzy RDD regressions relating state real expenditures per capita to whether the government is left-wing. Results for different bandwidths and polynomials of the control function are reported. Standard errors are given in parentheses. Standard errors are clustered at the level of a legislative period (all years in a particular legislative period belong to the same cluster) and are robust to heteroscedasticity. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). All models include state and year fixed effects. Models with control variables additionally include the following pre-treatment variables (i. e. averaged over the previous legislative period): real GDP per capita, unemployment rate, share of over 65 year old, and share of under 15 year old. Contemporaneous total real transfers per capita are also included as control variable. All models are estimated with TSLS: the endogeneous variable is whether a state government is left-wing. The exogeneous instrument is whether the left-wing party seat share is over 50%. Weak identification is tested with the Kleibergen-Paap F statistic.

Table 3: Ideology and fiscal policy, Expenditure categories, German States 1975-2010, Fuzzy RDD, Left-wing governments

	I	II	III	IV	V
			Education		
			Without control variables		
Left	-36.337	43.903	77.547***	81.572***	81.270***
	(77.367)	(34.847)	(24.318)	(25.098)	(24.507)
			With control variables		
Left	78.220	73.965**	75.989***	76.895***	144.516***
	(51.393)	(31.910)	(16.491)	(16.067)	(33.502)
			Social services		
			Without control variables		
Left	87.038	7.900	35.057	53.808**	42.118
	(93.346)	(46.228)	(23.708)	(26.722)	(26.033)
			With control variables		
Left	131.649**	43.628	39.570**	69.370***	76.878*
	(65.068)	(32.530)	(16.570)	(15.694)	(39.356)
			Health		
			Without control variables		
Left	-148.169	-33.331	11.206	-7.017	-30.340
	(99.718)	(42.949)	(20.211)	(20.380)	(21.760)
			With control variables		
Left	-55.361	-10.786	1.751	-2.525	31.564**
	(37.844)	(20.435)	(8.983)	(8.551)	(12.304)
			Economic promotion		
			Without control variables		
Left	77.412	17.250	-3.555	13.452	27.325
	(57.518)	(20.578)	(14.676)	(17.588)	(21.696)
			With control variables		
Left	37.449	13.958	3.833	15.117	71.987***
	(34.016)	(15.158)	(10.692)	(11.725)	(19.129)
			Traffic and communications		
			Without control variables		
Left	27.980	10.004	15.325	19.082*	18.209
	(26.167)	(16.327)	(11.986)	(10.729)	(11.656)
			With control variables		
Left	45.069	9.995	7.087	15.741*	63.545***
	(29.212)	(16.686)	(9.003)	(9.288)	(22.726)
			Public safety		
			Without control variables		
Left	-19.211	-3.743	15.992**	18.177**	15.334*
	(25.904)	(12.398)	(7.530)	(7.213)	(9.002)
			With control variables		
Left	3.192	5.761	15.305***	19.457***	20.477**
	(14.396)	(8.324)	(3.947)	(4.306)	(9.054)
Bandwidth	10%	7%	5%	4%	3%
Polynomial	Cubic	Quadratic	Linear	Linear	Linear

This table presents fuzzy RDD regressions relating real expenditures per capita for different spending categories to whether the government is left-wing. Results for different bandwidths and polynomials of the control function are reported. Standard errors are given in parentheses. Standard errors are clustered at the level of a legislative period (all years in a particular legislative period belong to the same cluster) and are robust to heteroscedasticity. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). All models include state and year fixed effects. Models with control variables additionally include the following pre-treatment variables (i. e. averaged over the previous legislative period): real GDP per capita, unemployment rate, share of over 65 year old, and share of under 15 year old. Contemporaneous total real transfers per capita are also included as control variable. All models are estimated with TSLS: the endogeneous variable is whether a state government is left-wing. The exogeneous instrument is whether the left-wing party seat share is over 50%.

Table 4: Ideology and fiscal policy, Expenditure categories, German States 1975-2010, Fuzzy RDD, Right-wing governments

	I	II	III	IV	V
			Education		
			Without control variables		
Right	-23.409	-36.378	-103.778***	-123.987***	-126.167***
	(52.763)	(33.880)	(38.186)	(33.287)	(31.651)
			With control variables		
Right	90.251	-34.031	-53.125**	-102.701***	-245.716**
	(80.222)	(33.379)	(26.628)	(29.992)	(96.185)
			Social services		
			Without control variables		
Right	-74.292	18.534	18.411	-23.281	-0.128
	(60.902)	(37.246)	(38.954)	(32.735)	(32.587)
			With control variables		
Right	-141.123*	-22.070	-24.435	-111.246***	-150.258
	(84.787)	(37.536)	(28.490)	(36.639)	(107.990)
			Health		
			Without control variables		
Right	96.035*	36.141	-25.024	-21.886	29.412
	(52.611)	(30.905)	(19.723)	(22.667)	(32.885)
			With control variables		
Right	88.725*	26.194	3.967	-14.810	-47.785**
	(45.944)	(17.365)	(13.233)	(14.104)	(22.468)
			Economic promotion		
			Without control variables		
Right	-46.498	-11.345	-0.705	-13.105	-36.561*
	(33.998)	(10.382)	(11.381)	(15.341)	(21.796)
			With control variables		
Right	-75.377*	-1.924	0.242	-10.054	-128.396**
	(39.844)	(11.181)	(12.750)	(18.477)	(53.012)
			Traffic and communications		
			Without control variables		
Right	-38.951*	-21.022	-32.782**	-31.806**	-32.443**
	(19.972)	(16.131)	(15.512)	(12.666)	(13.821)
			With control variables		
Right	-50.596	-10.713	-14.414	-29.111*	-174.652***
	(32.146)	(17.227)	(12.025)	(17.380)	(59.379)
			Public safety		
			Without control variables		
Right	-16.825	2.622	-11.271	-22.043**	-22.042**
	(21.561)	(10.919)	(11.242)	(9.464)	(10.668)
			With control variables		
Right	-4.266	12.957	10.478	7.519	-22.575
	(28.862)	(19.060)	(15.485)	(19.289)	(39.027)
Bandwidth	10%	7%	5%	4%	3%
Polynomial	Cubic	Quadratic	Linear	Linear	Linear

This table presents fuzzy RDD regressions relating real expenditures per capita for different spending categories to whether the government is right-wing. Results for different bandwidths and polynomials of the control function are reported. Standard errors are given in parentheses. Standard errors are clustered at the level of a legislative period (all years in a particular legislative period belong to the same cluster) and are robust to heteroscedasticity. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). All models include state and year fixed effects. Models with control variables additionally include the following pre-treatment variables (i. e. averaged over the previous legislative period): real GDP per capita, unemployment rate, share of over 65 year old, and share of under 15 year old. Contemporaneous total real transfers per capita are also included as control variable. All models are estimated with TSLS: the endogeneous variable is whether a state government is right-wing. The exogeneous instrument is whether the right-wing party seat share is over 50%.

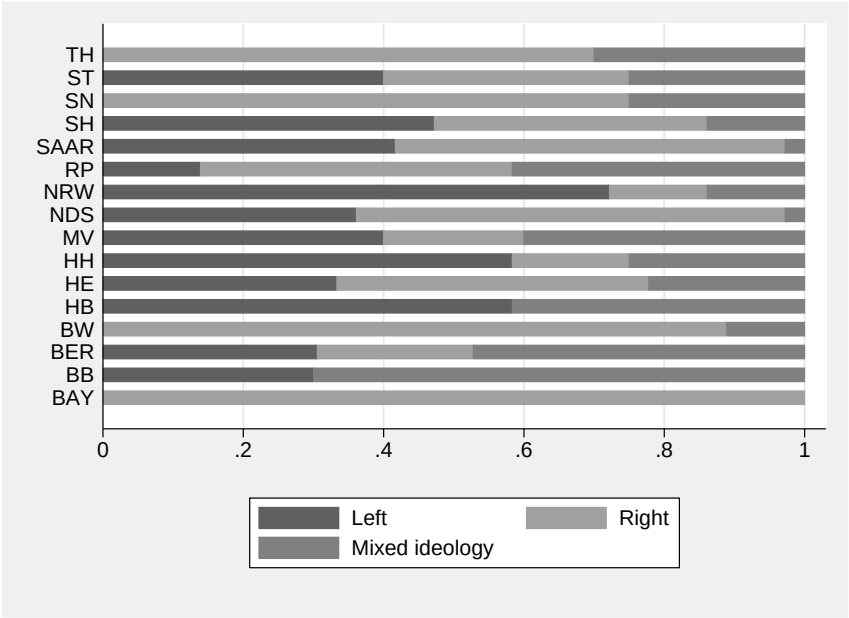
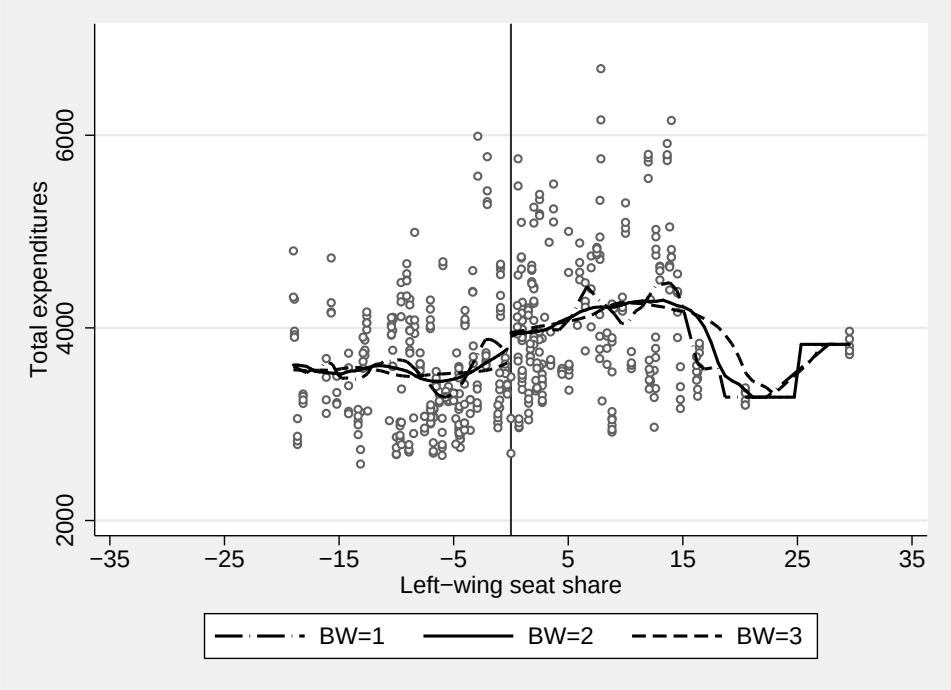
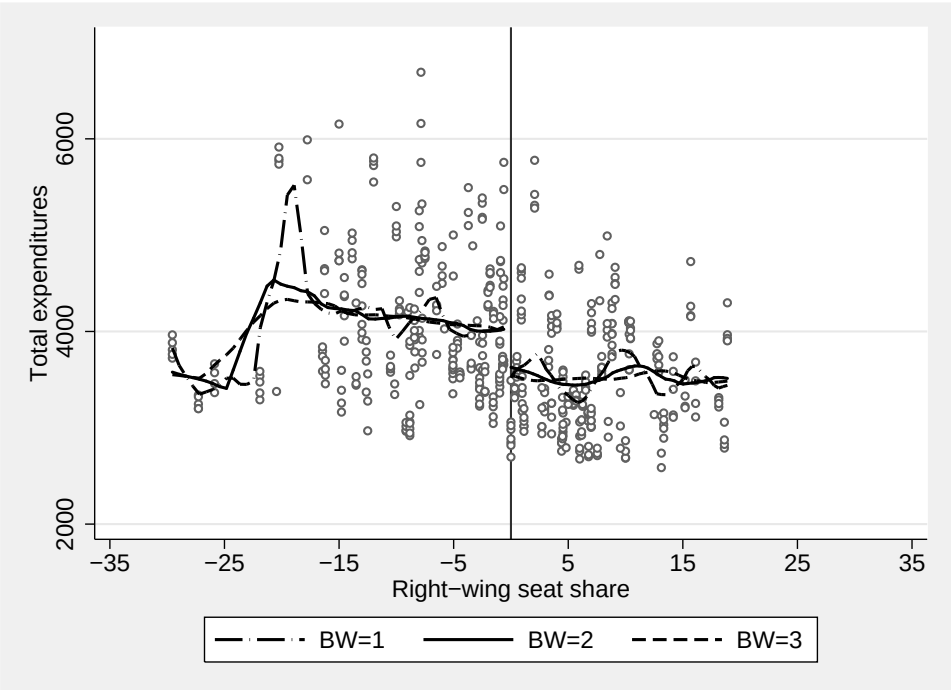


Figure 1: IDEOLOGY OF STATE GOVERNMENTS. This figure shows for each of the 16 German States the fraction of the 1975-2010 period in which either a left-wing or right-wing government or a government with mixed ideology was in power. Note that for the East-German states, the sample period is 1991-2010. The 16 states are North Rhine-Westphalia (NRW), Bavaria (BAY), Baden-Wuerttemberg (BW), Lower-Saxony (NDS), Hesse (HE), Saxony (SN), Rhineland-Palatinate (RP), Berlin (BER), Hamburg (HH), Schleswig-Holstein (SH), Brandenburg (BB), Saxony-Anhalt (ST), Thuringa (TH), Mecklenburg-Western Pomerania (MV), Saarland (SAAR), Bremen (HB).

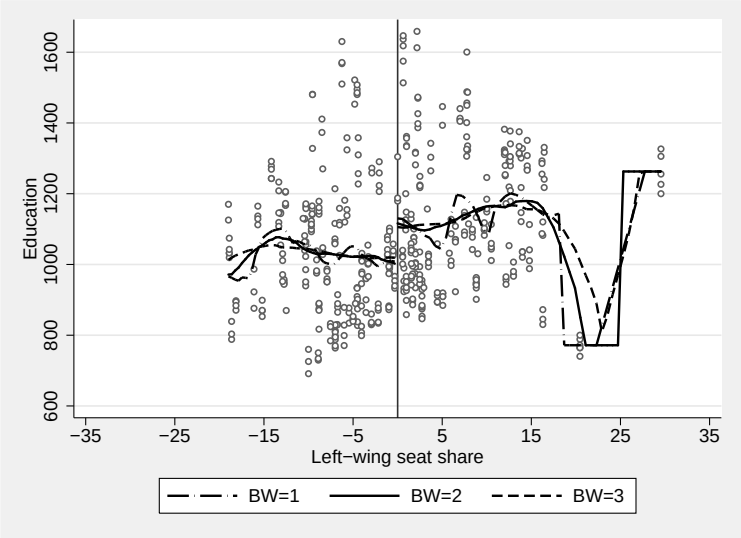


(a) Left-wing seat share

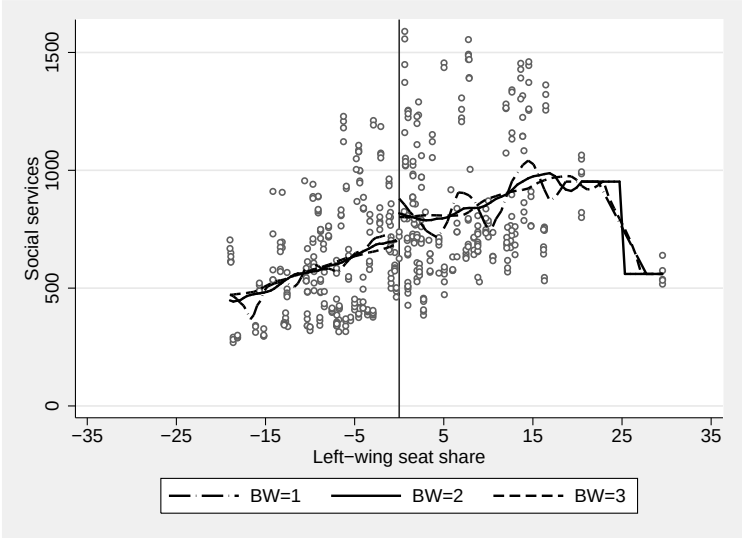


(b) Right-wing seat share

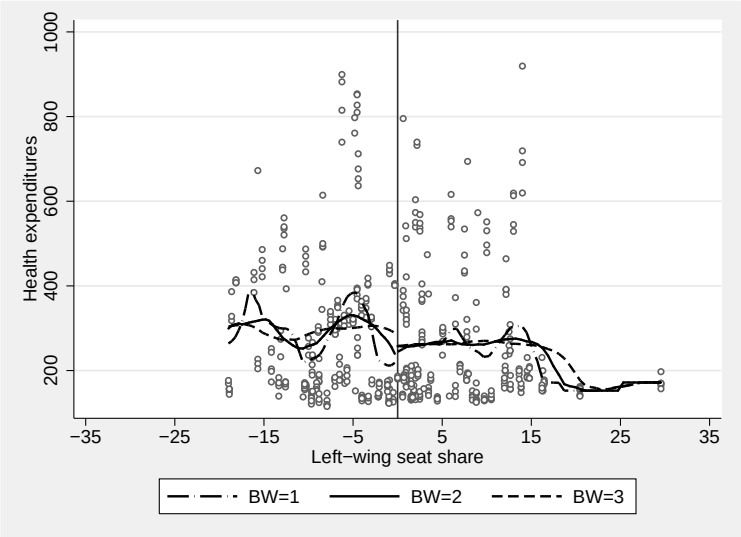
Figure 2: Seat share of left- and right-wing parties and state real expenditures per capita. This graph presents plots of expenditures against the share of seats held by left- and right-wing parties in state parliaments. Separate local polynomial plots are presented at both sides of the 50% threshold. Plots are constructed with different bandwidths: 3, 2, and 1. Both plots use the Epanechnikov kernel.



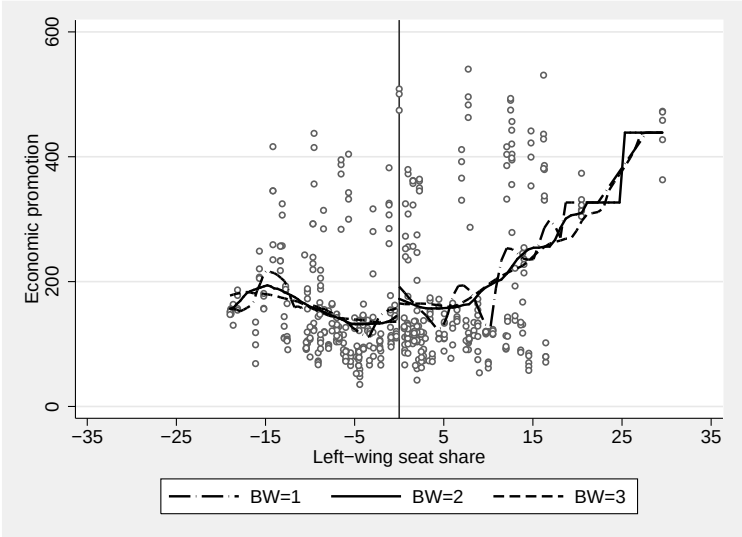
(a) Education



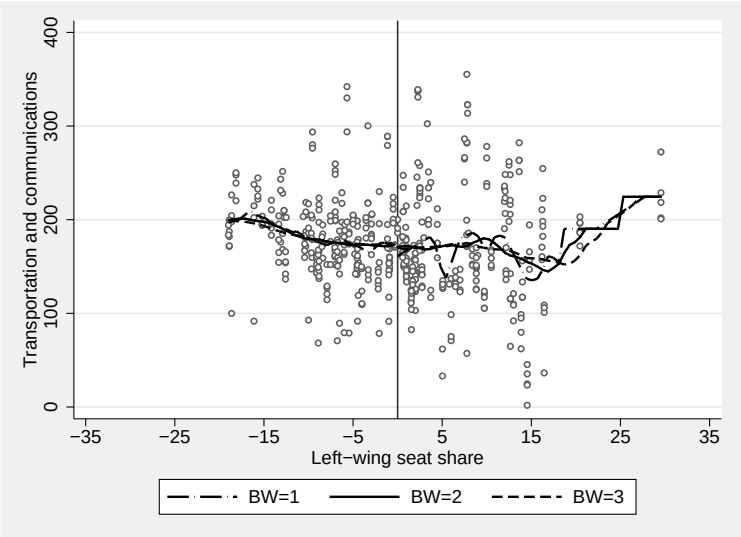
(b) Social services



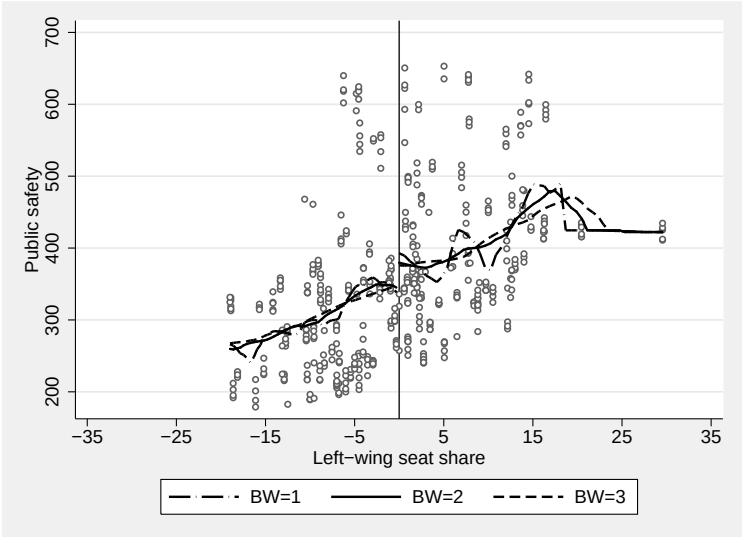
(c) Health



(d) Economic promotion

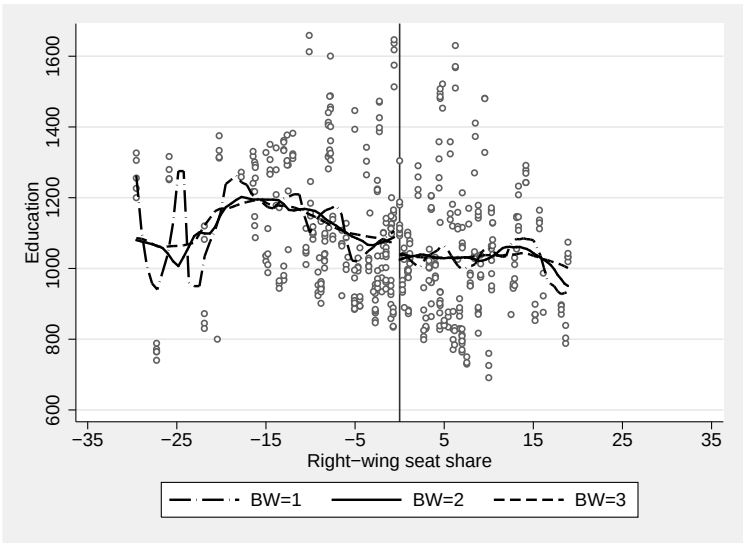


(e) Traffic and communications

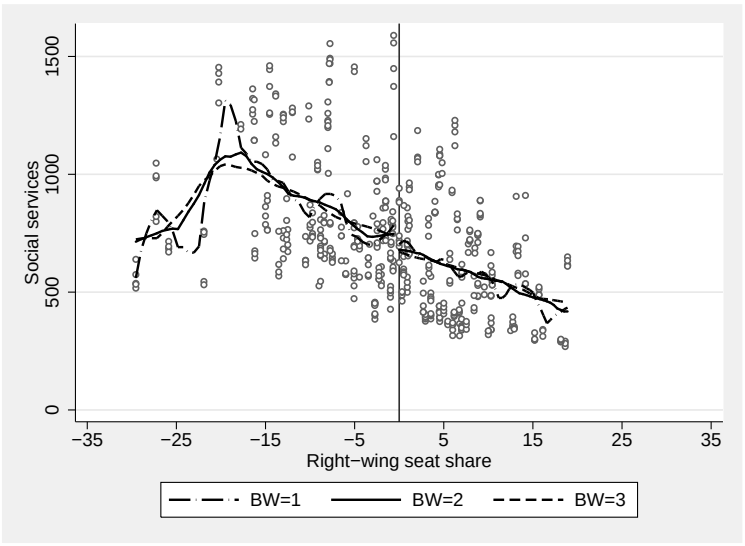


(f) Law and order

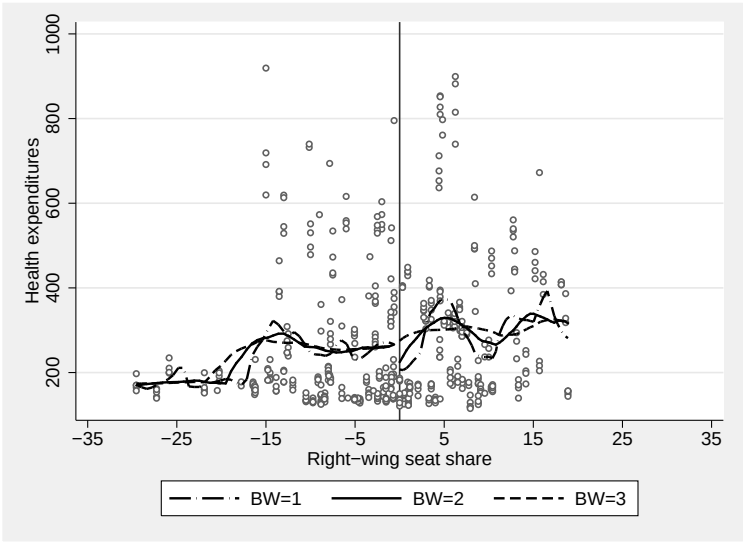
Figure 3: Seat share of left-wing parties and expenditures per capita on various spending categories. This graph presents plots of the left-wing seat share against expenditures per capita for different spending categories. Separate local polynomial plots are presented at both sides of the 50% threshold. Plots are constructed with different bandwidths: 3, 2, and 1. All plots use the Epanechnikov kernel.



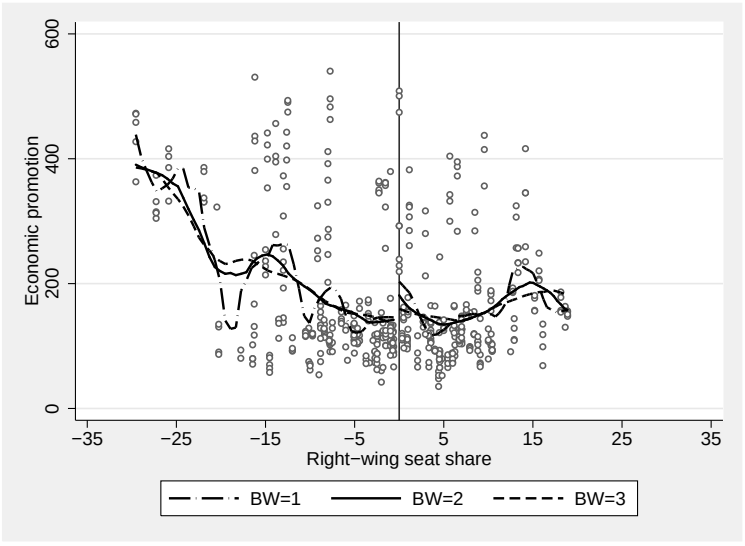
(a) Education



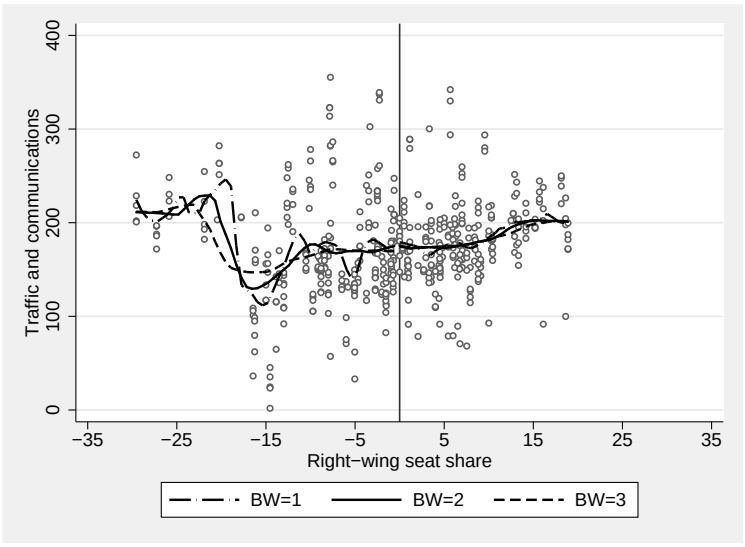
(b) Social services



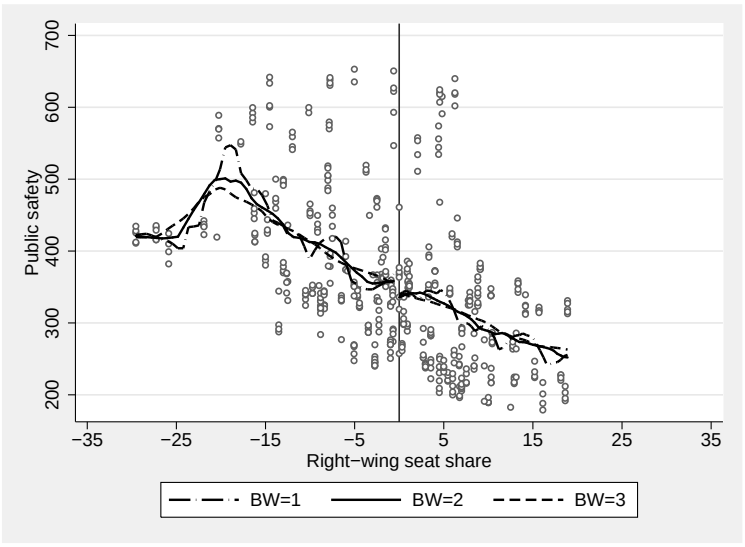
(c) Health



(d) Economic promotion

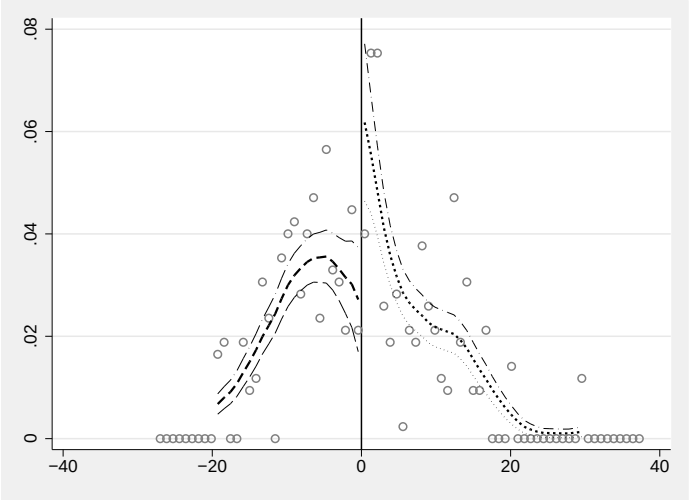


(e) Traffic and communications

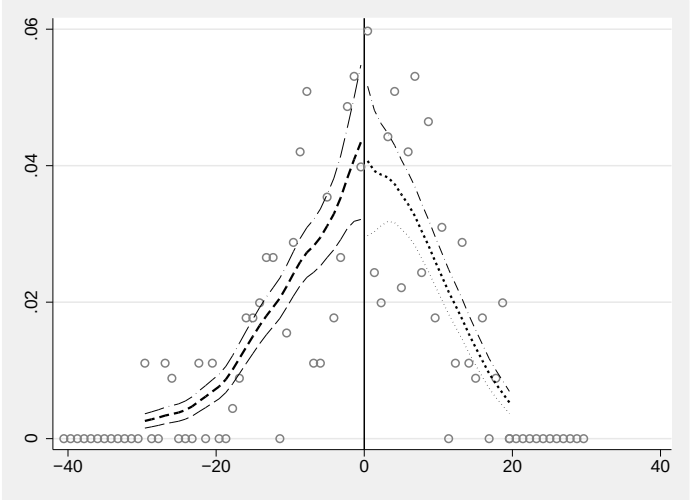


(f) Law and order

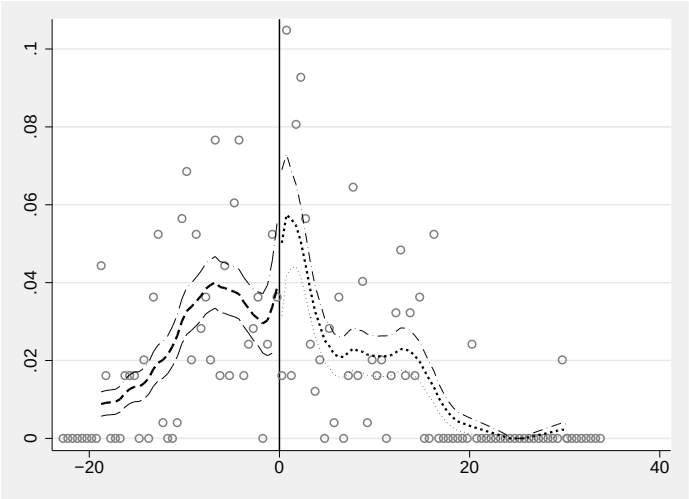
Figure 4: Seat share of right-wing parties and expenditures per capita on various spending categories. This graph presents plots of the right-wing seat share against expenditures per capita for different spending categories. Separate local polynomial plots are presented at both sides of the 50% threshold. Plots are constructed with different bandwidths: 3, 2, and 1. All plots use the Epanechnikov kernel.



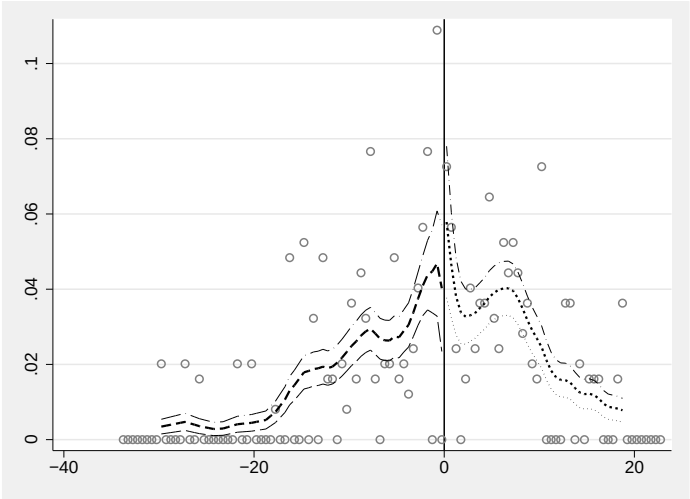
(a) Left-wing seat share, default bandwidth = 8.78, default bin size = 0.91



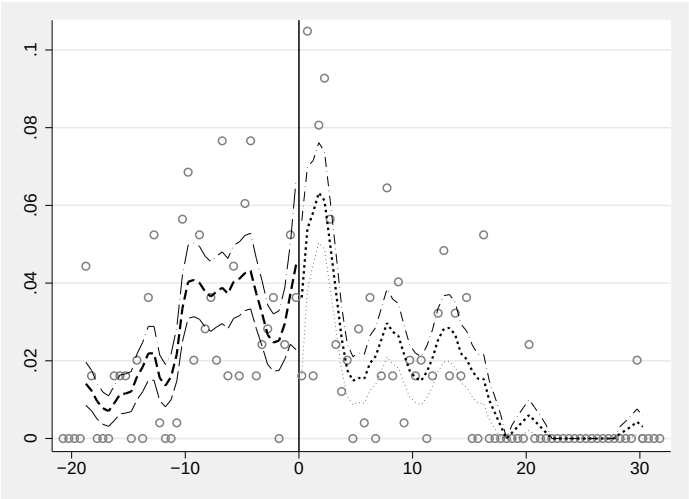
(b) Right-wing seat share, default bandwidth = 10.68, default bin size = 0.98



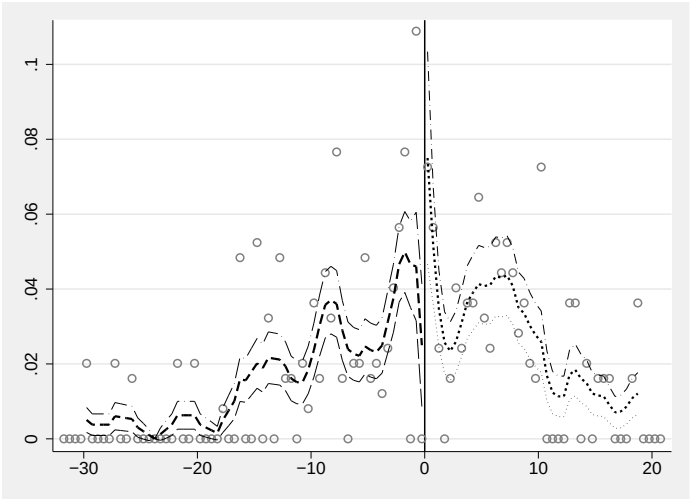
(c) Left-wing seat share, bandwidth = 4, bin size = 0.5



(d) Right-wing seat share, bandwidth = 4, bin size = 0.5

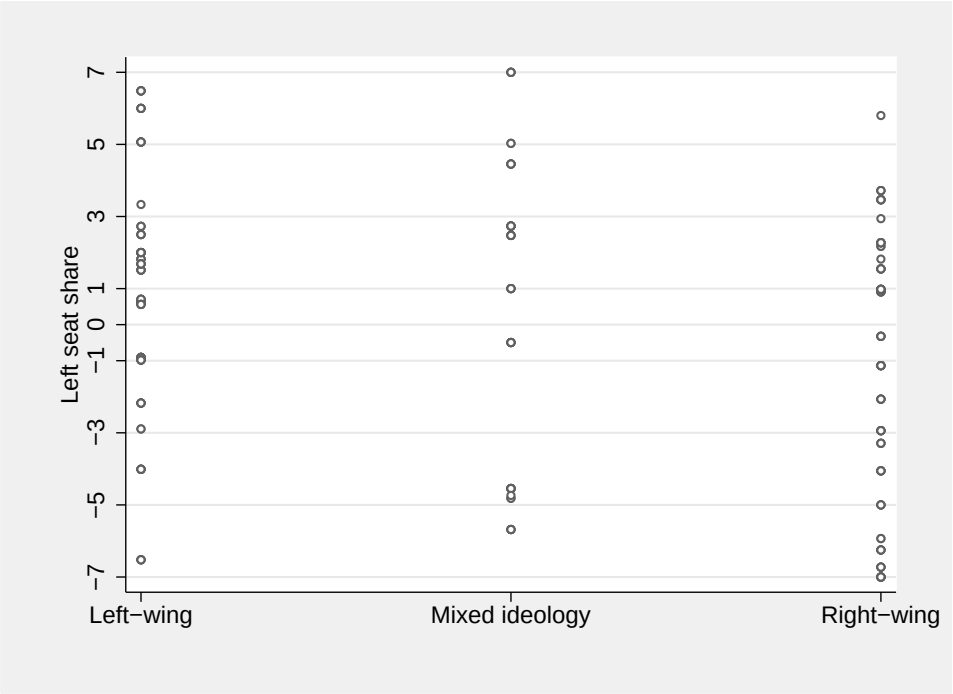


(e) Left-wing seat share, bandwidth = 2, bin size = 0.5

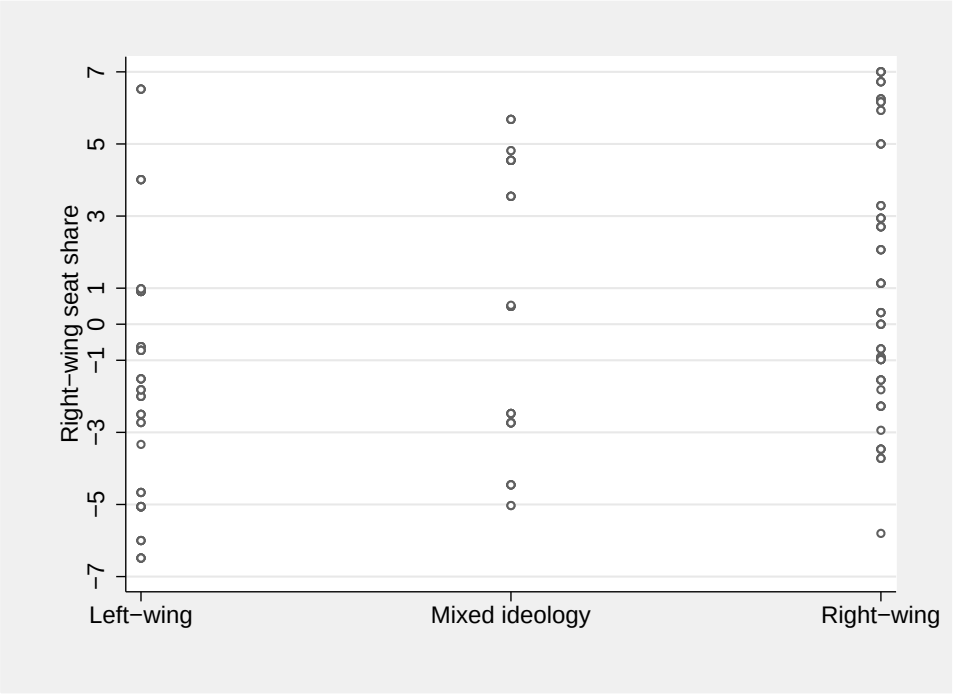


(f) Right-wing seat share, bandwidth = 2, bin size = 0.5

Figure 5: McCrary test for different bandwidths and bin sizes for left-wing and right-wing seat shares. This graph provides a kernel plot and confidence intervals of the assignment variable for left-wing governments (left-wing seat share) and right-wing (right-wing seat share) and allows for a discontinuity at 0 (50% seat share).

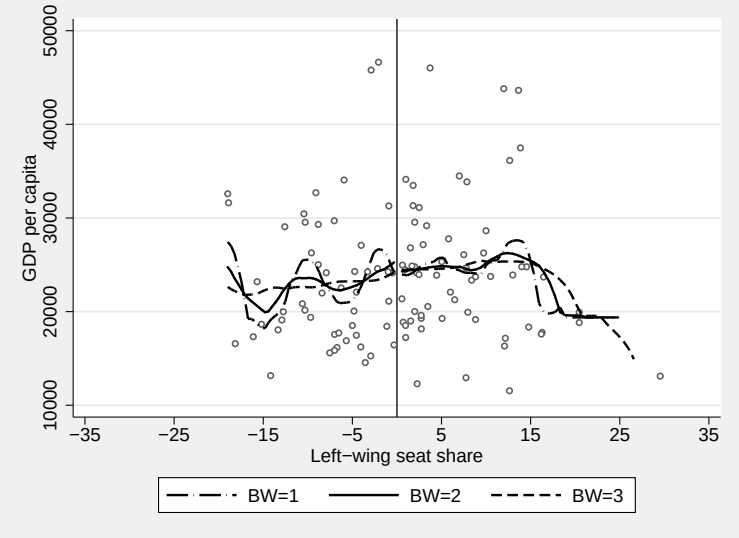


(a) Left-wing incumbent

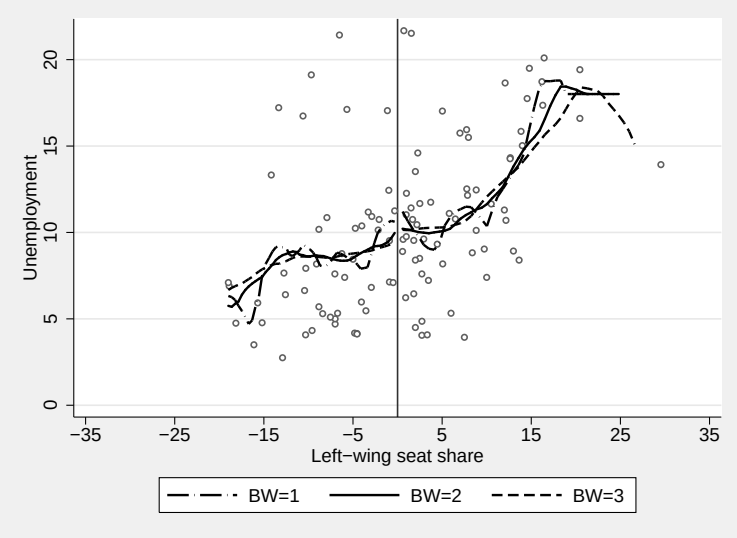


(b) Right-wing incumbent

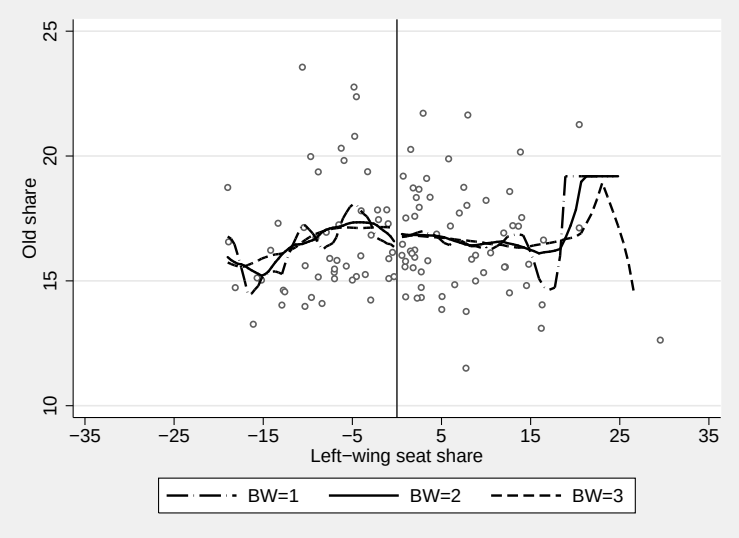
Figure 6: Ideology of incumbent and margin of victory/defeat This figure displays the normalized seat share of left-wing and right-wing parties conditional on the ideology of the incumbent state government.



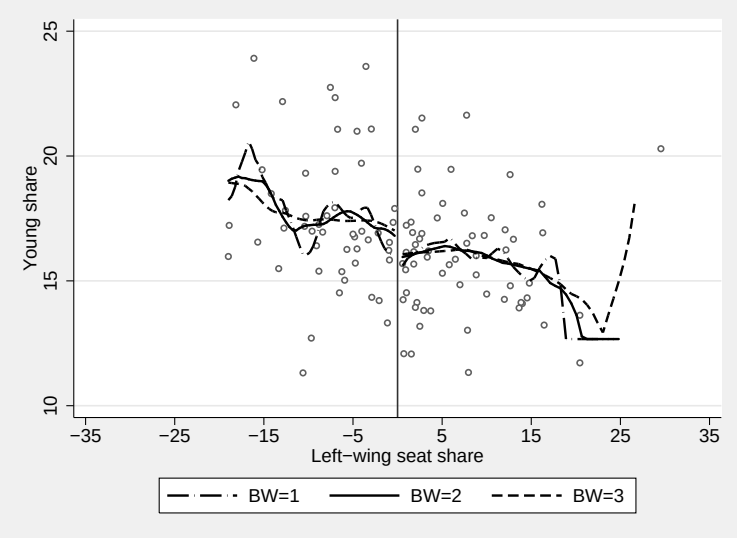
(a) GDP per capita



(b) Unemployment

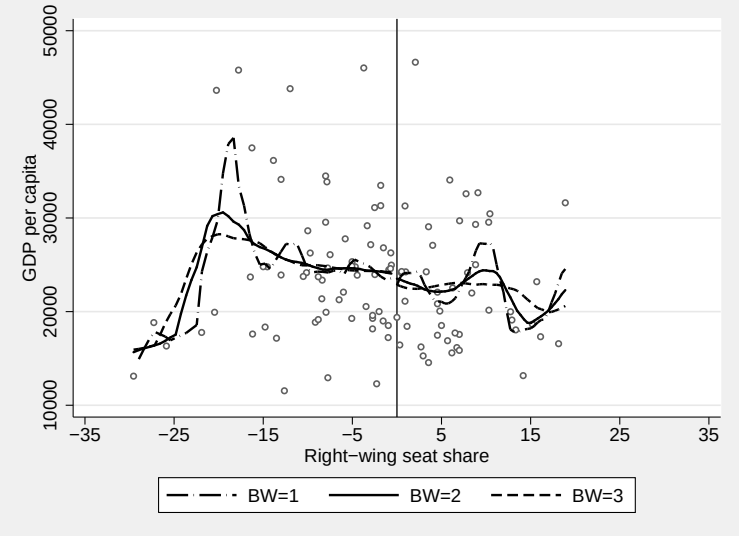


(c) Old share

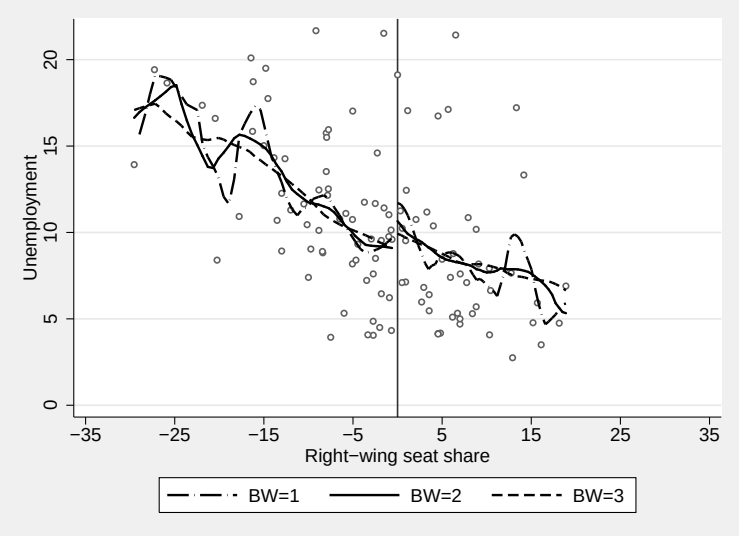


(d) Young share

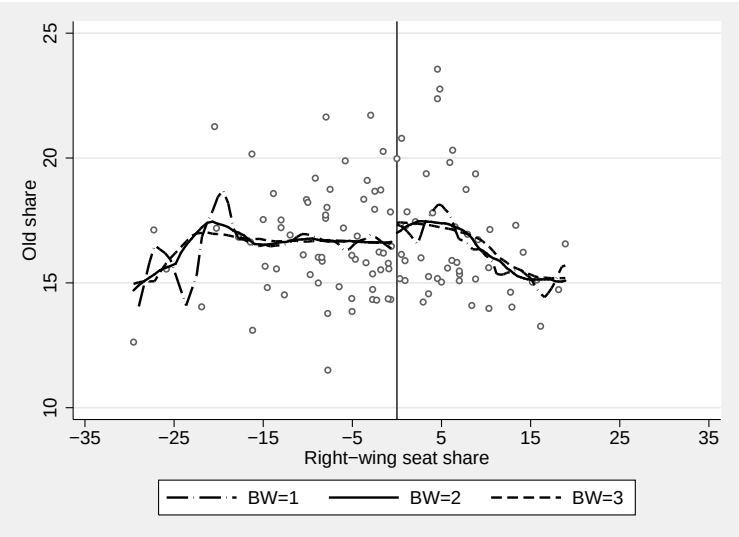
Figure 7: Seat share of left-wing parties and pre-treatment control variables. This graph presents plots pre-treatment control variables against the share of seats held by left-wing parties in state parliaments. Separate local polynomial plots are presented at both sides of the 50% threshold. Plots are constructed with different bandwidths: 3, 2, and 1. All plots use the Epanechnikov kernel.



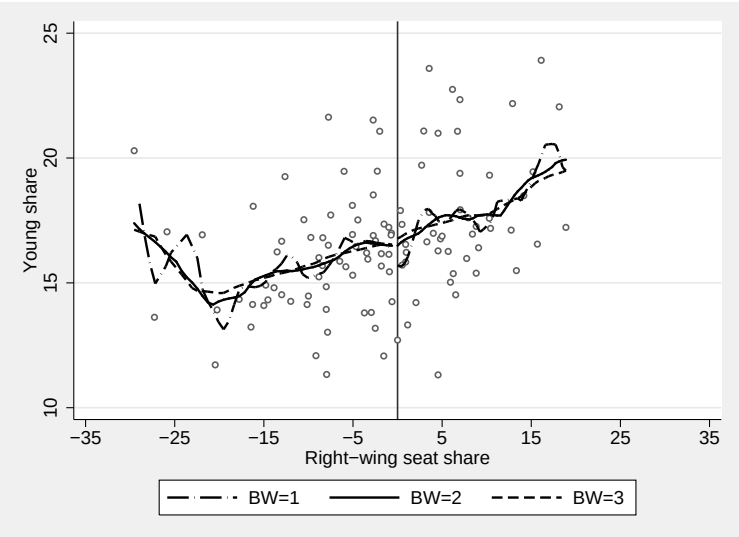
(a) GDP per capita



(b) Unemployment



(c) Old share



(d) Young share

Figure 8: Seat share of right-wing parties and pre-treatment control variables. This graph presents plots pre-treatment control variables against the share of seats held by right-wing parties in state parliaments. Separate local polynomial plots are presented at both sides of the 50% threshold. Plots are constructed with different bandwidths: 3, 2, and 1. All plots use the Epanechnikov kernel.

Table A.1: Definition and source of variables

Label	Description	Source
Left	Dummy = 1 if government is formed by left-wing parties (i. e. for sole SPD, SPD-Green Party, and SPD-PDS governments).	Own calculations
Right	Dummy = 1 if government is formed by right-wing parties (i. e. for sole CDU and CDU-FDP governments).	Own calculations
Left seat share	Share of seats gained by left-wing parties in the election	Own calculations based on www.election.de
Right seat share	Share of seats gained by right-wing parties in the election	Own calculations based on www.election.de
Total expenditures	Real expenditures per capita (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Education	Real education expenditures per capita (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Social services	Expenditures per capita for social services (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Health	Expenditures per capita for health, recreation, and sports (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Economic promotion	Expenditures per capita for economic promotion (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Traffic and communications	Expenditures per capita for traffic and communications (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
Public safety	Expenditures for public safety (i. e. law and order) per capita (deflated by federal CPI). Expenditures are consolidated between states and their localities.	German Federal Statistical Office
GDP per cap.	Average real GDP per capita (deflated by federal CPI) in the previous legislative period.	German Federal and State Statistical Offices (Arbeitskreis VGR der Länder)
Unemployment	Average unemployment rate in the previous legislative period.	German Federal Agency of Employment
Old share	Average share of "old" ($\geq$65 years) in state population in the previous legislative period.	German Federal Statistical Office
Young share	Average share of "young" ($\leq$15 years) in state population in the previous legislative period.	German Federal Statistical Office
Transfers per cap.	Real horizontal transfers (*Länderfinanzausgleich, LFA*) + real vertical transfers (*Bundesergänzungszuweisungen, BEZ*) per capita (deflated by federal CPI).	German Federal Statistical Office & German Federal Finance Ministry

Table A.2: Summary statistics

Variable		Mean	Std. Dev.	Min.	Max.	N
Left	overall	0.332	0.471	0.000	1.000	491
	between		0.231	0.000	0.722	16
	within		0.414	-0.390	1.193	30.688
Left seat share	overall	-0.207	9.534	-18.984	29.545	491
	between		8.654	-15.021	20.496	16
	within		5.577	-12.037	12.998	30.688
Right	overall	0.430	0.496	0.000	1.000	491
	between		0.305	0.000	1.000	16
	within		0.397	-0.459	1.291	30.688
Right seat share	overall	-0.989	10.147	-29.545	18.889	491
	between		9.067	-23.768	14.397	16
	within		6.148	-20.608	13.744	30.688
Total expenditures	overall	3811.599	732.531	2586.731	6691.212	491
	between		578.700	3061.288	5354.553	16
	within		456.542	2738.542	5737.107	30.688
Education	overall	1078.625	195.895	691.278	1658.934	483
	between		151.196	901.184	1445.872	16
	within		122.345	805.388	1391.445	30.188
Social services	overall	723.204	289.820	269.108	1589.493	483
	between		213.787	456.806	1266.500	16
	within		183.832	275.369	1166.271	30.188
Health	overall	273.594	164.170	115.182	919.224	483
	between		86.997	178.688	499.521	16
	within		139.740	-57.537	807.856	30.188
Economic promotion	overall	173.548	109.673	35.261	540.327	491
	between		117.325	83.199	418.342	16
	within		47.330	-11.240	411.993	30.688
Traffic and	overall	174.895	53.466	1.829	355.262	491
communications	between		39.732	119.781	274.032	16
	within		38.673	17.628	378.677	30.688
Public safety	overall	356.906	110.663	178.895	653.015	491
	between		95.213	253.674	606.558	16
	within		50.177	215.526	480.007	30.688
GDP per cap	overall	23379.980	7132.416	11547.200	46633.720	439
	between		5672.821	16221.090	37576.740	16
	within		4646.927	11884.540	32436.950	27.438
Unemployment	overall	10.397	4.738	2.750	21.675	439
	between		4.598	5.229	19.117	16
	within		2.656	2.602	18.552	27.438
Old share	overall	16.351	1.975	11.505	23.558	439
	between		1.079	14.686	18.194	16
	within		1.696	12.667	22.597	27.438
Young share	overall	16.866	2.557	11.315	23.914	439
	between		1.308	14.429	18.916	16
	within		2.188	11.962	22.040	27.438
Transfers per cap.	overall	351.568	507.483	0.000	2559.718	491
	between		387.054	0.000	1043.544	16
	within		348.917	-632.207	1867.741	30.688