Public Choice (2024) 198:467–492
https://doi.org/10.1007/s11127-023-01138-w

Against the tide: how changes in political alignment affect grant allocation to municipalities in Hungary

Tamás Vasvári[1] · **Dóra Longauer**[2]

Received: 13 July 2022 / Accepted: 13 December 2023 / Published online: 3 February 2024

Abstract
The 2019 local election in Hungary accelerated the trend of centralization, marked by a simultaneous reduction in available local funds and an increase in discretionary transfers to local governments. This paper, utilizing a dataset encompassing all over 3000 municipalities from 2015 to 2020, employs fixed-effect estimations and a regression discontinuity design to explore how election outcomes influenced central decisions on intergovernmental transfers. Generally, larger municipalities are more susceptible to political influence, particularly in the allocation of discretionary grants, whereas smaller settlements appear less affected by political shifts. Changes in political alignment triggered a rewarding policy for municipalities that remained or converted to aligned status, resulting in an additional 86.4% and 65.2% of discretionary funds, respectively, relative to those converting to or remaining unaligned. Our research establishes that political influence in intergovernmental transfers has intensified since 2019, offering valuable insights for the upcoming 2024 election.

Keywords Local government · Grant allocation · Election · Political favoritism · Hungary

JEL Classification H70 · H74 · H77

1 Introduction

Residents in District III of Budapest have faced challenging times since 2020. The well-known impact of COVID-19 on daily life, spanning healthcare, employment, education, and social care, has been compounded by other adverse developments unfolding amidst the pandemic. In 2020, per capita central grants for municipal projects plummeted by a

✉ Tamás Vasvári
vasvari.tamas@ktk.pte.hu

Dóra Longauer
longauer.dora@ktk.pte.hu

[1] Centre of Excellence in Economic Studies, Faculty of Business and Economics, University of Pécs, Rákóczi Út 80., Pécs 7622, Hungary

[2] Department of Management Science, Faculty of Business and Economics, University of Pécs, Rákóczi Út 80., Pécs 7622, Hungary

staggering 86%, dropping from a 5-year average of HUF 20,900 (EUR 58) to HUF 2900 (EUR 8). Similarly, discretionary grants witnessed a sharp decline, decreasing by 73%. Until 2020, the municipality encountered no issues securing central approval for borrowing initiatives, but subsequently, even attempts to amend existing loans were consistently denied by the Cabinet. The roots of these central decisions trace back to the 2019 local elections, where opposition parties surprisingly secured victories in flagship settlements, including the metropolitan municipality of Budapest, most of its districts, and major towns in the countryside. Despite the governing coalition maintaining a similar number of settlements, their budgetary influence at the local level dropped from 58.5% to 42.2%. Citizens may have been aware that voting against the government candidate could bring hard times for the settlement, as several studies, journal notes (e.g., Vasvári, 2019), and political statements[1] suggested that aligned municipalities might continue to receive favorable treatment post-election. However, opposition candidates triumphed in numerous settlements, indicating voter acceptance of potential disfavor in central decisions. District III's experience underscores the accuracy of these expectations.

While political favoritism in central decisions is a well-explored topic in Hungary (e.g., Gregor, 2020; Kornai, 2014; Muraközy & Telegdy, 2016; Vasvári, 2022), the recent local elections' unfolding impacts on local affairs provide a compelling basis for further research. Two key factors drive this need: the government's post-pandemic steps toward centralization, including the legal trimming of local revenues, and the increasing role of discretionary grants in central financing, nearly doubling from 2019 to 2020. In response, our research investigates the discretionary grant allocation mechanism in Hungary from 2015 to 2020, with a primary focus on understanding how changes in political affiliation influence transfers received. Using a dataset covering HUF 1193 billion (approx. EUR 3.3 billion) in grants, we employ two identification strategies: fixed-effect (FE) regression and regression discontinuity (RD) design.

Our contribution lies in demonstrating how an unwelcome local election outcome from the government's perspective affects fund allocation mechanisms in Hungary. By delving into the political conversion of municipalities and employing the RD approach, we offer detailed insights into the impact on local governments. To our knowledge, this is the first attempt to investigate the political repercussions of the latest local election, providing potential lessons for the upcoming 2024 election. The topic aligns with recent rule-of-law concerns raised by the European Commission (Politico, 2022) and democratic backsliding noted by the European Parliament (European Parliament 2022a). The EP has also adopted a report suggesting that Hungarian local governments may submit funding applications directly to the European Union (EU), bypassing government institutions (European Parliament, 2022b).

The rest of the paper is organized as follows. The next chapter briefly introduces the theoretical background and reviews relevant literature. The third section outlines the Hungarian institutional setting. Subsequently, we introduce the data and methodology, which is followed by the presentation of the results. Finally, conclusions are drawn.

[1] In the local election campaign, the former minister overseeing municipal projects asserted that "*he would predominantly lend support to settlements where the mayoral candidate of the governing parties emerged victorious*" (Német 2019).

2 Theoretical background

Fiscal federalism delineates the optimal allocation of public tasks between central and subnational governments to foster social welfare. The decentralization theorem, as articulated by Oates (1977), underscores that social welfare flourishes when local authorities provide public goods rather than relying on a uniform, centrally dictated supply. A crucial prerequisite for decentralization is vertical fiscal balance,[2] which asserts that those who benefit from expenditures should bear the associated costs in both time and space (Vasvári, 2022). Long-term loans to finance current expenses, a breach of the golden rule, have long been recognized as leading to an inequitable distribution of burdens across time (Musgrave, 1959). Similarly, flawed grant design and biased transfers can distort the outcomes of decentralization, favoring citizens in certain settlements[3] while causing welfare losses for those in less-favored areas, assuming uniform taxation at the central level. Initiating local projects from central funds, an increasing share of discretionary grants, and unconditional bailouts can create winners benefiting from central decisions and losers left out. These dynamics may foster patron–client relationships, where local leaders are more inclined to align with the government's preferences to ensure a steady flow of resources (Coman, 2018). Financial difficulties may emerge in disfavored municipalities, leading to deficiencies in public services, project postponements, or infrastructure deterioration. Ultimately, "collective irresponsibility" may manifest, with local and central governments blaming each other for failures in delivering local public services (Vigvári, 2010).

The allocation of funds and central decisions often exhibits a political pattern, investigated thoroughly in the literature. Early studies on political favoritism focused on how governments utilize financial resources to win swing districts (Lindbeck & Weibull, 1987) or reward core supporters (Cox & McCubbins, 1986). In this regard, Ward and John (1999) explored how the UK government directed public resources to marginal constituencies and flagship local governments in the 1994/1995 financial year. Johanson (2003) examined the Swedish case, demonstrating that political competition influences the allocation of intergovernmental transfers, with municipalities having more swing voters receiving more grants. Kauder et al. (2016) found evidence on the core supporter hypothesis in Germany, revealing that settlements with more voters aligned with the incumbent state government receive more discretionary grants. Veiga and Veiga (2013) showed that in election years, the central government of Portugal provided extra grants to municipalities where they expected greater loss of votes. A broad stream of research studied partisanship between central and local leaders. Migueis (2013) investigated municipal elections in Portugal between 1989 and 2001 and found that aligned municipalities received approximately 19% more targetable transfers than unaligned municipalities. Solé-Ollé and Sorribas-Navarro (2008) analyzed grants received by the Spanish municipalities and argued that political alignment with the upper-tier governments is rewarded by increased transfers. Curto-Grau et al. (2018) further investigated the Spanish case and provided evidence of political bias in capital transfers from regional to local governments. Bracco et al. (2015) explored the issue from theoretical and empirical aspects and found that politically aligned Italian municipalities receive more grants by 36–47%.

[2] Oates (1999) thoroughly examines the role of intergovernmental transfers in the decentralization theorem.

[3] Kornai (2014) refers to these benefits as a "national gift."

Pork-barreling in Hungary was also investigated in detail by several papers. Gregor (2020) found evidence that during the national elections of 1998 and 2002, swing and poorer local governments were politically targeted and received larger intergovernmental transfers. Muraközy and Telegdy (2016) investigated the allocation schemes of European Structural Funds between 2004 and 2012, revealing that politically aligned local governments had higher project acceptance rates, and EU subsidies benefited incumbent mayors in local elections. Vasvári (2022) explored the effect of alignment from both local and central perspectives, concluding that political clientelism has been on the rise since 2010, particularly regarding EU funds. Kornai (2014) found evidence of political patterns in bailouts of local governments between 2011 and 2014. Vasvári (2020) argued that unaligned local governments are less likely to receive central approval for their credit applications, limiting their access to financial markets.

3 Institutional background

A two-tier governance system was reinstated in Hungary in 1990 immediately after the transition period. The local tier, marked by significant fragmentation, assumed responsibility for a diverse range of public services, setting Hungary apart within the European landscape (Vasvári, 2022; Vigvári, 2010). The economic foundation of municipal autonomy rested on inherited assets, the authority to levy local taxes, block grants from central governments, and unregulated financial market activities (Kopányi, et al., 2004). This resulted in a highly decentralized and market-driven model of local governance. However, post-2010, the newly elected government, securing a two-thirds majority, prioritized recentralization in public reforms (Dobos, 2021; Karas, 2021). From 2011 onward, deconcentrated forms of public services (e.g., government offices) were favored over municipal (decentralized) service delivery (Jankovics, 2016; Kákai, 2021), with counties now responsible only for regional development conceptualization. Following the reallocation of public services in 2013, municipal expenditure as a percentage of GDP declined from 12.4% to 6.6% between 2010 and 2020. Central grants became predominantly earmarked, and shared taxes and block grants diminished, while discretionary grants assumed an increasingly pivotal role in financing public services and municipal projects. The granting scheme was revised, and now settlements with high local tax income get fewer central grants or may even be obliged to make payments to the central budget. Moreover, the spending of local tax income became further limited by law. The central government also prepaid or took over the outstanding liabilities (loans, bonds) of the entire municipal sector (Kornai, 2014). Since then, municipal borrowing has become conditional on the approval of the central government.

Up until 2020, significant changes in local finances were not apparent following the 2013 reforms and the assumption of municipal debt in 2014. However, in response to the COVID-19 pandemic, additional centralization measures were implemented, further constraining the financial autonomy of local governments (Kákai, 2021). The government is now authorized to establish priority economic zones that channel local tax revenues from the settlements to the counties. Meanwhile, municipalities were also prohibited from increasing local tax rates. The previously shared motor tax income is now withdrawn entirely by the government, while the rate of local business tax paid by small

Table 1 Characteristics of local governments per political affiliation, 2015–2020

No. of local governments		2020				
		Opposition	Independent	Aligned	Total	Share (%)
2015	Opposition	16	29	5	*50*	*1.6%*
	Independent	4	2,344	153	*2,501*	*78.7%*
	Aligned	21	162	443	*626*	*19.7%*
	Total	*41*	*2, 535*	*601*	*3,177*	*100.0%*
	Share (%)	*1.3%*	*79.8%*	*18.9%*	*100.0%*	

Budget size (2020), HUF billion		2020				
		Opposition	Independent	Aligned	Total	Share (%)
2015	Opposition	121.6	95.6	6.4	*223.6*	*8.4%*
	Independent	19.1	764.0	100.7	*883.8*	*33.2%*
	Aligned	378.0	162.1	1,018.1	*1,558.2*	*58.5%*
	Total	*518.7*	*1,021.7*	*1,125.2*	*2,665.6*	*100.0%*
	Share (%)	*19.5%*	*38.3%*	*42.2%*	*100.0%*	

Remained unaligned ('persistent') *Converted to aligned ('new allies')*
Converted to unaligned ('against the tide') *Remained aligned ('loyal')*

Own compilation based on data from the Hungarian Election Office, the Hungarian Central Statistics Office, and the Hungarian State Treasury

and medium-sized enterprises (SMEs) also decreased by 50% by law.[4] While initially conceived as temporary measures, it became evident that the central government considered some of them permanent (e.g., motor tax). Beyond the pandemic challenges, the reduction of local autonomy may be rooted in political motives, traceable to the local election in October 2019, where opposition parties experienced unexpected success. Despite a decrease in the number of opposition municipalities from 50 to 41, their budgetary share increased from 8.4% to 19.5%. Notably, half of the settlements won by the opposition were previously aligned, and important flagship municipalities were captured from the government coalition, constituting 14% of the entire sector budget (Table 1).

Despite thorough research on pork-barreling in Hungary, the local election held in 2019 adds a new layer of significance to this topic. Even though it might have been expected that going unaligned would be disfavored and settlements may receive fewer transfers, in many municipal strongholds the majority of the voters went against the tide, which altered the balance of power at the local level. In response, the government took decisive action: they curtailed local financial autonomy while concurrently augmenting the scope of discretionary funds. This shift implies an intensification of political patterns influencing central decisions.

[4] Reszkető et al. (2022) provide an extensive account of central government measures impacting the financial autonomy of Hungarian municipalities from 2019 to 2021.

4 Data and methodology

4.1 Descriptive statistics

In our empirical research, we delve into a specific aspect of discretionary decisions, the distribution of supplementary grants allocated to municipalities between 2015 and 2020. The dataset is constructed using the municipal final statements provided by the Hungarian State Treasury for each municipality-year. This comprehensive dataset enables us to categorize transfers based on their distribution mechanisms:

1. Discretionary grants based on government decree. These transfers have various purposes, ranging from additional support for operation (e.g., wages) and public services delivery to funding various municipal projects.
2. Other supplementary transfers based on the budget bill. This category includes various supplementary transfers. Some follow a formulaic structure, like compensation for wages or additional grants for the operation of cultural institutions such as libraries and museums. The calculation of certain transfers is delegated to corresponding ministries, e.g., support for chimney sweep services or public transport. The remaining grants are subject to municipal application, covering areas like additional support for residential water and sewage services or development funds for renovating public buildings and infrastructure (e.g., kindergartens, schools, roads, and pavements).

The total grants under consideration amount to HUF 1193 billion (EUR 3.3 billion), constituting 13.5% of the total earmarked and capital grants (including EU Funds) disbursed by the state during this period (Fig. 1). Our primary focus is on the allocation of discretionary grants, the share of which in total grants exhibits a noteworthy 6.1-percentage-point increase between 2015 and 2020, almost doubling from 2019 to 2020.

Our key variable for political affiliation is the directly elected mayor for each settlement, as provided by the National Election Office.[5] Mayors are considered aligned if nominated by the governing coalition (Fidesz-KDNP [Christian Democratic People's Party] during this period). Conversely, they are deemed unaligned if nominated by an opposition party or a party that did not secure parliamentary entry, or ran as an independent candidate.[6] Alignment status is based on the national elections held in 2014 and 2018, the local elections held in 2014 and 2019, and the midterm local elections between 2015 and 2020. Given Fidesz-KDNP's continuous governance since 2010, changes in alignment status are primarily attributed to local dynamics, particularly the 2019 elections.[7] Control variables are sourced from data provided by the Hungarian Central Statistics Office and municipal final statements from the Hungarian State Treasury. The characteristics of local

[5] The composition and political affiliation of the city council would be cumbersome, and based on our experience, there are only a few instances where the mayor lacks sufficient support from the council. Additionally, the Hungarian institutional framework exhibits a "strong mayor" characteristic, enabling the mayor to exert significant influence on the council's proceedings despite their equal legal standing (Dobos, 2021).

[6] Midterm elections are conducted only in special circumstances, such as when the mayor resigns, or the city council is dissolved. During this period, there were 384 midterm mayoral elections, and 32 of them had an impact on the alignment of the respective settlements.

[7] In 13 cases (including two Budapest districts, eight towns, and three cities with county rights), we reassessed the independent alignment of mayors, as they were evidently supported by either the governing coalition or opposition parties.

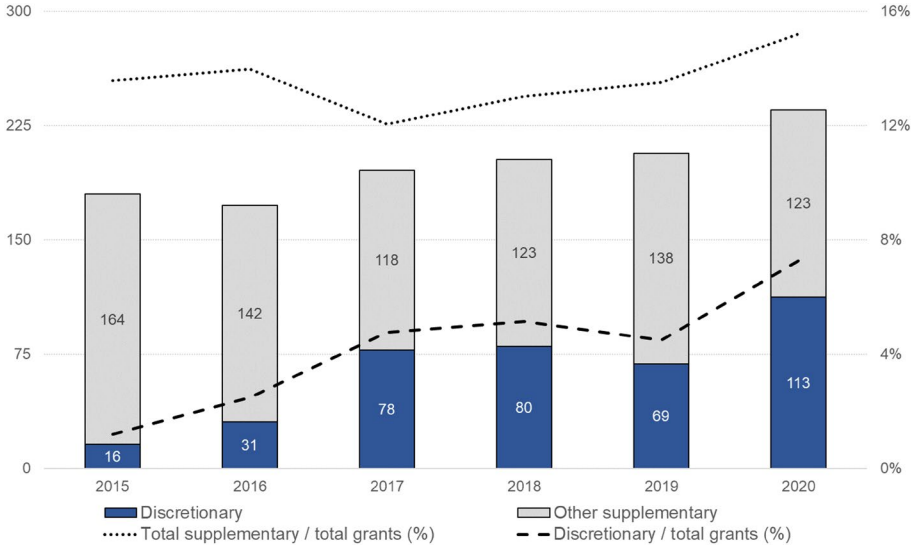

Fig. 1 Supplementary grants, HUF billion. Own compilation based on data from the Hungarian State Treasury

governments are detailed in the Appendix (Table 5). Unaligned municipalities generally represent smaller settlements with lower tax capacity and higher unemployment. This trend arises from the fragmented municipal system, where many smaller local governments are outside the sphere of national politics, leading to predominantly independent mayoral candidates in local elections (approximately 80% of settlements). When considering municipalities with a population exceeding 3000, alignment becomes more balanced.

We further categorized local governments based on changes in political alignment to assess their impact on grant distribution. Two groups saw no conversion, remaining aligned or unaligned throughout the period. The third group comprises those shifting to unaligned status, while the last group includes new government allies converting to aligned status. Table 1 presents the size and budgetary power of these groups, while Fig. 2 illustrates the per capita distribution of supplementary grants in each group. Noteworthy shifts in discretionary grants emerged after the 2019 election: loyal municipalities that remained aligned received significantly more, while those who went against the tide and became unaligned earned less compared to previous years, creating a gap exceeding HUF 15,000 (EUR 41.6) per capita between these groups. Initially, unaligned settlements exhibited similar patterns: new government allies were rewarded, with their per capita grant amount more than tripling from 2019 to 2020, while municipalities that remained unaligned experienced minimal change.

4.2 Methodology

We incorporate all local governments into our analysis, with certain limitations. Counties and the metropolitan municipality of Budapest were excluded due to their special status, and certain settlements were omitted due to insufficient data. As a result, the final dataset comprises 3155 local governments, encompassing 18,930 municipality-years (with a coverage of 98.7%). Within this dataset, we distinguish local governments

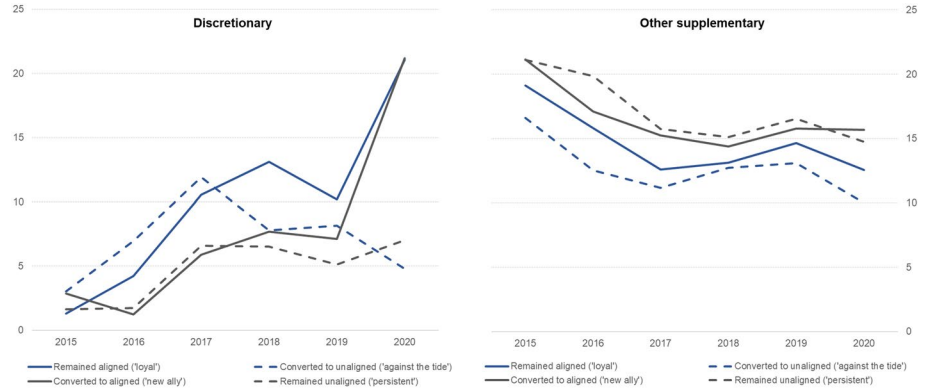

Fig. 2 Supplementary grants per capita in the conversion groups, HUF thousand (2020). Own compilation based on data from the Hungarian Election Office and the Hungarian State Treasury

with a population exceeding 3000 from smaller towns and villages, totaling 500 local governments and spanning 3000 municipality-years. This differentiation allows us to filter out smaller municipalities where political competition tends to be less intense.[8] The analysis encompasses a 6-year period from 2015 to 2020.

Our initial approach involves conducting a fixed-effect regression, wherein we account for time-invariant factors that could contribute to the correlation between alignment status and allocated grant values. Additionally, we seek to measure the variance in grant distribution among conversion groups, as illustrated in Fig. 2. The first group comprises initially aligned municipalities, with the coefficient of the *Aligned* dummy indicating the marginal effect of maintaining aligned status on received grants relative to municipalities that convert to unaligned (blue lines in Fig. 2). The second group includes initially unaligned municipalities, with δ_1 representing the marginal effect of transitioning to aligned status on received grant values relative to unaligned municipalities (gray lines in Fig. 3).[9] Our fundamental model for FE estimation is outlined as follows:

$$\log\left(\frac{\text{Grant value}}{\text{Population}}\right)_{it} = \delta_1 \text{Aligned}_{\text{it}} + \delta_2 X_{\text{it}} + \delta_3 \text{Region}_i \text{Year}_t + \alpha_i + \varepsilon_{it},$$

i denotes municipalities and t denotes years. Our key independent variable is the *Aligned* dummy (1 if the mayor is aligned to the governing coalition in the given year), indicating the marginal effect of the mayor's political alignment on the received grant value. A positive estimation of δ_1 would suggest a bias towards politically aligned municipalities.

[8] The 3000-inhabitant threshold aligns with previous studies (Muraközy & Telegdy, 2016; Vasvári, 2022) and is consistent with other government policies. For instance, the central government implemented this threshold during the centralization of public education in 2013.

[9] We also conducted an ordinary difference-in-differences model (following the approach of Solé-Ollé and Sorribas-Navarro, 2008) and obtained consistent results. However, we opted to maintain our original approach, as it provides a clearer depiction of the impact of switching political sides on grant allocation. In this framework, however, it is challenging to examine whether future changes in alignment status influence current grant values. To address potential concerns of reverse causality and endogeneity, we incorporated several checks in RD design.

X_{it} includes control budgetary variables of total expenditure per capita, operating balance per capita, and proportion of public service delivery in the total budget. The per capita tax income controls for the economic environment and serves as a proxy for external shocks, such as the pandemic, given its high correlation with locally produced GDP. Socioeconomic factors are accounted for by including unemployment, population density, and the proportion of elderly population.[10] Region (NUTS2) dummies interacted with year dummies enable the incorporation of otherwise non-varying regional effects. Nominal values are measured in HUF 2020 and deflated by the Consumer Price Index (CPI). The dependent variable is computed as the natural logarithm of grant value per capita, facilitating the management of outlier values and allowing interpretation in percentage terms. The same transformation is applied to control variables where necessary and applicable.

Our second approach employs a sharp regression discontinuity design to capture the grant effect of political alignment at the discontinuity point for the supplementary transfers received in 2020. To achieve this, we include the "Margin of victory or loss" variable in the model as our running variable, while "Aligned" counts as the treatment. Given that mayors are directly elected with a simple majority in each settlement and the districts of Budapest, we follow the calculation method of the running variable applied by Migueis (2013): if the aligned mayor won the election, the vote margin equals the difference between the aligned vote share and the runner-up candidate (right side); if a government coalition candidate lost the election, the vote margin is his or her vote share minus the winning candidate. Consequently, we could include only those settlements where the government coalition had a candidate in the 2019 local election. If the alignment of the mayor influences the distribution of transfers, we expect a "jump" at the cutoff point. A significant coefficient of the margin alone would suggest that the government may preferentially reward core supporters rather than the aligned mayor. Our RDD model is formulated as follows:

$$\log\left(\frac{\text{Grant value}}{\text{Population}}\right)_i = \delta_0 + \delta_1 \text{Aligned}_i + f\left(\text{Margin}_i\right) + \text{Aligned}_i \cdot f\left(\text{Margin}_i\right) + \varepsilon_i,$$

where Aligned$=1$ if the municipality is aligned with the government in 2020, and 0 otherwise, δ_1 represents the marginal impact of alignment on transfers at the cutoff, function $f(\text{Margin}_i)$ represents the relationship between the running variable and the awarded per capita grant value, while the interaction term $\text{Aligned}_i\, f(\text{Margin}_i)$ allows us to estimate different slopes on both sides of the cutoff point, as the alignment status may impact not only the intercept but also the slope of the regression curve. We estimate the model using nonparametric (local) and parametric (global) approaches with different functional forms (linear, quadratic, and cubic) along with other robustness checks on the margin and the control variables. Specifically, we also estimate the impact on the subset of data within bandwidth h to the left and right of the cutoff.

5 Results

5.1 Fixed-effect regression

The results are presented in Table 2, with two columns corresponding to estimations for municipalities with populations under and over 3000. The models were estimated for per

[10] Refer to Table 5 in the Appendix for the definition and data sources.

Table 2 FE estimates on alignment effect

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
R^2 (within)	0.293	0.095	0.575	0.256
No. obs.	15,930	15,930	3000	3000
Aligned	−.134	.072**	.619***	.059
	(.139)	*(.029)*	*(.190)*	*(.042)*

Dependent variable: ln(yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 3 FE estimates on the alignment effect in the conversion groups

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
Initially aligned LGs (difference between loyal and those who converted unaligned)				
R^2 (within)	0.224	0.093	0.563	0.267
No. obs.	2307	2307	1404	1404
Aligned	−.213	.119**	.864***	.080
	(.284)	*(.051)*	*(.300)*	*(.056)*
Initially unaligned LGs (difference between new allies and those who remained unaligned)				
R^2 (within)	0.304	0.102	0.617	0.282
No. obs.	13,614	13,614	1596	1596
Aligned	−.141	−.009	.652**	.103
	(.205)	*(.042)*	*(.312)*	*(.079)*

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

capita discretionary and other supplementary grants. The δ_1 coefficient of the *Aligned* variable is estimated to be 0.619 and significant for major municipalities. Alignment plays a role in the allocation of other supplementary resources in the case of smaller settlements (significant at 5% level), albeit to a much lower extent (0.072). Control variables mostly behave as expected (refer to Table 6 in the Appendix). Higher unemployment and elderly people ratios result in more grants, while population density and per capita tax income correlate negatively with the received grants; this may be due to the compensation mechanism of grant allocation, i.e., urbanization and higher taxing power result in fewer central resources.

Table 3 presents the results for the conversion groups based on their changes in political alignment. The upper part of the table includes coefficients for initially aligned municipalities, investigating the difference between loyal settlements and those that shifted to unaligned status. The lower section describes initially unaligned local governments (LGs), illustrating how the government treats new allies compared to those that remained unaligned. The estimated coefficient regarding discretionary transfers is significant for large

municipalities. Specifically, when an unaligned candidate is elected after aligned leadership, the settlement receives lower discretionary grants, averaging a decrease of 86.4% relative to the loyal settlements. Furthermore, we observe that other supplementary transfers received by smaller settlements are also influenced, albeit to a much lower extent (11.9%). On the other hand, if a municipality converts to aligned status, it will receive 65.2% more grants than those that persistently remain unaligned.

5.1.1 Robustness checks

We performed several checks to test the robustness of the results. First, we tested possible bias stemming from the definition of political alignment and the high number of neutral settlements. As shown previously, independent mayors lead approximately 80% of the settlements, i.e., they may be out of the interest of national politics. Thus, in the first check, we simply dropped independent municipalities throughout the examined period. We found similar results, although the coefficient of the political alignment is somewhat higher (Table 7), suggesting that aligned settlements are even more favored than the ones in opposition. Second, instead of excluding independent municipalities, we introduced a new dummy into the model, indicating municipalities with a mayor in opposition, with independent settlements serving as the reference point. The *Aligned* dummy retained its significance, and is also confirmed that settlements in opposition may be disadvantaged relative to independent municipalities (Table 8). To avoid the loss of any municipality-years, we replaced zero grant values with one in our specification, resulting in a log value of zero for the dependent variables, a methodology applied by, for instance, Muraközy and Telegdy (2016).[11] To assess whether this data manipulation impacted our results, we re-estimated the model without the municipality-years with zero grants. Table 9 demonstrates that the strength of the political variable remained consistent and still statistically significant.

5.2 Regression discontinuity

5.2.1 Graphical representation of the discontinuity

Figure 3 illustrates the effect of the election outcome on grant distribution: the upper graphs depict the allocation of per capita discretionary grants in 2020 based on the vote margin, while the graphs below represent the distribution of per capita other supplementary grants Consistent with our prior findings, a noticeable jump occurs at the cutoff point only in the case of discretionary grants awarded to major settlements. Municipalities that marginally fall to the right of the cutoff (the aligned ones) received more discretionary transfers than those marginally to the left (the unaligned ones). Conversely, the other three scenarios (discretionary grants for settlements below 3000; other supplementary grants) appear to be free of political bias.[12] Therefore, we continue our investigation on the discretionary grants received by major settlements.

[11] Zero value occurs if a municipality does not receive a transfer in a given year (thus, it is not the result of data unavailability). In the case of discretionary funds, 83% of the zeros occur in the first 2 years of the examined period, while the year 2020 (considered in RDD) has no zero values. Other supplementary transfers have no observation with zero grant value.

[12] Refer to Table 10 for detailed estimations of discretionary and other supplementary grants.

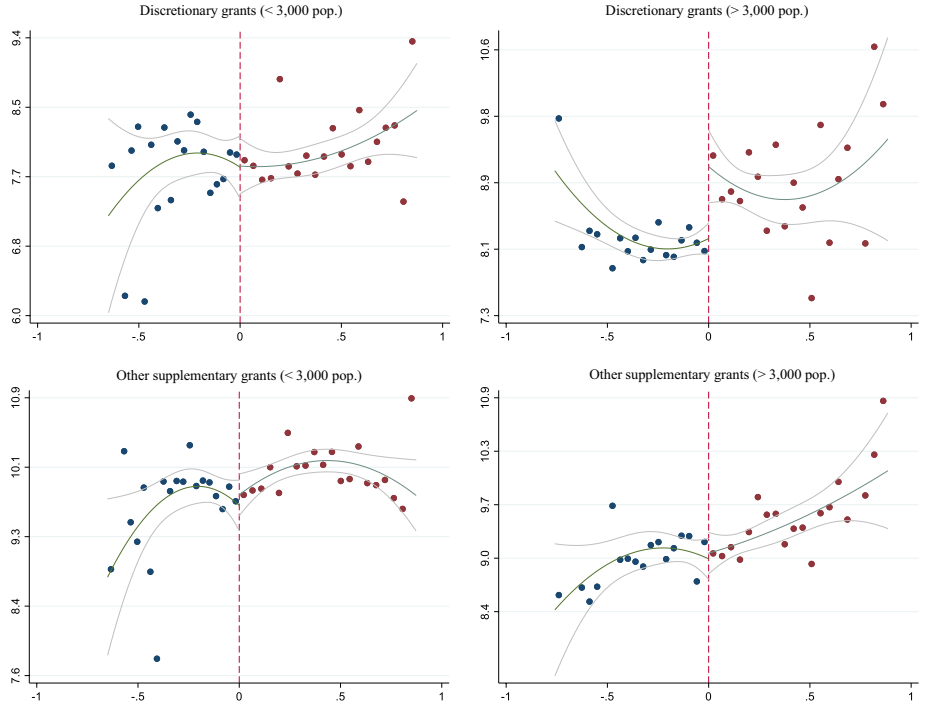

Fig. 3 Margin of victory/loss and grants received (2020). Margin is measured on the *X* axis, while log grant value per capita received in 2020 is measured on the *Y* axis. Black lines represent the predicted values of local polynomial estimations. Gray lines are 95% confidence intervals. The dots are bin averages of 2.5% bin size

5.2.2 Conditions for internal validity

To ensure that the estimates are unbiased, we show that the conditions for internal validity are met; thus, the RD approach can be implemented. First, we show that our forcing variable (i.e., vote margin) is continuous around the cutoff by inspecting the histogram (which shows the frequency of observations in each bin) and applying a manipulation test introduced by Cattaneo et al. (2018). The graphical illustration and the statistics of the discontinuity estimate show no statistical evidence of manipulation of the forcing variable (Fig. 4). We also tested for discontinuity in the case of the controls, and we could not find any evidence of systematic discontinuity (Table 11 and Figure 5 in the Appendix).

5.2.3 RD estimates on the alignment effect

In Table 4 we introduce the results of the parametric (global) and nonparametric (local) RD estimates. The forcing variable is the vote margin, while the dependent variable is the received discretionary grant value per capita (in logarithm), estimated for major settlements. We mainly follow the recommendations in the literature by applying a local linear regression with optimal bandwidth and triangular kernel (e.g., Curto-Grau et al., 2018;

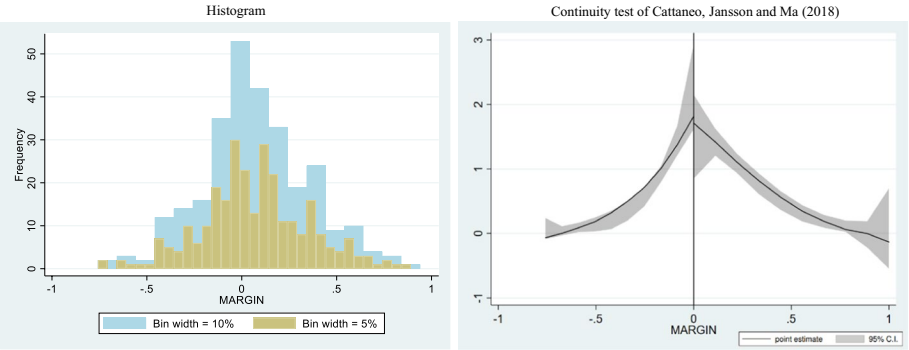

Fig. 4 Continuity of the forcing variable (major settlements). Robust manipulation test statistics is −1.467 (p-value = .142), nonsignificant

Meyersson, 2014; Migueis, 2013). The optimal bandwidth h^* equals 21.8%, calculated according to Calonico et al. (2014). Aligned municipalities that are marginally to the right of the cutoff received approximately twice as many transfers as unaligned municipalities that are just to the left of the cutoff (the estimated coefficient is 1.090). The coefficients for different bandwidths are between 0.869 and 1.398, which still show significant differences in the allocation of transfers between aligned and unaligned municipalities. As the margin variable is nonsignificant, we may suggest that mayors attract the additional transfers, not the core supporters.

Table 4 also shows that the estimated alignment effect is significantly higher than indicated by the FE results, which may suggest that the effect of political alignment increased noticeably after the election in 2019. Therefore, we investigated the difference between grants received in 2020 versus 2019. According to the graphical presentation of the results (Figure 6), a significant effect is estimated again for the discretionary grants regarding the major settlements. Therefore, not only do aligned major settlements receive more grants than unaligned ones, but the central government also rewards alignment with increased grant amounts.

5.2.4 Robustness checks

Local RD estimates are robust to the choice of the bandwidth and the kernel functions (Figure 7 in the Appendix) and the inclusion of the control variables (Table 12 in the Appendix). The global RD estimates seem to be robust regarding the functional form (refer to Table 6). We performed placebo tests based on Artés and Jurado (2018) to check whether there is evidence of jumps at nonzero cutoff points by setting it 2% and 4% in both directions (Table 13 and Figure 8 in the Appendix); the graphs show no statistically significant effect on grant values, indicating that the discontinuity can be attributed solely to the alignment effect. We also applied alternate settings (Table 14 and Figure 9). First, to test for reverse causality, we used average discretionary transfer values before the election (granted between 2015 and 2019) as an alternate dependent variable, and we found no significant relationship with alignment; this means that grants prior to the election did not influence changes in the alignment status. In the second setting, we omitted independent municipalities, which further strengthened the role of alignment, similar to FE estimates.

Table 4 RD estimate on discretionary transfers for major settlements

	Global (1)	Global (2)	Global (3)	Local (4)	Local (5)	Local (6)	Local (7)
Dependent variable	Discretionary grant value per capita in 2020 (ln)						
Alignment	.843*** *(.188)*	.896*** *(.265)*	.995*** *(.344)*	1.090*** *(.336)*	.869*** *(.241)*	1.398*** *(.425)*	1.375** *(.618)*
R^2	0.113	0.116	0.120	0.161	0.133	0.234	0.290
Polynomial order	1	2	3	1	1	1	1
Margin significant?	no	no	no	no	no	no	no
Bandwidth (%)	100	100	100	$h^*=21.8$	$2\,h^*=43.6$	$h^*/2=10.9$	$h^*/4=5.45$
No. obs.	282	282	282	168	246	99	55

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level. See the estimation for the rest of the cases in the Appendix (Table 10)

6 Conclusion

In fiscal federalism, centralization often accompanies welfare loss, and it is a well-established fact in a political economy that certain grants can be designed to serve political interests. Hungary has experienced a significant recentralization of local affairs since 2010, with government decisions reflecting political interests in various aspects, including the approval of local borrowing, initiation of projects, and provision of extra funds. Notably, despite this trend, in nearly 200 municipalities that were previously aligned, representing more than two million people, the majority voted against the candidate of the government coalition, leading to fundamental changes in the municipal political landscape. Subsequently, political tension escalated, and the growing opposition in local politics prompted the government to further curtail local financial autonomy. This was achieved by channeling local taxes to county municipalities and by withholding the motor tax, while enacted laws temporarily froze local tax rates and halved local business tax paid by SMEs. Major settlements received compensation primarily through discretionary grants, the extent of which nearly doubled in 2020. Shifting towards sector-wide restrictions and one-by-one compensations has made local governments even more vulnerable to central decisions.

This study delves into the mechanisms of discretionary grant allocation in Hungary from 2015 to 2020. The dataset spans 6 years, allowing us to estimate the impact of political alignment using fixed-effect regression and a regression discontinuity approach. Our findings indicate that political grant-targeting predominantly favors major settlements, while smaller municipalities appear more shielded against changes in political alignment. Considering the initial alignment status, we found evidence that loyalty or becoming aligned with the government pays off in discretionary transfers versus those converting to or remaining unaligned (86.4% and 65.2%, respectively). Regression discontinuity estimates further support these findings, emphasizing strong political patterns in changes in per capita discretionary grants from 2019 to 2020. Considering the average value of grants, rewarding the loyal or the new ally settlements is estimated to be HUF 5760 (EUR 16.0) and HUF 4340 (EUR 12.1) per capita, respectively. These results are in line with Solé-Ollé and Sorribas-Navarro (2008), who estimated the effect of political alignment to EUR 7–11 per capita in the case of Spanish intergovernmental transfers. Muraközy and Telegdy (2016) found a similar extent of political bias in the case of EU funds, estimating

that aligned local governments received an additional transfer of HUF 4700–5500 (EUR 13–15) in Hungary. Our regression discontinuity estimates are quite similar to the findings of Curto-Grau et al. (2018), who also estimated that aligned settlements may receive twice the amount of transfers as the unaligned ones.

Our research underscores the fact that political favoritism in Hungary goes beyond providing additional funds to aligned mayors or swing districts. Measures such as trimming revenues, restricting the spending of local funds, and rejecting borrowing initiatives make local governments highly reliant on discretionary decisions, significantly impacting the day-to-day lives of citizens. Our study reveals that political influence in intergovernmental transfers has intensified since 2019, resulting in aligned local governments regularly receiving extra funds, while unaligned settlements receive little or nothing, burdening their residents with the fiscal consequences of political favoritism. Local governments where voters went against the tide now face postponed projects, tightened local budgets, and diminished financial resources, sparking debates over responsibilities. Consequently, a fair and more balanced distribution of resources is advised, encompassing a reduction in vertical imbalance, the restoration of fiscal autonomy at the local level, and a shift towards formulaic allocation of intergovernmental transfers that does not penalize those who opt out.

Appendix

See Tables 5, 6, 7, 8, 9, 10, 11, 12, 13, 14.

See Figs. 5, 6, 7, and 9.

Table 5 Definitions of the variables, descriptive statistics, and data sources

	Definition	Source	LGs under population 3000				LGs over population 3000			
			2015		2020		2015		2020	
			Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
Number of LGs	Number of local governments included in the research	Hungarian Central Statistics Office, T-STAR database	387	2268	398	2257	233	267	199	301
Total population	Total population of local governments	Central Office for Administrative and Electronic Public Services	0.6	1.9	0.5	1.9	4.9	2.6	3.3	4.2
Average population	The average population of local governments	Central Office for Administrative and Electronic Public Services	1178.1	849.5	1142.1	844.6	21,501.2	9,726.6	16,752.4	13,829.4
			(786.6)	*(714.0)*	*(767.8)*	*(720.9)*	*(30,742.9)*	*(16,776.8)*	*(24,300.1)*	*(24,256.4)*
Population density	Population per km^2	Central Office for Administrative and Electronic Public Services, Hungarian Central Statistics Office	51.7 *(37.0)*	47.4 *(41.8)*	50.0 *(37.0)*	47.3 *(42.9)*	652.6 *(2295.0)*	303.2 *(845.4)*	330.0 *(857.9)*	554.8 *(2025.1)*
Unemployment (%)	Registered unemployed within the population of 18–59	Hungarian Central Statistics Office, T-STAR and BP-STAR database	9.6	8.0	9.1	7.7	6.4	6.4	5.7	5.6
			(5.8)	*(5.9)*	*(5.5)*	*(5.7)*	*(4.4)*	*(4.0)*	*(3,6)*	*(3.6)*
Elderly population (%)	60 years or older within the population	Hungarian Central Statistics Office, T-STAR and BP-STAR database	24.0	24.9	25.0	26.0	24.4	23.6	25.8	24.8
			(5.8)	*(6.1)*	*(5.8)*	*(6.2)*	*(3.6)*	*(3.1)*	*(3.9)*	*(3.7)*

Table 5 (continued)

	Definition	Source	LGs under population 3000				LGs over population 3000			
			2015		2020		2015		2020	
			Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
Total expenditure per capita	Total budgetary expenditure per capita, in HUF thousand	Hungarian State Treasury	315.2	253.7	335.0	295.2	276.2	237.2	278.0	233.1
			(234.0)	*(265.9)*	*(192.6)*	*(246.0)*	*(135.4)*	*(142.7)*	*(145.7)*	*(105.0)*
Operation exp. / total expenses (%)	Share of expenditures related to public services delivery within the total budget	Hungarian State Treasury	78.6	79.5	68.6	68.7	70.9	76.4	70.8	75.3
			(16.0)	*(16.3)*	*(16.6)*	*(18.5)*	*(14.5)*	*(15.9)*	*(13.0)*	*(13.1)*
Operation balance (%)	Net financial surplus/ deficit of the operation budget	Hungarian State Treasury	5.4	9.7	1.6	6.0	8.2	8.8	5.2	5.5
			(12.4)	*(13.1)*	*(14.7)*	*(14.4)*	*(11.2)*	*(10.1)*	*(11.4)*	*(10.4)*
Tax income per capita	Total budgetary expenditure per capita, in HUF thousand	Hungarian State Treasury	25.2	28.1	23.9	26.7	64.5	58.2	62.5	59.5
			(33.8)	*(44.5)*	*(33.7)*	*(50.3)*	(49.8)	(71.9)	(54.2)	(61.5)

Standard deviation in parentheses. Own compilation based on data from the Hungarian Election Office, Hungarian Central Statistics Office, and Hungarian State Treasury

Table 6 FE estimates on alignment effect (full table)

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
R^2 (within)	0.293	0.095	0.575	0.256
No. obs.	15 930	15 930	3 000	3 000
Aligned	−.133 *(.139)*	.072** *(.029)*	.619*** *(.190)*	.059 *(.042)*
Population density (ln)	2.228*** (.531)	−.703*** (.113)	.826 (1.930)	−1.780*** (.423)
Unemployment rate (%)	.009 (.007)	.006*** (.001)	.037 (.038)	.025*** (.008)
Elderly/Total pop. (%)	.002 (.013)	−.007*** (.003)	.103 (.096)	−.037 (.021)
Total expenditure per capita (ln)	1.164*** (.115)	.321*** (.024)	1.291*** (.433)	.383*** (.095)
Operation exp. / Total expenses (%)	.014*** (.002)	.004*** (.000)	.018** (.007)	.003** (.001)
Operation balance (%)	.010*** (.001)	.004*** (.000)	.009 (.005)	.003*** (.001)
Tax income per capita (ln)	−.084 (.045)	−.082*** (.009)	−.525 (.285)	−.295*** (.062)

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. We control for region-year categories. Monetary variables measured in HUF 2020, deflated by CPI. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 7 FE estimates if dropping independent settlements

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
R^2 (within)	0.229	0.093	0.586	0.253
No. obs.	3182	3182	1794	1794
Aligned	−.116 *(.121)*	.079*** *(.030)*	.630*** *(.203)*	.074** *(.038)*

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 8 FE estimates if introducing opposition variable (ref. = independent settlements)

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
R^2 (within)	0.293	0.095	0.575	0.255
No. obs.	15,930	15,930	3000	3000
Aligned	−.128 *(.139)*	.072** *(.029)*	.519** *(.212)*	.056 *(.046)*
Opposition	.172 *(.531)*	−.097 *(.113)*	−.343 *(.319)*	−.008 *(.070)*

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 9 FE estimates if dropping municipality-years with zero grant value

Dependent variable (ln)	Population under 3000		Population over 3000	
	Discretionary	Other supplementary	Discretionary	Other supplementary
R^2 (within)	0.251	0.070	0.444	0.270
No. obs.	14,637	14,637	2700	2700
Aligned	−.079 *(.068)*	.077*** *(.029)*	.562*** *(.107)*	.060 *(.040)*

Dependent variable: ln (yearly grant value per capita). Observations with zero grant value were dropped. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 10 RD estimates for discretionary and other supplementary grants, full sample

Dependent variable	Population under 3000				Population over 3000			
	Discretionary		Other supplementary		Discretionary		Other supplementary	
	Global	Local	Global	Local	Global	Local	Global	Local
Alignment	−.096 *(.218)*	−.029 *(.453)*	.023 *(.172)*	.039 *(.317)*	.894*** *(.259)*	.824*** *(.293)*	.017 *(.183)*	.059 *(.229)*
R^2	0.009	0.041	0.063	0.009	0.112	0.138	0.047	0.001
Polynomial order	2	1	2	1	2	1	2	1
Margin significant?	no	no	no	no	no	no	no	no
Bandwidth (%)	100	$h^*=14.8$	100	$h^*=17$	100	$h^*=19.2$	100	$h^*=18.5$
No. obs.	344	113	344	129	282	161	282	156

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 11 Covariates' discontinuity tests

Dependent variable	Population density	Unemployment (%)	Elderly population (%)	Total expenditure per capita	Operation exp. / total expenses (%)	Operation balance (%)	Tax income per capita
Alignment coef.	.061 *(.471)*	−.010 *(.010)*	.023 *(.013)*	.146 *(.121)*	−.026 *(.044)*	.021 *(.025)*	.582 *(.317)*
Optimal bandwidth % (h^*)	18.8	16.5	15.7	24.4	19.8	25.3	16.8

Standard error in parentheses. RD estimates are obtained using local linear regressions using the optimal bandwidth based Calonico et al. (2014)

Table 12 RD estimates with controls

	Global (1)	Global (2)	Global (3)	Local (4)	Local (5)	Local (6)	Local (7)
Dependent variable	Discretionary grant value per capita in 2020 (ln)						
Alignment	.778*** *(.188)*	.839*** *(.262)*	.933*** *(.338)*	0.872*** *(.307)*	.798*** *(.220)*	1.233*** *(.397)*	1.288** *(.582)*
R^2	0.204	0.206	0.209	0.204	0.193	0.279	0.343
Margin significant?	no	no	no	no	no	no	no
Polynomial order	1	2	3	1	1	1	1
Bandwidth (%)	100	100	100	$h^*=26$	$2\,h^*=52$	$h^*/2=13$	$h^*/4=6.5$
No. obs.	282	282	282	185	257	114	61

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 13 RD estimates for different cutoffs

	c = −0.04	c = −0.02	c = 0.02	c = 0.04
Dependent variable	Discretionary grant value per capita in 2020 (ln)			
Alignment	.125 *(.220)*	.184 *(.229)*	.589 *(.503)*	−.464 *(.586)*
Polynomial order	1	1	1	1
Bandwidth (%)	$h^*=20$	$h^*=20.8$	$h^*=17.3$	$h^*=14.7$
No. obs.	151	164	149	132

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

Table 14 RD estimates with alternate settings

Dependent variable	Avg. grant value (ln) 2015–2019		Grant value per capita in 2020 (ln) w/o independent municipalities	
	Global	Local	Global	Local
Alignment	−.299 *(.261)*	−.187 *(.341)*	.948*** *(.272)*	1.438*** *(.412)*
Polynomial order	1	1	2	1
R^2	0.020	0.012	0.101	0.210
Margin significant?	no	no	no	no
Bandwidth (%)	100	$h^*=17.6$	100	$h^*=12.3$
No. obs.	282	146	244	95

Dependent variable: ln (yearly grant value per capita). For zero grant value, the dependent variable was replaced by 1. Standard errors in parentheses. *** Significant at 1% level. ** Significant at 5% level

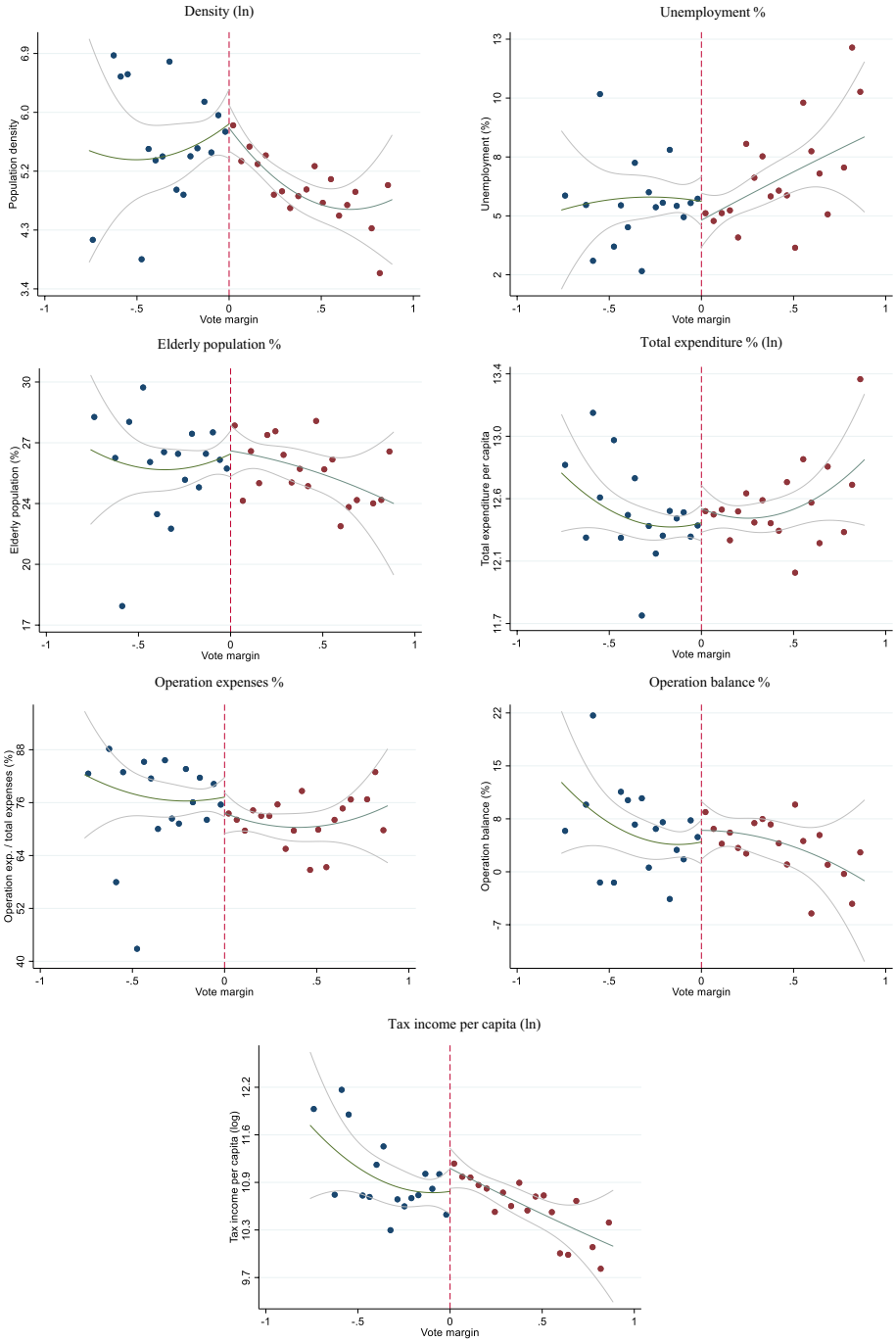

Fig. 5 RD estimates for control variables. Margin is measured on the *X* axis, while control variables are measured on the *Y* axis. Black lines represent the predicted values of local polynomial estimations. Gray lines are 95% confidence intervals. The dots are bin averages of 2.5% bin size

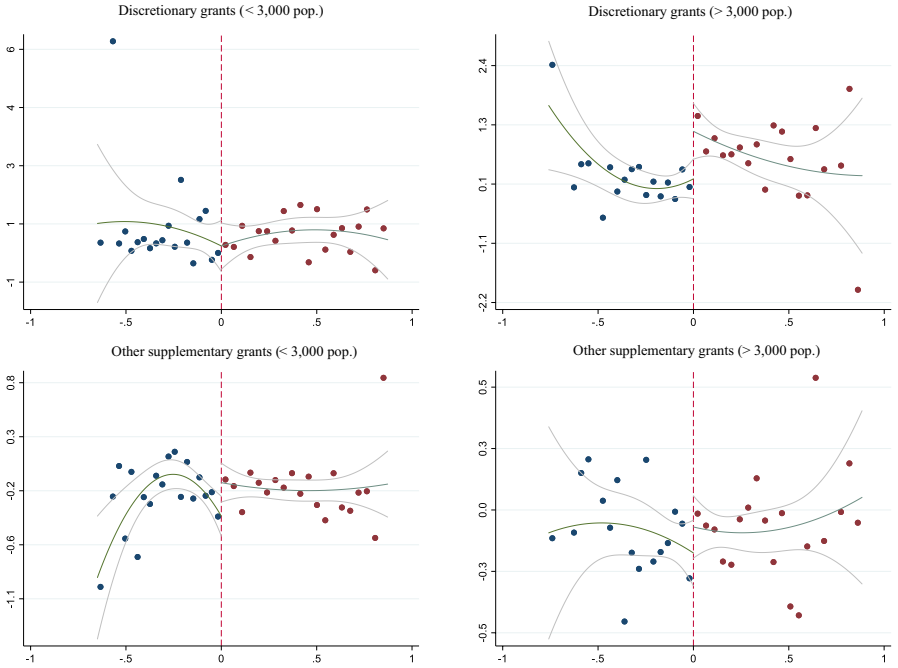

Fig. 6 RD plots for variation in grant amount 2020/2019. Margin is measured on the *X* axis, while log grant value per capita difference from 2019 to 2020 is measured on the *Y* axis. Black lines represent the predicted values of local polynomial estimations. Gray lines are 95% confidence intervals. The dots are bin averages of 2.5% bin size

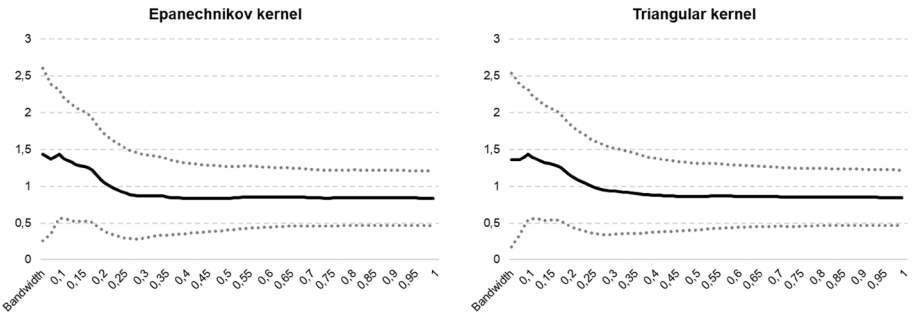

Fig. 7 Nonparametric RD estimation with different kernels. The solid line plots the estimates of the local linear regression for different bandwidths, while the dashed lines represent 95% confidence intervals

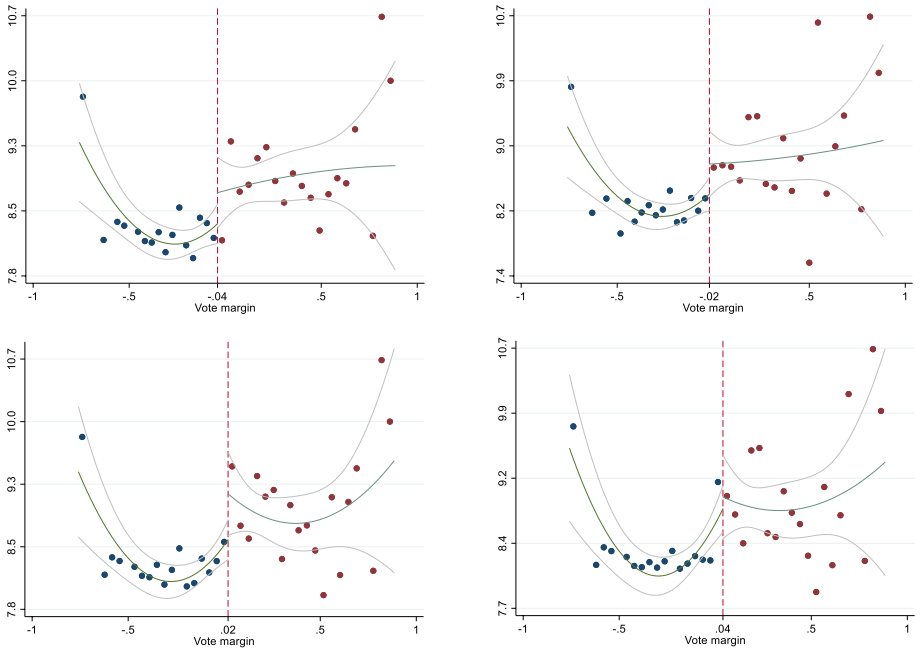

Fig. 8 RD plots for different cutoff. Margin is measured on the *X* axis, while log grant value per capita received in 2020 is measured on the *Y* axis. Black lines represent the predicted values of local polynomial estimations. Gray lines are 95% confidence intervals. The dots are bin averages of 2.5% bin size

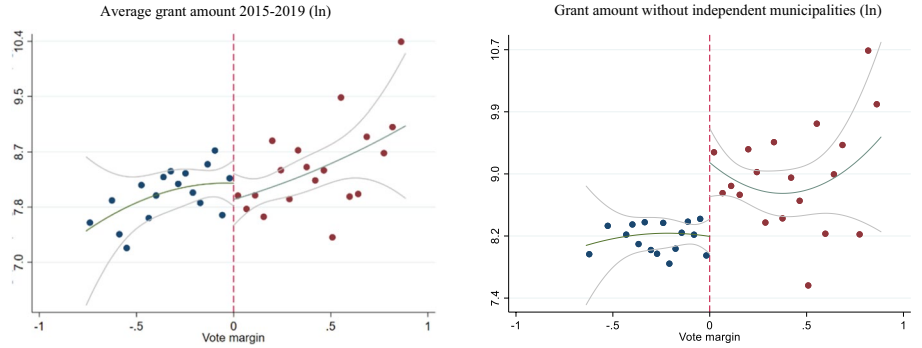

Fig. 9 RD plots with alternate settings. Margin is measured on the *X* axis, while log grant value per capita is measured on the *Y* axis. Black lines represent the predicted values of local polynomial estimations. Gray lines are 95% confidence intervals. The dots are bin averages of 2.5% bin size

Funding Open access funding provided by University of Pécs. Project no. TKP2021-NKTA-19 has been implemented with support provided from the National Research, Development and Innovation Fund of Hungary, financed under the TKP2021-NKTA funding scheme.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

References

Artés, J., & Jurado, I. (2018). Government fragmentation and fiscal deficits: A regression discontinuity approach. *Public Choice, 175*, 367–391. https://doi.org/10.1007/s11127-018-0548-y

Bracco, E., Lockwood, B., Porcelli, F., & Redoano, M. (2015). Intergovernmental grants as signals and the alignment effect: Theory and evidence. *Journal of Public Economics, 123*(2015), 78–91.

Calonico, S., Cattaneo, M. D., & Titiunik, R. (2014). Robust data-driven inference in the regression-discontinuity design. *Stata Journal, 14*(4), 909–946.

Cattaneo, M. D., Jansson, M., & Ma, X. (2018). Manipulation testing based on density discontinuity. *Stata Journal, 18*(1), 234–261.

Coman, E. E. (2018). Local elites, electoral reform and the distribution of central government funds: Evidence from Romania. *Electoral Studies, 53*(2018), 1–10.

Cox, G. W., & McCubbins, M. D. (1986). Electoral politics as a redistributive game. *The Journal of Politics, 48*(2), 370–389.

Curto-Grau, M., Solé-Ollé, A., & Sorribas-Navarro, P. (2018). Does electoral competition curb party favoritism? *American Economic Journal Applied Economics, 10*(4), 378–407.

Dobos, G. (2021) Institutional changes and shifting roles: Local government reform in Hungary, 2010–2014. In: *Local Government in Europe: New Perspectives and Democratic Challenges*. Bristol University Press, Bristol, pp. 99–116. ISBN 9781529217193; 9781529217186

European Parliament. (2022a). MEPs: Hungary can no longer be considered a full democracy. 15 September 2022, https://www.europarl.europa.eu/news/en/press-room/20220909IPR40137/meps-hungary-can-no-longer-be-considered-a-full-democracy

European Parliament. (2022b). Challenges for urban areas in the post-COVID-19 era. European Parliament resolution of 15 February 2022 on the challenges for urban areas in the post-COVID-19 era (2021/2075(INI)) P9_TA(2022)0022.

Gregor, A. (2020). Intergovernmental transfers and political competition measured by pivotal probability—Evidence from Hungary. *European Journal of Political Economy*. https://doi.org/10.1016/j.ejpoleco.2019.101841

Jankovics, L. (2016). Local government finances in Hungary: From the culprit of fiscal slippages to a source of stability? *Society and Economy, 38*(4), 455–478. https://doi.org/10.1556/204.2016.38.4.2

Johansson, E. (2003). Intergovernmental grants as a tactical instrument: Empirical evidence from Swedish municipalities. *Journal of Public Economics, 87*(2003), 883–915.

Kákai, L. (2021). Centralization in one step. Centralization and decentralization in Hungary from a public services perspective. *Politics Central Europe, 17*(1), 703–728.

Karas, D. (2021). Financialization and state capitalism in Hungary after the global financial crisis. *Competition Change*. https://doi.org/10.1177/10245294211003274

Kauder, B., Potrafke, N., & Reischmann, M. (2016). Do politicians reward core supporters? Evidence from a discretionary grant program. *European Journal of Political Economy, 45*(2016), 39–56.

Kopányi, M., Wetzel, D., & Daher, S.E. (2004): Intergovernmental finance in Hungary—A decade of experience 1990–2000. *The World Bank* 628p.

Kornai, J. (2014). The soft budget constraint—An introductory study to volume IV of the life's work series. *Acta Oeconomica, 64*(1), 25–79. https://doi.org/10.1556/aoecon.64.2014.s1.2

Lindbeck, A., & Weibull, J. (1987). Balanced budget redistribution as a political equilibrium. *Public Choice, 52*, 273–297.

Meyersson, E. (2014). Islamic rule and the empowerment of the poor and pious. *Econometrica, 82*(1), 229–269.

Migueis, M. (2013). The effect of political alignment on transfers to Portuguese municipalities. *Economics & Politics, 25*, 110–133.

Muraközy, B., & Telegdy, Á. (2016). Political incentives and state subsidy allocation: Evidence from Hungarian municipalities. *European Economic Review, 89*(2016), 324–344.
Musgrave, R. A. (1959) *The Theory of Public Finance*. McGrow-Hill, US, 628p.
Német, T. (2019) Kósa újraindul a Fidesz alelnöki posztjáért [Kósa resumes his position as vice president of Fidesz]. Index.hu September 28, (2019)
Oates, W. E. (1977) An economist's perspective on fiscal federalism. In: Oates W. E. (ed.): *The Political Economy of Fiscal Federalism*. Lexington Books 355p.
Oates, W. E. (1999). An essay on fiscal federalism. *Journal of Economic Literature, 37*(3), 1120–1149.
Politico (2022) EU launches process to slash Hungary's funds over rule-of-law breaches. April 5, 2022. https://www.politico.eu/article/eu-commission-to-trigger-rule-of-law-budget-tool-against-hungary/
Reszkető, P. E., Váradi, B. and Hajnal, Á. (2022) Local governments and types of political favouritism—Theoretical approaches, empirical evidence, and plan for an empirical analysis in Hungary. Budapest Institute 73p. http://budapestinstitute.eu/index.php/projektek/adatlap/political_favouritism_and_local_governments/hu
Solé-Ollé, A., & Sorribas-Navarro, P. (2008). The effects of partisan alignment on the allocation of intergovernmental transfers Differences-in-differences estimates for Spain. *Journal of Public Economics, 92*(12), 2302–2319. https://doi.org/10.1016/j.jpubeco.2007.06.014
Vasvári, T. (2019) Tényleg rosszabbul járnak a nem fideszes önkormányzatok? [Are unaligned municipalities really getting less?] Index.hu October 8, 2019 https://index.hu/gazdasag/penzbeszel/2019/10/08/tenyleg_rosszabbul_jarnak_a_nem_fideszes_onkormanyzatok/
Vasvári, T. (2020). Hardening the budget constraint: Institutional reform in the financial management of Hungarian local governments. *Acta Oeconomica, 70*(4), 571–592.
Vasvári, T. (2022). Beneficiaries and cost bearers: Evidence on political clientelism from Hungary. *Local Government Studies, 48*(1), 150–177. https://doi.org/10.1080/03003930.2020.1768852
Veiga, L. G., & Veiga, F. J. (2013). Intergovernmental fiscal transfers as pork barrel. *Public Choice, 155*, 335–353. https://doi.org/10.1007/s11127-011-9863-2
Vigvári, A. (2010). Is the conflict container full? Problems of fiscal sustainability at the local government level in Hungary. *Acta Oeconomica, 60*(1), 49–77. https://doi.org/10.1556/aoecon.60.2010.1.4
Ward, H., & John, P. (1999). Targeting benefits for electoral gain: Constituency marginality and the distribution of grants to English local authorities. *Political Studies, 47*, 32–52.