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Political alignment and intergovernmental transfers in parliamentary systems: evidence from Germany

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Abstract Combining local council election data with fiscal data on grant allocations in a German state, we study partisan favoritism in the allocation of intergovernmental transfers within a quasi-experimental framework. We hypothesize that state governments pursue two distinct goals when allocating grants to local governments: (1) helping aligned local parties win the next election and (2) buying off unaligned municipalities that may obstruct the state government's policy agenda. We argue furthermore that the relative importance of these two goals depends on local political conditions. In line with this argument, we show empirically that the effect of political alignment on grant receipts varies depending on the degree of local support for the state government. While previous contributions find that aligned local governments always tend to receive larger transfers, our results imply that the political economy of intergovernmental transfers is more intricate.

Keywords Intergovernmental transfers · Political alignment · State and local governments · Fiscal federalism · Quasi-parliamentarism · State and local elections

1 Introduction

In most federal countries, municipalities receive two types of transfers from the central government. *Rule-based transfers* are allocated according to legally codified criteria such as municipalities' population sizes or tax bases. The underlying objective is to equalize municipal fiscal capacities and to guarantee that citizens have access to some minimum

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level of public goods irrespective of where they live. *Discretionary transfers*, in contrast, are distributed according to unspecified and often ad hoc criteria. Here, the professed objective is to enable the central government to respond to asymmetric shocks or to address specific funding needs in selected municipalities.

Yet, central governments may also use discretionary transfers to pursue political rather than economic goals.[1] This observation has resulted in a literature on the political economy of intergovernmental transfers (Dixit and Londregan 1998). A prominent question explored by this literature is whether political alignment influences the central government's transfer policy. A reasonable prediction is that municipalities ruled by the same parties as the center (aligned municipalities) receive relatively more transfers, while municipalities ruled by competing parties receive fewer transfers. In this way, the central government can "tie the hands of its enemies" and at the same time increase the electoral prospects of aligned municipal governments that are enabled to reduce local taxes, provide more public goods, and improve municipal services (Brollo and Nannicini 2012).

One explanation as to why parties forming the central government may have an incentive to help their local party branches are electoral concerns: co-partisan leaders at the municipal level who manage to stay in office can be important allies for the next central election campaign. If, however, municipalities are responsible for implementing a large fraction of state-level legislation, a positive alignment bias may not be the only reasonable prediction with respect to transfer allocations. An argument that has the opposite implication—that central governments grant relatively larger transfers to non-aligned municipalities—is that municipalities ruled by opposing parties have to be "bought off".

That is, in several countries' municipalities implement many of the policies decided by the central government. Those municipalities governed by opposition parties may credibly threaten to obstruct the central government's policy agenda if they are not compensated with larger transfers. Aligned municipalities, on the other hand, are less likely to obstruct the central government, either because they agree with its policies in the first place or because the leaders of the local party branches are subject to informal party discipline.

In view of this argument, we revisit the question of whether aligned municipalities always receive larger transfers from the central government while taking into account the political situations that prevail at the local level. The transfers we study are so-called budget support transfers (*Zuweisungen und Zuschüsse für laufende Zwecke*) paid by the state government of Hesse—a federal state in Germany—to its municipalities over the 1989–2010 period.[2] These transfers are paid to a substantial extent discretionarily, and even though their aggregate volume is relatively small, payments to individual municipalities can be quite large.

The existing literature on political alignment and intergovernmental transfer allocations can be classified according to empirical designs. Studies such as Dahlberg and Johansson (2002) and Johansson (2003) for Sweden, Arulampalam et al. (2009) for India, and Levitt and Snyder (1995) for the USA rely on selection on observables approaches.[3] Brollo and

[1] Litschig (2012) shows that even rule-based transfers might be subject to political manipulations.

[2] Hesse has 426 municipalities, but 5 of those have a special status. They assume both the tasks of county governments and municipal governments. As this special status entails more fiscal autonomy, they are not comparable to the remaining municipalities, and we drop them from the sample.

[3] A related literature studies the electoral consequences of intergovernmental transfers, e.g., Levitt and Snyder (1997), Solé-Ollé and Sorribas-Navarro (2008), Litschig and Morrison (2009), and Baskaran (2013b). A different literature studies non-ideological determinants of transfers, such as the gender of a mayor (Brollo and Troiano 2013). Analyses of the political determinants of transfers, albeit with a different focus than ideology and alignment, are offered in Knight (2004), Sorribas-Navarro (2011), and Brollo et al.

Nannicini (2012) are the first to use an arguably more credible regression discontinuity design (RDD) to study manipulation of discretionary transfers paid by the Brazilian federal government to its municipalities. They find that the federal government gives more investment transfers to barely aligned municipalities in the 2 years preceding a municipal election.

Our article contributes to the emerging quasi-experimental literature on the political economy of intergovernmental transfers in several ways. First, it offers insights regarding the external validity of the previous quasi-experimental findings for Brazil by Brollo and Nannicini (2012). In contrast to Brazil, Germany is both a mature democracy and a developed economy. The German federal state of Hesse, therefore, offers an interesting setting to ask whether political manipulations of transfers take place in developing and emerging countries only or whether they can be observed just as well in the developed world.

Our second contribution is that we are one of the first to extend the quasi-experimental literature to a novel political regime. Brazil uses a model of local government that centers around the mayor (a "presidential" system), and Brollo and Nannicini (2012) define the political alignment of a municipality accordingly. Many other countries, however, use a quasi-parliamentary system for local politics, i.e., a system wherein the local council rather than the mayor's office is the crucial political institution.[4] A large literature shows that presidential and parliamentary systems lead to different fiscal outcomes (Persson and Tabellini 2004a, b, 2006).[5] In line with this literature, it is possible that the importance of political alignment for transfer allocations differs depending on the political system adopted at the local level.

To identify transfer manipulations in our quasi-parliamentary setting causally, we adapt RDD strategies employed in quasi-presidential settings. That is, for two-candidate mayoral races the margin of victory can serve as a straightforward explanatory variable. In settings where the political system is quasi-parliamentary and a proportional electoral rule gives rise to a multi-party system, no such obvious variable exists. However, recent contributions have extended the RD design to quasi-parliamentary settings and define "close" alignment based on perturbations of the original distribution of votes (Fiva et al. 2016; Folke 2014; Freier and Odendahl 2015). Following these contributions, we run a large number of simulations wherein the original party vote vector is perturbed randomly by successively larger amounts. In each simulation, we calculate how seat allocations change and record the number of times the seat majority flips. The value of the forcing variable for a

Footnote 3 continued
(2013). A further literature also studies how the structure and behavior of subnational government affect transfers from higher-level governments. For example, Feld and Schaltegger (2005) show that in Switzerland, cantons with larger administrations receive more federal transfers, possibly because cantons can point to their large number of public employees when lobbying for higher federal transfers.

[4] Usually, the terms presidential and parliamentary system describe political institutions at the national level. While political institutions at the local level are similar to those at the national level, there are often some important deviations. To account for such deviations, we call the local political systems in the following quasi-parliamentary or quasi-presidential.

[5] More generally, plenty of evidence exists that political institutions affect fiscal outcomes. Besides the presidentialism versus parliamentarism divide, for example, another political institution that has been shown to affect local fiscal policy significantly is referendums (Feld and Schaltegger 2005; Funk and Gathmann 2011; Asatryan et al. 2015). Feld and Schaltegger (2005), in particular, relate referendums to intergovernmental grants.

municipality in a given legislative period is the size of the perturbation at which the seat majority flips for the first time in at least half of the simulations.[6]

The third contribution is to expand our understanding of the political economy of intergovernmental transfers. As mentioned, existing studies do not account for the possibility that the incentives of the central government might differ according to the political environment that prevails at the local level. Confirming that this is a gap in the literature, we show that the effect of political alignment varies depending on local political conditions. Specifically, aligned municipalities receive relatively more transfers when a state government enjoys more local support, i.e., when parties that are aligned with the state government have a majority in a larger number of municipalities.[7] Conversely, if the state government has less local support, transfers to unaligned municipalities increase. We also validate and extend these results further by studying how the effect of alignment varies close to local election years and in municipalities where smaller parties have a substantial presence.

2 Theory

Various theoretical contributions to the literature on distributive politics suggest that higher-level governments have an incentive to distort the geographic allocation of fiscal resources for political reasons (Lindbeck and Weibull 1987; Dixit and Londregan 1998). While such distortions may take several forms, one specific variant that has attracted attention in the empirical literature on distributive politics is a potential alignment bias—e.g., municipalities that are politically aligned with a state government receive more state resources. As discussed, a plausible reason for such an alignment bias is that state governments care about having many aligned municipalities because such municipalities could be important allies in the next state election. Therefore, they may want to help their co-partisans win the next local election by providing them with additional resources (Brollo and Nannicini 2012).

This prediction, however, possibly suggests a too simplistic perspective on the political economy of intergovernmental transfers. State governments may use transfers not only to help co-partisans, but also to pursue other goals simultaneously. It is possible that these different goals may conflict with each other and give rise to opposing incentives on part of state governments. Consequently, state governments may face a tradeoff when allocating transfers, and depending on how they resolve this tradeoff, they may end up granting aligned municipalities fewer rather than more transfers.

We focus in this article on two plausible goals a state government may pursue when granting transfers to municipalities. First, as mentioned above, we hypothesize that higher-level governments want to help aligned parties win the next local election. Second, the state government may want to ensure that its (local) policy agenda is implemented by as many municipalities and as comprehensively as possible. The underlying assumption here

[6] Curto-Grau et al. (2012) is the only other study of which we are aware that uses a similar methodology to study alignment effects in transfer allocations for a setting where local governments follow the parliamentary model. These authors find that, in Spain, co-partisan local governments receive larger transfers from their respective regional governments.

[7] However, we also find that unaligned municipalities do not receive more transfers than aligned municipalities even if local support is weak (i.e., there is no difference in transfer receipts between the two sets of municipalities in this case).

is that the state government has a preference for uniformity of policy. For example, in the German federal system, child daycare is provided by the municipalities. If the state government decides that fees should be reduced, it presumably wants all municipalities to reduce them equally. But municipalities may refuse to implement state policies, and, in practice, the state government has few legal means to respond to such obstinate behavior.[8] Consequently, state governments may have to resort to "buying" the implicit consent of opposition municipalities through larger transfers.

In other words, municipalities that are opposed to the state government can credibly threaten to obstruct the policy agenda of the state government and thus elicit more funding. Anecdotal evidence that this type of behavior is relevant in German fiscal federalism is available, especially at the level of state-federal interactions. For example, in 2000 the left-wing federal government awarded larger ad hoc transfers to state governments that were not fully aligned (i.e., which had mixed governments comprised of both left- and right-wing parties) in exchange for their votes in favor of an important tax reform bill in the second chamber of parliament.[9]

Clearly, the goal of "helping aligned municipalities" and the goal of "buying the support of unaligned municipalities" may conflict with each other and tilt transfers in opposing directions. The first goal implies that state governments should award aligned municipalities larger transfers while the second goal implies that they should favor unaligned municipalities. State governments must therefore decide how to weigh each of these two goals, and their decisions will in turn have implications for the final amount of transfers that aligned and unaligned municipalities receive.

In this context, we argue that one determinant of the importance a state government attaches to the two goals is the degree of overall local support it currently enjoys in the entire state. The reason is that the ability of opposition municipalities to obstruct a state government's policy agenda is likely greater if many other municipalities belong to the opposition. In that case, opposition municipalities can act as one large unified bloc and the "buying the support of unaligned" motive may be more important for the state government. In contrast, if the state government enjoys strong local support, unaligned municipalities may find it harder to organize opposition to the state governments' policy agenda, allowing the state government to focus on helping aligned municipalities to win the next local election with its transfer policy. An empirical implication of this argument is that aligned municipalities receive larger transfers from the state government than unaligned ones do only in certain circumstances, notably when the extent of local support is high.[10]

[8] First, municipalities can ignore the directions of the state governments in policy areas that are—according to the state or federal constitutions—municipal domains. Second, even if the state government is allowed to give directions in a certain policy domain, municipalities can mount legal challenges, thereby prolonging the time required to implement a policy, perhaps even indefinitely. Finally, municipalities have informal means to counteract the state government's policies. To come back to the child daycare example from above, municipalities might, while lowering the daycare fee, raise prices for meals or for other non-standard services.

[9] See, e.g., "Schröder setzt Steuerreform durch" in "Die Welt" (online), 15.07.2000. We are not aware of similar anecdotal evidence for the local level in Hesse, but this is presumably because media coverage of local politics is limited.

[10] A more formal version of this discussion can be found in the online appendix. Of course, state governments may pursue many more goals with transfer policies, but these arguably are two important ones.

3 Institutional details

3.1 Politics

3.1.1 Local government

The state of Hesse encompasses 426 municipalities, of which 421 are organized into counties (regular municipalities), while 5 have a "county-free" status and assume both municipality and county tasks. Voters in municipalities elect a municipal council, which is the most important municipal political institution. The council decides autonomously on all policy areas assigned by the federal and state constitutions to the municipal tier, in particular municipal taxes, user fees, and individual building projects.

The other important political office in a municipality is the mayor. As of the early 1990s, Hessian mayors are elected directly. However, the mayor has only limited political power (Hessami 2014). While she represents her municipality vis-à-vis other municipalities and the state government, she has neither a seat in the council nor veto over council decisions. In essence, therefore, Hesse employs a quasi-parliamentary political system at the local level.[11]

As in most parliamentary systems, parties play an important role. During the entire sample period, political parties received seats in the local council according to a proportional rule, more specifically according to the Hare-Niemeyer procedure. Since several parties can therefore enter the council, parties have to form coalitions to assemble a council majority. Even if no explicit institutionalized coalitions are formed, the parties represented in the council must coordinate to reach council decisions.

Despite the continuity of the seat allocation formula, the Hessian laws regarding local elections were changed decisively in 2001 (Baskaran and Lopes da Fonseca 2016). Three changes stand out. First, voters had one vote that they could cast for their preferred party list prior to 2001. After 2001, voters have as many votes as there are seats available in their council.[12] Voters can split their votes between party lists and, in addition, give single candidates multiple votes. Second, a 5% legal electoral threshold was abolished. That is, parties had to have at least 5% of the votes before they would be given any seats in the council, even if their vote share would entitle them to some seats. After the reform, parties were required only to have enough votes for one seat to enter the council. Third, the local legislative period was extended from 4 to 5 years. We account for these changes in the electoral law in our empirical design.

3.1.2 Local parties

The first set of parties that contest local elections in Hesse is the four major national parties. Two of these belong to the left-wing camp: the Social Democrats (SPD) and the Green Party. Important constituencies for the Social Democrats and the Green Party are private sector workers and public servants, respectively. The Social Democrats typically receive about 30–40% of the votes, while the Green Party typically receives around 0–10%. The Social Democrats focus on economic and social issues, while the Green Party

[11] Specifically, while the direct election of the mayor distinguishes the Hessian system from a pure parliamentary system, the mayor has no authority over important municipal decisions (such as the setting of local tax rates)—these decisions are taken by the council.

[12] The size of the council varies with the number of inhabitants of a municipality.

primarily is associated with environmental and social issues. During the sample period, the Green Party was the preferred coalition partner of the Social Democrats at the state and federal level whenever the Social Democrats did not have an absolute majority in the respective legislature.

The other two major parties belong to the right-wing camp: the Christian Democrats (CDU) and the Liberal Party (FDP). The Christian Democrats mainly are supported by small business owners, mid-level professionals, and certain types of civil servants. The constituency of the Liberal Party primarily is comprised of professionals and entrepreneurs. The Christian Democrats are more conservative than the Liberal Party with respect to social issues, but significant overlap exists regarding economic issues: both tend to be in favor of market-based policies, even though the Christian Democrats also share some social democratic positions.[13]

The second group of parties also has a national outlook even though these parties typically are on the fringes of the political spectrum, in terms of both ideological positions and electoral success. Several far-right and far-left parties contest local elections and sometimes win a few mandates, but their success generally is limited. A number of national parties that hold mainstream positions also exist, but they, too, typically are unsuccessful.

The third group of parties is municipality-specific voter initiatives. That is, groups of voters may nominate candidates for the local elections who are not, at least officially, affiliated with any of the major parties. These groups are called voter initiatives. The voter initiatives tend to be fairly successful, sometimes winning up to all of the available seats in a council. Several different voter initiatives can participate within a single municipality.

According to Fig. D.1 in the Online Appendix, most municipalities had a clear left-wing seat majority during the 1989–1992 period. Thereafter, the dominance of the left-wing bloc slowly waned. By the local elections of 2006, the number of municipalities with left-wing or right-wing majorities was nearly equal.[14]

It is sometimes claimed that party politics is unimportant at the local level in Germany and that council members focus on practical day-to-day issues rather than engaging in ideological battles (so-called *Konkordanzdemokratie*).[15] But for Hesse at least, the extent to which this assertion is true is not clear. Anecdotal evidence suggests that at least in some instances, left-wing legislators, as a bloc, vote differently than right-wing legislators. The university town of Marburg, for example, passed a statute in 2008 requiring all new houses to be outfitted with solar panels (*Solarsatzung*). All left-wing parties supported that statute, while the right-wing parties opposed it, revealing clear ideological divisions between council members from different political camps. Press releases and statements of council members also suggest ideological biases. Council members and local officials who share the ideology of the state government rarely criticize the state government's policies. In contrast, council members belonging to the opposite political camp tend to be vocal in their criticism.

[13] In recent years, these traditional blocs have become less cohesive and other forms of coalition governments have emerged. For example, the post-2014 Hessian state government has been formed by the Christian Democrats and the Green Party.

[14] The local elections took place in 1989, 1993, 1997, 2001, and 2006.

[15] See Hämmerle (2000) for a more detailed discussion.

3.1.3 State government

The political system at the state level is a parliamentary democracy. Voters elect the state parliament in regular elections that are held on the same day throughout the state, but are not synchronized with the municipal council elections. Voters have two votes at the state level: a "first vote" with which they elect a candidate in an individual constituency and a "second vote" with which they vote for a closed party list. However, the electoral rule is essentially proportional because the total number of seats a party receives is constrained to be equal to its share of "second votes" (this electoral system is called "personalized proportionality").[16] That the electoral rule is essentially proportional implies that the state government has, in general, few incentives to manipulate transfers to individual constituencies—e.g., swing constituencies—to gain voters for state elections. Geographical targeting of transfers arguably is more important in view of municipal elections wherein the state government can help the aligned party bloc gain seats in the council. As we will discuss below, having a municipal council that is dominated by co-partisans is in the interest of the state government because aligned councils can be valuable allies for the next state election campaign.

During the sample period, the state government was right-wing (Christian Democrat—Liberal Party coalition) from 1989 to 1991.[17] A left-wing government (Social Democrats—Green Party) was in power from 1992 until 1998. A right-wing coalition government was in place from 1999 to 2003, a right-wing single party government from 2003 to 2009, and finally a right-wing coalition in 2009 and 2010.[18] Note that there was one state election in 2008 and 2009 because the election of 2008 produced a hung parliament wherein no stable government could be formed. Thus, a new election had to be held in 2009.

3.2 State transfers

The Hessian state government provides several types of transfers to its municipalities. A useful classification distinguishes between transfers that are granted according to predetermined rules and transfers that are granted discretionarily. The rule-based transfers are important, but hard to manipulate for political reasons given that they rely on a formula that disregards ideological differences between municipalities (Baskaran 2015). Discretionary transfers, on the other hand, are an attractive means for the state government to pursue political goals.

One notable transfer program with substantial discretionary elements is budget support transfers (*Zuweisungen und Zuschüsse für laufende Zwecke*). Budget support transfers are a statistical category that aggregates various individual transfer programs that function according to unique modalities. Specifically, budget support transfers are supposed to be used to provide (additional) funding to schools, kindergartens, theaters, and other public programs. For some budget support transfers, municipalities have to apply, and the state

[16] A party might receive slightly more seats than it would be entitled to according to its share of "second votes" if it wins a large number of constituencies—i.e., has the largest "first vote" share in many constituencies. However, such divergences typically are small. See Baskaran (2013a) for more details on the personalized proportional electoral system.

[17] Clearly, government turnover takes place between years, and thus it is not obvious how to categorize years when governments change. We adopt the standard approach to ascribe a given year to a new government if the election took place before 1 July and to the old incumbent government if the election took place thereafter.

[18] The state elections during the sample period took place in 1987, 1991, 1995, 1999, 2003, 2008, and 2009.

government ultimately decides discretionarily whether to grant them. Other budget support transfers are allocated across municipalities according to statistical data. For example, municipalities can receive funding for museums or libraries if they already operate such facilities or for maintaining the road network within their boundaries. However, the state government can discretionarily adjust the overall amount allocated to each of these transfer programs and thus indirectly determine the amount of total transfers a given municipality receives.

Thus, the state government can affect the available fiscal resources of any given municipality through budget support transfers. While each budget support transfer has to be used for the intended purpose, they are fungible and generally increase the financial leeway of the receiving municipality.[19] Figure 1 shows the development of the mean, median, and maximum values of real budget support transfers per capita over time in the regular municipalities included in our sample. Average and median real transfers receipts are generally below 10 and 5 euros per capita, respectively. In the final legislative period considered in this article (lasting from 2006 to 2010), this transfer program was expanded somewhat, but its overall size for regular municipalities continues to be fairly small. Average transfer receipts generally exceeded 20 euros in the last legislative period.

While average transfers are relatively small, transfers paid to individual municipalities can be substantial. The maximum for the transfer series in subfigure (a) of Fig. 1 attests to this. The maximum real transfers per capita during the entire sample period was about 232 euros, and in each year of the sample period, maximum transfers are noticeably larger than the average and median values as well. Putting the maximum values in relation to average tax revenues per capita of Hessian municipalities, which were around 780 euros during the sample period, or to average current revenues per capita, about 1240 euros, or to total revenues per capita, about 1620 euros, shows that budget support transfers can be sufficiently large to sway voters and municipal officials. Subfigure (b) of Fig. 1 shows the distribution of transfers and confirms that most municipality-year pairs receive relatively small amounts, but that a significant number of municipality-year pairs can be observed with more than 25 euros per capita. While 25 euros is less than the several hundreds of euros reported as maximum transfers, note that 25 additional euros per capita translates into 250,000 euros more revenue for a municipality with 10,000 inhabitants. This is a substantial amount with which the municipality can fund a number of large spending projects.[20]

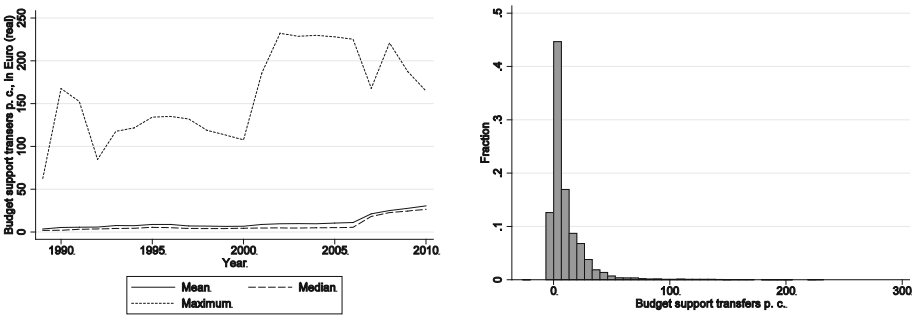
4 Empirical design

4.1 Methodological issues

To estimate the causal effect of political alignment on transfer receipts, we rely on RDD estimations. This approach requires an explanatory variable, the so-called running (or forcing) variable, which determines whether some unit is exposed to a treatment. The idea

[19] Other discretionary transfers, such as investment grants, are less likely to be subject to political manipulation as these are awarded for specific projects and are therefore always dependent on the ability of a municipality to write convincing applications (in fact, one of the few formal tasks of a mayor is to write applications for investment transfers).

[20] As can also be seen from subfigure (b), some municipalities receive no transfers in some years. In very few cases, transfers also are negative, likely representing repayments to the state government for various reasons. We drop the observations with negative transfers from the sample.



(a) Budget support transfers over time

(b) Distribution of budget supporttransfers

Fig. 1 Variation in budget support transfers. **a** Budget support transfers over time; **b** distribution of budget support transfers

is to define all units with values of the running variable above some threshold as treated and all other units as untreated. Since units with values of the running variable (barely) below the threshold should be ex-ante identical to units (barely) above the threshold, the RDD ensures, under relatively weak conditions, local randomization and can thereby retrieve unbiased estimates of the treatment effect.

In our application, the treatment is whether a municipality is ruled by the party bloc that also is in power at the state level. Since Hesse employs a quasi-parliamentary system at the local level, a party bloc must have an absolute majority in the municipal council to rule effectively. Consequently, the seat share of the party bloc that is aligned with the central government might be considered an appropriate running variable.

However, seat shares are problematic running variables because they change discretely. While discrete running variables in principle do not preclude a valid RD design (Lee and Card 2008), the problem here is that these changes are not comparable across municipalities. If a party gains an additional seat, the jump in its seat share is larger if the municipality has a small council. Therefore, the same difference in seat shares between two parties may imply in municipality A that the election outcome was close, while in municipality B the outcome was not close. In other words, it is difficult to define close elections on the basis of seat shares. One consequence of this problem is that municipalities with large legislatures will tend to be closer to the 50% seat share threshold, leading to a sample selection bias. More generally, council size may vary systematically with seat shares in close elections (Fiva et al. 2016).

Since seat shares are problematic running variables, we may consider party vote shares as a feasible alternative. Unfortunately, vote shares also lead to problems if used as running variables in settings with a proportional electoral rule. The number of seats a party gains depends not only on its vote share, but also on the configuration of the vote shares of all other parties. Consequently, whether a party bloc receives an absolute seat majority depends on the—possibly otherwise irrelevant—distribution of votes among the other parties. Whether a party bloc has more or less than 50% of the votes may have no decisive effect on political alignment. In other words, the RDD threshold at which the treatment sets in is not well defined when vote shares are used as running variables. This problem is complicated if electoral thresholds exists (e.g., a 5% vote-share "hurdle"). Such thresholds typically lead to a divergence between vote and seat majorities: an aggregate vote share of over 50% for the right-wing parties may imply a seat share of less than 50% for that bloc

because a small right-wing party does not manage to get a vote share that is larger than required by the electoral threshold and is thus precluded from receiving any seats in the council.

In view of such problems with seat and vote shares as running variables, Fiva et al. (2016) propose an alternative strategy for RD designs in parliamentary settings. The idea is to check whether the alignment of a municipality would change if the distribution of votes that the different parties received in the election was slightly different. For example, assume that the state government is left-wing. Assume furthermore that the left-wing party bloc received more than 50% of the seats in some municipality in the last municipal election. Now if the seat share of the left-wing bloc in that municipality was to drop below 50% when we perturbed the vector of votes of all parties slightly—such that the parties in the left-wing bloc lose and the other parties gain some votes—then we may consider this election outcome as a close left-wing victory. If the perturbation has to be large before the left-wing seat share were to drop below 50%, then we might consider the election as a clear left-wing victory. Similarly, assume that the left-wing party bloc has less than 50% of the seats. If we perturbed the vote vector slightly such that the left-wing parties gain some votes at the expense of the other parties, and the left-wing party would as a consequence gain a seat majority, we might consider the original election outcome as a close loss for the left-wing bloc.

An approach to define the running variable based on the perturbation of the original vote vector has a number of advantages over approaches using seat or vote shares. First, the running variable is rendered independent of legislature size and thus comparable across municipalities.[21] Second, the treatment status of a municipality is well defined since it relies on changes in the seat share along the 50% threshold after a particular perturbation.

For the reasons outlined above, we use a perturbation procedure. We describe here only the essential aspects of our procedure, but provide a more detailed discussion in Online Appendix B. In very general terms, the procedure works as follows. First, we identify the municipalities wherein the post-election party bloc aligned with the state government has more than 50% of the seats. Then, we lower the number of votes of the aligned party bloc and raise the total number of votes of all non-aligned parties by some number n (see the Online Appendix for the specific value of n). Since both the left-wing and the right-wing party bloc each consist of two parties, we divide the reduction in n between the two aligned parties randomly. Similarly, we divide the overall increase of n in the number of votes for the non-aligned bloc randomly among the individual parties based on a uniform distribution.

We then run 100 simulations where the increases and reductions in votes, respectively, are distributed differently between the two party blocs. After each run, we calculate the seat distribution—based on the prevailing electoral laws (see the appendix for details)—and record whether the left-wing bloc loses its seat majority given the perturbed vote vector. If the left-wing party bloc loses its majority in more than 50% of the simulations, we stop and record n divided by the total number of votes as the value of the running variable. Thus, the smaller the ratio of n to the total number of votes is, the closer the electoral victory of the left-wing party bloc. If the left-wing party bloc does not lose its seat

[21] In principle, the perturbation procedure suffers from a problem similar to seat shares: since larger municipalities have more voters, an increase or decrease in one vote during the perturbation implies a larger change in the perturbation index in municipalities with smaller numbers of voters. However, it is plausible that more votes have to be flipped to change a council majority in large than in small municipalities. Consequently, we are not more likely to define elections in larger municipalities as close.

majority in half of the simulations, we increase n by a fixed number and re-run the simulations. We follow this procedure until we reach an n at which the aligned party bloc loses 50% of the time.

We take a similar approach to identify close electoral defeats of the aligned party bloc. That is, we first identify all municipalities wherein the aligned party bloc has less than 50% of the seats. Then, we increase the number of votes of the aligned party bloc and reduce the number of votes of the non-aligned parties, respectively, by n. As the blocs consist of various parties, we allocate the increase and reduction, respectively, by n among the parties in each bloc randomly. We then run 100 simulations and record whether the seat share of the aligned party bloc crosses the 50% threshold after the perturbation. Once the seat share crosses the 50% threshold for more than half of the simulations, we stop and record n multiplied by -1, i.e., the negative value of the corresponding aggregate perturbation, divided by the total number of votes as the value of the running variable. This procedure ensures that every municipality receives a value for the running variable in each legislative period. This value is negative if the aligned party bloc does not have a seat majority and positive if it has such a majority. Since the vote perturbations $\pm n$ are scaled by the total number of votes, the running variable is comparable across municipalities. This procedure also ensures by construction a sharp RD design because positive values deterministically imply a positive treatment status (alignment with the state government) and negative values imply a negative treatment status.[22]

In summary, the running variable we employ in the RDD is the smallest value for the vote share that has to be taken away from (or additionally given to) the aligned party bloc such that (1) a given seat majority of the aligned party bloc turns into a minority in at least 50% of the simulations or (2) a given seat majority turns into a minority in at least 50% of the simulations.

4.2 Econometric model

We implement the following parametric RD design as the initial specification to estimate the average treatment effect of alignment on transfers:

$$\text{Transfers}_{it} = \beta D_{it} + g(\text{PV}_{it}) + D_{it} \times g(\text{PV}_{it}) + \gamma_t + \varepsilon_{it}, \quad (1)$$

where Transfers_{it} represents the log of (real) budget support transfers per capita that municipality i receives in year t.[23,24] The results are similar but less significant, likely because outliers are relatively more influential in a level specification and thus lead to

[22] One disadvantage of this approach relates to the substantial data requirements. In particular, we need disaggregated vote data for all parties that participated in the local elections to implement this procedure. Unfortunately, in some municipalities several voter initiatives are on the ballot, but the state statistical office provides only aggregated figures for them. That also is the case when very small parties take part in the election. When we attempted to validate our perturbation procedure with the original vote vector, we found that the seat allocations to the parties according to the Hare-Niemeyer method differed slightly for some municipalities in some of the legislative periods from the correct seat distribution. The reason was that the remainders in the Hare-Niemeyer procedure were wrong for these municipalities because votes/seats for the voter initiatives and very small parties were available only as aggregates. To be conservative, we drop in each legislative period those few municipalities from the sample for which the original seat vector differs from our simulated one using the original vote vector.

[23] There are a number of observations with a value of zero for budget support transfers. We add a 1 in these cases before taking the log. As noted, there are also a few observations with negative values that we drop from the sample.

[24] We report in Table C.3 results where we use the level of budget support transfers rather than thelog.

larger standard errors. The variable D_{it} is a dummy that is 1 if the party bloc aligned with the state government has an absolute majority in the council and 0 otherwise. The function $g(\text{PV}_{it})$ is a flexible polynomial of the running variable, PV_{it}, which is the index capturing how close the previous local election had been in municipality i. As discussed above, we define the perturbation index based on how many votes need to be added/taken away for a council majority to flip from aligned to unaligned with the state government. We use up to quartic polynomials.[25] The running variable also is allowed to have a different slope to the left and right of the threshold through an interaction effect with the treatment dummy. Year fixed effects are represented by γ_t.

While Eq. (1) estimates the average effect of alignment, its actual effect, as discussed above, may vary depending on local political conditions. Therefore, we extend Eq. (1) by interacting the alignment dummy with the overall share of municipalities in Hesse that are aligned with the respective state government in a given year:

$$\text{Transfers}_{it} = \beta_1 D_{it} + \beta_1 D_{it} \times AS_t + g(\text{PV}_{it}) + D_{it} \times g(\text{PV}_{it}) + \gamma_t + \varepsilon_{it}, \qquad (2)$$

with AS_t denoting the overall share of aligned municipalities, i.e., the number of regular municipalities for which the aligned parties have a clear majority in the council divided by 421 (the number of regular municipalities in Hesse). Note that this variable carries only a t subscript as it varies over time but not across municipalities.[26]

When estimating Eqs. (1) and (2), we use both local linear regressions with a sample restricting the running variable is to the optimal bandwidth according to Calonico et al. (2014)[27]according to Calonico et al. (2014) and a parametric RDD with up to quartic polynomials of the running variable and the full sample.[28] Standard errors are robust to heteroscedasticity and clustered at the level of the municipalities.[29] As indicated, we also include year fixed effects in all models to account for period specific shocks. In particular, year fixed effects implicitly account for the possibility that state governments of different ideological persuasions implement different transfer policies.[30,31]

5 Results

5.1 Graphical evidence

As a precursor to the RDD regressions, Fig. 2 collects a discontinuity plot of budget support transfers per capita against the running variable over the entire sample period. Data

[25] That is, we include up to fourth-order exponentials of the perturbation index in the regressions.

[26] We experiment with more complex specifications, notably interactions of the running variable with the AS_t variable in a robustness tests reported in Table C.1 in the online Appendix.

[27] We always use a uniform kernel and a local linear regression for optimal bandwidth calculation

[28] We calculate the optimal bandwidths for Eq. (1) since interaction models are not amenable to the nonparametric approaches.

[29] We report in Table C.2 in the online appendix a robustness test where we cluster at the level of legislative periods.

[30] Even though municipality fixed effects may reduce small sample bias (Hoxby 2000) and account for the panel characteristics of our data, we omit them in the baseline regressions. We report results including municipality fixed effects in the online appendix (Table C.4); the results are qualitatively similar, but less significant.

[31] To check the sensitivity of the results to individual periods further, we report in Table C.5 results re-estimating the baseline model after dropping in turn all observations from each state legislative period.

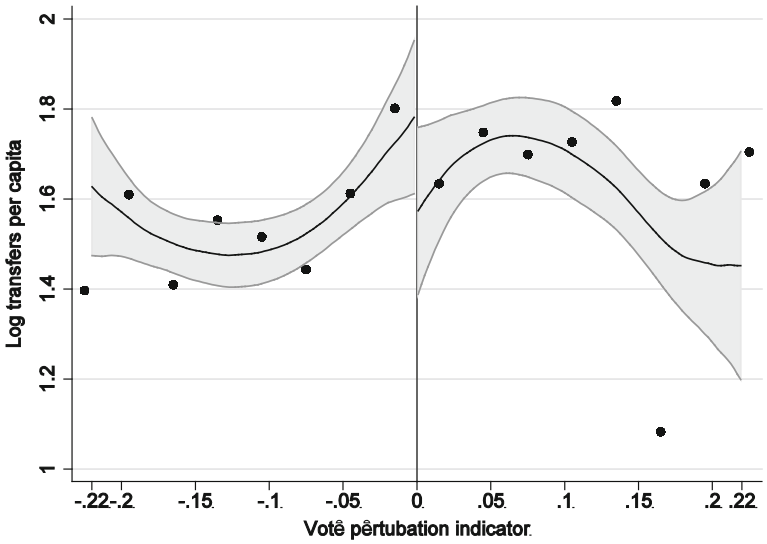


Fig. 2 Political alignment and discretionary transfers. This figure presents RDD plots for whether municipalities aligned (i.e., where the aligned party bloc has an absolute majority in the council) with the state government receive discontinuously different transfers. The *dots* represent bin averages of log transfers per capita. Bins have a width of 0.03. The polynomial smooth is based on the non-averaged data, using a 0.22 bandwidth [optimal bandwidth according to Calonico et al. (2014)]. The *shaded areas* indicate 90% confidence intervals

points are averaged within bins of width 0.03. The polynomial smooths are based on the original data points, using the optimal bandwidths as determined by Calonico et al. (2014), a cubic degree, and a triangular kernel. We also indicate the 90% confidence intervals in the plots.

Both the polynomial smooth and the bin averages show a negative discontinuity at the threshold, but the discontinuity is not significant. A fortiori, it appears that alignment did not matter for transfer allocations. This conclusion, however, may be erroneous because the average treatment effect as suggested by the RDD plots fails to account for the possibility that alignment may have heterogeneous effects. The following sections extend the graphical evidence to a formal regression analysis so that we can investigate explicitly whether the effect of alignment varies according to local political conditions.

5.2 Baseline regression results

Panel A of Table 1 presents the regression results for Eq. (1). Consistent with the graphical evidence, we find no significant difference between aligned and unaligned municipalities. Panel B then estimates Eq. (2) where we allow the effect of alignment to vary with the degree of local support. We find that the interaction effect is consistently significant and positive. These estimates indicate that aligned municipalities receive relatively more transfers if more local support for the state government is observed, i.e., if a larger share of municipalities has a council on which aligned parties have a majority. A fortiori, these results suggest that the effect of alignment is not constant.

In Fig. 3, we calculate the marginal effect of alignment at different levels of local support based on the estimates in column IV of panel B in Table 1 (Brambor et al. 2006).

Table 1 Political alignment of the local council and transfers under different state governments, local linear and parametric RDD

	(I)	(II)	(III)	(IV)
Panel A: linear model				
Aligned majority	0.150	0.096	0.084	0.088
	(0.152)	(0.084)	(0.096)	(0.108)
Panel B: interaction model				
Aligned majority	−0.329	−0.337*	−0.346*	−0.338*
	(0.245)	(0.185)	(0.191)	(0.194)
Aligned majority × total aligned municipalities	1.713***	1.609***	1.617***	1.636***
	(0.636)	(0.547)	(0.550)	(0.553)
N	4235	8639	8639	8639
BW	0.22	Full	Full	Full
Polynomial	Linear	Quadratic	Cubic	Quartic

Notes (a) Dependent variable: log real budget support transfers per capita. The running variable is the smallest value of the perturbation function where political alignment changes at least 50% of the time in the simulations. (b) Estimates for transfer receipts of aligned municipalities derived from a local linear regression using optimal bandwidths according to Calonico et al. (2014) and parametric RDD polynomial regressions using different degrees (quadratic to quartic) of the running variable. Aligned municipalities are defined as those where the party bloc aligned with the state government received more than 50% of the seats. In panel A, we report results for linear models. In panel B, we interact the alignment dummy with the overall share of aligned municipalities in the state. (c) Standard errors are robust to heteroscedasticity and clustered at the level of municipalities. All models include year fixed effects. (d) Stars indicate significance levels at 10%(*), 5%(**), and 1%(***)

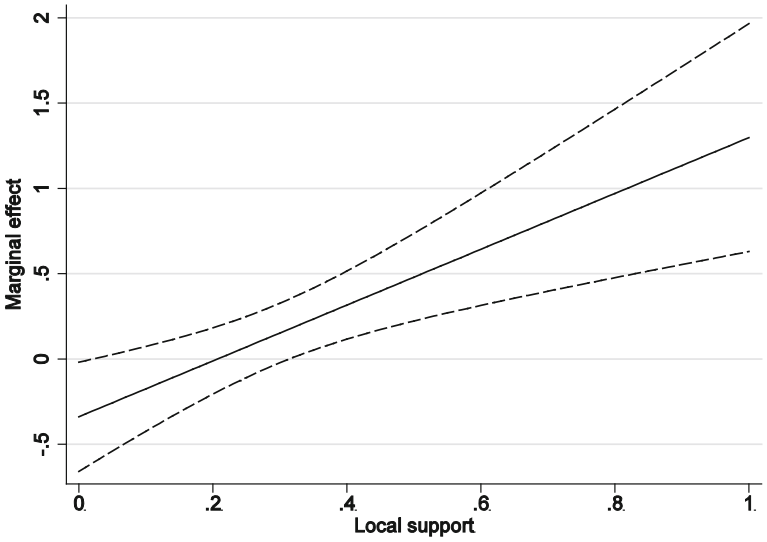


Fig. 3 Marginal effect of alignment at different values of local support. This figure presents the marginal effect and 90% confidence intervals of the alignment dummy evaluated at values of local support between 0 and 100%. The marginal effects are calculated on the basis of the estimates reported in column IV of panel B in Table 1

While the regression results in Table 1 allow us to gauge whether the marginal effect varies with the degree of local support, the plot in Fig. 3 can be used to evaluate the absolute effect of alignment on transfers at a given degree of local support. We find that at low levels of local support, alignment has an effect on budget support transfers that is statistically indistinguishable from 0. In contrast, at high levels of local support, the marginal effect is significantly positive. The marginal effect is significantly positive beyond a level of local support that is around 35%. While the degree of local support in our sample exceeds 35% in some years (see the summary statistics in Table D.2 in the appendix), this is a relatively high threshold; hence, for aligned municipalities actually to receive more budget support transfers, the degree of local support must be relatively high.

These results imply that unaligned municipalities never receive larger transfers than aligned municipalities, but that they are less likely to receive fewer transfers if the degree of local support for the state government is low. Overall, these results are consistent with our hypothesis that the state government pursues two distinct goals with its budget support transfers, even if the "buying the support of opposition municipalities" motive almost never appears to be important enough to cause opposition municipalities to receive larger transfers than aligned municipalities.

6 Robustness and validity

6.1 Seat shares as forcing variable

A test for whether the perturbation procedure correctly identifies close elections is to re-estimate Eq. (2) using seat shares as the forcing variable. While seat shares are problematic for the reasons outlined above, they should nevertheless suggest similar conclusions, since the share of seats of the party blocs and the change in vote shares required to flip the alignment of a particular municipality are related. Hence, an RDD using seat shares can be

Table 2 Political alignment of the local council and transfers under different state governments, local linear and parametric RDD, and seat shares as indicators of close elections

	(I)	(II)	(III)	(IV)
Aligned majority	−0.420	−0.230	−0.358	−0.280
	(0.294)	(0.218)	(0.246)	(0.297)
Aligned majority × total aligned municipalities	1.830***	1.419**	1.427**	1.429**
	(0.679)	(0.586)	(0.586)	(0.586)
N	2170	9248	9248	9248
BW	0.11	Full	Full	Full
Polynomial	Linear	Quadratic	Cubic	Quartic

Notes (a) Dependent variable: log real budget support transfers per capita. The running variable is the aggregated seat share of the parties aligned with the state government. (b) Estimates for transfer receipts of aligned municipalities derived from a local linear regression using optimal bandwidths according to Calonico et al. (2014) and parametric RDD polynomial regressions using different degrees (quadratic to quartic) of the running variable. Aligned municipalities are defined as those where the party bloc aligned with the state government received more than 50% of the seats. (c) Standard errors are robust to heteroscedasticity and clustered at the level of municipalities. All models include year fixed effects. (d) Stars indicate significance levels at 10%(*), 5%(**), and 1%(***)

perceived as a test of the validity of the perturbation procedure. Table 2 thus presents replications of the baseline models using seat shares rather than the perturbation variable as running variable. The results are consistent with the baseline estimates. While the interaction effect is slightly less significant, it is consistently positive and significant at conventional levels.

6.2 Control for pre-treatment variables

One important test for a valid RDD is whether any exogenous pre-treatment variables exhibit a discontinuity at the threshold. If such discontinuities were found, it would be unclear whether treatment effects are explained by the change in alignment status or some other underlying variable. However, in our panel context, this test is likely uninformative as persistence in both treatment status and municipal characteristics is likely. As an alternative test for whether pre-treatment characteristics affect the results, we report results where we re-estimate the baseline models while explicitly controlling for pre-treatment municipal characteristics, notably for five fiscal variables: total expenditures per capita, current revenues per capita, the business tax multiplier, and the property tax A and B multiplier. All variables are in logs and lagged by 5 years.

We lag all variables by 5 years to ensure that they are measured in the last state legislative period and thus are pre-determined with respect to the current alignment status.[32] The business tax is levied on firm profits; property tax A is levied on agricultural properties and property tax B on non-agricultural properties. In terms of revenues, the business tax and property tax B are much more important than property tax A. The tax "multipliers" are scaling factors that deterministically set the effective tax rates on the different tax bases.

The results are collected in Table 3. The estimated coefficients for the interaction variable continue to be significant and positive. In fact, the numerical values of the estimates hardly change. This indicates that the baseline results are not driven by pre-treatment imbalances.

6.3 Discontinuity in density

One further assumption for a valid RDD is that no selective manipulation of the running variable should be apparent in neighborhoods close to the threshold. If some agents were able selectively to manipulate the running variable around the threshold, it would not be possible to disentangle the causal effect of the treatment from the effect of those characteristics that allow agents to manipulate close elections. In particular, it might be possible that the party bloc aligned with the state government would be able systematically to tilt close elections in its favor, using either legal or illegal methods.

Manipulation is not a severe concern in our setting given that seat allocations depend in a complicated way on the vote shares of all parties. Given the inherent uncertainty involved in the mapping of votes to seats and the ensuing difficulties in identifying close elections, agents would not know where to invest scarce resources to manipulate the election results. Second, outright manipulation also is implausible given the strong democratic traditions in Germany.

[32] Note that state legislative periods before 1999 period were only 4 years. For simplicity and consistency with the regressions for the post-1999 period, we use the fifth lag for the pre-1999 period.

Table 3 Political alignment of the local council and transfers under different state governments, local linear and parametric RDD, and control for various pre-treatment covariates

	(I)	(II)	(III)	(IV)
Aligned majority	−0.503**	−0.380**	−0.378**	−0.391**
	(0.229)	(0.175)	(0.180)	(0.185)
Aligned majority × total aligned municipalities	1.795***	1.565***	1.548***	1.552***
	(0.567)	(0.501)	(0.505)	(0.509)
Pre-treatment covariates	Yes	Yes	Yes	Yes
N	4117	8439	8439	8439
BW	0.22	Full	Full	Full
Polynomial	Linear	Quadratic	Cubic	Quartic

Notes (a) Dependent variable: log real budget support transfers per capita. The running variable is the smallest value of the perturbation function where political alignment changes at least 50% of the time in the simulations. (b) Estimates for transfer receipts of aligned municipalities derived from a local linear regression using optimal bandwidths according to Calonico et al. (2014) and parametric RDD polynomial regressions using different degrees (quadratic to quartic) of the running variable. Aligned municipalities are defined as those where the party bloc aligned with the state government received more than 50% of the seats. (c) Standard errors are robust to heteroscedasticity and clustered at the level of municipalities. All models include year fixed effects and control for the the fifth lag of the following variables: expenditures per capita, revenues per capita, business tax rate, property tax rate A, and property tax rate B. All pre-treatment covariates are included in logs. (d) Stars indicate significance levels at 10%(*), 5%(**), and 1%(***)

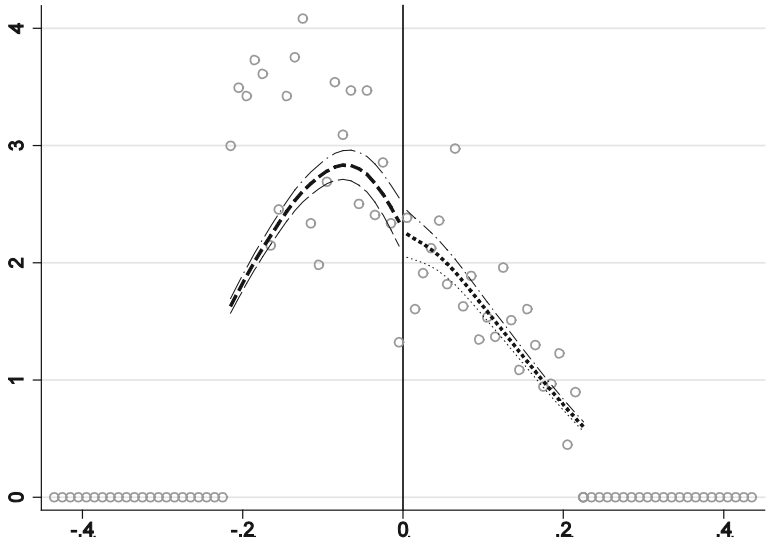


Fig. 4 McCrary plots for the indicator of close elections. These plots test whether there is a discontinuity in the running variable—the indicator of close elections—at the threshold to check for selective manipulation. The plots are based on a bin size of 0.01 and the optimal bandwidth according to Calonico et al. (2014)

Nevertheless, it is important to check this assumption explicitly. Figure 4 hence collects McCrary (2008) plots to validate the no-manipulation assumption. The idea underlying these plots is that if the empirical distribution of the perturbation index displays a positive

discontinuity at the threshold, then close victories of the aligned party bloc are more common than close defeats, suggesting that the allocation of alignment status at the threshold is not quasi-random.

Both plots are based on the default bandwidth according to McCrary (2008) and a bin size of 0.01.[33] Overall, no discontinuity at the threshold is evident. Hence, little evidence can be found that would suggest manipulation.

6.4 The effect of ideology

Another concern is that the alignment effect may be spurious and in reality driven by behavioral differences of left-wing and right-wing state governments. More specifically, one may be concerned that either left-wing or right-wing state governments allocate more transfers to aligned municipalities for some innate reason or that left-wing or right-wing municipalities receive more transfers because they are perceived to be needier by the state government, irrespective of whether or not they are aligned.

To explore this issue, we estimate versions of the baseline models for which we control explicitly for the ideology of a municipality. We report two sets of such models in Table 4. In panel A, we collect results for the alignment variable and its interaction with AS_t when we also control for the seat share of left-wing and right-wing parties (the omitted category comprises the unaligned parties). As before, we obtain a significant and positive estimate for the interaction variable. The seat share variables, on the other hand, are insignificant. In panel B, we replace the seat share variables with dummies for whether the absolute majority in a municipality is left wing or right wing. We find that municipalities with clear left-wing majorities receive significantly larger budget support transfers. This, however, does not change the result of a significant and positive interaction between the dummy for whether a municipality is aligned and the total share of aligned municipalities.

7 Extensions

7.1 (Local) Election and non-election years

The incentive to use budget support transfers to help aligned municipalities win the next local election could be especially pronounced if a local election is imminent.[34] Consequently, transfers to aligned municipalities may be notably large shortly before a local election.[35] On the other hand, incentives to allocate transfers may not vary across the electoral term, for example, if voters take projects that were implemented relatively early in the term into account when voting in the next local election.

To explore this issue, we estimate Eq. (1) with samples restricted to the 2 years before an election (1991–1992, 1995–1996, 1999–2000, 2004–2005, and 2009–2010) and all

[33] More specifically, we use the default bandwidths as calculated by the Stata ado-file provided by McCrary (2008). For consistency with the regressions, we also restrict the sample to the optimal bandwidth according to Calonico et al. (2014).

[34] Such electoral cycles should be less important for state elections given the electoral rules in Hesse. Since state election outcomes ultimately depend on votes for state party lists, the state government has few incentives to target resources to individual municipalities shortly before a state election.

[35] Brollo and Nannicini (2012), for example, detect significant alignment effects only in the 2 years before an election year.

Table 4 Political alignment of the local council and transfers under different state governments, local linear and parametric RDD, and control for ideology

	(I)	(II)	(III)	(IV)
Panel A: seat shares of party blocs				
Aligned majority	−0.340	−0.226	−0.222	−0.214
	(0.264)	(0.196)	(0.201)	(0.205)
Aligned majority × total aligned municipalities	1.737**	1.247**	1.256**	1.269**
	(0.740)	(0.587)	(0.583)	(0.584)
Left-wing seat share	0.004	0.005	0.005	0.005
	(0.006)	(0.003)	(0.003)	(0.003)
Right-wing seat share	0.005	0.002	0.002	0.002
	(0.006)	(0.003)	(0.004)	(0.004)
Panel B: dummy for absolute majority of party blocs				
Aligned majority	−0.777*	−0.476**	−0.501**	−0.503**
	(0.426)	(0.229)	(0.242)	(0.252)
Aligned majority × total aligned municipalities	2.332**	1.585***	1.605***	1.629***
	(1.019)	(0.603)	(0.609)	(0.608)
Left-wing majority	0.184	0.172**	0.177**	0.180**
	(0.142)	(0.080)	(0.080)	(0.081)
Right-wing majority	0.346	0.192	0.198	0.202
	(0.255)	(0.146)	(0.148)	(0.148)
N	4235	8639	8639	8639
BW	0.22	Full	Full	Full
Polynomial	Linear	Quadratic	Cubic	Quartic

Notes (a) Dependent variable: log real budget support transfers per capita. The running variable is the smallest value of the perturbation function where political alignment changes at least 50% of the time in the simulations. (b) Estimates for transfer receipts of aligned municipalities derived from a local linear regression using optimal bandwidths according to Calonico et al. (2014) and parametric RDD polynomial regressions using different degrees (quadratic to quartic) of the running variable. Aligned municipalities are defined as those where the party bloc aligned with the state government received more than 50% of the seats. We control for ideology in these regressions in two ways. In panel A, we control for the seat share of left-wing and right-wing parties. In panel B, we control for dummies that are one if a municipality has a left-wing or right-wing seat majority. (c) Standard errors are robust to heteroscedasticity and clustered at the level of municipalities. All models include year fixed effects. (d) Stars indicate significance levels at 10%(*), 5%(**), and 1%(***)

other years (1989–1990, 1993–1994, 1997–1998, 2001–2003, and 2006–2008). The regression results are collected in Table E.1 in the Online Appendix. We plot in Fig. 5 the marginal effects for the two subsamples based on the estimation results in column IV of Table E.1. Overall, alignment generally has a more positive effect on transfers in years farther away from an election. The slope of the marginal effect curve also is steeper in the non-election-year subsample, arguably suggesting that local support matters more in non-election years. One explanation for this pattern may be the existence of some delay between the granting of the transfers and when the associated funds actually are spent on specific projects. In any case, the differences between election and non-election years are not huge, indicating that politically motivated distortions in transfer allocations take place in both election and non-election years alike.

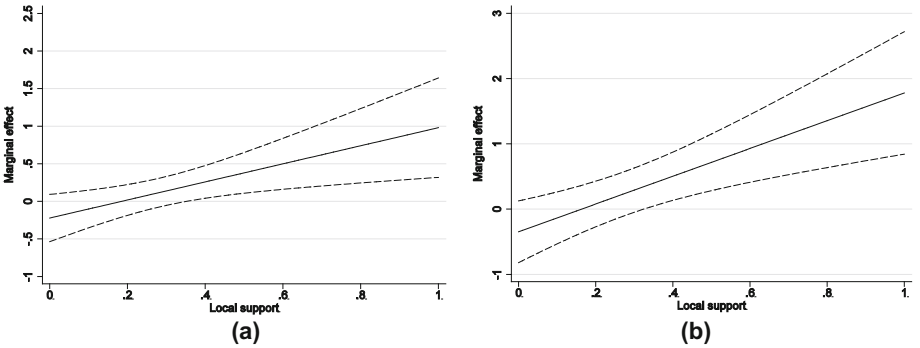


Fig. 5 Marginal effect of alignment at different values of local support in years close and not close to local elections. This figure presents the marginal effect and 90% confidence intervals of the alignment dummy evaluated at values of local support between 0 and 100% for subsamples covering years close and not close to local elections. The marginal effects are calculated on the basis of the estimates reported in column IV of panel A and B in Table 7, respectively. **a** Election years, **b** non-election years

7.2 Opposition and mixed councils

Another interesting question is whether the effect of alignment and its interaction with local conditions varies with the share of smaller parties that are unaffiliated with the large national ideological blocs. Voters in municipalities where such parties have a substantial representation may be more "swing", i.e., they may be more easily won over in the next election by pork-barrel projects financed with larger budget support transfers. Thus, alignment may matter more in such municipalities. To explore this hypothesis, we divide the sample into municipality-year pairs wherein smaller parties have an aggregate vote share of more and less than 20%, respectively, and re-estimate the baseline models with these subsamples.[36]

Table E.2 in the Online Appendix collects the regression results. To explore whether aligned or unaligned municipalities receive larger transfers depending on the level of local support, we plot in Fig. 6 the marginal effect of alignment at different levels of local support based on the results in column IV of Table E.2 for both subsamples.

Consistent with the above interpretation, we find that the marginal effect, while increasing in the degree of local supports, has a flatter slope in municipalities with small aggregate shares of smaller parties (subfigure a). Nevertheless, it is still the case that aligned municipalities tend to receive large transfers than unaligned ones if the degree of local support is high.

When we focus on municipalities wherein smaller parties have a large aggregate vote share, we find slightly stronger effects, both positive and negative. Overall, this suggests that incentives to distort transfers politically are particularly strong in municipalities that have more swing voters and therefore may not be too opposed ideologically to a given state government. Yet, the differences are again not huge, indicating that incentives to distort transfers for political reasons do not depend much on whether a municipality is swing or not.

[36] Higher cutoffs are not useful because the aggregate seat share exceeds 20% only in a few municipalities.

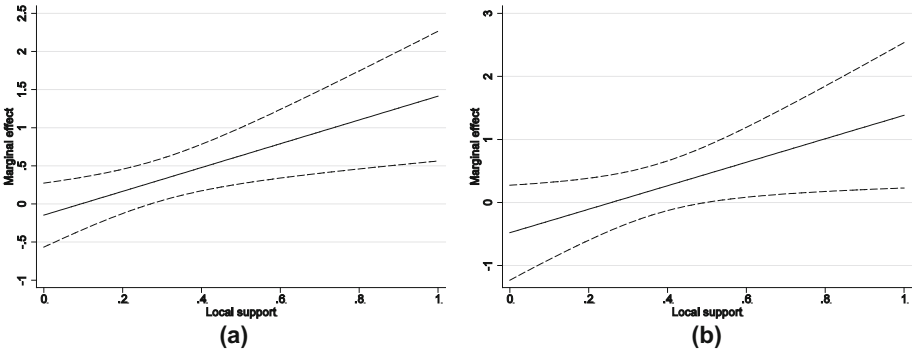


Fig. 6 Marginal effect of alignment at different values of local support in municipalities with and without substantial representation of smaller parties. This figure presents the marginal effect and 90% confidence intervals of the alignment dummy evaluated at values of local support between 0 and 100% for subsamples covering municipality-year pairs where smaller parties have an aggregate seat share above and below 20%. The marginal effects are calculated on the basis of the estimates reported in column IV of panel A and B in Table 8, respectively. **a** Low share of smaller parties; **b** high share of smaller parties

8 Conclusion

This article studies whether state governments of the German federal state of Hesse manipulate discretionary transfers for political reasons. We explore this question for budget support transfers. Our results suggest that the effect of alignment on transfer receipts is not uniform but rather varies with local political conditions. Specifically, aligned municipalities tend to receive larger transfers when the degree of local support for the state government is strong. If it is weak, however, no substantial difference between aligned and unaligned municipalities is found.

We draw a number of conclusions that are relevant for the literature on the political economy of intergovernmental transfers. First, political manipulations of transfer policies happen not only in countries with presidential systems at the local level, but also in countries where local politics follows a quasi-parliamentary model. Second, governments appear to use discretionary transfers to achieve several political goals at the same time, causing the effect of alignment to vary with local political conditions. Finally, we also observe that incentives for political manipulation are slightly lower in years close to elections and in municipalities that have large shares of swing voters/representatives who do not firmly belong to one of the two major national ideological blocs.

One limitation of our analysis is that the share of aligned municipalities varies only at the state level. Thus, we must make the identifying assumption that the share of aligned municipalities is not correlated with time-specific shocks that vary systematically with the alignment status of municipalities. While this assumption is defensible, future research on this question should aim to relax it, for example, by using data that cover several states. Overall, the relationship between political alignment and the allocation of intergovernmental transfers appears to be a promising avenue for further theoretical and empirical work.

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Compliance with ethical standards

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